

Mines in Spadra District to Be Opened Shortly.

Special to the Gazette.
Clarksville, June 11.—Coal mines in the Spadra district are expected to resume operations between June 25 and July 6. The anthracite mines in the Spadra fields probably will start work about July 6.
Prospects for a record season are good. J. E. Nichols, district manager for the Midland Coal Company, declared this week, and added that indications point to a full run of nine months. All disagreements between operators and miners apparently have been settled. W. T. Perkins, local manager said.

99 ACTIVE COAL MINES IN STATE

Gazette 11-8-27
U. S. Report for 1926 Shows
3,589 Men Employed—
Output 1,459,017 Tons.

The 99 active coal mines of commercial size in Arkansas in 1926 employed a total of 3,589 men and produced 1,459,017 tons of coal, valued at \$5,497,000 or an average of \$3.77 a ton, says a report just issued by the Bureau of Mines, Department of Commerce.

Of the total tonnage, 1,427,798 tons were loaded at the mines for shipment; 16,027 tons were sold to local trade and used by employes and 15,192 tons were used at mines for steam and heat.

The average number of working days was 135 in the seven counties in which mining was done. The average production per man per day was three tons.

Franklin county produced 224,893 tons; Johnson, 337,141 tons; Logan, 224,051; Pope, 57,945; Sebastian, 600,559, and Scott and Washington together, 14,428.

Underground employes totaled 2,856, with 733 working on the surface. Methods of mining used were: Undercut by hand, 2,107 tons; shot off the solid, 646,985; cut by machines, 611,630; mined by stripping, 198,095; not specified, 200. Seven mines were in class No. 3 (from 50,000 to 100,000 tons), producing 33.2 per cent of the state's output; 31 were in class No. 4 (10,000 to 50,000 tons), producing 53.1 per cent, and 61 were in class No. 5 (less than 10,000 tons), producing 13.7 per cent.

Great Combine of Bituminous Coal Companies Predicted.

Gazette 12-1-27
Pittsburgh, Nov. 30.—(AP)—The Pittsburgh Sun-Telegraph in an article published today said plans are being formulated in Pittsburgh for an amalgamation of more than 20 bituminous coal companies, with a capital of some \$50,000,000. The newspaper says S. A. Taylor, Pittsburgh engineer, has been engaged to bring about the combination, which would include such concerns as the Hillman Coal and Coke Company; Bertha Consumers Coal Company; Valley Camp Coal Company and other leading producers.

When asked about the report, Taylor said: "I have no statement to make at this time."

Story of Arkansas Coal Is Published.

Gazette 2-16-28
"Analysis of Arkansas Coals," is the subject of technical paper No. 416, issued recently by the Bureau of Mines of the Department of Commerce, under the direction of Secretary Herbert Hoover. The bulletin contains 20 pages. George C. Branner, state geologist for Arkansas, is author of part of the bulletin dealing with the area

and geological features of the Arkansas coal fields, and Claude Speegle, state inspector of mines, is author of a portion dealing with mining methods and amount of coal produced in the state. Other parts give results of analysis of samples, description of samples taken from various mines, and other information regarding the industry in Arkansas.

COAL FIELDS IN STATE DESCRIBED

Gazette 3/4/28
Analysis and General Characteristics Given by U. S. Department.

The analyses and general characteristics of the coals of Arkansas are discussed in a report just issued by the United States Bureau of Mines, Department of Commerce.

The Arkansas coal fields comprise the bituminous and semianthracite fields of the western Arkansas river valley and the lignite areas of the southern coastal plain, according to George C. Branner, state geologist, who contributed a chapter to the report.

The coal lands of western Arkansas are concentrated in a rather narrow belt along the western end of the regional syncline between the Ozark and the Ouachita mountain regions. The Arkansas field is an eastern extension of the Oklahoma field, with which it is usually designated as a portion of the western interior coal field of the United States. The productive beds of the coal are distributed chiefly along the major synclinal trough which extends eastward from Fort Smith through Crawford, Sebastian, Franklin, Johnson, and Logan counties to the vicinity of Russellville, Pope county, a distance of about 75 miles. This area is about 20 miles wide and decreases in width toward the eastern end. The remainder of the developed coal field extends south of Fort Smith into southern Sebastian and northern Scott counties. In addition, coal is found in other relatively small areas in the Arkansas River Valley region north of the Ouachita mountains. As a rule these areas are, however, widely separated and occupy the topographically prominent points of the Arkansas valley, such as Magazine mountain, Petit Jean mountain, and Mount Nebo, and do not constitute any important part of the coal lands of the state.

Area Over 300 Miles.

The area of workable coal lands within the state is estimated as 300 to 350 square miles and the total area underlain by coal measures about 1,620 square miles.

The coal-bearing formations of Arkansas are confined to the lower part of the Pennsylvania series of beds and include, as in Oklahoma, the McAlester shale, the Hartshorne sandstone, and the Atoka formation. The McAlester shale has, in Arkansas, been divided into the Spadra shale, the Fort Smith formation, and the Paris shale. The Atoka shales carry some coal, but the beds are usually only a few inches thick, and the coal mined from them is consumed locally.

As in Oklahoma, by far the larger coal production has come from the top of the Hartshorne sandstone, which is known as Hartshorne coal and probably constitutes 99 per cent of the output of the state. The upper part of the Fort Smith formation has been mined for coal near Charleston, Franklin county, and produces "Charleston" coal; the middle of the Paris formation is mined near Paris, Logan county, and produces "Paris" coal.

The coal increases in hardness with fair consistency from the western Arkansas line eastward; it contains about three to six times as much fixed carbon as volatile combustible matter in the western part of the field and seven to nine times as much in the eastern part. It thus grades from bituminous through semi-bituminous to semi-anthracite. About 15 per cent of the coal produced is semi-anthracite.

850,000,000 Tons Reserve.

According to the Arkansas geological survey, in 1910 the coal reserve of Arkansas was estimated at 850,000,000 tons, on the basis of a recovery of 80 per cent. Much of this estimated reserve, however, lies deeply buried and will be expensive to mine. The coal fields of the state have not been completely surveyed, and other areas associated with the known coal measures may add to the reserve.

