

State inspector of coal mines reports

Section 16, Pages 451 - 480

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.

Creator: Kansas. Inspector of Coal Mines

Date: Between 1884 and 1956

Callnumber: SP 622 K13

KSHS Identifier: DaRT ID: 210191

Item Identifier: 210191

www.kansasmemory.org/item/210191

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Record of Inspection.

BRIGHTON COAL COMPANY.—This shaft is located five miles southwest of Leavenworth and $3\frac{1}{2}$ miles west of Lansing. It is owned and operated by the Brighton Coal Company, who also own about $4\frac{1}{2}$ miles of railroad, which was built and is operated by the company, and gives them connection with the Atchison, Topeka & Santa Fé, Missouri Pacific and Wyandotte & Northwestern railroads. On the 12th of October, 1891, a fire, originating in the engine house, burned it down, together with the boiler house and all attachments, except the buildings at the top of the shaft, which were saved by the earnest exertions of the workmen connected with the mine. This accident caused the mine to cease work for three months. At my last visit the shaft was in good condition, and ventilation excellent, being maintained by a fan 16 feet in diameter with 5-foot face. There is no escapement at this shaft yet, but the company has promised to sink one at as early a date as possible, and which would have been started before now had it not been for the accident above mentioned. Bennett Brown, superintendent.

HOME MINING COMPANY.—This mine is located inside the limits of the city of Leavenworth. There has been erected a fan 20 feet in diameter and 5 feet width of blade, which gives ample ventilation for the mine. No escapement shaft has been sunk at this mine, but a tunnel, $6 \times 5\frac{1}{2}$ feet, is in course of construction since December, 1891, to connect with the workings of the Riverside mine, which, it is expected, will be completed at an early date. In the meantime, all uncovered lights and fire are kept at a safe distance from around the top of the shaft, and all precautions possible are maintained to prevent fire. It is equipped with a first-motion hoisting engine, 500 horse power, made by the Litchfield (Ill.) Engine Company; size of drum, 12 feet in diameter, $1\frac{3}{4}$ -inch crucible-steel rope, single-deck cage carrying two mine cars each. Peter Strauss, superintendent; William Johnson, pit boss.

KANSAS AND TEXAS COAL COMPANY No. 34.—Located two miles south of the city of Leavenworth, on the line of the Missouri Pacific railway. The shaft is 720 feet deep, worked on the long-wall system. It is ventilated by a 15-foot fan with a 4-foot face. The air is carried to the face of the workings by four separate splits, giving each section fresh and pure air. A pair of new hoisting engines have recently been placed in this mine. They are 24x48 inch cylinders, attached to a 12-foot drum, $1\frac{3}{4}$ inch steel rope, hauling a single-deck cage carrying two mine cars. A tunnel is being driven to make connection with the Home mine workings, which will form an escapement and traveling-way should any accident happen to the hoisting shaft at either mine. Andrew Braidwood, superintendent; James Graham, pit boss.

LEAVENWORTH COAL COMPANY.—This mine is located on the United States reservation at Fort Leavenworth. It has railroad connections with all the railroads entering the city. It is equipped with a pair of engines—800 horse power, drum 16 feet in diameter, 2-inch steel wire hoisting ropes, attached to double-deck cages carrying four mine cars each. A new fan 25 feet in diameter with a 6-foot face has been recently erected, giving ample air for the mine. It has an escapement shaft with hoisting engine, and all equipments for withdrawing the workmen should any accident occur to the main hoisting shaft. A new automatic apparatus has been placed at the top of this mine for taking off the loaded and putting the empty cars on the cages, and a system of endless-rope distributors has also been placed here to deliver the coal to the many chutes required for the local and city trade, and also to the several chutes used for loading railroad cars on the different roads. A new system of electric haulage, pumping and mining has been introduced into this mine,



but it has not been completed far enough so that a proper description of the working and utility can be given. John E. Carr, superintendent; John Heller, pit boss.

PENITENTIARY COAL MINE.—This mine is located inside the walls of the Kansas State Penitentiary, at Lansing, Leavenworth county. It is well regulated, and everything in the finest condition from the top of the shafts to the face of the workings. The roadways are kept clear of every particle of dirt or slate, and all loose or overhanging material is immediately taken down. The air-ways are large and kept free from all obstruction. The mine is examined by competent and experienced fire bosses every morning, and reports made to the superintendent before the miners go down to their work. There is an escapement shaft, or rather there are two hoisting shafts, both of which are used daily. A fan 15 feet in diameter, of the most approved make, gives ample ventilation to every section of the workings and working faces in the mine. The whole mine may be considered a model one in every respect. Oscar F. Lamm, superintendent; Robert Lamm, pit boss.

LINCOLN COUNTY COAL MINING.

ANALYSIS.—Number shaft mines, 8; kind of coal, lignite; total output for 1890, 165,000 bushels, or .28 per cent. of total output of the State; total output for 1891, 169,200 bushels, or .24 per cent. of the total output of the State; estimated value of output: 1890, \$13,200; 1891, \$13,536; number of employes for 1891, 70.

There is no strip coal taken out in this county. Five of the eight shafts are located in the vicinity of Denmark, two near Spillman and one at Ingles. These mines as a rule are only operated in the winter months, the trade being entirely local. The coal is lignite, and the vein varies in thickness from 16 to 26 inches. The vein is wavy on top, but the bottom is level. None of the mines have railroad connections.

LINN COUNTY COAL MINING.

ANALYSIS.—Number shaft and drift mines, 9; kind of coal, bituminous; average thickness of vein, 32 inches; average depth of coal from surface, 60 feet; average number of days worked: 1890, 132, or 43 per cent. of working days; 1891, 169, or 55 per cent. of working days; total output for 1890, 787,336 bushels, or 1.30 per cent. of the total output of the State; total output for 1891, 1,359,374 bushels, or 2 per cent. of the total output of the State; estimated value of output: 1890, \$41,401; 1891, \$72,664; number of men employed, 1891, 152.

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COAL MINES, LINN COUNTY.

Office Number	NAMES OF OPERATORS.	POST-OFFICE ADDRESS.	Number of days mine worked.		Number bushels mined.		Estimated value of output.	
			1890.	1891.	1890.	1891.	1890.	1891.
1.....	Bradley & Vernon ^a	Boicourt.....						
2.....	Warren Lacy.....	La Cygne.....	130	150	31,200	36,915	\$1,716	\$2,030
3.....	T. W. Gage ^b	Orchard.....	40	100	10,426	34,850	573	1,917
4.....	Ben. Goode.....	".....	150	150	50,000	50,000	2,750	2,800
5.....	A. Vantyle ^c	".....	110	100	13,418	10,000	737	550
6.....	Mine Creek Coal Company.....	Pleasanton.....	275	275	30,112	396,797	1,656	21,823
7.....	Pleasanton Coal Company.....	".....	240	240	135,000	220,150	7,425	12,108
8.....	A. F. Seright.....	".....	115	120	16,180	21,000	889	1,155
9.....	Southwestern Coal Company.....	Worland, Mo.....	200	218	150,000	159,662	8,105	8,781
	Strip banks.....				351,000	430,000	17,550	21,500
	Totals and averages.....		132	169	787,336	1,359,374	\$41,401	\$72,064

^a Barron & Mobley, lessees.

^b We loaded the first coal October 3, 1890, and run day work.

^c Shaft just opened; no report of output for 1891.

^d Frank Phillips, lessee in 1891.

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COAL MINES, LINN COUNTY—CONCLUDED.

OFFICE NUMBER.	Number kegs of powder used.		Average number employes daily—1891.				Average price paid per bushel.		Mine open- ing.
	1890.	1891.	Miners.	Boys.	Others.	Total.	Summer.	Winter.	
1.....									Shaft.
2.....	10	12	4		2	6	4½	4½	"
3.....	38	113	4		6	10	4	4	"
4.....	100	100	4	3	1	8	4	4	"
5.....	40	38	3		4	7	4	4	"
6.....	25		20		6	26	*\$2.25	*\$2.25	"
7.....	8	6	20	1	5	26	3½	3½	"
8.....	40	225	14		4	13	3½	3½	Drift.
Strip banks.....					51	51			
Totals.....	261	494	69	4	79	152			

* Per ton.

Record of Inspection.

BRADLEY & VERNON.—I visited the Bradley-Vernon coal mine, located at Boicourt, Linn county, 67 miles south of Kansas City, on a switch of the main line of the Kansas City, Fort Scott & Memphis railroad. The shaft is well equipped with a pair of hoisting engines, made by the Keystone Iron Works, of Kansas City, Mo. The engines are 12x14-inch cylinders; drum, ropes and cages in good order, and capable of hoisting 25 or 30 railroad cars of coal per day. An air shaft has been completed, and fitted with a fan 12 feet in diameter and 4 feet width of blade, capable of supplying ample ventilation for 150 workmen; the fan is driven by a 12x16-inch-cylinder engine; fan and engine were both manufactured by Cole & Co., Washington, Ind. A new Fairbanks railroad-track scale is used for weighing the coal. The mine below is in good condition; entries well driven and brushed to the face, ready for the use of mules or any other system for haulage of coal that may be adopted. The coal is bituminous, of good quality, average 34 inches in thickness, with a very small per cent. of sulphur. The coal is overlaid with a good gray-slate roof; rooms can be worked 22 or 24 feet wide. The under-clay is a soft fire clay, and makes a good mining or under-cutting for the coal, thus saving the full thickness of the vein from waste or breaking into slack. This shaft is 90 feet deep, and worked on the room-and-pillar system, with double entries.

WARREN LACY (La Cygne coal shaft).—This shaft is located on the west of the city limits of La Cygne. It is 120 feet deep, and is a horse-power plant. The coal is 34 inches thick, and is operated on the room-and-pillar system. Only a few men are employed at this time. Warren Lacy, pit boss.

T. W. GAGE.—This is a horse-power shaft, located seven miles east of La Cygne. It is ventilated by a furnace, but at my last visit was in a very poor condition, for want of communication around the bottom. The present lessees, Barron & Mobley, promised to have this remedied at an early date. This shaft has no railroad connection. J. S. Mobley, pit boss.

BEN. GOODE.—Located one-fourth of a mile southeast of Gage's, and is worked entirely by the owner's family, with very little respect to the mining law. Ben. Goode, pit boss.

VANTYLE'S SHAFT.—This mine is located about six miles east of La Cygne, near Orchard post office. It does a local business, and has no railroad connection. It has an escapement shaft, and is ventilated by a furnace. — Vantyle, pit boss.

MINE CREEK COAL COMPANY.—This mine is located two miles east of Pleasanton, on the St. Louis and Emporia division of the Missouri Pacific railway. An



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escapement shaft has been completed, and the mine has recently been opened out on the long-wall system, which improvement works well. This mine has steam power and is ventilated by a furnace. I. M. Fleming, superintendent; Hugh Reed, pit boss.

