

TENTH INSPECTION DISTRICT—1906.

FIRST ANNUAL REPORT.

Counties—Gallatin, Jackson, Johnson, Saline, Williamson.

THOMAS LITTLE, *Inspector*, Carbondale.

HON. DAVID ROSS,

Secretary, State Bureau of Labor Statistics, Springfield, Illinois.

SIR—In compliance with the statutes of the State, defining the duties of the State inspectors of coal mines, I herewith submit the first annual report of the coal mines in the tenth inspection district for the year ending June 30, 1906.

A tabular statement is herewith given of the statistics in 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:

Number of counties in which coal is produced.....	5
Total number of mines.....	97
Number of shipping mines.....	60
Number of local mines.....	37
Number of new mines, shipping.....	10
Number of new mines, local.....	8
Total tonnage of all mines.....	5,389,002
Total tonnage of shipping mines.....	5,331,244
Total tonnage of local mines.....	58,658
Tons loaded on cars for shipment.....	4,812,426
Tons supplied to locomotives.....	72,227
Tons sold to local trade.....	239,415
Tons consumed and wasted at the mines.....	205,834
Aggregate value of total product.....	\$5,050,138
Number of miners in all mines.....	4,908
Number of other employes underground.....	1,538
Number of boys underground.....	199
Number of employes above ground.....	1,025
Total number of employes.....	7,670
Average number of days of active operation, shipping mines.....	189
Number of machines in use.....	145
Total tons cut by machines.....	970,619
Total tons produced by hand in all mines.....	4,419,283
Number of fatal accidents.....	14
Number of non-fatal accidents.....	36
Number of wives made widows.....	10
Number of children left fatherless.....	88
Number of tons produced for each fatal accident.....	384,993
Number of tons produced for each non-fatal accident.....	149,719
Number of persons employed to each fatal accident.....	548
Number of persons employed to each non-fatal accident.....	213
Ratio of fatal accidents per 1,000 persons employed.....	1.8

The coal producing counties now forming the tenth district under the law dividing the State into ten mine inspection districts, instead of seven, which went into effect July 1, 1905, were all formerly in the seventh district.

The following is a comparative table of the tons of coal produced in each of the counties now forming this district for the years 1905 and 1906, showing the increase and decrease in each for the two years:

County.	TOTAL TONS, ALL GRADES OF COAL, IN TONS.		Increase.	Decrease.
	1905	1906		
Gallatin.....	76,629	99,860	23,231	
Jackson.....	802,101	759,962		42,139
Johnson.....	2,400	912		1,488
Saline.....	427,262	601,979	174,717	
Williamson.....	3,815,751	3,927,189	111,438	
Totals.....	5,124,143	5,389,902	309,386	43,627
Net increase.....		265,759		

NEW MINES.

The Lake Creek Coal Co., Williamson county, has sunk a shaft two miles north of Johnson City. This shaft is 319 feet deep and is 10 by 14 feet in the clear. The seam is 10 feet thick and good coal. This is No. 7 seam of the geological section. The company has installed a pair of first motion engines 20 by 30 inches, made at Danville, Illinois. Two Eagle boilers, 6 by 18 feet, with 70 4-inch flues. The tower is built of steel and is 30 feet high; self dumping cages are used, and a shaker screen, which was put up by the Illinois Construction Co. The boiler room is 27 by 41 feet, and the engine house is 26 by 36 feet, both built of pressed brick. The blacksmith shop is 30 by 60 feet, fitted with a drill press and lathe, so that the company is prepared to do its own repair work. The sinking of the air shaft has been started. It will be 9 by 13 feet. Coal was reached at this shaft August 9, 1905, but no branch railroad has yet been built to the mine. It is the intention to connect the branch with the Iron Mountain and the Chicago and Eastern Illinois railroads.