The larger part of the coal produced in the state is consumed by railroads and public utilities; the remainder is sold for domestic use, chiefly in Northern and Western markets. This supply is contributing much to the commercial development of the Middle West. Transportation facilities in the coal field are good.

The Hartshorne coal ranges in thickness from 18 inches to eight feet and probably averages three feet. It has been folded, faulted, and eroded; the dip varies; and there are partings and other irregularities which affect mining methods. Where clean and of good quality, the coal has been mined when as thin as 18 inches.

The lignite beds of the coastal plain of Arkansas are part of the Gulf coal province of the United States and are directly related to the lignite beds of northern Texas, Mississippi, and Alabama.

The most valuable area of lignite now known in the state is the Ouachita county field, which lies northwest of Camden and outcrops along the banks of the Ouachita river and the cuts of adjacent streams. This deposit probably underlies an area of 60 square miles. The usual range of thickness of the lignite is two to three and a half feet, with extreme thickness of six feet. The field is estimated to contain 75,000,000 tons.

Lignite from the Ouachita county field is high in bituminous matter; distillation tests show that it yields an average of about 25 gallons of oil to the ton. The gas-producing qualities indicate that this lignite ranks with the best canal coal both as a gas producer and in the candle-power of the gas.

As its content of moisture is high, 30 to 40 per cent, the lignite is little used for burning as mined; when air-dried, however, it offers some possibilities as an industrial fuel, burned directly or in powdered form, and as material for the manufacture of briquets. Some local use has been made of the lignite, and distillation of the oils has been carried on in a small way.

Those coals of Arkansas that have been tested by the Bureau of Mines gave low ash-fusion points.

Lignite Is Now Converted to High Grade Fuel.

Gazette 3/25/28
Washington, March 24.—(AP)—Experts of the Bureau of Mines have developed what is described as an economical process for carbonizing lignite which opens up the possibility of adding enormously to the nation's fuel resources.

Extensive lignite fields lie in North Dakota, Montana, Wyoming, Colorado, Texas and other states west of the Mississippi, making up nearly one-third of the total solid fuel resources of the country. With the new process, the carbonized lignite is molded into briquettes, which form a high-grade fuel.

The Mid-West Coal Company of Fort Smith filed articles of incorporation giving the capital stock as \$10,000 and W. E. Templeton and others as incorporators. *Gazette* 4/26/28

Incorporation Matters.

The Eureka Coal Company of Clarksville, capitalized at \$100,000, filed articles of incorporation in the office of the secretary of state yesterday. E. H. Johnson of Clarksville, D. W. Buchanan and G. F. Campbell of Chicago are the incorporators. *Gazette* 5-9-28

Standard Coal Company, Paris, charter issued, capital stock \$15,000; E. H. Gerth, D. Petty, Charles F. Wahl and others, incorporators. *May 10-1928*

Coal Company Incorporates.

Van Buren, Aug. 1.—Articles of incorporation were filed yesterday by the Fort Smith-Jenny Lind Coal Company, formed to mine and sell coal, lease lands and operate a general merchandise establishment for employes. Incorporators are: D. H. Wilburn, president; Add Babbitt, vice president; Roy Milligan, secretary; John Muney, A. Price, P. R. Stewart and Pete Stewart Jr.

Incorporation Matters.

The Fort Smith-Jenny Lind Coal Company, capitalized at \$5,000, filed articles of incorporation in the office of Secretary of State Jim B. Higgins, yesterday. D. H. Wilburn and others are the incorporators. *8-7-28 Gazette*
The Cecil Cupp Theaters, Inc., of

Arkansas Coal Producers Plan Central Power Plant.

Special to the Gazette. *8-22-28*
Clarksville, Aug. 21.—At a meeting of the Arkansas Anthracite Producers' Association the question of building a central power plant for supplying electric power to the various mines and other industries in this section was discussed and a committee consisting of T. R. Giacomini, H. W. Collier and J. E. Matlock was appointed to work out details for the undertaking.

60 COAL COMPANIES FORM ASSOCIATION

Arkansas-Oklahoma Institute Is Organized at Fort Smith. *8-31-28*

Special to the Gazette.
Fort Smith, Aug. 30.—Representatives of more than 60 companies organized the Arkansas-Oklahoma Coal Institute at a meeting here last night. It was the largest gathering of coal men at any conference in this section in several years.

J. G. Puterbaugh, president of the McAlester Fuel Company, was elected president of the institute, with John A. Sargent, vice president. P. R. Stewart Sr. of Fort Smith was chosen as executive secretary of the organization and will devote his entire time to business of the institute.

The purpose of the organization as set forth in the bylaws is to bring into associate membership all persons, firms or organizations engaged in the mining of coal in the two states and to foster harmonious relations between such members and to unite in a cooperative effort for the upbuilding of the industry.

Education of the public as to the quality and characteristics of the anthracite and semi-anthracite coal produced in the two states will be stressed, it was said.

Other officials chosen include: D. C. McAlpine, Halleyville, Okla., vice president; Webb Covington, Fort Smith, vice president, and E. M. Douthit, of Fort Smith, secretary-treasurer.

Coal Company to Tunnel Under Town of Greenwood.

Gazette 7-10-28
Special to the Gazette.
Greenwood, Sept. 9.—The field of smokeless coal which underlies practically all of the town of Greenwood and the Vasche Grasses valley in this vicinity will be tapped near the public square through the slope in an eight acre tract bounded by the Midland Valley tracks on the east and two principal streets of the town on the south and west, according to an announcement made today by R. A. Young, representing the McAlester Coal Company.

Work on the mine's opening will begin this week and it will be in full operation by winter by the McAlester Coal company, in which local men are interested. It will be superintended by H. L. Townley of Greenwood and Luther Freeman of Hartford. Maximum production will be 200 tons daily. It is estimated that the vein, which is seven feet thick, will yield six years work for 30 men.

The new mine adjoins the site of the old Big Thirty mine operated here several years ago and producing a fine grade of smokeless coal. The location is near the tracks of the Midland Valley railway.

Permits Are Canceled, etc.