PLEASANTON COAL COMPANY.—This mine is located on the main line of the Kansas City, Fort Scott & Memphis railroad, one mile north of Pleasanton. It is 90 feet deep, and is worked on the long-wall system. The vein of coal is 26 inches thick on the east side of the shaft. The ventilation is maintained by a small fan, which gave a sufficient quantity of air for those employed in the mine. A new return air-way and a new traveling-way have been almost completed. The mine is being opened out and placed in a proper condition for good ventilation. The improvements will facilitate the handling of the product of the mine. Many complaints have been heretofore made concerning the ventilation and safety of this mine, as it has been kept in very bad condition, as there was no one in charge who had a practical knowledge of how to conduct a mine. A thoroughly practical man has been recently employed, and his work is being shown by the better condition of the mine already. D. Cunningham, pit boss.

A. J. SERIGHT.—This is a horse-power plant, located $2\frac{1}{2}$ miles east of Pleasanton. It has no railroad connection, and does only a local trade. It works three or four men part of the year. An escapement shaft has been completed and is in fair condition. A 36-inch vein of coal is worked on the room-and-pillar system. A. J. Seright, pit boss.

LYON COUNTY COAL MINING.

ANALYSIS.—Kind of coal, bituminous; average thickness of vein, 14 inches; total output for 1890, 86,510 bushels, or .13 per cent. of the total output of the State; output for 1891, 87,343 bushels, or .14 per cent. of the total output of the State; estimated value of output: 1890, \$6,920; 1891, \$6,987; number of men employed in 1891, 42.

No complaints have reached me from this county, nor any reports of accidents. The mining is all conducted in a small way, and the output is almost entirely consumed in local trade. At Admire City some new work is being put in. There continues to be considerable coal stripped in the vicinity of Soldier creek. The number of men employed varies from 25 to 40, owing to the season of the year.

MITCHELL COUNTY COAL MINING.

ANALYSIS.—Kind of coal, lignite; average thickness of vein, 14 inches; total output, 1890, 23,700 bushels, or .03 per cent. of the total output of the State; 1891, 26,000 bushels, or .03 per cent. of the total output of the State; estimated value of output: 1890, \$1,777; 1891, \$1,950; number of employees, 1891, 20.

But little mining is done in this county, except in the winter months. The openings are all on the drift plan, and the work is performed largely by farmers and their families. The trade is entirely local. Saltville is the post-office address of the men who run the drifts in this county. More attention should be paid to ventilation and timbering. This has been promised to be done.



NEMAHA COUNTY COAL MINING.

ANALYSIS.—Kind of coal, lignite; average thickness of vein, 22 inches; average depth of coal from surface, 40 feet; total output for 1890, 55,200 bushels, or .06 per cent. of the total output of the State; output for 1891, 57,000 bushels, or .07 per cent. of the total output of the State; estimated value of output: 1890, \$6,072; 1891, \$6,270; total number employes, 1891, 30.

There are two shafts in this county. The coal is largely consumed by local trade. The town of Bern is the center of the coal field here. No complaints have reached me from this county. The coal vein is wavy, and varies in thickness from 16 to 28 inches.

OSAGE COUNTY COAL MINING.

ANALYSIS.—Number of shaft, slope and drift mines, 90; kind of coal, bituminous; average thickness of vein, 14 to 22 inches; average depth of coal from surface, 50 feet; average number of days worked: 1890, 164, or 53 per cent. of working days; 1891, 164, or 53 per cent. of working days; total output for 1890, 11,715,551 bushels, or 18.62 per cent. of the total output of the State; total output for 1891, 11,625,515 bushels, or 17.10 per cent. of the total output of the State; estimated value of output: 1890, \$974,227; 1891, \$898,810; number of employes, 1891, 2,917.



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COAL MINES, OSAGE COUNTY.

Office Number	NAMES OF OPERATORS.	POST-OFFICE ADDRESS.	Number of days mine worked.		Number bushels mined.		Estimated value of output.	
			1890.	1891.	1890.	1891.	1890.	1891.
1	Rees Lewis	Arvonia	160	183	24,640	36,600	\$2,217	\$3,294
2	John Loper	"	176	190		19,890		1,790
3	W. H. Thomas	"	165	190	16,450	118,600	1,490	9,488
4	Williams & Jones	"	125	155	17,800	18,900	1,602	1,528
5	Barclay Coal Company	Barclay	180			21,131		1,690
6	J. T. Scott	"	174	160	24,870	24,060	2,115	1,920
7	J. H. Burke	Burlingame	205	146	36,850	7,200	2,940	640
8	Burlingame Coal and Mining Company:							
9	Shaft No. 1	Burlingame	198	233	108,018	113,523	8,241	8,509
10	" 2	"	176		63,938		5,117	
11	" 3	"	190		145,210	156,939	7,617	11,770
12	" 4	"	140	233	55,120	136,139	4,409	10,210
13	" 5	"	38		12,213		977	
14	Central Coal and Mining Co.	"	130	170	60,157	71,910	4,812	5,393
15	Dragon Valley Coal Company	"	298	215	77,400	39,350	6,976	2,994
16	Fair Coal Company	"	163	123	79,870	59,522	7,188	4,464
17	William Foster	"	140		26,659		1,732	
18	Foster & Armstrong	"						
19	Samuel Hatfield	"	260		59,972		4,497	
20	Thomas Hayson, sr.	"	190	180	6,540	23,125	531	1,733
21	John Jack	"	61		9,400		752	
22	George McMurdo	"	102	168	55,900	50,185	4,472	3,783
23	George Straman	"	180	80	32,134	10,800	2,570	864
24	Shaft No. 1	Burlingame	153	159	92,984	103,673	7,434	7,778
25	" 2	"	80			22,375		1,578
26	Joseph Tribune	"	100	140	8,623	12,196	690	914
27	Richard Underwood	"	152	169	4,188	6,909	375	518
28	Thos. Whitcomb	"	289	129	16,200	12,000	1,245	900
29	And. Young & Son	"	206	24	37,900	4,100	3,032	207
30	James Zucca & Co.	"	185	168	188,725	297,945	15,798	16,845
31	Samuel Noble	"	70		8,700		696	
32	Terrill N. Thomas	Carbondale	229	210	49,600	20,009	3,968	1,800
33	William H. Thomas	"	225		109,790	100,942	8,776	5,884
34	Christianson Bros. & Co.	Osage City	130		60,485		4,838	
35	Enterprise Coal and Mining Company	"	98	140	98,760	39,836	7,900	3,186
36	A. R. Granstrom:							
37	Shaft No. 2	Osage City	190	230	126,924	190,715	9,489	15,275
38	" 3	"	38		18,200		1,506	
39	" 4	"	160		36,000		2,880	
40	John Hershey	"	199	189	210,412	273,450	16,836	21,876

¹ For January and February, 1891.

² For eight months.

³ Two months only.

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COAL MINES, OSAGE COUNTY—CONTINUED.

O f f i c e n o m b e r	NAMES OF OPERATORS.	POST OFFICE ADDRESS.	Number of days mine worked.		Number bushels mined.		Estimated value of output.	
			1890.	1891.	1890.	1891.	1890.	1891.
38.....	John Jack.....	Osage City.....	116	.....	38,425	.....	\$3,073	.....
39.....	John A. Johnson.....	".....	75	.....	30,060	.....	2,400	.....
41.....	Melvern & Hunt.....	".....	94	.....	14,320	.....	1,145	.....
42.....	Norwegian Coal Company.....	".....	186	135	66,100	55,350	\$5,618	4,428
43.....	Osage Carbon Company: ?	.....	.....	.....	.....	.....	.....	.....
44.....	Shaft No. 15.....	Osage City.....	124	.....	22,925	.....	2,062	.....
45.....	" 17.....	".....	115	218	204,850	308,025	18,436	29,041
46.....	" 18.....	".....	995	179	113,325	252,450	10,198	20,196
47.....	" 20.....	".....	83	87	184,275	161,400	16,584	12,912
48.....	" 21.....	".....	186	.....	280,725	.....	25,808	.....
49.....	" 22.....	".....	4110	87	178,425	148,600	16,007	11,888
50.....	" 23.....	".....	251	149	951,600	498,275	89,644	39,861
51.....	" 24.....	".....	256	206	856,450	607,075	77,090	48,565
52.....	" 25.....	".....	260	206	609,125	430,625	54,850	34,449
53.....	" 27.....	".....	227	50	21,375	22,175	1,923	1,773
54.....	Pittsburg Coal and Mining Company.....	".....	250	245	40,920	77,445	3,273	6,195
55.....	Dennis Ryan.....	".....	106	.....	21,300	.....	1,704	.....
56.....	Ryan & Whalen.....	".....	216	199	42,320	51,780	3,385	4,142
57.....	Scandinavian Coal and Mining Company.....	".....	202	.....	147,160	.....	11,768	.....
58.....	William Simon.....	".....	190	208	59,800	49,920	2,989	3,998
59.....	Superior Coal and Mining Company:	.....	.....	.....	.....	.....	.....	.....
60.....	Shaft No. 4.....	Osage City.....	210	100	153,700	72,500	13,296	5,800
61.....	" 5.....	".....	206	160	127,925	98,360	10,234	7,948
62.....	Swedish Coal and Mining Company.....	".....	160	.....	25,280	.....	2,022	.....
63.....	Matthew Waddell.....	".....	218	220	79,025	80,425	6,322	6,432
64.....	Thos. Watson.....	".....	94	.....	9,250	.....	740	.....
65.....	Western Fuel Company.....	".....	200	190	536,415	596,809	42,913	48,744
66.....	Whalen & Darby.....	".....	183	30	25,000	7,210	2,000	576
67.....	W. T. Williams.....	".....	250	269	40,920	93,750	3,272	7,500
68.....	Coughlan Bros.....	Peterton.....	205	198	56,500	59,830	4,370	4,786
69.....	Osage Carbon Company: ?	.....	.....	.....	.....	.....	.....	.....
70.....	Shaft No. 9.....	Peterton.....	303	302	500,800	408,050	40,064	32,644
71.....	" 19.....	".....	224	.....	26,325	.....	2,105	.....
72.....	" 26.....	".....	*101	211	157,625	216,350	11,009	17,308
73.....	Peterton Coal and Mining Company.....	".....	92	40	34,780	8,500	2,782	680
74.....	Scandinavian Coal and Mining Company.....	".....	201	183	108,643	205,775	15,891	16,461
75.....	W. C. Barrett.....	Quenemo.....	108	148	14,980	18,635	1,198	1,863

* January and part of February. * Worked 4½ months during year 1890. * Worked nine months during year 1890.
 * Worked 5½ months during 1890. * Idle 17 days in March. * Worked 1½ months during year 1890.
 * Robt. Craig is superintendent of all Carbon Company mines operated in Osage county.
 * Worked one month during 1890. * Worked five months during 1890.

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COAL MINES, OSAGE COUNTY—CONTINUED.

