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A HISTORY OF THE DEVELOPMENT OF DEEP MINE PRO-
DUCTION IN CRAWFORD COUNTY AND THE FACTORS
THAT HAVE INFLUENCED IT

A Thesis Submitted to the Graduate Division in
Partial Fulfilment of the Requirements for the Degree

APPROVED: of Master of Science

Thesis Adviser: *Elizabeth Cochran*
Chairman of Thesis Committee: *W. Frank*
Chairman of Dept: *W. Frank*

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By
JOSEPH SKUBITZ JR.

KANSAS STATE TEACHERS COLLEGE
Pittsburg, Kansas
August, 1934

TABLE OF CONTENTS

Chapter Pages

I. DEVELOPMENT OF DEEP MINES IN CRAWFORD COUNTY-- --1-28

Origin of Crawford County
 Coming of the White Settlers
 Discovery of Coal in Crawford County
 Cherokee Neutral Land Purchase
 Professor Wilbur's Report
 Discovery of Lead and Zinc
 The Establishment of the First Railroad
 Sinking of the First Mine in Crawford County
 Development of the usweg Coal Company
 Development of the Roger Coal Company
 Law of 1885
 Development of the Kansas and Texas Coal
 Company
 Development of the Pittsburg Coal Company
 History of the development of the Western
 Coal and Mining Company
 purchase of the Bear Coal Company
 Development of the Pittsburg Cherokee Coal
 and Mining Company

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 Chairman of Graduate Council----- *O. P. Hillinger*

Company
 Development of the J. R. Cross Coal and
 Mining Company
 Development of the Clemens Coal Company
 Development of the Sheridan Coal Company
 Era of "Dinky Mine" operation

II. DEEP SHAFT MINING----- --33-38

Development of the Single Entry System
 Law of 1905
 Development of Double Entry System
 Method of Mining
 Law of 1893
 Law of 1917
 Methods of Hauling

III. FACTORS THAT IMPROVED DEEP MINE PRODUCTION----- 39-46

Development of Unionism in Crawford County
 Strike in 1895
 "Big Four Strike"
 Strike in 1910

TABLE OF CONTENTS (Continued)

TABLE OF CONTENTS

Chapter	Pages
I. DEVELOPMENT OF DEEP MINES IN CRAWFORD COUNTY-----	1-22
Origin of Crawford County	
Coming of the White Settlers	
Discovery of Coal in Crawford County	
Cherokee Neutral Land Purchase	
Professor Wilbur's Report	
Discovery of Lead and Zinc	
The Establishment of the First Railroad	47-49
Sinking of the First Mine in Crawford County	
Development of the Oswego Coal Company	50-52
Development of the Rogers Coal Company	
Law of 1885	
Development of the Kansas and Texas Coal Company	
Development of the Pittsburg Coal Company	
History of the development of the Western Coal and Mining Company	
Purchase of the Wear Coal Company	
Development of the Pittsburg-Cherokee Coal and Mining Company	
Development of the Mt. Carmel Coal Company	
Development of the Jackson-Walker Coal Company	
Mine Explosion in 1888	
Development of the Central Coal and Coke Company	
Development of the J. R. Crowe Coal and Mining Company	
Development of the Clemens Coal Company	
Development of the Sheridan Coal Company	
Era of "Dinky Mine" operation	
II. DEEP SHAFT MINING-----	23-28
Development of the Single Entry System	
Law of 1905	
Development of Double Entry System	
Method of Mining	
Law of 1893	
Law of 1917	
Methods of Hauling	
III. FACTORS THAT INFLUENCED DEEP MINE PRODUCTION	29-46
Development of Unionism in Crawford County	
Strike in 1893	
"Big Four Strike"	
Strike in 1910	

TABLE OF CONTENTS (Continued)

III.	Effect of World War on Production Coal Strike of 1919 Coal Strike in 1921 The Amazon Army Effects of Competition from other Coal Fields Effect of Strip Mining on Deep Mining Production Effect of Improved efficiency of Boilers Conclusion	Pages
------	---	-------

TABLE	BIBLIOGRAPHY-----	PAGE 47-49
I.	AMOUNT OF COAL PRODUCED, AVERAGE NUMBER OF APPENDIX-----, AVERAGE NUMBER OF DAYS WORKED, NUMBER OF TONS PRODUCED PER FATAL ACCIDENTS-----	50-60 50-51
II.	NUMBER OF MINES, TONNAGE, NUMBER OF MINERS AND EMPLOYEES, AVERAGE DAYS WORKED, AND YEARLY EARNINGS OF THE MINERS-----	52
III.	LISTS THE NUMBER OF STRIP MINES, TONNAGE, NUMBER OF MEN EMPLOYED AND FATAL ACCIDENTS FROM 1913-1930-----	53
IV.	COMPARISON OF SHAFT AND STRIP MINES FROM STANDPOINT OF EMPLOYEES, TONNAGE, AND NUMBER OF MINES-----	54

LIST OF FIGURES

LIST OF TABLES

TABLE	PAGE
1. Rise and fall of production (1887-1933)-----	38
2. Rise and decline of mines (1890-1933)-----	50
I. AMOUNT OF COAL PRODUCED, AVERAGE NUMBER OF EMPLOYEES, AVERAGE NUMBER OF DAYS WORKED, NUMBER OF TONS PRODUCED PER FATAL ACCIDENTS-----	50-51
II. NUMBER OF MINES, TONNAGE, NUMBER OF MINERS AND EMPLOYEES, AVERAGE DAYS WORKED, AND YEARLY EARNINGS OF THE MINERS-----	52
Strip mines (1914-1933)-----	59
III. LISTS THE NUMBER OF STRIP MINES, TONNAGE, NUMBER OF MEN EMPLOYED AND FATAL ACCIDENTS FROM 1913-1933-----	53
IV. COMPARISON OF SHAFT AND STRIP MINERS FROM STANDPOINT OF EMPLOYEES, TUNNAGE, AND NUMBER OF MINES-----	54

LIST OF FIGURES

DEVELOPMENT OF THE DEEP MINES IN CRAWFORD COUNTY, KANSAS

On May 12, 1887, the Pittsburg Headlight, in eulogizing the future possibilities of Crawford County, printed the following Figure:

1. Rise and Fall of Production (1887-1933)-----55
2. Rise and Decline of Mines (1899-1933)-----56
3. Rise and Decline of Miners Employed-----57
(1895-1934)
4. Average Days Worked by Miners (1897-1933)----58
5. Comparison of Coal Production in Shaft and
Strip Mines (1914-1933)-----59
6. Yearly Earnings of Miners (1897-1933)-----60

Nearly one half century has passed, and as one rides over the highways of Crawford County and sees skeleton remains of mines that once provided employment for thousands of miners; as he passes through deserted mining camps that are fast assuming the appearance of the ghost towns of the west; as he stops to see mammoth Frankenstein's destroying the virgin soil of once prosperous farm lands, in order that the last semblance of coal might be stripped from the breast of Mother Nature, a dim understanding of the cruel blow that fate has dealt Crawford County begins to dawn slowly.

Crawford County, once the playground of the Cherokee Indians, came into being on April 13, 1857, by act of the

CHAPTER I

DEVELOPMENT OF THE DEEP MINES IN CRAWFORD COUNTY, KANSAS

On May 12, 1887, the Pittsburg Headlight, in eulogizing the future possibilities of Crawford County, printed the following:

In the new field of manufacturing no state can claim the superior advantages that belong to Kansas. Geographically, she is in the center and in point of railroad access and outlet, she is peer of them all. Her natural resources of coal and mineral wealth are matters of renown and for that reason her destiny is that of the greatest manufacturing empire west of the Mississippi. The richest district of all this wealth is Crawford County and the brightest future of all cities is Pittsburg.¹

Nearly one half century has passed, and as one rides over the highways of Crawford County and sees skeleton remains of mines that once provided employment for thousands of miners; as he passes through deserted mining camps that are fast assuming the appearance of the ghost towns of the west; as he stops to see mammoth frankensteins destroying the virgin soil of once prosperous farm lands, in order that the last semblance of coal might be stripped from the breast of Mother Nature, a dim understanding of the cruel blow that fate has dealt Crawford County begins to dawn slowly.

Crawford County, once the playground of the Cherokee Indians, came into being on April 13, 1867, by act of the

¹Pittsburg Headlight, May 12, 1887.

state legislature of Kansas.² Prior to that time, the entire county along with Cherokee County and a part of Bourbon County, constituted the territory known as the Cherokee Neutral lands.³

White settlers came into the territory as early as 1835.⁴ The territory grew very slowly at first, having a white population of only 1500 to 1860.⁵ However, it seems as though the white population had been sufficiently numerous in 1858 to cause the Cherokee Indians to send their wisest leaders to Washington, D. C. to demand the removal of the settlers or payment for the land they had taken.

President Buchanan at this time, found the United States treasury nearly empty and had but one choice to make. He promised the tribe that the whites would be removed⁶ and

Accordingly, in the fall of 1860, two companies of United States soldiers arrived at the south end of the neutral land and proceeded to drive the settlers before them, burning their stacks of hay and grain, their cabins and fences. By the time the people arrived at a creek called Drywood--they constituted a cavalcade of several hundred persons.---Here a halt was called and a pow-wow held at which it was determined that as winter was approaching and further danger would cause suffering---to let the people remain until a messenger could be dispatched to Washington to receive further orders.---Here some of

²A. T. Andreas, History of Kansas, p. 1118.

³Ibid., p. 1150

⁴F. W. Blackmar, Cyclopedia of Kansas History, I, 319

⁵N. T. Allison, History of Cherokee County, p. 28

⁶Home Authors, History and Biographical Record of Crawford County, Kansas, p. 3. Hereafter cited as History of Crawford County.

the families remained until after the Civil War.⁷

At the close of the Civil War, thousands of unemployed and homeless men looking for a place to begin anew, turned toward Kansas, especially to Crawford and Cherokee Counties.⁸ It has been estimated that between the years 1865-75, nearly 13,000 settlers came to Cherokee County alone. Most of the settlers came from Illinois and Indiana with a few coming from New York, Pennsylvania and Ohio.⁹ Although the majority of the settlers staked claims near the streams and began farming, many of them began mining the surface coal and exchanging it for the necessities of life.¹⁰

Although credit for the discovery of coal in the state of Kansas has been given to a Mr. Jessup, a geologist who accompanied Major. S. H. Long on his famous expedition through Kansas in 1819-20,¹¹ as far as the writer has been able to find, credit for its discovery in Crawford County must be bestowed upon Colonel Cowan. In 1857, Colonel Cowan was ordered by the government to conduct an exploring party through the southern part of the state. While passing through what is now Osage township in Crawford County, the presence of

⁷Ibid.,

⁸Blackmar, op. cit., p. 320

⁹Ibid.,

¹⁰Blackmar, op. cit., p. 377

¹¹Ibid., p. 376

surface coal was noted.¹² By 1864, coal was mined in sufficient quantities in the territory, that wagon trains of it were being transported to Leavenworth, Kansas, and sold to prospective buyers.¹³

However, the importance and value of coal was not realized by the early settlers and "King Coal" was forced to wait his turn. Settlers continued to clear the land and till the soil. So busy were the majority of them in taking care of their daily pursuits, that they seemed to have forgotten that claims had to be made for the land they tilled.

The settlers were awakened from their lethargy in 1869, when many of them found that a James Joy had gone to Washington and purchased the entire Neutral Strip for approximately \$800,000.00.¹⁴ Joy, shortly afterward, sold the land to the Missouri River, Ft. Scott and Gulf Railroad Company, who at that time was interested in securing a route through Kansas.¹⁵

The Gulf Railroad did not seem to realize the value of the purchase they had made at this time. After the company

¹²Ibid., p. 472

¹³D. W. Wilder: Annals of Kansas (1841-1885) p. 374.