Permits to sell stock held by the Jeffersonian Tribune Publishing Co., the Fodrea Motor Co., Little Rock, and the Logan County Coal Co., Russellville, were canceled by the Blue Sky division of the Arkansas Railroad Commission yesterday due to failure of the concerns to file their semiannual reports. *9-12-28*

Incorporation Matters.

Gazette Incorporation Matters. 11-3-28
The Midland Coal Company of Hartford filed articles of incorporation in the office of the secretary of state yesterday, giving the capital stock as \$10,000 and the incorporators as John Conroy, R. B. Dodd and W. H. Rains.

Northern Coal Company, Fort Smith, certificates of incorporation; capital stock, \$5,000; S. D. Graham and others, incorporators. *1-14-28*

COAL INDUSTRY IN STATE INCREASES

Production 34,135 Tons Greater for 1929 Government Report Shows.

Gazette 8-25-30
Washington, D. C., Aug. 24.—Coal production in Arkansas during 1929 increased 34,135 tons or 2.1 per cent to 1,695,108 net tons as compared with 1,660,973 it was announced yesterday by the United States Bureau of Mines, Department of Agriculture.

Increased production was accounted for in Johnson, Logan, Pope and Scott counties, although partly offset by reduced production in Franklin and Sebastian counties, the bureau reported. The most important producing county, with 718,018 tons or 42.4 per cent of the total, Johnson county producing 325,876 was second and Logan with 265,234, was third.

The value of the 1929 production showed a slight drop due to the decreased price per ton which was \$3.32 in 1929, against \$3.38 in 1928. The total value for 1929 was \$5,624,000 against \$5,615,000 in 1928.

There were 4,299 men employed in coal mining with 3,634 underground and 665 surface workers. The average working time per man was 146 days, exactly the same as during the preceding year. Each man produced an average of 2.7 ton per day with workers in Franklin county responsible for the high daily production per man, while Pope and Scott fell to 2.04 tons per man.

Coal mined in Pope and Scott counties brought the highest price per ton, averaging \$5.06, while Sebastian county coal brought \$2.53 and Franklin \$2.72. Johnson county with nine month average of \$4.02 per ton was just behind Logan, where price per ton averaged \$4.40. Of the total production 9,515 tons were used at the mines and 26,020 tons sold to local trade and consumed by employes.

The total of 76 mines in 1928 was reduced to 78, with coal cut by machines totaling 827,177 tons the favored method of production followed closely by 783,182 tons shot off the solid coal strata. Little was mined by stripping or by hand pick. Thirty-three mines in the 10,000 to 50,000 tons yearly class produced 44.5 per cent of the total 10 in the 50,000 to 100,000 tons division accounted for 41.7 per cent and the balance was divided among 35 mines.

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**Production of Coal in Arkansas
Increases 5,000 Tons.**

(From the Gazette Correspondent.)
Washington, Sept. 9.—Coal production in Arkansas increased 5,000 tons during the week ending August 23, totaling 27,000 tons, the Bureau of Mines of the United States Department of Commerce reports. Production the preceding week totaled 22,000 tons, and for the corresponding week in 1929, 25,000 tons. The average for August since 1923 is placed at 26,000 tons by the bureau.

Coal Mine Near Beebe Has Been Reopened.

Special to the Gazette. 12-21-30
Beebe, Dec. 20.—A coal mine has been reopened on the farm of Mrs. George Boardman, at Round Mountain, 17 miles west of Beebe. The mine is under lease and being operated by R. M. Burns of Beebe. Ten men are employed, four of whom are miners, and they are taking out coal as orders come in.

This mine was in operation for a short time about four years ago and was close after about 250 tons of coal had been taken out. Since being reopened about two months ago, about 30 tons have been sold.

**LIGNITE GAS PROBLEM
SOLVED IN GERMANY**

(New York Times Cable.) 1-12-31
Kassel, April 11.—After many years of scientific research and elaborate experimenting, the problem of making gas from lignite has been solved, it was announced today by the Lignite Gas Company here. The new process developed by the company in the municipal gas plants promises to be of the highest economic value since it will free gas production in eastern German provinces from Western and Silesian coal and make possible the construction of cross country gas pipe lines from middle German lignite deposits.

The new gas has been tested successfully by distributing large quantities over the Kassel gas system. The consumers, unaware of the change, did not notice any difference. The remarkable efficiency of the new process is shown by the fact that the gas yield from lignite is 50 to 200 per cent greater than from coal. Moreover, the cost of heat needed for conversion of lignite into gas is said to be covered by the value of remaining lignite coke.

While details of the process, are not divulged, it was learned that plants for gas production from coal cannot be used but expensive new plants will be necessary. These expenses however, are negligible particularly in countries where there is no coal but plenty of lignite, notably Jugo-Slavia and Italy.

New Coal Mine Opened.

8-26-31
Jasper, Aug. 26.—(Special.)—Joe McFrein of Compton, Newton county, reports that the firm of Pace & Wright, which has a lease on land near Compton, has struck a good grade of coal and is now engaged in mining and marketing it. It is said that the coal is to be found in paying quantities and that most of it will be marketed at Harrison and adjacent territory.

Four or five men have been employed some time opening the mine, but now that the coal season is near at hand, the force is expected to be increased. People around Compton are enthusiastic over the discovery, which is expected to be of benefit to that part of the county.

**Newly Discovered Coal
Vein Is Being Mined**

10-7-31 Democrat
St. Joe, Oct. 7.—(Special.)—After prospecting for more than a year, it is announced that a big vein of coal has been located close to the Plumlee schoolhouse near Compton, in Newton county, and a coal mine is now in operation there, operated under the name of Wright & Pace, owners of the land. Already the owners have contracted large quantities of the coal for delivery in Harrison and nearby towns. A coal yard will be maintained at Compton.

The coal is reported to be an excellent grade of soft coal. The proprietors hope by another year to install modern mining machinery and operate on a large scale. As the section is about 20 miles from the railroad, the coal must be carried by trucks to shipping points.

