

## State inspector of coal mines reports

### Section 35, Pages 1021 - 1050

These reports of the Kansas State Mine Inspector mostly concern coal mining, though by 1929 the scope of the reports broadens to include metal mines. The content of individual reports will vary. The reports address mining laws and mining districts; industry production and earnings; fatal and non-fatal accidents; accident investigations and transcripts of oral interviews; labor strikes; mine locations; mining companies and operators; and proceedings of mining conventions. The reports document the political, economic, social, and environmental impacts of more than seventy years of mining in southeastern Kansas.

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to the Inspector that he thought the company would put in mechanical haulage upon that side of the mine, in the way of a tail rope, with machinery for operating the same to be placed on the surface and the ropes to be operated through drill holes. No boys are hired under twelve years of age, and all boys over twelve and under sixteen years must furnish a certificate showing that they have attended school three months out of the year. Also, this company owns another mine known as No. 5, which has good buildings, good machinery, and everything in first-class order for handling coal. This mine has been shut down since June, 1895, and never worked but six months after it was sunk. No cause given for shutting it down, but it is generally supposed that it was shut down for the reason that the company could get all the coal that they had a market for from the No. 4 mine and save the expense of keeping the No. 5 mine in operation. Thos. Jones, mine boss. John Morrison, superintendent.

*Mine No. 3* belonging to William H. Barrett, successor to T. M. Barrett, is located northeast of Weir City and is connected with the St. L. & S. F. railway. This is a gin shaft; has two openings, one pump, and one hoisting shaft. This mine gave employment to 15 miners, 5 underground men, and 4 above ground; worked 50 days and produced 1600 tons of coal during the year, while being operated by Wm. H. Barrett, as Mr. T. M. Barrett made no report of the amount of coal produced while he operated the mine last year. This mine is opened up and worked on a kind of a single-entry system, and the system of ventilation is natural. At the time the Inspector visited this mine it was in very poor condition, only one entry being worked in the mine; it had no connections for return airway; in fact, the mine had no ventilation where it was being worked. When the wind was blowing favorably a little air went down one shaft and out the other. I told Mr. Barrett's son that his father ought to be ashamed of himself working men in such a hole as that, and that, if he did not build a stack upon his pump shaft 24 or 30 feet high and connect up his airways, so as to ventilate the mine where it was being worked, I would have to shut him down until he did so. In about two weeks the Inspector went back again, and was informed that T. M. Barrett had leased to Wm. H. Barrett, superintendent for the K. & T. Coal Company, and the said Wm. H. Barrett had subleased to T. M. Barrett's two sons, namely, John and Joseph Barrett, and they stated to the Inspector that they had orders to go ahead and fix the mine up, pump the water out, put a fan upon the air-shaft, and open the mine up in workmanlike shape, and that in a few days everything would be fixed and be made satisfactory. Later, Wm. H. Barrett informed the Inspector that the necessary improvements and connections in the mine had been made, and the mine was now in good condition.





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The average thickness of the coal-vein was 3 feet 8 inches, with good, black slate roof. Since these men leased the mine the sanitary condition has been better. John and Joseph Barrett, lessees. Wm. H. Barrett, superintendent.

*Mine No. 1* belonging to the Weir Junction Coal Company, successors to Swab Coal Company, is located north of Weir City and connected with the K. C. F. S. & M. railroad. This mine gave employment to 50 miners, 9 underground day men, and 8 over-ground day men; worked 195 days and produced 22,660 tons of coal during the year. This is a shaft opening; mechanical ventilation; manway in air-shaft. Jonathan Swab accompanied the Inspector through the mine, and found the sanitary condition of the mine in many places poor; cause, air leaking through stoppings and not going to working-face. Mr. Swab agreed to go ahead at once and put in stoppings and open up return airways, and conduct air to the working-face. The reason he gave for not having it done before was, they had been working very poorly, and their expenses had been large and they were not able to pay out the money to have the work done, but that they would go ahead themselves, as the mine was only working part of the time, and make such necessary changes as would properly ventilate the mine. This mine is equipped with a light double hoisting engine; gravity and revolving screens; buildings in fair condition. Jonathan Swab, mine boss.

*Mine No. 9* belonging to the Central Coal and Coke Company is located west of Nelson and connected with the K. C. P. & G. railroad. It gave employment to 135 miners, 18 underground day men, 2 boys, and 14 over-ground day men; worked 241 days during the year and produced 99,373½ tons of coal. This mine is equipped with the best of machinery for handling coal, two large boilers for raising steam, and a strong and powerful double engine for hoisting coal; size of main shaft, 7 x 14 feet; size of air-shaft, 7 x 8 feet; depth of shaft, 90 feet; size of fan, 4 x 4 feet; speed fan operated per minute, 72 revolutions; manway in main shaft. This mine is opened up on the double-entry system; main entries run north and south, cross-entries run east and west. Number of miners employed at the time of Inspector's visit was 130; number of day men employed above and below, 24. Buildings are all in good condition; gravity and revolving screens in use; run-around at bottom of shaft for employees to pass from one side of the shaft to the other without passing over or under the cage. All roads in good condition. No boys hired under twelve years of age; all boys over twelve and under sixteen years must furnish a certificate showing that they attended school three months out of the year. Overcasts upon both sides of the main shaft. Air is quartered at the head of both main entries. Sanitary condition of the mine in





first-class shape, except two east entries off main south, known as the third and fourth east entries. The cause of the poor sanitary condition in these two entries was from a squeeze upon second east entry, partly closing the return air-course. Mr. Gillchrist, mine boss, stated to the Inspector that they would not open up the air-course, but were going to move the overcast further in, or just south of the third east entry, which would then give him just as good air in that quarter of the mine as there was in any other part of the mine, and until this work was completed Mr. Gillchrist agreed to increase the pressure of air; that would increase the volume of air that was now passing through both entries, which was still very fair. Robert Gillchrist, mine boss. David Mackie, general superintendent.

*Mine Nos. 1 and 2* belonging to the Empire Coal and Mining Company is located at Coalvale and connected with the K. C. F. S. & M. railroad. This mine employed 16 miners, 6 underground day men, and 7 over-ground day men; worked 163 days and produced 4154 tons of coal during the year. This is a shaft opening; gin power; depth of shaft, 23 feet; average thickness of coal-vein, 32 inches. The Inspector was notified by a committee of miners of the poor sanitary condition of the mine and in three or four days afterwards paid the mine a visit, and found that the mine only had one opening, furnace ventilation, and that it was very poorly constructed, also dangerous; but just before the Inspector visited this mine the company had made some improvements upon the furnace which made it more safe; also, they improved the condition of air in the mine. The Inspector requested the company to have a second opening made, for the safety of the miners in case of accident from fire or other causes. The company stated to the Inspector that they were pumping the water out of No. 2, and that they would be ready in a few days to operate the same, and would at once sink an air-shaft and fix their mine up in good condition. The Inspector left word with the miners' committee that, if this was not attended to, to so notify him. Having received no further complaint, the condition of the mine must have been made safe. Also, the miners told the Inspector that this was the first time the Inspector had visited these mines in over two years. Later, I am informed that this company has failed and gone out of business. John Ogden, superintendent. C. W. Green, mine boss.

*Mine No. 1* belonging to the J. E. Lewis Coal Company is located one mile southwest of Coalvale depot; no railroad connections. This is a local-trade mine. A light threshing engine and boiler are used for hoisting power, attached to a home-constructed drum. The mine is 75 feet deep; thickness of coal, 34 inches; one opening; airway bratticed off main shaft; fire swung in what is called a "jack," to



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assist in making a draft to ventilate the mine. The fire was not dangerous, and the mine had reasonable ventilation, as the worked-out area was small and easy to ventilate. The Inspector told Mr. Lewis that the law required an escapement shaft, for the safety of him and his men in case of an accident; in reply he stated, that he only worked his mine a few months during the year, and never had over six men working, and he and his boy usually made two of them; and that he was poor and could not hire the air-shaft sunk at that time; and that if I insisted on his doing so he would be compelled to shut down, but if I would give him a little time he would make an effort to sink an air-shaft. The size of the main shaft is 6 x 12 feet, 3 feet being bratticed off for an air-shaft. Joseph E. Lewis, mine boss and superintendent.

*Mine No. 2* belonging to the Pittsburg Coal and Coke Company, and leased by J. T. Ryder, is located six miles south of Pittsburg. This mine employed 40 miners, 6 underground day men, and 5 day men above ground; worked 245 days and produced 25,628 tons of coal during the year. This mine has railroad connections from the K. C. F. S. & M. railroad. At the time of the Inspector's visit it was leased by Young & Ryder. These men are poor, and their term of lease expired May 16, 1897. They leased the mine and produced the coal so cheaply that they were not able to fix up the mine as it ought to be. The Inspector found the sanitary condition of the mine very poor; in fact, I do not know how they were able to keep miners at work for them until their lease expired. Mr. Ryder stated to the Mine Inspector that he could do nothing; that he was squaring up to quit, and would not lease the mine again for the cheap price that they had produced coal during the past year, and if they leased again they would fix the mine up. The Inspector told Mr. Ryder that if they intended to work the mine any more they would have to sink an air-shaft and timber the bottom of the shaft, as it was not safe. The Inspector left stating that he would be back in a short time. Later, he was informed by Mr. Ryder that they had leased the mine again, and had sunk a new air-shaft, put in new timbers, and made such other changes as the Inspector had requested. J. T. Ryder, mine boss.

