INDEX

STATE OF IOWA

1915

REPORT OF THE

State Mine Inspectors

FOR THE

Biennial Period Ending December 31, 1915

INSPECTORS

W. E. HOLLAND, Albia, Iowa
RHYS T. RHYS, Ottumwa, Iowa
EDWARD SWEENEY, Des Moines, Iowa
L. E. STAMM, Secretary, Des Moines, Iowa

DES MOINES
ROBERT HENDERSON, STATE PRINTER
J. M. JAMIESON, STATE BINDER

LETTER OF TRANSMITTAL

Hon. Geo. W. Clarke, Governor of Iowa:

SIR: We have the honor to submit herewith our report covering conditions in the coal industry of Iowa for the period covering the last half of calendar year 1914, and full calendar year 1915, which report is made in accordance with the change made in time of making our report as enacted by the Thirty-sixth General Assembly.

Very respectfully submitted,

W. E. HOLLAND,
R. T. RHYS,
EDWARD SWEENEY.
Iowa Mine Inspectors.

STATE MINE INSPECTORS

DISTRICT NO. 1—W. E. HOLLAND, Albia.
DISTRICT NO. 2—R. T. RHYS, Ottumwa.
DISTRICT NO. 3—EDWARD SWEENEY, Des Moines.
SECRETARY—L. E. STAMM, Des Moines.

The coal producing counties of Iowa are divided into three inspection districts with an inspector living in each district. The duties of the inspectors are to inspect the different mines of the state, and to see that mining operations are conducted in conformity with the mining laws of the state, as regards safety to the employes therein, proper ventilation, etc.

A general office for the inspectors is maintained in the state house, Des Moines, wherein is kept a complete record of all matters pertaining to the coal industry of the state, including maps of all abandoned mines. A secretary elected by the inspectors has charge of all the books and general correspondence of the office, as the duties of the inspectors keep them almost constantly in the inspection field.

The mine inspectors are appointed by the governor for a term of four years. The terms of the present inspectors expire July 1, 1919.

BOARD OF EXAMINERS

FOR MINE INSPECTORS, MINE FOREMEN AND HOISTING ENGINEERS.

E. M. GRAY, President, 1323 24th Street, Des Moines.
C. T. CARNEY, Secretary, 4404 Kingman Boulevard, Des Moines.
T. L. EVANS, Lockman, Monroe County.
DAVID ANDERSON, Bidwell, Wapello County.
JOHN CALDWELL, Centerville, Appanoose County.

The Board of Examiners is composed of five members: Two coal operators, two miners, and one engineer. The duties of the Board of Examiners are to examine and issue certificates to those qualified to act as state mine inspectors, mine foremen and hoisting engineers. An examination for state mine inspectors is held the first Monday in March of even numbered years in the office of the state mine inspectors in the state house. Examinations for mine foremen and hoisting engineers are held at various times during the year in sections of the state where coal mining is done. A fee of two dollars for registration to take the examination is required. To those passing the examination as mine foremen or hoisting engineers, an additional two dollars is required when certificate is issued by the board. The law requires that each certificate issued by the board shall be recorded in the office of the examining board and shall show the name, age, residence and years of experience of the person to whom it was issued.

The Board of Examiners are appointed by the State Executive Council for a period of two years. Terms of the present officers expire January 25, 1918. Compensation of members of the board $5.00 per day and necessary expenses.

COAL INDUSTRY OF IOWA

Summary of information and consolidated tables for last half of year 1914 and calendar year 1915:

The following statistics for the last half of the calendar year 1914 will show a total production of 3,977,990 tons of coal, and an average of 15,834 men employed in and around the mines of the state. It also shows 251 mines in operation during the year.

For the full calendar year 1915 the coal production in 22 counties amounted to 7,530,088 tons of coal, with an average of 16,369 men employed and 252 mines in operation.

It is gratifying to note that in only two instances in the history of coal production in Iowa, in 1907 and 1911, has the tonnage produced in any one year been greater than that of the year 1915.

The number o fmines in operation have remained about the same for a number of years. Some mines have been abandoned and others opened in their places, but no new fields have been developed since our last report.

The following tables give a summary of the coal producing counties, of the state, number of mines in each county, coal production of each county and number of employes as well as number of fatal and non-fatal accidents.

After the report of each district will be found the statistics relative to fatal and non-fatal accidents and also a list of the coal companies in each district. In listing the non-fatal accidents only such have been listed as have been reported by the coal companies as having been incapacitated from work for a period of ten days or more.

COAL PRODUCTION OF IOWA

FOR LAST HALF OF CALENDAR YEAR, 1914, AND FULL CALENDAR YEAR, 1915.

FIRST DISTRICT.

Counties	1914		1915	
	Tons of coal produced	Average number of employes	Tons of coal produced	Average number of employes
Appanoose	772,854	4,142	1,236,130	4,218
Monroe (part)	770,628	2,413	1,453,321	2,430
Lucas	175,358	512	428,082	798
Wayne	38,852	241	87,668	258
Adams	2,650	34	11,489	86
Taylor	7,542	47	8,257	35
Page	2,400	42	1,964	29
Total	1,771,256	7,431	3,207,401	7,840

SECOND DISTRICT.

Monroe (part)	369,715	1,381	605,614	1,502
Mahaska	156,400	551	281,433	521
Marion	108,642	780	377,286	808
Wapello	148,749	618	319,903	661
Jasper	144,789	552	271,847	551
Warren	11,987	29	8,700	52
Van Buren	1,801	15	6,190	23
Keokuk	2,908	21	3,588	10
Jefferson	1,324	6	1,506	15
Total	937,375	3,973	1,946,065	4,142

THIRD DISTRICT.

Polk	902,484	2,857	1,725,844	2,922
Dallas	256,275	870	471,117	863
Boone	87,304	564	149,709	404
Webster	11,947	71	18,307	89
Greene	5,100	30	6,200	27
Guthrie	4,010	28	7,315	21
Scott	2,240	4	2,240	8
Total	1,269,360	4,430	2,376,532	4,385

TOTAL COAL PRODUCTION OF IOWA FOR LAST HALF OF 1914 AND FULL CALENDAR YEAR, 1915.

First District	1,771,253	7,431	3,207,401	7,842
Second District	937,375	3,973	1,946,065	4,147
Third District	1,269,360	4,430	2,376,532	4,385
Total	3,977,990	15,834	7,530,088	16,369

MINES, OUTPUT AND EMPLOYES, BY COUNTIES.

LAST HALF CALENDAR YEAR, 1914.

No. of coal producing counties	Counties	No. of mines	Tons of coal of all grades produced	No. of miners employed	No. of other inside employes	No. of outside employes	Total No. of employes
1	Monroe	24	1,121,343	2,966	916	110	3,792
2	Polk	24	982,484	2,918	544	300	3,762
3	Appanoose	68	772,854	3,237	520	366	4,123
4	Dallas	4	256,273	594	212	70	876
5	Lucas	4	175,328	342	128	42	512
6	Mahaska	25	156,400	404	90	51	551
7	Wapello	15	148,749	425	116	79	624
8	Jasper	10	141,780	366	137	50	552
9	Marion	18	108,647	358	168	103	787
10	Boone	9	87,304	232	109	61	360
11	Wayne	8	38,832	180	38	23	241
12	Warren	7	11,987	21	4	4	29
13	Webster	3	11,947	47	16	8	71
14	Taylor	3	7,543	27	5	5	37
15	Greene	3	5,100	16	12	2	30
16	Guthrie	4	4,050	22	1	4	27
17	Page	4	3,400	27	7	8	42
18	Keokuk	2	2,968	11	6	4	21
19	Adams	9	2,650	28	1	5	34
20	Scott	1	2,240	3	0	1	4
21	Van Buren	4	1,801	9	3	3	15
22	Jefferson	1	1,224	4	1	1	6
	Total	251	3,977,999	11,213	3,119	1,902	15,834

FOR FULL CALENDAR YEAR, 1915.

1	Monroe	23	2,148,933	2,628	1,000	304	3,932
2	Polk	22	1,725,844	2,628	608	286	3,922
3	Appanoose	68	1,326,130	3,326	535	357	4,218
4	Dallas	5	471,117	571	216	76	863
5	Lucas	4	428,682	523	186	77	786
6	Marion	22	377,286	551	184	93	828
7	Wapello	18	319,901	462	125	74	661
8	Jasper	19	271,847	343	155	58	556
9	Mahaska	23	261,433	353	114	54	521
10	Boone	9	149,709	307	113	44	464
11	Wayne	8	87,668	196	42	29	270
12	Webster	3	18,597	55	15	10	80
13	Adams	9	11,489	66	11	9	86
14	Warren	5	8,709	32	7	12	51
15	Taylor	4	8,257	24	7	4	35
16	Greene	3	6,200	21	3	3	27
17	Van Buren	6	6,193	18	6	4	28
18	Keokuk	2	3,588	8	6	5	19
19	Guthrie	3	2,915	18	6	5	29
20	Scott	1	2,240	7	6	1	8
21	Page	2	1,964	20	7	3	30
22	Jefferson	2	1,500	8	3	4	15
	Total	232	7,550,088	11,545	3,331	1,602	16,909

ACCIDENTS RELATED TO TONNAGE.

Fatal and Non-Fatal Accidents in the Mines of Iowa During Last Half of Calendar Year 1914, and Full Calendar Year 1915, With Relation to Coal Produced for Each Accident and Number of Employes for Each Accident.

District	Number of Accidents		Tons of coal of all grades produced	Tons of coal produced for each accident		Number of employes	Employes for Number of Each Accident	
	Fatal	Non-fatal		Fatal	Non-fatal		Fatal	Non-fatal
District No. 1, 1914.	9	33	1,771,255	221,407	53,674	7,421	929	225
District No. 2,	7	32	907,375	152,911	29,210	3,973	567	124
District No. 3,	6	45	1,299,360	211,560	28,208	4,430	738	98
Total	22	110	3,977,990	189,428	36,162	15,824	754	144
District No. 1, 1915.	11	93	3,297,491	291,590	54,894	7,840	712	85
District No. 2,	22	64	1,946,605	162,172	30,407	4,142	545	64
District No. 3,	11	80	2,276,532	216,048	26,702	4,285	398	49
Total	34	245	7,550,088	221,473	30,735	16,309	481	66

MINES, OUTPUT AND EMPLOYES, IOWA.

Number of Mines in Each District, their Coal Output, Number of Miners and Other Employes for Last Half of Calendar Year 1914, and Full Calendar Year 1915.

District	Number of mines	Tons of coal of all grades produced	Number of miners employed	Number of other inside employes	Number of outside employes	Total number of employes
First District, 1914	106	1,771,255	5,417	1,346	668	7,421
Second District, 1914	98	907,375	2,768	819	386	3,973
Third District, 1914	47	1,299,360	3,028	954	448	4,430
Total	251	3,977,990	11,213	3,119	1,902	15,824
First District, 1915	106	3,297,491	5,732	1,413	677	7,840
Second District, 1915	100	1,946,605	2,786	963	393	4,142
Third District, 1915	46	2,276,532	3,007	955	423	4,385
Total	252	7,550,088	11,545	3,331	1,493	16,309

ACCIDENTS RELATED TO TONNAGE.

Showing Tonnage in Iowa, Accidents and Employes for Period of Twenty Years.

Year	No. of accidents	Tons of coal produced	Tons of coal per accident	No. of employes	Fatality rate per 1,000 employes
1896	22	3,525,490	160,254	11,461	2.
1897	21	3,799,734	180,464	11,678	1.8
1898	26	4,307,772	166,145	10,500	2.5
1899	20	4,949,510	247,476	11,029	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	5,514,296	100,259	13,092	4.2
1903	21	6,185,734	294,559	13,193	1.6
1904	33	6,214,379	200,464	16,215	1.9
1905	24	6,806,651	285,584	17,024	1.4
1906	37	7,017,485	189,661	16,855	2.2
1907	35	7,568,425	216,241	17,045	2.05
1908	38	7,155,424	188,305	17,313	2.2
1909	28	7,340,253	262,366	18,002	1.5
1910	39	7,222,480	185,192	18,095	2.1
1911	30	7,729,674	214,713	16,890	2.1
1912	30	6,820,828	227,361	16,215	1.8
1913	24	7,415,757	308,989	15,695	1.9
1914	34	7,312,734	215,080	15,740	2.1
1915	24	7,520,088	221,473	16,369	1.07

REPORT FIRST INSPECTION DISTRICT

W. E. Holland, Inspector, Albia.

First District—Appanoose, Monroe (part), Lucas, Wayne, Taylor, Page and Adams counties.

Owing to the fact that most of the mining statistics throughout this and other countries, are gathered at the end of each calendar year, instead of at the end of the fiscal year (June 30) and that we might be in line with this advancement, the last General Assembly changed the requirements of the mining laws to make them conform to the time of the Bureau of Mines, and others gathering mining statistics, so that the statistical year now commences and ends with each calendar year instead of the fiscal year as heretofore.

From this change it was necessary to either make the report of the biennial period this time for one and one-half years or for two and one-half years. It was finally agreed to make it for one and one-half years so as to make it conform to the requirements of the law as quickly as possible, so the present report is made

from July 1st, 1914, to December 31st, 1915, inclusive. The biennial reports will be made at regular periods from henceforth ending with every odd numbered year.

During the biennial period ending December 31, 1915, there was 4,979,746 tons of coal of all kinds produced in the First Inspection District of Iowa, or a decrease of 728,210 tons from the last period.

Of necessity there will be a decrease not only in the district as a whole, but also in each county thereof, from the fact that the time compared is for one and one-half years against two years last time.

Employment was given to 5,752 miners, and to 1,413 other inside employes, and 677 top men around the mines during the time of this biennial period. A large number of improvements have been made in this district during this biennial period which are, and will continue for some time to come, to be of very practical value to both miner and operator.

Following are some of the improvements that have been made.