"HARD COALS"

Outside of Pennsylvania

Make Consistent Gains*

TO MOST PEOPLE, including those familiar with the coal trade, the term "anthracite" ordinarily denotes hard coal produced in the northeastern counties of Pennsylvania. Even some close observers are not generally aware that a considerable tonnage of coal of anthracitic and semianthracitic¹ qualities is produced outside of Pennsylvania—and that the volume of this production has been steadily increasing. Such coals are commercially produced in the Crested Butte field of Colorado, the Los Cerrillos of New Mexico, in the Spadra and Russellville districts of Arkansas, and in that portion of the Valley coal fields of Virginia lying in Montgomery and Pulaski counties.

From 363,324 net tons in 1913, the

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¹In this discussion the ranks given coals under the system of classification adopted by the United States Geological Survey a number of years ago are taken as guides. According to the method employed by the Survey, anthracite is defined "as hard coal having a fuel ratio (fixed carbon divided by the volatile matter) of not more than 50 or 60 and not less than 10," while the fuel ratio for semi-anthracite (with some modifications) ranges from 6 to 10. Since this study covers the commercial production of coals outside of Pennsylvania which range in fuel ratios from 6.3 to 39.1, it includes those classified either as anthracite or semianthracite by the United States Geological Survey. See Campbell, "The Coal Fields of the United States," U. S. Geological Survey Professional Paper 100-A, pp. 27-28, 30; and Campbell and others, "The Valley Coal Fields of Virginia," Bulletin XXV, Virginia Geological Survey, pp. 115, 126.

January, 1930—COAL AGE

The Sun Coal Company of Fort Smith filed a certificate of dissolution signed by Earl Cobb, R. E. Harrison and H. P. Warner. 3-28-32

Semi-Anthracite Coal Vein Near Shirley Opened.

Special to the Gazette. 7-14-32
Shirley, July 13.—H. O. Boyles is opening up a vein of fine semi-anthracite coal near Rushing, Stone county, 11 miles northeast of this place. He has driven in on the vein for a distance of 70 feet, and has a face now about 30 feet wide with the vein 22 inches thick. Two smaller veins lay below the larger one, and it is believed that they will run together back in the mountain a little farther. Boyles is selling the coal to local consumers and in surrounding towns. The vein was only seven inches thick at the outcrop on the mountainside. The local blacksmith has been using the coal for several years. People here have hopes of another coal field in this section of the state.

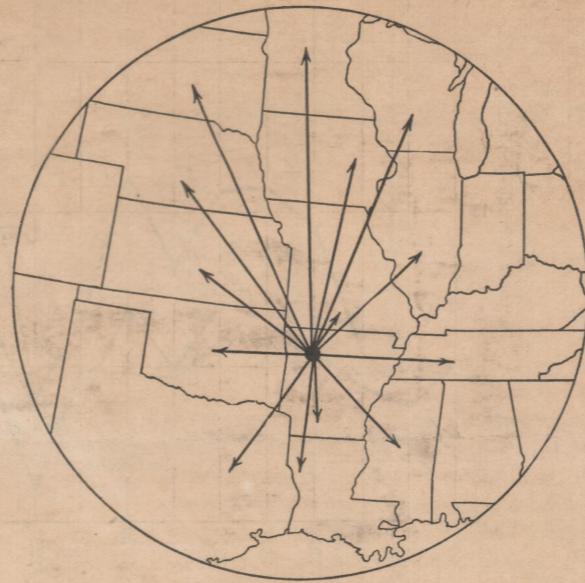
Large Lignite Deposits Found Near Camden.

Special to the Gazette. 2-12-35
Camden, Feb. 11.—Vast lignite deposits, a few miles west of Camden, have attracted the attention of oil men here. J. D. Reynolds who is drilling an offset well to the Bragg producer, five miles west of Camden, brought a quantity of the lignite to his office today and plans to submit it to laboratory tests.

He said a large vein was found a few feet under the surface. He estimated that the vein was several feet wide and extended for miles. The lignite crops out at the surface just west of the city in many places.

Some years ago experiments were made with this lignite and a local plant was in operation here. Salves, liniments and soaps were manufactured. The plant later was closed. No other effort has been made to market this ore.

NON-PENNSYLVANIA ANTHRACITES



Where Arkansas Anthracite Goes

By O. E. KIESSLING

Associate Mineral Economist
U. S. Bureau of Mines

production of hard coal outside of Pennsylvania practically doubled in the sixteen years through 1928. While output showed large gains beginning in 1916 and extending through the war period, further expansion occurred during the post-war years—an indication of the stable character of the new demand. This record of gradual growth over an extended period is especially significant when it is compared with other branches of the coal industry that have either lost volume or barely remained stationary since 1913.

To make comparisons easier, the figures of production are reduced to index numbers in Table II, taking the year 1913 as 100. It will be seen that the output of Pennsylvania anthracite was 18 per cent less in 1928 than in 1913, and that over the same period the production of bituminous coal increased only 5 per cent. The production of all other hard coal outside of Pennsylvania, on the contrary, increased 96 per cent; and if the years 1925 and 1926, when demand was unusually stimulated by the long Pennsylvania suspension, are taken, the increases are 117 and 132 per cent, respectively. In only two periods—

1914 and 1922—has production gone below the 1913 level; and in the latter of these two years the disturbing factor was labor difficulties.

The relative increase in the production of "other hard coal" is correlated with a large increase in the average value² per net ton received at the mine. For example, the \$4.19 per ton obtained in 1928 represents a gain of approximately 62 per cent over the \$2.58 for 1913. In general, values reached their highest levels from 1919 to 1923, with averages ranging from \$4.91 to \$5.75. The years 1924 to 1928, with average values from \$4.19 to \$4.70, marked a recession in prices, partly due to the nationwide depression in the coal market. The effect of this price recession, however, was partly offset by the increased production in the later years.

In contrast to the downward trend of average realizations on bituminous coal since 1920, the average on all hard coal mined outside of Pennsylvania, while tending downward since 1922, have remained

²Excludes selling expense.

Underground Riches

Fifty-one Years Ago Mining Began in the Paris Area With a Production of 25 Tons Annually—Now the Output Is Numbered by Several Thousand Carloads and 1,000 Men Are Employed During the "Run." Working Conditions Are Not Severe and High Wages Are Paid the Miners.