*Mine No. 1* belonging to the A. J. Bell Coal Company is located northeast of Coalvale and connected with the K. C. F. S. & M. railroad. This mine employed 15 miners, 3 underground day men, and 2 day men above ground; produced 3560 tons of coal during the year. This is a drift opening, worked upon the single-entry system; furnace ventilation; average thickness of coal-vein, 34 inches. The sanitary condition of this mine was very poor at the time of the Inspector's visit; cause, air-courses were too small to admit sufficient volume of air to properly ventilate the mine. Very little work would put the



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sanitary condition of the mine in good shape. The mine is practically dry. The mine boss, A. J. Bell, jr., seemed to know but little about the working of the mine, but was willing to go ahead and make the changes suggested to him by the Inspector, and seemed to be very willing to do what was right, so far as he knew. A. J. Bell, jr., mine boss. A. J. Bell, sr., superintendent.

*Mine No. 1* belonging to Miller Bros. & Co. is located north of Mulberry, on the K. C. F. S. & M. railroad. This mine employed 15 men a part of the year and produced 8000 tons of coal. This is a shaft opening; steam power. At the time of the Inspector's visit this mine was just down, and bottom drifted in about 30 feet on two sides. From information gained at the time, every prospect for a paying and productive mine was visible. Mike Smith, mine boss. W. H. Miller, superintendent.

*Mine No. 1* belonging to Kansas Commercial Coal Company, successor to the Fuller Coal Company, is located at Fuller and connected with the K. C. P. & G. railroad. This mine gave employment to 45 miners, 9 underground day men, 4 boys, and 8 over-ground day men; worked 158 days and produced 20,779 tons of coal during the year. This is a shaft opening; steam power; mechanical ventilation. Size of main shaft, 7x15 feet; size of air-shaft, 8x12 feet; size of fan, 3½x12 feet; speed of fan, 84 revolutions per minute; depth of shaft, 47 feet; manway in air-shaft. Mine opened up on the double-entry system; main entries north and south. Average thickness of coal-vein, 34 inches. Buildings all in good condition; gravity and revolving screens used; run-around at bottom of shaft for employees to pass from one side to the other without passing over or under the cages; safety catches upon cages; straight cages in use. No boys hired under twelve years of age; all boys over twelve and under sixteen years of age must furnish a certificate showing that they have attended school three months out of the year. Machinery all in good condition; two 36-flue boilers, 54 inches in diameter, 16 feet long, for raising steam; double hoisting engine of about 70 horse-power. This mine had been working very poorly for some time, but at the time of the Inspector's visit, Mr. Newland, mine boss, stated that he thought they would do better from now on; also, that he could use a few more miners at that time, but miners were afraid to move their families there unless they could be assured of more steady work. The Inspector traveled all over this mine, and found the sanitary condition good; all entries had been stopped for some time, for the purpose of working out some of the rooms that were only partly driven in; but just as quick as his employees numbered 100 he would start them up again. There are about thirty cottages of three and four rooms each for the miners and their families to live in, located upon high ground,



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and, from all appearances, it is about as healthy a mining camp as there is in the district. East quarter of this mine was not being worked at the time of the Inspector's visit, but all connected up and in good working order.

*Mine No. 3* belonging to the same company is leased from the Sherodd Coal Company for five years, and is located about two miles north and east of Midway and connected with the Mo. Pac. railway. This is a shaft opening; steam power; mechanical ventilation. It has been shut down since December 8, 1896, but a man by the name of G. F. Maute is kept there to look after the property and pump the water out of the mine; he is under the supervision of Chris. Newland, mine boss of No. 1 of the same company. Inspector found all buildings at shaft in fair condition; machinery in good order; but in looking over the camp of about 40 dwelling-houses, he found them slowly going to wreck for lack of usage. Chris. Newland, mine boss.

*Mine No. 1* belonging to the Eureka Coal and Mining Company is located one and three-fourths miles north and one-fourth mile west of Frontenac. This is a shaft opening, with gin power, and is a new mine, sunk on what is known as the Baxter farm. Leased by John Anderson, of Pittsburg. Size of main shaft, 6 x 12 feet; depth of shaft, 108 feet; air-shaft just started, size 6 x 6 feet. At the time of the Inspector's visit this mine was opened up about 70 feet north and 70 feet south, and was not brushed. Average thickness of coal was 38 inches. A smooth top and bottom, and a good quality of coal. This is a local-trade mine and has no railroad connections, but they expect to get a switch from the A. T. & S. F. railway or the K. C. P. & G. railroad. There are four other veins of coal between the bottom vein and the surface; three of these veins are not general; 32 feet from surface there is a 23-inch vein of coal; 50 feet from surface there is a coal-vein 8 inches thick; 70 feet from surface another vein, 6 inches thick; 88 feet from surface another vein, from 5 to 6 inches thick. It is generally conceded that the latter three veins run out, as they are not generally known in the surrounding country; but the 23-inch vein is stripped in many places where the surface is shallow. Should this company be able to get railroad connections they intend to put in steam power and fit up a good mine. John Anderson, mine boss and lessee.

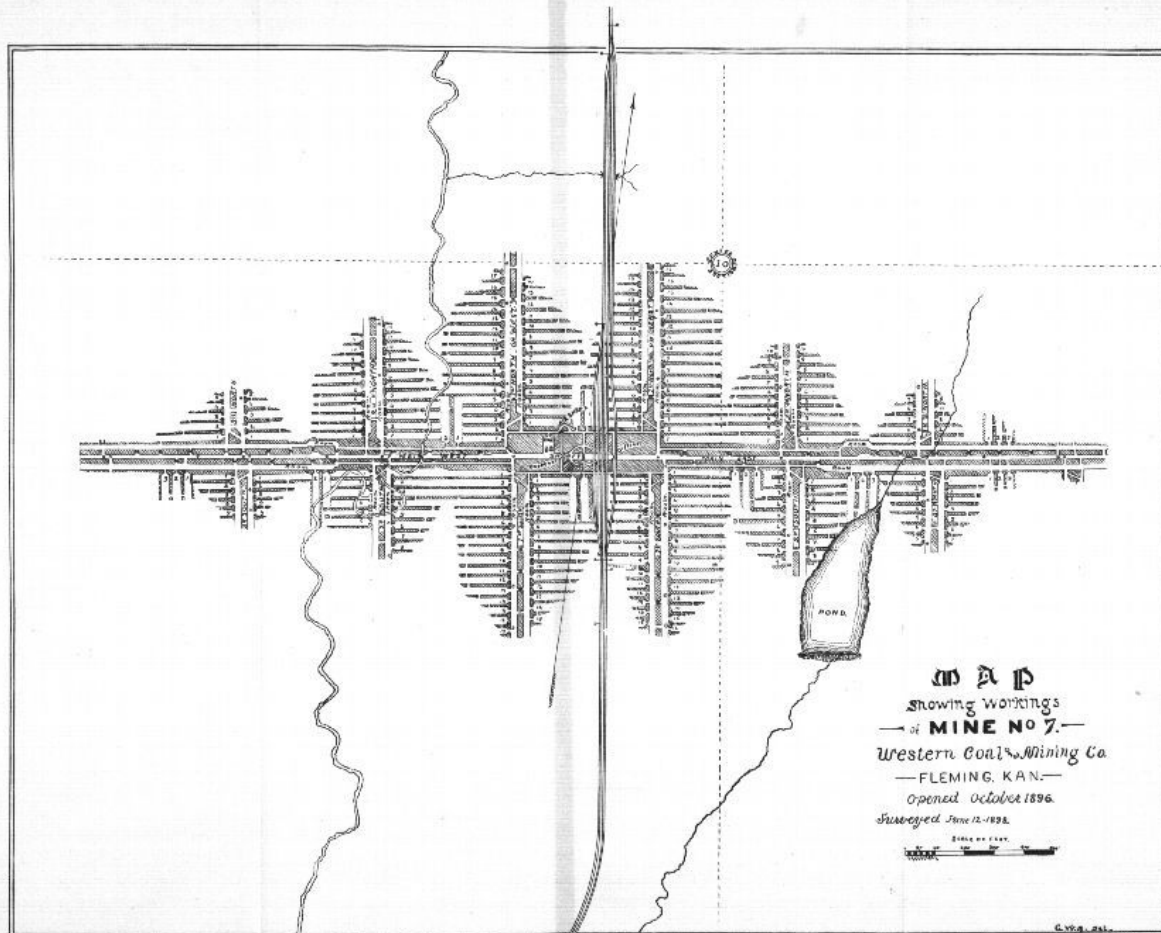
*Mine No. 1* belonging to Wilson Bros. is located one-half mile north of Pittsburg, on street-car line leading to Frontenac. This is a shaft opening, with gin power, and at the time of the Inspector's visit was only working the south side of the mine. The main shaft is 10 x 12 feet; air-shaft, 4 x 6 feet; depth of shaft, 40 feet; average thickness of coal, 38 inches; smooth top and bottom, and black slate roof, and is an excellent quality of coal. There was only 4 miners and 2 day men



at work. The ventilation at this mine was in very poor condition, but a new air shaft was about completed at the south end of their work. Inspector urged the Wilson Bros. to hurry and make those connections; when they were made they would properly ventilate the mine, by conducting the air around the working-face; as it stood the air-courses were about lost. This is a local-trade shaft, and two-thirds of the year they have a market for all the coal they can mine. Richard Wilson, jr., mine boss.

