

FIFTH INSPECTION DISTRICT—1904.

TWENTY-FIRST ANNUAL REPORT.

Counties—Brown, Calhoun, Greene, Jersey, Macoupin, Montgomery, Morgan, Sangamon, Scott.

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SIR—In compliance with the statute of the State, defining the duties of the State Inspectors of coal mines, I herewith submit the twenty-first annual coal report of the coal mines in the fifth inspection district, for the year ending June 30, 1904. A tabular statement is herewith given of the statistics of each county, showing the number of mines operated during the year, both shipping and local; the new and abandoned mines; the depth of coal below the surface with the geological number and thickness of the various coal seams; the number of miners and other employes working in the mines and on the surface; the total tonnage of all grades of coal; the average value of coal at the mines, and the aggregate value of the total product in the district, with the casualties in and around the mines, both fatal and non-fatal.

The following summary is given as a recapitulation of the principal facts, found in the schedules of the various counties:

Numbr of mines	102
Number of new mines	14
Number of abandoned mines	13
Number of shipping mines	53
Number of local mines	49
Total output in tons (2,000 pounds)	7,280,287
Tons of mine run coal	1,714,991
Tons of lump coal	3,555,651
Tons of egg coal	113,434
Tons of nut coal	219,322
Tons of screenings (pea coal)	1,475,917
Tons of slack or duff	200,972
Average value of mine run coal at shipping mines	\$1,007
Average value of lump coal at shipping mines	\$1,248
Average value of egg coal at shipping mines	\$1,223
Average value of nut coal at shipping mines	\$1,126
Average value of screenings at shipping mines	\$0.602
Average value of waste coal at shipping mines	\$0.464
Aggregate value of total product, all mines	\$7,594,588
Number of miners	6,349
Number of others underground	1,943
Boys underground	273
Employes above ground	976
Total number of employes	9,541
Tons loaded on cars for shipment	6,389,700
Tons supplied to locomotives at mines	197,537
Tons sold to local trade	423,554
Tons consumed or wasted at the mines	269,496
Average number of days in operation, shipping mines	202
Tons mined by hand	4,964,218
Tons mined by machines	2,316,069

Number of mines using coal cutting machines	16
Number of machines in use	156
Number of machines operated by compressed air	120
Number of machines operated by electricity	36
Number of fatal accidents	27
Number of non-fatal accidents	56
Number of tons mined to each fatal accident	269,640
Number of tons mined to each non-fatal accident	130,005
Number of boilers (horizontal) at the mines	219
Number of kegs of powder used in blasting coal	213,490
Number of kegs used for other purposes	55
Number of pounds of dynamite used at the mines	19,124
Number of mines using electric haulage	9
Number of mines using cable haulage	5
Number of electric motors in use	15

Coal production, by counties, in the fifth district, with the increase or decrease in each for the years ending June 30, 1903, and June 30, 1904, is shown in the following table:

COUNTIES.	TOTAL OUTPUT IN TONS.		Increase.	Decrease.
	1903.	1904.		
Brown.....	1,585	1,583		2
Calhoun	4,928	3,110		1,818
Greene.....	4,497	10,904	6,407	
Jersey.....	2,790	3,405	615	
Macoupin.....	2,223,055	2,221,474		1,581
Montgomery	420,312	494,501	74,189	
Morgan.....	3,840	4,300	460	
Sangamon	4,386,526	4,516,358	129,832	
Scott.....	23,370	24,652	1,282	
Totals	7,070,903	7,280,287	12,785	3,401

Total net increase..... 209,384 tons.

The district shows a net increase of 209,384 tons, which is largely due to Sangamon and Montgomery counties. Montgomery county shows an increase of 74,189 tons; Sangamon county an increase of 129,832 tons. Green, Jersey, Morgan and Scott each show a slight increase. Macoupin county shows a decrease of 1,581 tons. The coal business has been very dull since April 1, 1904. Many of the mines in the three counties, shipping coal, have only worked one day in the week.

NEW MINES.

During the year there have been nine new mines opened in this district, seven of these are shipping mines; four in Macoupin county, and three in Sangamon.