NEW AIR AND ESCAPE SHAFTS.

Thistle Coal Company No. 5, Cincinnati, Iowa, Oriental Coal & Mining Company, Brazil, Monitor Coal Company, Centerville, North Hill Coal Company, Centerville, Peerless Coal Company, Mystic, Big Block Coal Company, Coal City, and Mystic Coal Company, put a new escape shaft down.

The following named Companies put in new cages at their mines: Harkes Coal Company, Jerome, Ia., Mystic Coal Company, Mystic, (Steel); Clark Coal Company, Centerville, Appanoose Coal & Fuel Co., Diamond (Steel); Martin Block Coal Company, Numa, (Steel).

Larger fans have replaced the smaller ones at the following mines: Consolidation Coal Company, No. 18, Buxton, Central Iowa Fuel Company No. 1, Chariton, Aeken Coal Company, Mystic.

Hoisting ropes have been changed at the following mines: Phillips Mining Company, Foster, Prairie Block Coal Company, Centerville, Centerville Block Coal Co., Diamond, Centerville, Centerville Block Coal Company Relay, Centerville, Hocking Coal Company No. 3, Koontz Coal Company, Centerville, Center Coal

Company, Centerville, Wapello Coal Company No. 5, Hiteman Martin Block Coal Company, Numa, and Henton Coal Company, in Adams County.

New fireproof overcasts were made by the following Companies: White Ash Coal Company, Avery, Ia., Central Iowa Fuel Company, Chariton, (two); at No. 1 Mine Central Iowa Fuel Company No. 2, Consolidation Coal Company No. 18, (two), Buxton, and the Carbon Block Coal Company put in a new undercast at their No. 30 mine.

The following shafts were re-timbered: Centerville Block Coal Company, Raven mine Air Shaft, Appanoose Coal & Fuel Company, hoisting shaft.

The following mines were abandoned: Smoky Hollow Coal Company No. 8, Scandinavian Coal Company No. 1, Numa Block Coal Company No. 1, Pigeon Creek Coal Company and Albia Coal Company, Albia.

Other improvements are now under way, and others that are needed will be made as soon as the weather will permit. On the whole I am pleased with the District at the present time, and have never encountered any real difficulty in getting the improvements made that I asked for. The Mine Owners are awakening to the fact that an "ounce of prevention is worth a pound of cure" and some of them at least are seeking to carry out the truth of the above statement in the taking care of their mines.

APPANOOSE COUNTY.

Appanoose County produced 1,988,964 tons of coal of all kinds during the last Biennial period, which is a decrease of 415,329 tons from the last period. Since the opening of the mines at Bidwell, on the C., M. & St. P. R. R., and at Chariton, on the C., R. I. & P. R. R., there has been an appreciable falling off of work in this County, as the coal from the above named mines has been taken by the railroad companies for locomotive use in preference to the coal from this County, and the loss thus caused has been felt very keenly by both miners and operators.

However, the work during the fall and winter months of the last year was better than the year before, owing to the fact that the railroads of the country were stocking coal in large quantities not knowing what might be the outcome between miners and operators

in making a new wage scale prior to April 1st, 1916. At Centerville alone the Rock Island railroad has about 37,000 tons of coal stocked, which will necessarily have to be used up first, and this will no doubt cause considerable slack work during the coming spring and summer months.

This County has an abundance of coal of superior quality for domestic use, and the following figures will show how inexhaustible the supply is:

There are 516 square miles contained in this County and practically all of them underlaid with coal. In the number of square miles above mentioned there would be 330,240 acres, and taking a very conservative estimate of the amount of coal they contain, by allowing 1,000 tons of coal for each foot of thickness, we would have 660,480,000 tons of coal, in this County, by further assuming that the coal only averaged two feet in thickness, and allowing the rest for faults, waste, etc.

Then from the above deductions, at the present rate of consumption, which is about 1½ million tons per year, there would be enough coal to last for the next 500 years.

The largest output for a single mine in this County last year was 110,816 tons. This was produced by the Prairie Block Coal Company at their mine at Streepy, the largest day's work being nearly 800 tons of coal in eight hours.

At the present time there are 68 mines, large and small, in this County, many of them are small ones and operate only in the winter season for local trade.

Employment was given to 3,326 miners, 525 other inside employees, and 357 outside men around the mines.

There were 6 fatal and 38 non-fatal accidents, that caused a loss of time of two weeks or more.

Out of the six fatal accidents none were miners. Two were killed by cages, one driver and one oiler, one mine foreman was smothered by black-damp by attempting to enter an abandoned mine, one top foreman fell down the shaft, one driver was caught by cars, and one nightwatch was caught by machinery. Of the non-fatal accidents, twenty were caused by falls of coal, eight by falls of slate, five were caught by cars, or coal falling off cars, three by black-bat, one by rock and one by tail-rope.

As will be readily observed the most of the accidents were caused by falls of coal by men neglecting to spragg their coal when working longwall work. While possibly not all of these could have been avoided, yet it is safe to conclude that by far the largest number of them could, and would have escaped if they had not neglected to spragg the coal.

This County has come in for the largest share of improvements and will be the scene of most of the future improvements, as over one-half of the miners in the entire district are employed in this County.

A large number of mines have been in operation for a good many years, and these are very much in need of improvements that have been and are being made.

Some of the mines in this County have installed Electric mining machines, and Electric haulage in this Biennial period. The Prairie Block Coal Company has put in both mining machines and electric haulage, and also the Carbon Block Coal Company has put in electric haulage, both of these mines using the Goodman type of motors weighing three tons, which do the work assigned them very satisfactorily.

The Gypsum mine that was sunk during the last biennial period has not done anything for almost two years. This would be a good enterprise for this part of the State if it could be operated as it is of excellent quality and I understand unlimited quantity.

MONROE COUNTY.

Monroe County still retains its distinction of being the largest coal producing county in the State of Iowa.

It produced during the last biennial period 3,280,278 tons of coal of all kinds as compared with 5,024,771 tons last time, showing a decrease of 1,744,493 tons.

This decrease will be largely accounted for in the fact that the large producing mines of the Consolidation Coal Company at Buxton have been going down all during the present period, until now only one mine remains, whereas before were from two to three mines all the time.

Th coal produced was as follows:

1914.

From the mines in the First District	770,628 tons
From the mines in the Second District	360,715 tons
Total	1,131,343 tons

1915.

From the mines in the First District	1,453,321 tons
From the mines in the Second District	695,614 tons
Total	2,148,935 tons
1914	1,131,343 tons
1915	2,148,935 tons
Total for the biennial period	3,280,278 tons

Employment was given to 1,597 miners, 625 other inside employees, and 208 top men around the mines.

There were 12 fatal and 51 non-fatal accidents which caused a loss of time of two or more weeks.

Of the fatal accidents, nine were caused by falls of slate, six were miners, two were drivers and one was a company man. One man fell down the shaft, one driver was caught by his trip of cars, and one was caught by tail-rope.

Of the non-fatal accidents, twenty men were hurt by falls of slate, six by falls of coal, ten by cars and others by various causes, as railroad cars, kicks by mules, cage, tail-rope, motors, timbers, etc.

The largest producer during the period was the No. 5 mine of the Wapello Coal Company. They also held the record for the State of Iowa of 1,570 tons of screened lump coal in 8 hours until recently.

The No. 18 mine of the Consolidation Coal Company now holds the record of 1,575 tons of screened lump in 8 hours, and they will, no doubt, break this next winter. This mine was the first in the district to put in what is described in the law as stoppings of substantial material. Three different kinds of material were tried for efficiency, cheapness, etc., namely, concrete blocks, bricks and cement mixed with ashes. It was found that the last described was the cheapest, just as efficient, and more of them could be put in in the same amount of time than any of the other kinds. It was also

found that the proper ratio for mixing the cement and ashes was as follows: Six parts of ashes, one part of sand and one part of good cement.

This when put in from six to eight inches thick makes a very substantial stopping that withstands considerable weight, is air tight, and is also immune from that common curse of ordinary stoppings, that is, mice and rats digging holes through them either in top or bottom.

They also put stairs in their escape shaft and done away with the temporary cage that had been in use there.

The Albia Coal Company is at present sinking a new mine about one and one-half miles southwest of Albia. This will be a very valuable adjunct to Albia as some of the mines around here are finishing and few coming in to take their place.

The No. 3 mine of the Hocking Coal Company, which has been a very good producer for the last 10 years, is now on the wane. All development work has been stopped, and only a few rooms and some pillars are being worked at this time. It will probably finish some time this year.

It is rumored that the No. 5 mine of the Wapello Coal Company is to close down April 1st, 1916, but nothing definite can be ascertained at this time. What was formerly known as the No. 7 mine of the Wapello Coal Company, is now the No. 10 mine of the Smoky Hollow Coal Company, having been purchased by them from the Wapello Company last year.

The White Ash Coal Company have erected a new tipple at their mine at Avery, making the dump higher so that they can screen the coal into more different sizes and thus clean it better and make it more marketable.

The No. 9 mine of the Smoky Hollow Coal Company will finish this summer in all probability, as they have stopped all development work there some time ago, and are now working only a few rooms and some pillars.

LUCAS COUNTY.

Lucas County ranks third in the coal producing counties of this district, but if the present rate of development and increase continues it will be a strong contender for a place higher up in the production list.

This County produced in the biennial period just closed 604,010 tons of coal of all kinds as compared with 154,016 last time, showing an increase of 449,994 tons.

Employment was given to 523 miners, 186 other inside employees and 77 top men around the mines. There was one fatal and twenty-nine non-fatal accidents, causing a loss of time of two or more weeks. This is to my mind a very creditable showing, when the roof and false top conditions that prevail at these mines are taken into consideration and speak very highly for the management there. The Nos. 1 and 2 mines of the Central Iowa Fuel Company are the producers of almost all the coal from this county, the only others being two small mines at Lucas which are operated exclusively for local trade in the winter season only. At the No. 1 mine of the Central Iowa Fuel Company they have been trying to haul their coal to the bottom of the shaft with two gasoline motors of the Whitcomb make, but they have proved thus far (what they have proved every other place they have been tried in Iowa at least) a positive failure. One of the two was almost out of commission and sometimes both of them at once, then hauling had to be done entirely by mule, thus reducing the tonnage and increasing the cost per ton. The Company at present are seriously considering putting in Electric Motors, as they already have the power at the mine, getting it from the city of Chariton, 3½ miles distant, for their mining machines. If they do this the electric motors will prove their efficiency over the gasoline motors (as they always have done) beyond the shadow of a doubt to even the most skeptical or prejudiced minds.

It is rumored that another mine is to be sunk this summer by this Company, 4 miles west of their No. 2 mine, which, if done, will greatly increase the tonnage of this county during the present biennial period.

This Company, profiting by the experience of the Consolidation Coal Company, puts in the same kind of stoppings in the cross cuts between all main entries, using ashes and cement in the proportion of 7 to 1. The initial cost is thus the whole cost, as there are no repairs after they are once put in properly. These mines are worked on the panel system thus keeping the ventilating current as near the working face as possible at all times.

WAYNE COUNTY.

Wayne County ranks fourth in the production of coal in this district, having produced 126,520 tons during the biennial period just closed, as compared with 162,917 tons the last time, showing a decrease of 36,397 tons. This county, like Appanoose, mines only what is known as the Mystic Vein, which lies at a much greater depth, and is considerable thinner than it is in Appanoose County. There was no fatal, and only five non-fatal accidents in this county that caused a loss of time of two weeks or more during this biennial period. Of these four were caused by falls of coal, and one by a fall of slate.

Employment was given to 196 miners, 42 other inside employees, and 20 top men around the mines. There will be quite an increase in the tonnage of this county for the present period as the Numa Block Coal Company have purchased the mine that was sunk by a co-operative company east of town about two years ago. They commenced last winter to pump the water out, to drive entries, and to sink a new air shaft. In the air shaft they encountered considerable water that made progress very slow and had to finally be cemented back to try and allow the work to go on. This did not have the desired effect so they drove an entry under the air shaft and then drilled a hole down from the bottom of the air shaft and drained all the water into a sump there, then pumped it up from the hoisting shaft.

They are putting up everything in good shape for a substantial tonnage which they will evidently aim to get out as they do at all their other mines. There are a few small mines scattered through this county that operate in the winter season for local trade only.

ADAMS, TAYLOR, AND PAGE COUNTIES.

These Counties are located in the southwestern part of Iowa. The coal is from 15 to 18 inches thick and is quite streaky at times with dirt, but is mined quite extensively for local trade and for threshing at harvest time, owing to the high price charged for other coal that is shipped into this part of the State. All the coal in these Counties is mined by the longwall system as the natural conditions of a strata of rock overlying the coal and fireclay beneath it make ideal conditions for such work, and at the same time it is the safest work of any coal mining conditions in

the State, as evidenced by the fact that no accidents occur, nor have occurred for a number of years, neither fatal nor non-fatal in any of these Counties.

Adams County produced 14,130 tons of coal of all kinds during the biennial period just closed. Gave employment to 94 miners, 12 other inside employees and 14 top men around the mines. The most of the work in these counties is carried on around Carbon and Nodaway, and these places will continue to be the center of operation for some time to come.

Taylor County produced 15,800 tons of coal of all kinds, gave employment to 61 miners, 12 other inside employees, and 14 top men around the mines. All of the work in this county is around New Market. One mine is located on the K. & W. R. R. east of New Market, and is the only railroad mine in this part of the State. This Company has installed a Sullivan longwall mining machine since the last report was made that operates by electricity and does very good work in this low vein, the daily output at this mine being between 50 and 60 tons daily. The hoisting is also done by electricity, getting the power for both machine and hoisting from Clarinda, 9 miles distant. This is by far the best equipped and most up-to-date mine in this part of the State.

Page County produced 5,364 tons of coal of all kinds, gave employment to 47 miners, 14 other inside employees, and 10 top men around the mines. Some of the Companies have gone out of business since the last report was made, and almost all of the others have changed hands. This is a common occurrence in these counties in a good many instances.