The Hamlock Coal Co. has sunk a new shaft one-half mile south of Herrin, in Williamson county. This shaft is 8½ by 15 feet and is 137 feet deep, to a 9½ foot vein of coal, which was reached October 5, 1905. No coal has yet been shipped from this mine. The company is waiting for a railroad switch to be built to connect with the Iron Mountain and the Chicago & Eastern Illinois railroads. A pair of first motion engines have been installed by the Aetna Foundry & Machine Works, at Springfield, Illinois. The engines are 18 by 36 inches, with a 5-foot drum and a 1¼ inch cable. Two boilers, 5 by 16 feet, with 44 4-inch flues. The company has started to sink the air shaft, which is 8½ by 13½ feet. The head frame is 60 feet with a shaker screen. The company is ready to ship coal just as soon as connection is made with the railroad. This shaft is built for a 2,000 ton capacity per day.

The West Virginia Coal Co. has sunk a new shaft two and one-half miles northeast of Marion, Williamson county. The depth of the shaft is 108 feet, and is 9½ by 15 feet. A 7 foot seam of coal was reached April 14, 1906. The company has put in a pair of first motion engines 18 by 32 inches, made by the Crawford & McCrimmon Co., Brazil, Indiana. The drum is from 5 to 6½ feet, with a 1¼ inch cable. The boiler is 6 by 18 feet, with 72 4-inch flues, made by the Gem City Boiler Co., Dayton, Ohio. The wood frame head

tower is 70 feet high; the cages are self-dumping, of the Bond patent, made by the Ellison Machinery & Foundry Co., St. Louis, Mo., with shaker screens. The sheave wheels are 6 feet in diameter. The sinking of the air shaft has been started; it is 11½ by 7½ feet. The company has not as yet shipped any coal from this mine, but is waiting for the building of a switch from the Iron Mountain railroad. The capacity of this shaft will be from 1,500 to 2,000 tons per day.

The National Mining Co. has put down a new shaft two miles east of Eldorado, Saline county. The shaft is 13 by 9 feet and the depth is 337 feet. A 6-foot vein of coal was reached, which is known as seam No. 5. A pair of hoisting engines have been installed, 20 by 36 inches, they are the Keck Gonnerman make. The drum is 6 feet in diameter with a double brake. The boilers are the Atlas make, Dayton, Ohio, and are 6 by 16 feet, with 6-inch tubes, 300 horse power. The hoisting rope is 1¼ inches in diameter. The wooden head tower is 70 feet high. The cages are self-dumping with shaker screen, Parker make, and an Ottumwa box car loader. The air shaft is down, 10 by 10 feet. The fan is Keck Gonnerman make, 16 feet in diameter. This mine is located on the Louisville & Nashville railroad. The first coal was shipped June 17, 1905.

The Big Muddy Coal & Iron Co.'s shaft No. 9 is just completed. It is located in township 8, Jackson county. The hoisting shaft is 9 feet 1 inch by 18 feet 5 inches inside of timbers, with two cageways, each 6 feet 10 inches by 9 feet 1 inch, also a stair and pipe way 3 feet 6 inches by 9 feet 1 inch in the north end of shaft. The air shaft is 8¾ feet by 18 2-3 feet inside of timbers, with stair and manway in the south end of shaft 4½ feet by 8¾ feet. The air way is 8¾ feet by 14 feet 2 inches, with a division of 8 by 10 inch buntons running through the center of air way. The depth to the coal is 107½ feet. The coal is 6½ feet in both shafts. Both shafts are timbered with 8 by 8 inch timbers through the surface and with 3 by 10 inch long leaf yellow pine through the slate, treated with a wood preservative. Friedstadt interlocking channel irons 16 feet long were used in going through a 14-foot strata of quicksand in the hoisting shaft, and United States interlocking steel piling 14 feet long was used in going through a 12-foot strata of quicksand in the air shaft.

The tippie is built of long leaf yellow pine, and is equipped with self-dumping cages, and four tracks. Each track has a 78-foot United States track scale under the tippie so that the empty and loaded cars are weighed standing. A box car loader will be installed as soon as it is needed.

The shaking screens are of steel, 8 feet wide, perforated sheets extending over 4 tracks, over which 7 grades of coal can be made in the different combinations of the screen.

The engine house of brick, 22 by 32 feet, at the north end of the shaft, and contains a pair of 18 by 36 inch first motion, Danville hoisting engines, equipped with both foot and steam brakes, also an automatic device to prevent overwinding.