By CLYDE W. PETTY

Sunday July 31, 1932

Fifty-one years ago Spear Titsworth, discoverer of coal in the Paris field, decided to open a mine on his farm two miles northeast of Paris where he found a coal vein. He hired George Lump and Archangelo Diagiaco to dig enough coal out of the mine to supply the town of Paris one year, about 25 tons. The coal was sold to blacksmith shops and a few stores. Wood was the common fuel then in residences.

Lump and Diagiaco dug straight down to the coal. Then a windlass was constructed on top with the rope fitted to a small wooden box. They would take pick and shovel, enter the mine and dig a box full of coal, which was drawn to the top by hand. Later they opened a slope mine, where entry to the coal was on a gradual slope. The coal was brought out in wooden cars.

They were in the coal business about 16 years and in 1886 they opened another mine on the farm of Jess Hixson. In 1901, Charles F. Wahl, local merchant, joined them and they shipped the first coal from Paris on the old Arkansas Central railroad. The coal was hauled to the railroad yards in wagons and shipped to Kansas City, where it sold for \$1.30 a ton.

Titsworth and Diagiaco are dead, but Lump still lives in Paris. Lump and Diagiaco came here from Ohio in 1879.

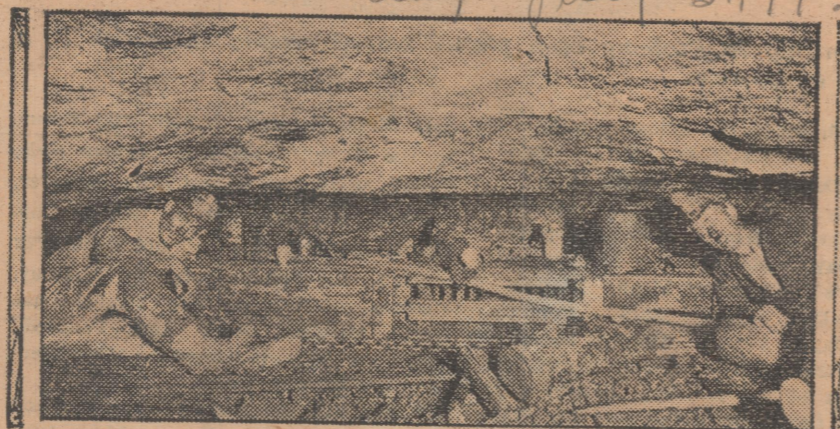
The Paris field has grown from this single mine, producing 25 tons annually, to 30 mines of 100,000 tons capacity annually. All mines are equipped with modern electrical improvements and have facilities for the workers. Most of the mines are owned by local men.

During the coal season, or "run," about 1,000 men are employed, who earn approximately \$100,000 a month. The pay roll was even more until the last year or so. The coal-producing season or "run," if it is a good one, lasts about seven months, or from August to March. During the summer, development work or maintenance work is all that goes on. The laborers, all white, work eight hours a day and receive \$5.50 a day.

Most of the mines in this area are slope mines. The coal vein is reached by a gradual slope into the earth. Tracks are laid along this slope to the walls inside the mines, and pit cars, small cars about eight feet long and four feet wide, are used to convey the coal to the "tipple" or outside part of the mine. Here the coal is graded and dumped into railroad cars. The shaft mines are dug straight into the earth and the "workings" underground extend in every direction. Mules or small hoists bring the coal to the shaft, where it is hoisted to the top by powerful machines.

Methods of breaking the coal loose have changed greatly. Formerly it was a straight pick and shovel job, or blasting, but it is cut now with an electrical machine. The miners then break it, put it on a conveyor, also electrical, which takes it to the slope, where "chunkers" place it on the pit cars. A conveyor is an endless chain of steel pans. In some mines scows are used instead of conveyors. A scow is a single steel pan about 18 feet long which is placed under the coal after it has been cut and drags it out in chunks ranging in weight from 500 to 3,000 pounds. Where scows are used the coal is broken on the top of the ground.

The miners who break and load coal are forced to work in a space between 24 and 36 inches high. They become accustomed to this and do not seem to mind it, especially the older experienced miners. The temperature inside a mine varies little and



—Photos by Sizemore, Paris.

(Above) Miners at work with machine in tight place getting out coal. (Below) Surface view of Jewell No. 1.

has no effect on the men. Electric fans are used to force air currents through the mines.

Titsworth probably did not realize the value or extent of the field he started. Paris coal is one of the best grades of semi-anthracite, with an average of 15,192 British thermal units, and commands higher prices than average coal. Semi-anthracite is better for domestic use than either anthracite or bituminous, as it combines the good qualities of both. The field around Paris starts a few miles west and swings in a wide arc to the east, touching Paris on the northern and northwestern

outskirts, and extends on eastward. It is in the heart of the western Arkansas coal field, which extends from Russellville west to the state line near Fort Smith. All the mines in the Paris field produce semi-anthracite, although there is a mine at Prairie View, 15 miles east, that produces anthracite. This mine is adjacent to the anthracite fields around Clarksville, across the Arkansas river.

Shipments from this field go north to Kansas City, Omaha, Chicago, Des Moines, and other large cities. Here it is retailed from \$8 a ton up to \$20 a ton. This seems improbable to users here, who buy their

coal delivered as low as \$3 a ton. Yard and freight expenses necessitate the higher prices in the North. Only a few of the mines here produce for local use, most of them shipping to the larger markets. Those that produce for the local supply also ship to the small towns and cities near by. A fleet of trucks supply Booneville, Dardanelle, Charleston, and other towns. Most of the mines are owned by local men, although the Beatty Coal Company of Kansas City and the Old Ben Coal Company of Detroit have holdings in two of the largest mines. The Beatty company controls the Jewell No. 1, the largest shaft mine in the field, and also a slope mine. The Old Ben company controls the Eureka, large slope mine about two miles west of Paris. The Eureka is in sight of Highway No. 22, one of the main traffic arteries from Fort Smith to Little

Rock. One of the largest slope mines in the field, the Grand No. 3, has a new electric hoist said to be one of the largest hoists in the Southwest. The hoist enables the mine to load 14 cars of coal daily.