*Mine No. 1* belonging to the Midland Coal and Smelting Company is located  $3\frac{1}{2}$  miles west of Cherokee and connected with the K. C. F. S. & M. railroad. This is a new mine. Size of main shaft, 7 x 14 feet; air and pump shaft, bratticed off of main shaft, 2 x 7 feet; depth of shaft, 160 feet. One entry driven south, from 4 to 6 feet wide, 550 feet; same style of entry north 225 feet, east 300 feet; first west 25 feet, second west 111 feet. The average height of these roadways is  $3\frac{1}{2}$  feet. This mine has been ventilated by a small fan forcing air into the mine through four- or five-inch tin pipes. This method of ventilation might work all right while sinking the shaft, but was not of sufficient force to ventilate four or five different working-places under the ground. Inspector informed W. E. Turkington, superintendent, that if he wished to continue on prospecting with the single roadway or entry he would have to adopt a better system of ventilation before he burned some of his underground employees. Mr. Turkington said he was going to shut the mine down and write to his company for permission to sink a new shaft, and make the one that was down now an air-shaft, the new one to be the main shaft; and if the company would not consent to this at the present time he then would erect a small fan over the part that was bratticed off for an air-shaft, which he thought would be sufficient until he tried to drive through the fault which the mine was sunk on. With all of the work done in this mine they have found but little coal, although it is claimed that they have got 40 inches of coal in some of their drill holes that they put down while prospecting. The miners who worked in the mine claimed that they had got enough coal part of the time to mine in, and then blast down the rock for height; also, it is claimed that it is looking better at the face of the south entry; there they found about 14 inches of coal, and about 14 inches of slate and rock mixed with a little coal, and when they stopped were up against what is known as a "horseback." It may be that they will find good coal, and the vein be thick enough to be workable, but at this time it looks slim; also, they have a 20-inch vein of coal, which is at about 30 to 35 feet depth, and is sometimes stripped in the creek bottoms where the surface is thin and the creek is low and dry in places; but this vein would be very wet, as it taps all of the surface-water, though it is a







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good quality of coal and free from horsebacks and other troubles. This company has also located and built here a good zinc-smelting plant, and should they find a good vein of coal it will be of immense value to them, as they will be able to use their own slack. It is to be hoped that in a short time they will drive their mine through the fault and find a good workable vein of coal. Later, this company is sinking two new shafts one-half mile east. James Clidgle, mine boss. W. E. Turkington, superintendent.





### CRAWFORD COUNTY COAL-MINES.

Office No.	Name of operator or company.	Post-office address.	Name of mine, or number of mine.	Name of pit boss or underground foreman.	Location of mine.	Has mine railroad connection?	Name of railway.	Kind of opening.	Kind of power used.	Capacity of engine, horse-power.
1	Mt. Carmel Coal Co.	Topeka	1	Peter McCall	Frontenac	Yes	Santa Fe	Shaft	Steam	175
2	"	"	4	B. McGonigle	Chicopee	"	"	"	"	175
3	"	"	5	Ed. Flynn	"	"	"	"	"	450
4	The Wear Coal Co.	Pittsburg	3	J. T. Kirkwood, Jr.	S. Pittsburg	"	Memphis	"	"	70
5	"	"	5	Wm. McKisley	N. E. Pittsburg	"	"	"	"	45
6	"	"	6	J. Kirkwood, sr.	N. Pittsburg	"	Santa Fe	"	"	80
7	"	"	"	"	S. Pittsburg	"	Memphis	Strip	"	"
8	Western Coal and Mining Co.	"	2	Phil. Boeser	S. Fleming	"	Mo. Pac.	Shaft	Steam	50
9	"	"	3	Jno. Mooney	N. E. Yale	"	"	"	"	50
10	"	"	4	Thos. McCluskey	S. Yale	"	"	"	"	50
11	"	"	5	Ed. Roberts	S. Yale	"	"	"	"	150
12	"	"	7	Jas. Gardner	S. Fleming	"	"	"	"	"
13	Kansas & Texas Coal Co.	St. Louis	20	Jno. Barrowman	W. Pittsburg	"	Friscio	"	"	"
14	"	"	37	Wm. Egly	N. W. Litchfield	"	"	"	"	"
15	Arnott & Co.	Pittsburg	1	D. Arnott	N. E. Pittsburg	"	"	"	"	40
16	Pittsburg & Midway Coal Co.	Midway	1	J. E. Bovis, contractor	S. Midway	"	"	Strip	"	"
17	"	"	2	Thos. E. Jones	N. W. Midway	"	"	Shaft	Steam	60
18	"	"	4	"	"	"	"	"	"	"
19	Wm. M. Walker Coal Co.	Pittsburg	1	— Walker	N. E. Pittsburg	No	"	"	Horse	"
20	Cassia & Klee Coal Co.	"	1	J. N. Cassia	S. E. Pittsburg	"	"	Slope	"	"
21	Anderson Bros. Coal Co.	"	1	J. H. Swanson	N. E. Pittsburg	"	"	Shaft	"	"
22	J. T. Ryder Coal Co., lessee	"	2	Jno. T. Ryder	S. W. Pittsburg	Yes	Memphis	"	Steam	15
23	P. Carlton Coal Co.	Frontenac	"	"	N. W. Frontenac	No	"	Strip	"	"
24	C. R. Smith Coal Co.	Cherokee	"	C. R. Smith	Maplewood	"	"	"	"	"
25	T. M. Barrett Coal Co.	Weir City	3	J. Barrett	N. E. Weir City	Yes	Friscio	Shaft	Horse	"
26	Weir Junction Coal Co., successors to Swab Coal Co.	Weir City	1	Geo. Makin	N. Weir City	Yes	Memphis	Shaft	Steam	60
27	Central Coal and Coke Co.	"	9	R. Gilchrist	W. Nelson	"	P. & G.	"	"	"
28	Empire Coal and Mining Co.	(314 N. Y. Life bldg., Kansas City, Mo.)	1	Chas. Green	Coalvale	"	Memphis	"	Horse	"
29	"	"	2	"	"	"	"	"	"	"
30	J. E. Lewis & Wife Coal Co.	Coalvale	1	C. Hanna	W. Coalvale	No	"	"	Steam	12
31	A. J. Bell Coal Co.	"	1	A. J. Bell	N. E. Coalvale	Yes	Memphis	Drift	Horse	15
32	Miller Bros. & Co.	Mulberry	1	Mike Smith	Lone Oak	"	"	Shaft	"	"
33	Kansas Commercial Coal Co.	Kansas City, Mo.	7.1	Chris. Newlands	Fuller	"	P. & G.	"	"	40
34	Southwestern Coal Co.	Cornell	"	"	"	"	"	"	"	"
35	Midland Coal and Smelting Co.	Cherokee	1	James Dunn	W. Cherokee	"	Memphis	"	"	10
36	All other producers, estimated.	"	"	"	"	"	"	"	"	"

(a) Missouri Pacific and Santa Fe.  
(b) Frisco, Memphis, and Missouri Pacific.

(c) Santa Fe and Kansas City, Pittsburg & Gulf.  
(d) Frisco, Santa Fe, and Memphis.

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INSPECTOR OF COAL-MINES.



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CRAWFORD COUNTY COAL-MINES—CONTINUED.

Office No.	TONS OF COAL PRODUCED. (2,000 pounds to the ton.)			Total number of tons of coal produced.	EMPLOYEES.											Total
	Lump.	Nut and slack.	Mine run.		Miners	Boys	Mule drivers and pushers	Cagers	Pit bosses, track- layers, roadmen.	Engineers, firemen, and pump men.	Wagonmen and dumpees.	Car trimmers and prop men.	Blacksmiths and carpenters.			
1	187,550	128,145		315,695	335	3	30	4	31	3	1	12	2			421
2	3,103	1,919		5,022	150	1	8	2	10	3	2	4	1			181
3	92,437	62,362		154,799	200	3	12	3	11	3	7	7	1			247
4	44,853	37,015	5,593	87,461	110	2	9	4	4	4	2	6	2			143
5	42,138	37,277	4,120	83,535	110	2	9	2	4	3	2	6	1			139
6	10,785	7,052	2,645	20,482	70	2	5	2	5	2	2	4	1			93
7			5,353	5,353	4				1			10				15
8	38,333	35,093	1,881	75,307	116	13	13	2	3	3	4	2	1			157
9	2,815	2,177	892	5,884	40		3	1	2	2	2	2	1			53
10	38,227	30,512	18,835	87,574	138	2	9	3	5	4	2	3	1			167
11	67,077	42,113	5,450	114,640	167	4	12	2	4	3	2	3	2			199
12	30,875	30,286	10,923	72,084	176	2	4	2	3	3	1	3	2			196
13	35,173	43,534	1,461	80,168	91											131
14	32,680	33,562	10,674	76,916	114											156
15	33,217	22,144		55,361	75		6	2	3	3	3	3	1			96
16	2,675		10,833	13,508	25											25
17	48,901	47,415	3,720	100,036	150	4	12	2	2	3	2	4	2			181
18																
19	1,800	900		2,700	12		1		1		1	3				18
20	52	14		66	3							2				5
21	120	80		200	6		1		1		1					9
22	13,358	8,157	4,113	25,628	40		4	1	1	1	2	1	1			51
23	1,000			1,000	8											8
24	9,900	100		10,000	1						4					5
25			1,600	1,600	15	2	3	1	1	1	1	1	1			26
26	11,330	11,330		22,660	50	1	4	2	2	2	2	3	1			67
27			99,373	99,373	135	2	12	2	4	2	3	4	1			165
28	2,161	1,993		4,154	16		3	2	1	1	2	2	2			29
29																
30			25,000	25,000	6	1	1		1	2	1		1			13
31			3,560	3,560	15		2		1		1	1				20
32			8,000	8,000												
33	9,955	9,036	1,788	20,779	45	4	5	2	2	1	3	3	1			66
34			75	75	3				1	1	1					6
35																
36			12,000	12,000	50											50
	760,615	592,216	237,789	1,590,620	2,476	48	168	41	104	50	54	89	108			3,138





CRAWFORD COUNTY COAL-MINES—CONCLUDED.