Office No.	NAMES OF OPERATORS.	POST-OFFICE ADDRESS.	Number of days mine worked.		Number bushels mined.		Estimated value of output.	
			1890.	1891.	1890.	1891.	1890.	1891.
74	John Boyle.....	Quenemo.....	129	155	10,570	14,200	\$1,057	\$1,420
75	William Carter.....	"	100	180	6,950	11,870	695	1,187
76	Isaac Claypool.....	"	169	164	5,740	15,340	576	1,534
77	John Grant.....	"	180	175	16,465	15,350	1,646	1,535
78	Amos Herrington.....	"	140	149	5,045	8,460	504	846
79	Fred. Herrington.....	"	130	143	19,125	17,950	1,912	1,795
80	Thos. Liston.....	"	180	190	22,680	16,400	2,268	1,640
81	A. C. Mason.....	"	275	215	42,458	47,620	4,245	4,762
82	John Rable.....	"		184		32,360		3,236
83	Edward Scott.....	"	240	215	43,200	44,330	4,320	4,433
84	M. B. Smedley.....	"	240	220	9,650	7,320	965	732
85	C. E. Smith.....	"	170	191	20,400	15,840	2,040	1,584
86	James Tarbetts.....	"	180	184	8,650	11,400	865	1,140
87	T. M. Thornbrow.....	"	155	165	8,370	10,365	837	1,036
88	W. M. Walters.....	"	250	206	73,200	81,946	7,320	8,194
89	William Westwood.....	"	240	210	31,695	28,440	3,169	2,844
90	William Whicher.....	"	250	210	22,180	37,794	2,218	3,779
91	Joe Rable.....	Rosemont.....	170		38,586		3,858	
92	Thos. Adams.....	Scranton.....	180	176	33,460	10,650	3,346	1,065
93	B. H. Bros.....	"	210	200	296,850	300,000	29,685	30,000
94	Thos. Chappell:							
94	Shaft No. 1.....	Scranton.....	210	228	309,024	302,281	30,902	30,228
95	" 2.....	"		46		86,201		8,620
96	Elliott & Burton.....	"		133		183,800		18,380
97	Gus Hopkins.....	"		110		16,220		1,622
98	Industrial Coal and Mining Company.....	"	205	131	166,181	142,447	16,618	14,244
99	Henry Isaacs.....	"	200	205	1300,000	1350,000	130,000	135,000
100	Osage Carbon Company: *							
100	Shaft No. 6.....	Scranton.....	19		17,000		1,700	
101	" 10.....	"	240	192	519,350	416,750	51,935	41,675
102	" 11.....	"	240	95	48,575	163,275	4,857	16,327
103	" 12.....	"	190	192	850,800	700,325	85,080	70,032
104	" 13.....	"	14		16,225		1,622	
105	Pat. Ryan & Co.....	"	210	259	248,660	274,108	24,866	27,410
106	Strip banks.....	"	212		36,720		3,672	
	Totals and averages.....		164	164	11,715,551	11,625,515	1,171,555	1,162,515

* Shafts Nos. 4 and 5.

* Robert Craig is superintendent of all Carbon Company mines operated in this county.

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COAL MINES, OSAGE COUNTY—CONTINUED.

OFFICE NUMBER.	Number kegs of powder used.		Average number employes daily—1891.				Average price paid per bushel.		Mine opening.
	1890.	1891.	Miners.	Boys.	Others.	Total.	Summer.	Winter.	
1.....			4		2	6		6	Drift.
2.....			4	1	1	6		7	"
3.....			23		1	24		6	"
4.....			3		1	4		6	"
5.....			4		1	5		6	Shaft.
6.....			5		2	7		6	"
7.....			5	1	2	8		5	"
8.....	20	20	14	3	3	20		5	"
9.....	10								"
10.....	25	25	20	4	4	28		5	"
11.....	25	25	21	3	4	28		5	"
13.....	1	2	18	1	4	23		5	"
14.....			9		2	11		5	"
15.....	5	3	14		3	17		5 ¹⁰	"
17.....			15		4	19		5	"
18.....			5	1	1	7		6	Drift.
20.....	3	1	12	2	3	17		5 ¹	"
21.....			3	1	1	5		6	"
22.....	2	2	21		3	24		5	Shaft.
23.....			8		2	10		5 ¹	"
24.....			7			9		6	"
25.....	4	3	3		1	4		5 ¹	"
26.....			4			4		6	"
27.....			5	1		11		5	Shaft.
28.....			28		2	30		5 ¹	"
30.....			2		4	3		5 ¹	Slope.
31.....			20		4	24		4 ¹	Shaft.
32.....			24	1	2	27		6	"
33.....	3		35		3	38		6 ²	Shaft.
34.....	5		32		2	34		6 ¹	"
35.....			16		2	18		6 ¹	"
36.....			9		2	11		6 ¹	"
37.....	4		200		3	203		6	"
38.....			10	1	2	13	5	6	"
39.....			12		2	14		6 ¹	"
41.....			6		2	8		6	Drift.
42.....	2		15		2	17		6 ¹	Shaft.
44.....			53	5	2	60		6	"
45.....			56	7	2	65		6	"
46.....			67	6	3	76		6	"
48.....			57	7	2	66		6	"
49.....			108	8	5	121		6	"
50.....			102	25	5	132		6	"
51.....			79	9	5	93		6	"
52.....			53	3	2	58		6	"
53.....			13	2	2	17		6	"
54.....	1								"
55.....		2	6	2	2	10		6	"
56.....	1								"
57.....			10	1	2	13		6	"
58.....	24	10	19	1	2	22		6	Shaft.
59.....	2	2	24	1	2	27		6	"
60.....			6		1	7		6 ¹	Drift.
61.....		4	14	1	2	17		6	"
62.....			4		1	5		6	Drift.
63.....			178		8	186		6	Shaft.
64.....	2		6			7		6	Drift.
65.....			15	2	2	19		6 ¹	"
67.....			13		2	15			"
68.....			61	21		89		6	Shaft.
70.....			40	8	2	50		10	"
71.....	6		8		2	10		6	"
72.....			33		3	36		6	"
73.....			4		1	6		7	Drift.
74.....			3		1	4		7	"
75.....			3			3		7	"
76.....			3			4		7	"
77.....			3		1	4		7	"
78.....			3		1	4		7	"
79.....			4		1	5		7	"
80.....	2		4		1	5		7	"
81.....		3	5	1	2	8		7	"
82.....		3	5		2	7		7	"

¹ 40 pounds dynamite. ² 30 pounds dynamite. ³ 100 pounds dynamite. ⁴ 50 pounds dynamite.
⁵ 500 pounds dynamite. ⁶ 300 pounds dynamite. ⁷ 200 pounds dynamite.



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COAL MINES, OSAGE COUNTY—CONCLUDED.

OFFICE NUMBER.	Number kegs of powder used.		Average number employes daily—1891.				Average price paid per bushel.		Mine open- ing.
	1890.	1891.	Miners.	Boys.	Others.	Total.	Summer.	Winter.	
83.....	4	3	6	1	1	8		7	Drift.
84.....			2			2		7	"
85.....			4	1	1	6		7	"
86.....		1	3		1	4		7	"
87.....			3			3		7	"
88.....	6	2	10	1	2	13		7	"
89.....	3	1	5	1	1	7		7	"
91.....			5	1	1	7		7	"
91.....	1								
92.....			4		1	5		6	
93.....			30		6	36		5½	Shaft.
94.....			40	3	5	48		5½	"
95.....			46	4	4	54		5	"
96.....			40	1	5	46		5	
97.....			5		1	6		6½	
98.....			31	4	4	39		5	
99.....			47	4	4	55		4½	Shaft.
101.....			68	9	6	83		4½	"
102.....			26	5	8	39		4½	"
103.....			107	12	7	126		4½	"
105.....			40	5	5	50		4½	"
Strip banks.....					292	292			
Totals.....	164	117	2,323	183	511	3,017			

Record of Inspection.

There have been but few complaints from this county, but two-thirds of those received have been well founded, and the operators at once saw that their pit bosses had the necessary improvements made. There is a general willingness to obey the law, and to see all the different sections enforced, except it be in some of the smaller mines.

The only difficulty in this vein of coal is drainage. The workings are so low and level, and the strata or under-clay in which dams have to be cut is so porous, that drainage in these workings is rather difficult.

Section 17 (the educational section) of the mining law has been somewhat of a bugbear to get into successful operation. My predecessors apparently took little or no notice of it in this county, and I had some uphill work to do to get the boys between the ages of 12 and 16 years to attend three months at school. These difficulties I overcame, and now I have no trouble, as the boys and their parents have learned that the law says: "They [the boys] must attend school 60 days."

Heretofore it has been the custom to keep the powder or dynamite for use in the mines in the weigh office, which as a rule is a very small room. It is not a safe place to keep such explosives. There are continually men going in and out with lighted lamps on their heads. These offices are generally overhead, at the exit of the mines. At No. 26 shaft, Carbon Coal Company, Peterton, the roof of the weigh office took fire, and several pounds of dynamite and some powder were in the office at the time. Several men were on top and speedily got onto the roof and put out the fire. But for their prompt action, an explosion that would have ruined the shaft, and, perhaps, caused a considerable loss of life, would have occurred. The practice of storing powder in this weigh office has been discontinued.

The cases of Ryan & Co., Scranton, and Christianson & Co., Osage City, show the necessity of the mines being regularly surveyed and platted. Ryan & Co. were obliged to expend nearly \$1,000 for their experience, and Christianson & Co. came very near sacrificing life; had there been any one in the shaft it would have been almost impossible for them to have gotten out before the water overtook them.



Condition of Mines.

SAMUEL NOBLE.—This slope is located three-fourths of a mile from the A. T. & S. F. railroad, east of Carbondale, and was abandoned in 1891, as it was worked out.

TERRILL M. THOMAS.—This slope has no railroad connection, and does a local trade. It has two openings—one by entry, driven through on old strippings and hoisting slope. This mine stopped working in the spring of 1891, through the heavy rains.

WILLIAM. H. THOMAS.—This shaft is located $1\frac{1}{2}$ miles southeast of Carbondale, on the Lawrence & Carbondale railroad. Does a shipping trade. Has three openings—one by entry driven through on old strippings for men to travel to and from work, one furnace shaft, and one hoisting shaft. Air good. Roads not in good condition. When it rains, water gets in very bad, and it is hard to secure good drainage. The above mine (and in fact all the mines that are around Carbondale) is hard to drain, as the coal is so shallow and the bed-rock thin. The top breaks every fall of coal that is worked out, which leaves crevices for the water to work in from the surface when it rains. Will. H. Thomas, superintendent; Charles Shively, pit boss.

INDUSTRIAL COAL AND MINING COMPANY.—This mine is located in Scranton, and has a switch from the A. T. & S. F. railroad. Does a shipping trade. It is now operated by Mr. Thomas Chappell. He is making considerable improvement by timbering and making the bottom larger. He has drained the bottom to a wind-mill in the escapement shaft, and is timbering the shaft anew. Thomas Chappell, superintendent; John Allan, pit boss.

