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THIRTEENTH REPORT

OF THE

STATE MINE INSPECTORS

FOR THE

Year Ending June 30, 1906

TO THE

GOVERNOR OF THE STATE OF IOWA

PRINTED BY ORDER OF THE GENERAL ASSEMBLY

DES MOINES:
 BERNARD MURPHY, STATE PRINTER
 1906

STATE MINE INSPECTORS.

District No. 1, JOHN VERNER, Chariton.

District No. 2, JAMES A. CAMPBELL, Ottumwa.

District No. 3, EDWARD SWEENEY, Des Moines.

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STATISTICS RELATING TO COAL MINING IN IOWA FOR
THE YEAR ENDING JUNE 30, 1906.

The gradual increase in the annual coal production by the Iowa mines has been maintained in the last year. This increase, however, was not uniform in all the coal producing counties of the state. Ten counties, Appanoose, Monroe, Wayne, Taylor, Page, Adams, Warren, Jasper, Polk and Greene show an increase in their coal output last year over the year preceding. Thirteen counties, Jefferson, VanBuren, Davis, Wapello, Keokuk, Mahaska, Marion, Lucas, Guthrie, Dallas, Boone, Webster and Scott produced less coal last year than in the year ending June 30, 1905. Monroe county made the greatest gain, 326,650 tons. Wapello showed the greatest loss 157,325 tons.

The total number of persons employed in and about the mines during the last year was somewhat less than during the preceding year, while the number of inside employes, other than miners, increased slightly; there were 582 less miners and 259 less outside employes. The amount of coal produced per miner last year showed an average increase of slightly more than eight percent over the average output per miner during the preceding year.

Notwithstanding the fact that all the mines in Iowa were idle during last April on account of the miners and operators failing to come to an agreement at their meeting in Indianapolis, most of the more important mines of the state were worked a greater number of days last year than in the preceding year. In this respect the mines of Monroe county made the most favorable showing.

As the miners and operators of Iowa have entered into a working agreement to run until April 1, 1908, coal mining in this state will not be interfered with injuriously by strikers or lock-outs during the time covered by this agreement. From present indications it appears that the coal industry of Iowa will continue to remain in fairly satisfactory condition during the coming year.

The following tables give the coal producing counties of the state, the number of mines, the coal output and the number of persons employed in and about the mines.

Number of mines.	County.	Tons of coal of all grades produced.	Number of miners employed.	Number of other inside employees.	Number of outside employees.	Total number employed.	Number.
22	Monroe	2,443,687	2,285	1,001	289	8,575	1
29	Polk	1,266,224	2,057	777	324	3,108	2
24	Appanoose	1,056,655	2,903	640	389	3,632	3
20	Mahaska	570,178	864	254	142	1,260	4
19	Boone	333,307	620	194	47	861	5
13	Jasper	326,994	529	145	55	729	6
12	Marion	276,505	625	176	74	875	7
12	Boone	210,704	322	69	44	435	8
10	Wapello	151,432	273	90	37	400	9
5	Lucas	121,288	281	92	46	419	10
10	Wayne	112,223	251	92	36	379	11
14	Webster	31,817	148	15	18	181	12
18	Adams	21,787	40	6	8	54	13
6	Warren	20,730	97	15	16	128	14
12	Guthrie	20,093	70	17	10	97	15
9	Greene	19,505	89	24	13	126	16
5	Pace	17,278	86	15	7	108	17
5	Dallas	9,888	37	13	8	58	18
3	Kookuk	8,473	12	5	4	22	19
4	Van Buren	7,345	19	4	4	27	20
3	Scott	860	6	0	0	12	21
399	Total	7,017,485	11,615	3,629	1,581	16,825	

Number of mines in each district, their coal output, number of miners and other employees for year ending June 30, 1906.

District.	Number of mines.	Tons of coal of all grades produced.	Number of miners employed.	Number of other inside employees.	Number of outside employees.	Total number of employees.
Number 1	149	2,649,519	4,999	1,458	798	7,075
Number 2	65	2,382,624	2,943	893	349	4,184
Number 3	86	2,040,342	3,763	1,278	525	5,566
Total	309	7,017,485	11,615	3,629	1,581	16,825

Fatal and Serious Accidents.

The number of fatalities in and about the mines of the state during the last year was greater than in any preceding year, with the exception of the year 1902. Of the thirty-seven fatal accidents last year, thirty-six occurred in the mines and one outside. Twenty-five of them occurred at the working face. No lives were lost on account of the absence of or any defect in the safety appliances required by law.

The number of serious accidents reported last year also exceeded the number of serious accidents of the preceding year. During the year ending June 30, 1905, 100 serious accidents occurred in and about the mines of Iowa. last year the number was 116.

A summary of these accidents, their causes, etc., will be found in the following tables:

Causes of fatal mine accidents in Iowa during the year ending June 30, 1906, and counties in which accidents occurred.

Cause.	Polk.	Boone.	Mahaska.	Monroe.	Marion.	Wapello.	Appanoose.	Wayne.	Total.
Falls of slate, rock, coal, etc.	4	1	3	10	1	4	1	1	24
Flying coal	2	1	1	1	1	1	1	1	10
Run over by car	1	1	1	1	1	1	1	1	8
Premature explosion.	1	1	1	1	1	1	1	1	8
Crushed between cars	1	1	1	1	1	1	1	1	8
Fell in hot water vat	1	1	1	1	1	1	1	1	8
Total	7	1	5	16	2	1	4	1	37

Causes of serious mine accidents in Iowa during year ending June 30 1906, and county in which accident occurred.

County.	Polk.	Guthrie.	Jasper.	Webster.	Boone.	Greene.	Marion.	Monroe.	Mahaska.	Wapello.	Appanoose.	Lucas.	Wayne.	Adams.	Total.
Falls of roof, coal, bat, rock, etc.	29	1	1	1	1	1	1	1	1	1	1	1	1	1	62
Hurt by cars	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14
Caught by cage	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14
Flying coal from shot	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14
Tail rope, tail chain, etc	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14
Kicked by mule	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14
Miscellaneous	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14
Total	37	1	1	1	2	2	3	4	6	2	15	2	2	1	116

Fatal and serious accidents in the mines of the state during the year ending June 30, 1906, with relation to coal produced and number of employees.

Districts.	Number of Accidents.		Number of Tons of Coal Produced.	Tons of Coal Produced for each Accident.		Number of Employees for each Accident.	Number of Employees for each Accident.
	Fatal.	Serious.		Fatal.	Serious.	Fatal.	Serious.
District No. 1	16	44	2,648,519	165,532	60,194	7,075	442
District No. 2	13	31	2,328,634	179,125	75,117	4,184	322
District No. 3	9	41	2,040,342	255,043	49,764	5,569	698
Total.	37	116	7,017,495	189,661	63,081	16,825	455

Table showing fatal mine accidents in Iowa for the last thirteen years, their relation to coal tonnage and employees.

Year.	Number of accidents.	Tons of coal produced.	Tons of coal per accident.	Number of employees.	Fatality rate per 1000 employees.
1894.....	19	3,777,399	198,810	10,258	1.9
1895.....	20	3,195,836	159,792	10,892	1.8
1896.....	22	3,525,490	160,254	11,451	2.
1897.....	21	3,759,734	180,464	11,678	1.8
1898.....	26	4,397,722	169,143	10,550	2.5
1899.....	30	4,949,310	164,976	11,629	1.8
1900.....	29	5,117,285	176,458	13,041	2.2
1901.....	27	5,441,863	201,550	13,175	2.
1902.....	55	5,544,206	100,258	13,002	4.2
1903.....	21	5,185,734	246,939	13,192	1.6
1904.....	31	6,214,379	200,464	16,315	1.9
1905.....	24	6,806,011	283,584	17,624	1.4
1906.....	37	7,017,495	189,661	16,825	2.2

ANNUAL REPORT OF THE

FIRST DISTRICT

COUNTIES COMPRISING THE FIRST DISTRICT:

APPANOOSE, MONROE(part),
LUCAS, WAYNE,
TAYLOR, PAGE,
ADAMS.

JOHN VERNER, INSPECTOR,
Chariton, Iowa.

LETTER OF TRANSMITTAL.

HON. ALBERT B. CUMMINS, Governor of Iowa.

Sir—I have the honor to submit to you herewith the report of the First Inspection District, covering the year ending June 30, 1906.

Very respectfully,
JOHN VERNER,
Inspector First District.

Report of First District.

More coal was produced in the year ending June 30, 1906, by the mines in the first district than during any previous year since mining commenced in Iowa, notwithstanding the fact that all the mines in the district were idle during the month of March and work was not resumed in full in a large number of them until late in May. Lucas county excepted, all counties show a gain in coal tonnage over the year ending June 30, 1905. Appanoose county made the largest gain, 161,175 tons, Monroe county gained 131,187 tons, Wayne county 16,415 tons, Taylor county 3,854 tons, Page county 112 tons and Adams 2,240 tons. The total gain in these counties amounts to 314,183 tons. Compared with the preceding year the coal output of Lucas county in the year ending June 30, 1906, shows a loss of 13,824 tons. The net increase in the output of the mines in the district during the year ending June 30, 1906, over the preceding year amounts to 301,159 tons. The number of mines in active operation last year was no greater than the year before and the gain in tonnage was due partly to the greater number of days the mines were worked and partly to improved conditions in working and handling the coal.

The indications are that during the coming year the coal output of the district will not be increased.

During the year ending June 30, 1906, 214 mines were inspected and eight scales were tested.

The following table gives in condensed form the number of mines in the counties comprising the district; their coal output and the number of persons employed in the coal industry:

Number of mines in operation in each county, their coal output, number of miners and other employes in District No. 1, for the year ending June 30, 1906.

County.	Number of rail-road mines.	Number of mines without rail connection.	Total number of mines.	Tons of coal of all grades produced.	Number of miners.	Number of outside employes.	Number of outside employes.	Total number of employes.
Appanoose	65	20	94	1,056,655	2,603	640	398	3,622
Monroe (part)	11	2	13	1,290,544	1,429	582	198	2,209
Lucas	1	2	3	5	151,432	273	90	37
Wayne	1	1	2	10	121,288	281	92	46
Taylor	1	6	7	9	19,505	89	24	13
Page	1	1	2	1	17,275	86	15	7
Adams	1	1	2	13	21,817	148	15	181
Total	82	6	88	149	2,648,519	4,900	1,458	7,075

List of corporations, firms and individuals operating mines in the first district, their postoffice address, number of mines operated by them in the district and shipping facilities, if any.

Corporation, Firm or Individual.	Address.	Number of mines.	Shipping Facilities.
Scandinavian Coal company...	Centerville	2	Keokuk & Western.
Appanoose Coal & Fuel company	Diamond	2	Keokuk & Western and Chicago, Milwaukee & St. Paul.
Walnut Block Coal company...	Centerville	1	Keokuk & Western.
Phoenix Coal company	Brazil	1	Keokuk & Western.
Centerville Block Coal company	Centerville	1	Keokuk & Western.
Tipton Co-operative Coal Co.	Brazil	1	Chicago, Rock Island & Pacific and Iowa Central.
Peacock Coal company	Brazil	1	Keokuk & Western.
Oriental Coal company	Centerville	2	Keokuk & Western.
Perfection Block Coal company	Centerville	2	Keokuk & Western.
Sunshine Coal company	Centerville	1	Keokuk & Western.
Anchor Coal company	Centerville	2	Keokuk & Western and Chicago, Rock Island and Pacific.
Dewey Coal company	Centerville	1	Keokuk & Western.
Cincinnati Coal & Mining Co.	Cincinnati	1	Chicago, Burlington & Kansas City.
Consolidated Block Coal Co.	Cincinnati	1	Chicago, Burlington & Kansas City.
Mendota Coal & Mining Co.	Cincinnati	2	Chicago, Burlington & Kansas City.
Thistle Coal company	Cincinnati	3	Chicago, Burlington & Kansas City.
Exline Coal company	Exline	2	Chicago, Burlington & Kansas City.
Iowa Block Coal company	Exline	1	Chicago, Burlington & Kansas City.
Numa Block Coal company	Seymour	3	Chicago, Rock Island & Pacific & Chicago, Milwaukee & St. Paul.
Prairie Block Coal company	Centerville	1	Chicago, Rock Island & Pacific.
Center Coal company	Centerville	1	Chicago, Rock Island & Pacific.
Manufacturers Coal & Coke Co.	Centerville	2	Chicago, Rock Island & Pacific & Burlington.
Consumers Coal company	Cedar Rapids	1	Chicago, Milwaukee & St. Paul.
Big Jo. Coal company	Harkes	1	Chicago, Milwaukee & St. Paul.
F. H. Juckett Coal company	Cedar Rapids	1	Chicago, Milwaukee & St. Paul.
Peerless Coal company	Mystic	6	Chicago, Milwaukee & St. Paul.
Egypt Coal company	Mystic	1	Chicago, Milwaukee & St. Paul.
Artic Coal company	Mystic	1	Chicago, Milwaukee & St. Paul.
Acken Coal company	Mystic	2	Chicago, Milwaukee & St. Paul.
Mystic Coal company	Mystic	3	Chicago, Milwaukee & St. Paul.
Diamond Block Coal company	Mystic	3	Chicago, Milwaukee & St. Paul.
Cedar Rapids Fuel company	Cedar Rapids	1	Chicago, Milwaukee & St. Paul.
Beggs Coal company	Mystic	1	Chicago, Milwaukee & St. Paul.
Elgin & Barrett Coal company	Mystic	1	Chicago, Milwaukee & St. Paul.
Orr Bros. Coal company	Mystic	1	Chicago, Milwaukee & St. Paul.
Star Coal company	Rathbun	1	Chicago, Milwaukee & St. Paul.
Unity Block Coal Company	Darbyville	1	Chicago, Milwaukee & St. Paul.

Corporation, Firm or Individual.	Address.	Number of mines.	Shipping Facilities.
Domestic Coal Company	Cincinnati	1	Chicago, Burlington & Kansas City.
Armstrong Block Coal Company	Cincinnati	1	Chicago, Burlington & Kansas City.
White Oak Coal Company	Exline	1	Chicago, Burlington & Kansas City.
Walnut Grove Coal Company	Numa	1	Chicago, Rock Island & Pacific.
Ira A. Guinn	Dean	1	Chicago, Burlington & Quincy.
Citizens Coal Company	Centerville	1	Chicago, Burlington & Quincy.
Happy Coal Company	Centerville	1	Chicago, Burlington & Quincy.
White Oak Coal Company	Centerville	1	Chicago, Burlington & Quincy.
Monitor Coal Company	Centerville	1	Chicago, Burlington & Quincy.
Star Coal Company	Centerville	1	Chicago, Burlington & Quincy.
Trio Coal Company	Centerville	1	Chicago, Burlington & Quincy.
Rock Valley Coal Company	Centerville	1	Chicago, Burlington & Quincy.
John Schrum	Centerville	1	Chicago, Burlington & Quincy.
John Koontz	Centerville	1	Chicago, Burlington & Quincy.
Wilson & Seiden	Centerville	1	Chicago, Burlington & Quincy.
Wapello Coal Company	Mystic	1	Chicago, Burlington & Quincy.
Smoky Hollow Coal Company	Avery	2	Chicago, Burlington & Quincy.
Star Coal Company	Albia	1	Chicago, Burlington & Quincy.
White Ash Coal Company	Avery	1	Chicago, Burlington & Quincy.
Phillips Fuel Company	Ottumwa	1	Chicago, Milwaukee & St. Paul.
Whitebreast Fuel Co., of Illinois	Ottumwa	2	Chicago, Milwaukee & St. Paul and Chicago, Burlington & Quincy.
Hocking Coal Company	Hocking	2	Chicago, Burlington & Quincy.
Inland Fuel Company	Chariton	1	Iowa Central.
Anderson Coal Company	Sewel	1	Chicago, Burlington & Quincy.
L. Frye	Promise City	1	Chicago, Burlington & Quincy.
John Hayhurst	Promise City	1	Chicago, Burlington & Quincy.
O. W. Jared	Promise City	1	Chicago, Burlington & Quincy.
Tomlinson & Pace	New Market	1	Chicago, Burlington & Quincy.
Campbell Coal Company	New Market	2	Chicago, Burlington & Quincy.
Wm. Browning	New Market	1	Chicago, Burlington & Quincy.
N. Easter	New Market	1	Chicago, Burlington & Quincy.
W. E. Rogers	Willisca	1	Chicago, Burlington & Quincy.
Johnston & Company	Clarinda	1	Chicago, Burlington & Quincy.
J. W. Berry Coal Company	Clarinda	1	Chicago, Burlington & Quincy.
J. S. Moore	Clarinda	1	Chicago, Burlington & Quincy.
Coin Coal Company	Coin	1	Chicago, Burlington & Quincy.
J. M. Henton	Corning	1	Chicago, Burlington & Quincy.
Ed Amdor	Carbon	1	Chicago, Burlington & Quincy.
M. Jones	Carbon	1	Chicago, Burlington & Quincy.
J. F. Roth	Carbon	1	Chicago, Burlington & Quincy.
J. F. Wild	Carbon	1	Chicago, Burlington & Quincy.
Collins & Barker	Carbon	1	Chicago, Burlington & Quincy.
C. Dixon	Carbon	1	Chicago, Burlington & Quincy.
H. Day	Nodaway	1	Chicago, Burlington & Quincy.
Mason & Daugherty	Nodaway	1	Chicago, Burlington & Quincy.
B. N. Hathaway	Nodaway	1	Chicago, Burlington & Quincy.
H. K. Demirian	Briceville	1	Chicago, Burlington & Quincy.

APPANOOSE COUNTY.

Last years number of mines in Appanoose county, railroad and local, was ninety-four. Sixty-five of these mines are connected with the railroads running through the county. Twenty-eight mines are connected with the Chicago, Milwaukee and Saint Paul railroad, twenty-seven with the Burlington, one with the Iowa Central and nine with the Chicago, Rock Island & Pacific. The remaining twenty-nine mines have no railroad connections and are generally operated in a small way to supply home demand, although some ship part of their output.

The majority of the shipping mines were operated a greater number of days last year than the year preceding. The number of working days at the larger mines averaged 212 for the year.

During the year ending June 30, 1905 the mines of Appanoose county produced 895,480 tons of coal, during the year ending June 30, 1906 the county's coal output increased to 1,056,655 tons, a gain of 161,175 tons or 18 per cent for last year. The largest gain in tonnage was made by the mines connected with the Rock Island railway 27 per cent, while the mines along the Milwaukee showed a gain of 20 per cent and the mines on the Burlington system 10 per cent. The mines connected with the Rock Island also showed the best average output per mine in the county. The average output per mine on the Rock Island was nearly 27,000 tons for the year, while the average per mine on the Milwaukee and the Burlington system was less than 15,000 tons.

Two new mines were opened during the year, and one small mine, which had been abandoned for some years was reopened.

The Sunshine Coal Company opened a mine three miles west of Centerville. The coal is reached by shaft 7x14 feet, 130 feet deep. Hoisting is done by gin at present, but steam power will be substituted later on. The mine has shipping facilities over the Keokuk and Western railroad. Work is now going on to open the mine.

The Armstrong Block Coal Company completed sinking a shaft, 135 feet deep, west of Cincinnati. Work is being pushed to get the mine in operation at an early date. Steam power will be used. The sinking of the air and escape shaft has been decided on. The mine will be connected with the Chicago, Burlington & Kansas City railroad.