The boiler house is 44 by 92 feet, north of engine house, with balloon frame, covered and sided with galvanized iron. It contains four boilers 72 inches by 18 feet, with 70 4-inch flues. Two boilers are set to each battery, and there is room for four more boilers of same size, when needed. The boilers are supplied with coal by a conveyor running from the tippie to the boiler house.

The power house is 44 by 54 feet, balloon frame, covered and sided with galvanized iron, and contains one 20 by 42 inch Allis-Chalmers 300 H. P. Corliss engine at 92 R. P. M., with a 15-foot fly wheel, grooved for 18 1-inch ropes, and drives a 225 K. W. Crocker-Wheeler generator, 250 volts, direct current.

The switch-board has two pannels equipped with buss bar and Weston voltmeter and 1,000 ampere ammeter, one main circuit breaker and three smaller circuit breakers with fuses on each line. There are four circuits running from the switch-board to the bottom of the shaft, two for mining machines, one for lights and one for haulage, so connected up that a short circuit on one line does not affect any other. The cables are lead covered

and well insulated; lightning arrestors are placed on each line outside of the power house, and all cables are carried under cover from the power house to the shaft. There is sufficient room in the power house for a duplicate plant.

The fan is 10-foot Robinson pattern, guaranteed to produce 100,000 cubic feet per minute, and a 2-inch water guage at 350 R. P. M. These are enclosed in a cast-iron housing and connected to the air shaft by a concrete conduit, driven by a 10 by 20 inch plain slide valve engine, with a rope drive.

The main bottom entry of the shaft runs nearly east and west, 14 feet wide and 7½ feet high and 400 feet long, on each side of the shaft. There are two tracks, 3½ feet gauge, laid with 30-pound steel rails, cross bars 12 by 12 inches long leaf yellow pine, set 4 feet from center to center, lagging 3 by 12 inches. The coal is caged from the west side of the shaft, and empty cars are run to the east side by gravity. There is a parallel entry 9 feet wide and arched, on each side of the main bottom entry, making a three entry system on the bottom, with a 30-foot pillar between the main bottom entry and the parallel entries. The bottom is so arranged that the motor can bring the loads to the loaded side of shaft without making a running switch; 200 feet is the greatest distance necessary for the motor to travel without a load.

The pannel system will be adopted in mining, and three entry systems on all entries except the pannel, where the two entry system will be used. There will be two air courses and three traveling ways leading to the air shaft from the main entries.

Two Sullivan electric chain machines are at work at the present time, making an undercut 6½ deep by 5¾ feet high. More machines will be installed as soon as needed. The general plans and construction, both above and below ground, for safe, efficient and economical operation of the property are considered to be second to none in the State.

ABANDONED MINES.

Three local mines have been abandoned during the year: The Rice & Crain mine, the Thomas Parritt mine and the mine of the Carterville Diamond M. Co., all located at Carterville.

The Carterville Coal Co. shaft "B" has not been operated during the year. The company failed to give any reason for not working this mine.

PROSPECTIVE MINES.

The Chicago & Carterville Coal Co. is still engaged in sinking its shaft "B," which is located two miles northeast of Herrin, Williamson county. The company has had some trouble in sinking through sand and water, which has delayed the work. However, the shaft is now about down to the coal and preparations are being made to begin the sinking of the escapement shaft.

IMPROVEMENTS.

The Chicago & Carterville Coal Co. of Herrin, Williamson county, has put in the Sullivan air punching mining machines, also a Sullivan air compressor, which has a capacity of 25 machines. The company is running from 20 to 23 machines per day and is doing good work.

The Carterville Mining Co., of Carterville, Williamson county, has put the main and tail rope system into the old Fredonia mine. This is the oldest mine in Williamson county. The company has purchased some new coal land, and, in order to cut down expenses of hauling, have put in the rope system, which is giving good satisfaction.

The O'Gara Coal Co., at Harrisburg, has changed its No. 2, 3 and 4 mines from hand to machine mines, and has introduced the Morgan-Gardner electric machines. The electric plant is located at the No. 3 shaft. The cable is on top of the ground to numbers 2 and 4 shafts, so that the one electric plant does the work for the three shafts. Two Erie automatic