¹⁴An interesting story of the Cherokee Neutral land Controversy and the Joy purchase may be found in the thesis written by Lula Brown.

¹⁵Warranty Deed, Joy to Mo. R., Ft. Scott Gulf R. R. Co., Book A Deeds, p. 116, Girard, Kansas.

had laid plans for the road they wished to construct, they offered the remainder of the land to the settlers for prices ranging from two dollars to five dollars an acre.¹⁶

Although the settlers purchased the land reluctantly, they were able to sell the land to the successors of the railroad for prices ranging from seventy-five to one hundred dollars per acre.¹⁷

Shortly after the "Cherokee Neutral Land Purchase", a group of Chicago capitalists, who were interested in the development of the railroad industry, saw the possibilities that were in store if the stories about Kansas coal were true. They sent Professor Wilbur of Chicago into the territory to investigate the possibility of developing the coal industry. After a thorough examination, Prof. Wilbur reported the presence of coal in large quantities near Weir City, Kansas.¹⁸

Immediately after the contents of Professor Wilbur's report were received, tests were made to ascertain whether the coal was satisfactory for use in locomotives. These tests proved that it was. Hence the presence of coal satisfactory for locomotive purposes at the beginning of long

¹⁶Andreas, History of Kansas, p. 1158

¹⁷Reply to questionnaire sent Western Coal Company, June 25, 1934.

¹⁸H. Haworth, University Geological Survey, III, 151.

runs to the West, Southwest and the Gulf served not only as an epoch in railroad building but also as a boom to the coal industry as well.¹⁹

Another factor which hastened the development of the coal industry was the discovery of lead and zinc in the Galena-Joplin District. Indications of the metal were first observed near Baxter Springs in 1872 but nothing was done toward developing it. Shortly after, its presence was noted near Galena by two prospectors who were working on Short Creek. The news of the discovery spread rapidly and in less than three months Galena became a thriving mining camp.²⁰ As the production of lead and zinc increased, the demands for coal for smelting purposes also increased. This coupled with the ever expanding railroads during the period ushered in the Era of Coal in Crawford County.

In 1874, Frank Playter, who had established the first bank in Crawford County, became interested in securing a railroad connection from the coal fields to Girard, Kansas. Mr. Playter journeyed back East to interview the officials of the Missouri River, Ft. Scott and Gulf Railroad Company concerning such a project. The panic of 1873 had placed

¹⁹C. M. Young, Engineering Bulletin, No. 13, Kansas Coal, XXVI, 39.

²⁰Andreas, History of Kansas, p. 1151.

nearly every railroad west of the Mississippi in the hands of receivers and the officials of the company ridiculed the plan.²¹

Three years later, upon hearing that Col. Edwin Brown had interested two Joplin capitalists, Moffat and Sargent, in building a railroad from the zinc fields to the coal fields,²² Mr. Playter journeyed to Joplin and "Camped with Col. Brown, Moffat and Sargent for three or four days."²³

Before the interview or visit had terminated, Mr. Playter had convinced the men that the logical route for such a railroad would lead directly from Joplin to Girard. Shortly after, the Joplin Railway Company was established with Mr. Moffat as president, Mr. Playter as vice president, and Col. Brown as general manager. 1200 acres of land were purchased where Pittsburg is now located and an additional thousand acres of proven coal land near Litchfield was also purchased.²⁴ The new railroad made it possible to transport coal from the county to the zinc fields more economically and mining came into its own.

In 1877, a tract of land located near the railroad at Pittsburg, Kansas, was leased to Matt and Peter Coyle who

²¹Pittsburg Headlight, May 19, 1926, Part 2, Section 1.

²²Home Authors, History of Crawford County, p. 104

²³Pittsburg Headlight, May 19, 1926.

²⁴Ibid.,

²⁵Pittsburg Headlight, September 3, 1903.

sank a mine near Second and Pine Street.²⁵ This mine is usually credited with being the first mine in Crawford County.²⁶

Due to the death of his brother, Matt Coyle sold the property that his brother and he had held to the Oswego Coal Company, in 1880. The new company also purchased land near Litchfield and began sinking a mine on its holdings. In order that the incoming miners would have homes to live in and a place to buy their supplies, the company built twenty-eight company houses and a company store.²⁷ At the time, it seemed as though this system was highly desirable but practice soon developed from the system that made it very unsatisfactory for the majority of miners.

On May 26, 1879, the St. Louis and San Francisco Railroad Company became interested in the county and purchased the Moffat and Sargent Railroad Company.²⁸ Three years later the holdings of the Oswego Coal Company were also purchased.²⁹ A subsidiary company was formed by the Frisco out of its newly acquired coal holdings and named the Rogers Coal Company in honor of General Superintendent Rogers.³⁰ Since the Frisco

²⁵Home Authors, op. cit., p. 104

²⁶There is some dispute as to who sunk the first mine. T. K. Jones of Girard, Kansas, claims he sunk the first mine near Litchfield.

²⁷Home Authors, History of Crawford County, p. 109

²⁸Pittsburg Headlight, May 19, 1926.

²⁹Home Authors, op. cit., p. 109

³⁰Pittsburg Headlight, September 9, 1929.

owned the only railroad through the county, the company practically controlled the coal industry. Many of the smaller operators were forced out of business by the Frisco refusing to provide cars and also increasing the freight rates.

In an attempt to save the independent operators, the state legislature of Kansas enacted a law in 1885 which provided that no railroad company could own or be interested in any coal mines.³¹ On the surface the law changed the complexion of things. In reality, the railroads simply sold their interests to allied concerns or formed new companies which they controlled.³²

The Frisco Railroad Company, as a result of the law dissolved the Rogers Coal Company and its stead came the Kansas and Texas Coal Company. The new company remained as one of the leading coal companies in Crawford County until 1902 when, as a result of labor troubles which weakened the company, its interests were purchased by the Central Coal and Coke Company.³³

During the year 1882, another company, which was instrumental in the development of the mining history of Crawford

³¹Pittsburg Headlight, September 12, 1929.

³²Pittsburg Headlight, September 9, 1929.

³³An interview with Ed. Roberts, Ex-Superintendent of Sheridan Coal Company, June 22, 1934.

County, came into being. C. W. Davis, Major Rombauer and Charles Patmor purchased a strip of land near Pittsburg, Kansas, and began operating under the name of the Pittsburg Coal Company. The new company, however, began experiencing the same difficulties that other independents of the county had been forced to contend with---inability to get cars and high freight rates.³⁴

The action of the Frisco Railroad Company forced the small coal operators to seek a new means of transporting their coal. The next year, the independents sent C. W. Davis to interview the officials of the Gulf road about the establishment of a branch line from Minden to Pittsburg. Mr. Davis was successful in securing the line, thus ending the power which the Frisco had held over the coal industry in Crawford County.³⁵

The Pittsburg Coal Company remained in business until 1885 when it became bankrupt and its holdings were sold to the Pittsburg-Midway Coal Company.

The development of the coal industry in Crawford County received its greatest impetus between the years 1885-90. During this period, many of the largest companies including the Western Coal and Mining Company, the Pittsburg-Midway Coal Company, and the Cherokee-Pittsburg Coal and Mining

³⁴pittsburg Headlight, September 9, 1929.

³⁵Home Authors, History of Crawford County, p. 110.

Company, came into existence. If the Central Coal and Coke Company and the Kansas and Texas Coal Company were added to this group the story of deep mine production could be traced by following the history of these companies.

In 1885, through the influence of Frank Playter, Jay Gould was induced to extend the Missouri-Pacific Railroad from Minden, Missouri to Chetopa, Kansas, via Pittsburg, Kansas. The first train over the new road reached Pittsburg on July 3, 1886.³⁶ In order that cheap fuel might be secured for his railroad, coal lands were purchased by the Gould interests and coal operations began under the name of the Western Coal and Mining Company.³⁷

The new company was capitalized at \$1,000,000.00. The first mine which the company operated was sunk in Barton County, Missouri in 1885.³⁸ Mine Number 2 was sunk in Crawford County near Fleming, Kansas, which had been named in honor of Ira Fleming, General Superintendent of the Western Coal and Mining Company.³⁹ The company kept expanding and in 1909, purchased the controlling interests in the Wear Coal Company which had been organized in 1892 by John Wear and A. B. Kirkwood.⁴⁰ In 1932, the Western purchased all properties that belonged to the

³⁶Pittsburg Headlight, May 19, 1926.

³⁷Interview with A. L. Toenges, June 25, 1934.

³⁸Letter to author from Western Coal Company, June 28, 1934.

³⁹Home Authors, History of Crawford County, p. 114.

⁴⁰Interview with Francis Keegan, June 25, 1934.

Wear Coal Company and it went out of existence.⁴¹

The Western Coal and Mining Company has operated twenty-four mines in District 14, eleven of which have been located in Crawford County alone.⁴² The peak year from the standpoint of number of mines operating and tons produced was in 1923 when the company operated eight mines and produced over 1,000,000 tons of coal. Since then the production of Western mines has gradually decreased as have the number of mines. Today the company operates only two mines in Crawford County.

The officers at the head of the company today are President George J. L. Wulff, Vice President E. D. Stone, Treasurer Holmes Wager, General Superintendent Francis Keegan.

During the same year that the Western Coal and Mining Company began operating in Crawford County, another company of equal rank and importance became interested in the coal fields of the county. The Southern Kansas Railroad, which later became the Santa Fe, desirous of securing cheap fuel for its engines, purchased coal lands near Frontenac, Kansas. The railroad operated the mines under the name of the Cherokee-Pittsburg Coal and Mining Company.

At the time the company sunk its first mine at Frontenac very few houses were located there. In order that shelter might be provided for the miners that were fast pouring in

⁴¹Ibid.

⁴²A. L. Toenges, Chief Engineer for Western Company, June 25, 1934.

from Litchfield, the company constructed houses and rented them to the miners. Plans were also made for the construction of a company store. When the merchants of Pittsburg heard of this, a fund of approximately \$7,000.00 was raised and turned over to the company in order that such plans might be abandoned.⁴³

The Cherokee-Pittsburg Coal and Mining Company operated mines in the county until 1896, when the increasing cost of production plus the problems resulting from the growth of mine unions, cause the company to lease all of its coal holdings to Charles Devlin.

A new company was formed by Mr. Devlin and called the Mt. Carmel Coal Company. Joseph Fletcher was put in charge of all the mines and under his leadership, all operations was confined to the coal fields around Frontenac and Chicopee.⁴⁴ In 1906, the company became bankrupt and all of the property held by the Mt. Carmel Company was taken over once more by the Cherokee-Pittsburg Coal and Mining Company. The mines remained under the Cherokee-Pittsburg Coal Company until 1920 when its holdings were leased to the Jackson-Walker Coal and Mining Company. Thus the Cherokee-Pittsburg Mining Company which had been incorporated under the laws of Kansas with an authorized capitalization of \$500,000.00 went out of

⁴³Home Authors, History of Crawford County, p. 115

⁴⁴Interview with Peter McCall, June 26, 1934.

existence.⁴⁵

The Jackson-Walker Coal and Mining Company which had been incorporated under the law of Missouri with an authorized capital stock of \$150,000.00 took over the Santa Fe mines only after a lease had been signed whereby that company promised to purchase its coal.⁴⁶ About 1923, the Jackson-Walker Company began subleasing its property to small independent operators. At present only four of these leases remain, Gubbio Coal Company, the Wilbert-Schreeb Coal Company, The Crawford County Coal Company, and the Dittman-Wachter Coal Company.⁴⁷

Within the last seven or eight years, the Pittsburg-Midway Coal Company became interested in securing the lease held by the Jackson-Walker Company to supply coal for the Santa Fe Railroad Company, as a result the interests held by the Jackson-Walker Coal and Mining Company have now been taken over by the Pittsburg-Midway Coal Company. As far as the writer has been able to find the leases held by the Gubbio Coal Company, Crawford County Coal Company and the Wilbert-Schreeb Company to provide coal for the Santa Fe have also been purchased by the Pittsburg-Midway Company and although

⁴⁵Fourth Annual Report, Court of Industrial Relations, p. 15.