Strikes have been few. Probably the most serious strike occurred several years ago when wages were cut from \$8 to \$5.50 a day. Mexicans were brought in to work the mines and several clashes occurred. Mortality rate was high while the Mexicans worked the mines, but they were displaced rapidly as the strike wore off and the chunky miners adjusted their carbide lamps on their heads and started back to work.

The poet Donald West, who, after visiting Harlan, Ky., wrote "There is no beauty in the mining camps, the miners live in shacks, etc.," must have been writing only about Harlan. Conditions here seem to be as good or better than the usual mining towns. Paris is proud of its civic beauty and only very poor miners resort to dirty, unpainted shacks for a home. The miners here rent houses with lawns and garden plots and both are well kept.

Some of the miners are hard pressed to make ends meet during the summer, but most of them manage to remain from one winter to another. Every year, however, there is a constant increase and decrease in the population of Paris. The increase begins with the early fall or late summer, at the start of the run of coal. The decrease begins after the "run" is over. Development and maintenance work during the summer provides work only for a few. At the last census, Paris was shown to have more than 3,200 population, but in the middle of winter, during a good run, the population jumps up to about 4,500.

Machine competition also has reduced employment. Modern machines produce more coal with less labor, and unless a steady demand is maintained in the retail markets, a mine may produce enough coal in two or three days to last a week, thus causing a week's idleness and consequent reduction in the miners' pay checks.

Times have been hard for the operator, too, for prices have cascaded downward until a low was reached last year. Maintenance costs, production costs, and development work, make a steady drain on the operator. Prices must be higher for him to make a substantial profit.

Expectations are for a "good run" this winter and some of the mines are expected to open soon. Some mines are working now but not at full capacity. The run of coal depends on the severity of the winter in the North. The more snow in the North, the more coal in the South. Do not tell a miner that you hope the winter will be mild.

Vein of Coal Near Conway To Be Developed.

Special to the Gazette, Nov. 4, 1932

Conway, Nov. 3.—Working quietly for the past several weeks, W. M. Tinsley Jr., and others, representing Paris coal mining interests, have opened what they believe to be a commercially profitable mine of coal on a tract belonging to Henry Shilling, about five miles west of Conway. A vein of high grade coal three feet thick and of undetermined width has been opened and 40 or 50 tons of coal already have been taken out. The coal deposits begin about 15 feet underground and slope downward at a pitch of 35 degrees. For the present the stratum of coal has been opened to a width of only about nine feet.

Specimens of the coal have been sent away for laboratory examination, but the analyses have not yet been returned. The coal appears to be a semi-anthracite variety of unusual purity, he said. Mr. Tinsley and his father, W. M. Tinsley Sr., operate two mines near Paris and are connected with the Paris Purity Coal Company, which owns several mines in Logan county.

For the present it is planned to truck coal to Conway for local consumption, but Mr. Tinsley said if the coal deposits prove as extensive as indicated, steps would be taken for their development on a large scale.

New Coal Mine To Be Opened Near Fort Smith.

Fort Smith, Nov. 13.—(P)—A new coal mine, employing 25 men, will be opened at Bonanza, 10 miles south of here, Saturday. The mine, to be known as the Interstate Coal Company, will serve points in Nebraska, Iowa, and Kansas City.

Discovering A Coal Field

The Story of How "Uncle Bob" Waddell 68 Years Ago Indirectly Led to the Discovery of the Coal Fields in West Central Arkansas, Today a \$1,000,000 a Year Industry.

By JOHNNY ERP

Living quietly and unostentatiously in his 101-year-old house at Paris, in Logan county, is the man who discovered the now large coal fields of west central Arkansas.

He is "Uncle Bob" Waddell, now 87, but still very active. It was through his desire to help his father find a substitute for charcoal in his blacksmith shop 68 years ago that the Paris coal field was discovered.

The father, Jesse Waddell, served the few families in the little Logan county community of those days as blacksmith. The families had their mail addressed to them at Calico, which in reality was the eight-room postoffice log home of Jesse Waddell. While Uncle Sam long ago discontinued this old postoffice, the building still stands and in it "Uncle Bob" Waddell makes his home. The 101-year-old structure is a tribute to carpentry of the early days.

Jesse Waddell was continually complaining about having to use charcoal to heat his furnace, but hard coal was too expensive for him to think of adopting it. So he continued to use charcoal—until Bob stepped into the picture.

Discovers Coal.

One day the boy, who was his father's first aid in the shop, came home excited. He had discovered a small cropping of semi-anthracite coal about three miles west of what is now the city of Paris. At that time, it was merely three miles west of a clump of woods, Uncle Bob explained.

The stuff was the very thing Bob's dad needed. So Bob, the first coal miner, operator and chief distributor, started in the coal business alone.

He had his father make him a pick. With the aid of this home-made implement, Bob dug about four tons of this coal. The surplus supply which his father could not use, he sold to nearby blacksmiths for 75 cents a bushel.

"Nobody dug any then 'cause they didn't know about it. That's why I got so much for it," Uncle Bob explained.

And today—some 68 years later—an average of 450,000 tons or, if you are rail-



At the left is a recent photo of "Uncle Bob" Waddell, now 87, who discovered coal in the vicinity of Paris. Above is the old Waddell home, 101 years old, and where "Uncle Bob" makes his home.

the county through the years that have passed since "Uncle Bob" made the discovery, he has profited by it least. He made more actual cash on his coal project back when he was a kid in his "teens" than he does now. It wasn't "Uncle Bob's" nature to remain in one business too long. He sold his small "coal mine" and started in the sawmill business. From this he graduated to the planing mill and then to the cotton gin, serving the city later in all offices, from jailer to alderman. He was even a deputy under two sheriffs—Jim Garner and Major Cabell.

"Uncle Bob," while not in perfect health today, enjoys to talk over the past as he sits under the shade of a 115-year-old spreading oak tree in the front of his old home, which, incidentally, is the oldest standing house in Paris. He stands with-

in an inch of being six feet tall, weighs 175 pounds, has a thin cropping of cotton hair which blows to the four winds, while a pair of gray eyes twinkle over memories.

Paris owes another debt to this man and his father. The father, who purchased 205 acres of land there when he first settled, donated the tract of land where the present Logan county courthouse is now erected. The smithy also gave the ground upon which the Catholic church stands. And his son, Bob, gave the land for the Baptist, Methodist and Presbyterian churches.