In almost all of the mines the furnace is used for ventilation during the early fall and spring, and in the winter time the natural ventilation is sufficient, and in many cases too much for the men working on the longwall face.

RECOMMENDATIONS FOR IMPROVEMENTS.

After making careful observations for some time past of the working and other conditions in connection with Gasoline Motors, and having convinced myself that they are not now, nor ever will be a success in what they were originally intended for; and that they have proven themselves in time past a menace to both the

life and the health of individuals working with them, I therefore recommend that a law be enacted prohibiting their use in the mines of Iowa.

2, Believing that the present practice of miners opening kegs of blasting powder with picks, or other metal tools, is also a dangerous practice as has been shown on several occasions; I therefore recommend that a law be passed allowing kegs of blasting powder to be opened only with a wooden spike made for that purpose.

3, Having seen some very bad and fatal accidents occur from the common practice of miners tamping their holes with iron scrapers, and by so doing have struck a sulphur or some other foreign substance that was passed through when drilling the hole, thus causing a spark to ignite the powder and cause the powder to explode prematurely, bringing both death and destruction to those in close proximity to where it happened; I therefore recommend that a law be passed allowing only copper headed tools to be used in the tamping of holes in the State of Iowa.

FATAL ACCIDENTS, DISTRICT NO. 1.

LAST HALF CALENDAR YEAR, 1914.

Date and Hour of Accident	Name, Age, Nativity and Occupation	Married or Single	Number of children	Cause of Death	Employing Company and County
Sept. 12, 8:20 a. m.	John Fennell, 30, English, driver	Married	2	Fall of slate	Wapello Coal Company, Monroe
Sept. 15, 10:00 a. m.	Peter Stommiell, 61, German, miner	Married	3	Fall of slate	Hocking Coal Company, Monroe
Sept. 19, 1:00 p. m.	J. Unterbrunner, 22, German, driver	Single		Caught by cars	Hocking Coal Company, Monroe
Sept. 19, 1:00 p. m.	John Bradley, 50, English, mine fore.	Married	1	Smothered by blackdamp	Archer & Wilson Coal Co., Appanoose
Oct. 3, 2:00 p. m.	Wm. Hickory, 22, American, miner	Married	1	Fall of slate	Central Iowa Fuel Co., Lucas
Dec. 4, 1:00 p. m.	Wm. Hickory, 22, American, miner	Married	1	Fall of slate	Central Iowa Fuel Co., Lucas
Dec. 16, 1:00 p. m.	Harry Brough, 29, English, tripdriver	Single		Caught by tailroye	Wapello Coal Company, Monroe
Dec. 23, 1:00 p. m.	Albert Anderson, 46, Swede, top man	Married	6	Caught by cage	Center Coal Company, Appanoose
				Fell down shaft	Consolidation Coal Co., Monroe

FULL CALENDAR YEAR, 1915.

Date and Hour of Accident	Name, Age, Nativity and Occupation	Married or Single	Number of children	Cause of Death	Employing Company and County
Jan. 29, 2:00 p. m.	Desire Pierott, 15, Belgium, oiler	Single		Caught by cage	Diamond Block Coal Co., Appanoose
Feb. 18, 10:00 a. m.	Humphrey Fills, 60, Welsh, miner	Married	3	Fall of slate	Wapello Coal Company, Monroe
Feb. 20, 10:30 a. m.	C. W. Lewis, 45, American, miner	Married	8	Fall of slate	Phillips Mining Co., Monroe
May 13, 11:00 a. m.	Alex. Lager, 28, Swede, fire	Married	3	Fall of slate	Smoky Hollow Coal Co., Monroe
Aug. 16, 9:20 a. m.	Mike Frennak, 30, Austrian, Co. man	Married	4	Fall of slate	Smoky Hollow Coal Co., Monroe
Sept. 9, 10:00 a. m.	John Overfield, 22, American, miner	Single		Fall of slate	National Union Coal Co., Monroe
Sept. 25, 7:30 a. m.	W. T. Saunders, 42, Amer., top for.	Married	6	Fell down shaft	Fraziel Block Coal Co., Appanoose
Oct. 5, Unknown	Harry Clonbe, 25, Amer. nightwatch	Married	1	Caught by machinery	Wapello Coal Company, Monroe
Oct. 8, 11:00 p. m.	Cesser Catachi, 29, Italian, driver	Single		Fell under trip	Consolidation Coal Co., Monroe
Dec. 6, 10:20 a. m.	Wash Sikes, 18, American, Co. man	Married	1	Fall of slate	Central Iowa Fuel Co., Lucas
Dec. 16, 11:30 a. m.	Harry Hoover, 25, American, miner	Married		Fall of slate	

NON-FATAL ACCIDENTS, DISTRICT NO. 1.

LAST HALF OF CALENDAR YEAR, 1914.

Date and Hour of Accident	Name and Occupation	Cause of Accident	Nature of Injury	Employing Company and County
July 8, 10:00 a. m.	M. Kovachich, miner	Fall of roof	Leg broken	Fowler & Wilson Coal Co., Appanoose
July 10, 2:00 p. m.	E. R. Huxford, caget	Fell into shaft	Two ribs broken	Smoky Hollow Coal Co., Monroe
July 24, 1:35 p. m.	John Story, miner	Fall of slate	Leg broken	Central Iowa Fuel Co., Lucas
July 24, 10:15 a. m.	T. Llewellyn, driver	Caught between cars	Hips bruised	Central Iowa Fuel Co., Lucas
July 29, 11:00 a. m.	Thomas James, miner	Fall of slate	Two ribs broken	Smoky Hollow Coal Co., Monroe
July 31, 9:30 a. m.	James Reay, miner	Fall of coal	Toes broken	Seymour Coal Company, Wayne
Aug. 7, 2:00 p. m.	Tony Angoran, caget	Caught by cars	Foot bruised	Hocking Coal Company, Monroe
Aug. 10, 10:45 a. m.	Griff Thomas, miner	Fall of slate	Hand and leg bruised	Central Iowa Fuel Co., Lucas
Aug. 11, 1:00 p. m.	D. R. Morgan, timberman	Fall of slate	Head bruised	Central Iowa Fuel Co., Lucas
Aug. 12, 1:30 p. m.	Ray Hernden, Company man	Caught by car	Ankle sprained	White Ash Coal Company, Monroe
Sept. 4, 9:45 a. m.	James Burgess, miner	Fall of coal	Rib fractured	Centerville Block Coal Co., Appanoose
Sept. 8, 2:30 p. m.	Mike Katoss, miner	Fall of slate	Internal injuries	Central Iowa Fuel Co., Lucas
Sept. 14, 8:25 a. m.	A. West, driver	Caught bet. car & roof	Shoulder bruised	Carbon Block Coal Co., Appanoose
Sept. 15, 2:00 p. m.	H. Hoskins, timberman	Fall of slate	Fractured pelvis	Hocking Coal Company, Monroe
Sept. 17, 7:40 a. m.	O. V. Peterson, miner	Fall of slate	Ribs broken	Consolidation Coal Co., Monroe
Sept. 24, 9:20 a. m.	Rolly Kelly, driver	Caught by car	Leg broken	Consolidation Coal Co., Monroe
Sept. 24, 10:00 a. m.	Sam Linich, miner	Fall of coal	Ribs broken	Prairie Block Coal Co., Appanoose
Oct. 2, 11:00 a. m.	Pete Smith, Company man	Fell down shaft	Bruised internally	Hocking Coal Company, Monroe
Oct. 10, 2:20 p. m.	Millard Reagan, miner	Fall of slate	Back hurt	Coal City Coal Co., Appanoose
Oct. 16, 1:30 p. m.	W. McGrann, pusher	Caught by tailrope	Two toes cut off	Egypt Coal Company, Appanoose
Oct. 23, 10:30 a. m.	C. H. McNamur, miner	Fall of coal	Leg bruised	Citizens Coal Company, Appanoose
Nov. 30, 9:45 a. m.	George Lewis, miner	Fall of slate	Leg and foot bruised	Central Iowa Fuel Co., Lucas
Nov. 24, 8:40 a. m.	Charles Erickson, miner	Fall of coal	Knee and hip bruised	Carbon Block Coal Co., Appanoose
Nov. 28, 10:00 a. m.	Howard Gilespie, miner	Fall of coal	Back and side hurt	Egypt Coal Company, Appanoose
Nov. 18, 1:45 p. m.	Thomas Crook, timberman	Fall of slate	Rib broken	Wapello Coal Company, Monroe
Nov. 30, 11:15 a. m.	Elton Voyce, driver	Ran into cars	Leg broken	Fowler & Wilson Coal Co., Appanoose
Nov. 29, 9:30 a. m.	James Holmes, driver	Caught bet. car & roof	Arm broken	Hocking Coal Company, Monroe
Dec. 11, 1:00 p. m.	Minor Williams, miner	Fall of coal	Leg broken	Carbon Block Coal Co., Appanoose
Dec. 14, 2:25 p. m.	Jas. R. Simmons, driver	Caught bet. car & roof	Shldr. and ribs broken	Armstrong Coal Company, Appanoose
Dec. 4, 6:25 a. m.	M. Fazelli, miner	Fall of coal	Leg bruised	Numa Block Coal Co., Wayne
Dec. 30, 10:25 a. m.	Steve Mothovic, miner	Fall of rock	Foot broken	Fowler & Wilson Coal Co., Appanoose
Dec. 10, 8:30 a. m.	Batiste Bartestello, miner	Fall of coal	Head bruised	Carbon Block Coal Co., Appanoose
Dec. 26, 1:35 p. m.	J. Harvey, top man	Fall of coal from car	Back injured	Carbon Block Coal Co., Appanoose

FULL CALENDAR YEAR, 1915.

Date and Hour of Accident	Name and Occupation	Cause of Accident	Nature of Injury	Employing Company and County
Jan. 16, 2:00 p. m.	Oscar Carlson, driver	Caught by cars	Hand broken	Phillips Coal Company, Monroe
Jan. 6, 11:00 a. m.	Carl Pearson, miner	Fall of coal	Leg fractured	Hocking Coal Company, Monroe
Jan. 22, 9:30 a. m.	William Barker, miner	Fall of slate	Three ribs broken	Hocking Coal Company, Monroe
Jan. 30, 1:00 p. m.	Alma Watkins, miner	Fall of slate	Hips bruised	Wapello Coal Company, Monroe