Nearly all the mines in Appanoose county as far as safety of the persons working in them is concerned, are in fairly satisfactory condition. The situation with regard to their proper ventilation is not so satisfactory. It is true that considerable improvement was made in the last year in this respect, especially in the larger mines in the county, yet in some mines the air volume provided was found inadequate, more markedly so during the summer and fall months. In nearly all the cases, where the ventilation was found insufficient, furnaces were used for ventilating purposes. Furnaces, such as are provided in Appanoose county and connected with shallow shafts are per-

missible and they give satisfactory results, while the mine is new and of little extent, but they soon become inadequate and a source of much trouble, as the working area of the mine increases. The limit of usefulness of furnace ventilation has been reached in several Appanoose county mines and it will soon become necessary, if these mines are to be worked successfully, that other and better means of ventilating them be provided.

Summary of Conditions of the Appanoose County Mines.

Scandinavian Coal Company No. 2 located at Plano. Considerable trouble was experienced on account of the bulging and breaking of the shaft timbers, due to the pressure of a thick stratum of clay. The shafts were relined with extra heavy timber through this bed of clay. The timber lining eight inches in thickness, will probably be sufficient to resist the pressure on the shafts. The mine is well equipped and in good condition.

Appanoose Coal & Fuel Company No. 3. A slope mine located west of Brazil. Very little work was done at this mine lately.

It is the intention to connect this mine with No. 22, located south, and operated by the same company.

Walnut Block Coal Company located at Brazil. The mine is operated on a small scale and does little work during the summer. It is indifferently managed and but few men are employed.

Phoenix Coal Company. Mine located at Brazil and in fair condition. The top works have been remodeled, the slope opening has been changed and improved.

Centerville Block Coal Company No. 5. A slope mine located at Brazil. Considerable outside improvements made to facilitate the more rapid handling on top of the mine's coal output. The furnace shaft, 100 feet in depth, has been lined with brick. The ventilation of the mine is improved. Its coal output last year exceeded that of any other mine connected with the Burlington system in Appanoose county.

Lipton Co-operative Coal Company. A slope mine located at Brazil. The mine is operated in a small scale and will probably be abandoned after next winter.

Peacock Coal Company. A slope mine located at Brazil. The ventilation of this mine has been much improved by the sinking of an air shaft at the head of the workings. The mine is in good condition.

Oriental Coal Company No. 1. A slope mine located southeast of Brazil. Some outside improvements have been made. The mine is in fair condition.

Oriental Coal Company No. 2. A small slope mine, operated only during the winter months. Condition fair.

Perfection Block Coal Company. A shaft mine south of Brazil. The mine is in poor condition. It has recently been bought by the Perfection Block Coal Company and will be improved as rapidly as possible.

Centerville Block Coal Company No. 3. A shaft mine located south-west of Centerville. The mine is in better condition than it has been for some years. A new opening has been made into mine No. 8 located to the east, bringing about a decided improvement in the mine's ventilation, besides

affording a better road to reach the escape shaft. The mine is advantageously located with regard to shipping facilities, and notwithstanding the fact that it has been in operation for a good many years and the workings are a considerable distance from the hoisting shaft, arrangements can now easily be made by which the coal output can be materially increased.

Anchor Coal Company No. 1. A shaft mine located south of Centerville. The management was repeatedly urged during the past year to provide better facilities to ventilate the north workings of the mine more satisfactorily. Up to the present nothing has been done in this direction. The work of giving better ventilation to the north workings cannot be delayed much longer if further operations are to be carried on in that part of the mine.

Scandinavian Coal Company No. 1. A shaft mine located at Centerville. The mine is in fair condition.

Dewey Coal Company. A shaft mine located east of Centerville. Considerable difficulty was experienced in airing the first east entry satisfactorily. The difficulty has been overcome, however, and the mine is now in fair condition in every respect.

Cincinnati Coal and Mining Company. A slope mine located south-west of Cincinnati. It has been in poor condition for some time, is now worked under a lease and the present operators have been notified to improve the condition of the mine.

Consolidated Block Coal Company. A slope mine located south-west of Cincinnati. It is not in satisfactory condition, but the management has promised to improve the mine as rapidly as possible.

The Albert mine, located west of Cincinnati and operated by the Mendota Coal & Mining Company is in fair condition.

The Appawoose mine, located at Cincinnati, also operated by the Mendota Coal & Mining Company, has been idle all summer. It is in fair condition.

Domestic Coal Company. A shaft mine located north of Cincinnati. An air and escape shaft was sunk this summer. The mine is in fair condition.

Thistle Coal Company No. 1. A shaft mine east of Cincinnati. The ventilation has been deficient, but was improved by cleaning up the air roads. The hoisting shaft will be re-timbered and new cages will be provided.

Thistle Coal Company No. 2. A shaft mine east of Cincinnati. A fault appearing on the east side of the mine has seriously interfered with its development during the last year. The mine is in fair condition.

Thistle Coal Company No. 3. A shaft mine east of Cincinnati. It was not operated last year, but work in it will shortly be resumed. An additional boiler has been added to its equipment.

Exline Coal Company No. 1. A shaft mine located west of Exline. It is in fair condition.

Exline Coal Company. A shaft mine located to the east of No. 1 and connected with the latter. At present both mines are ventilated by No. 1 fan, but it is the intention of the management to place a fan at No. 2 mine in the near future.

Iowa Block Coal Company. A shaft mine located at Exline. A fan was erected and the mine is in fair condition.

White Oak Coal Company. A shaft mine north of Exline, largely operated for local trade, was provided with an air and escape shaft.

The Koyal mine east of Exline was not operated last year.

Centerville Block Coal Company No. 2. A shaft mine located at Numa. Tail rope haulage has been installed. Mine in fairly satisfactory condition.

Numa Block Coal Company No. 1. A shaft mine located near Numa. The expectation of better ventilation on account of the re-location of the fan at the air shaft, expressed in last report, was fully realized. The mine is now satisfactorily ventilated and in good condition.

Prairie Block Coal Company. A shaft mine located $4\frac{1}{4}$ miles south of Centerville. A fan has been erected and the mine is in satisfactory condition.

Anchor Coal Company No. 3. A shaft mine located at Shawville. Ventilation is fair. New track scales has been ordered and will be placed as soon as they arrive.

Anchor Coal Company, No. 2. A shaft mine located north of No. 3. The ventilation of the south side of the mine was deficient and improvement is needed in that direction. Otherwise the mine is in fair condition.

Centerville Block Coal Company No. 1 & 10. Shaft mines located east of Centerville. These mines are connected and ventilated by a fan placed at No. 10 air shaft. Work is now going on in mine No. 10, and it will probably be completed within a few months, that will improve the ventilation in both mines. The mines are in good condition. Extensive improvements are under way to remodel the tippie at mine No. 1.

Centerville Block Coal Company No. 9. A Shaft mine located west of Centerville. It is in fair condition.

Center Coal Company. A shaft mine located south of Centerville. The air and escape shaft was completed. A ten-foot fan has been added recently to the mine's equipments. The mine is laid out well and is in good condition.

Manufacturers Coal & Coke Company No. 30. A shaft mine south of Centerville. The mine has been idle a considerable part of last year, operation, however, has been resumed. The mine is in fair condition.

Manufacturers Coal & Coke Company No. 10. A slope mine with openings, air and escape shaft, located in Putnam county, Missouri. The mine workings are now in Iowa territory. The air and escape shaft was re-timbered and equipped in conformity with the Iowa law. The mine is in fair condition.

Walnut Grove Coal Company. A shaft located north of Numa. The mine has no railroad connection, yet most of its coal output is shipped, Equipment fair. Ventilation somewhat deficient, but efforts have been made to improve the mine in that respect.

Consumers Coal Company. A shaft mine located at Jerome. Since the completion of the improvements of the air shaft and fan early last year the ventilation of the mine has been entirely satisfactory. A good stairway was built in the escape compartment of the airshaft. The mine is in good condition.

Big Jo Coal Company. A shaft mine located at Harkes in fairly satisfactory condition.

F. H. Juckett Coal Company. A shaft mine located northeast of Harkes. The mine was idle for several months this summer and has only recently resumed operation.

Appanoose Coal & Fuel Company No. 21. A slope mine located at Diamond. Little has been done to improve the mine and it is still in unsatisfactory condition.

Appanoose Coal & Fuel Company No. 22. A shaft mine located at Diamond. It is a new mine and in fair condition.

Peerless Coal Company No. 4. A shaft mine west of Mystic. The hoisting shaft has been re-timbered. Ventilation deficient. It will probably become necessary to sink an air shaft at the head of the workings.

Peerless Coal Company No. 5. A shaft mine west of Mystic. It is in fair condition.

Egypt Coal Company. A drift mine west of Mystic. Some difficulty about ventilating the mine properly. The air shaft was enlarged and re-timbered. This is one of the mines in Appanoose county where furnace ventilation is failing to give satisfactory results.

Peerless Coal Company No. 1. A drift mine at Mystic. It is in fair condition.

Acken Coal Company No. 1. A slope mine located west of Mystic. The slope was in bad condition. Part of it has been re-timbered and the remainder will be made secure.

Acken Coal Company No. 2. A shaft mine connected with No. 1. Both mines can be acceptably ventilated by the fan placed at No. 2 air shaft.

Peerless Coal Company No. 2. Shaft mine located west of Mystic. This mine is in fair condition.

Mystic Coal Company No. 1. A slope mine located west of Mystic. Had been abandoned for some years, but was re-opened last year. On account of a fault the extent of the working will be small and only a few men are employed.

Mystic Coal Company No. 2. A shaft mine west of Mystic. The mine is in fair condition.

Mystic Coal Company No. 3. A slope mine west of No. 2. Ventilation unsatisfactory. Work is now going on to connect this mine with No. 2, and then ventilate both mines by the fan placed at No. 2 air shaft. The carrying out of the project will not detract from the proper ventilation of No. 2 and will materially improve conditions in No. 3.

Diamond Block Coal Company No. 29. A shaft mine located at Mystic. The mine is in fair condition.

Peerless Coal Company No. 6. A drift mine at Mystic. The mine is of considerable extent and as the furnace shaft is located near its western boundary, it becomes a difficult matter to ventilate the mine acceptably. A change in the mode of ventilating this mine will be necessary in the near future.

Peerless Coal Company No. 3. A slope mine located east of No. 6. Very little work was done in the mine last year. The slope caved in early last spring and is in such condition that it will not pay to re-open it. The coal from this mine will be brought to the surface through another opening.

Diamond Block Coal Company No. 12. A slope mine located east of Mystic. The mine is in fair condition.

Beggs Coal Company. A shaft mine east of Mystic. Condition unsatisfactory. Only a few men are employed. Before the mine can be developed to advantage, a shaft must be sunk north of the right-of-way of the Milwaukee railroad and connected with the workings.

Elgin & Barrett Coal Company. A slope mine located east of Mystic. The operators have had much difficulty in opening this mine, as they had to reach their coal lease through the old workings of the Iowa Block mine abandoned some years ago.

Orr Brothers Coal Company. A shaft mine east of Mystic. The mine is in fair condition.

Diamond Block Coal Company No. 5. A shaft mine located at Clarkdale. The mine is in good condition.

Star Coal Company. A shaft mine located at Rathbun. This is one of the best longwall mines in Appanoose county and is in good condition.

Usity Block Coal Company. A slope mine located at Darbyville. Natural drawbacks on the east and an old mine on the west retarded the development of the mine last year. Ventilation was deficient. The greatest difficulties, however, have been overcome and the mine will soon be in satisfactory condition.

It can be said of the smaller local mines that their equipments complied with the requirements of the mining laws and that generally they were kept in safe and fairly satisfactory condition.

MINES IN APPANOOSE COUNTY, THEIR LOCATION, ETC.

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THIRTEENTH BIENNIAL REPORT OF THE

STATE MINE INSPECTORS

Corporation, Firm or Operator.	Mine number	Location of Mine.	Railroad Connection, if Any.	Kind of opening.	System of Working.	Power used.	Means of ventilation.
Scandinavian Coal company.....	32	Piano.....	K. & W.....	Shaft	Room and pillar	Steam.	Fan.
Appanoose Coal and Fuel company.....	32	West of Brazil.....	K. & W.....	Slope	Long wall.....	Electr.	Furnace.
Walnut Block Coal company.....	32	Brazil.....	K. & W.....	Drift.	Long wall.....	Steam.	Furnace.
Phoenix Coal company.....	32	Brazil.....	K. & W.....	Slope	Long wall.....	Steam.	Furnace.
Centerville Block Coal company.....	5	Brazil.....	K. & W.....	Drift.	Long wall.....	Steam.	Furnace.
Tipton Co-Operative Coal company.....	5	Brazil.....	K. & W.....	Drift.	Long wall.....	Horse.	Furnace.
Peacock Coal company.....	5	Brazil.....	K. & W.....	Drift.	Long wall.....	Horse.	Furnace.
Oriental Coal company.....	1	South of Brazil.....	K. & W.....	Slope	Long wall.....	Steam.	Furnace.
Oriental Coal company.....	1	South of Brazil.....	K. & W.....	Slope	Long wall.....	Steam.	Furnace.
Perfection Block Coal company.....	1	1 mile southeast of Brazil.....	K. & W.....	Shaft	Long wall.....	Steam.	Fan.
Sunshine Coal company.....	1	2 miles west of Centerville.....	K. & W.....	Shaft	Room and pillar	Horse.	Jet.
Centerville Block Coal company.....	3	West of Centerville.....	K. & W. and Iowa Cent'l	Shaft	Room and pillar	Steam.	Fan.
Anchor Coal company.....	1	Centerville.....	K. & W.....	Shaft	Room and pillar	Steam.	Fan.
Scandinavian Coal company.....	1	Centerville.....	K. & W.....	Shaft	Room and pillar	Steam.	Fan.
Dewey Coal company.....	1	1/2 miles southeast of Centerville.....	K. & W.....	Shaft	Room and pillar	Steam.	Fan.
Cincinnati Coal and Mining company.....	12	1/2 miles southwest of Cincinnati.....	C. B. & K. C.	Slope	Long wall.....	Horse.	Furnace.
Consolidated Block Coal company.....	12	1/2 miles southwest of Cincinnati.....	C. B. & K. C.	Slope	Long wall.....	Horse.	Furnace.
Mendota Coal and Mining company.....	2	West of Cincinnati.....	C. B. & K. C.	Shaft	Long wall.....	Steam.	Fan.
Mendota Coal and Mining company.....	1	Cincinnati.....	C. B. & K. C.	Shaft	Long wall.....	Steam.	Fan.
Thistle Coal company.....	3	Southeast of Cincinnati.....	C. B. & K. C.	Shaft	Long wall.....	Steam.	Fan.
Thistle Coal company.....	1	1 mile east of Cincinnati.....	C. B. & K. C.	Shaft	Long wall.....	Steam.	Fan.
Thistle Coal company.....	1	1/2 mile east of Cincinnati.....	C. B. & K. C.	Shaft	Room and pillar	Steam.	Fan.
Exline Coal company.....	1	West of Exline.....	C. B. & K. C.	Shaft	Room and pillar	Steam.	Jet.
Exline Coal company.....	2	West of Exline.....	C. B. & K. C.	Shaft	Room and pillar	Steam.	Jet.
Exline Coal company.....	2	West of Exline.....	C. B. & K. C.	Shaft	Room and pillar	Steam.	Jet.
Royal Coal company.....	1	Northeast of Exline.....	C. B. & K. C.	Slope	Long wall.....	Steam.	Furnace.
Centerville Block Coal company.....	9	West of Centerville.....	Iowa Cent'l	Shaft	Room and pillar	Steam.	Fan.
Centerville Block Coal company.....	2	Numa.....	C. R. L. & P.	Shaft	Long wall.....	Steam.	Fan.
Numa Block Coal Company.....	1	Numa.....	C. R. L. & P.	Shaft	Long wall.....	Steam.	Fan.
Prairie Block Coal company.....	4	4 miles south of Centerville.....	C. R. L. & P.	Shaft	Long wall.....	Steam.	Jet.
Anchor Coal company.....	2	3 miles south of Centerville.....	C. R. L. & P.	Shaft	Long wall.....	Steam.	Fan.
Anchor Coal company.....	2	3 miles south of Centerville.....	C. R. L. & P.	Shaft	Room and pillar	Steam.	Fan.
Center Coal company.....	1	South of Centerville.....	C. R. L. & P.	Shaft	Room and pillar	Steam.	Jet.
Centerville Block Coal company.....	1	East of Centerville.....	C. R. L. & P.	Shaft	Room and pillar	Steam.	Fan.
Centerville Block Coal company.....	10	East of Centerville.....	C. R. L. & P.	Shaft	Room and pillar	Steam.	Fan.
Consumers Coal company.....	11	Jerome.....	C. M. & S. L. P.	Shaft	Long wall.....	Steam.	Fan.
Big Jo Coal company.....	11	1/2 mile east of Jerome.....	C. M. & S. L. P.	Shaft	Long wall.....	Steam.	Fan.
Armstrong Block Coal company.....	11	West of Cincinnati.....	C. M. & S. L. P.	Shaft	Room and pillar	Steam.	Jet.
F. H. Juekett Coal company.....	21	3 miles southwest of Mystic.....	C. M. & S. L. P.	Shaft	Long wall.....	Steam.	Furnace.
Appanoose Coal and Fuel company.....	12	Diamond.....	C. M. & S. L. P.	Slope	Long wall.....	Steam.	Fan.
Peerless Coal company.....	4	Diamond.....	C. M. & S. L. P.	Shaft	Long wall.....	Steam.	Furnace.
Peerless Coal company.....	5	West of Mystic.....	C. M. & S. L. P.	Shaft	Long wall.....	Horse.	Furnace.
Egypt Coal company.....	5	West of Mystic.....	C. M. & S. L. P.	Shaft	Long wall.....	Steam.	Furnace.
Peerless Coal company.....	1	West of Mystic.....	C. M. & S. L. P.	Slope	Long wall.....	Steam.	Furnace.
Artic coal company.....	20	Mystic.....	C. M. & S. L. P.	Drift	Long wall.....	Horse.	Furnace.
Acken Coal company.....	2	West of Mystic.....	C. M. & S. L. P.	Slope	Long wall.....	Horse.	Furnace.
Acken Coal company.....	2	West of Mystic.....	C. M. & S. L. P.	Slope	Long wall.....	Horse.	Furnace.
Mystic Coal company.....	2	West of Mystic.....	C. M. & S. L. P.	Shaft	Long wall.....	Horse.	Fan.
Mystic Coal company.....	2	West of Mystic.....	C. M. & S. L. P.	Shaft	Long wall.....	Steam.	Jet.
Mystic Coal company.....	1	West of Mystic.....	C. M. & S. L. P.	Shaft	Long wall.....	Steam.	Jet.
Diamond Block Coal company.....	20	West of Mystic.....	C. M. & S. L. P.	Shaft	Long wall.....	Mule.	Furnace.
Cedar Rapids Fuel company.....	20	Mystic.....	C. M. & S. L. P.	Slope	Long wall.....	Horse.	Furnace.
Peerless Coal company.....	6	Mystic.....	C. M. & S. L. P.	Shaft	Long wall.....	Horse.	Furnace.
Peerless Coal company.....	3	Mystic.....	C. M. & S. L. P.	Slope	Long wall.....	Horse.	Furnace.
Diamond Block Coal company.....	12	Mystic.....	C. M. & S. L. P.	Drift	Long wall.....	Steam.	Furnace.
Boggs Coal company.....	12	Mystic.....	C. M. & S. L. P.	Drift	Long wall.....	Horse.	Furnace.
Orr Bros. Coal company.....	12	1/2 mile east of Mystic.....	C. M. & S. L. P.	Slope	Long wall.....	Horse.	Furnace.
Diamond Block Coal company.....	5	1/2 mile east of Mystic.....	C. M. & S. L. P.	Shaft	Long wall.....	Steam.	Fan.
Star Coal company.....	5	Clarkdale.....	C. M. & S. L. P.	Shaft	Long wall.....	Steam.	Fan.
Unity Block Coal company.....	30	Bathun.....	C. M. & S. L. P.	Shaft	Long wall.....	Steam.	Fan.
Manufacturers Coal and Coke company.....	30	Darbyville.....	K. & W. and C. R. L. & P.	Slope	Long wall.....	Steam.	Furnace.
H. H. Parker.....		Livingston.....		Shaft	Room and pillar	Steam.	Fan.
Superior Coal company.....		South of Jerome.....		Shaft	Room and pillar	Steam.	Furnace.
Domestic Coal company.....		Cincinnati.....		Shaft	Room and pillar	Horse.	Furnace.
White Oak Coal company.....		North of Numa.....		Shaft	Room and pillar	Horse.	Furnace.
Vra A. Guilan.....		Coal City.....		Drift	Room and pillar	Horse.	Furnace.
Walnut Grove Coal company.....		North of Numa.....		Shaft	Room and pillar	Horse.	Furnace.
J. R. Wright.....		South of Centerville.....		Shaft	Long wall.....	Horse.	Furnace.
Sears.....		South of Centerville.....		Shaft	Room and pillar	Horse.	Furnace.
Wm. Smith.....		South of Centerville.....		Slope	Room and pillar	Horse.	Furnace.
Citizens Coal company.....		Centerville.....		Slope	Room and pillar	Horse.	Furnace.
Harpe Coal company.....		Centerville.....		Shaft	Room and pillar	Horse.	Furnace.
White Oak Coal company.....		Centerville.....		Shaft	Room and pillar	Horse.	Furnace.
Monitor Coal company.....		Centerville.....		Shaft	Room and pillar	Horse.	Furnace.