Office No.	No. of kegs of powder used during the year	No. of days mine worked during the year	Av. price paid per ton for mining.		Estimated value of fixtures.	Estimated value of mine.	Casualties.		Average selling price of coal at mine.					Av. wages paid day man underground.	Av. wages paid day man over ground.
			Lump	Mine run.			Killed	Injured	Lump	Nut.	Slack.	Mine run.			
1	18,775	263	Cts. 92½	Cts.	\$15,000	\$25,000			\$1 40	\$1 02	\$0 40	\$1 02	2 00	\$1 60	
2	310	10	92½						1 40	1 02	40	1 02	2 00	1 60	
3	9,230	222	92½		15,000	30,000		3	1 40	1 02	40	1 02	2 00	1 60	
4	4,394	225	92½		8,000	25,000	1		1 40	1 02	40	1 02	2 00	1 60	
5	5,216	234		55	7,500	18,000		1	1 40	1 02	40	1 02	2 00	1 60	
6	1,099	78	92½		7,000	18,500		1	1 40	1 02	40	1 02	2 00	1 60	
7	112													1 25	
8	4,780	174		55	500	10,000	1	2				91½	2 00	1 60	
9	391	30		55	1,000	10,000						91½	2 00	1 60	
10	4,520	155		55	2,000	12,000						91½	2 00	1 60	
11	5,793	139		55	1,500	12,000	1					91½	2 00	1 60	
12	4,412	184½		55	2,000	30,000		3				91½	2 00	1 60	
13	4,203	190½	92½		10,000	5,000						90	1 90	1 50	
14	3,952	127	92½		10,000	11,000						90	1 90	1 50	
15	3,107	227	92½		8,000	10,000						90	2 00	1 60	
16		200											2 00	1 60	
17		176		55	15,000	25,000						1 02	2 00	1 60	
18					5,000	7,000							2 00	1 60	
19				55		1,000			1 25			1 00	2 00	1 50	
20		17		55	40	100			1 25		50		1 75	1 25	
21	20	49	Pd. by yd.		1,500	3,500			1 25		50		2 00	1 50	
22	1,200	275		55	1,000	2,000			1 25	1 00	50	1 00	2 00	1 50	
23	5	75							1 25					1 25	
24	1	150	62½		100	1,000			1 25		25	1 12½		1 25	
25	150	50		55	500	2,500			1 25			1 00	2 00	1 50	
26	1,100	195		55	5,000	30,000			1 25	90	40	90	2 00	1 60	
27	6,408	241	92½		10,000	20,000	1		1 40	1 02	40	1 02	2 00	1 60	
28	308	163		55	500	500			1 25		50	1 00	2 00	1 50	
29					500	500							2 00	1 50	
30	75	125		53	1,000	1,000			1 00		50	1 00	1 75	1 50	
31				55	1,000	10,000		2	1 25		50	1 00	1 75	1 50	
32					2,000	5,000	1						2 00	1 60	
33	1,095	158		55	5,000	15,000			1 50	1 20	60	1 20	2 00	1 60	
34															
35	50	90			500	5,000							2 00	1 60	
36		105			3,000	5,000			1 25	1 00	30	1 00			
	87,272	4,327			139,140	370,600	4	13							

NOTE.—Number of mines leased by Commercial Coal Company, 2.

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#### CHEROKEE COUNTY.

Cherokee county is at present, and has been for years, the second largest coal-producing county in the state, and is destined to be the first; and, to include its lead and zinc mines, would be to-day the largest mineral-producing county in the state. During the year 1897, 1815 miners, 71 boys, and 467 day men, making a total of 2354 employees, were given employment 162 days, and produced 1,061,409 short tons of coal, or 32.24 per cent. of the total production of coal in the state, valued at \$1,010,342.64 at the mine. Burned 65,894½ kegs of powder, valued to the miner at \$131,789, or 1,647,360 pounds powder; or one keg of powder for every 16 tons of coal mined. There have been three new shafts sunk in the last year, and three more will be sunk in 1898. The gross earnings of the miner of this county are \$315.28; the expense for each miner is enormous; from its different sources, as compared with his gross earnings, it is \$93.61, or 29.69 per cent. of his gross earnings, not counting in yard work, horsebacks, and room turning. His net earnings are \$221.67, or \$1.37 per day for the number of days the mine worked, or 71.19 cents per day for 310 days. Underground day man's gross earnings are \$324, or \$1.0452 per day for 310 days. Over-ground day man's gross earnings are \$259.20, or 83.61 cents per day for 310 days. From the face of these returns, the miner and mine laborer is entitled to a better wage than he now receives, in order that he may be able to feed and clothe and educate his family. Considering the hardships that are attached to his labor, he is entitled to a larger remuneration for it. It is the opinion of the Inspector that the operators ought to furnish the miner with the powder and other mine necessities at cost, and not charge him double price for what in reality ought to be furnished by the operators themselves. It is simply, from the face of these returns, giving 30 per cent. of the miner's wages for the privilege of mining coal, and then receiving less than 80 cents per day for his labor per year. It is true that the average number of days the mines worked was only 162; but usually the miners go to work the day following the one on which they hoisted coal to set props, lay track, and put their place in working shape, and be ready for the next day that the mine works, thereby working more days than the returns show.

#### RECORD OF INSPECTIONS.

*Mine No. 8* belonging to the Central Coal and Coke Company is located southwest of Weir City and is connected with the K. C. F. S. & M. railroad. It gave employment to 150 miners, 3 boys, 22 underground day men and 14 over-ground day men for 195½ days during the year, and produced 112,266 tons of coal. This mine has been one of the most productive in this county, but is now fast drawing to a close,





as its workings are fast reaching the boundary lines. It is a shaft opening, with mechanical ventilation; equipped with a large hoisting engine of 45 horse-power; gravity and revolving screens; manway in main shaft; run-around at bottom of shaft for employees to pass from one side to the other without going under or over the cage. The Inspector traveled all over this mine, accompanied by John Jenkins, mine boss, and found the sanitary condition of the mine in many places upon the south side very poor. Just a few hundred feet from the bottom of the shaft anemometer recorded 17,000 cubic feet of air passing into the south side of mine per minute. The air in this mine was intended to be quartered, but was being lost by leakage upon the south side; instead of passing into face of workings and returning to upcast it was lost after passing the parting branch. I called Mr. Jenkins's attention to this fact, and he seemed to be surprised. He claimed that his air men had reported to him his air in good condition in that part of the mine; and upon further examination I found that the west quarter return airway was cut off by an accumulation of water in dip rooms, which shut off air-course. Mr. Jenkins at once ordered his men to open up a new air-course, and also made several other changes, all tending to better the condition of ventilation in that part of the mine. The Inspector came back three days after his first visit, and found everything in better condition. Mr. Jenkins also stated that in the future he would trust no man to look after his ventilation, but he would himself go over the workings at least once a week and see that his air men did not neglect their duties. In talking with the man in charge of the stoppings and air-courses and looking after the ventilation of the mine, the Inspector was told that he had more work than he could attend to; that upon days when the mine hoisted he had to work upon the road and assist in the getting out of the coal, thereby neglecting the work that was necessary to maintain ventilation. This air man also claimed that had he been left to attend to the ventilation and not been called off to do other work the Inspector would not have found that part of the mine in the poor condition that he did find it. Mr. Jenkins showed a great willingness to do what was right, and since then the Inspector has heard no serious complaint. The north side of the mine was in better sanitary condition, except inside cross-entries. These did not have a sufficient volume of air passing through them. Mr. Jenkins promised to attend to this matter by curtaining across the mouth of entry and rooms and forcing the air into the inside entry. Also, the Inspector finds that his air-shaft is too small; it was necessary, in order to handle the volume of air, to run the fan 125 revolutions per minute; thereby his fan was overworked in order to properly ventilate his mine, and when they were hoisting right lively the engine would run

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a little short of steam, reducing the number of revolutions the fan was intended to run, correspondingly injuring the ventilation of the mine. John Jenkins, mine boss. George K. Mackie, superintendent.

*Mine No. 5* belonging to the same company is located northwest of Weir City and connected with the K. C. F. S. & M. railroad. It gave employment to 100 miners, 1 boy, 15 underground day men, and 11 over-ground day men; worked 170 days and produced 78,868 tons of coal during the year. This is a shaft opening; steam power; mechanical ventilation. Size of main shaft, 7x12 feet; size of air-shaft, 6x8 feet; size of fan, 4x14 feet; manway in main shaft; speed fan operated, 80 revolutions per minute; depth of shaft, 65 feet. This mine is also equipped with a large hoisting engine of about 35 horse-power; gravity and revolving screens in use. Mine opened up on the double-entry system; main entries run north and south; average thickness of coal-vein, 3½ feet. At the time of the Inspector's visit Mr. Archie Fulton, mine boss, was very sick and had been for some time, and William Fulton was discharging the duties of mine boss. The Inspector traveled all over this mine, accompanied by William Fulton, and found the sanitary condition in many parts of the mine very poor; the cause was the lack of doors in many places, and the lack of tightening up and putting in of stoppings, so as the air could be properly conducted to working-face. Inspector notified William Fulton to call Archie Fulton's attention to the same and to have this matter attended to. The Inspector met Mr. Fulton, and called his attention to the same. Mr. Fulton stated that the reason that his mine was in that condition was it was understood that the mine was about to be abandoned and that the south portion of the mine was to be worked from No. 6 shaft; that being the case, he neglected to properly keep up his air-courses; and, to make matters worse, they shut down No. 6 to do some repair work and sent a large number of the miners over to his mine, No. 5; but he would at once put two or three men to work, and have the stoppings put in, tightened up, and doors hung where needed, and bring the sanitary condition up to the standard necessary to properly ventilate the mine. Later the Inspector was informed that this work had been done and that everything was now satisfactory. Archie Fulton, mine boss. George K. Mackie, Superintendent.