The Peabody Mining Co., Chicago, has opened out a new mine two miles south of Sherman, Sangamon county, on the line of the C. & A. railroad. The coal seam is six feet in thickness and is No. 5 of the general section. The main shaft is 10x20 feet in the clear and 201 feet deep; the air shaft is 10x15 feet in the clear, and of the same depth. Five feet of the air shaft is partitioned off of one end for a stairway and escapement, leaving 100 square feet cross section for air shaft. The tower and all screens and weigh house bearings are built of steel, covered with galvanized corrugated iron.

There are two shaking screens and a weigh pan, also dump cages. The hoisting engine is double cylinder first motion; each cylinder is 22 inches in diameter, and 36 inches stroke; with a steel cone winding drum five and a half

to seven feet in diameter. There are four steam boilers, each with a capacity of 150 horse-power; each boiler is eight feet in diameter, and 17 feet long, with 72 four-inch flues.

The smoke stack is made of three-eighth inch steel and is 100 feet high; the engine and boiler houses are large and well arranged. They are built of brick with fire proof roofs supported by trusses; the floor of the boiler room is made of paving brick, and that of the engine room is concrete.

The ventilating fan is a Capell, 13½ feet in diameter and seven and a half feet wide; its full capacity (without mine resistance) is reported to be 350,000 cubic feet of air per minute; the fan house is built of fire proof material.

A No. 1 high speed engine of 50 horse-power is geared direct to a 50 horse-power generator, giving electric light to the premises, and entries in the mine; ten arc lights are used on the surface. The office building at the mine is built of brick, 30x56 feet, and contains a fire proof vault 8x10 feet, a bath room is also connected with the office. All the company buildings on the premises are heated by steam and supplied with hot and cold water.

A hotel and other dwellings are erected near the mine; everything around the mine on the surface is put up very substantial and intended to be fire proof.

To handle the coal output economically, ample side tracks are provided and suitable scales are erected. The underground works are laid out on the most improved plan, and it is expected that the mine when it is opened out to its full capacity, will maintain an output of 2,000 tons per day.

The Chicago-Springfield Coal Co. has opened out a new mine on the line of the C. & A. railroad, two and one half miles north of the corporate limits of the village of Ridgley, Sangamon county; the plant is first-class in every particular. The hoisting and air shafts are each 225 feet deep. The coal seam is No. 5 of the general section, and is six feet thick.

The hoisting shaft is 8x10 feet in the clear and the air shaft is 8x20 feet; five feet of the air shaft is taken off of one end for a stairway and escapement.

The tower posts and screen bearing posts and flooring are all of hard pine; the screen housing and tower is covered with corrugated iron; the tower is 107 feet high.

The boiler house is built of brick with fire-proof roof, and concrete floor; only two boilers have been installed at this time, others will be put in when required; each boiler is 72 inches in diameter, and 18 feet long, with 64 four-inch flues; the boilers are connected by britching to a brick stack, 10x10 feet square at the base, and 100 feet high. The engine house is also built of brick, with a fire proof roof; the hoisting engine is double first motion, each cylinder is 20x36 inches with a straight drum six feet in diameter. The head sheaves are seven feet in diameter. Air signals are used in the hoisting shaft; dump cages, weigh pans, and shaker screens are used; the shaking screens are seven feet wide and 42 feet long. There are four track scales, one on each loading track, each scale is 80 feet long; the side tracks are double on the north, and 3,800 feet in length, three tracks are on the south, 2,800 feet in length.

The fan at the air shaft is 22 feet in diameter and six feet wide, operated by an engine 12x28 inches, geared direct; the fanhouse is built of brick, and is intended to be fire proof. The washhouse provided is also built of brick, here the miners can change their clothes and wash after coming from the mine; the washhouse is ten feet wide and 60 feet long, properly drained, both hot and cold water are supplied.

A town site will soon be located, ten houses, with a hotel, have already been erected. The underground works are laid out on the most modern plan, and the coal will be worked on what is known as the panel system.

The office building at the mine is built of brick and is fire proof. The U. S. dial scale is used for weighing the miner's coal. When properly opened out this mine will have a large output.

The Tuxhorn Coal Co., Springfield, has opened out a new mine at Keys, Sangamon county, on the C. H. & D. railroad, three miles east of the corporate limits of the city of Springfield. The main shaft is 220 feet deep, 8½x14½ feet in the clear; the air shaft is 222 feet deep and 8½x14 feet in the clear; five feet is taken off of one end of the latter for a stairway and escapement.