APPANOOSE COUNTY- CONTINUED.

Corporation, Firm or Operator.	Mine number.	Location of Mine.	Railroad Connection if Any.	Kind of opening.	System of Working.	Power used.	Means of ventilation.
Star Coal company.	Centerville	.....	Shaft	Room and pillar	Horse	Furnace.
Trico Coal company.	North of Centerville	.....	Shaft	Room and pillar	Horse	Furnace.
Rock Valley Coal Company.	Northeast of Centerville	.....	Shaft	Room and pillar	Horse	Furnace.
John Kennitz	North of Centerville	.....	Shaft	Room and pillar	Horse	Furnace.
Wilson & Seddon.	Myatie.	.....	Shaft	Long wall	Horse	Furnace.
Wentzville Electric Coal company.	Wentzville.	.....	Shaft	Room and pillar	Horse	Furnace.
Manufacturers Coal & Coke Company.	Coal City	I. & St. L.	Slope	Room and pillar	Steam	Fan.

MONROE COUNTY. (PART)

Considering the fact that no new mines were opened in the part of Monroe County included in this district, and that three mines were closed during the last year, the increase in last year's coal production of 131,147 tons over the preceding year is very gratifying. The gain was largely due to the greater steadiness of work in the principal mines of the county. During last year these mines averaged 247½ working days, while in the preceding year their average was only 215 days. For the year ending June 30, 1905 the average yearly production of coal (mine run) per miner employed in the railroad mines of the county was 733 tons, while last year the average yearly production per miner was increased to 905 tons.

Three mines were abandoned last year. The Excelsior Coal Company mine was closed last September, No. 4 mine of the Smoky Hollow Coal Company and No. 1 mine of the Hocking Coal Company were abandoned early in 1905. The Whitebreast Fuel Company at Hilton will be operated a few months longer. While it is probable that several new mines will be opened in the county the coming year, yet the loss in tonnage due to the closing of the above mines will make it very doubtful that a further increase in the county's coal production can be obtained from the remaining mines next year, unless market conditions are extremely favorable.

Summary of conditions of the mines in the county.

Smoky Hollow Coal Company. No. 7. A slope mine, located about four miles south-east of Hyaes. Considerable development work was done in the last year and its coal output will show a material increase during the coming year. The mine is in good condition.

Smoky Hollow Coal Company. Mine No. 6. A slope mine, located south-east of No. 7. The mine is well cared for, fairly ventilated and its general condition is good.

Wapello Coal Co. Mine No. 3. A shaft mine located west of Hiteman. Haulage on the south side of the mine was materially improved by the installation of a first motion tail rope engine and the making of a cut-off, doing away with two turns in the haulage road, besides shortening the haul. Incidentally the making of the cut-off permitted an improvement in the ventilation of the south side. The mine is kept in good condition.

Wanella Coal Co. Mine No. 4. A shaft located about three miles north-west of Hiteman. This mine produced more coal last year than any other mine in the district. It is in good condition.

Phillips Fuel Co. Mine No. 6. A shaft mine located near Foster. The ventilation of this mine was recently improved and further improvements in this direction are under way. The mine is in fairly satisfactory condition.

Whitebreast Fuel Co. of Illinois. Mine No. 10. A shaft mine located at Hilton. On account of unfavorable market conditions and for other reasons, this mine will soon be abandoned. It has been in operation about 5 years and is one of the best equipped mines in the State.

Hocking Coal Co. Mine No. 2 A shaft mine located east of Hocking. The ventilation of the extreme east workings somewhat deficient. Improvement work in that direction is under way. Otherwise the mine is in fair condition.

Hocking Coal Co. Mine No. 3. A shaft mine located east of No. 2. It is well equipped and is being rapidly developed. During the coming year it will show a gain in coal output over last year. The mine is in good condition in every respect.

Star Coal Co. A shaft mine located northwest of Albia. Connected with the C. B. & Q. railroad by tram track. The fan has been remodeled and other improvements were made to better the ventilation of the mine. The mine is now in satisfactory condition.

White Ash Coal Co. A slope mine located south of Avery. The mine has no railroad connection, but ships part of its output during the fall and winter. It is not extensively worked and only a few men are employed. It is in satisfactory condition.

MINES IN MONROE COUNTY (PART) THEIR LOCATION, ETC.

Corporation, Firm or Operator.	Mine number	Location of Mine.	Railroad Connection, if Any.	Kind of open- ing.	System of Working	Power used	Means of ven- tilation.
Wapello Coal company	7	1 mile west of Hite man	C. & O.	shaft	Room and pillar	steam	Fan.
Wapello Coal company	8	3 miles northwest of Hite man	C. & O.	shaft	Room and pillar	steam	Fan.
Smoky Hollow Coal company	9	4 miles southeast of Hite man.	C. & O.	shaft	Room and pillar	steam	Fan.
Phillips Fuel company	10	West of Foster	C. & O.	shaft	Room and pillar	steam	Fan.
Phillips Fuel company	11	East of Foster	C. & O.	shaft	Room and pillar	steam	Fan.
Phillips Fuel company	12	East of Hocking	C. & O.	shaft	Room and pillar	steam	Fan.
Phillips Fuel company	13	2 miles south of Albion	Lowia Cent.	shaft	Room and pillar	steam	Fan.
Hocking Coal company.	14	South of Albion	Lowia Cent.	shaft	Room and pillar	steam	Fan.
White Ash Coal company	15	South of Albion	Lowia Cent.	shaft	Room and pillar	steam	Fan.

LUCAS COUNTY.

This county is the only county showing a decrease in coal output last year, and it is more than probable that a further decline in that respect will take place the coming year. This unfavorable showing must not be taken as an indication that the coal resources of the county are failing. Large tracts of prospected coal lands have been acquired in this county in recent years by mining corporations and they are ready for development as soon as suitable shipping facilities and markets are provided.

The principal mine in the county is located at Cleveland and operated by the Whitebreast Fuel Company of Illinois. The hoisting shaft is 321 feet deep. The mine is in fair condition.

The Big Hill Fuel Company has re-opened its mine at Lucas. The workings are to the north of the hoisting shaft and are at present of small extent. The mine is in fair condition.

The Inland Fuel Company is operating its mine located northeast of Chariton in a small way. The mine will become one of the most productive mines in the State as soon as railroad connections are provided. The mine is in good condition.

MINES IN LUCAS COUNTY, THEIR LOCATION, ETC.

Corporation, Firm or Operator.	Mine number	Location of Mine.	Railroad Connection, if any.	Kind of opening.	System of Working.	Power used.	Means of ventilation.
Whitebreast Fuel company.....	4	Cleveland.....	C. B. & Q.....	Shaft.....	Room and pillar.....	Steam.....	Fan.....
Big Hill Fuel company.....		Lucas.....	C. B. & Q.....	Shaft.....	Room and pillar.....	Steam.....	Fan.....
Inland Fuel company.....		3 1/2 miles northeast of Chariton.....	C. B. & Q.....	Shaft.....	Room and pillar.....	Steam.....	Fan.....
Sidmore Bros.....		Northeast of Lucas.....	C. B. & Q.....	Shaft.....	Long wall.....	Horse.....	Furnace.....

WAYNE COUNTY.

The coal output of Wayne county is at present produced by ten mines, two of them having shipping facilities. The Big Jim mine, connected with the C. M. & St. P. railroad and operated by the Numa Block Coal Company, produced more coal during the last year than any other mine in the Appanoose-Wayne field. The hoisting shaft of this mine is 202 feet deep. The mine is well ventilated and in good condition. The Sunshine mine, connected with the Rock Island railroad and operated by the Sunshine Coal Company was maintained in fairly acceptable condition last year. A larger hoisting engine was erected this summer. The small local mines are in fairly satisfactory condition.

MINES IN WAYNE COUNTY, THEIR LOCATION, ETC.

Corporation, Firm or Operator.	Mine number.	Location of Mine.	Railroad Coal H. A. V.	Kind of open- ing.	System of Working.	Power used.	Means of ven- tilation.
Numa Block Coal company	1	1 mile east of Seymour	C. M. & St. P.	Shaft	Longwall	Steam	Fan
Numa Block Coal company	2	Seymour	C. M. & St. P.	Shaft	Longwall	Steam	Fan
Numa Block Coal company	3	Seymour	C. M. & St. P.	Shaft	Longwall	Steam	Fan
Sam Walker	4	4 miles southwest of Seymour.	.....	Shaft	Longwall	Steam	Furnace
E. H. Roper	5	4 miles south of Confidence.	.....	Shaft	Longwall	Steam	Furnace
A. H. Roper	6	4 miles south of Confidence.	.....	Shaft	Longwall	Steam	Furnace
John Hayhurst	7	South of Confidence	.....	Shaft	Longwall	Horse	Furnace
L. W. Jared	8	South of Confidence	.....	Shaft	Longwall	Horse	Furnace

TAYLOR COUNTY.

The principal mines in Taylor county are located near New Market and three of these have switches off the Burlington road. The coal vein is about 16 inches thick, it is reached by shafts and worked longwall. The roof overlying the coal is good and accidents to persons employed underground are rare, none of a serious nature having occurred last year. Hoisting is done by horse power and the hoisting apparatus of the different mines has been kept in satisfactory condition. Little difficulty was experienced in ventilating the mines properly.

MINES IN TAYLOR COUNTY, THEIR LOCATION, ETC.

Firm or Operator.	Mine number	Location of Mine.	Railroad Co. or H. Any.	Kind of open inf.	System of Working.	Power used.	Means of ven- tilation
Tomlinson & Pace	1	East of New Market	C. B. & Q.	Shaft	Long wall	Horse.	Furnace.
Campbell Coal Co	2	East of New Market	C. B. & Q.	Shaft	Long wall	Horse.	Furnace.
W. E. Rogers	3	East of New Market	C. B. & Q.	Shaft	Long wall	Horse.	Furnace.
N. E. Ankeny	4	2 miles east of New Market	C. B. & Q.	Shaft	Long wall	Horse.	Furnace.
W. E. Rogers	5	6 miles north of New Market	C. B. & Q.	Shaft	Long wall	Horse.	Furnace.
W. E. Rogers	6	6 miles north of New Market	C. B. & Q.	Shaft	Long wall	Horse.	Furnace.
W. E. Rogers	7	Henshaw	C. B. & Q.	Shaft	Long wall	Horse.	Furnace.

PAGE COUNTY.

The coal output of Page county last year amounted to 17,278 tons, a slight increase over the preceding year. At present there are five mines in operation in the county, four of these have been working for some years and one, that of the Coin Coal Company located at Coin, has been recently opened. Steam power for hoisting is used at the mine of the Johnston Coal Company and also at the new mine at Coin.

All the mines were kept in satisfactory condition last year, their equipments complied with the requirements of the law and the mine ventilation was generally fair.

No accidents to persons employed in and about the mines of Page county occurred during last year.

MINES IN PAGE COUNTY, THEIR LOCATION, ETC.

Firm or Operator.	Mine number.	Location of Mine.	Railroad Connection, if any.	Kind of open- ing.	System of Working.	Power used.	Means of ven- tilation.
Johnston & Co.	1	2 miles west of Clarinda.		Shaft	Longwall	Steam	Purnace
W. A. Arnold & Co.		2 miles south of Clarinda.		Shaft	Longwall	Horse	Purnace
W. A. Arnold Coal company.		2 miles south-east of Clarinda.		Shaft	Longwall	Horse	Purnace
J. S. Moore.		2 miles southwest of Clarinda.		Shaft	Longwall	Horse	Purnace
Coin Coal company		Coin.		Shaft	Longwall	Steam	Jet.

ADAMS COUNTY.

The coal production of Adams county last year amounted to 21,817 tons, an increase of 2,240 tons over the preceding year. At present thirteen mines are operated, all of them small. Most of the coal produced in the county comes from the mines of the vicinity of Carbon.

The coal seam averages about sixteen inches in thickness. It is reached by shallow shafts and worked longwall. Mining conditions favor the safe working of the mines, and accidents of serious character are rare. The equipments are adequate to the needs of the mines. Mine ventilation is generally fair.

MINES IN ADAMS COUNTY, THEIR LOCATION, ETC.

Firm or Operator.	Mine number.	Location of Mine.	Railroad Connection, If Any.	Kind of opening.	System of Working.	Power used.	Means of ventilation.
J. M. Henton	1	Eureka	.....	Shaft	Longwall	Horse.	Furnace
M. Amder	2	North of Carbon	.....	Shaft	Longwall	Horse.	Furnace
M. Amder	3	Carbon	.....	Shaft	Longwall	Horse.	Furnace
J. F. Rath	4	Carbon	.....	Shaft	Longwall	Horse.	Furnace
J. F. Rath	5	Carbon	.....	Shaft	Longwall	Horse.	Furnace
Collins & Barker	6	Carbon	.....	Shaft	Longwall	Horse.	Furnace
C. Dixon	7	Carbon	.....	Shaft	Longwall	Horse.	Furnace
Barn Day	8	West of Carbon	.....	Shaft	Longwall	Horse.	Furnace
Barn Day	9	West of Carbon	.....	Shaft	Longwall	Horse.	Furnace
Mason & Daugherty	10	Northwest of Nodaway	.....	Shaft	Longwall	Horse.	Furnace
R. N. Hathaway	11	West of Carbon	.....	Shaft	Longwall	Horse.	Furnace

ACCIDENTS.

The number of fatal and serious accidents occurring in and about the mines of the district during the last year is far in excess of the number of accidents occurring in any one year since the organization of the district. The record for the year ending June 30, 1906, shows 16 fatal and 44 serious accidents. Of the former three were caused by cars, 11 were due to falls of slate, rock or coal and 2 were caused by the premature explosion of a shot. No fatal accident, in fact no accident of any kind, was caused by the absence or defect of any safety appliances the law prescribes. Sixty-two per cent of the fatal accidents occurred at the working face. Sixty-one per cent of the serious accidents were due to falls of slate, rock or coal.

Fatal Accidents in District No. 1, July 1, 1905—June 30, 1906.

Date.	Name of Deceased.	Occupation	Cause of Death.	Employed by—	County.
1905					
July 17	James McDonald.....	Driver.	Runaway car	Hocking Coal Co.....	Monroe.
July 17	S. Johnson.....	Miner.	Fall of slate	Wapello Coal Co.....	Monroe.
August 5	Joseph White.....	Timberman's helper	Fall of slate	Whitebreast Fuel Co.....	Monroe.
August 23	J. Scarich.....	Miner.	Fall of rock	Orr Bros. Coal Co.....	Appanoose.
September 20	James Ambury.....	Miner....	Fall of coal.....	Numa Block Coal Co.....	Wayne.
October 8	A. Tadjevich.....	Miner....	Fall of slate	Whitebreast Fuel Co.....	Monroe.
October 20	F. McCorry.....	Miner....	Fall of rock	Appanoose Coal and Fuel Co...	Appanoose.
November 7	F. Caldwell.....	Driver.	Caught between mule and car	Smoky Hollow Coal Co.....	Monroe.
December 14	James Wiley.....	Miner....	Fall of slate	Hocking Coal Co.....	Monroe.
December 30	P. Martin.....	Miner....	Fall of bat	Unity Block Coal Co.....	Appanoose.
1906					
January 13	A. Sheppard.....	Miner....	Premature explosion	Hocking Coal Co.....	Monroe....
January 13	W. Sheppard.....	Miner....	Premature explosion	Hocking Coal Co.....	Monroe....
February 15	P. O'Hara.....	Driver.	Fall of slate	Star Coal Co.....	Monroe....
March 1	E. Mitchell.....	Driver.	Caught between car and rib.	Hocking Coal Co.....	Monroe....
March 16	L. Corman.....	Miner....	Fall of rock	Consolidated Block Coal Co.....	Appanoose.
June 18	C. Ribbing.....	Miner....	Fall of slate	Wapello Coal Co.....	Monroe....

Serious Accidents in District No. 1, July 1, 1905—June 30, 1906.