⁴⁶Ibid., p. 14

⁴⁷Interview with Peter McCall, June 26, 1934.

these companies still operate their mine, their present lease is with the Pittsburg-Midway Company.⁴⁸

Although the writer realizes that mine disasters have played an important role in the history of coal production in Crawford County, to relate all of them would be nearly an impossibility. However, one disaster that will always linger, and no paper dealing with the history of coal in Crawford County could possibly be called complete without mentioning it, is the disaster that occurred in one of the Cherokee-Pittsburg Coal and Mining Companies mines located at Frontenac, Kansas, in 1888.

On November 8, 1888, shortly before quitting time, one of the worst explosions in the history of Crawford County occurred at the Cherokee-Pittsburg Mine Number 2 located at Frontenac, Kansas. When a final check was made forty-seven of the one hundred sixty miners employed lost their lives. The following extracts occurred in the Pittsburg Headlight, November 10, 1888:

Yesterday evening witnessed the most terrible holocaust that ever occurred in the mining district or the West. Mine Number 2 of the Pittsburg-Cherokee Coal and Mining Company at Frontenac, Kansas blew up causing a horrible toll of life. Number of lives lost is unknown. Men in the mine at the time of the explosion numbered 164.

Men are driven to desperation by the pitiful appeal by weeping women and girls to get their husbands and fathers and boys out before they all die. Snow and rain

⁴⁸Personal conversation held with Kenneth Spencer.

have been falling continuously since the explosion yesterday evening at five o'clock. Half clad women sniver and huddle about the top of the shaft pleading for someone to give them tidings of their loved ones.⁴⁹

In relating one of the near tragedies connected with the explosion, the Pittsburg Headlight of November 12, 1888, printed following:

About five o'clock this morning searchers at the bottom of the shaft were almost petrified with astonishment to see a man groping his way out from the east side, in which all search had been abandoned following announcement by searching parties that it had been thoroughly searched and was ready to be sealed up.

The man was Harry Burns of Girard.----He was knocked unconscious by the explosion and lay unconscious in the mine all night Friday, all day Saturday and Saturday night.⁵⁰

Numerous other explosions occurred in the history of mining in this County but time and space do not permit relating them. Suffice it to say that many men gave their lives in order that man's need for coal might be satisfied.

Prior to 1890, all of the major companies that operated mines in Crawford County were either owned by or closely allied to some railroad company. Since 1890 many large companies have been organized. Although some of them located and secured large railroad contracts, these companies in the main were independently operated.

⁴⁹Pittsburg Headlight, November 10, 1888.

⁵⁰Pittsburg Headlight, November 12, 1888.

Probably the largest company to begin operating after 1890 was the Central Coal and Coke Company. Although the company was organized in 1893, during the formative period the firm changed names several times. In 1871, John Keith settled in Leavenworth, Kansas, and became actively engaged in the coal business. Two years later, a partnership was formed with a man named Henry. The firm operated as the Keith and Henry Company until 1881 when Mr. Keith and a John Perry met and organized a new partnership which bore the name of Keith and Perry.

In 1884, the partnership incorporated under the laws of Missouri with an authorized capital stock of \$800,000.00. The new company became known as the Keith and Perry Coal Company and remained as such until 1893, when for some unknown reason, the organization again changed its name to the Central Coal and Coke Company with an authorized capital stock of \$3,000,000.00. In 1902, the company again increased its capital stock to \$7,000,000.00 and raised its bonded indebtedness from \$904,000.00 to \$2,500,000.00 in order that funds might be raised to purchase the holdings of the Kansas and Texas Coal Company.⁵¹

The Central Coal and Coke Company after 1902 became one of the largest coal producing companies in Crawford County

⁵¹Central Coal and Coke Co., Lumber and Coal Resources in the West, pp. 9-16

and one of the largest in the west. During the year 1902-03 the Central operated nine mines in Crawford County, employed nearly 3000 men, and produced approximately 9000 tons of coal per day. Today the company is bankrupt and its holdings are in the hands of receivers.

In 1897, J. R. Crowe and A. B. Cockerill became interested in the coal business and organized the J. R. Crowe Coal Company. The new company first began operation near Stippville, Kansas, on the property of Mr. Ostoff which was leased on the royalty basis.⁵²

About 1905, the company increased its capital stock and the name of the company was changed to the J. R. Crowe Coal and Mining Company. The following year the company leased the property owned by the Crawford County Coal Company and began sinking mines. Mines number 14, 15 and 16 were sunk in rapid succession upon the new land. At present the company does not operate mines in the county but has holdings here and also in Missouri and Oklahoma. In all the company operated twenty-four miles in this district with four of the largest being located in Crawford County.⁵³

As a gift to the miners whom the company employed J. R. Crowe erected a community hall, ball park and tennis court at Croweburg, Kansas and placed them at the disposal of the

⁵²Interview with Robert Gray, General Superintendent of Company for 31 years, June 22, 1934.

⁵³Ibid.

miners who were located there. Thirty homes were also constructed and sold to the miners at cost.⁵⁴

In 1893, J. H. Clemens and his son, Ira Clemens organized the Clemens and Son Coal Company. The partnership first acquired coal land near Weir City and began stripping coal. At that time the company used horses and scrapers to remove the overburden from the coal for steam and electric shovels were practically strangers in this section. Most of the pits that were dug only reached a depth of fifteen to twenty feet for to strip beyond this depth with horses and scrapers was not considered profitable. In 1903, the company leased coal lands in Crawford County and began sinking its first deep mine west of Pittsburg, Kansas. In 1910, the partnership incorporated as a company with an authorized capitalization of \$10,000.00 and went into the mining business on a larger scale. In all the company sank twenty-two mines in this district. Today only three deep mines remain. About 1930, Mr. Clemens sold his interests in the Clemens Coal Company to the remaining members of the company and in turn has gone into the stripping business under the name of the Commercial Fuel Company. The remaining members of the Clemens Company now generally referred to as the Mackie-Clemens Coal Company have authorized the officials of the company to lease the three deep mines and

⁵⁴ Interview with Ted Taylor, June 16, 1934.

have also gone into the stripping business. Hence the three mines of the old Clemens Coal Company are now leased to the C and B Coal Company, the United Coal Company and the Cowan Coal Company,⁵⁵ while the founders of the company have gone into the stripping business entirely.

The Sheridan Coal Company started operating coal mines in Crawford County about the year 1905 when the company purchased the Kniffin Mine located near Fuller, Kansas. It is the opinion of Mr. Edward Roberts, who served as the company's mine superintendent for twenty-seven years, that the company was persuaded to locate in the county by Mr. A. K. Craig, General Superintendent of the Sheridan Coal Company. Mr. Craig had at one time been associated with the Western Coal and Mining Company and knew the value of the coal located in Crawford County. With this knowledge and also knowing of the warm friendship that existed between Mr. J. A. Edison, General Superintendent of the Kansas City Southern Railway Company, and Mr. McGath, President of the Sheridan Coal Company, Mr. Craig persuaded the company to locate in Crawford County.⁵⁶

Shortly after the purchase of the Kniffin Mine, the Sheridan Coal Company purchased other lands in the County and began sinking other mines. Number 2 had hardly been sunk until

⁵⁵Interview with Ira Clemens, President of Commercial Fuel Company, June 27, 1934.

⁵⁶Interview held with Ed. Roberts, Mine Superintendent of Sheridan Coal Company for twenty-seven years, June 25, 1934.

⁵⁸Interview with Ed. Roberts, June 25, 1934.

an explosion occurred on December 18, 1905.⁵⁷ The peak year, from the standpoint of number of men employed, mines operated and tons produced, was in all probability 1917 when the company employed over a thousand men, operated six mines and produced approximately 600,000 tons of coal.⁵⁸ Nearly all the coal produced has been sold to the Kansas City Southern Railway Company. Today the company operates only one mine which is located north and west of Arma, Kansas.

Although many large companies were still operating mines in Crawford County as late as 1920, they were beginning to see the handwriting on the wall. After 1923, with the exception of the Western Coal and Mining Company which sank two mines after that date not a single mine was sunk by a major company. Today only two of the major companies still operate in the county, the Western Coal Company which operated two mines and the Sheridan Coal Company which operated one mine. All of the others have either ceased to exist, sold their holdings, leased them to other companies or have commenced operating strip mines.

Since 1920, the operation of deep mines has gradually gone into the hands of small companies. In the main, most of these companies consisted of miners who felt that a profit could still be made in deep mining. By the year 1922, the number of mines operating in the county was larger than it

⁵⁷Biennial Report, State Mine Inspector, 1904-06, p. 109

⁵⁸Interview with Ed. Roberts, June 25, 1934.

had ever been before (Table II) but production for the year was nearly 50% less than it was in 1914. Since 1923, the "Dinky Mine" operators have learned what the major companies had long known--that on a declining market, deep mines cannot compete with cheap oil, gas and strip mines. Slowly but surely the number of deep mines have decreased until last year only fifty-seven deep mines were operating in Crawford County.

The age of producing coal by the deep mine method is slowly but surely passing on into history in Crawford County. As such names as the Central Coal and Coke Company, The Western Coal and Mining Company, The Sheridan Coal Company, The J. R. Crowe Coal and Mining Company and a host of others that have played an important role in the history of coal production in Crawford County, slowly dim and fade away. Such names as Clemens, Klaner, Spencer, Nesch, Stephenson, and Mackie will come to the front as the outstanding producers of coal by strip mining methods.

Under the single entry system, it was nearly impossible to ventilate the mine properly. According to George McBeth, "Many of the miners were slowly poisoned for the want of pure air to dilute and carry off the poisonous gases that generated from stagnant water and old workings."² The miners complained about this condition but to no avail.

¹ G. K. Young, Kansas Coal, Engineering Bulletin No. 13, p. 60.

² George McBeth, Tenth Annual Report, State Mine Inspector, p. 142.

CHAPTER II

DEEP SHAFT MINING

For years, following the discovery of coal in Crawford County, miners were interested in developing only the surface coal. As has been the case in most districts where surface coal was discovered, the earliest underground operations were carried on by the "Gopher" or drift mine system. Due to the expense involved in reaching coal that had a firm top, many of the miners abandoned the drift mine plan and began to sink shafts which was much cheaper.¹

The first deep mines that were developed were operated on the single entry plan. Under this system, when coal was reached, a single main entry was driven and rooms were turned from it. Most of the mines that were developed during the early period followed this plan for it was considered the most economical method of producing coal. However, under the single entry system, it was nearly impossible to ventilate the mine properly. According to George McGath, "Many of the miners were slowly poisoned for the want of pure air to dilute and carry off the poisonous gases that generated from stagnant water and old workings."² The miners complained about this condition but to no avail.

¹C. M. Young, Kansas Coal, Engineering Bulletin No. 13, p. 60.

²George McGath, Tenth Annual Report, State mine Inspector, p. 142.

Through organized effort, the miners were able to secure the passage of a bill in 1905 which provided that,

The owner, agent or operator of any coal mine in this state if said mine is worked on the room and pillar plan, shall cause the work in such mine to be prosecuted in the following manner and none other, to wit: Two entries must be driven parallel for the ingress and egress of air and crosscuts* must be made at intervals not to exceed forty feet apart.³

Other provisions were provided in the act whereby those mines that were operating on the single entry system could continue to do so. Since the passage of the act, all new mines have been forced to operate on the double entry plan.

Under the double entry system, when the coal seam is reached, parallel main entries are driven from which cross entries are turned. The main entries are usually about eight feet wide but the cross entries are usually about twice as wide. They are made much wider in order that all rock might be "gobbed"⁴ instead of loaded into cars and hoisted out of the mine. The height of the coal in Crawford County makes it necessary to "shoot down" the top in order that the mules or motor which haul the coal to the bottom of the mine might have sufficient room to pass.