Date and Hour of Accident	Name and Occupation	Cause of Accident	Nature of Injury	Employing Company and County
Jan. 30, 11:00 a. m.	Edward Powell, driver	Kicked by mule	Jaw bone fractured	Wapello Coal Company, Monroe
Jan. 29, 1:30 p. m.	Ike McNamu, miner	Fall of sled	Collar bone broken	Citizens Coal Company, Appanoose
Jan. 21, 11:15 a. m.	Jas. Robinson, miner	Fall of slate	Three ribs broken	Consolidation Coal Company, Monroe
Feb. 13, 10:00 a. m.	Emil Ivanchivich, miner	Fall of slate	Leg broken	Judy Coal Company, Appanoose
Feb. 25, 10:15 a. m.	John Brown, driver	Car jumped track	Ankle sprained	Central Iowa Fuel Co., Lucas
Feb. 25, 9:45 a. m.	C. C. Gibbons, miner	Fall of slate	Back bruised	Central Iowa Fuel Co., Lucas
Feb. 10, 5:00 p. m.	Dick Miley, machinist	Hit by piece of steel	Eye lost	Central Iowa Fuel Co., Lucas
Feb. 3, 11:00 a. m.	E. Anderson, miner	Fall of coal	Leg bruised	Numa Block Coal Co., Appanoose
Feb. 13, 2:00 p. m.	Jake Fisher, miner	Fall of slate	Back bruised	Winifred Coal Company, Appanoose
Mar. 22, 1:30 p. m.	Harry McVeigh, miner	Fall of slate	Leg broken	Fowler & Wilson Coal Co., Appanoose
Mar. 16, 10:15 a. m.	Andrew Reid, miner	Fall of slate	Leg and rib broken	Central Iowa Fuel Co., Lucas
Mar. 15, 8:00 a. m.	A. J. Stoner, miner	Fall of slate	Leg broken	Central Iowa Fuel Co., Lucas
Mar. 19, 11:25 a. m.	Julius Verak, miner	Fall of coal	Leg broken	Appanoose C. & Fuel Co., Appanoose
Mar. 26, 2:00 p. m.	John Causemem, miner	Fall of coal	Leg broken	Appanoose C. & Fuel Co., Appanoose
Mar. 5, 11:00 a. m.	Joe Salvige, miner	Fall of coal	Collar bone broken	Central Iowa Fuel Co., Lucas
Mar. 12, 12:55 p. m.	F. A. Osborne, driver	Caught by cars	Leg broken	National Union Coal Co., Monroe
Mar. 23, 12:15 p. m.	Lester Ryan, motorman	Caught by motor	Leg broken	National Union Coal Co., Monroe
Mar. 8, 10:00 a. m.	J. W. Waddell, miner	Fall of coal	Two toes broken	National Union Coal Co., Monroe
Apr. 13, 1:30 p. m.	Aug. Santa, miner	Caught by cage	Foot bruised	Consolidation Coal Co., Monroe
Apr. 28, 7:30 a. m.	Sam Simmons, miner	Fall of slate	Shoulder bruised	Consolidation Coal Co., Monroe
Apr. 26, 10:15 a. m.	Booker Jones, miner	Fall of slate	Scalp wound	Consolidation Coal Co., Monroe
Apr. 5, 9:30 a. m.	A. L. McLaughlin, miner	Fall of slate	Scalp wound	Smoky Hollow Coal Co., Monroe
Apr. 22, 7:45 a. m.	Andy Crawford, miner	Fall of slate	Finger broken	Hocking Coal Company, Monroe
Apr. 29, 10:30 a. m.	Alf Croene, miner	Fall of slate	Leg bruised	Hocking Coal Company, Monroe
Apr. 16, 1:00 p. m.	John Hansen, miner	Fall of coal	Hips bruised	Eagle Coal Company, Appanoose
Apr. 5, 11:00 a. m.	H. J. Fry, miner	Fall of slate	Ankle bruised	Central Iowa Fuel Co., Lucas
Apr. 10, 10:20 a. m.	Bert Swift, miner	Lifting slate	Rib broken	Central Iowa Fuel Co., Lucas
Apr. 7, 9:00 a. m.	J. W. Richter, foreman	Fall down shaft	Hips bruised and scalp wound	Smoky Hollow Coal Co., Monroe
May 25, 11:00 a. m.	C. E. Elder, top man	Fall of slate on foot	Foot bruised	Central Iowa Fuel Co., Lucas
May 10, 11:00 a. m.	George Evans, coupler	Caught between cars	Hand bruised	Central Iowa Fuel Co., Lucas
May 27, 3:30 p. m.	Thomas Price, miner	Fall of slate	Head and hand bruised	Wapello Coal Company, Monroe
May 24, 1:00 p. m.	John Chiperino, miner	Fall of coal	Broken leg	Centerville Block Coal Co., Appanoose
May 15, 3:00 p. m.	Andy Turok, miner	Fall of bony	Bruised knee	Smoky Hollow Coal Co., Monroe
May 24, 9:30 a. m.	Miles Allen, miner	Lifting piece of coal	Strained back	Consolidation Coal Co., Monroe
June 28, 10:30 a. m.	Joe Nichols, motorman	Caught by motor	Thumb mashed	Consolidation Coal Co., Monroe
June 5, 11:00 a. m.	John Today, miner	Fall of slate	Two fingers mashed	Fowler & Wilson Coal Co., Appanoose
June 3, 11:15 a. m.	Joe West, miner	Fall of slate	Back sprained	Wapello Coal Co., Monroe
June 1, 10:00 a. m.	Theo. Merronne, miner	Fall of coal	Collar bone broken	Centerville Block Coal Co., Appanoose
June 14, 10:00 a. m.	Joe Marich, miner	Fall of coal	Broken leg	Centerville Block Coal Co., Appanoose
June 25, 2:30 p. m.	E. R. Peterson, timberman	Pinched by pick handle	Blood poison	Central Iowa Fuel Co., Lucas
June 2, 3:00 p. m.	Jesse Mowe, miner	Fall of coal	Foot broken	Central Iowa Fuel Co., Lucas
June 2, 3:00 p. m.	David Hughes, timberman	Cut with axe	Leg cut	Central Iowa Fuel Co., Lucas
June 3, 10:30 a. m.	Vic Delladoe, miner	Caught moving rock	Finger mashed	Central Iowa Fuel Co., Lucas
June 11, 9:00 a. m.	John Walber, topman	Caught by tail rope	Hand hurt	Croation Coal Company, Monroe
June 3, 2:00 p. m.	Sanford Hudson, miner	Fall of coal	Leg bruised	Numa Block Coal Co., Appanoose
June 25, 10:30 a. m.	John Gotta, miner	Fall of slate	Both arms broken	Central Iowa Fuel Co., Lucas
July 22, 2:30 p. m.	Thomas Jones, driver	Caught by car	Chest and ribs bruised	Consolidation Coal Co., Monroe
July 11, 10:00 a. m.	John Agenosi, laborer	Caught by car	Leg broken	Carbon Block Coal Co., Appanoose
July 16, 9:00 a. m.	Joe Grando, miner	Fall of slate	One finger amputated	Numa Block Coal Co., Wayne
July 21, 2:00 p. m.	James Smith, miner	Fall of coal	Hip dislocated	Peerless Coal Co., Appanoose

NON-FATAL ACCIDENTS, DISTRICT NO. 1—Continued.

Date and Hour of Accident	Name and Occupation	Cause of Accident	Nature of Injury	Employing Company and County
July 21, 2:30 p. m.	Dom Higgins, driver	Caught by car	Hip and knee bruised	National Union Coal Co., Monroe
Aug. 27, 8:30 a. m.	Hector Honore, miner	Fall of coal	Ankle bruised	National Union Coal Co., Monroe
Aug. 4, 2:30 p. m.	B. Geringer, miner	Fall of coal	Leg broken	Egypt Coal Company, Appanoose
Aug. 20, 11:00 a. m.	John Cherrie, miner	Fall of slate	One rib broken	Central Iowa Fuel Co., Lucas
Aug. 31, 1:00 p. m.	Alex Tate, miner	Fall of coal	Knee bruised	Consolidation Coal Co., Monroe
Aug. 9, 8:00 a. m.	Allen White, driver	Caught by car	Leg bruised	Consolidation Coal Co., Monroe
Aug. 10, 11:45 a. m.	Ed Smith, trip rider	Caught by timber	Side bruised	Consolidation Coal Co., Monroe
Sept. 8, 9:30 a. m.	W. C. Welt, miner	Fall of slate	Back bruised	Croation Coal Company, Monroe
Sept. 14, 1:30 p. m.	Ludwig Johnson, timberman	Fall of slate	Foot bruised	Central Iowa Fuel Co., Lucas
Sept. 7, 3:15 p. m.	John Luke, tracklayer	Hit by timber	Shoulder bruised	Wapello Coal Company, Monroe
Sept. 21, 1:00 p. m.	Sam Epply, miner	Fall of bat	Leg broken	Martin Block Coal Co., Appanoose
Sept. 20, 8:30 a. m.	Job Greenhall, miner	Fall of coal	Collar bone broken	Mystic Coal Company, Appanoose
Sept. 2, 10:00 a. m.	Thos. Gutcher, miner	Fall of slate	Back broken	National Union Coal Co., Monroe
Sept. 2, 10:00 a. m.	John Overfield, Sr., miner	Fall of slate	Side burned by lamp	National Union Coal Co., Monroe
Sept. 15, 1:30 p. m.	Pete Oecas, miner	Fall of coal	Shoulder and back br'sd	Central Iowa Fuel Co., Lucas
Sept. 17, 8:00 a. m.	Jas. Trollen, Sr., miner	Fall of slate	Back and hips bruised	Hocking Coal Company, Monroe
Sept. 8, 1:30 p. m.	John Treneak, timberman	Fall of slate	Foot broken	Consolidation Coal Co., Monroe
Sept. 11, 7:30 a. m.	Mike Palye, trackman	Fall of slate	Back bruised	Consolidation Coal Co., Monroe
Oct. 15, 10:00 a. m.	Sam Ramsay, miner	Fall of coal	Shoulder bruised	Peacock Coal Co., Appanoose
Oct. 6, 3:30 p. m.	Joe Fletcher, top man	Caught by R. R. car	Ankle broken	Phillips Mining Co., Monroe
Oct. 12, 8:00 a. m.	Angello Bazecco, dirtman	Caught by motor	Ankle broken	Central Iowa Fuel Co., Lucas
Oct. 14, 12:10 p. m.	Ed. F. Jones, machine runner	Fall of coal	Hand and foot mashed	Consolidation Coal Co., Monroe
Oct. 29, 3:00 p. m.	Henry Lamonds, chunker	Fell off R. R. car	Two ribs broken	Consolidation Coal Co., Monroe
Oct. 28, 9:00 a. m.	Joe Azzolin, miner	Fall of slate	Collar bone broken	Prairie Block Coal Co., Appanoose
Nov. 16, 12:25 p. m.	John Nichols, cager	Caught by car	Ankle broken	Central Iowa Fuel Co., Lucas
Nov. 24, 11:45 a. m.	Dan James, Rockman	Hit by piece of rock	Knee bruised	Central Iowa Fuel Co., Lucas
Nov. 22, 2:30 p. m.	Pete Bergen, trackman	Carrying iron rail	Ruptured	Central Iowa Fuel Co., Lucas
Nov. 15, 11:00 a. m.	Wm. Steffy, miner	Fall of coal	Leg bruised	Numa Block Coal Co., Wayne
Nov. 4, 8:30 a. m.	Joe Palcic, miner	Stuck pick in leg	Flesh wound	Consolidation Coal Co., Monroe
Dec. 2, 9:00 a. m.	Anton Rick, miner	Fall of slate	Back and shoulder br'sd	Central Iowa Fuel Co., Lucas
Dec. 29, 10:30 a. m.	Rome Six, driver	Fall of coal from car	Shoulder dislocated	Central Iowa Fuel Co., Lucas
Dec. 29, 12:29 p. m.	Clark Wilson, miner	Caught by coal	Bone in hand broken	Consolidation Coal Co., Monroe
Dec. 20, 2:30 p. m.	Charles Wahl, timberman	Fall of slate	Leg bruised	Consolidation Coal Co., Monroe
Dec. 17, 10:30 a. m.	Jas. Blythe, Sr., machine man	Fall of coal	Shoulder bruised	Egypt Coal Co., Appanoose
Dec. 27, 10:00 a. m.	Abe Christy, miner	Fall of coal	Leg broken	Numa Block Coal Co., Wayne
Dec. 6, 11:00 a. m.	Thos. Sackfield, miner	Fall of slate	Thumb mashed	Peacock Coal Co., Appanoose
	William Heron, miner	Fall of coal	Leg broken	Harkes Coal Company, Appanoose
	J. H. Williams, miner	Fall of coal	Leg broken	Winifred Coal Co., Appanoose

FATAL AND SERIOUS ACCIDENTS, DISTRICT NO. 1.

SUMMARY LAST HALF CALENDAR YEAR, 1914.

Cause of Injury (U. S. Bureau of Mines Classification.)	Result of Injury: Fatal	Permanent partial disability	Temporary disability	Total
1 (a) Falls of roof (rock, slate, etc.) At working face	2	......	17	19
(b) Falls of roof (rock, slate, etc.) On entry	2	......	4	6
2 (d) Run over by car or motor			5	5
(e) Caught between car and rib	1	......	......	1
(f) Caught between car and roof while riding			2	2
(g) Runaway car or trip			1	1
7 Smothered by black damp	1	......	......	1
12 (b) Caught by tailrope		1	......	1
(e) Fall of coal from car		......	1	1
13 Falling down shaft	1	......	2	3
15 Struck by cage	1	......	......	1
Total	8	1	32	41

SUMMARY FULL CALENDAR YEAR, 1915.

Cause of Injury	Fatal	Permanent partial disability	Temporary disability	Total
1 (a) Falls of roof (rock, slate, etc.) At working face	4	1	54	59
(b) Falls of roof (rock, slate, etc.) On entry	3	......	8	11
2 (b) Coupling cars	......	......	1	1
(c) Falling from trip	1	......	......	1
(d) Run over by car or motor	......	......	11	11
9 (Animals) kicked by mule	......	......	1	1
12 (a) Fell carrying iron rail	......	......	1	1
(b) Caught by tailrope	......	......	1	1
(d) Falling timber	......	......	2	2
(f) Hand tools, axes, bars, etc	......	......	3	3
(g) Hit by rock or steel	......	1	1	2
(h) Miscellaneous	......	......	3	3
13 Falling down shaft	1	......	1	2
15 (d) Struck by cage	1	......	1	2
19 Caught in surface machinery	1	......	......	1
21 Caught by or fell off railroad car (surface)	......	......	2	2
Total	11	2	90	103

FATAL AND SERIOUS ACCIDENTS, DISTRICT NO. 1.

Classified by Cause of Accident and Occupation of the Injured.

LAST HALF CALENDAR YEAR 1914.

	Causes (U. S. Bureau of Mines Classification)	Fatal						Serious							
		Miners	Drivers	Trip riders	Top men	Mine foremen	Total	Miners	Drivers	Timbermen	Cagers	Company men	Pushers	Top men	Total
1	(a) Falls of roof (rock, slate, etc.) At working face	2					2	18							18
	(b) Falls of roof (rock, slate, etc.) On entry		1				1			3					3
3	(d) Caught by car		1				1		2		1	1			4
	(f) Caught between car and roof								1						1
5	(g) Runaway car or trip														
4	(e) Smothered by black damp					1	1								
12	(b) Caught by tailrope			1			1						1		1
	(c) Fall of coal from car													1	1
13	Falling down shaft				1		1				1	1			2
15	(d) Caught by cage		1				1								
	Total	2	3	1	1	1	8	18	6	3	2	2	1	1	33

FULL CALENDAR YEAR, 1915.

	Causes	Fatal						Serious													
		Miners	Drivers	Company men	Top men	Top boss	Total	Miners	Drivers	Motormen	Couplers	Timbermen	Cagers	Company men	Top men	Machinists	Mine foremen	Trip riders	Machine runners	Chunkers	Total
	(a) Fall of roof (rock, slate, etc.) At working face	4					4	30				1		1	1				2		35
1	(b) Falls of roof (rock, slate, etc.) On entry	1		2			3	6				2									8
3	(d) Caught by car or motor		1				1		6	2	1		1	2							12
9	Animals. Kicked by mule								1												1
	(b) Caught by machinery				1		1								1						1
12	(d) Struck by falling timber													1				1			2
	(f) Pinched by pick handle, injured by pick							1				1									2
	(h) Hit by piece of steel															1					1
	(h) Lifting slate or coal							2													2
	(h) Miscellaneous							1						2							3
13	Falling down shaft					1	1										1				1
15	(d) Struck by cage			1			1	1													1
22	Railroad cars on surface											1			1					1	2
	(c) Cut with axe																				1
	Total	5	1	3	1	1	11	61	7	2	1	5	1	6	3	1	1	1	2	1	92

MINES, OUTPUT AND EMPLOYES, DISTRICT NO. 1.

Number of mines, output of coal, number of miners and other employes for last half of calendar year 1914, and full calendar year 1915.