THOMAS CHAPPELL.—This shaft is located about one mile northwest of Scranton, and has a switch from A. T. & S. F. railroad. It has three openings—one for men going to and from work, one furnace shaft, and one for hoisting. It does a shipping business. Ventilation and roads are in good condition. No improvements since my last report, except that the roads have been brushed for the use of mules. The proprietor has leased another 40 acres of coal land to the west of the present 40 acres. Thomas Chappell, superintendent; James Chappell, pit boss.

BELL BROS.—This mine is located one-half mile north of Scranton; has switch from A. T. & S. F. railroad, and does a local and shipping business. It has three openings; the air and roads are in good condition. It is being operated by Messrs. Elliott & Benton. Robert Elliott, superintendent; Robert Benton, pit boss.

PAT. RYAN & Co.—This mine is located one mile east of Scranton, and has railroad connection with the A. T. & S. F. Does a shipping trade. It has two openings. There has been considerable trouble at this mine through mining into the old workings of No. 6 shaft—Carbon Coal Company. In the first place they got black damp, and when the spring rains of 1891 came, the water backed onto them from No. 6, and the result was that they came near losing all their work. It kept three men night and day hauling water. A shaft was sunk and a pump put into it, which had but little effect. Later, they put a drift into the workings of No. 6 shaft, from an old stripping, which proved effective. Pat. Ryan, superintendent; Thomas Ellwood, pit boss.

HENRY ISAACS.—Mine No. 4. This mine is located in Scranton, and has railroad connection with the A. T. & S. F. Does a shipping business. It has four openings—one for pumping, one for furnace, one for men traveling to and from work, and one for hoisting coal. This mine has been kept in good condition; no improvements. James Ingam, pit boss.

Mine No. 5. This mine is located two miles south from Scranton; has a switch



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from A. T. & S. F. railroad, and does a local and shipping trade. This mine is in good condition, and has two openings. Henry Isaacs, superintendent and pit boss.

THOMAS TURVEY.—This mine was located $1\frac{1}{2}$ miles east of Scranton, but was abandoned in 1891.

CARBON COAL COMPANY.*—Mine No. 6. This mine was located one mile east of Scranton, and was abandoned in 1891.

Mine No. 9. This mine, located at Peterston, on the east side of the A. T. & S. F. railroad, does a shipping trade. Chutes are built here for coaling the locomotive engines on the railroad, and this mine supplies coal for these chutes. It has four openings—two for furnaces, one for escapement, and one for hoisting coal. The sinking of another shaft at the extremity of the workings has considerably improved the ventilation and safety of this mine. The roads are in good order. John Craig, pit boss.

Mine No. 10. This mine is located in Scranton, and has a switch connecting with the main line of the A. T. & S. F. railroad. Does a shipping trade. It has two openings, and is ventilated by furnace. Has four currents of air, with overcast near bottom of shaft. Both air and roads are in good condition. Archibald Kirkwood, pit boss.

Mine No. 11. This mine is located in Scranton, and has railroad connection with the main line of the Atchison, Topeka & Santa Fé. On account of water, this shaft was abandoned in 1891, and the air and main shafts have been filled in.

Mine No. 12. This mine is located northwest of Scranton; has railroad connection with main line of the A. T. & S. F. railroad. Does a shipping business. Has two openings, and is ventilated by furnace. Has four currents of air, with an overcast near bottom of shaft. This mine is in first-class condition. This shaft gives the largest output of coal in Scranton. John Kirkwood, pit boss.

Mine No. 13. This mine is located one mile southeast of Scranton, and on a switch of the main line of the A. T. & S. F. railroad. No work has been done here since my last report, owing to thin coal and hard mining.

Mine No. 15. Located one mile south of Osage City, and has railroad connections with the A. T. & S. F. railroad. Does entirely a shipping business. It has three openings, and is ventilated by furnace. The mine is in fair condition. Very little work has been done in this mine. The mine did not happen to be working when I was visiting the mines. Archibald Craig, pit boss.

Mine No. 17. Located in Osage City; has switch from A. T. & S. F. railroad. Does a shipping trade. It has two openings. Ventilation and roads are in good condition. Peter Marchett, pit boss.

Mine No. 18. Located in Osage City, and has connection with the A. T. & S. F. railroad. This shaft has been abandoned.

Mine No. 19. This mine is located in Peterston, about one-fourth of a mile east of the depot. No work has been done at this mine since my last report.

Mine No. 20. Located in Osage City, about one-half mile northeast of the depot, on the A. T. & S. F. railroad, and has connection with same. Is ventilated by furnace, and has four currents of air, with air overcast near bottom of shaft. Does a shipping business. This mine is in fair condition, considering the time the mine was not working during the summer of 1891. Val. Amid, pit boss.

Mine No. 21. This mine is located east of Osage City, and has railroad connection with the main line of the A. T. & S. F. railroad. This mine was abandoned September 1, 1891.

* Robert Craig is superintendent of all mines operated by the Carbon Coal Company in this county.



Mine No. 22. This mine is located in the vicinity of Osage City, with railroad connection with the A. T. & S. F. railroad. Does a shipping trade. It has two openings, and is ventilated by furnace, and has three currents of air—two currents on west side and one current on east side of shaft. Ventilation good; but roads muddy with water hauling over them. The miners employed in this mine are principally colored men—the mine being reserved by the company for this class of workmen. It has worked very little during 1891. James Main, pit boss.

Mine No. 23. This mine is located in the vicinity of Osage City, with switch from the main line of the A. T. & S. F. railroad. Does a shipping trade. Has two openings, and is ventilated by furnace. Has four currents of air, with air undercast near bottom of shaft. Condition of mine, fair. Edward Roberts, pit boss.

Mine No. 24. This mine is located one-half mile northeast of Osage City, and has switch connections with A. T. & S. F. railroad. Does a local business. Has two openings, and is ventilated by furnace, and has also four currents of air, with air undercast near bottom of shaft. This mine is in good condition. William Waddell, pit boss.

Mine No. 25. This mine is located east of Osage City, and has a switch from the A. T. & S. F. railroad. Does a local business. Is ventilated by a furnace, and has two currents of air. Has three openings. This mine has considerable water, and the roads on the east side of the shaft are muddy; otherwise, the mine is kept in good working order. Samuel Hughes, pit boss.

Mine No. 26. This mine is located in Peterton, on east side of A. T. & S. F. railroad, and has switch from same road. Does entirely a shipping business. Has two openings. Has four currents of air, with overcast near bottom of shaft. Ventilation and roads good. John St. John, pit boss.

Mine No. 27. This mine is located one-half mile southeast of Osage City, and has switch connection with A. T. & S. F. railroad. It does a shipping business. It is ventilated by furnace, and has four currents of air, with undercast on south side, near the bottom of shaft. This mine, when working, has always been in good condition. Edward Cliff, pit boss.

FOSTER & ARMSTRONG.—This mine is located two miles east of Burlingame, south of the A. T. & S. F. railroad. This shaft was put down in the beginning of 1889. They have got the second opening completed, and have a switch connection with the railroad. They do a shipping business, and the mine is in fair working order. I. Armstrong, superintendent.

ANDREW YOUNG & SONS.—This shaft is located one-quarter mile east of Burlingame; has a switch from the main line of the A. T. & S. F. railroad. Does a shipping trade. The mine has two openings, and is ventilated by a furnace. Very little has been done in this mine since my last report. A. Young, jr., pit boss.

JOHN JACK.—This shaft is located in Burlingame, on north side of A. T. & S. F. railroad. This mine has been abandoned.

GEORGE STRUMAN.—This shaft is located in Burlingame fair grounds, on the east side of A. T. & S. F. railroad; has no switch. It does a local and shipping business. When shipping, has to haul coal one-fourth of a mile. There is considerable water in this mine; it comes mostly from the strata in the two shafts. Mr. Struman has put in a horse pump, but it is not able to keep the water out; has still to haul some up in boxes. The mine is in good working order. This mine has two openings. George Struman, pit boss.

CENTRAL COAL AND MINING COMPANY.—This shaft is located one-half mile east of Burlingame, and has a local and shipping trade. When shipping, has to haul coal one-half mile. This mine has two openings, and is ventilated by furnace.



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The ventilation and general condition of mine is good, and it is perfectly dry. Albert Cole, pit boss.

FAIR COAL COMPANY.—This shaft is located one-half mile east of Burlingame, and does a local and shipping business. When shipping, has to haul coal one-half mile. Has two openings, and is ventilated by furnace. The mine was worked part of the time by George Struman & Bro. Ventilation good. Roads in poor order. It is at present being operated by John Jack, who is making some improvements.

BURLINGAME COAL AND MINING COMPANY.—Mines Nos. 1 and 4; located east of the depot of the A. T. & S. F. railroad at Burlingame; have railroad connection and do a shipping trade. The two are working through on each other, and the same ventilating-furnace power ventilates both mines. Each has a separate hoisting shaft. The furnace shaft has made a great improvement in the ventilation of both mines. These mines are in fair condition. Frank Hoyler, pit boss No. 1 shaft; James Ray, pit boss No. 4 shaft.

Shaft No. 2. This mine is located three-fourths of a mile south of Burlingame depot of the A. T. & S. F. railroad, and has switch with same. Does a shipping business. Has two openings, and is ventilated by furnace. Ventilation, etc., in fair condition. This mine was not in operation the last two visits I made.

Shaft No. 3. This mine is located half-mile south of the Burlingame depot of the A. T. & S. F. railroad, and has switch from same railroad. Does a local and shipping trade. Has two openings. Ventilation and roads in good condition. This shaft has been shut down most of the year. George Derringer, pit boss.

Shaft No. 5. This mine is located one mile east of Burlingame, on south side of the A. T. & S. F. railroad. It has railroad connection with same. Does a shipping trade when working. This shaft has done nothing since my last report.

J. H. BURKE.—This shaft is located three-fourths of a mile east of Burlingame, and is leased by George Foster. Does a local and shipping business. When shipping coal, it has to be hauled three-fourths of a mile. It has two openings, and is ventilated by furnace. Ventilation good. Roads in very bad order. This shaft is perfectly dry, and is now being operated by John Jack, who has retimbered the opening of the shaft.

A. FERNIE & Co.—This mine is located on the lands of Max Buek, two and one-half miles southeast of Burlingame, and has been abandoned.

JOSEPH TRIBUNE.—This shaft is located three miles southeast of Burlingame. This mine does a local and shipping trade. They haul coal one mile to Jas. Zucca & Co.'s switch. It has been sold, and is now operated by the Turner Coal Company. A second opening has been put down. Roads are muddy. Ventilation fair. Robert Turner, superintendent and pit boss.