³Richard McIntosh, Kansas Mining Laws, p. 64

⁴Gob. A space from which the coal has been mined and refuse or waste left therein.

*Cross-cut. A passage driven for ventilation between the entry and airway.

All of the rooms are turned from the cross entries. The length and width of rooms generally depend upon the quality and quantity of the coal. If both are good, the usual plan is to drive rooms about thirty feet wide and about 150 feet long. If the work is "faulty" or if too many "horsebacks"⁵ appear in the coal seam, the room may be narrowed and in some cases abandoned.

The cautious miner always sees that his room is properly "propped" before he commences to work. The length of these props⁶ depend upon the thickness of the coal. Usually the props are capped with a small board which is about 5" x 12" x 1". The props are not placed in any regular order but are located where rockfall is most liable to occur.

When miners were first paid only for the lump coal they produced, there was an art connected with coal mining. Each miner would undercut his coal before using explosives in order that the maximum amount of lump coal would result. The coal was then loaded into cars with shovels that resemble a modern garden fork. The slack that remained was "gobbed."

All of the art connected with mining has been lost, however, since the passage of the Anti Screen law in 1893. Prior to its passage, all coal was first run over a screen

⁵Horseback--Irregular walls of clay or shale like material occupying space where the coal has been torn away.

⁶Prop--A timber set upright to support the roof rock.

and the miner was paid only for the lump coal which he produced. The anti screen law required that all mine operators weight and credit all coal before passing it over a screen. Since the miner was to be paid for the quantity of coal he produced instead of the quality, undercutting of coal gradually disappeared until today nearly all coal mined is "Shot off the solid."⁷

When coal is mined "off the solid," the miner usually prepares three shots in his room. In doing this, he must first drill three holes into the coal seam with a drill that resembles an auger. After the holes have been drilled, powder is made up into cartridges and placed in the holes. Very little cutting is done today and as a result when the shots explode most of the coal is crushed into slack or small particles.

During the early history of mining, each man was responsible for the lighting of his own shots. As a result, there was no definite time when shots were fired during the day. When a man completed his work and prepared his shots, he lighted them and went home.⁸ This practice was not only detrimental to the other miners but also dangerous. Many lives could have been saved if the practice had never been permitted. The mine disaster which occurred in Frontenac,

⁷"Shot off the solid" is a term applied by miners to the method used in removing coal by shooting rather than undercutting.

⁸Interview with Samuel Meeks, July 4, 1934.

Kansas, in 1888 resulted from a miner shooting his shots when miners were still in the mine.

Many of the operators, realizing the dangers involved in permitting men to shoot their own shots, abolished the practice and hired "shot fires" instead. In 1917 an act was passed by the state legislature which provided,

That all owners, lessees, operators and other persons having the control or management of any mines within this state shall, while such mine is in operation employ snottfires whose duty it shall be to light all shots in said mine. And it shall be unlawful for any such owner, lessee, operator or any other persons to permit shots to be fired in such mine oftener than once each day or shift, or to permit any such shots to be fired until all persons shall have been hoisted out of or vacated the mine except persons employed to fire shots.⁹

once coal is mined and loaded into cars it is next transported to the bottom of the mine. In the majority of mines in this county, mules are used to pull the cars. on short hauls mules have proven to be quite satisfactory. However, on long hauls many companies have found it more economical to install electric motors. At present two types of motors are used, storage battery and trolley line. Each type has its advantages and disadvantages.

In order that no time be lost in getting coal from the bottom of the mine to the top, most of the mines are using the "double bottom system." Under this plan, the main entry

⁹Richard McIntosh, op. cit., p. 65

is widened so that a double track can be installed.¹⁰ The track that loaded cars are placed upon is graded down toward the shaft while the track for empty cars gravitates away from the shaft. A cager is always employed who places the loaded cars upon the cage and removes the empty cars.

Several types of power have been employed by the mine operators in hoisting the coal from the bottom of the mine to the surface. In the early days, horse power was most commonly used. Later gas and steam engines were used. Today, nearly all of the companies operating in the county are using electricity which seems to be more efficient and more economical.

When the coal is hoisted to the surface it is weighed, credited to the miners and then dumped upon a screen shaker. This is done in order that the coal might be classified into three classes--slack, nut, and lump. Nearly all of the mines employ "rock pickers" who remove the impurities from the coal as it moves over the shakers. Some mines have installed washers where the coal is washed and the impurities removed in this manner.

After the coal has been classified it is shipped to market. The largest markets for Kansas coal are located in Kansas City, Omaha, and Lincoln.

¹⁰ Interview held with Sam Meeks, July 4, 1934.

CHAPTER III

FACTORS THAT INFLUENCED DEEP MINE PRODUCTION

Coal, as one of the major industries in Crawford County, developed rather slowly in the beginning, due to the expense involved in mining and the high cost of transporting it. By 1885, the county was producing only 200,000 tons of coal annually. However, the demand for coal by the lead and zinc industry for smelting purposes plus, the development of railroads and their entrance into the coal business, caused the coal industry to progress by leaps and bounds. By 1890 the county was producing 1,900,000 tons of coal annually.

The entry of large business concerns into the coal industry, created a need for labor unions. As early as 1885, the National Federation of Miners and Mine Laborers was organized for the miners located in the Central mining states. Shortly afterwards, the Knights of Labor, which had refused to sponsor a trade assembly for the miners,¹ organized the National Trade Assembly No. 135 for workers in the mining industry.² Both of these organizations were found in nearly every mining district in the United States, competing for members. So the miners, who had once asked for one national organization found themselves well supplied. In 1890, for

¹Proceedings of the United Mine Workers of America, 1911, I, p. 581.

²Roy, History of the miners of the United States, p. 263.

the best interests of the miners, the two organizations were combined into one and the United Mine Workers of America was the result. The first president of the new organization west of the Mississippi was Matt Walters of Pittsburg, Kansas.³

The new organization was partly responsible for the decline in coal production that occurred in 1893. Prior to this time, all coal mined was first run over a one and one-half inch screen and the miners were paid only for the lump coal.⁴ In an attempt to remedy this situation, the state legislature, in 1893, passed a law which made it:

Unlawful for any mine owner, lessee or operator of coal mines in this state, employing miners at bushels or tons or other quantities, to pass the output of coal mined by said miners over any screen or any other device which shall take any part from the value thereof before same shall have been weighted and credited to the employees.⁵

The disagreement which arose between mine owners and employees resulted in a strike being called by Matt Walters, President of the United Mine Workers in May, 1893.

The strike has been in progress only a short time when attempts were made by many of the independent operators to reach an agreement with the union whereby their mines might resume operation. At the suggestion of Peter McCall, Charles Devlin, President of the Mt. Carmel Coal Company, presented a plan whereby the miners were to be paid fifty cents per

³Interview with Matt Walters, June 19, 1934.

⁴Interview held with B. Hardissey, June 12, 1934.

⁵Richard McIntosh, Kansas Mining Laws, May, 1918, p. 73.

to reorganize the district. The organization grew by leaps and bounds and in 1897, the coal companies were not able to produce as much coal as was needed because of another strike.⁶ This agreement was acceptable to the employees of the companies which offered such a contract, and many of them returned to work. The "Big 4" refused to deal with the union and attempted to operate their mines by importing negroes from the southern states. When the miners attempted to speak to the negroes, the companies hired armed guards to keep them away.⁷

The strike dragged on for several months with little or nothing being accomplished. Finally, President Walters, seeing that winter was fast approaching and with no outside assistance in view, was forced to accept an agreement that was only partially satisfactory.⁸

The loss of the strike caused many of the miners to lose interest in the mine union and many of them dropped their membership. As a result, the mine operators held complete sway for the next five years. During the period the production of coal ~~coal~~ gradually increased, while the conditions of the miners grew worse.

In 1898, Arthur Connery was sent into the district by the national officers of the U. M. W. of A. and proceeded

⁶Interview held with Peter McCall, June 26, 1934.

⁷Interview held with Emile Hromek, June 16, 1933.

⁸Interview held with Matt Walters, June 18, 1934.

to reorganize the district. The organization grew by leaps and bounds and in 1899, the coal companies were not able to produce as much coal as was needed because of another strike.⁹

The strike of 1898-99, better known as the "Big Four" strike, resulted from conditions that existed outside of the county. In 1898, a local union was established at Hartshorne, Indian Territory. Some of the companies objected to their employees joining and discharged them for doing so. As a result the union miners in Arkansas came out on a sympathetic strike. Later the miners, feeling that other conditions needed adjusting, drew up a set of grievances for which they demanded satisfaction before work would be resumed.

During the time that the miners in the Indian Territory and Arkansas were out on a sympathetic strike, the miners of Kansas were sending them material assistance. When the two miners in these two fields voted to remain on strike until the union was recognized, wages were increased and an eight hour day established, the miners in Kansas voted to join and suspend all operators¹⁸⁹¹ until these demands were acceded to.

Many of the independent operators in Kansas again signed a contract with the union and resumed operation. But the members of the "Big Four" which included the Central Coal and Coke Company, The Western Coal Company, the Kansas and

⁹Ibid.

Texas Coal and Mining Company and the Southern Improvement Company, refused to sign and once more set out to crush the union.¹⁰ Hundreds of negroes were shipped in from the south and were housed in the large stockades that were built around the company's mines. Many of them were provided with rifles to act as guards.¹¹ On May 15, 1900, W. H. Barrett, a leasee of several of the Kansas and Texas mines presented an agreement which was satisfactory to the labor union. Members of the Big Four followed in rapid succession until by the end of June, all of the members had signed contracts providing for an eight hour day, an increase in wages and no discrimination between union and non-union labor.¹² It is interesting to note that the Big Four still refused to recognize the Union.

Following the "Big Four Strike", the coal industry witnessed a fluctuating, but on the whole, increasing growth. However, labor troubles, growing out of the disagreement over the wage scale, resulted in a sharp decline in production in 1910.

On April 1, 1910, the contract between the operators and the miners expired and operation ceased pending the formation of a new contract. When the annual meeting was held,

¹⁰Edward Keegan, Twelfth Annual Report, State Mine Inspector, p. 114.

¹¹W. L. A. Johnson, Fifteenth Annual Report, Kansas Bureau of Labor, p. 459.

¹²Ibid., pp. 464-465.

the miners asked for a ten percent increase which was later changed to three cents on the ton.¹³ Another demand which was made by the miners was that the arbitration clause be omitted from the new contract.¹⁴ The operators in turn refused both demands and sought to reduce wages and keep the arbitration clause. As a result, the strike of 1910 was called by District President Alex Howat of the United Mine Workers organization.

An agreement over the wage question was finally reached but both factions refused to yield on the arbitration clause. Conditions dragged on for a period of five months during which time the Howat-Hazen affair came to a head. Finally on September 19th, Howat permitted the arbitration clause to be placed in the contract while the company agreed to pay seventy-five cents per ton of mine run coal.¹⁵

For the next four years coal production in the county increased steadily. The peak year for normal production, in all probability, was reached during the fiscal year ending June 30, 1914. Sixty-three mines, employing 6,353 men of which 4,985 were miners, produced 4,447,444 tons of coal. During the year several new mines were established by the

¹³W. L. A. Johnson, Kansas Bureau of Labor, Twenty-sixth Annual Report, p. 107.

¹⁴Interview held with Joe Skubitz, Sr., June 2, 1934.