1914

Counties	Mines in county	Amount of coal of all grades produced	Number of miners employed	Number of other inside employes	Number of outside employes	Total number of employes	Total number of days worked
Appanoose	68	772,854	3,237	539	366	4,142	6,041
Monroe (part)	12	770,628	1,566	628	219	2,413	1,408
Lucas	4	175,228	342	128	42	512	251
Wayne	8	98,852	190	28	23	241	168
Adams	9	2,630	28	1	5	34	477
Taylor	3	7,543	37	5	5	47	375
Page	4	2,400	27	7	8	42	334
Total	108	1,771,255	5,417	1,346	668	7,431	9,054

1915

Counties	Mines in county	Amount of coal of all grades produced	Number of miners employed	Number of other inside employes	Number of outside employes	Total number of employes	Total number of days worked
Appanoose	66	1,316,110	3,326	535	357	4,218	9,694
Monroe (part)	11	1,453,221	1,597	625	208	2,430	2,294
Lucas	4	428,682	523	186	77	786	640
Wayne	8	87,668	196	42	20	258	847
Adams	9	11,489	66	11	9	86	1,423
Taylor	4	8,257	24	7	4	35	564
Page	2	1,964	20	7	2	29	280
Total	106	3,307,491	5,752	1,413	677	7,842	15,592

LIST OF COAL COMPANIES, SUPERINTENDENTS, ETC., IN FIRST DISTRICT.

APPANOOSE COUNTY.

Name of Company	Superintendent	Postoffice Address	Shaft or Slope	Plan of Working	How Ventilated	Power Used	Shipping or Local
Acken Coal Company, No. 1	William Porter	Mystic	Slope	Longwall	Fan	Steam	C., M. & St. P.
Acken Coal Company, No. 2	William Porter	Mystic	Shaft	Longwall	Fan	Steam	C., M. & St. P.
Anchor Coal Company	Wilfred Young	Centerville	Shaft	Longwall	Fan	Steam	C., R. I. & P.
Appanoose Coal & Fuel Co.	L. L. Lodwick	Mystic	Shaft	Longwall	Fan	Steam	C., M. & St. P.
Armstrong Coal Company	W. D. Ketchum	Cincinnati	Shaft	Room and pillar	Fan	Steam	C., B. & K. C. Ry
Beggs Coal Company	Wm. Beggs	Mystic	Shaft	Longwall	Furnace	Horse	C. M. St. P.
Big Block Coal Company	Wm. Bellegonte	Coal City	Shaft	Longwall	Fan	Steam	I. & St. L.
Burkland Coal Company	A. Burkland	Centerville	Shaft	Longwall	Furnace	Horse	Local
Burton Coal Company	J. A. Burton	Mystic	Shaft	Longwall	Furnace	Horse	Local
Carbon Block Coal Company	A. D. Crawford	Centerville	Shaft	Longwall	Fan	Steam	C., R. I. & P.
Center Coal Company	Louis Anderson	Centerville	Shaft	Room and pillar	Fan	Steam	C., R. I. & P.
Centerville Block Coal Co., No. 1	Alex Dargavell	Centerville	Shaft	Longwall	Fan	Steam	C., R. I. & P.
Centerville Block Coal Co., No. 2	Alex Dargavell	Centerville	Shaft	Longwall	Fan	Steam	C., R. I. & P.
Centerville Block Coal Co., No. 3	Alex Dargavell	Centerville	Shaft	Room and pillar	Fan	Steam	K. & W. Ry.
Centerville Block Coal Co., No. 5	Alex Dargavell	Centerville	Slope	Room and pillar	Furnace	Steam	K. & W. Ry.
Centerville Block Coal Co., No. 9	Alex Dargavell	Centerville	Shaft	Not operating			
Centerville Block Coal Co., No. 10	Alex Dargavell	Centerville	Shaft	Room and pillar	Fan	Steam	C., R. I. & P.
Citizens Coal Company	H. G. Graham	Centerville	Shaft	Longwall	Fan	Electricity	C., A. & S. Ry.
Clark Coal Company	Daniel Clark	Centerville	Shaft	Longwall	Furnace	Steam	Local
Diamond Block Coal Co., No. 12	David Lodwick	Mystic	Shaft	Longwall	Fan	Steam	C., M. & St. P. Ry
Diamond Block Coal Co., No. 29	David Lodwick	Mystic	Shaft	Longwall	Fan	Steam	C., M. & St. P. Ry
Domestic Coal Company	W. H. Cary	Cincinnati	Shaft	Room and pillar	Fan	Steam	Local
Eagle Coal Company	T. Longren	Centerville	Shaft	Room and pillar	Fan	Electricity	Local
Elgin & Barrett Coal Co.	Jas. Barrett	Mystic	Slope	Longwall	Furnace	Electricity	C., M. & St. P. Ry.
Egypt Coal Company	A. B. Dudley	Mystic	Slope	Longwall	Furnace	Steam	C., M. & St. P. Ry
Espy & Day Coal Company	Wm. Espy, Rt. 1	Centerville	Slope	Longwall	Furnace	Horse	Local
Exline Coal Company	A. M. Johnson	Exline	Shaft	Room and pillar	Fan	Steam	C., B. & K. C. Ry
Fowler & Wilson Coal Co., No. 1	D. F. Cushing	Rathbun	Shaft	Longwall	Fan	Steam	C., M. & St. P. Ry.
Fowler & Wilson Coal Co., No. 2	D. F. Cushing	Rathbun	Slope	Longwall	Fan	Steam	C., M. & St. P. Ry
Gallagher & Brynn Coal Co.	W. E. Gallagher	Mystic	Slope	Longwall	Furnace	Horse	Local
Guinn Coal Company	Ira Guinn	Coal City	Slope	Room and pillar	Furnace	Horse	Local
Harke Coal Company	Robert Hunter	Jerome	Shaft	Longwall	Fan	Steam	C., M. & St. P. Ry
Wm. Hooten Coal Company	Wm. Hooten	Mystic	Slope	Room and pillar	Furnace	Horse	Local
Interocean Coal Company	Jas. Horridge	Mystic	Shaft	Longwall	Fan	Steam	C., M. & St. P. Ry
Iowa Block Coal Company	Lars Johnson	Exline	Shaft	Room and pillar	Fan	Steam	C., B. & K. C. Ry
J. H. Richter Coal Company	J. H. Richter	Centerville	Shaft	Longwall	Fan	Steam	K. & W. Ry.
Judy Coal Company	A. W. Judy	Centerville	Shaft	Longwall	Fan	Electricity	C., M. & St. P. Ry

LIST OF COAL COMPANIES, SUPERINTENDENTS, ETC., IN FIRST DISTRICT—Continued.

Name of Company	Superintendent	Postoffice Address	Shaft or Slope	Plan of Working	How Ventilated	Power Used	Shipping or Local
John Koontz Coal Company	John Koontz	Centerville	Shaft	Longwall	Fan	Horse	Local
Wm. Lowe Coal Company	Wm. Lowe	Brazil	Slope	Longwall	Furnace	Horse	Local
Marshall & Beers Coal Co	George Beers	Mystic	Slope	Longwall	Furnace	Horse	Local
Martin Block Boal Company	J. W. Martin	Numa	Shaft	Longwall	Fan	Steam	C., R. I. & P. Ry.
McConnville & Sons Coal Co	Ed. McConnville	Centerville	Shaft	Longwall	Furnace	Horse	C., A. & S. Ry.
Miners Coal Company	Jas. Stover	Exline	Shaft	Room and pillar	Fan	Horse	C., B. & K. C. Ry.
Monitor Coal Company	John Hitchens	Centerville	Shaft	Room and pillar	Furnace	Horse	Local
Mystic Coal Company	Jas. Horridge	Mystic	Shaft	Longwall	Fan	Steam	C., M. & St. P. Ry.
New Oriental Coal Company	Jacob Ritter	Brazil	Slope	Longwall	Furnace	Steam	K. & W. Ry.
North Hill Coal Company	Frank Atkinson	Centerville	Slope	Longwall	Furnace	Horse	Local
Peerless Coal Company No. 5	T. E. Lee	Mystic	Shaft	Longwall	Furnace	Steam	C., M. & St. P. Ry.
Peerless Coal Company No. 6	T. E. Lee	Mystic	Slope	Longwall	Fan	Steam	C., M. & St. P. Ry.
Pearock Coal Company	R. S. Lawton	Brazil	Slope	Longwall	Furnace	Horse	K. & W. Ry.
Pigeon Creek Coal Company	Clarence Hughes	Exline	Shaft	Room and pillar	Furnace	Horse	Local
Prairie Block Coal Company	Peter Thomas	Seymour	Shaft	Longwall	Fan	Steam	C., R. I. & P. Ry.
Rock Valley Coal Company	Clem Kitternan	Centerville	Shaft	Longwall	Fan	Horse	Local
Royal Block Coal Company	P. N. May	Exline	Slope	Longwall	Fan	Steam	C. B. & K. C. Ry.
Sacco Coal Company	Joe Sacco	Brazil	Slope	Longwall	Furnace	Gasoline	Local
Scandinavian Coal Company	Claus Johnson	Centerville	Shaft	Room and pillar	Fan	Steam	K. & W. Ry.
Stanton & Grundy Coal Co	G. W. Stanton	Numa	Shaft	Room and pillar	Furnace	Horse	Local
Robert Staton Coal Company	Robert Staton	Coal City	Slope	Room and pillar	Furnace	Horse	Local
Star Coal Company	T. A. Hays	Centerville	Shaft	Room and pillar	Fan	Horse	Local
Sunshine Coal Company	R. A. McKee	Centerville	Shaft	Longwall	Fan	Steam	K. & W. Ry.
Thistle Coal Company No. 2	David Dinning	Cincinnati	Shaft	Room and pillar	Fan	Steam	C. B. & K. C. Ry.
Thistle Coal Company No. 4	David Dinning	Cincinnati	Shaft	Room and pillar	Fan	Steam	C. B. & K. C. Ry.
Thistle Coal Company No. 5	David Dinning	Cincinnati	Shaft	Room and pillar	Fan	Steam	C. B. & K. C. Ry.
Walker Coal Company	Earl Walker	Numa	Shaft	Room and pillar	Furnace	Horse	Local
Walnut Block Coal Company	John Archibald	Brazil	Slope	Longwall	Furnace	Horse	K. & W. Ry.
White Oak Coal Company	R. A. McKee	Centerville	Shaft	Room and pillar	Fan	Electricity	Local
Winnifred Coal Company	T. E. Williams	Mystic	Shaft	Longwall	Fan	Steam	C., M. & St. P. Ry.
Woodland Coal Company	A. Lofgren	Centerville	Shaft	Room and pillar	Furnace	Horse	Local

MONROE COUNTY.

Albia Coal Company	Homer H. Harris	Albia	Shaft	Room and pillar	Fan	Steam	M. & St. L.
Consolidation Coal Co., No. 18	John P. Reese	Buxton	Shaft	Room and pillar	Fan	Steam	C. & N. W.
Croation Coal Company	J. W. Reynolds	Albia	Shaft	Room and pillar	Fan	Steam	C., B. & Q.

Hocking Coal Company, No. 2	W. G. Hodge	Hocking	Shaft	Room and pillar	Fan	Steam	M. & St. L.
Hocking Coal Company, No. 4	W. G. Hodge	Hocking	Shaft	Room and pillar	Fan	Steam	M. & St. L.
National Union Coal Company	G. W. Hardesick	Ward	Shaft	Room and pillar	Fan	Steam	C., B. & Q.
Phillips Mining Company, No. 11	Andrew Erskine	Foster	Shaft	Room and pillar	Fan	Steam	C., M. & St. P.
Smoky Hollow Coal Co., No. 9	Lon Beckman	Avery	Shaft	Room and pillar	Fan	Steam	C., B. & Q.
Smoky Hollow Coal Co. No. 10	Lon Beckman	Hiteman	Shaft	Room and pillar	Fan	Steam	C., B. & Q.
Wapello Coal Company, No. 5	E. R. Seidel	Hiteman	Shaft	Room and pillar	Fan	Steam	C., B. & Q.
White Ash Coal Company	W. A. Smith	Avery	Slope	Room and pillar	Fan	Steam	C., B. & Q.

LUCAS COUNTY.

Central Iowa Fuel Co., No. 1	Wm. Abrams	Chariton	Shaft	Room and pillar	Fan	Steam	C., R. I. & P.
Central Iowa Fuel Co., No. 2	Wm. Abrams	Chariton	Shaft	Room and pillar	Fan	Steam	C., R. I. & P.
Goben Coal Company	G. W. Goben	Lucas	Shaft	Longwall	Fan	Steam	Local
Skidmore Coal Company	C. E. Stark	Lucas	Shaft	Longwall	Fan	Horse	Local

WAYNE COUNTY.

Numa Block Coal Co., No. 2	Peter Thomas	Seymour	Shaft	Longwall	Fan	Steam	C., M. & St. P.
Numa Block Coal Co., No. 4	Peter Thomas	Seymour	Shaft	Longwall	Fan	Steam	C., M. & St. P.
Hayhurst Coal Company	John Hayhurst	Promise City	Shaft	Longwall	Furnace	Horse	Local
Fry Coal Company	Lewis Fry	Promise City	Shaft	Longwall	Furnace	Steam	Local
Green Coal Company	H. G. Cherry	Promise City	Shaft	Longwall	Furnace	Horse	Local
Simms Coal Company	Chas. Simms	Promise City	Shaft	Room and pillar	Furnace	Horse	Local
Davis Coal company	G. T. Davis	Promise City	Shaft	Room and pillar	Furnace	Horse	Local
Peek Coal Company	William Peek	Seymour	Shaft	Longwall	Furnace	Horse	Local

PAGE COUNTY.

Anderson Coal Company	C. A. Anderson	Clarinda	Shaft	Longwall	Furnace	Horse	Local
Pearson Coal Company	Chas. Pearson	Clarinda	Shaft	Longwall	Furnace	Horse	Local

TAYLOR COUNTY.