40

Date.	Name of Injured.	Occupation.	Character of Injury.	Cause of Injury.	Employed by—	County.
July 1905	5 J. C. Thomas.....	Timberman....	Foot badly bruised.....	Fall of slate.....	Wapello Coal Co.	Monroe.
August	4 Geo. Roberts.....	Cager.....	Ribs broken	Caught under cage..	Wapello Coal Co.	Monroe.
August	12 N. Frost.....	Miner.....	Leg broken	Fall of coal.....	Acken Coal Co.	Appanoose.
August	23 F. Stice.....	Driver.....	Shoulder dislocated.....	Caught by tail chain.	Smoky Hollow Coal Co.	Monroe.
August	24 L. Lee.....	Miner.....	Leg broken	Fall of coal.....	Acken Coal Co.	Appanoose.
August	25 S. Wilson.....	Driver.....	Skull fractured.....	Struck by post	Smoky Hollow Coal Co.	Monroe.
August	28 A. J. Swanson.....	Trip rider	Back injured	Fall of slate	Smoky Hollow Coal Co.	Monroe.
September	15 F. Clay.....	Miner.....	Ankle broken.....	Fall of coal	Iowa Block Coal Co.	Monroe.
September	21 J. Allison.....	Miner.....	Arm broken	Fall of slate	Wapello Coal Co.	Appanoose.
October	23 C. Lingren.....	Miner.....	Head and side cut.....	Str'k by tail rope trip	Smoky Hollow Coal Co.	Monroe.
October	24 E. Canfield.....	Laborer.....	Back and hips injured ..	Fall of slate	Consumers Coal Co.	Appanoose.
October	28 N. Nelson.....	Driver.....	Leg broken	Run over by car	Whitbreast Fuel Co.	Lucas.
November	7 A. L. Van Pelt.....	Blacksmith....	Leg broken	Pit car fell on him...	Smoky Hollow Coal Co.	Monroe.
November	16 G. W. Divers.....	Miner.....	Foot broken	Fall of coal.....	Whitbreast Fuel Co.	Lucas.
November	18 C. Conklin.....	Driver.....	Collar bone broken.....	Caught between cars	Consolidated Block Coal Co.	Appanoose.
November	25 J. Ogilvie.....	Miner.....	Hip disloc'd, arm brok'n	Fall of coal.....	Mystic Coal Co.	Appanoose.
December	1 M. Ridener.....	Shutflrer.....	Face burnt	Explosion	Hocking Coal Co.	Monroe.
December	7 F. Burns.....	Miner.....	Leg broken	Fall of coal.....	Diamond Block Coal Co.	Appanoose.
December	8 H. Morrell.....	Miner.....	Leg broken	Fall of slate.....	Wapello Coal Co.	Monroe.
December	12 G. Hartman.....	Laborer.....	Finger cut off.....	Struck by wedge.....	Wapello Coal Co.	Monroe.
December	15 Wm. Stirts.....	Laborer.....	Leg broken	Fall of rock	Tipston Co-opera	Appanoose.
December 1905	17 O. Doctorman.....	Cager	Leg broken	Car thro'n from cage	Mystic Coal Co.	Appanoose.
December	19 J. Nelson.....	Miner.....	Foot crushed	Fall of coal.....	Smoky Hollow Coal Co.	Monroe.
December	24 J. Gillespie.....	Top cager.....	Nose broken	Struck by cage	Mendota Coal & Mining Co.	Appanoose.
December	22 R. Wilson.....	Mine owner....	Back injured, ribs broke	Fall of brushing	Wilson & Seddon.	Appanoose.
January 1906	1 J. E. Mason.....	Miner	Collar bone broken.....	Fall of slate.....	Mason & Daugherty	Adams.
January	8 W. Garrington.....	Miner	Ribs broken	Fall of coal.....	Smoky Hollow Coal Co.	Monroe.
January	12 W. Bitterman.....	Miner	Collar bone broken.....	Fall of coal.....	Smoky Hollow Coal Co.	Monroe.
January	24 A. Johnson.....	Miner	Leg broken	Fall of bat	Egypt Coal Co.	Appanoose.
January	26 C. Miller.....	Outside labor'r	Ankle broken.....	Caught between cars	Smoky Hollow Coal Co.	Monroe.
February	7 F. Quilhan.....	Miner	Back and leg injured....	Fall of slate	Smoky Hollow Coal Co.	Monroe.
February	10 I. H. Keller.....	Driver.....	Severely bruised	Fall of rock	Numa Block Coal Co.	Wayne.
March	5 J. Delvesco.....	Miner.....	B'k bruised internal inj	Fall of slate.....	Smoky Hollow Coal Co.	Monroe.
March	9 O. Eck.....	Driver.....	Ankle broken, head cut.	Run over by car.....	Smoky Hollow Coal Co.	Monroe.
March	12 W. Green.....	M'ch runner ..	Three fingers cut off....	Caught in mining machine	Peerless Coal Co.	Appanoose.
March	17 L. Brown.....	Trapper.....	Ankle broken.....	Run over by car.....	Phillips Fuel Co.	Monroe.
March	20 W. F. Lomax.....	Miner	Ribs and bones in hand broken	Fall of slate.....	Smoky Hollow Coal Co.	Monroe.
March	24 G. Rowley.....	Miner	Leg broken	Fall of coal.....	Hocking Coal Co.	Monroe.
May	24 Geo. Long.....	Miner	Face and hand burnt ..	Premature explosion	Hocking Coal Co.	Monroe.
May	24 Geo. Stocks.....	Miner	Leg broken	Premature explosion	Hocking Coal Co.	Monroe.
May	25 F. B. Jenkins.....	Timberman....	Leg and ribs broken	Fall of slate.....	Smoky Hollow Coal Co.	Monroe.
June	6 T. Polic.....	Miner	Arm broken	Fall of coal.....	Diamond Block Coal Co.	Appanoose.
June	8 E. Valentine.....	Driver.....	Leg broken	Fall of slate.....	Wapello Coal Co.	Monroe.
June	13 O. Olson.....	Miner	Leg broken	Fall of slate.....	Phillips Fuel Co.	Monroe.

THIRTEENTH BIENNIAL REPORT OF THE

STATE NINE INSPECTORS.

Fatal and serious accidents in District No. 1, July 1, 1905, to June 30, 1906, with relation to coal produced and number of employes.

County.	Number of Accidents.		Number of Tons of Coal Produced.	Tons of Coal Produced for each Accident.		Number of Employes.	Number of Employes for each Accident.	
	Fatal.	Serious.		Fatal.	Serious.		Fatal.	Serious.
Appanoose	4	15	1,066,655	264,164	70,444	3,632	908	242
Monroe (part) ..	11	25	1,305,544	114,585	50,422	2,319	201	88
Adams	...	2	151,432	75,716	...	400	...	200
Wayne	1	1	121,288	121,288	121,288	419	419	419
Taylor	...	...	19,505	...	...	125	...	...
Page	...	...	17,278	...	...	108	...	...
Adams	...	1	21,817	21,817	...	181	...	181
Total	16	44	2,648,519	165,532	60,194	7,075	442	161

NATIONAL BUREAU OF MINES

In the last report expression was given to the need of national assistance in the prevention of mine accidents. In order to bring the matter before Congress, Hon. John F. Lacey, Representative of the Sixth Iowa Congressional district introduced a bill in congress providing for the creation of a national bureau of mines. The bill was distinctly favorable to the mining interests of this country, and for the benefit of the general public, but it failed because of lack of support by those who should have been much interested in the enactment of legislation of this kind.

The necessity of a national bureau of mines, however, is becoming more and more apparent and it may be confidently expected that legislation authorizing its creation will be enacted by congress in the near future.

Is it a dangerous practice to reduce the speed of the fan at shot-firing time?

An article on "Blasting Coal in Bituminous Mines" by J. T. Beard, published in the Engineering & Mining Journal, September 23-30, 1905, reprinted by special permission, and distributed by the Aetna Powder Co. was received in this office some time ago. The article criticizes rather severely the practice now generally prevailing in this district of slowing down the fan at firing time and condemns it as extremely dangerous.

Mr. Beard says: "I do not know where this theory has gained ground, or how it could recommend itself to any intelligent man. It is not indorsed by the practice throughout the anthracite and bituminous regions of Pennsylvania, and I have been unable to find any record of such practice in any other coal field, or in any mining country."

"In the anthracite field of Pennsylvania there probably occur as many small local explosions of bodies of gas and of premature shots, as in any other district, with the result that these seldom develop into a large explosion; yet I do not hesitate to say that the creed of the anthracite district is today, and always has been, ample ventilation. It would be considered highly dangerous in the anthracite field to reduce in any way this current at the time of firing."

"A reduction of the air in circulation means a fall of pressure throughout the mine, which, in a blowing system of ventilation at least, is at once accompanied by more or less of an outflow of gas, both from the coal in gaseous seams and also from the abandoned workings in every mine; this would occur just at the time when the mine air should be free from gas. Moreover, the firing of shots always produces large volumes of gas that should at once be carried out of the mine by an ample air current, and not allowed to diffuse into other portions of the workings. I hope that this practice (of slowing the fan just before short firing) will be discontinued wherever it has been begun."

In February 1902 a commission was appointed by Governor Cummins to inquire into and investigate the matters of explosion in the coal mines in

Iowa, and in the report submitted by that commission the following was said regarding the reduction of the air volume entering a mine at shot-firing time:

"It may appear an anomaly to present the suggestion that a reduction in the air volume entering a mine can lessen the force of an explosion. Many hold that insufficient ventilation, or poorly directed ventilation, is the direct cause of explosions and that it is dangerous, where the occurrence of explosions is feared, to reduce the air volume at any time and especially at firing time. This is true of mines generating fire damp, but there is a wide difference, with the explosion wholly due to gas and an explosion in which fire damp had no part whatever. In the former case a brisk and well directed ventilating current tends not only to obviate the occurrence of an explosion, but in the event of this occurrence, the influence of such current is beneficial because it reduces the danger of additional accumulations of gas being provided to increase the explosion's force. In the other case, where coal dust enters as one of the elements of an explosion, a brisk current going through a mine at the time of its occurrence, which is at firing time, may be made the conveyor of fuel, in the shape of fine coal dust, to the forming explosion; it will certainly aid the more complete combustion of the dust, and besides as already has been remarked, the retarding influence of a strong current to the rapid advance of an explosion affords time for the combustion of a greater quantity of dust."

"It has also been stated that a decrease in the air volume, while it may lessen the dust explosion's force, would make the after damp more dangerous and deadly. Comparison of the effects of explosion, which occurred in mines where the air supply was reduced and in others where a strong current was going through them at the time of their occurrence, does not sustain that claim. Such comparison further demonstrates the fact that in the latter case the destruction wrought was infinitely greater than in the former."

"The forgoing, true as it appears to be is not to be considered an argument for poor or insufficient ventilation. Impure air may prevent an explosion, but it is impracticable, as well as dangerous, to life to resort to it as a remedy."

Now, in Mr. Beard's views this is all wrong. It is not indorsed, so he says, by the practice throughout the anthracite and bituminous regions of Pennsylvania and he has been unable to find any record of any such practice in any other coal fields, or in any mining country. Mining practice necessarily differs in different localities, and the fact that a certain method is undesirable in Pennsylvania is not proof that this method cannot be successfully applied in the Iowa mines. So far as the situation in Iowa is concerned, we can say that the practice of slowing down the fan at firing time has passed beyond the theoretical and experimental stage; it has been found to be the correct practice fully sustained by practical tests and in adopting and adhering to this practice, the people interested in mining coal in Iowa, are not inclined to concede that their action in the premises was due to a lack of discernment and intelligence on their part.

It is now more than four years since the commission on explosions in Iowa approved the suggestion of slowing down the fan at firing time. Dur-

ing all these years the practice of reducing the speed of the fan at firing time, has been followed in this district and Mr. Beard's prediction of disaster has not come true.

If there is one man better qualified than another to judge whether the practice of slowing down the fan at firing time increases or reduces the danger, that man is the shot firer. The shot firers employed in the mines of this district are competent and experienced men, several of them have followed that line of work in other states and under the conditions Mr. Beard advocates as conducive to safety, and it must be granted that these men have fair opportunities for practical observation and comparison, and they are unanimous in declaring themselves in favor of the Iowa practice, while some of them are so emphatic in their views on this point that they would refuse to fire a shot, especially in a new mine, with the fan running at its usual speed.

Mr. Beard may have been unable to find any evidence of the Iowa practice having received favorable consideration in any other coal field, but his failure to discover it is not proof that such evidence does not exist. Everything must have a beginning, and we admit that the practice originated in Iowa and that, for a time, this state stood alone in favoring it, but that is no longer the case for the practice has found friends and favor in other coal mining states, as the following will show. In the report of the commission appointed to investigate in the coal mines of south-eastern Kansas, published early in 1905, we find the following: "Slowing down the fan seems to be of an advantage". In the report of the mine inspector of Missouri for 1904, a like statement is made in more positive language: "The question as to the speed of the fan while shot firing is in progress, is another feature worthy of attention and will be taken up in our next report. In the mean time the best information leads us to advise that the speed of the fan be lessened while shot firing is engaged in". The men making these statements hold positions of responsibility and it must be presumed that they are qualified to speak on the subject and that their recommendations are based on results of intelligent investigation on their part.

There are many instances on record to furnish convincing proof that a large air volume entering a mine at the time an explosion occurred in it, contributed materially in increasing the explosion's force and extent. In the recent disaster in the mines at Courrières, France, the explosion exhibited its greatest virulence where the air volume was the strongest, namely at the bottom of the down cast shaft. Ventilation was provided by a powerful force fan.

Nobody in Iowa ever made the claim that reducing the speed of the fan at firing time would prevent an explosion, neither has any one in this State recommended the practice for gaseous mines. We favored the practice for non-gaseous mines, believing that it could be done with safety and that its application would materially lessen the extent and destructiveness of a dust explosion, should one occur, and at the same time give greater protection against the destruction of the machinery, the immediate availability of which is of such vital importance of quick rescue work, the ventilating fan. We believe the four years test of the practice in Iowa has shown that it does not promote explosions, that it tends rather to prevent their formation and that the belief in its effectiveness to lessen an explosion's extent and force is justified.

Inspector's Report

of the

SECOND DISTRICT

Embracing Mahaska, Marion, Monroe (Part), Keokuk, Van Buren, Davis,
Jefferson, Wapello and Warren Counties.

JAMES A. CAMPBELL, Inspector.

LETTER OF TRANSMITTAL.

HON. ALBERT B. CUMMINS, Governor of Iowa.

Sir,—I have the honor to submit to you herewith my second report as Mine Inspector of the Second District for the year ending June 30, 1906.

Very respectfully,

JAMES A. CAMPBELL,

Inspector.

REPORT OF THE SECOND DISTRICT.

During the last year the mines in the Second District have been visited as frequently as it was possible to do so. With few exceptions the sanitary and safety conditions of the mines are good. The law regarding safety appliances in mines has for the most part been complied with, and it affords me great pleasure to say that up to the present time it has not been necessary to resort to legal proceedings to enforce any of the requirements of the mining laws. Whenever defects have been shown to the operators or their agents they have always been ready to repair or make the improvements requested, as soon as possible, and in such cases the defect was more from neglect than any other cause.

I appreciate the interest the miners as well as the operators have taken as it has lessened the burdens of work in this district.

The mines of the district have been operated most of the time during the year, except during the month of April when they were idle waiting for an agreement to be made between the miners and operators of the state.

The prospects are good for a very large coal business the coming year, and the mines in the field are in shape to meet the demand.

There was mined in this district the last year 2,328,624 tons of coal and to produce this amount there were used 2,943 miners, 893 inside employees and 348 outside employees, making a total of 4,184 men employed in and around the mines of the district.

Prospecting is still being done over the district and the coal companies are reaching out far from the railroads, and finding good coal fields. The territory adjacent to the railroads has been worked out to a considerable extent in different parts of the district and mines are being developed further away from them. There are large fields somewhat remote from the railroads that are being developed at the present.

The coal in this district is considered a good steam coal and is of fair thickness, averaging nearly five feet.

There have been opened in this district eight new mines that promise well for the future. There have been abandoned the past year four railroad mines.

During the year ending June 30, 1906, 13 fatal and 31 nonfatal accidents have been reported from the mines of the district.

SCALES TESTED.

There were 38 sets of scales tested during the year; 13 of this number were found not weighing correctly. When superintendents were notified of the defects they always had them overhauled and put in condition to weigh correctly.

LIST OF FATAL ACCIDENTS OCCURRING IN THE MINES OF
SECOND DISTRICT FOR THE YEAR ENDING JUNE 30, 1906.

MIKE MASSIG.

On July 21, 1905, a fatal accident occurred to Mike Massig, a miner in the employ of the Crescent Coal Company of White City, Mahaska county, Iowa. The accident occurred at about 3 p. m. in room 8, eighth south entry of Crescent No. 5. He was at work tapping a hole when fall of slate crushed him causing death instantly. When found he was under the slate about eight feet from the face. He was 27 years old, and had been in the employ of the company about four months.

JOE MONZLUCK.

On October 10, 1905, a fatal accident occurred to Joe Monzluck, a digger in the employ of the Consolidation Coal Company of Buxton, Monroe county, Iowa. Accident occurred in Mine No. 11, and was caused by falling slate. He was about 40 years old and had been in the employ of the company for three years.

LOUIS BOULANGER.

On October 25, 1905, fatal accident occurred to Louis Boulanger, a miner in the employ of the Dunreath Coal Company, of Dunreath, Marion county, Iowa. Accident occurred about 1 p. m. in Mine No. 2, on second south entry on west in front of room 8, neck just turning. He was loading car when a large piece of slate, probably loosened by noon shot in neck of room, fell on him crushing his side and skull and killing him instantly.

JACKSON MEASE.

On November 29, 1905, fatal accident occurred to Jackson Mease, a miner in the employ of the Consolidation Coal Company of Buxton, Monroe county, Iowa. Mine No. 10 was the one in which the accident occurred. Mr. Mease was at work in room No. 30, when fall of slate occurred covering him completely and killing him instantly. He was found a few minutes later by Alonzo Brooks a timberman in the employ of the same company. Mr. Brooks had gone to fix the timbers and found Mease dead under slate.

JAMES FERGUSON.

On January 22, 1906 fatal accident occurred to James Ferguson a miner in the employ of the Consolidation Coal Company of Buxton, Monroe county, Iowa. Accident happened about 9:30 a. m. Mr. Ferguson was at work in his room No. 11, on 5th B when fall of slate occurred breaking one leg and mashing in side and ribs. He died in about two hours after bringing him home. Slate was at face of room, should have been taken down. Accident occurred in Mine No. 13, of above company.

GARLAND BROWN.

On December 19, 1905 fatal accident occurred to Garland Brown, a trapper in the employ of the Consolidation Coal Company of Buxton, Monroe county, Iowa. Accident occurred in Mine No. 10 of above company. He was holding an empty on the 4th A siding when car got away from him down the hill running over him and killing him almost instantly. When found he was lying under the hind end of car with his head across the track. He was dead when found. His death was considered purely accidental by the coroner's jury and a verdict so rendered.

LEFF EDWARDS.

On February 1, 1906 fatal accident occurred to Leff Edwards, a shot frer in the employ of the Phillips Fuel Company, of Rutledge Wapello, county, Iowa. Mr. Edwards had been in the employ of the company for some time as digger and driver, but just took the job of firing the day he was killed. No one was present at time of accident. It was supposed that he had lighted shots and failed to get far enough away before shots went off. Death was caused by flying coal. Accident occurred about 12:30 p. m. on above date. He was dead when found. His head was blown off. He was about 24 years old.

WILLIAM DYSON.

On February 24, 1906 fatal accident occurred to William Dyson a miner in the employ of the Mammoth Vein Coal Company of Bussey, Marion county, Iowa. Accident occurred in yard of Mammoth Vein Coal Company near Mine No. 5. Mr. Dyson was riding on train carrying miners to work and train was backing down into yards, the coach hit a flat car and was thrown off the track. No one witnessed the accident but it was supposed that the jar threw him off the car. He was dead when found. His head was crushed. He was evidently crushed between the cars.

MINOR BROOKS.

On May 1, 1906 fatal accident occurred to Minor Brooks a miner in the employ of the Consolidation Coal Company of Buxton, Monroe county, Iowa. Mr. Brooks was in his working place, 1st A entry pulling pillars, when fall of slate occurred killing him. Accident was purely accidental as his buddy had told him to take down slate before he went to work, but he did not. Mr. Brooks was over fifty years old and had been in the employ of the above company for about four years. Accident occurred in Mine No. 11 of above company.

ROBERT KING.

On September 21, 1905 fatal accident occurred to Robert King, a minor in the employ of the Garfield Coal Company of Oskaloosa, Mahaska county, Iowa. King stuck a pick into a keg of powder causing an explosion. He was badly burned and only lived a week.

J. A. RICHMOND.

On May 11, 1906 fatal accident occurred to J. A. Richmond an engineer in the employ of the Raven Coal Company of Oskaloosa, Mahaska county, Iowa. Richmond by some means fell in hot water vat and was scalded.

EDWARD ELLIS.

On December 20, 1905, fatal accident occurred to Edward Ellis a timberman in the employ of the Morrow Coal & Mining Company of Colon, Mahaska county, Iowa. Accident happened on Third South Entry. There was some loose slate he was attempting to remove so driver could go under, and when slate fell he did not get away far enough and was caught. He was advised by pit foreman to let it go, but he said he could pull it down and get away all right. He had been in the employ of the above company two months previous to his death.

JAMES GORDEN.

On May 3, 1906, fatal accident occurred to James Gorden a miner in the employ of the Morrow Coal & Mining Company of Colon, Mahaska County, Iowa. Mr. Gorden was at work in Room 5, Sixth North Entry when a fall of slate occurred crushing his head and causing his death. Accident was caused through neglect to timber his working place, though requested by the pit foreman to do so. He had been in the employ of the above company for three years.