Today—as a result of "Uncle Bob's" boyhood discovery, some 4,000 people not only have places to worship in, but 800 miners have jobs—deep down under the earth—digging for coal—the main industry here—just because a boy wanted and found something to replace charcoal.

road minded, 6,500 carloads of this same commercial coal, is shipped mostly to Northern states. Twenty-one mines are now in operation, and they stay that way on the average of eight months out of the year. With this many mines in operation, this means approximately \$1,350,000 is paid to operators for this commodity with about two-thirds of this total going to cover expenses and laborers for digging this black substance from the bowels of Mother Earth.

Although millions are being brought into

Oldest Benning Field Mine To Continue in Operation.

Benning, Ark., July 20 (P).—Mine No. 2, in operation since 1895 and the survivor of six mines sunk in the Benning field, will continue in operation many more years.

Plans are under way for removal of an 80-acre block of coal lying northwest of the mine, and this is expected to add many more years to the life of the veteran mine.

Under the proposed extension, the vein of coal will be mined by the so-called long wall or "low coal" method—or only the lower stratum, which is 28 inches thick, will be removed.

The thick middleband rock will serve as a roof for the workers instead of being blasted down with both veins of coal and handled at a great expense.

The middleband for many years has delayed the mining of the vein because it is imbedded in the coal several feet and would be expensive to cut out.

Mine No. 1 produces about 1,000 tons of coal a week at present and furnishes employment to approximately 150 miners.

Smokeless Coal Bureau Plans To Handle All Marketing.

Fort Smith, Ark., Aug. 24 (P).—After September 1, the Arkansas-Oklahoma Smokeless Coal Co., Inc., will handle all marketing for members of the Arkansas Smokeless Coal Bureau. The agency was organized recently by operators affiliated with the bureau.

Arrangements for operating the marketing agency were completed at the monthly meeting of the coal bureau here today.

The bureau voted to market all grades of coal in September at an increase of 25 cents a ton over the August price.

S. A. Bramlette, secretary of the bureau, said the Guffey coal bill was discussed but no action taken.

The Bureau represents 35 companies and operators in Western Arkansas and Eastern Oklahoma whose output amounts to 65 or 75 per cent of the total tonnage in this area.

Mine Again Operating.

Clarksville — The Collier-Dunlap Coal Company mine, nine miles west of Clarksville, is in operating condition again, after being shut down because of water seeping into the mine. It was discovered that the water seeping into the mine came from a dam on the surface near the mine, after it was first believed the water was coming from the abandoned Blue Bird mine, a short distance west of the Collier-Dunlap workings. Democrat 11-19-36

Coal Miner, Hurt In Blast, Dead

Dem. 11-22-36
Fort Smith—John Winters, 46, coal miner injured in a gas explosion in No. 2 mine at the Bates Coal Mining Company at Bates early Thursday morning, died at 9:20 o'clock Saturday night in a Fort Smith hospital, bringing a total of five deaths from the explosion. John Delap, Howe, Okla., Bill Goesky, Bates, Joe Taylor, Heavener, Okla., and Tom Ellis, Bates were killed instantly.

Winters, who was leaving the mine as the explosion occurred was blown 100 feet along the 1,000 foot slope toward the entrance. Several other men had just left the mine. Winters was burned all over the upper part of his body. The body will be sent to Heavener for burial. Survivors are his widow and one daughter.

Petition Against Fort Smith Plant Operators Denied.

Gazette 11-21-36
Fort Smith, Ark., Nov. 20 (P).—Chancellor C. M. Wofford denied today a petition of 76 Fort Smith residents asking a temporary injunction to restrain the Dixie Modern Fuel Company from operating its briquette plant. The suit also sought judgment for \$228,000 for alleged damage caused to property and health from "coal dust blowing from the plant." Judge Wofford held that testimony had failed to show whether dust blowing over the plaintiffs' property came from the briquette plant or was an accumulation of smoke from other plants in the neighborhood.

Three Coal Mining Companies Formed

Democrat 12-15-36
Three Poteau, Okla., residents filed articles of incorporation for three coal mining companies with the secretary of state today.

The companies, named the J. F. Turnipseed Coal Mining companies Nos. 1, 2 and 3, are each authorized to issue 250 shares of capital stock at \$100 each par value.

Incorporators are J. F. and J. B. Turnipseed, and Maurice Jones, all of Poteau. Resident agent for service is J. V. Clayton, Little Rock.

The Mercury Mining Co., Inc., of Jersey City, N. J., filed notice of entry into the state, naming Paul E. Hassett, Murfreesboro, resident agent.

The Henry Gramling and Company, Russellville, filed an amendment to charter increasing its capital stock from \$50,000 to \$100,000 and the Inter-State Jobbing Company, Little Rock, filed notice of dissolution.

Democrat 11-18-36 Witnesses in Suit Tell

Of Coal Dust in Homes

Fort Smith (P).—Mrs. Helen Johnson, housewife, complained to Chancellor C. M. Wofford that she was forced to clean her home twice daily because of coal dust thrown out by operations at the Dixie Modern Fuel Company's Briquette plant.

She is one of 76 Fort Smith residents suing for a temporary injunction to close the plant and asking judgments totaling \$228,000 for alleged damage to health and property.

Chancellor Wofford heard 10 witnesses yesterday and continued the case until tomorrow. John R. Todd, company official, testified that a smokestack screen to prevent issuance of the dust had been installed this week. He said installation had been planned for several weeks but that the screen had just arrived.

Japan To Extract Oil From Coal In Manchuria.

Mukden, Manchoukuo, Oct. 19 (P).—Manchoukuo, long on coal but short on oil, is to have two "liquefactors of coal" plants in operation next year.

The South Manchuria railway has begun erection of a plant in Fushun, adjacent to the famous open-cut mines. The railroad, owned in part by the Japanese government, launched its project after long experimentation and a study of work done by the Japanese navy.

Its first investment, 1,000,000 yen [about \$285,000], is to be followed by an investment of 10,000,000 yen next year. A yield of 20,000 tons of oil a year is expected at the start.