New Market Coal Company	James Pullen	New Market	Shaft	Longwall	Furnace	Electricity	K. & W. R. R.
Millison Coal Company	P. M. Millison	New Market	Shaft	Longwall	Furnace	Horse	Local
Anderson Coal Company	William Anderson	New Market	Shaft	Longwall	Furnace	Horse	Local
Wilcox Coal Company	Robert Wilcox	New Market	Shaft	Longwall	Furnace	Horse	Local

ADAMS COUNTY.

Name of Company	Superintendent	Postoffice Address	Shaft or Slope	Plan of Working	How Ventilated	Power Used	Shipping or Local
Daugherty Coal Company	Frank Daugherty	Nodaway	Shaft	Longwall	Furnace	Steam	Local
Lean Coal Company	T. L. Lean	Nodaway	Shaft	Longwall	Furnace	Horse	Local
Hathaway Coal Company	Robert Hathaway	Nodaway	Shaft	Longwall	Furnace	Horse	Local
Baker & Tyrdall Coal Co.	M. Baker	Carbon	Shaft	Longwall	Furnace	Horse	Local
Henton Coal Company	J. M. Henton	Carbon	Shaft	Longwall	Furnace	Horse	Local
Windyville Coal Company	F. A. Hunter	Carbon	Shaft	Longwall	Furnace	Horse	Local
Lantz Coal Company	O. D. Lantz	Carbon	Shaft	Longwall	Furnace	Horse	Local
Wild Coal Company	J. E. Wild	Carbon	Shaft	Longwall	Furnace	Horse	Local
Jones Coal Company	J. H. Jones	Carbon	Shaft	Longwall	Furnace	Horse	Local

REPORT SECOND INSPECTION DISTRICT

R. T. Rhys, Inspector, Ottumwa.

Second District—Monroe (part), Wapello, Mahaska, Marion, Jasper, Warren, Keokuk, Van Buren, Jefferson and Davis Counties.

The second inspection district of Iowa comprises the counties of Monroe (part), Marion, Wapello, Jasper, Mahaska, Warren, Van Buren, Jefferson, Keokuk and Davis.

The name of the operators, the number of mines in operation, the number of days the shipping and local mines were in operation, the number of tons of coal produced, and the number of miners and other mine employes are employed in and around the mines of the above counties, are given elsewhere in this report.

By an act of the last General Assembly the time for gathering mine statistics was changed from a fiscal year ending June 30th, to that of a calendar year, ending December 31st, and this report, therefore, in order to comply with the above act, covers a period of one and one-half years, from June 30, 1914, to December 31, 1915.

The change prevents a fair comparison to be made with former periods but it is evident that about the same number of men were employed in and around the mines of the district in the year 1915, as there were employed during the fiscal year ending June 30, 1914, but that the production of coal was considerably less.

ACCIDENTS.

Records of mine accidents in this district, covering the period of this report, are tabulated, practically so, in accordance with the standard forms suggested by the United States Bureau of Mines.

A study of these forms will show that the accidents are grouped under various headings, and then these are numbered and subdivided, so that a detailed and fairly accurate classification of the accidents are thus made.

The most disastrous accident that took place in this district during this biennial period was the explosion at the Fortner's mine at Flagler, December 30, 1914, when three men were instantly killed and four severely injured.

As soon as I was notified of the explosion I went to the place as soon as possible, and also requested the aid of Inspector Swee-

ney, of Des Moines, and Inspector Holland, of Albia, to explore the mine with me and to find out, if possible, the probable cause of the explosion and I hereby wish to thank them for their willing and valuable assistance.

The Fortner's mine is a small local mine, located about one-half mile southwest of Flagler's railway station, and has been in operation for about four and one-half years. The coal is reached by a short slope, driven in a northwest course. At a distance of about 275 feet from the mouth of the slope, a pair of north entries is turned. At that time one room was working on the first north, and three on the second north. William Davis worked in room No. 1 off the first north, and Edward Horton and Carl Fortner in room No. 1, John Cooper and William Kersey in room No. 2, and William Clark and Ernest Clark, in room No. 3 off the second north. Cooper and Kersey's roadway was turned off the Clark brother's roadway at a point nearly 65 feet from the second north entry, or, about 85 feet from the face of room No. 3. The vein of coal is about 5 to 7 feet thick, and contains considerable rock and black jack. The mine is ventilated with furnace, and had small fire, but damped, at the time of the explosion.

Mr. Fortner's reports to me show that three men were employed in the mine on an average during the year ending June 30, 1913, and four men during the year ending June 30, 1914. My last visit to the mine, prior to the explosion, was August 12, 1914, and at that time I only found four men working in it. I notified Mr. Fortner that day, and did also on my previous inspections, not to employ more than four (4) men underground until the mine was placed in charge of a certified mine foreman, and had to it a proper way of escape.

Accompanying me into the mine were Inspector Sweeney, Inspector Holland, Mr. William Mitchell, District Board Member of the U. M. W. of America, Mr. Fortner, the owner of the mine, and four miners from the neighborhood.

We found that practically no damage was done to the mine and that there was a natural current of air of about 4,000 cubic feet passing down the slope; and that the general condition of the mine was good but dry throughout. Although no shot examiner and shot firer was employed in this mine, nevertheless all the shots that were fired in the mine the evening of the explosion, so far as we were able to determine, were fair shots, and in our opinion

would have been accepted as such by any certified shot examiner. All the shots apparently had performed the work intended for them to do, and no evidence was found of a tight shot, or, of a shot that had blown out the tamping. It was observed that in some of the rooms there were stored an excessive amount of powder in kegs and jacks, here and there on the gob. In one room there were found, one full keg, part of another keg,and a jack nearly half full; and in another, one full keg, part of another keg, and a jack about one-half full. All this powder was exposed and had not the protection of a box.

Mr. Fortner informed us that the men mined coal for him by the day, and not by the ton, and that he supplied them with all the powder and fuse they needed. In answer to the question, "If there were any limit placed upon the amount of powder and the length of fuse the men should use, or, were allowed to use," Mr. Fortner replied that there were none, and that it was the rule in his mine for men to leave the fuse long enough so that they all could get out of the mine before the first shot went off, and that all of his men knew of this rule and generally practiced it. I have found no one yet that has contradicted the above statement. Evidently the granting of powder to the men free of charge accounts for the excessive powder that was found in the working places. If the men were paying for their powder, they undoubtedly would have exercised greater care and economy in its use and safe-keeping, and would only have in their possession just enough for their immediate use.

No evidence of flame nor of force was observed at the face of any of the working places. Plenty of evidence of flame, however, was found in the roadways of rooms number one and two off the second north, and at the frame door on the main west entry between the first and second north. No indication of flame was seen elsewhere, but the injured men testified that more or less flame went up the slope to the outside.

The seven men that were at work in the mine that day had fired their own shots and were on their way home. Five of them were in the slope, being within 20 or 30 feet of being out of the mine, and the other two men were following and were at the outer end of the double parting at the foot of the slope when the explosion took place. The five men that were in the slope were blown out of the mine. Some of them were carried a distance of

40 or 50 feet beyond the mouth of the slope. Three of the five men in the slope were killed instantly, and all the others were seriously injured, and were more or less burnt, except Horton. Horton was the leading man in the slope, and was carried by the force of the explosion the farthest of any, yet he was the least injured of them all.

Although no bad shot was found, nor no evidence of flame nor force was observed at the face of any of the rooms, yet no one claims that this explosion could not have been caused by the explosive used in one of the shots without the aid of other or more explosives. That this was possible is readily conceded, but plausible as this theory is, careful examination of the shots, the roadways of rooms number one and two off the second north, and the last cross-cut between the above rooms, lead me, and the other two inspectors to believe that the explosion originated in room number two, and that there was enough evidence present in this room to prove that a keg, or, a part of keg of powder had been ignited in it; and also to cause us to suspect that the ignition of this keg of powder into an atmosphere that was favorably prepared by the shots to create an explosion may have been the cause of it. It is true that it is only a matter of conjecture as to how this keg of powder was ignited, but that it could have been ignited by scattering fire emitted from the shot fired in the top coal, and the only shot fired that evening in this room, is a reasonable supposition. Every old and experienced miner knows that it is not an uncommon thing for even fair shots, such as this was, to scatter fire back for considerable distance from the face. To my personal knowledge, unprotected kegs of powder have been ignited from the scattering fire of shots in the above manner, and the way the powder was handled and kept in this mine made the same thing possible here.

Our reasons for suspecting the explosion of a keg of powder as one of the factors that may have caused this explosion are:

(1) The unprotected way powder was kept in this mine.

(2) That a keg was found on the gob, opposite the last cross-cut between the 1st and 2nd rooms off the second north entry, that plainly indicated it had exploded.

(3) That in room number two, opposite the above cross cut, there were plain indications that flame had radiated in three different directions from this point.

(a) Outward through the above cross-cut to room number one, where it scorched a roll of paper that rested on the gob opposite the cross-cut. Only the side of the paper that faced the cross-cut was scorched.

(b) Inward towards the face of room number two, where papers were found scorched. The sides of the papers that faced the mouth of the room was the only side scorched. The side facing the face of the room was apparently untouched by the flame.

(c) Outward along the roadway of room number two to the second and first north entries, leaving in its path scorched posts and small particles of coke deposited on the sides of the posts facing the above point.

IOWA, AND THE UNITED STATES BUREAU OF MINES.

The United States Bureau of Mines was established by an act of congress in the year 1910. The purpose and aim of the bureau is, "To conduct inquiries and scientific and technologic investigations concerning mining, and the preparation, treatment, and utilization of mineral substances with a view to improving health; conditions and increasing safety, efficiency, economic development, and conserving resources through the prevention of waste in the mining, quarrying, metallurgical, and other mineral industries; to inquire into the economic conditions affecting these industries; to investigate explosives, etc., and to disseminate information concerning these subjects."

Congress has especially prescribed that the bureau shall not conduct investigation in behalf of private parties nor participate in the promotion of individual enterprises or properties. It is, therefore, as it should be, a non-partisan organization maintained by the federal government to carry on inquiries and investigations, without bias and without prejudice, solely for the advancement of the public good; and for this reason it seems to me that its settled findings upon mining matters ought to be convincing, and accepted as the impartial judgment of the highest mining authority in our country.

Having no power to enforce the result of its own researches and discoveries upon any state, it is evident, therefore, that one of the principal functions of the bureau is that of an enducator, or, an advisor, and that its value to the mining industry in such capacity depends primarily upon the correctness and the prac-

ticability of its instructions or advice and secondly upon the willingness of the different states to follow these instructions, and to enforce their adoption in the mines within their respective borders.

The Bureau of Mines was created by the federal government in response to the demand of the mining men of our country—Iowa included. It may be composed of the best mining experts in the world, and capable of accomplishing incalculable good, and yet be of no particular value to our country unless our mining men, and legislators are willing to accept and put in practice its teachings; especially those matters that it is able to prove beyond controversy the correctness and the practicability of its views. Unless we are willing to do this, our clamor for its creation was insincere, and it would be better for the government to save the expense of its maintenance and abolish it altogether.

I shall not attempt to call attention to all the things that the bureau advise, or suggest us to do, but shall briefly point out a few of them.

The bureau in Miners Circular No. 3, page 21, gives us this advice: "Don't blast the coal off the solid, undercut it or shear it and wedge it down if possible." I readily concede that it may not be possible nor practical to carry out this good advice to the letter at all times in all the mines of our states, but I hold that the under-cutting of the coal in Iowa mines deserves a fairer trial than it has been given. Viewing the matter as I do from the standpoint of safety to human life and health, which should be the first and the most important consideration in any system of mining, I am compelled to commend the advice of the bureau, and to favor its adoption in the mines of our state whenever it is possible and practical to do so. I favor this because of the well known fact that shooting off the solid is always fraught with danger, and that it has been the means of causing every mine explosion in our state; and also because of the large number of accidents reported under the head, "Caused by a fall of slate," can be traced directly or indirectly to this system of mining.

The advice of the bureau should be heeded also because I believe the time has come in Iowa, when the economic side of this question should receive the unselfish consideration of every mining man in our state. Mining can no longer be carried on successfully with us under a loose system. Coal should not be wasted nor acres of it lost through improper method of mining. The

comparatively small area of our workable coal fields calls for prudence, and the character of what is left of them, as well as the welfare of the coal business in general in our state demands that the most perfect system of mining be adopted.

In Miners Circular No. 7, page 30, the bureau is demanding the following safety requirement: "When coal is shot off the solid and black powder is used competent shot firers must be used." I need not say that we have in Iowa, just such condition as above, and yet there is nothing in our mining laws nor in the working agreement between our operators and miners that requires one or the other to employ shot firers.

This department in its last biennial report recommended to the Thirty-sixth General Assembly that a law be enacted requiring the operators of coal mines where coal is shot off the solid to employ shot firers, and it is to be regretted that after the proposed bill was unanimously passed by the senate that it was denied passage by the house.

Our General Assembly, like our state is overwhelmingly agricultural in its make-up, but it is to be hoped that this will not make it less concerned about the welfare of the industrial workers of the state; and that it will bear in mind that the United States Bureau of Mines is to coal mining what the United States Department of Agriculture is to farming. The former is entitled to their confidence and support just as much as the latter. Both departments are experts in their line, and neither miner nor farmer will err in following their impartial and conservative advice.

I feel confident that this good measure has only been delayed and not defeated; for surely the present trend of mining is not indicating any tendency to go back to the old way of every miner firing his own shots, but is unmistakably towards better and safer methods by employing select men not only to fire the shots but to charge them also.

If I read the signs of the time aright, our operators will sooner or later come to realize the necessity of having control over these matters, not only for the sake of safety but for the preservation of their business; and so what they now refuse to take will wish some day they possessed.