FATAL ACCIDENTS IN DISTRICT NO. 2—FOR YEAR ENDING JUNE 30, 1906.

Date.	Name of Deceased.	Occupation.	Cause of Death.	Employed by—	County.
1905					
July	Mike Masig	Miner	Fall of slate.	Crescent Coal company	Mahaska.
August	Joe Monluck	Digger	Fall of slate.	Consolidation Coal company	Mahaska.
October	Louis Boulanger	Miner	Fall of slate.	Dunreath Coal company	Monroe.
October	Garland Brown	Miner	Fall of slate.	Consolidation Coal company	Marion.
December	Garland Brown	Trapper	Run over by car.	Consolidation Coal company	Monroe.
December	Edward Ellis	Timberman	Fall of slate.	Morrow Coal & Mining company	Mahaska.
January	James Ferguson	Miner	Fall of slate.	Consolidation Coal company	Monroe.
February	Jeff Edwards	Shot Firer.	Flying coal.	Phillips Fuel company No 5	Wapello.
February	Minor Brooks	Miner	Fall of slate.	Consolidation Coal company	Monroe.
May	Jas Gorden	Miner	Fall of slate.	Morrow Coal & Mining company	Monroe.
May	J. A. Richmond	Engineer	Fell in hot water vat.	Raven Coal company	Mahaska.

LIST OF NON FATAL ACCIDENTS OCCURRING IN SECOND DISTRICT DURING THE YEAR ENDING JUNE 30, 1906.

July 21, 1905, E. J. Purcell, timberman employe of Dunreath Coal Company, Dunroath, Marion county, Iowa, fall of slate breaking one leg above ankle.

August 16, 1905, Sept Baird, an entry man employe of Consolidation Coal Company, Buxton, Monroe county, Iowa, caught by car and crushed. One leg broken.

September 25, 1905, George W. Bland, a digger in the employ of the Consolidation Coal Company of Buxton, Iowa, fall of slate breaking one leg.

October 6, 1905, Albert Ahn, a timberman in employ of Consolidation Coal Company of Buxton, Monroe county, Iowa, fall of slate. One leg broken.

October 12, 1905, Ed J. Downs, miner in the employe of the Consolidation Coal Company of Buxton, Monroe county, Iowa, was going past mouth of No. 1 Room on his way to dinner when shot went off and flying coal struck him breaking his leg.

October 21, 1905, Wm. K. Harris, a cager in the employ of Consolidation Coal Company of Buxton, Monroe county, Iowa, had one leg broken and was hurt internally by being caught between the cage and the curbing.

October 31, 1905, W. H. Taylor, a digger in the employ of the Consolidation Coal Company of Buxton, Monroe county, Iowa. He went to get on cage with others. A trip came onto the bottom and hit an empty, the cage did not have time to move and it caught Taylor between car and cage breaking one leg.

November 10, 1905, Charles Shelton, a driver in the employ of the Consolidation Coal Company of Buxton, Monroe county, Iowa. Car jumped the track and pinched him against the rib breaking one leg.

November 21, 1905, Marshall Lowery, a digger in the employ of the Consolidation Coal Company of Buxton, Iowa, fall of slate, one leg broken.

James Hope, Jr., driver in the employ of the Crescent Coal Company of White City, Mahaska county, Iowa. Coal fell off of car previous trip, caught his foot between car and coal. Bad bruise.

December 7, 1905, William Mash, a coupler employe of the Consolidation Coal Company of Buxton, Monroe county, Iowa. He was going past motor and reached out and put hand on motor cog wheel. Had three fingers and part of hand mashed off.

December 11, 1905, Robert Fairfax, digger in employ of Consolidation Coal Company of Buxton, Iowa, run over by car and leg broken.

December 14, 1905, Frank Miller in Mine No. 11 of Consolidation Coal Company of Buxton, Iowa, fall of slate breaking one leg.

December 1, 1905, John Buchanan, miner in employ of Star Coal Company of South Ottumwa, Wapello county, Iowa, fall of slate injuring him in the back and internally.

January 27, 1906, Hugh Siron, a miner in the employ of the Consolidation Coal Company of Buxton, Iowa. Shot went off before he got out of room. Bone in hand was broken and hand mashed.

May 24, 1906, Angelo Bazzacco miner in the employ of the Central Coal Company, Hickory, Monroe county, Iowa. Fall of slate. Right arm and collar bone broken.

December 27, 1905, John Boden miner in employ of Ackers Coal Company of Buxton, Monroe county, Iowa. Fall of slate. Hurt in back.

January 23, 1906, John Smith, shot examiner and shot firer, in the employ of the Crickett Coal Company Buxton, Monroe county, Iowa. Explosion of caps. Hand blown off.

January 30, 1906, Henry Dieleman, engineer in employ of Dieleman Coal Company, Pella, Marion county, Iowa. Blow off pipe was stopped. In trying to open he was severely scalded with hot water.

February 17, 1906, John Purkey, miner, employ Crescent Coal Company, White City, Mahaska county, Iowa. Fall of slate. Arm broken.

October 12, 1905, A. T. Swanson, miner, employ Bolton & Hoover Coal Company, Oskaloosa, Mahaska county, Iowa. Fall of slate. Finger mashed.

October 17, 1905, Frank Gale, miner, employ of Rex Fuel Company, Bussey, Marion county, Iowa. Fall of slate. Leg broken.

January 19-6, D. M. Reese, miner, employ of Phillips Fuel Company of Rutledge, Wapello county, Iowa. Feet and legs bruised and back strained by dropping of cage too rapidly and the sudden stopping of same. Engineer did not know any one was on the cage.

January 29, 1906, John H. Allen, miner in the employ of the Consolidation Coal Company of Buxton, Monroe county, Iowa. He was using fuse and thought it had not lighted when the shot went off coal hitting him and breaking his ankle.

November 15, 1905, Frank Polock, miner in the employ of the Carbon Coal Company of Willard, Wapello county, Iowa. Fall of slate. Leg broken and chest bruised.

January 15, 1906, John Mitton, miner in the employ of the Cedar Creek Coal Company of Hamilton, Marion county, Iowa. Struck by flying coal breaking one arm and cutting face and head. Shot blew through.

February 6, 1906, Charles Martin, miner in the employ of the Crescent Coal Company of White City, Mahaska county Iowa. Attempted to cross shaft under cage. Was caught by cage. Badly bruised.

June 30, 1906, William Moppin, driver employ of Consolidation Coal Company of Buxton, Iowa. Run onto by car. Leg broken.

May 3, 1906, Owen Bringman, entry man, employ of Consolidation Coal Company of Buxton, Monroe county, Iowa. Fall of slate. Shoulder blade broken.

September 9, 1905, Ambel Lagarette, miner, employ of Crescent Coal Company of White City, Mahaska county, Iowa. Fall of slate. Leg broken just above ankle.

May 24, 1905, Arthur Mottin, miner, employ of Central Coal Company of Lockman, Monroe county, Iowa. Fall of slate. Collar bone broken and back bruised.

Non Fatal Accidents in District No. 2 for Year Ending June 30, 1906.

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THIRTIETH BIENNIAL REPORT OF THE

Date.	Name.	Occupation.	Character of Injury.	Cause of Accident.	Mine where Accident Occurred.	County.
1905.						
July 21	E. J. Pursell	Timberman	Leg broken	Fall of slate	Dunreath Coal company	Marion.
August 16	Sept Baird	Entry man	Leg broken	Caught by car	Consolidation Coal company	Monroe.
September 25	Geo. W. Bland	Miner.	Leg broken	Fall of slate	Consolidation Coal company	Monroe.
October 6	Albert Ahn	Timberman	Leg broken	Fall of slate	Consolidation Coal company	Monroe.
October 12	Ed J. Dawns	Miner.	Leg broken	Flying coal	Consolidation Coal company	Monroe.
October 21	Wm. K. Harris	Cager.	Leg broken	Caught between cage and curbing	Consolidation Coal company	Monroe.
October 31	W. H. Taylor	Miner.	Leg broken	Run on by car	Consolidation Coal company	Monroe.
November 19	Chas. Shelton	Driver	Leg broken	Caught by car	Consolidation Coal company	Monroe.
November 21	Marshall Lowery	Miner.	Leg broken	Fall of slate	Consolidation Coal company	Monroe.
November 6	Jas. Hope, Jr	Driver	Bruised foot & leg	Caught between car and coal	Crescent Coal company	Mahaska.
December 7	Wm. Mash	Coupler.	Three fingers and part of hand mashed off	Caught in cog wheel of motor	Consolidation Coal company	Monroe.
December 11	Robert Fairfax	Miner.	Leg broken	Run over by car	Consolidation Coal company	Monroe.
December 14	Frank Miller	Miner.	Leg broken	Fall of slate	Consolidation Coal company	Monroe.
December 1	John Buchanan	Miner.	Back injured and hurt internally	Fall of slate	Star Coal company	Wapello.
January 27	Hugh Siron	Miner.	Bone in hand broken and hand mashed	Flying coal	Consolidation Coal company	Monroe.
May 24	Angello Bazzacca	Miner.	Right arm and collar bone broken	Fall of slate	Central Coal company	Monroe.
December 27	John Boden	Miner.	Hurt in back	Fall of slate	Ackers Coal company	Monroe.
1906.						
January 23	John Smith	Shot examiner and shot firer. Engineer.	Severely scalded	Explosion of caps. Trying to open blow off pipe	Crickett Coal company	Mahaska.
January 30	Henry Dieleman	Miner.	Arm broken	Fall of slate	Dieleman Coal company	Marion.
February 17	John Purkey	Miner.	Arm broken	Fall of slate	Crescent Coal company	Mahaska.
1905						
October 16	A. T. Swanson	Miner.	Fingers mashed	Fall of slate	Bolton & Hoover Coal company	Mahaska.
October 17	Frank Gale	Miner.	Leg broken	Fall of slate	Rex Fuel company	Marion.
1906						
January 1	D. M. Reese	Miner.	Feet and legs injured and back strained	Sudden dropping and stopping of cage	Phillips Fuel Company	Wapello.
January 29	John H. Allen	Miner.	Broken ankle	Flying coal	Consolidation Coal company	Monroe.
November 15	Frank Pollock	Miner.	Leg broken	Fall of slate	Carbon Coal company	Wapello.
1906						
January 15	John Mitton	Miner.	One arm broken, face and head cut	Flying coal	Cedar Creek Coal company	Marion.
February 6	Chas. Martin	Miner.	Badly bruised	Caught by cage	Crescent Coal company	Mahaska.
June 30	Wm. Moppin	Driver.	Leg broken	Caught by car	Consolidation Coal company	Monroe.
May 3	Owen Bringham	Entry man.	Shoulder broken	Fall of slate	Consolidation Coal company	Monroe.
1905						
September 9	Ambel Lagarette	Miner.	Leg broken	Fall of slate	Crescent Coal company	Mahaska.
1906						
May 24	Anton Motin	Miner.	Collar bone broken, back bruised	Fall of slate	Central Coal company	Monroe.

STATE MINE INSPECTORS

MAHASKA COUNTY.

Mahaska county, with thirteen shipping mines in operation produced for the year ending June 30, 1906, 570,178 tons of coal.

Some of the pioneer shipping mines of this county have been abandoned the past year and the equipment of some of them has been and of others is being moved to new fields, and the county will not only maintain its present output, but will show an increased tonnage for the future.

Railroad shipping facilities are good. Four railroads traverse the county, namely: The Chicago, Rock Island & Pacific; The Chicago & Northwestern; the Iowa Central Railway, and the Burlington & Quincy Railroad. The Garfield Coal Company's mines, 2, 3, and 4; the mines of the American Coal Company, the Raven Coal Company, and the Spring Creek Coal Company are located on the Chicago, Rock Island & Pacific railroad. The Whitebreast Coal Company is located on the Iowa Central railroad. The Lost Creek Fuel Company, Morrow Coal Company, Rex Coal Company, Crescent Coal Company, Eveland Coal Company, and the Crawford Coal Company are located on the Chicago & Northwestern Railroad, as is also the mines of the Consolidation Coal Company (No. 14) and the McMillan Coal Company. The Bolton & Hoover Coal Company is located on the Burlington & Quincy Railroad.

There has been reported to this office for the year ending June 30, 1906, five fatal and five non fatal accidents occurring in the mines of this county.

MONROE COUNTY, (PART).

That part of Monroe County bounded on the west by the Wabash Railroad and on the south by the C. B. & Q. Railroad is in the Second District, the other part of the county being in the First District as was noted in previous report. In the part of the county situated in this, the Second District, 10 mines are in operation. Mines Nos. 1 and 2 of the Coalfield Fuel Company are located near Coalfield, and mines 1 and 2 of the Central Coal Company are located near Lockman. The Regal Coal Company, the Ackers Coal Company, and mines Nos. 10, 11, 12 and 13 of the Consolidation Coal Company are located near Buxton.

The output of these mines for the year ending June 30, 1906, was 1,183,143 tons of coal. This is an increase of 195,373 tons above output of previous year, and this represents but 11 months work, as mines were closed during the month of April pending an agreement, regarding the scale of wages to be paid, between the miners and operators of the state.

Monroe still leads as the largest coal producing county in the state. In producing the 1,183,143 tons of coal, in the part of the county located in this district, employment was given to 1575 miners and 419 day men, making a total of 1994 employes working in and around the mines.

All the coal in this county is of an excellent quality and finds a ready market. The vein runs from 4 to 6 feet in thickness and is mined on the

room and pillar plan. Nearly all the mines in the county are shipping mines, but little coal being sold locally. The equipment of the mines in this county is usually good and considerable care is used on the part of the operators in keeping the mines in fair condition.

MARION COUNTY.

Marion county is joined on the south by the largest coal producing county (Moore) in the state, and is itself underlaid with a good vein of coal, running from three and one-half to about nine feet in thickness. There has been and is being at the present time plenty of capital invested for the development of the coal basin in this county.

At the present the largest coal producing fields are near Hamilton and Bussey. The Mammoth Vein Coal Company is the largest company operating in this section. Their mines are located in the vicinity of Everest, a new mining town recently built. This company gives employment to more than 400 men in and around their three mines, Nos. 5, 7, and 11. The Cedar Creek Coal Company does a good business near Hamilton. The English Creek Coal Company near Knoxville is also equipped to hoist a good tonnage. There are several smaller mines in different parts of the county which rely altogether on the local trade.

The Dunreath Coal Company at Dunreath, and the Morgan Valley Coal Company at Morgan Valley have been idle for some time but expect to resume operations in the near future.

More than seven hundred miners are given employment in the mines of this county.

Three fatal and three non fatal accidents were reported from the mines of this county for the year ending June 30, 1906.

WAPELLO COUNTY.

Wapello county has long been known as a coal producer and still ranks as same. Prospecting still goes on in part of the county. The Phillips Fuel Company have opened up their new mine, No. 7, and it promises well for the future. It is located southeast of No. 5. The Ramsey Bros. of Okaloosa have drilled a large tract of land near Bidwell on the Chicago, Milwaukee & St. Paul Railroad, and are now sinking a shaft with the intention of operating by the coming fall.

The local mines of this county do a good business most of the year.

The Phillips Fuel Company, The Roseland Coal Company, and the Ottumwa Brick & Construction company have connections with the Chicago, Milwaukee & St. Paul railroad. The Eldon Coal & Mining Company have connections with the C., R. I. & P. Railroad.

There was one fatal accident and three non-fatal accidents in the mines of this county for the year ending June 30, 1906.

VAN BUREN COUNTY.

This is another of the small producing coal counties of the state. Coal has been mined in this county for many years but operations have never been on an extensive scale.

The most important mines of the county are those of the H. Findlay & Son, and the Ratcliff Coal Company with Mines located about two miles north of Douds Station. The Des Moines Valley division of the Rock Island runs through here and they have a coal chute located at Douds Station. The mines north of here deliver all their output to the railroad, hauling it to the chute from the mines in wagons. This contract to furnish the railroad company with coal enables the mines having this contract to operate the entire year and makes a very profitable business for both the miner and the operator.

Other small mines in the vicinity of Douds Station do a local business and only run through the fall and winter months.

There are also a number of mines operated near Farmington but the output is not large, and what is mined is sold locally. P. M. Cahill, and the Hassler Coal Company operate small mines here. The A. R. Gardner Coal Company operates a small mine near Bentsport.

There were no accidents in the mines of this county reported to this office during the past year.

WARREN COUNTY.

Warren county produced for the year ending June 30, 1906, 21,787 tons of coal. This is more than was mined in the county during the two previous years. However, the mines in this county are purely local mines and are in operation only a part of the year, usually beginning operations in September and continuing during the fall and winter months, and then closing down during the summer.

Small mines are located near Milo, Lacona, and Liberty Center. Two are in operation near Carlisle and one near Norwalk. There are also some mines in operation near Somerset.

Two different seams of coal have been worked in this county; the upper seam is about two feet thick and is worked long-wall. The lower seam is somewhat thicker and is worked on the room and pillar plan. Most of the small mines depend on natural ventilation, while a few are aired by small furnaces, and some three or four are ventilated with fans. Most of the hoisting of coal is done with horses on the gin power principal.

Were the railroad facilities better in this county there is no doubt but what there would be an increased tonnage of coal mined each year, but at the present time there is no way of reaching the shipping points except by hauling the coal in wagons and this is most too expensive as well as too slow a way of handling the product. Indications are that some day considerable coal will be mined in this county.

JEFFERSON AND DAVIS COUNTIES.

But little coal is mined in these counties. A few small mines are operated near Fairfield, but these mines run only during the fall and winter months and the output is very small and is sold locally and in Fairfield where it is hauled by wagons. There are usually but from three to five men employed in each mine.

At Perlee on the line of the Rock Island Railroad there is some mining done but the production there is not large. The coal in this county is about three and one half feet in thickness and generally free from impurities.

In Davis county some local mines are operated near Lunsford and one near Floris. Some mining is also done near Laddsedale. However, but little coal is mined in the county, but what is produced is of a good quality, the vein averaging about three feet in thickness. Davis joins Appanoose county on the east, and this is one of the best producing counties in the state. Possibly at some time in the future more mining may be done in Davis county. We understand that there has been some prospecting in the county during the past year.

KEOKUK COUNTY.

The production of coal in Keokuk county at this time is very limited. Formerly there was considerable coal mined in the county but now but few local mines are operated and these are run only during the fall and winter months. The prospects for this county as a coal producer are not very bright, as nearly all the large mines that formerly did a good business have been worked out and abandoned. There has been a constant decrease in the tonnage of the county in recent years.

There were no fatal or non fatal accidents reported to this office from the mines of Keokuk county for the year ending June 30, 1906.

LIST OF COMPANIES, SUPERINTENDENTS, ETC., IN SECOND DISTRICT.

MAHASKA COUNTY.