¹⁵W. L. A. Johnson, Twenty-sixth Annual Report, Kansas Bureau of Labor, p. 114.

larger companies including Numbers 18 and 19 belonging to the Western Coal and Mining Company, Numbers 12 and 14 belonging to the Faulkner Coal Company, Number 48 belonging to the Central Coal and Coke Company, and Number 11 belonging to the Clemens Coal Company.¹⁶

The coal industry in the county as well as the entire state began its downward trend the very next year. Many of the larger companies which had located in the county--the Western Coal and Mining Company, the Wear Coal Company, The Central Coal and Coke Company and the Hamilton Coal and Mercantile Company were forced to close their mines during the last two months of the year because of the lack of demand for fuel.¹⁷

The entry of the United States into the World War plus the absence of labor troubles saved the industry from further decline for the period of the war. An examination of Table II shows that during the years 1917 and 1918, the production of coal, number of men employed, and wages paid, steadily increased. Production reached a new level in 1918 when the mines produced 5,517,551 tons of coal.

Although very little trouble existed between the miners and operators during the war, the old feud again broke out

¹⁶W. L. O'Brien, Annual Report of State Mine Inspector (1913-14), p. 15.

¹⁷John Pellegrino, Annual Report of State Mine Inspector (1914-15), p. 16.

1919 and before a settlement was reached the government was also drawn into the fray. Production fell from 5,517,551 tons in 1918 to only 3,878,172 tons in 1919.

In 1919, a general strike was called by the international union. The strike as usual resulted in disagreement relative to wages. The operators were asking the miners to accept the wages that were paid under the old Jacksonville agreement which amounted to \$1.01 per ton. The miners in turn demanded the same wages that they had received during the war.¹⁸

The strike had been in progress only a short while when Fuel Administrator Garfield, claiming that the coal industry was still under the supervision of the government, demanded that John L. Lewis, President of the U. M. W. of A., order all men back to work and leave the matter up to an arbitration board. President Lewis agreed to this and shortly afterward did so.¹⁹ The miners in District 14 under the leadership of District President Howat refused to return, claiming that the industry was no longer under the supervision of the government and that a contract must first be agreed upon.²⁰

The refusal of the miners to return to work, resulted in all the mines in the district being taken over by the

¹⁸Interview held with Emil Hromek, June 16, 1933.

¹⁹Interview held with Alex Howat, June 2, 1934.

²⁰Ibid.

government. Volunteer miners were brought in to operate the mines, especially the strip mines, and troops were sent into Crawford County to provide protection.²¹ The presence of the volunteer miners and the troops had the desired effect. The strike was broken and by December nearly all of the miners had returned to work.²²

Although coal production in 1920, nearly equaled that of 1913-14, the passage of the Industrial Court Act in January of that year was directly responsible for the strike called in 1921. Trouble first began fomenting, however, in September, 1920, when Attorney General Hopkins in behalf of the state, secured an injunction prohibiting the mine officials in District 14 from calling and putting into effect a strike.²³ Shortly after the injunction was issued, a dispute, generally referred to as the "Mishmash Case", arose and resulted in the calling of a strike. Contempt charges were brought against District President Howat and other officials and all of them were sentenced to one year in jail. The case was then appealed to the Supreme Court of Kansas. Although a small

²¹Pittsburg Headlight, September 9, 1929.

²²Ibid.

²³Interview held with Hiriam Hinkle, July 3, 1934.

²⁴Second Annual Report, Court of Industrial Relations, p. 8

strike occurred it was of little consequence.

The real clash occurred in 1921 when District President Howat and Vice President Dorchy began serving a six months sentence for calling a strike at the George Mackie Fuel Company mine. Although no controversy existed between the operators and the miners at this time, Howat had made the statement on the day before the sentence began that "Not one ton of coal shall be mined by the miners of Kansas until the industrial court law is scratched from the statute books of Kansas."²⁴ In protest to the imprisonment of their District President the miners of the district refused to work.

The strike had been in progress only a short while when the international executive board directed District President Howat to order the men back to work. When he refused, he and the other district board members were expelled from the union and a provisional board established in their place. Under the new organization, the men were then ordered back to work and when they refused, they, too, were expelled from the union and their local charters revoked.²⁵ New unions were then organized and those men who were willing to return to work were permitted to join.

²⁴Second Annual Report, Court of Industrial Relations,
p. 10.

²⁵Second Annual Report, Court of Industrial Relations, p. 8

During the first few months of the strike the majority of the men remained loyal to their district president. However, after this period, many of the men, especially in Cherokee County began returning. On the whole, however, the majority of the men in Crawford County remained idle.

In an attempt to force all of the men to remain idle and support the fight against the industrial court law, a mass meeting for women, the first in the history of the County, was called on December 12th to be held at Franklin, Kansas. On that day, nearly 500 women met, "not one with an unlawful thought in her heart or mind."²⁶ At the close of the meeting it had been agreed to march on every mine and attempt to persuade the working miners to join their idle brothers until the Industrial Court Act had been repealed.²⁷

When the "Amazon Army" assembled the next morning, there were almost 3000 women present. The women proceeded to march four in a line from mine to mine asking the miners to stop working. This was continued for several days until every mine in Crawford County had been visited.²⁸

An attempt was made by the local police to stop the marches that were held. Finding their efforts futile, an

²⁶Mrs. Mary Skubitz, The Amazon Army, p. 1.

²⁷Ibid., p. 3

²⁸Skubitz, The Amazon Army, p. 6.

appeal was made to the Governor of the state and the state militia was ordered into Crawford County for the second time within a five year period. Again the mines resumed operation under military protection and the strike was broken. An examination of coal production during the year shows that it had fallen to 2,769,999 tons as compared with 4,305,584.

Since 1921, labor disputes have had very little effect upon the decline in coal production in Crawford County. Only two strikes have occurred since then and both have been of minor importance. The deep mines of Crawford County stand ready to produce, the miners in the county stand ready to work, but the demand for Kansas coal has declined.²⁹ Other influences have arisen to bring about the decline of deep mine production and labor disputes have ceased to play as important a role.

The influences which have had the greatest effect on deep mine production since 1921 may be summarized as follows: Competition resulting from gas and oil; competition resulting from coal produced in other fields; competition resulting from strip mining; and last but not least the decrease resulting from improved boiler efficiency of locomotives and other coal consuming engines.

²⁹Interview with Francis Keegan, General Superintendent of the Western Coal Company.

To estimate accurately the amount of coal that has been displayed by the use of gas and oil is almost an impossibility. However,

It has been carefully estimated that the consumption of steam coal along the Missouri River from Kansas City to Omaha, inclusive, and extending westward to Lincoln and various other points is at least 4,000,000 tons per year. The amount of coal replaced by oil in Kansas City is about 516,000 tons, in St. Joseph 80,300 tons and in Omaha 54,200 giving a total of 650,000 tons of coal displaced in these three cities alone.³⁰

The amount of coal displaced by oil over the entire district is much greater according to C. M. Young, who says,

The extent to which fuel oil has replaced coal for railroad use cannot be stated exactly but figures supplied by railroads using Kansas coal show that the replacement amounts to over 512,000 tons per year.³¹

These figures indicate that 1,162,000 tons of coal, most of which is mined in Kansas, has been replaced by fuel oil alone. When this amount is added to the unknown amount that must have been displaced by oil, and when one takes into consideration the amount of coal that has been displaced by natural gas for household purposes, the seriousness of the situation is quite obvious.

Competition from other coal fields, especially from the Illinois and non-union fields of Oklahoma, has been steadily

³⁰C. M. Young, Engineering Bulletin No. 13, Kansas Coal, p. 58.

³¹Ibid., p. 58

increasing since the World War. Prior to this time, these fields, especially the latter, were not fully developed and the market once supplied by them consumed all the fuel they could produce. During the World War, these fields overdeveloped as did many of the coal fields in the east. Consequently, when the war ended and the demand for coal began decreasing, a "puss in the corner" competition began. The eastern producers began encroaching on the markets once supplied by the Illinois field. The Illinois operators in turn began looking for new markets. Being able to produce coal cheaper than the coal operators of Kansas, they turned to the market supplied by Kansas. In the meantime, the Chicago-Alton Railway Company, desirous of increasing its own business, reduced its freight rates thus making this competition all the more possible.³² To make matters still worse for Kansas operators, many of the mines in Oklahoma became non-union making it possible for the operators in that state to produce coal cheaper and thus send their product into the market once supplied by Kansas coal and successfully compete with it.³³ How serious this competition has been, has not been accurately estimated but it must be accepted as one of the important

³² Interview with D. Moore, August 4, 1933.

³³ Interview with Matt Walters, Ex-President District 14, June 28, 1934.

factors in bringing about the decline of the Kansas Coal industry. In 1933, the market for Crawford County coal has been taken

Probably the most discussed cause for the decline in deep shaft mining today is that relating to the competition brought on by the development of strip mining. It has been estimated that a modern electric shovel can produce between fifteen and thirty tons per man per day employed whereas a shaft mine can produce between three and four tons per man employed. In comparing a shovel with a deep mine, it has been estimated that a modern electric shovel employing forty men can produce approximately 1000 tons of coal per day while a deep mine in order to produce a like tonnage would employ between 300 and 350 men.³⁴ strip mines from operating

Granting that strip mines can produce coal much cheaper than deep mines, it is doubtful whether this competition has created as much unemployment in the coal fields of the county as is generally estimated. An examination of Table IV shows that during the fiscal year 1913-14 the total tonnage of coal produced by both strip and deep mines was 4,767,964 tons. The total number of men employed about the mines was 7,734. In 1933, the total tons produced was 1,473,738 while the total number of men employed was 2246. This seems

³⁴George J. L. Wulff, President of Western Coal Company, June 27, 1934.

to show that in comparing the normal fiscal year 1913-14 with 1933, the market for Crawford County coal has been taken over by some agency other than the strip mines. From the standpoint of employment, if every strip mine in the county had ceased operating last year and the deep miners of the county had been permitted to work the same number of days as they did in 1913-14 (198 days), deep mine employment would have increased from 1735 to approximately 2437 men, an increase of 892 men. However, at the same time the 511 men employed about the strip mines would become unemployed. Hence if strip pit competition were totally abandoned in Crawford County the net gain in man power would be 181 men. Should such a plan of stopping the strip mines from operating be attempted in the county, it is doubtful whether the deep mines could compete with the other agencies that have played such an important role in causing the decline of coal production in Crawford County. When one realized that the strip mines of the county only worked 122 days last year mainly because of no market for coal, it seems to indicate that even this method of producing coal cannot as yet, meet the competition resulting from other agencies, in the markets once dominated by the Kansas field.

The effect that improved boiler efficiency of locomotives and other steam plants have had on decreasing the demand for coal is practically immeasurable, but as an influence in

bringing on the decline of deep mine production, it must be counted. Due to the high price of coal during and preceding the World War, every attempt was made to increase the efficiency of modern machinery. The age of competition has forced those plants which still use coal to seek every conceivable means of cutting costs in order that competition of those firms using gas, oil and electricity might be met.³⁵ As a result, improved boiler efficiency has developed and coal production has suffered.

Coal mining is one of the overdeveloped industries in the United States today. As one observed the major industries in the county that formerly used coal, change to oil, gas, and electricity; as he visits the deep mines and strip mines and finds that they too have turned to electricity for power, he must conclude that the future of deep mining is not in the least encouraging.

Oil, gas, and electricity seems to have played the major role in bringing about the decline of coal consumption since 1920. What coal is needed, can be produced more economically by the large electric shovels and the deep mines located in other fields.

To the writer, it seems as though the only prospects for deep mining in Crawford County today, lie in the hope

³⁵K. A. Spencer, Development of Strip Mining in the United States, p. 1

that someday the present streams of oil and gas will be exhausted or that some unforeseen use for coal might be discovered.

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- Hinkle, Hiram, Ex-District Board Member, West Mineral,
Kansas.
- Keegan, Francis, General Superintendent of Western Coal
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- McCall, Peter, Mine Superintendent of Cherokee-Pittsburg
Coal and Mining Company, Frontenac, Kansas.
- Roberts, Edward, Superintendent of Sheridan Coal Company,
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- Toenges, A. L., Chief Engineer of Western Coal and Mining
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- Walters, Matt, President of United Mine Workers of America,
District 14, Pittsburg, Kansas.