*Mine No. 6* belonging to the same company is located west of Weir City and connected with the St. L. & S. F. railway. It gave employment to 180 miners, 2 boys, 21 underground day men, and 15 over-ground day men; worked 140 days and produced 86,125 tons of coal during the year. This is a shaft opening; steam power; mechanical ventilation. Size of main shaft, 7 x 16 feet; size of air-shaft, 6 x 8 feet; depth of shaft, 80 feet; size of fan, 4 x 14 feet; speed fan operated, 60





revolutions per minute; manway in main and air-shafts. This mine is equipped with a large double hoisting engine of about 40 horsepower; both gravity and revolving screens in use. Mr. Scott, mine boss, stated that the company intended to put in shaker screens; later it is understood that they have done so. This mine is opened up on the double-entry system; main entries north and south, cross-entries east and west. Average thickness of coal-vein, 3 feet 10 inches. This mine is equipped with two overcasts at bottom of shaft. Air divided into four currents at face of main entries; run-round at bottom of shaft for employees to pass from one side of the mine to the other without crossing over or under the cages. Roads in mine in good condition. Mr. Scott, mine boss, accompanied the Inspector over the mine. The sanitary condition of the mine was good, so far as ventilation was concerned, but in some parts of the mine in the old workings the fire-clay in the bottom of the rooms slacked and heaved up, and became very warm and dry, absorbing all moisture, and gave off a sulphuritic gas, which when mixed in the air is poisonous and injurious to the health of the employees, and will make the men sneeze, and after they have worked in it a while have a hacking cough. The Inspector called Mr. Scott's attention to this matter, and told him that the way this poisonous matter was increasing and mixing with the air passing over the working-face it would be necessary to cut off the cross-entries with parallel main entries, and stop up all of these old workings and allow a portion of fresh air to pass down through them, and carry this poisonous matter to the upcast, not allowing it to mix with the pure air passing over the workings of the mine. In answer, Mr. Scott stated that he was now driving two new parallel entries, one north and the other south. The entries are being driven 12 feet wide and brushed 12 feet wide, and will be laid with double track, and are cutting off all cross-entries upon each side of west side of main shaft. The old cross-entries are driven in about 1600 feet; his new entries will cut all of these off and give him shorter haulage, and allow him to ventilate his working-face with pure, fresh air that will not have to travel through old worked-out rooms and air-courses which produce sulphur or sulphuritic acids, which destroy the air and make it poisonous to inhale. Otherwise, this mine is supplied with a good volume of air, traveling all through the mine. When these old works are cut off by the new parallel entries, and all openings stopped up tight around them but those necessary to let a small current of air pass through the old workings for the purpose of carrying off these poisonous gases which accumulate therein to the return airway and the upcast shaft—when these connections are made the sanitary condition of this mine will be in first-class shape. Mr. Scott, mine boss, seems to take a pride in having his air right up to the working-face. He said that it

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did not cost any more money, time or labor to keep the air right up to the working-face or last break-through than to have it connected up 100 yards back and his men suffering for air. Inspector can agree with Mr. Scott, and wishes that every other mine boss in the state would try and think the same. All buildings around this mine are in good condition; all machinery in good condition, and equal to the capacity of the mine. Wm. Scott, mine boss. Geo. K. Mackie, superintendent.

*Mine No. 7* belonging to the same company is located north of Scammon and connected with the K. C. F. S. & M. railroad. It gave employment to 233 miners, 6 boys, 30 underground day men, and 22 above ground; worked 230 days and produced 152,679 tons of coal during the year. This is a shaft opening; mechanical ventilation. Size of main shaft, 7 x 15½ feet; size of air-shaft, 6 x 8 feet; size of fan, 4 x 14 feet; depth of shaft, 90 feet; manway in main shaft; no manway in air-shaft; speed fan operated, 72 revolutions per minute. This mine is opened up on the double-entry system; main entries north and south, cross-entries east and west; average thickness of coal-vein, 3 feet 8 inches. Inspector traveled over this mine, accompanied by Mr. Elliott, mine boss. At bottom of mine on south side a large volume of air was going into the mine; in west cross-entries on south side air was reasonably good; in east cross-entries of main south air was poor. The air seemed to be losing at the parting branch and returning to the upcast shaft. Mr. Elliott stated he would see that the volume of air was increased upon that side of the mine, but as he had heard no complaints from the miners he had thought it was all right. I told Mr. Elliott that probably the reason no complaint was made of late was that it cost a man his job to make a complaint sometimes, and in many places he is told that if he does not like the way things are done he can take out his tools. Mr. Elliott, replying, said that he did not treat his men that way, and if a man complained to him of not having sufficient air in his working-place that he would see to it at once. I then told him that this whole quarter of the mine needed an increase of volume of air and I hoped that he would see to it. In second south entry upon south side, known by the miners as the "little south," the air was in fair condition, but would be much better when doors were hung where curtains were now being used. On north side of main shaft, both east and west, sanitary condition was good; but while passing through the mines some of the miners called my attention to the fact that in case of fire there was no escapement shaft for the men to get out at, and about 300 men employed in this mine, and said that they had complained for some time, and had sent a committee to Mr. Mackie and told him about it, and asked to have an escapement shaft a little further away from the





engine-room, but it had never been done. I told the miners that I would see to it, and when I went on top and investigated matters closely I found the men were right. The air-shaft is close to the engine-house, with no manway in the air-shaft; and if an accident from fire did happen, hoisting shaft, engine-room and fan house were so close together there was too much danger to take any further chances; so I told Mr. Elliott his company would have to comply with the law and sink an escapement shaft, as the present air-shaft was too close to the engine-room and too small to admit a manway being put in it. Mr. Elliott stated that his company had been talking of doing so for some time, and would start at once and sink an escapement shaft at the end of main south entry. All roads in the mine in good condition. No boys under twelve years of age were allowed to work in the mines; all boys over twelve and under sixteen years must furnish a certificate showing that they had attended school three months out of the year. This mine is equipped with a large double hoisting engine of about 70 horse-power; gravity and revolving screens; buildings all in fair condition. Some weeks later, upon learning that the air-shaft was not sunk as had been requested, Inspector wrote a letter to Mr. Elliott asking him the cause of delay. Mr. Elliott answered that he did not know the cause of delay, but referred my letter to Mr. Mackie; also, Mr. Elliott stated that he had moved his smoke-stacks outside of the engine-room, reducing the chances of an accident from fire. The Inspector then waited upon Mr. Mackie and talked the matter over with him. Mr. Mackie at once agreed that there would be no further trouble from that source, as it had been their intention for some time to sink an air-shaft on the south side of their mine and put in a good manway or traveling road, so that it would be closer for the miners from Scammon to enter the shaft; but that they had been waiting on account of sinking the shaft at that particular point giving them trouble with water into some dip room, but that he would wait no longer and order the shaft sunk. The result is the shaft has been sunk, and makes a good escape and traveling way for the employees working in the mine. Chas. Elliott, mine boss. Geo. K. Mackie, superintendent.

*Mine No. 1* belonging to Hamilton & Braidwood Coal Company is located northwest of Weir City and connected with K. C. F. S. & M. railroad. It gave employment to 90 miners, 5 boys, 12 underground day men, and 13 over-ground day men; worked 220 days and produced 62,519 tons of coal during the year. This is a shaft opening; steam power; mechanical ventilation. Mine is equipped with a large double hoisting engine of about 60 horse-power; gravity and shaker screens for screening coal. Depth of main shaft, 75 feet; size of air-shaft, 8 x 8 feet; size of main shaft, 7 x 13 feet; speed fan operated, 60 revolutions



per minute; size of fan, 4 x 14 feet; manway in air-shaft. This mine is opened up on the double-entry system; main entries north and south, cross-entries east and west; average thickness of coal-vein, 3 feet 6 inches. At the time the Inspector visited this mine they were working very little—only about one day per week—and many of the men had left on account of slack work and gone to other fields. Run-around at bottom of shaft for employees to pass from one side to the other without crossing over or under the cages. No boys hired under twelve years of age, and all boys over twelve and under sixteen years must furnish a certificate showing that they have attended school three months out of the year. The Inspector traveled all over this mine, accompanied by Mr. Dunn, air man, and found the sanitary condition of the mine in first-class shape. All roads in good condition. The greatest trouble seemed to be at this mine that the men did not have work enough to pay house rent and support their families. Stewart Hamilton, mine boss. John R. Braidwood, superintendent.

This company has leased its new mine No. 2 to the Kansas Commercial Coal Company for five years, and at present the mine is shut down, and has been for some time. Mr. Hamilton stated to the Inspector that this company intended to sink a new mine close to Mineral City, as it owns 250 acres of good coal land there, and he thought they would sink it some time this summer, and get in shape for their winter trade. John R. Braidwood, superintendent.