The tower and screen posts are hard pine, covered with corrugated iron; the tower is 66 feet high to the center of the head sheaves. The boiler and engine houses are built of brick, with fire proof roofing; the buildings are detached; there are four boilers, each 48 inches in diameter by 30 feet long (common cylinder boilers), with an 80-foot smoke stack.

The hoisting engine is double cylinder, first motion; each cylinder is 20 inches in diameter, with a 36-inch stroke; the drum is straight and five feet in diameter. Dump cages with pan and shaker screens are used. The track scale is 76 feet long with ample side-tracks. The coal seam is No. five of the general section and is five feet nine inches thick at the bottom of the shaft. The ventilating fan is 15 feet in diameter within a brick fan house; the fan engine is geared direct to the fan shaft. The mine sump is made near the bottom of the air shaft and the water is pumped up this shaft.

The whole details of this plant are well laid out, both on the surface and in the mine. The coal will be worked on the panel system and the mine, when fully developed, will have a large output.

The Royal Colliery Co., Chicago, has opened out a new mine two miles west of the corporate limits of Virden, Macoupin county. The mine is connected by a spur of the C. B. & Q. railroad. The main shaft is 302 feet deep and is 8x16 feet in the clear. The coal seam is No. five of the general section and is seven and one-half feet thick. The air shaft is 8x16 feet with five feet taken off of one end for a stairway and escapement. The tower is built of wood and is 98 feet high, covered with corrugated iron. The boiler and engine houses are built of brick, with fire proof roofing. There are only two boilers located at present; two more will be put in when required. Those now in place are 84 inches in diameter and 18 feet long, with 72 four-inch flues; each boiler is rated at 140 horse power. The smoke stack is 80 feet high. The hoisting engine is first motion, double cylinder, each cylinder 24x36 inches and was built by the Litchfield Car & Machine company, Litchfield, Ill. The shaking screens are eight feet wide by 42 feet long with dump cages and weigh pan, put in by Duncan Bros., Alton, Ill. The underground works are laid out on the panel system and designed for a large output.

The Island Grove Coal company, Old Berlin, has sunk a new shaft two and one-half miles north of Berlin, Sangamon county, near the track of the Wabash railroad. The shaft is 185 feet deep; the coal seam is five feet and six inches thick. Very little mining has been done so far. This will be a local mine for some time. The company intends to have a spur run connecting the mine with the railroad.

The Superior Coal company, Gillespie, has opened up two new mines in Macoupin county, designated as Nos. 1 and 2. Mine No. 1 is two miles southeast of Gillespie and No. 2 is three and one-half miles south. Railroad connections are made to these mines by a branch road, known as the Macoupin county railroad, connecting at Greenridge with the C. & A. railroad, thence south crossing the C. C. & St. L. railroad at Gillespie and to the mines.

No. 1 shaft is 348 feet deep and 9x17 feet in the clear, with two cageways and pipe chambers. The cageways are each seven feet wide; the pipe chamber two feet four inches wide. The seam of coal is eight feet thick and No. 5 of the general section, being equivalent to Mt. Olive and Staunton coal seams. The tower is built of steel; the compressor, dynamo, engine and boiler houses are built of brick with slate roof; there are six boilers, each 60 inches in diameter, by 18 feet long, with 60 four-inch flues, each rated at 100 horse power. The hoisting engine is double first motion; each cylinder 24x36 inches with a seven foot straight drum; the ropes are one and three-eighth inches in diameter; dump cages are used for hoisting; the screens are stationary, as the coal from the mines will be consumed by the Chicago & Northwestern railroad. The fan is 16 feet in diameter and five and one-half feet wide; it is a central disk fan; the fan house is fire proof. The underground works are laid out on the improved plan. The coal will be mined and worked on the panel system. Fifteen miners' houses have been built at No. 1 mine and 22 at No. 2. The No. 1 is a duplicate of the No. 2 mine.

The coal at these mines will be mined by the Ingersoll-Sergeant coal cutting machines. A large Ingersoll compound compressor has been installed at each mine and air signals will be used. The towers and out-housing around