JAMES ZUCCA & Co.—This mine is located two miles south of Burlingame, on the west side of the A. T. & S. F. railroad, and has switch connection with the same. It is owned by Charles Wood, but at present is leased and operated by Mr. Zucca. It does a local and shipping business. It has two openings, and is ventilated by furnace. Ventilation, etc., is in good condition. James Zucca, superintendent and pit boss.

DRAGOON VALLEY COAL COMPANY.—This mine is located two miles south of Burlingame, on the east side of the A. T. & S. F. railroad. It is owned by Thomas Hayson, sr., and is leased and operated by the above company, but has been shut down, and the railroad switch taken away. There is plenty of good coal to work in it yet.

RICHARD UNDERWOOD.—This shaft is located 1½ miles south of Burlingame, and does a local business. Has two openings. Ventilation, etc., in fair order.



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COUGHLAN BROS.—Mine No. 2. This mine is located three-fourths of a mile northeast of the Peterton depot, on the A. T. & S. F. railroad; has no railroad connection. Does a local and shipping business. When shipping, has to haul coal three-fourths of a mile. Has two openings, and is ventilated by furnace. This mine is in fair condition, but roads are wet and muddy. Ventilation good. John Coughlan, superintendent.

PETERTON COAL AND MINING COMPANY.—Mine No. 2. This mine is located one mile northeast from Peterton depot, and has been abandoned.

SCANDINAVIAN COAL AND MINING COMPANY.—Mine No. 2. Located one-half mile from Peterton depot, on the A. T. & S. F. railroad. Does a local and shipping trade. It has two openings, and is ventilated by furnace. This mine is a difficult one to keep. The top is soft and wet. It is in fair working order, considering the many drawbacks it has. They are running the mines nearly every day. Ventilation fair. Robt. Craig, superintendent; Chas. Anderson, pit boss.

Mines No. 4 and 5. These mines are located south of Osage City, and have been abandoned.

MATTHEW WADDELL.—This shaft is located north of Osage City, and has no railroad connections. It does a local and shipping business. Ships coal over the Mo. Pac. railway, by hauling it a distance of 800 yards, and can ship over the A. T. & S. F. railroad, by hauling a distance of one-fourth of a mile. Has two openings, and is ventilated by furnace. This mine is in good working order. No improvements. Robt. Waddell, pit boss.

PITTSBURG COAL AND MINING COMPANY.—This mine is located one mile west of Osage City, and has railroad connections with the Mo. Pac. railway. It has two openings, and is ventilated by furnace. This mine has been operated this year by Messrs. Christianson & Co., and is in fair condition. John Christianson, pit boss.

NORWEGIAN COAL COMPANY.—This shaft is located one-fourth of a mile west of Osage City. It does a local and shipping business. Ships coal on both the A. T. & S. F. railroad and the Mo. Pac. railway. The mine is ventilated by furnace, and has two openings. Ventilation and roads in fair condition. This mine is now operated by the Western Fuel Company, and is their No. 7 shaft. The mine is in good working order. Has got a switch off the Mo. Pac. railway. Peter Berglea, pit boss.

SUPERIOR COAL AND MINING COMPANY.—Mine No. 2. This mine is located in the vicinity of Osage City, and has been abandoned.

Mine No. 4. Is located in the vicinity of Osage City, and has no railroad connections. Does a local and shipping business. Has to haul one-half mile when shipping coal. It has two openings, and is ventilated by furnace. Ventilation and roads good. This mine is in fair working condition. It is now operated by A. B. Granstrom, the mine having been sold to him. A. B. Granstrom, superintendent and pit boss.

DENNIS RYAN.—This slope mine is located one mile southeast of Osage City, and is at present shut down.

SAMUEL HATFIELD.—This drift is located about one mile east of Burlingame. Does entirely a local trade. The men push out all coal. Is only worked a few months in winter by farmers' sons and laborers. The roads are muddy and wet, and ventilation not very good.

GRANSTROM.—This shaft mine is located in Osage City, and was formerly operated by W. T. Williams, and is now worked out and abandoned.

ENTERPRISE COAL AND MINING COMPANY.—Located one mile northeast of Osage City; has railroad connections by switch with the Lyndon branch of the A. T. & S. F.



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railroad. It does a shipping business. Has two openings, and is ventilated by furnace, and has two currents of air. The above mine has changed hands several times, and is at present being run by a company of Swedes, all workingmen, under the name of the Enterprise Coal and Mining Company. The mine is very wet, and the water is all to wheel to the bottom, which make the roads dirty and muddy. Ventilation fair. L. Askland, pit boss.

WESTERN FUEL COMPANY.—The Western Coal Company, with two mines, and the Excelsior Coal Company, with two mines, consolidated, hence the name—the Western Fuel Company. This company now owns and operates seven shafts, which are all well equipped, having substantial pit-head frames and hoisting apparatus, with gins covered over, and railroad switches to all of them. The mines are as follows:

Shaft No. 1. This mine is located in Osage City, on east side of A. T. & S. F. railroad, and has a switch from same. It has two openings, and is ventilated by furnace. Does a local and shipping trade. This mine is in good working order. Gust. Johnson, superintendent; Turner Grovenor, pit boss.

Mines Nos. 2 and 3. These shafts are located $1\frac{1}{2}$ miles east of Osage City. No. 2 is located on the Missouri Pacific railway, and has railroad connection with same. No. 3 shaft is situated on the north side of the Lyndon branch of the A. T. & S. F. railroad, and has a switch therefrom. The coal is all hoisted out of No. 3 shaft. Each shaft has two openings, and is ventilated by furnace. The ventilation and roads are in good condition, and the mine in good working order. No improvements have been made. William Jenkins, pit boss.

Mine No. 4. Located one mile east of Osage City. This mine has not been in operation for about six months this year, and the Mo. Pac. railway switch has been taken up. When work is resumed, connection will be made with the A. T. & S. F. railroad. William Simms, pit boss.

Mine No. 5. This mine is located about one mile east of Osage City. Has switch from the Lyndon branch of the A. T. & S. F. railroad. It does a shipping trade. Has two openings, and is ventilated by furnace. This mine is in good working order. E. Batchelor, pit boss.

No. 6 shaft. This is a new mine, located in Osage City, on the land of Hobbs & Marshall. Has a switch off the Mo. Pac. railway. Does a shipping trade. Has two openings, and is ventilated by furnace, with two currents of air. This mine is dry, and in fair condition. Wm. Simms, pit boss.

No. 7. shaft. Is the Norwegian mine, of which mention was previously made.

JOHN HERSHEY.—This shaft is located about $1\frac{1}{2}$ miles east of Osage City, on the Mo. Pac. railway, and has switch from same. Does a shipping trade. Has two openings, and is ventilated by furnace. This mine is in fair condition. William Knoll, pit boss.

JOHN T. SCOTT.—This shaft is located on the land of W. T. Scott, three miles east of Barclay, and has no railroad connection. Does a local and shipping trade. When shipping coal, it has to be hauled about one mile to cars on the A. T. & S. F. railroad. It has two openings, and is ventilated by furnace. Ventilation and roads in fair order. This mine has been in operation but a few months. It was operated by a company of colored men, with John Hoard, superintendent and pit boss.

REES LEWIS.—This drift is located on Coal creek, about three miles southwest of Arvon. Does a local business, and only works during the winter months. Rees Lewis, superintendent.

W. H. THOMAS.—This drift mine is located on Coal creek, about $3\frac{1}{2}$ miles southwest of Arvon. Does a local business during the winter months, and is principally worked by farmers. Condition of mine, good. W. H. Thomas, superintendent.



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THOMAS WHITCOMB.—This shaft is located on the north side of the A. T. & S. F. railroad, on the land of Thomas Whitcomb, about $2\frac{1}{2}$ miles northeast of Burlingame. Does a local and shipping business. It has one opening and is ventilated by furnace. Ventilation and roads in good order. Thomas Whitcomb, superintendent and pit boss.

SUNFLOWER COAL COMPANY.—This shaft is located one mile east of Osage City, on Mr. Morrison's land. Does a local trade. Has two openings, and is ventilated by furnace. Ventilation and roads fair. Wm. Simms, superintendent; I. I. Briggs, pit boss.

CHRISTIANSON BROS. & Co.—This shaft is located in Osage City, on the land of John Gray. It did a local shipping trade, hauling coal to the A. T. & S. F. railroad, one-fourth of a mile. Has two openings. This shaft was drowned out with water, by mining through into old work. Chas. Mangerson, pit boss.

JOHN A. JOHNSON.—This shaft is located one-half mile south of Osage City. It did a local and shipping trade, hauling coal to A. T. & S. F. railroad, a distance of one-half mile. It has one opening. It was sunk and operated by Mr. Johnson, who afterward sold out to A. B. Granstrom, who operated it until beat off by water, there being no solid bed-rock. No work has been done since. Chas. Nolan, pit boss.

SWEDISH COAL AND MINING COMPANY.—This is a drift on the south bank of Salt creek, operated by a company of miners. It does a local and shipping trade. It has two openings, and ventilated by furnace. Ventilation fair. Roads muddy and wet. — Rosenquest, superintendent; Chas. Roddell, pit boss.

RYAN & WHALEN.—This is a drift mine, one mile southeast of Osage City. It does a local and shipping trade. It has two openings, and is ventilated by furnace. Ventilation good. Roads wet and muddy. Thos. Whalen, superintendent and pit boss.

GEORGE LEITH.—This shaft is located two miles south and one mile west of Burlingame. When I visited this mine, they had the coal shaft 70 feet deep, $10 \times 5\frac{1}{2}$ feet; coal, 17 inches; will do a local trade.

Minor Drift Operators.

The names and addresses of the other operators of drifts in this county are as follows:

John Rable, Rosemont; James Mitchell, Edward Scott, F. M. Thornburgh, William Westwood, C. B. Smith, John Rice, John Boyle, Amos Herrington, A. S. Mason, Isaac Claypoole, William C. Barrett, William Whieher, and Isaac Jones, Quenemo. These drifts are all located in a radius of $1\frac{1}{2}$ miles, and about three to four miles from Quenemo. They are worked in the face of hills, around little spurs of creeks and ravines that run into the Marais des Cygnes river. They all have a local trade, and are only worked in the winter months. They have only the drift opening, and scarcely any of them are ever driven more than 100 to 150 feet. They are generally worked as far as they can get air and then left, or if one happens to cave in they open out another. They are all one-horse affairs. There are also a considerable number of strippings around Arvonnia. These strippings are all worked by farmers in the winter months. The depth of the vein of coal is from 8 to 12 feet from surface, and in several places there is no bed-rock—nothing but the surface and soapstone.

The above is about how the small drifts stand. Of course, there are some changes in the parties operating, but the operations and ways of working are still much the same, with a slight increase in number of drifts.



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REPUBLIC COUNTY COAL MINING.

ANALYSIS.—Average thickness of vein, 20 inches; kind of coal, lignite; average depth of coal from surface, 80 feet; total output of coal: 1890, 20,000 bushels, or .03 per cent. of the total output of the State; 1891, 26,410 bushels, or .04 per cent. of the total output of the State; estimated value of output: 1890, \$1,800; 1891, \$2,376; number of employes, 1891, 15.