*Mine No. 1* belonging to the Excelsior Coal Company is located southwest of Weir City; no railroad connections. It gave employment to 9 miners and 2 day men; worked 150 days and produced 2707 tons of coal during the year. This is a shaft opening, with horse-power, and is a local-trade mine, although they do ship some coal. Have railroad switch about a quarter of a mile from shaft, on K. C. F. S. & M. railroad. At the time of Inspector's visit it was working very little. Size of main shaft, 6 x 10 feet; size of air-shaft, 5 x 5 feet; average thickness of coal-vein, 44 inches; depth of shaft, 30 feet. The sanitary condition of the mine was fair. This mine had some trouble some time before the Inspector visited it on account of poor air, but they have now got it fixed up so the ventilation in the mine is in fair condition. Chas. Kemp, mine boss.

*Mine No. 1* belonging to the J. H. Durkee Coal Company is located southwest of Weir City and connected with K. C. F. S. & M. railroad. It gave employment to 100 miners, 6 boys, 20 underground day men, and 20 over-ground day men; worked 214 days and produced 20,899 tons of coal during the year. This is a new mine; shaft opening; steam power; mechanical ventilation. This mine is equipped with a light single engine of about 30 horse-power; gravity and shaker screens in use. At the time of the Inspector's visit at this mine con-





nections were not all made. Fan had just been placed over the air-shaft; a large and roomy manway had just been completed in the air-shaft, which would be ready for use in two days at that time, for all workmen to descend into and ascend from the mine. Inspector found the sanitary condition of the mine in fair condition, except in one east entry off main south, and just as soon as all connections can be made and doors substituted for curtains the sanitary condition of the mine will be good. Mr. Harbottle, mine boss, and Mr. Hanley, air man, were making the changes and connecting everything up on the day of the Inspector's visit. Size of main shaft is 6 x 12 feet; size of air-shaft, 6 x 14 feet; a manway and pump shaft partitioned off of air-shaft; a Chinese pump in use. Size of fan, 4 x 12 feet; depth of shaft, 40 feet. The system the mine was opened up on was, main entries double, cross-entries single; a run-around at the bottom of the shaft for employees to pass from one side to the other without passing over or under the cage. Average thickness of coal-vein, 46 inches. This mine is equipped with self-dumping cages. Buildings were all in good condition. One new shell boiler 24 feet long, 48 inches in diameter, furnishes steam for the machinery. This company failed last March and is now in the hands of receivers; its liabilities were over \$60,000; also, they had in circulation, directly and indirectly, over \$1000 in scrip, on which it is not expected that one dollar will ever be realized. This scrip is held by the merchants and business men of Weir City. Ben Cox and Thos. Harbottle, mine bosses. Jos. Humble, superintendent.

*Old Mine No. 1* belonging to the same company is located one-fourth of a mile west of the depot and connected with the K. C. F. S. & M. railroad. It gave employment to 80 miners, 4 boys, 15 underground day men and 9 over-ground day men for 100 days, and produced 29,439 tons of coal during the year. This mine was indefinitely closed down early in the summer; all track pulled out; all buildings and machinery removed. William Humble, mine boss. Joseph Humble, superintendent.

*Mine No. 5* belonging to the same company is located northeast of Weir City and connected with the St. L. & S. F. railway. It gave employment to 20 miners, 2 boys, 4 underground day men and 9 over-ground day men for 60 days, and produced 5,227 tons of coal during the year. This is also a new shaft, sunk during the spring and summer of 1897; is a shaft opening; steam power; mechanical ventilation; equipped with gravity and shaker screens; a light double hoisting engine of about 30 horse-power; one steel cylinder boiler, 20 feet long by 44 inches in diameter; this furnishes steam for running machinery; machinery all in good condition. Size of main shaft, 6 x 16 feet. At the time of the Inspector's visit the air-shaft and the pump shaft

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were partitioned off the main shaft. Size of fan,  $2\frac{1}{2}$  x 8 feet; size of place partitioned off, 5 x 6 feet. William Humble, mine boss, stated to the Inspector that the company intended to sink an air-shaft upon the south side of the mine just as soon as south entry was driven far enough to make connection, and put a good traveling way in same. Later this air-shaft has been sunk. This mine is opened up on what is known as part double-entry system. Mr. Humble also stated that the intention was to come to the double-entry system in a very short time, if the mine would justify the same. As this mine was new there were several things not yet completed, but the sanitary condition was good. Mr. Humble showed a guarded interest to avoid accidents in every way, and in a few weeks, when his connections are all properly made and entries brushed, his mine would be in first-class condition. Average thickness of coal, 45 inches; coal hard and of a good quality. Depth of shaft, 45 feet. William Humble, mine boss. Joseph Humble, superintendent.

*Mine No. 2* belonging to the Wear Coal Company is located west of Weir City and connected with the St. L. & S. F. railway. It gave employment to 56 miners, 7 boys, 9 underground day men, and 10 over-ground day men; worked 89 days and produced 21,760 tons of coal during the year. This is a shaft opening; steam power; mechanical ventilation. Size of main shaft, 7x14 feet; size of air-shaft, 6x10 feet; size of fan, 4x14 feet; speed fan operated, 60 revolutions per minute; depth of shaft, 96 feet; manway in main shaft. This mine is opened up on what is known as the single-entry system; main entries north and south, cross-entries east and west. Average thickness of coal-vein; 3 feet 8 inches. Inspector traveled all over this mine, accompanied by Lou. Myers, mine boss. At the time of his visit only part of the mine was being worked, on account of slack work. This mine is not opened up very extensively at present. The sanitary condition was good all over the mine, except two entries, face of which was 60 feet ahead of the air; cause was break-throughs in rooms not being cut through and connected up. Mr. Myers, mine boss, stated that the reason this work was not connected up in these entries was, the entry men turned the rooms, and as work had been very slack the entry men would widen the room enough to claim pay for room turning, and then they would work in the entry, so as to get a little yard work, thereby working ahead of the air, that they might make a few dollars extra. While this was the true condition of the case, the miner ought to have made his break-throughs; but there is a whole lot of cutting to be done to make these connections, and poor pay for it. This only goes to prove that the single-entry system is a very poor system, and ought to be abandoned as one of the old, worn-out systems of mining coal. Buildings and machinery





were all in good condition. No boys hired under twelve years of age, and all boys over twelve and under sixteen years must furnish a certificate showing that they have attended school three months out of the year. Lou. Myers, mine boss and bookkeeper.

*Mine No. 23* belonging to the Kansas & Texas Coal Company, and leased by W. H. Barrett, is located northeast of Weir City and connected with the St. L. & S. F. railway. It gave employment to 90 miners, 5 boys, 13 underground day men, and 10 over-ground men; worked 220 days and produced 11,644 tons of coal during the year. (It is the opinion of the Inspector that the return made to him of the number of days this mine worked is a mistake, as the mine is credited with working 220 days and only producing 11,644 tons, and 90 miners supposed to be employed. That would only make a little over one-half ton of coal for each miner for the number of days the mine is credited with working, or about 33 cents per day for the 220 days.) This is a shaft opening; steam power; mechanical ventilation; equipped with light double hoisting engine of about 30 horse-power; gravity and revolving screens. Size of main shaft, 8 x 16 feet; size of air-shaft, 8 x 8 feet; size of fan,  $4\frac{1}{2}$  x 12 feet; speed fan was being operated per minute, 90 revolutions; manway in main shaft. This mine is opened up on the single-entry plan; main entries a part of the distance were driven double entry, and run north and south; all cross-entries are single entries. Inspector traveled all over this mine, accompanied by Mr. Thompson, mine boss, and found the ventilation of the mine in fair condition, considering the many disadvantages in maintaining ventilation. Curtains were hung at the mouth of rooms to force the air to the head of entry; these were found to be crippled more or less by a part of the curtain being torn down and the ventilation escaping; and at face of entries from one to two rooms found not connected up, and air at face of entry poor; in fact, the men who work the face of entry don't know what good air is, as they are from 40 to 60 feet ahead of the last room connection. This mine is also equipped with self-dumping cages; buildings were all in fair condition; roads in the mine are all very poor, on account of being so wet. Also, roof is very poor in this mine, and very wet, and it makes it hard to keep it up. No boys working in the mine under twelve years of age; all boys over twelve and under sixteen years must furnish a certificate showing that they have attended school three months out of the year. Also, in this mine there has been some trouble caused by men firing their own shots upon idle days; as there are air-shafts sunk several hundred feet from the main shaft, and they are connected with mine No. 47, they can slip in and out of the mine and no one know who fired the shot. Men who are very anxious that the mining laws should be very rigidly enforced take pleasure in violating the

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mining laws themselves, and the Inspector could not make them cease violating the same until he urged the company to threaten them with discharge if they did not cease violating the shot-firing law. It was stated to the Inspector by Mr. Thompson, the mine boss, that when he had as many as 10 or 12 men doing company work on the entry roads he would fire shots for the men that came in upon idle days, but these same men would not wait for the company to do the shot-firing for them, but would do their own firing. Daniel Thompson, mine boss. W. H. Barrett, lessee and superintendent.