TABLE I

AMOUNT OF COAL PRODUCED, AVERAGE FORCE OF EMPLOYEES, AVERAGE NUMBER OF DAYS WORKED, NUMBER OF DAYS WORKED PER TON OF COAL PRODUCED, AND THE AMOUNT OF COAL ACCUMULATED IN THE MINE AT THE END OF EACH YEAR 1869-1910

Year	No. of Days Worked	Total Tons	Average No. of Employees	Average Days Worked per Employee	Tons per Employee
1869		3,721			
1870		2,774			
1871		4,172			
1872		41,771			
1873		65,770			
1874		16,131			
1875		150,770			
1876		1,537,771			
1877		2,770,771			
1878		2,762,771			
1879		4,624,771			
1880		7,710,771			
1881		9,400,771			
1882		11,000,771			
1883		13,000,771			
1884	3	11,000,771			3,666
1885	9	12,400,771	4170		29,906
1886	-	12,000,771			
1887	9	12,700,771			281,396
1888	-	12,000,771			
1889	12	21,131,666	2906	210	176,013
1890	9	22,106,666	2903	212	314,506
1891	13	27,527,332	4071	214	211,824
1892		30,072,770	4039	212	
1893	15	28,193,111	4031	211	182,126
1894	22	26,121,111	10,089	174	154,897
1895	10	29,064,111	9021	171	312,084
1896	12	27,114,111	3807	170	265,972
1897	6	3,012,111	4620	152	610,467
1898	17	36,193,111	2172	170	217,084
1899	15	40,659,111	2,000	186	258,066
1900	20	42,897,111	1,672	192	213,844
1901	10	49,691,111	2,000	160	470,812
1902	20	52,504,111	2,010	170	174,347
1903	36	54,264,111	2,000	180	186,207
1904	15	27,524,111	10,017	99	170,791
1905	36	65,747,111	2,000	180	176,327
1906	30	37,461,111	1,176	196	191,580
1907	52	33,910,111	1,937	204	126,747
1908	31	63,801,111	1,134	192	167,266
1909	33	57,273,111	1,542	190	157,232
1910	20	51,539,111	1,430	185	106,416

APPENDIX

TABLE I

AMOUNT OF COAL PRODUCED, AVERAGE NUMBER OF EMPLOYEES, AVERAGE NUMBER OF DAYS WORKED, NUMBER OF TONS PRODUCED PER FATAL ACCIDENT, AND THE NUMBER OF FATAL ACCIDENTS IN THE MINES OF KANSAS FOR THE YEARS 1869-1934

Year	No. Fatal Accidents	Tonnage	Average No. Employees	Average Days Worked	Tons per Accident
1869		36891			
1870		32938			
1871		41000			
1872		44800			
1873		56000			
1874		85000			
1875		150000			
1876		225000			
1877		300000			
1878		375000			
1879		460000			
1880		771000			
1881		840000			
1882		750000			
1883		900000			
1884	3	1100000			336,666
1885	9	1440000	4175		160,006
1886	-	1350000	----		-----
1887	8	1570000	----		224,296
1888	-	1700000	----		-----
1889	12	2112166	5956	210	176,013
1890	8	2510654	4523	222	314,506
1891	13	2753722	6201	224	211,824
1892		3007276	6559	208	
1893	15	2881931	9851	147	192,128
1894	26	3611214	10088	164	138,893
1895	10	3190843	9021	161	319,084
1896	12	3191748	8807	170	265,979
1897	6	3291806	8699	152	549,467
1898	17	3881931	8122	170	227,094
1899	16	4096895	10198	186	256,056
1900	20	4269716	10673	193	213,845
1901	10	4869121	9606	180	479,612
1902	30	5230433	9315	170	174,347
1903	36	5540647	9972	186	153,907
1904	16	2732499	10347	92	170,781
1905	36	6374671	12109	183	176,322
1906	30	5754616	10175	166	191,820
1907	52	6591013	11957	204	126,750
1908	31	6588016	11334	179	180,258
1909	38	5727653	10542	190	150,729
1910	39	5135391	10619	165	205,415

TABLE I - (Con'd.)

AMOUNT OF COAL PRODUCED, AVERAGE NUMBER OF EMPLOYEES, AVERAGE NUMBER OF DAYS WORKED, NUMBER OF TONS PRODUCED PER FATAL ACCIDENT, AND THE NUMBER OF FATAL ACCIDENTS IN THE MINES OF KANSAS FOR THE YEARS 1869-1934

Year	No. Fatal Accidents	Tonnage	Average No. Employees	Average Days Worked	Tons per Accident
1911		6254228	10918		
1912	37	6350396	11264	197	171,578
1913	28	7090579	12506	196	253,235
1914	34	7186918	12498	200	211,380
1915	28	6687521	11451	176	238,840
1916	54	6775076	11775	192	125,468
1917	30	7250000	11421	194	241,066
1918	30	7250000	11600	198	241,066
1919	26	5400312	10500	182	207,704
1920	26	6130341	10509	202	235,782
1921	14	4028624	10416	151	287,758
1922	9	4518243	9626	130	390,915
1923	19	4650479	10459	118	244,762
1924	7	4491069	9743	120	641,581
1925	11	4813088	9471	122	437,553
1926	16	5562955	8130	144	285,185
1927	10	3585764	7073	139	358,576
1928	8	3355408	6048	150	419,426
1929	14	3546144	5577	138	263,296
1930	10	2603156	5514	108	
1931	6	2247636	4316	100	
1932	11	2348140	4150	93	
1933	9	2411584	4233	94	

*Taken from the Annual Reports of the State mine Inspector for the years, 1929, 1930, 1931, 1932, and 1933.

NUMBER OF MINES, TONNAGE, NUMBER OF MINERS AND TOTAL NUMBER OF EMPLOYEES, AVERAGE DAILY WORKED, AND YEARLY EARNINGS OF MINERS BETWEEN YEARS 1897-1933.*

TABLE III

NUMBER OF STRIP MINES, NUMBER OF TONS PRODUCED, AND AVERAGE NUMBER OF EMPLOYEES FOR YEARS 1913-33.

Years	Average Number Employees	Number of Mines	Tonnage
1913-14	389	9	320,520
1914-15	455	10	428,955
1916	446	8	422,085
1917	No reports given		407,000
1918	Estimated tonnage		467,000
1919	from U. S. Bureau of Labor		270,000
1920	330	11	325,146
1921	275	14	162,628
1922	351	15	259,446
1923	302	13	324,545
1924	310	15	332,685
1925	324	21	338,711
1926	441	27	571,080
1927	468	24	547,626
1928	463	25	627,747
1929	444	22	691,876
1930	485	23	569,751
1931	454	22	908,865
1932	557	21	948,618
1933	511	23	993,044

Taken from the Annual Reports of the State Mine Inspector.

*Table compiled from reports of State Mine Inspector (1897-1933)

*Price of Mine run secured from interview with miners and Kansas Bureau of Labor Reports.

Yearly earnings from 1897-1914 taken from Kansas Bureau of Labor reports. 1914 to 1933, yearly earnings compiled by taking the Tonnage times the average price divided by number of Miners less 20% for expenses.

NUMBER OF MINES, TONNAGE, NUMBER OF
 MINERS AND TOTAL NUMBER OF EMPLOYEES, AVERAGE DAYS WORKED, AND
 YEARLY EARNINGS OF MINERS BETWEEN YEARS 1897-1933.*

Year	No. of Mines	Tonnage	No. of Miners	Total No. Employed	Ave. No. Days	Ave. Price Mine Run	Yearly Earnings
1897	36	1590620	2467	3138	120	55¢	226.83
1899	34	1989157	2403	3036	141	55¢	266.49
1900	60	2335998	3499	4794	168	60¢	326.22
1901	50	2707330	3390	4497	---	65¢	365.00
1902	62	3100449	3674	4897	200	65¢	467.12
1903	59	3123834	3624	4860	196	65-72¢	423.00
1904							
1905	59	3561975	4396	5985	198	72¢	454.00
1906	58	3252116	4337	5748	159	72¢	426.00
1907	57	3669359	4602	6025	206	72¢	570.00
1908	62	3255079	4534	5911	190	72¢	483.00
1909	46	4586766	4588	6066	202	72¢	459.00
1910	52	3374069	4985	6353	177	75¢	448.00
1911							
1912	55	3818750	4751	6298	194	78¢	467.00
1913							
1914	63	4447444	5969	7345	198	81¢	482.00
1915	65	4167254	3562	6978	179	81¢	500.00
1916	87	(4526172)		7737		1.01	
1917		(5106556)	Estimates taken from U. S.			1.25	
1918		(5517551)	Bureau of Labor Reports. No			1.25	
1919		(3878172)	State reports available			1.25	
1920	154	4304584	5077	7232	211	1.25	847.00
1921	146	2769999	5088	7017		1.25	544.00
1922	179	2519126	5011	6722	137	1.25	526.00
1923	152	3091473	5460	7266	121	1.25	566.00
1924	152	2868647	5066	6556	126	1.25	566.00
1925	126	2752984	4837	6199	112	1.25	569.00
1926	105	2325108	4253	5406	137	1.25	546.00
1927	85	1570305	3591	4443	137	1.25	437.00
1928	85	1144078	3344	3477	152	1.01	278.00
1929	73	1535488	2549	3185	122	.81	291.00
1930	67	1065196	2657	3268	95	.81	260.00
1931	64	661737	1911	2326	88	.81	224.00
1932	61	632525	1541	1897	101	.81	260.00
1933	57	480694	1391	1735	98	.81	217.00

Table compiled from reports of State Mine Inspector (1897-1933)

*Price of Mine run secured from interview with miners and Kansas Bureau of Labor Reports.

Yearly earnings from 1897-1914 taken from Kansas Bureau of Labor Reports. 1914 to 1933, yearly earnings compiled by taking the Tonnage times the Average Price divided by number of Miners less 20% for expenses.

SHAFT AND STRIP MINE PRODUCTION FOR THE YEARS 1913-1935.

TABLE IV

Fiscal Year	SHAFT MINES			STRIP MINES		
	Employees	Mines	Tons Pro-duced	Employees	Mines	Tons Pro-duced
1913 - 1914	7345	63	4,447,444	389	9	320,520
1914 - 1915	6978	65	4,167,254	455	10	428,955
Calendar Year						
1916	7737	77	4,526,172	446	8	422,085
1917	No State Reports		5,106,556	Estimated Strip Tonnage		(407,000)
1918	do					(467,000)
1919	do					(270,000)
1920	7232	154	4,304,584	330	11	325,146
1921	7017	152	2,769,999	275	14	162,628
1922	6722	179	2,519,126	351	15	259,446
1923	7266	152	3,091,473	302	13	324,545
1924	6556	152	2,868,647	310	15	332,685
1925	6199	126	2,752,984	324	21	338,711
1926	5406	105	2,325,108	441	27	571,080
1927	4443	85	1,570,305	468	24	547,626
1928	3577	85	1,144,078	463	25	627,737
1929	3185	73	1,535,488	444	22	691,876
1930	3268	67	1,065,196	485	23	569,751
1931	2326	64	661,737	454	22	908,865
1932	1897	61	632,525	557	21	948,618
1933	1735	57	480,694	511	23	993,044

TOTAL COUNTY							
Fiscal Year	Employees	Mines	Tons Produced	Calendar Year	Employees	Tons Pro-duced	Mines
1913 - 1914	7734	72	476,796	1923	7,568	3,416,018	165
1914 - 1915	8474		4,752,114	1924	6,866	3,201,332	167
	7433	75	459,620	1925	6,523	3,091,695	147
Calendar	9094		4,843,232	1926	5,847	2,896,188	132
Year 1916	8183	85	4,948,257	1927	4,911	2,117,931	109
1917	7988		5,513,556	1928	4,040	1,771,815	110
1918	7887		5,984,551	1929	3,629	2,227,364	95
1919	7458		4,148,172	1930	3,753	1,634,947	90
1920	7562	165	4,629,730	1931	2,780	1,570,602	86
1921	7292	166	2,932,627	1932	2,454	1,581,143	82
1922	7073	194	2,778,572	1933	2,246	1,473,738	80

STATE REPORTS OF MINE INSPECTOR

Figure 1. Rise and Fall of Production (1887-1933).