There are two shafts in this county, one at Scandia and one at Minersville. They are reported as in good condition, and a fair prospect of an increased output. The Minersville mine is being almost entirely worked on the east side, the west having been worked out. The east side is timbered in a substantial manner, and the mine is equipped with a good hoisting plant.

RUSSELL COUNTY COAL MINING.

ANALYSIS.—Kind of coal, lignite; thickness of vein, 14 to 20 inches; total output of coal: 1890, 151,100 bushels, or .28 per cent. of the total output of the State; 1891, 160,000 bushels, or .27 per cent. of the total output of the State; estimated value of output: 1890, \$13,599; 1891, \$14,400; number of men employed, 1891, 66.

There is but one shaft mine in this county, the other openings being either slope or drift. I have no reports of any coal being stripped. None of the mines have any railroad connections. Mines are located near Bunker Hill, Dorrance, and Russell. Ventilation is nearly all done by furnace. No complaints nor reports of accidents have reached me from this county.

SHAWNEE COUNTY COAL MINING.

ANALYSIS.—Kind of coal, bituminous; average thickness of vein, 14 inches; average depth of coal from surface, 40 feet; output for the year 1890, 204,610 bushels, or .38 per cent. of the total output of the State; output for 1891, 205,000 bushels, or .35 per cent. of the total output of the State; estimated value of output: 1890, \$24,552; 1891, \$24,600; number of men employed in 1891, 58.

There are four shafts, one slope and two strip banks in this county. The coal mined is for local use only. It is sold at the mines for \$3 per ton. The coal in this county is a continuation of the Osage county vein. The workings are near Topeka, but two being as far distant as Silver Lake.



SUMMARY.

A summarization of the statistics given for each county is herewith presented, in order that a comprehensive view of the industry for the entire State may be had. The first table relates to the number of employés, and is as follows:

TABLE showing number of employés in and about coal mines, for the year 1891.

COUNTIES.	Miners.	Boys.	Others.	Total.
Bourbon.....	20	4	151	175
Chautauqua.....	6		2	8
Cherokee.....	1,345	80	401	1,826
Cloud.....	55	5	20	80
Coffey.....			*110	110
Crawford.....	1,432	53	614	2,099
Ellsworth.....	50	8	13	71
Franklin.....	91	2	103	196
Labette.....			*27	27
Leavenworth.....	693	77	117	887
Lincoln.....	51	5	14	70
Lyon.....	69	4	79	152
Mitchell.....	30	2	10	42
Nemaha.....	11	1	8	20
Osage.....	17	4	9	30
Republic.....	2,323	183	511	3,017
Russell.....	10	2	3	15
Shawnee.....	50	6	10	66
Totals.....	6,291	442	2,216	8,949

*Strip banks.

In the column headed "Others" are included men who are employed in the strip banks—numbering nearly 1,000. The rest of the men enumerated under this head are the day men, pit bosses, weighmen, check weighmen, prop men, track men, engineers, and laborers of all kinds employed around the top of a mine. With each one of the men finding employment at the strip banks a team is engaged. In 1889, the total number of miners returned to me was 5,388, and in 1891, under the head of "Miners," the number is 6,291, a gain of 903. The number of boys employed has also increased, as in 1889 there were returned but 272, and in 1891, 442; but I am glad to say that I believe the average age of the boys so employed is more than it was two years ago. The practice of employing young boys in mines I have discouraged as much as possible, and I have paid particular attention to discovering the number working in each mine. I do not believe the number of boys at work has increased as much as the figures would indicate, the increase being due to a large extent to the fact, as I believe, that the number employed in 1889 was not included in the returns.

The total number who find employment in and about the mines has increased in two years from 7,639 to 8,949—an increase of 1,310. This corresponds with the increase in the output of coal.



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The output of coal for the State in 1890 and 1891 is very gratifying. The following table shows by counties the number of bushels mined, and the value of the same at the mines, for the years mentioned:

TABLE showing output of coal and estimated value of same, for the years 1890 and 1891.

COUNTIES.	Output for 1890.			Output for 1891.		
	Estimated value.	Number of bushels.	Per cent. of output of the State.	Estimated value.	Number of bushels.	Per cent. of output of the State.
Bourbon.....	\$33,624	480,354	.60	\$35,000	500,000	.73
Chautauqua.....	3,330	37,000	.07	3,438	38,200	.06
Cherokee.....	966,906	19,338,189	30.85	1,121,407	22,428,277	32.50
Cloud.....	11,900	170,000	.30	12,320	176,000	.25
Coffey.....	38,700	430,000	.60	38,905	434,560	.63
Crawford.....	1,080,316	21,606,377	34.34	1,155,912	23,119,629	33.56
Ellsworth.....	10,000	125,000	.20	12,096	151,200	.22
Franklin.....	66,834	779,350	1.25	71,907	838,000	1.22
Labette.....	4,500	50,000	.08	5,580	62,000	.09
Leavenworth.....	400,563	6,676,070	10.60	448,762	7,479,405	10.60
Lincoln.....	13,200	165,000	.28	13,536	169,200	.24
Linn.....	41,401	787,336	1.30	72,664	1,359,374	2.00
Lyon.....	6,920	86,510	.13	6,987	87,343	.14
Mitchell.....	1,777	23,700	.03	1,950	26,000	.03
Nemaha.....	6,072	55,200	.06	6,270	57,000	.07
Osage.....	974,227	11,715,551	18.62	898,810	11,625,515	17.10
Republic.....	1,800	20,000	.03	2,376	26,410	.04
Russell.....	13,599	151,100	.28	14,400	160,000	.27
Shawnee.....	24,552	204,610	.38	24,600	205,000	.35
Totals.....	\$3,700,221	62,901,347	100.00	\$3,946,920	68,843,114	100.00

The output for 1890 is 62,901,347 bushels, an increase over 1889 of 9,082,198 bushels, by far the largest output ever reported for the State, and this, too, in spite of the fact that the preceding winter was an unusually poor one for the coal trade. However, the output for 1890 is below that of 1891 by 5,941,767 bushels. From the column of percentages, it will be seen that the output of coal for Kansas comes practically from four counties: Crawford, with 33.56 per cent. of the total output; Cherokee, with 32.50 per cent.; Osage, with 17.10 per cent.; and Leavenworth, with 10.60 per cent. These counties, it will be noticed, produced, in 1891, 93.76 per cent. of all the coal mined in the State. In 1889 these same counties produced 93.69 per cent. of the total output. The relative position of these counties as to output is shown in the following table:

	1889.	1891.
Crawford, per cent. of total output.....	39.30	33.56
Cherokee, per cent. of total output.....	24.50	32.50
Osage, per cent. of total output.....	18.44	17.10
Leavenworth, per cent. of total output.....	11.45	10.60
Totals.....	93.69	93.76

The annual output of coal in Kansas for the years 1885 to 1891, inclusive, is as follows:

	Bushels.
1885.....	36,001,427
1886.....	34,750,000
1887.....	39,251,985



1888.....	42,500,000
1889.....	53,819,149
1890.....	62,901,347
1891.....	68,843,114

In seven years the output has increased from 36 millions of bushels to nearly 69 millions of bushels.

The estimated value of the output for the year 1891 is \$3,946,920. The rapid increase is not due to the opening of new coal fields—it is the result of the enlargement of plants and the establishment of new openings in the coal district proper.

The coal industry of Kansas is rapidly coming to the front as one of the largest wealth producers, both as to capital invested and the value of product, and it gives employment to a large number of our citizens.



ACCIDENTS.

Thirteen deaths occurred in and around the coal mines of the State during the year 1891. But 11 of these ought to be credited against the output of the State for the year. The deaths of James Titter and his son, Frank Titter, were so closely connected with mining that they could not be overlooked in this report. Yet the manner and place of their death had no connection with the output of coal from the mines, the accident having occurred at an abandoned mine.

With an output of coal for the year 1891 of 68,843,114 bushels, 11 fatal accidents would give a ratio of nearly 6,258,465 bushels of coal mined to every fatal accident. Of the 11 fatal accidents enumerated, seven were caused by falls of roof and side. This shows the same results as are ascertained in every coal-mining district in the world: that more than half of all the accidents that occur in mines are caused by falls of roof and side; 63.63 per cent. of the fatal accidents in this State resulted from the same cause.

There were 35 non-fatal accidents, several of which were not of a serious nature, and only resulted in the loss of a few days' work. The ratio of cause shows to be about the same as in the fatal cases—nearly 63 per cent. Two of the fatal and five of the non-fatal accidents resulted from powder explosion. This ratio was too large, and would not occur if more caution was observed in shot-firing and tamping of holes. The Commissioners on Accidents in Mines in Great Britain recommend:

1. That all work involving blasting in mines should be intrusted only to experienced workmen.
2. That in order to lessen the risk from blown-out shots, particular care should be taken that each shot should be assisted by under-cutting, nicking or shearing, whenever it is practicable.
3. That the tamping, stemming or ramming should consist of very damp or non-inflammable material.
4. That where strong tamping is needed, the compression of air at the bottom of the hole should be avoided by pushing in the first part of the tamping in small portions.
5. That where safety lamps are used, and powder is employed, the shots should be fired only by specially appointed shot men, who before firing the shots shall satisfy themselves that the foregoing instructions are observed, and shall also satisfy themselves, by carefully examining all accessible contiguous places within a radius of 20 yards of the shots to be fired, that fire-damp does not exist to a dangerous extent.

This commission was composed of some of the best mining men of experience in Great Britain, with Sir Frederick Able and Professor Tyndall as chemists. The commission spent seven years investigating the causes of accidents in mines, and recommending remedies and preventives to avoid them.

NON-FATAL ACCIDENTS.