Name of Company.	Superintendent.	Postoffice Address.	Shaft or Slope.	Plan of Working.	How Ventilated.	Power Used.	Shipping or Local.
Harry Little Coal company	Harry Little	Pekay	Slope	Room and pillar	Furnace	Horse	Local.
A. E. Black Coal company	A. E. Black	Beacon	Shaft	Room and pillar	Jet	Horse	Local.
Morrow Coal company	Jas. Neagle	Oskaloosa	Shaft	Room and pillar	Fan	Steam	Shipping.
Garfield Coal Company No. 2	J. H. Ramsay	Oskaloosa	Shaft	Room and pillar	Fan	Steam	Shipping.
Garfield Coal Company No. 3	J. H. Ramsay	Oskaloosa	Slope	Room and pillar	Fan	Steam	Shipping.
Williams Bros. Coal company	E. F. Williams	New Sharon	Shaft	Room and pillar	Furnace	Horse	Local.
Raven Coal company	N. J. Kissick	Oskaloosa	Shaft	Room and pillar	Fan	Steam	Shipping.
Lost Creek Coal company	T. M. Timbrell	Lost Creek	Shaft	Room and pillar	Fan	Steam	Shipping.
Soring Creek Coal company	J. H. Smith	Oskaloosa	Shaft	Room and pillar	Fan	Steam	Shipping.
Barrowman Coal company	R. Barrowman	Oskaloosa	Shaft	Room and pillar	Furnace	Horse	Local.
Eveland Coal company	John Price	Eveland	Shaft	Room and pillar	Fan	Steam	Shipping.
National Union Coal company	Chas. Logue	Beacon	Shaft	Room and pillar	Fan	Steam	Shipping.
Swan Coal company	Jesse Swan	Eddyville	Slope	Room and pillar	Furnace	Horse	Local.
J. H. Sowden Coal company	J. H. Sowden	Oskaloosa	Shaft	Room and pillar	Furnace	Horse	Local.
Crawford Coal company	W. W. Crockschanks	Buxton	Shaft	Room and pillar	Fan	Steam	Shipping.
Bolton & Hoover Coal company	John Canty	Bolton	Slope	Room and pillar	Fan	Steam	Shipping.
Crescent Coal company	Jas. Chew	White City	Shaft	Room and pillar	Fan	Steam	Shipping.
Cunningham Coal company	John Ross	Oskaloosa	Shaft	Room and pillar	Fan	Horse	Local.
Rex Fuel company	W. A. Durfee	Bussey	Shaft	Room and pillar	Fan	Steam	Shipping.
Whitebreast Fuel company	Owen Reese	Pekay	Shaft	Room and pillar	Fan	Steam	Shipping.
Kennebec Coal company	A. Love	Muchakinock	Slope	Room and pillar	Furnace	Horse	Local.
Shultz Coal company	Fred. Schultz	Oskaloosa	Shaft	Room and pillar	Furnace	Horse	Local.
Lester Butler Coal company	Lester Butler	Evans	Shaft	Room and pillar	Grate	Horse	Local.
W. B. Rogers Coal company	W. B. Rogers	Olivet	Shaft	Room and pillar	Fan	Steam	Local.
Jones & McHenry Coal company	N. R. Jones	Oskaloosa	Shaft	Room and pillar	Fan	Horse	Local.
Gott Bros. Coal company	J. Gott	Lost Creek	Shaft	Room and pillar	Furnace	Horse	Local.
McMillen Coal company	Wm. McMillen	Lakota	Shaft	Room and pillar	Fan	Steam	Local.
Nagle Coal company	Jos. Nagle	Colon	Shaft	Room and pillar	Fan	Steam	Local.
Thomas & Moody Coal company	H. S. Moody	Evans	Shaft	Room and pillar	Grate	Horse	Local.
Crockett Coal company	Wm. Crockett	Bussey	Shaft	Room and pillar	Grate	Horse	Shipping.
Northwestern Fuel company	Jno. Phillips	Lost Creek	Slope	Room and pillar	Fan	Steam	Shipping.

MARION COUNTY.

Name of Company.	Superintendent.	Postoffice Address.	Shaft or Slope.	Plan of Working.	How Ventilated.	Power Used.	Shipping or Local.
Hayes Coal company	Thos. Hayes	Knoxville	Slope	Room and pillar	Stove	Horse	Local.
Knoxville Coal company	A. J. Booth	Flager	Shaft	Room and pillar	Furnace	Horse	Local.
Hunting & Kersey Coal company	J. F. Bunting	Flager	Slope	Room and pillar	Fan	Steam	Shipping.
Oedar Creek Coal company	Jas. A. Jones	Hamilton	Shaft	Room and pillar	Fan	Steam	Local.
Dielman Coal company	Jno. R. Dielman	Pella	Shaft	Room and pillar	Natural	Horse	Local.
J. M. Olive Coal company	J. M. Olive	Hamilton	Shaft	Room and pillar	Fan	Steam	Shipping.
Mammoth Vein Coal company No. 8	J. A. J. Powers	Hamilton	Slope	Room and pillar	Furnace	Horse	Shipping.
Mammoth Vein Coal Co. Nos. 10 & 11	J. A. J. Powers	Hamilton	Slope	Room and pillar	Fan	Steam	Shipping.
Dunreath Coal company	J. A. J. Powers	Dunreath	Shaft	Room and pillar	Fan	Horse	Local.
Pleasant Valley Coal company	Robt. Hunter	Hamilton	Slope	Room and pillar	Furnace	Steam	Shipping.
Southeastern Iowa Coal company	S. P. Pasca	Hamilton	Slope	Room and pillar	Furnace	Horse	Local.
Schultz & Schneider Coal company	S. Schultz	Hamilton	Slope	Room and pillar	Furnace	Horse	Local.
American Coal Company No. 1	Jas. A. Wilson	Flager	Slope	Room and pillar	Grate	Horse	Local.
Davis Bros. Coal company	L. Davis	Flager	Shaft	Room and pillar	Steam Jet	Steam	Shipping.
Buwalda Bros. Coal company	J. Buwalda	Pella	Shaft	Room and pillar	Fan	Steam	Local.
Morgan Valley Coal company	J. B. Vrienselaar	MorganVal	Shaft	Room and pillar	Furnace	Horse	Local.
Yonkon Coal company	J. H. Ramsay	Olivet	Slope	Room and pillar	Fan	Steam	Shipping.
English Creek Coal company	Dave Wolf	Knoxville	Slope	Room and pillar	Grate	Horse	Local.
Ansberry & Wolf Coal company	Dave Wolf	Bussey	Slope	Room and pillar	Fan	Steam	Local.
Union Coal company	Henry Fry	Marysville	Shaft	Room and pillar	Furnace	Horse	Local.
Henry Fry Coal company	Henry Fry	Marysville	Shaft	Room and pillar	Furnace	Horse	Local.

WAPELLO COUNTY.

Name of Company.	Superintendent.	Postoffice Address.	Shaft or Slope.	Plan of Working.	How Ventilated.	Power Used.	Shipping or Local.
C. D. Sharp Coal Co.	C. D. Sharp	Eldon, R. F. 1	Shaft	Room and pillar	Furnace	Horse	Local.
Phillips Fuel company	A. J. Erskin	Ottumwa	Shaft	Room and pillar	Furnace	Horse	Local.
South Ottumwa Coal company	Willie Grooms	Ottumwa	Slope	Room and pillar	Fan	Steam	Local.
Star Coal company	W. R. Daum	Laddsdale	Shaft	Room and pillar	Fan	Steam	Local.
Archer Coal company	Chas. Brown	Keb	Shaft	Room and pillar	Fan	Steam	Local.
Brown Bros. Coal company	Chas. Brown	Keb	Shaft	Room and pillar	Fan	Steam	Local.
Ottumwa Brick & Construction Co.	Wm. Fouls	Willard	Shaft	Room and pillar	Fan	Steam	Local.
Carbon Coal company	J. F. Lilly	Ottumwa	Shaft	Room and pillar	Furnace	Horse	Local.
Greenview Coal company	J. F. Lilly	Ottumwa	Shaft	Room and pillar	Furnace	Horse	Local.

WAPELLO COUNTY—CONTINUED.

Name of Company.	Superintendent.	Postoffice Address.	Shaft or Slope.	Plan of Working.	How Ventilated.	Power Used.	Shipping or Local.
Jones Coal company.....	David Jones.....	Ottumwa.....	Shaft ..	Room and pillar..	Fan.....	Steam	Local.
Roseland Coal company.....	A. D. Lumsden ..	Ottumwa.....	Shaft ..	Room and pillar..	Fan.....	Steam	Shipping.
Syers Bros Coal company.....	Edward Syers..	Ottumwa.....	Shaft ..	Room and pillar..	Fan.....	Horse	Local.
Bear Creek Coal company.....	Jacob Allen	Bear Creek.....	Slope ..	Room and pillar..	Fan.....	Steam	Shipping.
Waddle Bros Coal company.....	J. Waddle	Ottumwa.....	Slope ..	Room and pillar..	Furnace..	Horse	Local.
Standard Coal company.....	Thos. Hyde.....	Ottumwa.....	Shaft ..	Room and pillar..	Fan.....	Steam	Local.
Spring Hill Coal company.....	Chas. Olson.....	Ottumwa.....	Shaft ..	Room and pillar..	Furnace..	Horse	Local.
Wm Dempster Coal company.....	Wm. Dempster..	Ottumwa.....	Shaft ..	Room and pillar..	Furnace..	Horse	Local.

KEOKUK COUNTY.

Maxwell Coal company.....	Robt. Maxwell ..	What Cheer..	Shaft ..	Room and pillar..	Natural..	Horse	Local.
Karston Bros. Coal company.....	Tom Karston	What Cheer ..	Shaft ..	Room and pillar..	Natural..	Horse	Local.
Grudgings Bros Coal company.....	Dan Grudgings ..	What Cheer ..	Shaft ..	Room and pillar..	Natural..	Horse	Local.
Moffatt, Milburn & Kuhno Coal Co.		What Cheer ..	Shaft ..	Room and pillar..	Natural..	Horse	Local.

MONROE COUNTY.

Central Coal company No. 1.....	T. L. Evans	Lockman	Slope ..	Room and pillar..	Furnace..	Steam	Shipping.
Central Coal company No. 2.....	T. L. Evans	Lockman	Slope ..	Room and pillar..	Furnace..	Horse	Shipping.
Consolidation Coal company No. 10.	B. C. Buxton	Buxton	Shaft ..	Room and pillar..	Fan.....	Steam	Shipping.
Consolidation Coal company No. 11.	B. C. Buxton	Buxton	Shaft ..	Room and pillar..	Fan.....	Steam	Shipping.
Consolidation Coal company No. 12.	B. C. Buxton	Buxton	Shaft ..	Room and pillar..	Fan.....	Steam	Shipping.
Consolidation Coal company No. 13.	B. C. Buxton	Buxton	Shaft ..	Room and pillar..	Fan.....	Steam	Shipping.
Ackers Coal company.....	Jas. Boden.....	Coalfield.....	Slope ..	Room and pillar..	Furnace..	Horse	Shipping.
Regal Coal company.....	G. E. Fraker.....	Buxton.....	Shaft ..	Room and pillar..	Natural..	Steam	Shipping.
Coalfield Fuel company.....	C. N. Bloomfield..	Coalfield.....	Slope ..	Room and pillar..	Fan.....	Steam	Shipping.

VAN BUREN COUNTY.

H. Findlay & Son Coal company.....	H. Findlay	Douds.....	Shaft ..	Room and pillar..	Furnace..	Horse	Shipping.
Hassler & Company Coal company.....	John Hassler ..	Farmington..	Shaft ..	Room and pillar..	Furnace..	Horse	Local.
A. R. Gardener Coal company.....	A. R. Gardener ..	Douds, & L. I.	Shaft ..	Room and pillar..	Furnace..	Horse	Shipping.
Hatchell Coal company.....	H. L. Hatchell ..	Farmington..	Shaft ..	Room and pillar..	Furnace..	Horse	Local.
Cahill Coal company.....	P. M. Cahill.....	Farmington..	Shaft ..	Room and pillar..	Furnace..	Horse	Local.

WARREN COUNTY.

Diamond Coal company.....	W. A. Jones.....	Lacona.....	Shaft ..	Room and pillar..	Furnace..	Horse	Local.
Bryant Coal company.....	S. C. Bryant.....	Milo.....	Shaft ..	Room and pillar..	Furnace..	Horse	Local.
Baies Coal company.....	N. D. Baies.....	Milo.....	Shaft ..	Room and pillar..	Natural..	Horse	Local.
Miller & Hanson Coal company.....	C. H. Hanson.....	Carlisle.....	Shaft ..	Room and pillar..	Natural..	Steam	Local.
B. D. Clark Coal company.....	B. D. Clark.....	Norwalk.....	Shaft ..	Long wall.....	Natural..	Horse	Local.
Perkins & Landers Coal company.....	C. A. Milligan.....	Carlisle.....	Shaft ..	Long wall.....	Natural..	Horse	Local.
C. A. Milligan Coal company.....	Wm. Evans.....	Somerseset..	Shaft ..	Long wall.....	Fan.....	Horse	Local.
Shackley & Evans Coal company.....							

JEFFERSON COUNTY.

Perlee Fuel company.....	B. B. Stuff.....	Perlee.....	Slope ..	Room and pillar..	Grate.....	Horse	Local.
George T. Stever company.....	Geo. T. Stever ..	Fairfield.....	Shaft ..	Room and pillar..	Furnace..	Horse	Local.

D VIS COUNTY.

J. M. Sickie Coal company.....	J. M. Sickie.....	Floris, R. F.	Slope ..	Room and pillar..	Furnace..	Horse	Local.
Big Diamond Coal company.....	A. C. Lunsford.....	D. No 4.....	Shaft ..	Room and pillar..	Furnace..	Horse	Local.
Eldon Coal and Mining company.....	Joe Pool.....	Eldon.....	Shaft ..	Room and pillar..	Fan.....	Steam	Shipping.

TABLE NO. 1

Showing number of mines, output of coal, number of miners and other employees in District No. 2, for year ending June 30, 1906.

Name of County.	Number of mines	Amount of coal of all kinds produced.	Number of miners employed.	Number of other inside employees.	Number of outside employees.	Total number of employees.
Marion	12	326,994	529	145	55	729
Mahaska	20	570,178	864	254	142	1,260
Wapella	10	310,704	322	60	44	426
Monroe (Part)	10	1,153,143	1,156	419	91	1,666
Warren	6	21,787	40	6	8	54
Keokuk	3	8,423	13	5	4	25
Van Buren	4	7,345	19	4	4	27
Total	65	2,328,624	2,943	893	348	4,184

Annual Report

of the

THIRD DISTRICT

Embracing Polk, Jasper, Webster, Boone, Greene, Guthrie, Scott and Dallas counties.

EDWARD SWEENEY, Inspector.

LETTER OF TRANSMITTAL.

HON. ALBERT B. CUMMINS, Governor of Iowa.

Sir,—I have the honor to submit herewith the report of the
Third Inspection District, for the year ending June 30, 1906.

Very respectfully,

EDWARD SWEENEY,

Inspector.

Report of Third District.

The conditions governing the coal mining industry in the Third District have suffered no material change during the last fiscal year.

The coal tonnage for the year shows an increase of 29,241 tons over previous year, while the number of fatal accidents are three less than during the preceding year, the number being eight for the last year, while in the previous year eleven lives were lost in this district.

The entire coal industry of the state enjoyed a twenty days suspension of operations during the month of April 1906. From April first to the twentieth the mines were closed, not in a strike, however, but in suspension pending the conclusions of several joint meetings of the coal operators and miners of Illinois and other states comprising the bituminous joint scale movement. To the credit of the miners' organization, officers and men, also of the coal operators of our state, we are pleased to state that those forces were ever ready for an agreement at prices relatively fair and conforming to any wage scale that might be adopted by the joint movement states, notwithstanding that the Iowa miners and operators are denied full membership in the joint wage scale movement in Eastern states. However, they are thoroughly conversant with every phase of the competition question as found in the entire coal mining industry, and our men, by capable leadership on both sides, intelligently and wisely anticipated every conclusion of their Eastern competitors.

There is a disposition on the part of the mine owners towards better properties in so far as better equipments and conveniences go. In this, life will be better cared for. The best health and life protectors that money can buy should be provided, and the best are always the cheapest. We commend the spirit prompting the good work, and we are pleased to state for our own Iowa coal miners that they, by their watchfulness and skilful workmanship are doing a full share towards the reduction and prevention of coal mine accidents.

CHILD LABOR LAW.

There was passed by the Thirty-First General Assembly of Iowa a law governing the employment of child labor in this state. The sections of this law relating to the employment of persons in coal mines are presented as follows:

CHILD LABOR LAW.

"A bill for an act to regulate the employment of child labor and to provide for the enforcement thereof. (Additional to Chapter 8, Title XII, of the Code.)

Be it Enacted by the General Assembly of the State of Iowa:

Section 1. No person under fourteen years of age shall be employed with or without wages or compensation in any mine, manufacturing establishment, factory, mill, shop, laundry, slaughter house or packing house,

or in any store or mercantile establishment where more than eight persons are employed, or in the operation of any freight or passenger elevator.

Sec. 2. No person under sixteen years of age shall be employed at any work or occupation by which, by reason of its nature or the place of employment, the health of such person may be injured, or his morals depraved, or at any work in which the handling or use of gunpowder, dynamite or other like explosive is required, and no female under sixteen years of age shall be employed in any capacity where the duties of such employment compel her to remain constantly standing."

As there was some difference of opinion relative to the construction of section 2 of the Child Labor Law as applied to mines, I laid the matter before the Attorney-General and asked for an official opinion in reference to this section, and his reply is given in full below:

STATE OF IOWA,
Office of Attorney-General.
Des Moines, Iowa, July 11, 1906.

"Mr. Ed Sweeney,
State Mine Inspector,
Des Moines, Iowa.

My dear Sir:

I am in receipt of your communication of the 10th. instant in which you request an official opinion relative to the construction of Section 2 of the Child Labor Law as enacted by the Thirty-First General Assembly.

Section 2 reads as follows:

"No person under sixteen years of age shall be employed at any work or occupation by which by reason of its nature or the place of employment, the health of such person may be injured or his morals depraved, or at any work in which the handling or use of gunpowder, or dynamite or other like explosives is required, and no female under sixteen years of age shall be employed in any capacity where the duties of such employment compel her to remain constantly standing."

Relative to that part of Section 2 which reads, "or at any work in which the handling or use of gunpowder, dynamite or other like explosives is required" the question arises, Does this prohibition as applied to coal mines mean the entire mine or the immediate room or working face.

A careful reading of the language in question leads me to believe that this restriction or limitation as to child labor under the provisions of said section, does not apply to the entire mine, but only to that part in which gunpowder, dynamite and other like explosives are handled and used.

The clear intent of the law is to prevent the child under the age of sixteen years from being employed in occupations where his health, life or limb may be in danger, and it is quite apparent that such person may be employed in a mine under such conditions and be surrounded by such environments in a particular work that no danger or possible injury may result as contemplated by the statute.

I am not inclined to believe that the intent of the legislature was to exclude a child under the age of sixteen years from participating in any work connected with the coal mine or any other occupation, unless such work comes within the purview of the Statute.

Yours very truly,
LAWRENCE DEGRAFF,
Assistant Attorney-General.

POLK COUNTY.

Polk county, the leading coal producing county in the Third Inspection District, still continues in second place in the list of coal producing counties of the state, the first place again being held by Monroe county.

For the year just ended Polk county produced 1,266,224 tons of coal as against 1,094,521 tons produced last year. This is a net increase in the output of 171,703 tons and is an indication of the rapid growth of the coal industry in this county.

Notwithstanding the fact that the mines were in operation but eleven months during the year just closed (caused by a suspension in mining pending an agreement relative to wage scale and other matters, between the miners and operators of the state during the month of April), while in the previous year they were in operation during the entire year, yet the production of coal in the county this year shows a decided increase over that of the preceding year.

This report shows 1,266,224 tons of coal mined in Polk county for the year ending June 30, 1906. There was employed in and about the mines of Polk county in producing this coal 2057 miners, 777 other inside employees and 334 outside employees, making a grand total of 3168 employees, in producing the output of this county. Last year's report showed a total of 2805 employees in the mines of this county, while this report shows 3168, a gain of 363.

There are in operation some thirty mines in the county. Of this number 19 are railroad or shipping mines and nearly all their product is shipped to points outside of the county, while the mines not on railroads supply the local trade only. This local trade, however, is a considerable item when it is remembered that a majority of the mines of this county are within a radius of six miles of the center of Des Moines, and several of them within the city limits, and that the city alone has a population of 75,000 people, besides being a large manufacturing center and these manufactories depend on the local mines entirely for their supply of steam coal. This gives the local mines of Polk county quite a decided advantage over the mines usually supplying local trade and having no railroad connections as it enables the mines to operate the greater part of the year. There is also a large demand for coal from the brick yards that are located near the city.