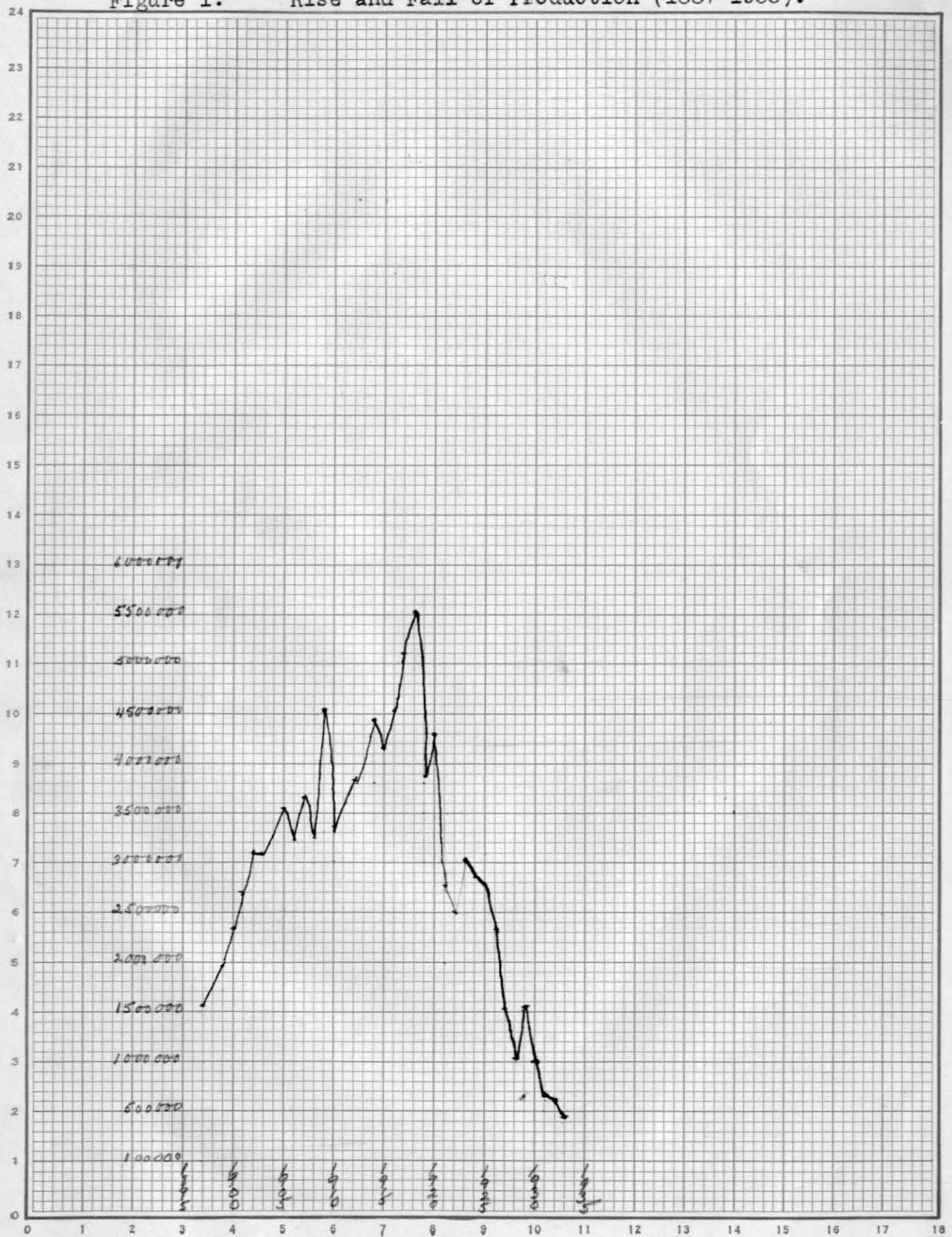
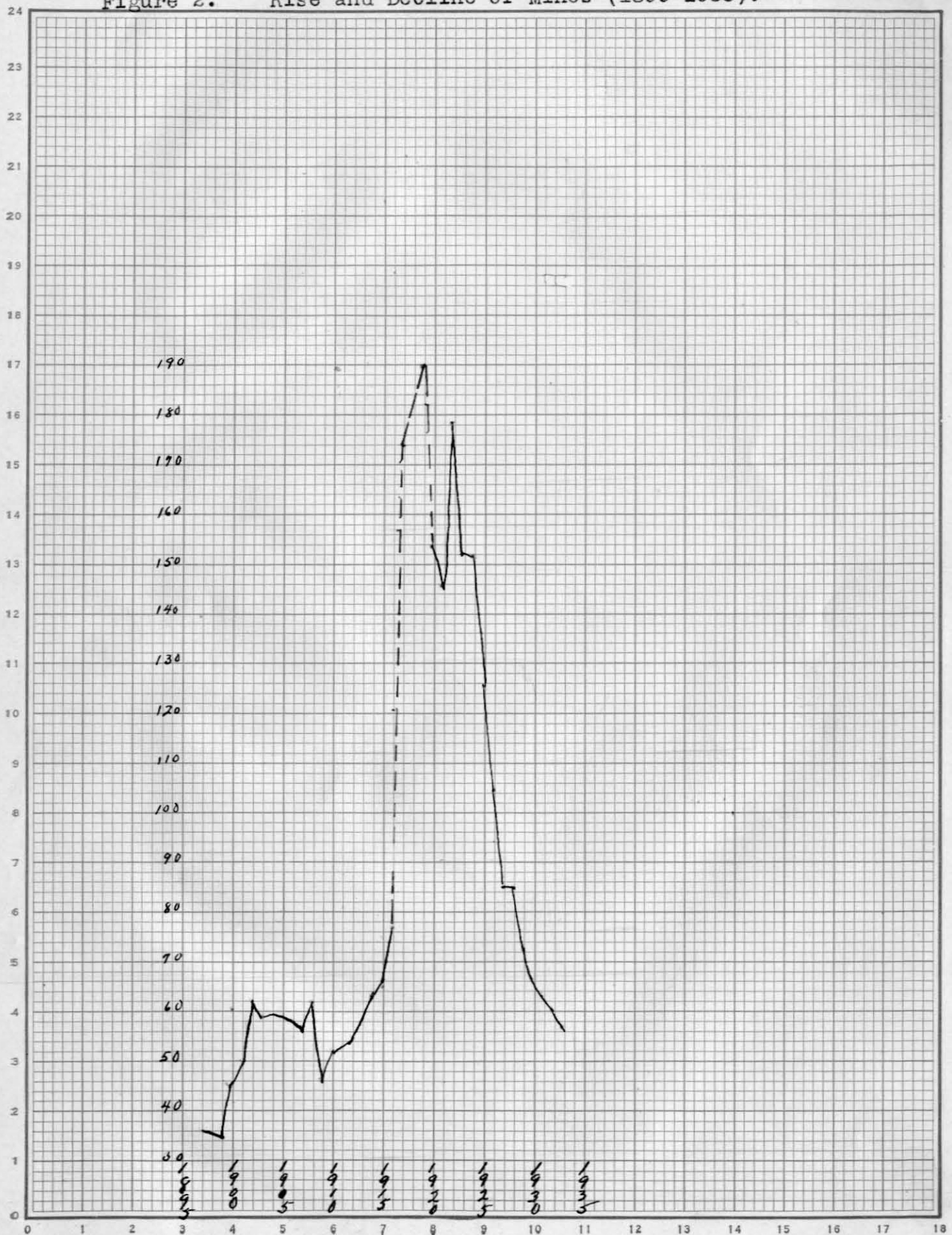
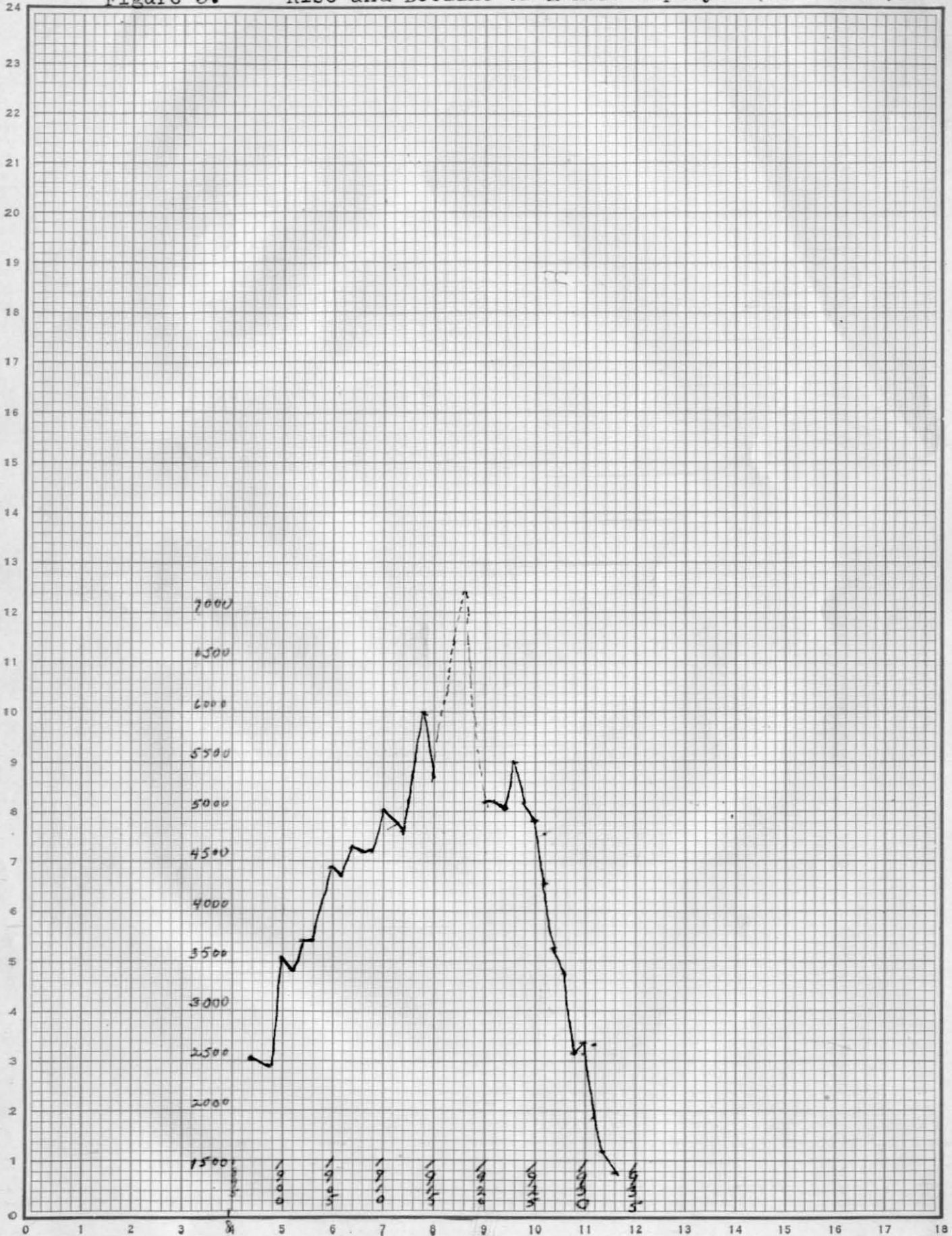


Figure 2. Rise and Decline of Mines (1899-1933).