*Mine No. 18* belonging to the same company, and also leased by Mr. Barrett, is located north of Weir City and is connected with the St. L. & S. F. railway. It gave employment to 125 miners, 10 boys, 16 underground day men and 13 over-ground day men for 230 days, and produced 138,559 tons of coal during the year. This mine is a shaft opening; steam power; mechanical ventilation; equipped with a light double engine of about 30 horse-power; gravity and shaker screens in use. Size of main shaft, 8 x 16 feet; size of air-shaft, 8 x 8 feet; size of fan,  $4\frac{1}{2}$  x 20 feet; speed fan operated, 40 revolutions per minute; depth of shaft, 62 feet. This mine has three air-shafts; a manway in each of them; main entries north and south, cross-entries east and west, and is operated upon what is called single-entry system. Average thickness of coal-vein, 3 feet 8 inches. The area of this mine is very large, and the reason that these different air-shafts have been sunk is to ventilate the different parts of the mine. Buildings are in fair condition; a good run-around for employees to pass from one side of the shaft to the other; self-dumping cages in use; machinery in fair condition; roads in mine on south side in good condition, upon north side in very poor condition. This mine is also connected with Nos. 47 and 23, although No. 47 has been abandoned for some time, but still is used for pump shaft sometimes when water gets up in the mines. As much as 400 acres of land have been undermined by this mine. Cross-entries supposed to run east and west; they are not regularly so; they turn to miss horsebacks and faults. This mine is also equipped with an endless haulage rope for the full length of double track upon south side of mine, which handles from 15 to 25 mine-cars a trip. This is the best piece of work in connection with the mine, and the most profitable. The Inspector traveled all over this mine, accompanied by Mr. Duffey, the air man, and he finds after he leaves main entry, or one of these downcast shafts sunk on the prairie, that the air is usually light. All entries are from 50 to 90 feet ahead of the last break-through in room. At best it is hard to keep air traveling to the face by canvassing the mouth of rooms, with cars running in and out through these rooms. The result is, the air is usually lost before it gets to the working-face; and in this mine the opened-up





territory being so large, it looks like a mystery how they are able to keep a sufficient volume of air going into the mine to justify the men to work. The Inspector is satisfied that this mine, or any other opened up on the single-entry system, will never give entire satisfaction to employees or the company so far as ventilation is concerned. It will keep a man going with a roll of canvas under his arm all of the time from place to place; and very often before this curtain hanger gets off of one entry and onto another the canvas is torn down by a car passing through under it or rubbing against it, and he is needed back again where he left, and in all probability is needed in 50 other places at the same time; but he has not time to come back, and the inside men must necessarily suffer for air until this curtain hanger can come back again, all together making it very unsatisfactory to miners, bosses, and all other parties interested. Elsewhere I will recommend the abolishment of the single-entry system of mining coal. This mine has also been troubled with the same violation of law as at No. 23. It had become a custom here for men to fire their own shots upon idle days and it gave the Inspector a great deal of trouble in trying to have it stopped; and he met with little or no success until the company put up a notice that they would discharge the first man who fired a shot who was not a shot-firer. It seemed as though the pot was as black as the kettle—one would not tell on the other; and the territory of the mine was so large, with air-shafts scattered over different parts of the mine, that they could fire their shots and then sneak out, and if questioned about it would say they did not do it. Patrick Welch, mine boss. W. H. Barrett, lessee and assistant superintendent.

*Mine No. 6* belonging to the Southwestern Coal and Improvement Company is located at Mineral and connected with the M. K. & T. railway. It gave employment to 150 miners, 8 boys, 20 underground day men, and 19 over-ground day men; worked 180 days and produced 70,834 tons of coal during the year. This is a shaft opening, with mechanical ventilation, and is equipped with a large double hoisting engine of about 120 horse-power; gravity and shaker screens for screening coal. Size of main shaft, 7 x 13½ feet; size of air-shaft, 6 x 7 feet; manway in air-shaft; depth of shaft, 126 feet; size of fan, 4 x 14 feet; number of revolutions fan operated per minute, 78; average thickness of coal-vein, 3½ feet. This mine is opened up on the double-entry system; main entries north and south, cross-entries east and west. The Inspector traveled all over this mine, accompanied by John Ryan, mine boss. Mr. Ryan was very willing to show the Inspector everything in connection with his mine. Inspector found the sanitary condition of the mine in all parts good; also roads were in good condition. This mine seems to have been sunk close to a fault,

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and it has cost the company a great deal of time and money trying to drive through it. It seems to run parallel with main north entry. They have driven this entry several hundred feet, most of the way in fault, but at present have stopped it, and in the future they will drive parallel entries off east and west cross-entries upon each side of fault, as the mine otherwise seems to be in good coal and good roof. Inspector also finds that every morning a man goes down into the mine and visits every working-place, and makes a record of every room and entry upon a book kept for that purpose in weigh office for inspection of condition of mine by mine boss and miners. Their machinery and buildings are all of the best, and in good order. Air-shaft is spaced off a reasonable distance from engine-room, hoisting shaft, and all other buildings. This mine has two veins of coal. One is about 40 feet from the surface, has a good black slate roof over it, and a fire-clay bottom; thickness of this vein is from 22 to 24 inches; this vein is free from the usual clay seams or horsebacks that are scattered through the lower veins. This company has sunk a mine known as No. 8, and they are going to open up one-half of it on the long-wall system, and the other half on the room-and-pillar plan; they also intend to work machines in this mine, and run the same with electricity. They have put in extensive machinery for that purpose. I cannot say what success they will have, as at present the mine is new and not opened up much. John Ryan, mine boss. H. M. Reed, superintendent.

*Mine No. 7* belonging to the same company is located at Mineral and connected with the M. K. & T. railway. It gave employment to 106 miners, 3 boys, 18 underground day men, and 12 over-ground day men; worked 180 days and produced 82,736 tons of coal during the year. This is a shaft opening, mechanical ventilation; equipped with a large double hoisting engine of 120 horse-power; gravity and revolving screens for screening the coal, and self-dumping cages. Size of main shaft, 7 x 13½ feet; size of air-shaft, 6 x 6½ feet; size of fan, 4 x 12 feet; speed fan operated, 64 revolutions per minute; depth of shaft, 105 feet; average thickness of coal-vein, 3½ feet. This mine is opened up on the double-entry system; the mine is dry and the roads are in good condition. The Inspector traveled all over the mine, accompanied by Mr. Davison, mine boss. I might add that going to the mine Inspector met Mr. Reed, mine superintendent of the mines at this place. He went to the mine with me, showed me all over the pit top of the mine, and accompanied me down into the mine, and when there stated that he did not have time to go over the mine with me, but suggested to Mr. Davison that he show me everything in connection with the mine; anything that I may find that was not

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right to so report it, as he wanted his men to have good air and every part of the mine to be made as safe as it was practicable to be done, no matter what it cost. The Inspector found the sanitary condition of the mine in first-class shape; every place well ventilated; doors all up in good shape but one, and that Mr. Davison said would be up next day, as he had just got cut through and connections made; and if I had been a day later in visiting his mine the third west door would have been up the same as the rest of the mine. Roof in this mine is generally good; machinery all of the best; buildings all in good condition. The self-dumping cage in use at this mine is among the best in use; scarcely a small piece of coal ever falls back into the shaft; the manway is in air-shaft; air-shaft is a reasonable distance from the rest of the buildings, which is a protection against fire from the other buildings. Jos. Davison, mine boss. H. M. Reed, superintendent.

*Mine No. 1* belonging to Stone & Dixon Coal Company is located at Scammon. It gave employment to 17 miners, 2 boys, 1 underground day man, and 3 above-ground day men; produced 3240 tons of coal. This is a shaft opening; horse power. Depth of shaft, 26 feet; average thickness of coal-vein, 46 inches. Coal is of an excellent quality. This mine supplies local trade and ships some coal, which is loaded on smelter switch of K. C. F. S. & M. railroad. In summer time work is very slow on account of slack trade. James Stone, mine boss.

*Mine No. 1* belonging to the J. C. Graham Coal Company is located northwest of Scammon and connected with the K. C. F. S. & M. railroad. It gave employment to 70 miners, 5 boys, 10 underground day men, and 11 over-ground day men; worked 125 days and produced 15,000 tons of coal. This is a shaft opening; steam power; equipped with gravity and revolving screens; has two openings; size of main shaft, 7 x 16 feet; air-shaft is 300 yards south of main shaft; size of air-shaft, 6 x 8 feet; manway in main shaft. Mine is opened up north and south; main entries are double-tracked; roads in fair condition; thickness of coal-vein, 3 feet 8 inches; mechanical ventilation; size of fan, 4 x 12 feet; speed fan operated, 60 revolutions per minute. In south side of this mine the sanitary condition was very poor. Mr. Zimmerman stated to the Inspector that he had only been in charge at this mine about four months, and that he had not had time to fix everything up; he also stated that when he took charge the mine was in a very bad condition, as the former company that operated the mine, and was known as Walters & Glenn Company, had worked this mine close upon two years, and had in their employ about 75 miners, and only 4 miners out of the 75 drove any entry. This company gouged out all the coal that they could without cutting horse-backs or clay veins, leaving the south side of the mine in a very poor

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sanitary condition; there seemed to be no return airway. Mr. Zimmerman will have to cut some of those horsebacks and make a return for his air, which he agreed to do at once. The north side of this mine was in fair condition. Mr. Zimmerman had spent about \$200 brushing and making his airways; at the present time he had about 40 employees working for him, and 14 of those were brushing up rooms and driving entry. Mr. Zimmerman promised me that in three weeks' time he would have the south side fixed all right, as he intended going right to work making a return airway. Later the Inspector is informed that the connections are made. John A. Zimmerman, mine boss.