Since the last report was issued a number of new mines have been opened in Polk county, and while their output does not enter into this report, they will be in operation and help swell the report for the coming fiscal year. Of the new mines in operation mention may be made of the Iowa Coal Company and the Shaw Coal Company operating mines southwest of the city, the new shafts of the Saylor and Bloomfield Coal Companies northeast of the city of Des Moines, and of the Delaware Coal Company now sinking a shaft near Berwick and east of Des Moines. All of these new mines will be equipped with first class machinery and when fully developed will add considerably to the output of coal in the county.

But two mines in the county have been abandoned during the year. Mine No. 3 of the Bloomfield Coal Company was worked out and abandoned some time ago, and on May 18th the management of the O. K. Coal Company, with a mine north of the city, decided to abandon their mine, owing

to an increased amount of water entering the mine that would be too expensive to keep pumped out.

G. M. Holmes, president of the Eagle Coal Company operating a mine northwest of the city of Des Moines, disposed of the Eagle mine some time in June to a new company composed of C. D. Slinker, T. D. Fraser, W. J. Sayre and E. A. Sayre. The new owners have taken charge of the business, and I understand they will expend quite a large sum of money in making repairs preparatory to increasing the output the coming winter.

There was one life sacrificed for each 180,889 tons of coal mined in this county during the past year, as against 121,613 tons mined for each life lost the preceding year. Of the eight fatal accidents for the year in the Third District, seven occurred in the mines of Polk county. While there are seven other coal producing counties in the district with some 60 mines as against the 31 mines of Polk county, yet Polk county produced for the year ending June 30, 1906, 1,266,224 tons of coal as compared with 774,118 tons the combined production of the other seven counties of the district.

As regards the sanitary conditions, the mines of Polk county are in fair shape. The modern machinery and appliances that the majority of the mines are equipped with is such that the mines may be easily kept in compliance with the state mining laws.

JASPER COUNTY.

With 13 mines in operation Jasper county produced for the year ending June 30, 1906, 333,307 tons of coal. This is an increase over production of previous year of more than 30,000 tons. This increased production is due almost wholly to the new mine No. 8 of the Colfax Consolidated Coal Company, which opened up about a year ago. This company now operates three large mines near Colfax and Seever's. All the mines of this company have railroad connection and do a shipping business. On the night of May first a fire occurred in Mine No. 7 of this company, suffocating nineteen mules and causing considerable damage otherwise. The mules were in the mine and there was no possible way to rescue them. The origin of the fire is unknown. Loss to the company was something like \$3,000. Fire also caused a serious delay and loss in the output of coal. The first mining done in the county was done three miles south of Newton and this field is still being worked by a number of local mines. At present the Snooks, Lister, Carsons, and French coal companies have mines in this vicinity. The output is sold locally and in Newton and from six to fifteen miners are employed in each of these mines. As they are purely local mines they are operated only during the fall and winter months. Worrick Bros. Coal Company, with an output of about 5,000 tons per year, are operating in the vicinity of Colfax, and the Calvert Coal Company (Formerly the C. M. Norris Coal Company) have a mine located near Prairie City. Two new companies, the James J. Gray, and the Gilbert Shaw Coal Co., are operating local mines near Monroe. The Diamond Coal Company which opened a shaft more than a year ago near Mitchellville, have been doing a fairly good business and besides local trade have been supplying the Industrial School at Mitchellville, thus enabling them to run the greater portion of the

year. On the night of January first fire destroyed the boiler and engine house of this company, but they immediately rebuilt the same and mine had resumed operations in less than a week.

All the mines of the county are worked on the room and pillar plan, and during the past year employment was given to more than six hundred miners and other employees in and about the mines.

No fatal accidents were reported from this county for the last year.

BOONE COUNTY.

The coal production for Boone county for the year ending June 30, 1906 aggregated 276,505 tons. This shows a decided decrease over the production of the county for the previous year, which is in part due to the abandoning of some shafts, and partly due to the fact that the mines in the county were operated only about two-thirds as many days as in previous year. However, some new mines have been opened, and it is quite probable that the tonnage for the coming year will show a decided increase.

The coal measures of Boone county extend north and south across the entire county, along the Des Moines river. The principal railroad mines are located near Fraser and Boonesboro, in the north and central parts of the county. Formerly there was quite a lot of coal mined near Moingona, and recently operations have been resumed here. The Big S Coal Company have been operating for some time, and nearly a year ago John Birmingham opened a new shaft here. This latter will have railroad connection with the C. & N. W. R. R. and will then employ about 30 or 40 men. The Crowe Coal Company of Boone is also opening a shaft near Moingona in a district where mining was formerly carried on and in which the coal is said to be the best found in the county. This shaft is being sunk back from the railroad and the coal will be conveyed to the railroad by means of cars run on an inclined plane. This shaft will be in operation soon. Some small mines are in operation in the southern part of the county, but little mining is done. There has recently been considerable prospecting done in the vicinity of Angus and if the reports coming to this office are correct there will be new mines sunk in this field in the near future.

The coal in Boone county usually commands a good price on the market as it is of a good quality and a free burner.

The mines around Boonesboro have a direct connection with the main line of the Chicago & Northwestern Railroad, while the mines at Fraser connect with the Newton & Northwestern, and the Minneapolis & St. Louis lines running north, thus affording excellent facilities for the shipment of coal to the north and west. The small mines not doing a shipping business supply only the local demand and the demand requires their operation only during the fall and winter months.

The following coal companies still continue to be the largest producers in the county: The Boone Coal & Mining Company with mines near Fraser, operating two mines; the W. D. Johnson Coal Company, the Heaps & Crowe Coal Company, and the Rogers Coal Company. These latter operate mines in the vicinity of Boonesboro and do a shipping business.

The equipments of the mines have been improved in recent years and are for the most part now good, and there has been a willingness on the

part of the mine owners to comply with the laws of the state regarding safety appliances, etc. Fair sanitary conditions now prevail in the mines of the county.

On the night of December 17, 1905, fire destroyed the engine house of the Heaps Bros. Coal Company west of Boonesboro, but a new engine house was built at once and the mine resumed operations in the course of four or five days after the fire.

During the year two shafts of the Boone Coal & Mining Co. (Shafts Nos. 1 and 6) located near Fraser have been abandoned. The Crowe Coal Company have also abandoned their mine, and on April 1, the mine of the Heaps Bros. was abandoned. The mine operated by Albert Davis has also been abandoned.

Two accidents (one fatal and one non fatal) were reported from this county for the year ending June 30, 1906.

WEBSTER COUNTY.

Webster county for the year ending June 30, 1906, produced 112,223 tons of coal. About four hundred miners were given employment in the different mines of the county during the year. Some 14 mines are in operation. Part of the mines of this county do a regular shipping business and part of them supply the local demand only.

Operations in mining in this county are conducted for the most part near the towns of Lehigh, Kalo and Coalville. The demand for the coal from this county is very good owing to the fact that the county occupies the extreme northern part of the coal fields and shipping facilities to the northwest and north, where no coal is produced, are good. Considerable coal has been mined in the vicinity of Ft. Dodge for a number of years but no shipping mines are located near here, and what coal is now mined is used locally.

The mines at Kalo, Lehigh, and Coalville have connection with the main line of the Chicago Great Western railway running north. The mines at Lehigh also have connections with the Crooked Creek railroad, which runs to Webster City and connects with the main line of the Illinois Central.

There are several local mines in this county that produce a large amount of coal through the fall and winter months and employ several men during this period. Some of these mines are ventilated by furnaces, and others depend upon natural ventilation, which seems to be ample owing to the small number of miners employed in each mine through the winter season.

Extract from Mining World.

"IOWA"—No typical cannel coal has yet been reported from Iowa, though the region near Ft. Dodge in Webster county supplies a so called "cannel". An examination of its analysis shows it to have 39.04 per cent. of Volatile matter, 39.22 per cent. Fixed Carbon, and 15.87 per cent. Ash, giving it a fuel ratio just below one, or on the borderland between cannel and bituminous coals. The coal is low in the coal series, occurring only about fifty feet above the Lower Carboniferous limestone. The seam is found scattered over quite an area along the river near Ft. Dodge and appears to be somewhat more regular than some of the bituminous seams near

it in the series. Some of these seams are very pockety, varying several feet in thickness in less than one hundred yards. In its best section the cannel shows 30 inches immediately overlying 12 inches of bituminous coal. Where principally mined it shows 16 inches of cannel separated by three inches of shale, and 22 inches of bituminous coal, the cannel in all cases being above.

George H. Ashley."

GUTHRIE COUNTY.

But little that is new can be said of Guthrie county regarding its coal industry from the last report, as there is but little change in the number of mines and the amount of coal produced in the county from year to year. Some mines are usually worked out and abandoned each year and others open in their place, and as they are small local mines the output, year after year, remains about the same.

The coal tonnage of Guthrie County for the year ending June 30, 1906 was 20,730 tons, this is a slight decrease in the tonnage for the year prior to this report. All the mines of the county are small and work but from three to ten men in the winter months, and the gin method is employed in hoisting the coal to the surface.

On my tours of inspection I have found the conditions fairly satisfactory relative to ventilation and safety, as most all the mines in the county is now supplied with the second opening.

There was but one accident (non fatal) reported from the mines of this county for the year ending June 30, 1906.

GREENE COUNTY.

The output of coal in Greene county for the year ending June 30, 1906 was but 20,605 tons. This is 3,135 tons more than what was mined in the county last year. Not much mining is done in this county there being but six local mines in operation at the present time. Three of these mines are located near Angus, two near Rippey, and one at Grand Junction. The mine at Grand Junction does not take out a great deal of coal as the vein is not very thick and a brick and tile works is run in connection with the mine, the clay being taken from underneath the coal, and what coal is mined is used in connection with the brick and tile works.

The coal in this county mostly lies along small creeks that are tributary to the Raccoon river, and the coal in this field is all mined for the local trade. Twenty years ago considerable coal was mined in this county, but now the production is only about one-fifth what it was at that time.

The Keystone Coal Company is the largest producer in the county at this time and has an output of more than 7,000 tons. Next comes the mines of the Buckeye Coal Company and following these are the mines of the Goodwin Brick & Tile Company at Grand Junction, the Ditchburn Coal Company of Angus, the Willow Grove Coal Company of Angus, and the Snake Creek Coal Company of Rippey.

The Keystone Coal Company employs from twenty to twenty-five men and the other companies from eight to twenty each. The most of these mines are in operation only during the fall and winter months and supply only the local demand.

But one accident (non fatal) was reported from the mines of this county the past year.

DALLAS COUNTY.

Not much coal mining has been done in Dallas county for some years. At one time in the history of the county there was some coal mined near Redfield, Linden and Van Meter, and there may be some small local mines yet running near those places but it so it is only to supply the local demand and the mines are run only during the winter months and are run with from three to five men in each mine. The mine that was formerly run at Van Meter, however, employed a number of miners and did a shipping business over the line of the Rock Island railroad. This mine has been shut down for some time.

The mines now operated in the county are those of the Hutchison Bros. near Dawson, the Reese Bros. and Wm. Knox near Madrid, and the Driscoll Bros. near Woodard. Possibly not more than 60 miners are employed in the county now and the annual production of the county is now something like 16,000 tons.

There is quite a local demand for the coal mined and in all probability a number of small local mines will be in operation in various parts of the county some day. The local mines now in operation take out the most of their coal during the fall and winter months when they find a local demand that is ready to purchase all they can produce.

No accidents were reported from the mines of this county for the year just closed.

SCOTT COUNTY.

But few coal mines are operated in this county now, although coal has been mined in Scott county for more than half a century. The mines now in operation are located near the towns of Jamestown and Buffalo. Scott county is a river county being located in the eastern part of the state and is not contiguous to any other coal producing county in the state. The coal in this county lies in pockets and is worked by shaft openings at a depth of from 50 to 75 feet. It is hoisted to the surface by gin methods. The vein runs from two and one-half to three feet in thickness and the quality of the coal is very good. The mines in this state are purely local, no shipping being done, and the greater part of the coal mined is sold at the mines the balance being hauled in wagons to Davenport and disposed of there.

All the mines in the county have second openings and are ventilated by furnaces which supply all necessary ventilation required.

No fatal or non fatal accidents were reported from the mines of this county during the year ending June 30, 1906

LIST OF COMPANIES, SUPERINTENDENTS, ETC., IN THIRD DISTRICT.

POLK COUNTY.

Name of Company.	Superintendent.	Postoffice Address.	Shaft or Slope.	Plan of Working.	How Ventilated.	Power Used.	Shipping or local.
Des Moines Coal company	Chas. Morris	Des Moines	Shaft	Room and pillar	Fan	Steam	Shipping.
Raylor Coal company	J. D. Owen	Des Moines	Shaft	Room and pillar	Fan	Steam	Shipping.
Smith-Love Coal company No. 1	J. C. Smith	Des Moines	Shaft	Room and pillar	Fan	Steam	Shipping.
Northwood Coal company	John Norwood	Des Moines	Shaft	Room and pillar	Fan	Steam	Shipping.
Gibson Coal company	John Gibson	Des Moines	Shaft	Room and pillar	Fan	Steam	Shipping.
Blountfield Coal company	George Varn	Des Moines	Shaft	Room and pillar	Fan	Steam	Shipping.
Kearstone Coal company	E. M. Gray	Des Moines	Shaft	Room and pillar	Fan	Steam	Shipping.
West Riverside Coal company	Wm. Johnson	Des Moines	Shaft	Room and pillar	Fan	Steam	Shipping.
Flint Brick and Coal company	Mike Quinn	Des Moines	Shaft	Room and pillar	Fan	Steam	Shipping.
Glenwood Coal company	Calab Johns	Des Moines	Shaft	Room and pillar	Fan	Steam	Shipping.
Oak Park Fuel Company	J. P. McClelland	Des Moines	Shaft	Room and pillar	Fan	Steam	Shipping.
Capital Coal company.	Samuel Adams	Des Moines	Shaft	Room and pillar	Fan	Steam	Shipping.
Madison Coal company.	Daniel Johns	Des Moines	Shaft	Room and pillar	Fan	Steam	Shipping.
Wagon Wheel Coal company	W. E. Evans	Des Moines	Shaft	Room and pillar	Fan	Steam	Shipping.
Hollingsworth Coal company	Geo. Simpson	Des Moines	Shaft	Room and pillar	Fan	Steam	Shipping.
Cladgate Fuel company	O. W. Carpenter	Des Moines	Shaft	Room and pillar	Fan	Steam	Shipping.
Diamond Joe Coal company	C. E. H. ...	Commerce	Shaft	Room and pillar	Fan	Steam	Shipping.
Blue Creek Mining company	H. Besley	Commerce	Shaft	Room and pillar	Fan	Steam	Shipping.
Valley Coal & Mining company	Frank Adelfinger	Des Moines	Shaft	Room and pillar	Fan	Steam	Shipping.
Shaw Coal company	Jas. Marchant	Des Moines	Shaft	Room and pillar	Fan	Steam	Shipping.
Marchant, Johnson & Co.	Jas. Marchant	Des Moines	Shaft	Room and pillar	Natural	Steam	Local.

WEBSTER COUNTY.

Name of Company.	Superintendent.	Postoffice Address.	Shaft or Slope.	Plan of Working.	How Ventilated.	Power Used.	Shipping or Local.
Jordanes Coal company	Samuel Jordanes	Coalville	Shaft	Longwall	Fan	Steam	Local.
Crooked Creek Coal and Railroad company	F. E. Wilson	Webster City	Shaft	Longwall	Fan	Steam	Shipping.
Pleasant Valley Coal company	Jerry Dawson	Fort Dodge	Shaft	Room and pillar	Fan	Steam	Shipping.
Gleason Coal company	John Gleason	Fort Dodge	Shaft	Room and pillar	Fan	Steam	Shipping.
McEwan Coal company	Wm. McEwan	Coalville	Shaft	Longwall	Fan	Steam	Local.
Craig & Dawson Coal company	Thos. Adamson	Kalo	Shaft	Longwall	Fan	Steam	Shipping.
Daily Coal company	E. W. Collins	Fort Dodge	Shaft	Longwall	Fan	Steam	Shipping.
Rogers Coal company	A. P. Campbell	Kalo	Shaft	Room and pillar	Furnace	Horse.	Shipping.
Johnson Coal company	Wesley Bennett	Kalo	Slope	Longwall	Furnace	Horse.	Shipping.
Bennett Coal company	Sam McClure	Lehigh	Shaft	Longwall	Fan	Steam	Shipping.
Sam McClure Coal company	D. Rhodes	Coalville	Shaft	Longwall	Fan	Steam	Local.
Butler & Rhodes Coal company.							

BOONE COUNTY.

Boone Coal and Mining Co.—No. 3.	Robt. Kennedy	Fraser	Shaft	Longwall	Fan	Steam	Shipping.
Boone Coal and Mining Co.—No. 5.	Robt. Kennedy	Fraser	Shaft	Longwall	Fan	Steam	Shipping.
Eagle Coal company	W. J. Conway	Boonesboro	Shaft	Longwall	Fan	Steam	Shipping.
Crowe Coal company	Wm. Crowe	Boonesboro	Shaft	Longwall	Fan	Steam	Shipping.
The Heaps Coal company	A. Heaps	Boonesboro	Shaft	Longwall	Fan	Steam	Shipping.
Risher Coal company	Thos. W. Hughes	Boonesboro	Shaft	Longwall	Fan	Steam	Shipping.
Rogers Coal company	Geo. W. Rogers	Incline	Shaft	Longwall	Fan	Steam	Shipping.
Albert Davis Coal company	Albert Davis	Pilot Mound	Shaft	Room and pillar	Furnace	Horse.	Local.
Big Five Coal company	A. L. Carpenter	Moingona	Shaft	Longwall	Steam jet	Horse.	Shipping.
W. D. Johnson Coal company	H. H. Canfield	Boonesboro	Shaft	Longwall	Fan	Steam	Shipping.
Steve York Coal company	Steve York	Madrid	Shaft	Longwall	Furnace	Horse.	Local.
Heaps & Crowe Coal company	George Heaps	Boonesboro	Shaft	Longwall	Fan	Steam	Shipping.
John Birmingham Coal company.	John Birmingham	Moingona	Shaft	Longwall	Fan	Steam	Shipping.
Rogers Coal company.	P. J. Benson	Boonesboro	Shaft	Longwall	from pump	Steam	Shipping.

JASPER COUNTY.

Colfax Consolidated Coal Co. No. 6	W. C. Sheppard Jr	Colfax	Shaft	Room and pillar	Fan	Steam	Shipping.
Colfax Consolidated Coal Co. No. 7	W. C. Sheppard Jr	Colfax	Shaft	Room and pillar	Fan	Steam	Shipping.
Colfax Consolidated Coal Co. No. 8	W. C. Sheppard Jr	Colfax	Shaft	Room and pillar	Fan	Steam	Shipping.
Mindham Coal Company	Martin Mindham	Colfax	Shaft	Room and pillar	Furnace	Steam	Shipping.
Carson Bros. Coal Company	E. P. French	Newton	Shaft	Room and pillar	Natural	Horse	Local.
Warrior Coal Company	Alfred Lister	Newton	Shaft	Room and pillar	Natural	Horse	Local.
Charley Calvert Coal Company	John Warrick	Colfax	Shaft	Room and pillar	Furnace	Horse	Local.
Snooks Bros. Coal Company	Charley Calvert	Colfax	Shaft	Room and pillar	Furnace	Horse	Local.
Shorten Coal Company	Thos. Snooks	Frairie City	Drift	Room and pillar	Fan	Horse	Shipping.
Jas J Gray Coal Company	J. A. Waddell	Prairie City	Shaft	Room and pillar	Natural	Horse	Local.
Gilbert Shaw Coal Company	Jas. J. Gray	Monroe	Slope	Room and pillar	Exhaust of pump	Steam	Local.
	Gilbert Shaw	Monroe	Shaft	Room and pillar	Furnace	Horse	Local.