Coal Mine Power Rate Hearing Is Scheduled

Democrat 11-21-36
Arguments in connection with an electric rate hearing before the Arkansas Utilities Commission will be presented December 15 by attorneys for the Southwestern Gas & Electric Company and representatives of coal mine operators in western Arkansas, who are seeking a lower rate for electric power at the mines. The hearing was originally scheduled for yesterday but was delayed at the request of the utility firm's attorneys. Presentation of testimony in the case was completed several days ago and if the commission finds that a rate reduction is justified several towns in the coal mining area will get the benefit of lower rates.

Opens Semi-Anthracite Mine.
Clarksville — Dillon Blackburn, Clarksville business man, has started development of a new strip coal mine on the Hagarville road, about six miles northeast of Clarksville. The coal is a high grade semi-anthracite product, said to be of as good quality as the coal from the well-known Philpot field in the western part of the county. Blackburn said the top vein is 14 inches but is expected to be much thicker as the development progresses. Blackburn was associated with the Diamond Anthracite Coal Company mine before selling his interest to Ralph Thompson, several weeks ago.

Benning?

Project Would Result In Reopening Mines

Altus—A WPA project that undoubtedly would cause four to six coal mines to be re-opened at Alix and give better drainage to several hundred acres of fertile farm land near that town has been submitted to Washington. Under the project a deep canal would be dug in a southeasterly direction from Alix to give quick drainage to a creek that caused the first mine there to be flooded about 25 years ago. Breaks in the surface leading into old workings of mines would be stopped.

One coal operator declared that if the project is completed no less than four abandoned mines would be re-opened, since water that now covers many acres after a heavy rain would have a "straight shot" into the Old Slough which empties into the Arkansas river south of Hartman. The project has been submitted as a health measure, but is designed to serve a dual purpose.

Coal Mines at Altus Working at Top Speed

Altus—Coal mines in this area are working at top speed as orders for coal are being rushed to producers here from northern markets. Practically all mines are working six days per week, with production running upwards of 1,000 tons per day. One of the biggest payrolls of the winter will be forthcoming February 1, when an estimated \$18,000 will be paid to miners. Approximately 400 miners are at work in the six mines now in operation here.

The fact that the miners' and operators' contract expires April 1 may be another factor in causing rush producing, since coal dealers usually stock coal prior to the expiration of contracts in preparation for a strike. Few miners here believe that John L. Lewis, head of the United Mine Workers of America, will be victorious in his demands for a six-hour day with an increase in pay, but all miners here will strike for such terms if Lewis so orders. Miners now are employed seven hours per day, the shortest work day in the history of the coal industry. The day wage scale is \$4.79 for laborers hired by the day, and tonnage miners are paid 90 cents per ton for blasting and loading coal. The tonnage man receives from \$2 to \$6.50 per day.

INCORPORATION MATTERS.

The Fernwood Coal Mining Company of Dover, Del., filed notice of entrance in the state in the secretary of state's office yesterday and appointed R. A. Young of Fort Smith as resident agent. Property worth \$1,000 is owned by the company in Arkansas. *Special 4-1-37*

New Coal Development Planned

Gaz.

Special to the Gazette. 4-11-37

Shirley, April 10.—The M. and A. railroad probably will add coal to its tonnage in the near future, if plans being made by John Webb of Mountain View, who owns 240 acres of coal land in the northwest corner of Cleburne county, work out. The greatest difficulty at this time is the construction of a road from the mine to the M. and A. line at some point below Edgemont.

In a recent interview Mr. Webb said he had a civil engineer look over a route from the mine to the railroad, and he says he finds no difficulty in getting a good grade over which trucks can be operated.

"The property lies five miles east of Rushing in Stone county, and three miles from Edgemont, on the M. and A. railroad," he said. "The road I intend to build will have to be constructed on a ridge to a point several miles below this town, because of grades.

"The coal vein apparently lies under all of the 240 acres I own and on adjoining property north and east. From the extent of the deposit, the size of the vein and quality of the coal it seems likely that an industry can be built up around it, once we get a road from that section to the railroad.

"The vein is a blanket vein of soft coal, 11 inches thick where it outcrops on the side of the mountain, and is apparently continuous through the mountain, for the same outcrop shows on the other side. An old tunnel driven into the side of the mountain, shows that the vein gradually thickens as it goes into earth. At the heading in this tunnel, it is 17 inches thick. There seems to be no limit to the width of the vein.

"I have burned this coal and had it tested and it stands all the tests. It all burns to an ash and shows few if any clinkers. Blacksmiths in this section have used it for years with good results.

"Because of the nature of the ground in which it lies it can be very easily and economically mined. It lies on top of a soft slate and under a smooth solid roof, which will cut timbering costs to a minimum. During the next few weeks I hope to get work started on the truck road leading from the mine to the railroad. Coal miners who have examined the vein say that it can be made to pay from the start, when a road is built to get it to the railroad."

Report Made On Arkansas Coal Mines

Democrat 5-17-37
\$3,000,000 Value of
1935 Output for 65
Mines in State.

Washington—The 65 coal mines in Arkansas produced 1,133,279 tons of coal valued at more than \$3,447,578 during 1935, a substantial increase in the amount of coal over 1934, but a decrease in comparison with 1929, of 37.9 per cent, a report, made public today by the Department of Commerce, revealed.

The average number of wage earners for the year as a whole was 2,890, the number on the rolls varying from 783 in April, the minimum month, to 4,053 in October, the maximum month. Total wages paid amounted to \$1,971,132. In addition, \$260,000 was paid in comparison to 149 salaried employees engaged at the mines or in offices directly connected therewith, exclusive of salaried personnel at general administrative offices not connected with the mines.

Coal mines in Arkansas spent \$403,451 for supplies and materials in 1935. The cost of colliery fuel was \$19,618 and of purchased electric power \$187,760.

Sebastian county was the leading producer in 1935, its 26 mines producing 460,459 tons of coal valued at the mines at \$1,193,368. Next was Logan county with 16 mines which produced 337,792 tons valued at \$1,191,636, followed by Franklin county with nine mines producing 137,236 tons valued at \$392,147, and Johnson and Pope counties together with 14 mines having a combined production of 197,732 tons worth \$670,427.