The number of non-fatal accidents for the year ending December 31, 1891, is 35. The following table is a summary of the record:



State inspector of coal mines reports

Where accident occurred.	Date, 1891.	Name.	Character of injury.	Cause.
Kansas and Texas Coal Company: Shaft No. 34, Leavenworth.....	Jan. 1	Owen McKenna.....	Bruise.....	Fall of slate.
Neitzel & Farmer Mine: Minersville.....	Jan. 15	William Neitzel.....	Wound on the head.....	Car wheel falling down shaft.
Cherokee and Pittsburg Coal and Mining Company: Shaft No. 1, Frontenac.....	Jan. 26	Dominic Galasso.....	Leg broken.....	Fall of slate.
William Hamilton, sr.: Mine No. 1, Weir City.....	Feb. 8	Sanfrancesco Mordena.....	Bruise.....	Struck by cage.
Kansas and Texas Coal Company: Mine No. 28, Pittsburg.....	Feb. 24	William Habekamp.....	Severely bruised.....	Fall of roof.
Osage Carbon Company: Shaft No. 17, Osage City.....	Feb. 25	Joseph Dupprrie.....	Severely bruised.....	Fall of roof.
Cherokee and Pittsburg Coal and Mining Company: Shaft No. 4, Chicopee.....	Feb. 27	John Barra.....	Burn.....	Premature explosion.
Kansas and Texas Coal Company: Shaft No. 18, Weir City.....	Mar. 16	James Rennie.....	Bruise.....	Fall of slate.
Parsons Coal Company: Mine No. 1, Weir City.....	Mar. 18	Chris. Miller.....	Bruise.....	Fall of slate.
Mine No. 1, Weir City.....	Mar. 18	George Noel.....	Bruise.....	Fall of slate.
Cherokee and Pittsburg Coal Company: Shaft No. 1, Frontenac.....	Mar. 18	Michael Uhles.....	Leg broken.....	Run over by car.
J. H. Durkee Coal Company: Mine No. 1, Weir City.....	April 7	William Lewins.....	Ribs fractured.....	Caught by cars against roadway.
Pittsburg Coal and Mining Company: Pittsburg.....	May 19	Herman Pots*.....	Leg fractured.....	Fall of roof.
Foster & Armstrong: Burlingame.....	June 10	William Jackson.....	Bruise.....	Fall of roof.
Columbus Coal Company: Mine No. 2, Columbus.....	June 22	John McGregor.....	Bruise.....	Sudden starting of cars in roadway.
Keith & Perry Coal Company: Shaft No. 5, Weir City.....	June 23	Charles Eyeman.....	Severely bruised.....	Fall of slate.
Saft No. 2, Scammon.....	June 30	John Jenkins.....	Severely bruised.....	Fall of slate.

* Not an employé in mine.

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STATE MINE INSPECTOR.



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<i>Where accident occurred.</i>	<i>Date, 1894.</i>	<i>Name.</i>	<i>Character of injury.</i>	<i>Cause.</i>
Western Coal and Mining Company: Shaft No. 4, Crawford county.....	Aug. 8	George Stiner*	Hip crushed.....	Caught between cage and buntins.
James Zucca's shaft: Burlingame.....	Aug. 12	James Milano.....	Shoulder severely bruised....	Fall of slate.
Kansas and Texas Coal Company: Shaft No. 18, Weir City.....	Aug. 17	Henry Carzell.....	Leg and back bruised.....	Fall of coal.
Osage Carbon Company: Shaft No. 6, Peterton.....	Aug. 30	Andrew Hoagland.....	Leg broken.....	Fall of soapstone.
Lone Star Mine: Minersville.....	Sept. 2	Tony K. Dovettee.....	Leg broken.....	Fall of sandstone from pillar.
Cherokee and Pittsburg Coal Company: Shaft No. 4, Chicopee.....	Sept. 30	James McGregor.....	Burned and bruised.....	Explosion of shot.
Western Fuel Company: Shaft No. 2, Osage City.....	Oct. 3	Lee Innes.....	Severely bruised.....	Fall of soapstone.
Keith & Perry Coal Company: Mine No. 6, Weir City.....	Oct. 7	John Vallie.....	Burn.....	Blown-out shot.
Mine No. 6, Weir City.....	Oct. 7	Eugene Goss.....	Burn.....	Blown-out shot.
Kansas and Texas Coal Company: Shaft No. 18, Weir City.....	Oct. 23	Joseph McDowell.....	Foot severely bruised.....	Fall of roof slate.
Cherokee and Pittsburg Coal Company: Shaft No. 1, Frontenac.....	Nov. 7	Gus. Peterson.....	Bruise.....	Fall of slate.
Saft No. 1, Frontenac.....	Nov. 11	William Bold.....	Leg broken.....	Fall of roof slate.
Osage Carbon Company: Shaft No. 12, Scranton.....	Nov. 12	Gus. Trabba.....	Legs injured.....	Fall of roof.
Pittsburg and Midway Coal Company: Mine No. 2, Midway.....	Nov. 12	James Stilson.....	Ribs broken.....	Fall of slate.
Kansas and Texas Coal Company: Mine No. 18, Weir City.....	Nov. 20	James Thompson.....	Bruised and cut.....	Coupling railroad cars, "on top."
Keith & Perry Coal Company: Shaft No. 5, Weir City.....	Dec. 1	Robert C. Hill.....	Loss of two fingers.....	Coupling railroad cars, "on top."
Scandinavian Coal and Mining Company: Shaft No. 6, Peterton.....	Dec. 18	Samuel Davis.....	Bruised.....	Fall of roof.
Weir City Coal Company: Weir City.....	Dec. 18	Frank Perrero.....	Burned.....	Powder explosion.

*Not an employé in mine.

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January 1, 1891.—At No. 34 mine, Kansas and Texas Coal Company, Leavenworth, Kas., Owen McKenna was injured by a fall of slate, while assisting a fellow-miner to fix up his place. The injury was of a slight nature, and he was idle only a few days.

January 15, 1891.—William Neitzel, one of the operators of the Neitzel & Farmer mine, Minersville, Cloud county, received a very dangerous wound on the head, by a mine car wheel falling down the shaft and striking him, while in the act of putting a loaded car on the cage, at the bottom of the shaft. He was unable to work for five weeks. This accident was the result of neglecting to put the proper keys in the axle to retain the wheel in its place.

January 26, 1891.—Dominic Galasso had his leg broken by a fall of slate in his room, at No. 1 shaft, Cherokee and Pittsburg Coal and Mining Company, Frontenac, Crawford county. He was idle for seven weeks. This accident was caused by his neglect in not propping the roof carefully.

February 8, 1891.—An accident occurred at mine No. 1, of William Hamilton, sr., Weir City, Cherokee county, whereby Sanfrancisco Mordena was injured. He was caught, while crossing the bottom of the shaft, by the descending cage. He had been warned by the cager not to cross under the cage; in fact, was pulled back once by the cager when attempting to do so; but he persisted in crossing, with the above result, notwithstanding there was a good traveling-way around the bottom.

February 24, 1891.—An accident occurred at mine No. 28 of the Kansas and Texas Coal Company, at Pittsburg, Kas. William Habekamp was caught by a fall of slate in his room, which bruised him severely on the leg and at the knee and hip. He was unable to work for several weeks, though no bones were broken. The accident was caused by a slip in the roof loosening the slate and knocking out the props next to the face of the room. No blame could be attached to anyone, as the place was well propped and in good condition, with the exception of the slip mentioned, which could not be observed until it fell.

February 25, 1891.—An accident occurred at No. 17 shaft, Osage Carbon Coal Company, Osage City, Kas., whereby Joseph Dupprrie, aged 46 years, a Frenchman, had his back and right shoulder severely bruised. He had just turned a new room on the third east entry of the south main entry, and gone in to his work on the morning of the above date and commenced wedging down the coal on the road-head, when a piece of the roof came down on him, one end striking him on the shoulder and back, the other resting on an empty mine car behind him, which partly saved him, and enabled him to extricate himself without assistance. He was only idle for a short time.

February 27, 1891.—John Barra, a miner employed at No. 4 shaft, Cherokee and Pittsburg Coal Company, at Chicopee, Kas., was burned about the breast and arms by a premature explosion of powder, while drilling out a hole, which was false-tamped. This dangerous practice is still being indulged in by miners, notwithstanding the repeated warnings and the many serious accidents occurring thereby.

March 16, 1891.—James Rennie was injured by a fall of slate, while at work in his room at No. 18 shaft, Kansas and Texas Coal company, at Weir City, Cherokee county. His injuries were not serious, and he was able to resume work in a few days.

March 18, 1891.—Two miners, named Chris. Miller and George Noel, were injured by a fall of roof slate, in the room of the latter, at mine No. 1 of the Parsons Coal Company, Weir City, Cherokee county. Miller, while pushing his loaded car to the entry, got in the dark, and went into Noel's room for a light. While there, both sat down, when the slate fell, injuring them, but not seriously. They are good miners, and very careful, but Noel had overlooked this place.



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March 18, 1891.—An accident occurred at No. 1 shaft, Cherokee and Pittsburg Coal Company, Frontenac, Crawford county, whereby Michael Uhles, employed as spragger, got his leg broken and cut, at the first south entry off the west entry. While trying to sprag the mine cars, which were running at a rapid rate, the sprag missed, and he fell, with the result as stated.

April 9, 1891.—William Lewins received a severe fracture of the ribs, caused by his getting on a trip of loaded mine cars. He was caught between the cars and the side of the roadway, while they were being drawn to the bottom by a mule, at No. 1 mine of the J. H. Durkee Coal Company, Weir City, Cherokee county.

May 19, 1891.—At the Pittsburg Coal and Mining Company's shaft, Pittsburg, Crawford county, Kas., on the above date, a young man named Herman Potz, an employé of the Pittsburg Boiler Works, and not employed in the mine, went down to visit his brother, who worked there, at about 9 o'clock A. M. While in the working place of his brother a mass of roof slate fell on him, knocking him down. His left leg was fractured, and serious internal injuries were inflicted, from which the boy recovered after a long and painful illness. This should act as a warning for all those not employés of a mine nor working in it not to enter the same.

June 10, 1891.—William Jackson, a boy 14 years of age, employed as a miner at Foster & Armstrong's coal mine, at Burlingame, Osage county, Kas., was injured slightly by a piece of roof stone falling on him in the roadway, where he was at work with his father. The injuries were not severe, and he was able to resume work in a few days after the accident.

June 22, 1891.—An accident occurred at the Columbus Coal Company's mine No. 2, whereby John McGregor was bruised on the neck and left side, caused by the mule starting up while he was passing by the mine cars attached to the same. He was going to the face of the entry, and was jammed between the mine cars and the side of the roadway. The injury did not seem serious at first, but, being an old man, he has been able to work but very little, if any, since the accident.

June 23, 1891.—Charles Eyeman, a miner employed at No. 5 shaft, Keith & Perry Coal Company, Weir City, Cherokee county, was severely bruised on the breast and thighs and otherwise hurt by a fall of slate which he was taking down, and which was larger than he expected it to be. The accident caused him to lose several weeks' work.

June 30, 1891.—An accident occurred at No. 2 shaft, Keith & Perry Coal Company, Scammon, Cherokee county, whereby John Jenkins, employed as a shot-firer in the above mine, was severely bruised, but no bones broken. He had lighted the shots in one room, and had passed through the break-through into an abandoned room out of the way of the shots. While sitting there waiting till the shots should go off, a mass of slate fell on him, injuring him as above. He was unable to resume his work for several weeks.

August 8, 1891.—At No. 4 shaft, Western Coal and Mining Company, Crawford county, Kas., an accident occurred to George Stiner, whereby he got his hip crushed. He was not an employé at the mine, but had gone down the same to see some tools which he intended to purchase. He was coming up out of the mine on the cage, alone, when, by some cause unknown, he fell on the cage and got caught between the buntins of the shaft and the cage. He was unable to work for several months after the accident.