Probably the United States Bureau of Mines has rendered coal mining no greater service nor contributed to the mining public

no more valuable and needed information that it has in its scientific tests of coal mining explosives. Until the bureau undertook to make these tests, an accurate data of the action of the different kinds of explosives were nowhere available. These tests are made for the purpose of ascertaining which explosives are safe and which are dangerous for use in coal mining. The explosives that pass the required tests are called "Permissible Explosives" and on June 30th, 1915, there were one hundred and thirty-four (134) different explosives on the permissible list. Through the efforts of the bureau in disseminating knowledge concerning these explosives, and because of their greater safety their use has increased in the mines in this country from 11,300 pounds in the year 1902 to 19,600,000 pounds in 1914.

In the fifth annual report of the Director of the Bureau of Mines, page 8, we find these words: "These permissible explosives have quick short flame, much less liable to ignite gas or dust than the flames of black powder or dynamite. No great explosion disaster has been traced to the use of these explosives and their introduction marks one of the greatest advances yet made in increasing safety in dusty and gaseous coal mines."

Notwithstanding the splendid record of permissible explosives, and their greater safety over other explosives, very little, if any, are used in the mines of our state. We cling tenaciously to black powder and dynamite. It may be true that permissible explosives are not as effective as black powder in blasting coal off the solid, but this should not cause us to underestimate their value, and to dismiss them from our mines as things of no use to us. Their superior safety should appeal to every mining man that wishes to remove the danger of mine explosions in our state. If we wish to do our best to make coal mining safer, we must regard the safety of the explosive as of more importance than its explosive effect to make large percentage of lump coal.

We do not need any one to prove to us in Iowa that dry coal dust is explosive. We learned this ourselves from bitter experiences, and there is none among us that doubts it; but we need to learn from the bureau of mines, and from other similar agencies, more perfectly how to prevent dust explosions from taking place.

We have few in our midst that seem to doubt, or have, in my opinion, erroneous beliefs concerning certain things about explosions and explosives that ought to be removed or corrected.

Some men will still argue that dynamite will not cause dust explosion. No mine explosion in this state to my knowledge was caused directly from the exploding of dynamite, and probably this may account for the above belief.

In Miners' Circular No. 7, of the bureau, page 35-36, we find the following statement: "While it is true that dynamite has a shorter flame than black powder, and is quicker, the reader should not forget that the hot flame from exploding dynamite may cause a gas or dust explosion. There is no work in a coal mine for which dynamite is used that cannot be done with properly chosen permissible explosive. For this reason and because of the dangers above mentioned, dynamite should not be allowed in a coal mine."

Again in Miners' Circular 21, page 8, we find the following: "Every miner of experience knows that a black powder shot, no matter how well placed, will by its flame ignite fire damps that may be present but it is not so well understood that dynamite and other high explosives will just as readily ignite fire damps or dry coal dust that may be present."

We have some also that express doubt that one shot can cause dust explosion. According to the tests made by the bureau at the experimental mine at Bruceton, Pa., it shows that an explosion could be obtained by a single blown out shot at the face.

Tests at the experimental mine have also shown that the direction or the strength of the air current has no appreciable effect on the movements of a dust or gas explosion. The pressure produced by the explosion is so great that an opposing current is instantly reversed.

It may also be of interest to us in Iowa to know that coal dust explosions are made in the experimental mine just as readily in still air, or with the fan stopped, as in a strong current, or with the fan in operation.

I am very sure that the mining men of Iowa are willing to learn, and that they desire the safest and best in mining, but I am of the opinion that if some of the things advocated by the United States Bureau of Mines are to be adopted in the near future in the mines of our state that these things must be made more impressive and convincing to the mining masses. Some ways must be devised whereby demonstrations and illustrations could be given in the mining centers of our state and not in Pittsburgh only, where practically none of our miners can conveniently go there and see them.

In expressing the above opinion I do not mean to cast reflection upon the intelligence of our mining people, nor upon the excellent circulars and technical papers of the bureau of mines, but I wish to point out that a closer contact with one another, and a more realistic presentation of the things studied would bring about quicker results than the present method only. The present plan of disseminating information through the circulation of circulars and bulletins is good and necessary, but the old adage is, "seeing is believing," and if the bureau could come to Iowa and to other mining states as well and demonstrate to mining men that dynamite can cause dust explosion, and that the flame from the explosion of black powder lasts from 2,500 to 3,500 times as long as does the flame from permissible explosive, one such demonstration would do more in a day to convince the people that saw it that black power and dynamite should not be used in gaseous, dry and dusty mines, than would its circulars and bulletins in a long time. The effectiveness of this method is to be seen in "First Aid Work" in our state. Had the bureau confided its efforts exclusively to the circulating of bulletins on the subject, and to depend on mining men reading them and follow their instructions, the progress of this good work among us would have been slow, but by sending trained men to the different camps to demonstrate the teachings of the bulletins to the people, a very satisfactory progress has been made in our state in the last year or so in first aid work. Much credit is due the Bureau of Mines, the miners' state officials, and others for the success attained. I hope this humane work will appeal to all the people of our state, and that soon "First aid work" will be included in the curriculum of our public schools, so that the coming generation may be trained from their youth how to avoid accidents, and how to aid others in distress.

IOWA MINING CAMPS.

The average life of a coal mine in the second inspection district of Iowa, is probably less than eight (8) years; consequently the existence of a mining camp in the shooting coal districts of our state is short, and makes it necessary for many mining men to forego the pleasure of a permanent dwelling place. After the mines in one locality are worked out and abandoned, the mine workers and their families are obliged to move to some other camp to live and labor. Their habitations are no ancient family mansions where their ancestors were born and lived for generations past, but are so transient in their existence that if they

were to cherish a desire to see the house where they were born, many of them would find it not. The house and the camp have been torn down, and scattered here and there, and in many instances the farmer's plow has furrowed the ground, and corn grows where they once stood. The rich mines of Happy Hollow, Kirkville, Excelsior Carbonado, What Cheer, Muchakinock, Knoxville Junction, Pekay, Lost Creek, Keb, and many others that could be named are all abandoned and their once flourishing camps are no more. There remains at present only the old "Dirt Dumps" standing as monuments to mark the place where they used to be. Evidently this brief duration of the mines has not been conducive to the erection of substantial and attractive camps. The majority of their houses are built in such manner, and of such material and workmanship as to leave their occupants no alternative but to live very close to nature. The advice of an efficient architect was not sought in their planning, nor, that of a landscape artist in their lay out. They have no beauty to look upon nor charm to dispel their gloomy aspect. Some of them have been pitched in lonesome and unattractive places, and are far from railroad stations and established towns, and it is difficult and expensive to go to them and to get out of them.

It is not claimed that Iowa coal camps are worse, nor probably as bad as some mining camps in other states, and it must be admitted that the camps built of late years are better than the ones built in the early period of mining in our state; nevertheless the fact that men shun them, and move into them only when compelled by circumstances to do so is a severe indictment against them. It goes very far to prove that there is something radically wrong and decidedly lacking in their make up, when good men and their families want to flee from them.

Mining life is often misunderstood, and miners are regarded frequently by those not familiar with mining conditions as a class of vagabonds. Probably this unjust opinion would not have been formed were it more generally known that the roving life of a large majority of the miners is not one of choice, but is one forced upon them by the exigency of finding a new bread line. It is a great error to suppose that the mine workers and their families are taking delight in continually moving from one isolated coal camp to another. It is wrong to think that they have not desire for a permanent resting place, nor a longing for a home which they could call their own in some good locality where they could

rear and educate their children into better and more capable men and women. People should not make the mistake of holding them wholly responsible for the condition of the camp, and to conclude from its appearance that they are fit for nothing better. It should be borne in mind that the coal camps are no better, and their advantages that tend to make men better and more efficient are no greater than what the owner intend them to be. It is the owner of the camp that decides the number, size and the mode of its dwellings; owns and marks its streets; employs its labor; sells it food and supplies, and also that determines what manner of men shall dwell in his creation. A more intimate knowledge of mining people, and of the conditions under which they live and labor would correct the erroneous opinions about them, and would reveal that living in coal camps does not truly represent their ideal of what living should be. It would also disclose that there is in their hearts a constant craving, not for a shack to tent in but a home to dwell in, located within reach of steady employment, and of the educational and social advantages of some well established community. Any employer of labor that fails to recognize, or, that refuses to encourage these noble desires in his employees is unquestionably blind to his own best interest, and commits a great wrong when he so circumscribes the lives of his men as to make their aspirations for the ownership of a home and of education impossible to be gratified.

Some may argue that the building of coal camps is a necessity for the convenience of the men working in the mines. Possibly this may have been true in some instances in the early days of mining, and perhaps this will be true again occasionally in times to come, but no one can truthfully say that all mining camps were, or, are absolutely necessary settlements for the development of the coalfields of our state. It would be untrue to say that the controlling factor that decided their erection was solely the comfort and the conveniences of the employees, for some of these camps have been built within walking distance to established towns, and the majority of them are within easy reach so that a regular or special work train could take the workmen back and forth to the mines from nearby cities and towns. The truth is all camps thus situated need not to be in existence—at least not on their present sight.

Let no one construe that what I am about to say means that I am not in favor of improving our present camps, for the reverse

is my thought. No coal camp can be made better than I wish it to be; nevertheless, I am convinced that the proper solution for the shortcomings of the Iowa coal camp, is not to be found along the line of patching them a little now and then, but along the line that will lead to their total abolishment by not building them. I say this because I believe that the geological formation of most of our coalfields is such, and the life of the average mine is so short as to make it practically out of the question to expect any coal company to build substantial and attractive mining towns, and these to possess the modern conveniences, and the educational advantages that the mass of the present generation of miners require. This being true would it not be better to allow the miners to live in established towns and cities where their transportation to and from the mines is possible and practical than to build impoverished camps? If more houses for the workmen were needed could they not be built as part, or, as additions to these established communities?

I know of no other thing that has done as much as make the occupation of mining unpopular, and has brought more discredit upon mine owners as employers of labor, as their poor unsightly camps. And the pity of it is that there is a just cause for condemnation, because their camps have interfered with the necessities and the domestic comforts of their inhabitants. Their lack of school facilities have deprived their youth of their full measure of education, and as a rule they have no semblance of any public institution that provides them with clean and healthy recreation, that will help to develop them into strong, pure, moral men and women. Only the mining man that is mentally blind will fail to see that the perpetuation of such establishments tends to deteriorate the present and the coming miner, both physically, mentally and morally; and also that does not view the future with some anxiety as to what the harvest of these things will bring forth to the coal mining industry of our state.

By not building camps only as measures of last resort, their number in our state would be very few, and probably not any. Their disappearance would not only bring manifold benefits to the miners and their families but would bring much that is needed to the coal business itself—a realization that it can succeed, and succeed better without the camp or any other adjunct. May this then be our motto, "No more coal camps in Iowa."

FATAL ACCIDENTS, DISTRICT NO. 2.

LAST HALF OF CALENDAR YEAR, 1914.

Date and Hour of Accident	Name, Age, Nativitiy and Occupation	Married or Single	Number of children	Cause of Death	Employing Company and County
Aug. 27, 11:30 a. m.	William Thomas, 50 Welsh, timberman.	Married	5	Fall of slate	Consolidated Indiana Coal Co.
Sept. 24, 8:00 a. m.	R. B. Marshall, Negro, company man	Single		Fall of slate	Phillips Coal Company, Wapello
Oct. 7, 8:40 a. m.	Eugene Turner, 30, Negro, miner	Married		Fall of slate	Crescent Coal Company, Monroe
Nov. 25, 1:30 a. m.	George Hampton, 45, American, miner	Married	3	Fall of slate	Phillips Coal Company, Wapello
Dec. 30, 4:00 p. m.	John Cooper, 27, American, miner	Married	3	Premature explosion	Chas. Fortner Coal Co., Marion
Dec. 30, 4:00 p. m.	William Clark, 26, English, miner	Married	1	Premature explosion	Chas. Fortner Coal Co., Marion
Dec. 30, 4:00 p. m.	William Kersey, 22, English, miner	Single		Premature explosion	Chas. Fortner Coal Co., Marion

FULL CALENDAR YEAR, 1915.

Feb. 6, 5:00 p. m.	Jacob Schupel, 42, American, miner	Married	6	Fall of slate	H. L. Campbell Coal Co., Warren
Feb. 11, 10:30 a. m.	William Pierce, 72, Irish, miner	Single		Fall of slate	Brown Bros. Coal Co., Wapello
Mar. 9, 8:50 a. m.	John Rice, 40, miner	Married	4	Fall of slate	Colfax Cons. Coal Co., Jasper
Apr. 2, 10:30 a. m.	Alfred Trevelhim, 54, English, miner	Married		Run over by car	Colfax Cons. Coal Co., Jasper
Apr. 19, 9:45 a. m.	Patrick Murphy, 72, Irish, miner	Married		Fall of slate	English Creek Coal Co., Marion
*May 24, 9:30 a. m.	Fred Barton, 32, American, miner	Married	2	Fall of slate	Newton Coal Co., Jasper
July 12, 1:30 p. m.	Sam Peaco, 56, Negro, miner	Married		Fall of slate	Consolidation Coal Co., Monroe
July 26, 9:00 a. m.	A. J. Chivers, 38, English, miner	Single		By machinery	Chivers & Phillips Coal Co., Marion
*Sept. 7, 8:40 a. m.	William Burris, 25, American, Co. man	Married	1	Caught bet. car & roof	Consolidation Coal Co., Monroe
Oct. 29, 3:30 p. m.	Robert Stevenson, 37, Amer., timberman	Married	6	Fall of roof	Regal Coal Co., Monroe
Nov. 3, 2:30 p. m.	B. R. Hunt, 37, American, top man	Married	3	Fall of person	Central Coal Co., No. 5, Monroe
Dec. 2, 9:00 a. m.	Dennis Bartlow, 34, American, miner	Married	3	Fall of slate	Levi Coal Co., Mahaska

*Died August 13, 1915.
*Died October 29, 1915.