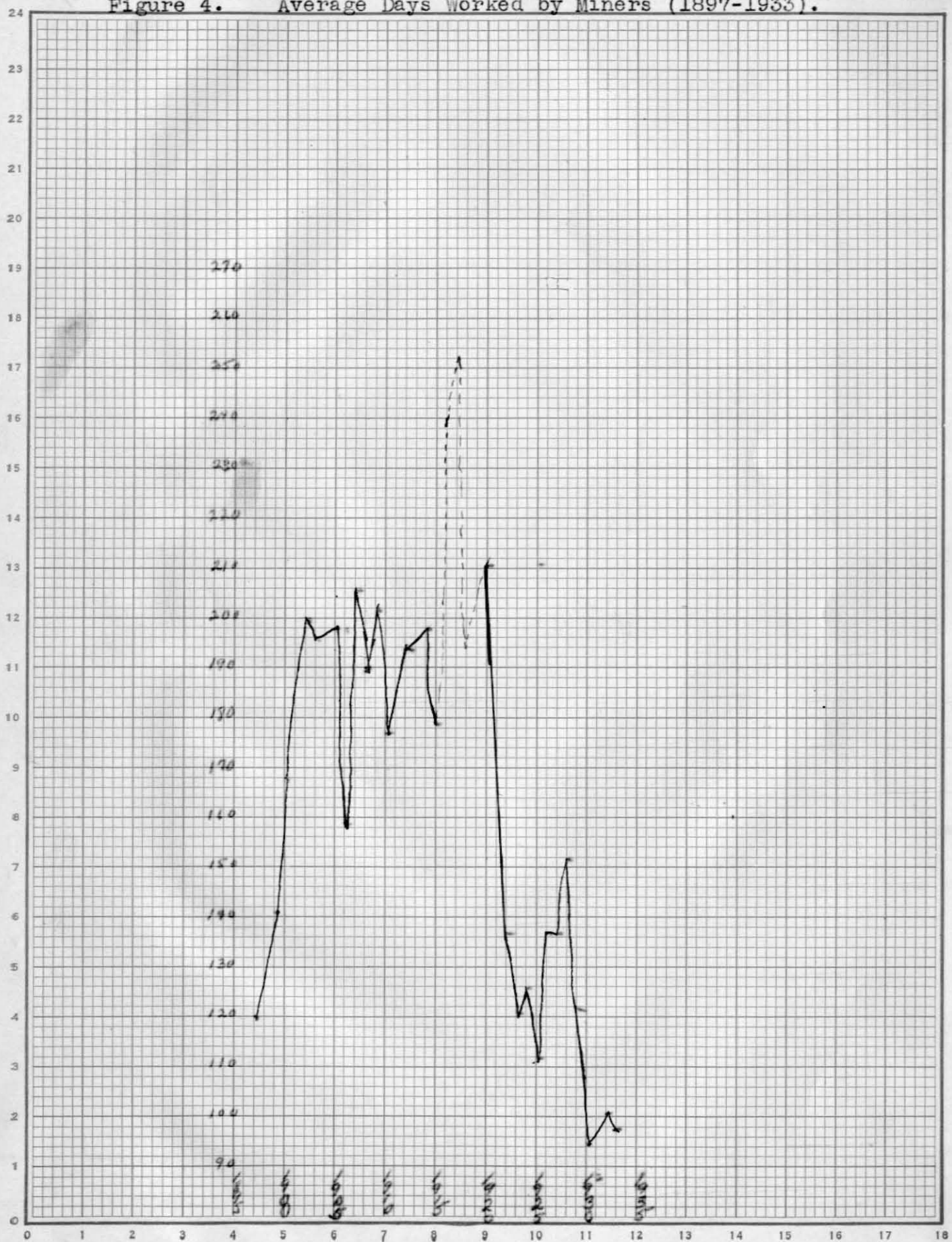
Years 1917-18-19 were not compiled. Red line simply an estimate by author

Figure 3. Rise and Decline of Miners Employed (1895-1934).



Years 1917-18-19 not compiled. Red line simply an estimate by author

Figure 4. Average Days Worked by Miners (1897-1933).



Years 1917-18-19 not compiled. Red line simply an estimate by

Figure 5 Comparison of Coal Production in Shaft and Strip Mines

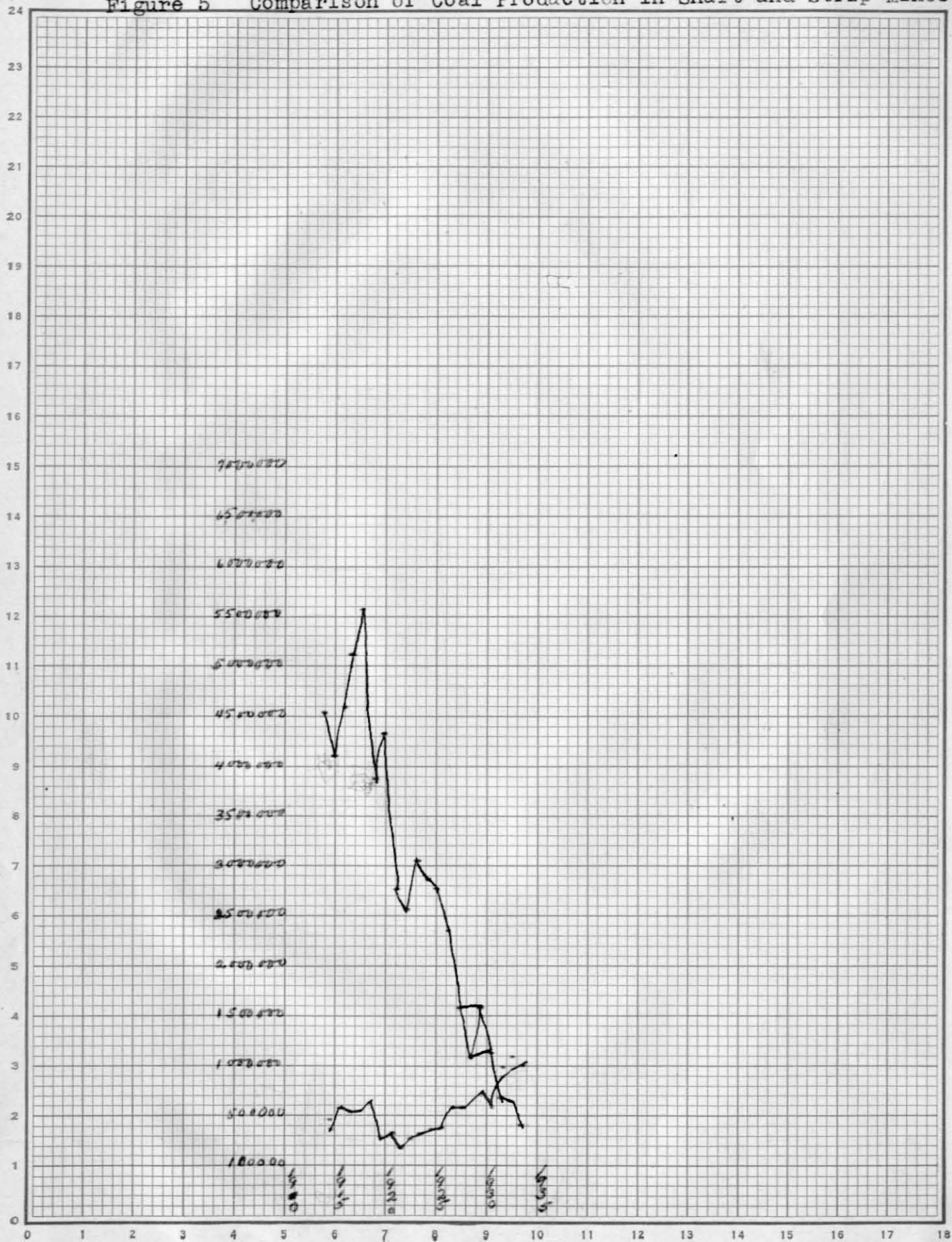
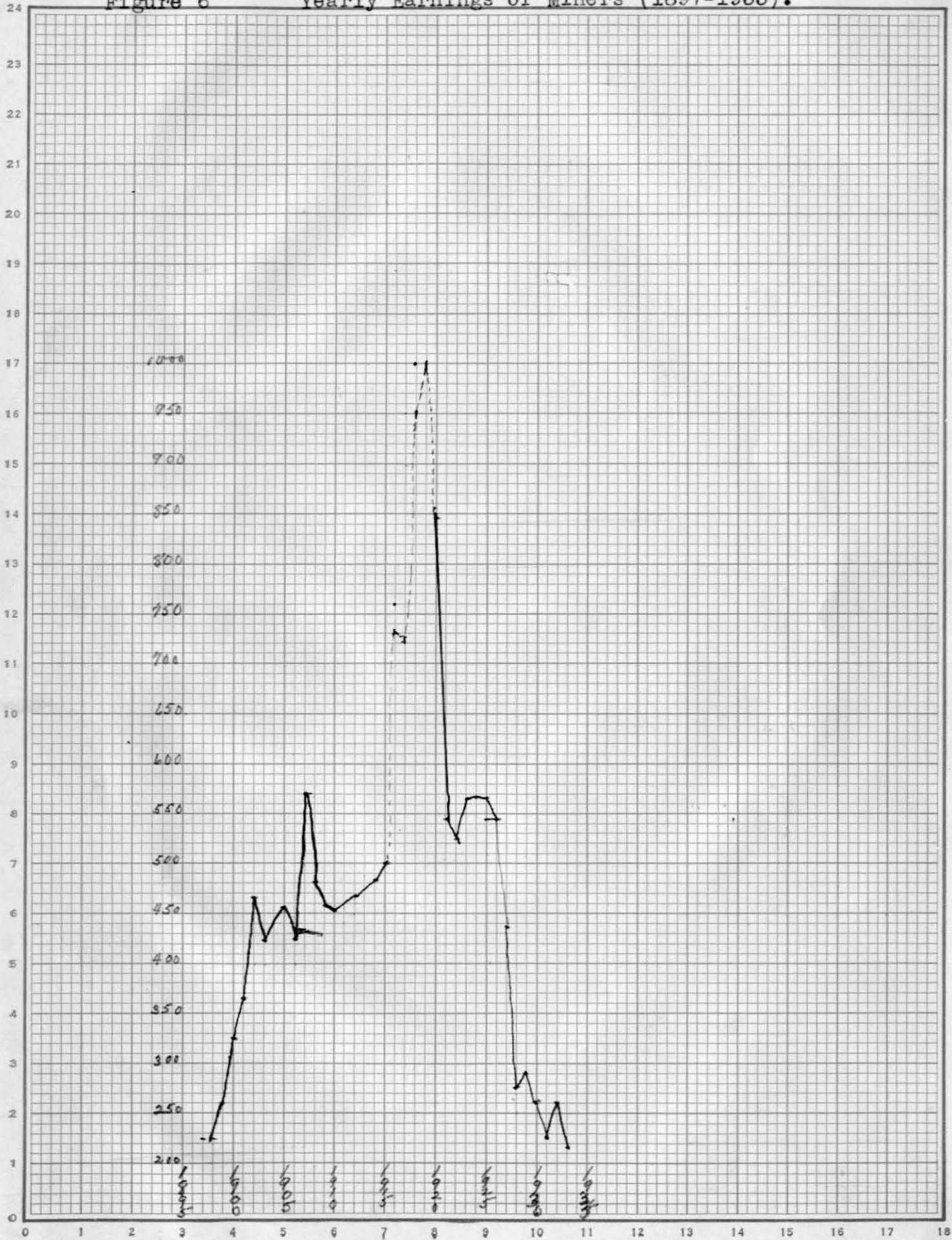


Figure 6 Yearly Earnings of Miners (1897-1933).



60
 Years 1917-18-19 not compiled. Red line simply an estimate by
 author