GUTHRIE COUNTY.

Robert MacCulloch Coal Company	Robert MacCulloch	Stuart	Drift	Long wall	Natural	Horse	Local.
Batchelor & Marchant Coal Co.	John Marchant	Panora	Shaft	Long wall	Furnace	Horse	Local.
J. W. King Coal Company	J. W. King	Bagley	Shaft	Long wall	Fan	Horse	Local.
Murphy & Mallon Coal Company	W. F. Murphy	Yale	Shaft	Long wall	Furnace	Horse	Local.
Scott Coal Company	W. H. Scott	Yale	Shaft	Long wall	Natural	Horse	Local.
Sipe & Hughes Coal Company	John Mansell	Yale	Shaft	Long wall	Furnace	Horse	Local.
Mansell Coal Company	John Mansell	Panora	Shaft	Long wall	Fan	Horse	Local.
Reese Coal Company	David Reese	Stuart	Shaft	Long wall	Furnace	Horse	Local.
Jas Ritchie & Son Coal Company	Jas. Ritchie	Guthrie Center	Shaft	Long wall	Furnace	Horse	Local.
Scott Bros. Coal Company	Issac Scott	Route 1	Shaft	Long wall	Furnace	Horse	Local.
Clipper Coal Company	Wm. Merchant	Bagley	Shaft	Long wall	Furnace	Horse	Local.
Greenbrier Coal Company	E. E. Cleveland	Jamaica	Shaft	Long wall	Natural	Horse	Local.
Butler & Gibson Coal Company.	Will Gibson	Yale	Shaft	Long wall	Fire in bucket	Horse	Local.
Hughes & Son Coal Company.	Jesse Hughes	Yale	Shaft	Long wall	Natural	Horse	Local.

TABLE No. 3.

Showing Tonnage in District 3, for past ten years, with number of fatal accidents and number of employees, with tonnage per accident, etc.

Year	Number of fatal accidents	Tons of coal mined each year.	Number of employees.	Tons of coal mined per accident.	Number of employees for each accident.
1905	6	1,551,786	3,610	192,423	456
1906	11	1,555,650	3,437	141,368	312
1907	8	1,598,020	3,810	186,402	477
1908	11	1,653,152	3,978	177,196	258
1909	13	1,683,436	4,091	127,001	738
1910	15	1,683,436	4,091	127,001	738
1911	11	1,610,101	3,580	148,736	489
1912	8	1,610,101	3,580	148,736	489
1913	8	1,610,101	3,580	148,736	489
1914	8	1,610,101	3,580	148,736	489
1915	8	1,610,101	3,580	148,736	489
1916	8	1,610,101	3,580	148,736	489
1917	8	1,610,101	3,580	148,736	489
1918	8	1,610,101	3,580	148,736	489
1919	8	1,610,101	3,580	148,736	489
1920	8	1,610,101	3,580	148,736	489

Fatal Accidents in District No. 3 for Year Ending June 30, 1906.

Date.	Name of Deceased.	Occupation.	Cause of Death.	Employed by—	County.
July 1905.	24 F. L. Chittenden...	Miner	Fall of Slate	Keystone Coal Company	Polk
August 23	William Turner	Shot Examiner	Flying Coal	Saylor Coal Company	Polk
August 28	Robert Bartholomew	Miner	Flying Coal	Eagle Coal Company	Polk
September 23	Elias Reese	Miner	Fall of Slate	Norwood Coal Company	Polk
October 16	Carl Anderson	Miner	Fall of Slate	Maple Block Coal Company	Polk
October 24	Wm. Feeney	Miner	Fall of Slate	Bennett Bros. Coal Company	Polk
February 1906.	16 Ed. Taylor	Miner	Fall of Coal	Heaps & Crowe Coal Company	Boone
March 12	John Cavanaugh	Driver	Run Over by Car	Smith-Lowe Coal Company	Polk

Non-Fatal Accidents in District No. 3 for Year Ending June 30, 1906.

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THIRTEENTH BIENNIAL REPORT OF THE

Date.	Name.	Occupation.	Character of Injury	Cause of Accident.	Mine Where Accident Occurred.	County.
1905						
July 10	Wm. Alexander.	Driver.	Hip bruised.	Not spragging car.	Deer Creek Coal Company.	Polk.
August 1	Andrew Lightfoot.	Miner.	Face injured and torn some bones broken.	Caught by cage.	Des Moines Coal Company.	Polk.
August 21	Allan McPherson.	Timberman.	Hip bruised.	Fail of slate.	Eagle Coal Company.	Polk.
September 26	Andy Peterson.	Miner.	Two ribs broken.	Fail of slate.	O. K. Coal Company.	Polk.
September 27	T. T. Jones.	Shot examiner.	Foot injured.	Fail of slate.	Coaldale Fuel Company.	Polk.
October 19	Ed. Coccanut.	Shot Firer.	Left leg and collar-bone broken.	Flying coal.	Enterprise Coal Company.	Polk.
November 2	Fred Johnson.	Miner.	Foot crushed.	Fail of coal.	Coaldale Fuel Company.	Polk.
December 8	M. Amedeo.	Miner.	Rib broken.	Fail of slate.	Smith-Lowe Coal Company.	Polk.
December 15	Chas. Smith.	Miner.	Back broken.	Fail of slate.	O. K. Coal Company.	Polk.
December 8	Wm. Miles.	Miner.	Leg broken.	Fail of slate.	W. D. Johnson Coal Company.	Boone.
1906						
January 3	Tom Jones.	Driver.	Foot sprained.	Caught by car.	Coaldale Fuel Company.	Polk.
January 19	Steve Mathovich.	Trapper.	Leg broken.	Run over by car.	Enterprise Coal Company.	Polk.
January 29	Frank Fester.	Driver.	Leg broken.	Slipped off tail chain.	Center Coal Company.	Polk.
January 29	Chas. Corbin.	Car pusher.	Leg broken.	Car ran over him.	West Riverside Coal Company.	Polk.
February 5	Wm. Newton.	Driver.	Bruised in hips.	Fail of slate.	Glenwood Coal Company.	Polk.
February 9	Wm. King.	Miner.	Leg broken.	Fail of slate.	Smith-Lowe Coal Company.	Polk.
February 1	John Bell.	Miner.	Back injured.	Fail of shale.	Goodwin Coal Company.	Greene.
June 6	Joe Music.	Miner.	Back injured.	Fail of shale.	Smith-Lowe Coal Company.	Polk.
June 13	Enoch Kodisky.	Miner.	Back and stomach injured.	Fail of boulder.	Smith-Lowe Coal Company.	Polk.
June 15	Pearl Bush.	Laborer.	Left arm broken & ribs cracked.	Fail of slate.	Smith-Lowe Coal Company.	Polk.

Non-Fatal Accidents in District No. 3. for Year Ending June 30, 1906.

Date.	Name.	Occupation.	Character of Injury	Cause of Accident.	Mine Where Accident Occurred	County.
1906.						
June 19	John Hepburn.	Night gumpman.	Both legs broken.	Kicked by mule.	Norwood Coal company.	Polk.
February 1	Frank Green.	Miner.	Shoulder dislocated.	Fail of slate.	Greenbrier Coal company.	Guthrie.
May 9	Gust Larson.	Miner.	Leg broken.	Fail of slate.	Bloomfield Coal company.	Polk.
September 16	John Gibson.	Miner.	Leg broken.	Runover by car.	Worrick Bros. Coal company.	Jasper.
1905.						
January 1	Harry Mariell.	Miner.	Eye injured.	Premature discharge of shot.	Butler & Rhodes.	Webster.
December 20	John Keating.	Miner.	Scalp wound.	Fail of slate.	Shaw Coal company.	Polk.
July 14	Wm. Riddle.	Miner.	Shoulder broken.	Drill dropped on him.	Norwood Coal company.	Polk.
July 16	Bert Bedford.	Miner.	Ribs broken.	Caught in fan shaft.	West Riverside Coal company.	Polk.
1906.						
January 20	Ed. Cahill.	Tripper.	Head scaped.	By rope.	Norwood Coal company.	Polk.
June 20	F. Hilton.	Miner.	Leg broken.	Caught by cage.	Norwood Coal company.	Polk.
June 2	E. Akens.	Miner.	Leg broken.	Fail of slate.	Norwood Coal company.	Polk.
June 2	Doc Hamilton.	Miner.	Leg broken.	Fail of slate.	Norwood Coal company.	Polk.
1905.						
October 31	John McCauley.	Miner.	Flesh wound on arm.	Falling coal.	Madison Coal company.	Polk.
December 2	J. Copinacra.	Miner.	Ribs broken.	Falling coal.	Madison Coal company.	Polk.
October 9	T. Plunkett.	Miner.	Both legs broken.	Fail of slate.	Enterprise Coal company.	Polk.
September 6	H. E. Portwood.	Driver.	Leg broken.	Collision of cars.	Des Moines Coal company.	Polk.
October 3	Jake Campbell.	Miner.	Leg broken.	Fail of slate.	Des Moines Coal company.	Polk.
1906.						
February 24	H. E. Portwood.	Driver.	Leg broken.	Fell off car.	Des Moines Coal company.	Polk.
March 16	Max Stein.	Driver.	Ribs broken.	Fell off car.	Des Moines Coal company.	Polk.
May 16	Max Stein.	Miner.	Foot bruised.	Fail of slate.	Des Moines Coal company.	Polk.
June 15	Will Brophy.	Driver.	Body bruised.	Fell off car.	Des Moines Coal company.	Polk.

STATE MINE INSPECTORS

FATAL ACCIDENTS IN THIRD DISTRICT FOR YEAR ENDING JUNE 30, 1906.

ROBERT BARTHOLOMEW.

On August 28, 1905, fatal accident occurred to Robert Bartholomew, a miner in the employ of the Eagle Coal Mining Company of Des Moines. This accident happened about 11:30 a. m., in first room on ninth north entry. Mr. Bartholomew had lighted his shot in rotation with three others in same entry. One man did not get his shot lighted. All four came out to main entry and sat down to count reports of shots then all went back to furnish light for the one man who had not lighted his shot. When Bartholomew came to his room he turned in to see what his shot had done believing it had gone off. In a moment his shot went off blowing out the lights of the other men, who upon getting lights returned to his room, finding him dead. Death was caused by piece of coal from shot striking him in forehead and fracturing his skull.

ELIAS REESE.

On September 23, 1905 at 8 a. m. fatal accident occurred to Elias Reese a miner in the employ of the Norwood Coal Company of Norwoodville, Polk county. Mr. Reese was in the 14th west entry at the face when fall of slate occurred. He was not killed at the time but died in the hospital 24 hours later. Firing of bottom shot had knocked props out and the supposition is that he was preparing to set them when the fall of slate occurred.

CARL ANDERSON.

Carl Anderson a miner in the employ of the Maple Block Coal Company of Des Moines was fatally injured on October 16, 1905 by a fall of slate while at work for the above company. Mr. Anderson was at work in second north entry off the east main entry when fall of slate and sulphur occurred. Both legs were broken and he received other internal injuries. These injuries caused his death which occurred about 8:30 a. m. on October 18, 1905. Mr. Anderson was 72 years of age and had been in the employ of the company for three months.

WILLIAM FEENEY.

On October 24, 1905, fatal accident occurred to William Feeney, a miner in the employ of Bennett Bros. Coal Company of Des Moines, Polk county. Mr. Feeney was at face of room when piece of slate fell crushing him. He had been in the employ of the company about three months. Was 49 years old.

ED TAYLOR.

On February 16, 1906, fatal accident occurred to Ed Taylor, a miner in the employ of the Heaps & Crowe Coal Company of Boone. Accident occurred at about 3:45 p. m. on above date. Mr. Taylor was in his room

at place of work and was mining loose coal. He evidently neglected to prop or sprague to secure it and coal fell on him. No bones were broken but death was caused by suffocation. Coroners verdict: No one to blame.

JOHN CAVANAUGH.

On March 12, 1906, at 1:45 p. m. a fatal accident occurred to John Cavanaugh, a driver, in mine No. 4 of the Smith-Lowe Coal Company of Carbondale. Accident occurred in third north entry in mine No. 4. He was driving between partings, two car trip, no one present at time of accident. Supposition is that he fell off the chain and was run over by the car under which he was found a short time later.

WILLIAM TURNER.

On August 23, 1905, fatal accident occurred to William Turner, a shot examiner and shot firer, in the employ of the Saylor Coal Company of Saylorsville, Iowa. Mr. Turner had lighted shot in room No. 3 in breakthrough and had gone into room No. 4 to fire a shot before the shot in No. 3 room had gone off. Shot blew through from No. 3 and caught him. Skull was fractured by flying coal.

F. L. CHITTENDEN.

On July 24, 1905, fatal accident occurred to F. L. Chittenden a miner in the employ of the Keystone Coal Company of Des Moines, Polk county, Iowa. Mr. Chittenden was at work in Room 11, 6th east entry when fall of slate occurred. His death was supposed to be due to suffocation by being forced down into the slack and dirt of room.

NON FATAL ACCIDENTS OCCURRING IN THE THIRD DISTRICT FOR YEAR ENDING JUNE 30, 1906.

July 10, 1905, William Alexander, employee of Deer Creek Coal Company, Polk county, hip bruised by car. Accident caused by not spragging car.

August 1, 1905, Andrew Lightfoot, miner employ Des Moines Coal Company, Polk county. Caught by cage. Face injured and torn. Some bones broken.

August 21, 1905, Allan McPherson, timberman for Eagle Coal Company of Polk County. Piece of draw slate fell, bruising hip and leg.

September 25, 1905, Andy Peterson, miner in employ of O. K. Coal Company of Polk county. Fall of slate. Two ribs broken and knee sprained.

September 27, 1905, T. T. Jones a shot examiner in employ of Coaldale Fuel Company of Des Moines. Fall of slate slightly injuring one foot.

October 19, 1905, Ed Cocanaut a shot firer in employ of Enterprise Coal company of Enterprise. Shot blown out. Was hit by flying coal. Left leg and one collar bone broken.

November 2, 1905, Fred Johnson, miner employ of Coaldale Fuel Company of Des Moines. Fall of coal crushing foot.

December 8, 1905, M. Amedeo, miner employ of Smith-Lowe Coal Company of Carbondale. Fall of slate. One rib broken and shoulder and back bruised.

December 15, 1905, Charles Smith, miner employ O. K. Coal Company of Des Moines. Fall of slate. Three vertebrae in his back were broken.

December 8, 1905, William Miles, miner employ of W. D. Johnson Coal Company of Boone county. Fall of slate. Leg broken.

January 3, 1906, Tom Jones a driver for Coaldale Fuel Company of Des Moines. Caught by bumper on car. Foot injured.

January 19, 1906, Steve Mathovich a trapper for Enterprise Coal Company of Enterprise. Run over by car. Left leg broken in two places and hurt about head.

January 29, 1906, Frank Fester a mule driver for Center Coal Company of Des Moines. Slipped off tail chain. Right leg broken.

January 29, 1906, Charles Corbin a car pusher for West Riverside Coal Company of Des Moines. Car ran over him. One leg broken.

February 5, 1905, William Newton, Jr., a driver for Glenwood Coal Company of Des Moines. Fall of slate. Bruised in hips and about legs.

February 9, 1906, William King a miner employ of Smith-Lowe Coal Company of Carbondale. Fall of slate. One leg broken and muscles of back injured.

June 1, 1906, John Bell a miner in employ of Goodwin Coal Company of Grand Junction, Greene county. Piece of gray shale slipped out of roof and caught him injuring his back.

June 6, 1905, Joe Music, a miner in the employ of the Smith-Lowe Coal Company of Carbondale, Polk county. Fall of slate straining muscles of back.

June 13, 1906, Enock Kodisky, a miner in the employ of the Smith-Lowe Coal Company of Carbondale. Fall of "fake Boulder" injuring him in back and stomach slightly.

June 15, 1906, Pearl Bus, a day laborer in employ of Smith-Lowe Coal Company of Carbondale. Fall of slate. Left arm broken and three ribs cracked.

June 19, 1906, John Hepburn, a night pumpman in employ of the Norwood Coal Company of Norwoodville, Polk county. Kicked by mule. Both legs broken below knees.

February 1, 1906, Frank Green, a miner in the employ of the Greenbrier Coal Company of Jamaica, Guthrie county. Fall of slate. Shoulder dislocated.

May 9, 1906, Gust Larson, a miner in the employ of the Bloomfield Coal Company of Des Moines, was injured by fall of slate while at work in his room. One leg was broken in two places and his nose was broken.

(Mr. Larson died on Sunday, May 26th. There was a post-mortem held in which the doctors found his death was caused by the disintegration of the walls of the heart, and that the accident had nothing to do with his death).

September 16, 1905, John Gibson, a miner in the employ of the Worrick Bros. Coal Company of Colfax, Jasper county. Leg broken by car running onto him.

January 1, 1906, Harry Mariell, miner, in the employ of Butler & Rhodes Coal Company of Webster county. Eye injured by premature discharge of shot.

December 20, 1905, John Keating, miner in the employ of the Shaw Coal Company of Des Moines, Polk county. Scalp wound. Wedging slate; piece hit him on the head.

July 14, 1905, William Riddle, miner, in the employ of the West Riverside Coal Company of Des Moines, Polk county. Shoulder broken. Sinking shaft; drill dropped down on him.

July 16, 1905, Bert Bedford, miner, in the employ of the West Riverside Coal Company, Des Moines, Polk county. Two ribs broken; caught in fan shaft.

January 1906, Ed Cahall, trip oiler, employ of Norwood Coal Company of Norwoodville, Polk county. Head scalped by rope.

June 23, 1906, F. Hilton, miner, in the employ of the Norwood Coal Company of Norwoodville, Polk county. Leg broken. Caught by cage.

June 16, 1906, E. Akens, miner, in the employ of the Norwood Coal Company of Norwoodville, Polk county. Leg broken by fall of slate.

June 21, 1906, Doc Hamilton, miner, in the employ of the Norwood Coal Company of Norwoodville, Polk county. Leg broken by fall of slate.

October 31, 1905, John McCauley, miner, in the employ of the Madison Coal Company of Des Moines, Polk county. Flesh wound in right arm. Wedging coal; piece fell on arm.

December 2, 1905, J. Copinagro, miner in the employ of Madison Coal Company of Des Moines, Polk county. Two ribs broken, mining off shot.

October 9, 1905, J. L. Plunkett, miner Enterprise Coal Company of Enterprise, Polk county. Both legs broken by fall of slate.

September 6, 1905, H. E. Portwood, mule driver for Des Moines Coal Company of Marquisville, Polk county. Right leg broken. Collision. Ran into another car.

October 3, 1905, Jake Campbell, miner, employ of Des Moines Coal Company of Marquisville, Polk county. Leg broken by fall of slate.

February 24, 1906, H. E. Portwood, mule driver for Des Moines Coal Company of Marquisville, Polk county. Leg broken. Stepped off car and leg gave way; fell breaking it.

March 16, 1906, Max Stein, mule driver for Des Moines Coal Company of Marquisville, Polk county. Fell off car; ribs broken.

May 17, 1906, Max Stein, miner for Des Moines Coal Company of Polk county. Fall of slate bruising right heel.

June 12, 1906, Will Brophy, driver for Des Moines Coal Company of Marquisville, Polk county. Fell off car badly bruised about body.