*Mine No. 1* belonging to the J. R. Crowe Coal Company is located  $3\frac{1}{2}$  miles north of Columbus and connected with the K. C. F. S. & M. railroad. It gave employment to 90 miners, 15 underground day men, and 12 over-ground day men; worked  $153\frac{1}{2}$  days and produced 56,285 tons of coal during the year. This is a shaft opening; steam power; mechanical ventilation; equipped with gravity and revolving screens; a light double hoisting engine of about 40 horse-power for hoisting the coal. Size of main shaft, 6x8 feet; size of air-shaft, 6x6 feet; depth of shaft, 45 feet; size of fan,  $2\frac{1}{2}$ x8 feet; speed fan operated, 80 revolutions per minute. System mine worked upon is double entry; back entries not brushed; all entries are driven 21 feet wide since the change in the company; a run-around at bottom of shaft for employees to pass from one side to the other without passing over or under the cage; manway in air-shaft; buildings all in fair condition; machinery all in good condition; one shell boiler 28 feet long, 40 inches in diameter, furnishes steam for the machinery. No boys hired under twelve years of age; all boys over twelve and under sixteen years must furnish a certificate showing that they have attended school three months out of the year. The Inspector traveled all over this mine, accompanied by John Judd, mine boss, and finds the sanitary condition of the mine fair, except one entry known as first west off of main south entry. This entry was worked upon the single-entry plan, and air was lost about four rooms back from entry. Mr. Judd stated that it had only to go about 60 feet further, and that he would see that all curtains were kept up, and the air close to the face. Entry roads in mine a little muddy; otherwise the sanitary condition of the mine fair. John Judd, mine boss; later, Ed. Kelley. W. H. Barrett, superintendent.

*Mine No. 8* belonging to the Southwestern Coal and Improvement Company is located at Mineral and connected with the M. K. & T. railroad by branch from Labette. It employed 35 miners, 4 underground day men, and seven over-ground day men; worked 300 days





during the year and produced 6801 tons of coal. This is a shaft opening; steam and electric power; mechanical ventilation. Size of main shaft,  $6\frac{1}{2} \times 13$  feet; size of air-shaft,  $5 \times 5\frac{1}{2}$  feet; depth of shaft, 40 feet; manway in main shaft; size of fan,  $3 \times 10$  feet; main entries run north and south. This mine was opened up on the room-and-pillar system, but at the time of the Inspector's visit north side was being changed to long-wall system; about 1200 feet of face opened up. Indications were that the long-wall system would be a success. It will work all right long-wall unless the breaks go to the surface and during the wet season surface-water works into the mine too free, and makes it too wet to work and causes the roof to cut off at the face of the coal. George Richardson, mine boss, stated that he believed the breaks would cement themselves and prevent the surface-water from coming into the mine, as there was about eight feet of black shale or slate over the coal, and he thought it of sufficient thickness to be worked successfully upon the long-wall system. This is the first experiment of the kind in this end of the state, and should it be a success other mines will follow same plan in top vein. The company pays \$1 per ton of 2000 pounds to miners in long-wall side; it produces about 95 per cent. lump coal, which is of excellent quality. On south side of mine they use an electric machine to mine the room; then the company pays the miner 55 cents per ton for shooting down and loading out coal; machine work makes about 50 per cent. lump coal. From present indications machine work will not be a success in this coal seam. It is costing the company about \$1 gross to mine coal with the machine, and it makes a less per cent. of lump coal than the miners make on the long-wall side of the mine. Unless some change for the better, the machine will soon play out. This is a new mine; only been in operation this year; buildings are all in the best of condition; gravity screens in use; run-around at the bottom of the mine for the employees to pass without going over or under the cage. No boys at work in this mine. Machinery all in the best of condition; one brace of steel boilers for furnishing steam; size, 18 feet long by 66 inches in diameter; 96 three-inch flues in each boiler; a double hoisting engine of about 50 horse-power; an electric-motor engine of about 150 horse-power. The sanitary condition of the mine was good. George Richardson, mine boss. Hugh Reed, superintendent.



### CHEROKEE COUNTY COAL-MINES.

Office No.	Name of operator or company.	Post-office address.	Name of mine.	Name of pit boss or underground foreman.	Location of mine.	Has mine rail-road connection?	Name of railway.	Kind of opening.	Kind of power used.	Capacity of mine, tons per year.
1	Central Coal and Coke Co.	Weir City	5	Archie Fulton	N. W. Weir City	Yes	Memphis	Shaft	Steam	80
2	"	"	6	Wm. Scott	W. Weir City	"	Frisco	"	"	40
3	"	"	7	Chas. Elliott	N. Scammon	"	Memphis	"	"	70
4	"	"	8	John Jenkins	S. W. Weir City	"	"	"	"	45
5	Hamilton & Braidwood Coal Co.	"	1	Stewart Hamilton	N. E. Weir City	"	"	"	"	60
6	Excelsior Coal Co.	"	1	Chas. Kemp	S. W. Weir City	No.	"	"	Horse	30
7	J. H. Durkee Coal Co.	"	1	Thos. Harbottle and Ben Cox	S. W. Weir City	Yes	Memphis	"	Steam	30
8	"	"	1	Wm. Humble	N. W. Weir City	"	Frisco	"	"	30
9	"	"	2	"	N. E. Weir City	"	"	"	"	30
10	Wear Bros. Coal Co.	"	1	L. S. Myers	W. Weir City	"	"	"	"	60
11	Kansas & Texas Coal Co.	"	23	Dan. Thompson	N. E. Weir City	"	"	"	"	30
12	"	"	18	Pat. Welch	N. Weir City	"	"	"	"	30
13	"	"	3	Joe. Barrett	7 1/2 N. E. Weir City	"	"	"	Horse	12
14	John & Henry Jenkins Coal Co.	"	1	H. Jenkins	S. W. Weir City	No.	"	"	"	12
15	Joe Bennett Coal Co.	"	7	Wm. Kirby	S. Weir City	Yes	Memphis	Slope	Steam	12
16	W. H. Barrett Coal Co.	"	8	"	N. W. Weir City	"	M. K. & T.	"	"	120
17	Southwestern Coal and Imp. Co.	Parsons	6	John Ryan	Mineral	"	"	"	"	120
18	"	"	7	Joe. Davison	"	"	"	"	"	40
19	"	"	8	Geo. Richardson	"	"	"	"	"	40
20	W. H. Huntsinger	Mineral	14	W. H. Huntsinger	W. Mineral	No.	"	Strip	"	40
21	Stone & Dixon Coal Co.	Scammon	1	H. W. Dixon	N. Scammon	"	"	Shaft	Horse	40
22	J. C. Graham Coal Co.	"	1	J. A. Zimmerman	N. W. Scammon	Yes	Memphis	"	Steam	40
23	Geo. Robinson Coal Co.	Columbus	1	Joe. Robinson	N. Columbus	"	"	"	"	40
24	J. R. Crowe Coal Co.	Weir City	1	Ed. Kelley	N. Columbus	"	Memphis	"	"	40
25	Kansas Commercial Coal Co.	Kansas City, Mo.	"	"	"	"	"	"	"	"
26	Columbus Coal Co.	Columbus	"	"	"	"	"	"	"	"
27	Hamilton & Braidwood	Weir City	"	"	"	"	"	"	"	"
28	Hamilton & Grant	"	"	"	"	"	"	"	"	"
29	All other producers, estimated.	"	"	"	"	"	"	"	"	"

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\* W. H. Barrett, lessee. † New. ‡ Old. § Daisy. || Sixteen to One.

NOTE.—Graham Coal Co. made a clerical error of 21,000 tons of coal, and corrected the same after this table was closed, making it short 21,000 tons.





CHEROKEE COUNTY COAL-MINES—CONTINUED.

Office No.	TONS OF COAL PRODUCED. (2,000 pounds to the ton.)			Total number of tons of coal produced.	EMPLOYEES.											Total.
	Lump.	Nut and slack.	Mine run.		Miners.	Boys.	Mule drivers and pushers.	Cagers.	Pit bosses, track- layers, roadmen.	Engineers, firemen, and pump men.	Weightmen and dumpers.	Wagonmen and prop men.	Car trimmers and carpenters.	Blacksmiths and carpenters.		
1			78,868	78,868	100	1	10	2	3	2	2	6	1			127
2			86,125	86,125	180	2	15	2	4	3	4	6	2			218
3			152,679	152,679	233	6	20	2	8	3	4	5	3			283
4			112,266	112,266	150	3	15	3	4	3	4	6	2			190
5	29,995	27,706	4,818	62,519	90	5	9	1	2	3	3	6	1			120
6			2,707	2,707	9											9
7	13,109	6,863	927	20,899	100	6	12	4	4	3	4	6	8			146
8	19,454	8,591	1,393	29,438	80	4	11	2	2	3	3	3	1			108
9	2,974	1,759	494	5,227	20	2	3		1		2	2	3			35
10	11,272	9,130	1,358	21,760	56	7	5	2	2	3	3	4	1			82
11			11,644	11,644	90	5	9	2	2	2	3	3	2			118
12			138,559	138,559	123	10	12	2	2	3	3	5	2			164
13			11,420	11,420	20	1	4	1	1		1	1				29
14			3,421	3,421	7		1				1					9
15	4,947	4,747		9,694	18	1	1	1	1	2	1	2				27
16																
17		40,087	70,834	110,921	150	8	15	2	3	3	9	4	3			197
18			82,736	82,736	106	3	12	3	3	3	5	2	3			139
19		890	5,351	6,801	35			2	2	3	3		2			46
20			2,000	2,000	10											10
21	1,600	340	1,300	3,240	17	2			1		1		2			23
22			15,000	15,000	70	5	7	2	1	2	3	4	2			96
23	2,020	1,180		3,200	4		1				1					6
24	20,999	17,352	17,934	56,285	90		10	2	3	2	3	5	2			117
25																
26																
27																
28																
29			13,000	13,000	55											55
	106,370	118,605	815,434	1,040,409	1,815	71	172	35	49	42	61	69	39			2,354