August 12, 1891.—An accident occurred at James Zucca's shaft, Burlingame, Osage county, whereby James Milano, an Italian, aged 35 years, got his right shoulder severely bruised, but no bones broken. He was branching a new road, and had got it cut over the face of the coal on the right side of the roadway when a corner of the top, back about 2½ feet on the left side of the roadway, gave way, and



falling on him, knocked him down and injured him as above. He was able to go to work again in a few days.

August 17, 1891.—Henry Carzell had one leg and his back bruised by a fall of coal in his room, at No. 18, Kansas and Texas Coal Company, Weir City, Cherokee county. He was in the act of mining off a shot of coal in his room, on the second south entry of the first east entry on the north side of shaft. The coal came away, falling on him, and bruising him. No bones were broken, and he was able to resume work in a short time.

August 30, 1891.—An accident occurred at No. 6 shaft, Scandinavian Coal and Mining Company, Peterton, Osage county, whereby Andrew Hoagland, a Swede, aged 40 years, got his left leg broken, by a piece of soapstone, about 50 pounds in weight, falling on him. This mine is very wet, and great care should be taken to have it carefully timbered, especially in the vicinity of slips in the roof.

September 2, 1891.—At the Lone Star mine, Minersville, Cloud county, Tony K. Dovette met with a serious accident, resulting in having his left leg broken, and other serious injuries. The cause was a fall of sand rock from off the side of the pillar at the end of his room, while he was cleaning out the water ditch. It was an accident which could not be foreseen. He was acting as pit boss of the mine, and mined some coal also.

September 30, 1891.—On the evening of the above date, James McGregor, employed as a shot-firer at No. 4 shaft, Cherokee and Pittsburg Coal Company, at Chiopee, Crawford county, was burned and bruised considerably about the head and face and right side, caused by going back on a shot that he supposed had already exploded, but had not; the shot went off just as he approached it. He was very fortunate in not being killed, under the circumstances.

October 3, 1891.—An accident occurred at No. 2 shaft of the Western Fuel Company, Osage City, Osage county, whereby Lee Innes, aged 28 years, had his left leg and side severely bruised, by soapstone falling on him while in the act of brushing his roadway. He had cut one side of the brushing, and was cutting the other side, when it came away, falling on him with the above result. The reason of the stone falling was a clear slip—or smooth—which was not observed by Innes, as it could not be seen until the stone had fallen.

October 7, 1891.—John Vallie and Eugene Goss, employed as shot-firers at Keith and Perry Coal Company's No. 6 mine, Weir City, Cherokee county, were burned at 6 o'clock P. M., on above date, by an explosion caused by a blown-out shot. The shot, upon examination after the explosion, had been drilled two feet in the solid, and was light at the outer end, being only two feet thick at the latter place, and six feet six inches at the back of the hole—a very badly arranged shot, and should not have been fired by the shot-firers. One shot had been fired in the same room previous to the one above alluded to.

October 23, 1891.—An accident occurred at No. 18 shaft, Kansas and Texas Coal Company, Weir City, Cherokee county, whereby Joseph McDowell, employed as a miner, had his foot severely bruised by a fall of roof slate while at his work. He was not able to resume work for several weeks.

November 7, 1891.—Gus. Peterson, employed as a miner at No. 1 shaft, Cherokee and Pittsburg Coal Company, Frontenac, Crawford county, was injured by a piece of slate falling on him, while at work in his room in above mine. He was not seriously injured, and was able to resume work in a few days.

November 11, 1891.—William Bold, employed as mule driver at No. 1 mine, Cherokee and Pittsburg Coal Company, Frontenac, Crawford county, had his leg broken by a piece of roof slate falling on him in the entry. He was not able to go to work again for several weeks.



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November 12, 1891.—An accident occurred at No. 12 shaft, Osage Carbon Company, Scranton, Osage county, to Gus. Trabba, injuring his legs. He was brushing at the face of his room, to make the proper height for his roadway, when he struck a smooth, or parting, loosening the roof, which fell on him, with the above result. He was laid off work for a few days only.

November 12, 1891.—James Stilson, employed as a miner at the Pittsburg and Midway Coal Company's mine No. 2, Midway, Crawford county, had his ribs broken, head cut, and was bruised generally, by a fall of slate in his room, which was purely accidental, as Stilson was considered a good and careful workman, and used all ordinary precaution. He was idle a long time from the effects of the injury.

November 20, 1891.—James Thompson, an employé on top at No. 18 mine, Kansas and Texas Coal Company, Weir City, Cherokee county, had his hand severely bruised and cut, while attempting to couple two railroad cars. This was not part of his work, and he had no right to touch the couplings of the cars. His duties were to let the empty cars down to the screens and chutes.

December 1, 1891.—Robert C. Hill, employed as car trimmer at No. 5 shaft, Keith & Perry Coal Company, at Weir City, Cherokee county, had two fingers taken off his right hand at the second joints, while coupling loaded railroad cars. This was no part of his work, and he had been warned several times not to do so.

December 18, 1891.—Samuel Davis, employed as a miner at No. 6 shaft, Scandinavian Coal and Mining Company, Peterton, Osage county, was wedging coal in his room, and a piece of soapstone roof, weighing about 700 pounds, fell and bruised him severely. No bones were broken. The stone fell out from a slip between the props and the coal face, and could not be observed before it fell. The roof in this mine has a great many slips through it, and as a consequence is rather dangerous.

December 18, 1891.—Frank Perrero, employed as a miner at the Weir City Coal Company's mine, Weir City, Cherokee county, was burned and otherwise injured by an explosion which occurred while he was tamping his shot.

FATAL ACCIDENTS.

For the year ending December 31, 1891, there were reported to me, as State Coal Mine Inspector, 13 fatal accidents. Tabulated, the summary is as follows:

Where accident occurred.	Date of accident.	Date of death.	Name.	Cause.
Kansas and Texas Coal Co.: Shaft No. 23, Weir City.....	Jan. 28...	Feb. 7...	Thomas Clasper.....	Fall of roof
Kansas and Texas Coal Co.: Mine No. 34, Leavenworth.....	May 11...	May 11...	Elihu Hurley.....	Fall of roof.
Keith & Perry Coal Co.: Shaft No. 3, Weir City.....	.....	.....	Clarence Manning,	Fall of roof.
Weir City Coal Co.: Shaft No. 1 (abandon'd), Weir City,	.....	.....	James Titter.....	Black damp.
Saft No. 1 (abandon'd), Weir City,	.....	.....	Frank Titter.....	Black damp.
Superior Coal & Mining Co.: Shaft No. 5, Osage City.....	June 24...	June 24...	August Sands.....	Fall of soapstone.
Weir City Coal Co.: Shaft No. 2, Weir City.....	July 20...	July 22...	James May.....	Struck by mine car.
Pittsburg and Midway Coal Co.: Shaft No. 1, Midway.....	Aug. 25...	Aug. 25...	R. E. Jones.....	Fall of slate.
Kansas and Texas Coal Co.: Shaft No. 17, Litchfield.....	Oct. 15...	Oct. 15...	John Comiskey.....	Powder explosion.
Walter Richardson's mine: Minersville.....	Oct. 27...	Oct. 27...	Albert Parker.....	Fall of roof.
Pittsburg Coal Co.: Pittsburg.....	Nov. 6...	Nov. 6...	Charles Green.....	Fall of roof.
Cherokee and Pittsburg Coal Co.: Mine No. 4, Chicopee.....	Dec. 21...	Dec. 21...	Frank Skobitz.....	Powder explosion.



January 28, 1891.—Thomas Clasper was seriously injured by a fall of slate in his room, in No. 23 shaft, Kansas and Texas Coal Company, at Weir City, Cherokee county. He was mining coal, which got loosened and came down, which relieved a slip in the roof, letting a mass of slate fall on him, crushing him severely, injuring his back and bruising him internally, from the effects of which he died 10 days later, leaving a wife and two children. His place was well propped, but the roof was very dangerous, being full of slips.

March 28, 1891.—In mine No. 2, Keith & Perry Coal Company, Weir City, Cherokee county, operated by Wm. Hamilton, sr., William Bateman was found lying in a pool of blood, dead, about 200 yards from his working place. It seems that deceased was on his way coming out of the mine, and had sat down to rest by the side of the roadway, where he was found at 2:30 o'clock p. m. on above date. He was unmarried. A post-mortem examination was held, giving the cause of death to be hemorrhage of the lungs. The coroner's jury rendered a verdict in accordance with the above.

May 11, 1891.—An accident occurred at No. 34 shaft, Kansas and Texas Coal Company, Leavenworth, Kas., whereby Elihu Hurley, employed as a company man, lost his life, in room 2, third south entry, in above mine, while at work with others cleaning up above room. A mass of sulphur rock fell from the roof, and when he was taken from under it he was dead. Deceased was married, 28 years of age, and left a wife with two children, aged 4 years and 18 months, respectively. The following is the evidence taken at the coroner's inquest and the verdict of the jury:

Proceedings and testimony at the coroner's inquest, held in Leavenworth city, Kas., May 12, 1891, on the body of Elihu Hurley, killed at the coal mine of the Kansas and Texas Coal Company, before E. F. Quinn, coroner,

THOMAS GRAHAM, being duly sworn, states:

Question. Your name, please. Answer. Thomas Graham.

Q. Thomas Graham? A. Yes sir.

Q. Now, Mr. Graham, will you go on and tell the jury what you know about this?

A. Well, there was a rock fell on him about 5½ feet long.

Q. Where did this happen? A. In the room, 26 feet from each roadway. The room on the southeast side of the shaft.

Q. In the Riverside shaft? A. In the Riverside shaft.

Q. Where did this happen? A. In the third south entry.

Q. In the Riverside mine? A. Yes, sir.

Q. Where? On what side? A. On the southeast side.

Q. At what entrance? A. Third south entry.

Q. In the Riverside mine? A. Yes, sir.

Q. Well now, what else? A. Betwixt the first and second room.

Q. Betwixt the first and second room? A. Yes, sir.

Q. Go ahead now and tell any particulars. A. Just about the center of the two places.

Q. Well, proceed. A. I guess the stone was about 5½ feet in length, and about 20 inches across the center of it, and it tapered to about six inches on each end.

Q. Wait a minute—the stone was what? About five feet long? A. About 5½ feet, and about 20 inches across the center of it.

Q. Well now, proceed. A. About six inches thick on each end.

Q. About six inches thick on each end? A. About 14 in the center.

Q. About six inches thick on each end, and how much in the center? A. About 14.

Q. About 14 in the center? A. Yes, sir.

Q. Well now, proceed. A. There were about 2½ feet betwixt the stone and the gob where he could have crawled through.

Q. Proceed now—go on. A. That is about all I know about it.

Q. What time did the accident happen? A. About half-past two.

Q. Did the man work all day? A. Yes, sir.

Q. It happened about half-past two? A. Yes, sir; I don't think it was later than that.

Q. Well now, go on. You are the pit boss? A. Yes, sir.