NON-FATAL ACCIDENTS, DISTRICT NO. 2.

LAST HALF OF CALENDAR YEAR, 1914.

Date and Hour of Accident	Name and Occupation	Cause of Accident	Nature of Injury	Employing Company and County
July 8, 9:00 a. m.	Nick Burdock, miner	Fall of slate	Back and leg	English Creek Coal Co., Marion
July 9, 2:00 p. m.	John Foster, timberman	Hand tools	Knee cut	Empire Coal & Mining Co., Marion
July 22, ———	Robert Lumsden, miner	Fall of roof	Foot injured	Phillips Coal Co., Wapello
July 30, 10:25 a. m.	L. Beaumont, timberman	Fall of slate	Foot and shoulder hurt	Anderson Coal Co., Marion
Aug. 7, 1:00 p. m.	Mike Gusick, miner	Fall of slate	Back hurt	Consolidated Indiana Coal Co., Marion
Aug. 14, 9:00 a. m.	John Larent, miner	Fall of slate	Leg broken	Excelsior Coal Co., Monroe
Aug. 15, 8:30 a. m.	C. A. Akers, miner	Fall of slate	Mashed fingers	Excelsior Coal Co., Monroe
Aug. 17, 10:00 a. m.	John Larson, miner	Fall of slate	Leg broken	Anderson Coal Co., Marion
Aug. 18, 9:00 a. m.	John Oldham, miner	Fall of slate	Ribs fractured	Consolidated Indiana Coal Co., Marion
Sept. 9, 2:00 p. m.	A. B. Crane, miner	Fall of slate	Two ribs fractured	Rex Fuel Co., Mahaska
Sept. 9, 10:00 a. m.	James Hopp, miner	Fall of slate	Fingers mashed	Anderson Coal Co., Wapello
Sept. 19, 9:30 a. m.	Abe Long, miner	Fall of slate	Leg broken	Rex Fuel Company, Mahaska
Sept. 27, 10:30 a. m.	John Benson, miner	Fall of slate	Collar bone injured	Rex Fuel Company, Mahaska
Sept. 29, 10:00 a. m.	W. S. Williams, timberman	Hand tools	End of thumb cut off	Rex Fuel Company, Mahaska
Oct. 3, 9:00 a. m.	John Sanderson, miner	Lifting	Strained back	Excelsior Coal Co., Monroe
Oct. 5, 9:00 a. m.	W. E. Denby, miner	Caught by coal	Fingers injured	Colfax Consolidated Coal Co., Jasper
Oct. 14, 10:00 a. m.	John Turant, miner	Fall of roof	Leg broken	Excelsior Coal Company, Monroe
Oct. 17, 9:30 a. m.	John Cowan, track layer	Fall of slate	Collar bone broken	Atwood Coal Company, Mahaska
Oct. 17, 8:00 a. m.	Joe Francisco, pusher	Run over by car	Ankle bruised	Consolidated Indiana Coal Co., Marion
Nov. 2, 2:00 p. m.	Charles Miller, driver	Fell from trip	Ribs broken	Bidwell Coal Co., Wapello
Nov. 6, 10:00 a. m.	Wm. McNeish, driver	Run over by car	Foot injured	English Creek Coal Co., Marion
Nov. 20, 2:00 p. m.	Charles Barton, company man	Fell from trip	Wrist broken	Newton Coal Co., Jasper
Nov. 23, 3:00 p. m.	George Bath, miner	Fall of slate	Foot injured	Rex Fuel Company, Mahaska
Dec. 14, 10:30 a. m.	Joe Balepski, miner	Fall of slate	Hip injured	Consolidated Indiana Coal Co., Marion
Dec. 17, 10:00 a. m.	Curtis Mulek, trip rider	Fell down		Mammoth Vein Coal Co., Marion
Dec. 22, 10:00 a. m.	James Clark, miner	Fall of slate	Arm fractured	Colfax Consolidated Coal Co., Jasper
Dec. 24, 11:30 a. m.	George Dawson, driver	Run over by car	Foot injured	Newton Coal Co., Jasper
Dec. 30, 4:00 p. m.	Edward Horton, miner	Coal dust explosion	Bruised	Chas. Fortner Coal Co., Marion
Dec. 30, 4:00 p. m.	Carl Fortner, driver	Coal dust explosion	Burned and leg broken	Chas. Fortner Coal Co., Marion
Dec. 30, 4:00 p. m.	Ernest Clark, miner	Coal dust explosion	Burned	Chas. Fortner Coal Co., Marion
Dec. 30, 4:00 p. m.	William Davis, miner	Coal dust explosion	Burned	Chas. Fortner Coal Co., Marion
Dec. —, 8:00 a. m.	Evan Rees, driver	Fall of slate	Arm broken	Trio Coal Co., Wapello

FULL CALENDAR YEAR, 1916.

Date and Hour of Accident	Name and Occupation	Cause of Accident	Nature of Injury	Employing Company and County
Jan. 9, 10:00 a.m.	Walter Hall, miner	Fall of slate	Leg bruised	Mammoth Vein Coal Co., Marion
Jan. 21, 1:30 p.m.	Mike Stoffa, miner	Fall of slate	Leg and shldr bruised	Consolidation Coal Co., Monroe
Jan. 21, 9:30 a.m.	Harry Bowen, driver	Fall of slate	Ribs broken, face cut	Mammoth Vein Coal Co., Marion
Jan. 26, 10:00 a.m.	Ward Williams, driver	Fall of slate	Back injured	South Ottumwa Coal Co., Wapello
Jan. 28, 2:30 p.m.	John Phragan, miner	Premature explosion	Burned and ribs broken	Rex Fuel Co., Mahaska
Jan. 28, 2:30 p.m.	Carl Ballard, miner	Premature explosion	Burned hands and face	Rex Fuel Co., Mahaska
Jan. 30, 9:00 a.m.	Robert Badget, miner	Fall of slate	Ribs and leg broken	Trio Coal Co., Wapello
Feb. 3, 8:30 a.m.	Sam Garrington, driver	Falling timber	Arm fractured	Bidwell Coal Co., Wapello
Mar. 4, 3:30 p.m.	Tom Morris, motor man	Machinery	Thumb and 3 fingers cut off	Consolidated Indiana Coal Co., Marion
Mar. 7, 1:00 p.m.	Joe H. Woods, company man	Fall of slate	Leg broken	Consolidated Indiana Coal Co., Marion
Mar. 9, 2:30 p.m.	Jas. Hurt, trip rider	Fall of slate	Hand mashed	Consolidated Indiana Coal Co., Marion
Mar. 19, 9:30 a.m.	John Smith, miner	Fall of slate	Leg bruised	Colfax Consolidation Coal Co., Jasper
Mar. 23, ----------	William Phillips, driver	Run over by car	Foot crushed	Alpine Coal Co., Wapello
Mar. 23, 10:30 a.m.	Clem Loosick, miner	Fall of slate	Leg broken	Regal Coal Co., Monroe
Mar. 24, 2:00 p.m.	Charles Cardis, miner	Fall of slate	Rib fractured	Geo. Robinson Coal Co., Jefferson
Mar. 31, 11:00 a.m.	Harry Babie, trapper	----------	Leg broken	Atwood Coal Co., Mahaska
Apr. 2, 8:30 a.m.	Louis Dammerville, driver	Mine cars	Bruised leg	Colfax Consolidation Coal Co., Jasper
Apr. 6, 7:00 a.m.	Charles Seals, miner	Fall of slate	Leg injured	Consolidation Coal Co., Monroe
Apr. 7, 10:30 a.m.	Thomas Owens, miner	Fall of slate	Arm broken	Phillips Coal Company, Wapello
Apr. 9, 9:00 a.m.	Prosper Coleman, miner	Fall of slate	Two broken toes	Rex Fuel Company, Mahaska
May 10, 10:30 p.m.	Hugo Anderson, company man	Caught by car	Foot injured	Colfax Consolidated Coal Co., Jasper
May 14, 9:00 a.m.	Lloyd Robert, driver	Coupling Cars	Thumb mashed	English Creek Coal Co., Marion
May 18, 9:00 a.m.	Fred Somenberg, driver	Coupling Cars	Arm injured	Maple Coal Co., Monroe
May 20, 1:30 p.m.	Est Miller, dumper	----------	Finger mashed	Anchor Coal Company, Wapello
May 20, 2:00 p.m.	Louis Toigo, top man	On surface	Leg scalded	Equality Coal Co., Mahaska
May 21, 9:30 a.m.	L. A. Walraven, company man	Fall of slate	Back injured	Equality Coal Co., Mahaska
May 26, 2:30 p.m.	H. Parmley, machine runner	Mining machine	Leg broken	Bolton-Hoover Coal Co., Mahaska
May 29, 4:30 p.m.	Fred Jones, miner	Caught between car and roof	Two ribs broken	Consolidated Indiana Coal Co., Marion
June 9, 2:00 a.m.	John Halgren, timberman	Falling timber	Leg Broken	Consolidation Indiana Coal Co., Marion
June 15, 11:00 a.m.	James Lord, miner	Fall of slate	Finger mashed	Bidwell Coal Co., Wapello
June 17, 10:00 a.m.	Elmer VanBlair, timberman	Fall of slate	Two ribs fractured	Equality Coal Company, Mahaska
June 17, ----------	Harry Stever, blacksmith	Mining machine	Hand injured	Colfax Consolidated Coal Co., Jasper
June 17, 7:45 a.m.	Oliver Stewart, trip rider	Fell off trip	Toes mashed	Consolidated Indiana Coal Co., Marion
June 17, 9:00 a.m.	Jack O'Brien, miner	Fall of slate	Broken leg	Consolidated Indiana Coal Co., Marion
June 19, 8:20 a.m.	Robert Burkett, driver	Kicked by mule	Body bruised	Consolidation Coal Co., Monroe
June 21, 8:30 a.m.	Leonard Mays, miner	Fall of slate	Face and ankle bruised	Consolidation Coal Co., Monroe
June 28, 12:00 m.	Ben Davidson, miner	Fall of slate	Face and hip injured	Bidwell Coal Co., Wapello

July 26, 9:00 a.m.	Tom Edgar, miner	Fall of slate	Broken shoulder	Rex Fuel Co., Mahaska
July 29, 1:00 p.m.	T. M. Albers, miner	Fall of slate	Back injured	Equality Coal Co., Mahaska
Aug. 2, ----------	Charles Sage, sinker	Struck by cage	Body bruised	Spring Hill Coal Co., Warren
Aug. 7, 9:00 a.m.	Enoch Fickle, miner	Fall of slate	Ribs broken	Anchor Coal Co., Wapello
Aug. 10, 9:00 a.m.	Wm. Haughton, driver	Fall off trip	Body bruised	Anderson Coal Co., Marion
Aug. 15, 6:00 p.m.	Ross Kepley, dumper	Nails, splinters, etc	Foot injured	Spring Hill Coal Co., Warren
Aug. 16, 2:30 p.m.	H. C. Billings, machine runner	Mining machine	Foot injured	Colfax Consolidated Coal Co., Jasper
Aug. 20, 1:30 p.m.	Thomas Walton, miner	Fall of slate	Hand injured	English Creek Coal Co., Marion
Aug. 30, 11:00 a.m.	Lonzo DeBoni, miner	Fall of slate	Back dislocated	Crescent Cal Co., Monroe
Sept. 16, 1:30 p.m.	Abe Milburn, company man	Shaft accident	Leg broken	M. & St. L. Coal Co., Monroe
Sept. 24, 10:30 a.m.	Joe Rodighiero, miner	Fall of slate	Back dislocated	English Creek Coal Co., Marion
Oct. 7, 8:30 p.m.	J. C. Armstrong, miner	Fall of slate	Bruised hand	Anderson Coal Co., Marion
Oct. 7, 10:00 a.m.	Frank Penrod, eager	Mine cars	Foot injured	Anchor Coal Co., Wapello
Oct. 7, 10:30 a.m.	William Mock, miner	Fall of slate	Back injured	Colfax Consolidated Coal Co., Jasper
Oct. 8, 12:00 m.	William Hinkle ,loader	Fall of slate	Foot injured	Anchor Coal Co., Wapello
Oct. 27, 3:20 p.m.	John Kessells, driver	Caught by car	Arm broken	Bidwell Coal Co., Wapello
Nov. 12, 9:00 a.m.	James Staley, miner	----------	Two broken legs	----------
Nov. 19, 8:10 a.m.	Levi Kirkendall, driver	Fall of slate	Three broken ribs	J. W. McKenzie Coal Co., Marion
Nov. 20, 2:00 p.m.	Pete Morano, miner	Mining machine	Ribs broken	Central Coal Co., No. 3, Monroe
Nov. 21, 10:00 a.m.	Carl Richards, company man	Fall of slate	Collar bone broken	Maple Coal Co., Monroe
Nov. 22, 9:00 a.m.	William Cursy, miner	Nails, splinters, etc	Hand injured	Richards Coal Co., Mahaska
Nov. 23, 2:00 p.m.	John Traister, miner	Fall of slate	Hip dislocated	Anderson Coal Co., Marion
Nov. 24, 6:45 p.m.	Nick Mayo, machine helper	Fall of slate	Arm broken	Bidwell Coal Co., Wapello
Dec. 2, ----------	William Hammy, top man	Fall of slate	Back and body injured	Anchor Coal Co., Wapello
Dec. 7, 2:00 p.m.	Peter Bergreen, timberman	Fall of person	Foot injured	Phillips Coal Co., Wapello
Dec. 8, 9:00 a.m.	J. W. Daniels, miner	Fall of roof	Thigh bone broken	Anderson Coal Co., Marion
Dec. 14, 10:00 a.m.	Charles Corell, miner	Fall of slate	Leg bruised	Phillips Coal Company, Wapello
		Fall of slate	Head and hips injured	English Creek Coal Co., Marion

FATAL AND SERIOUS ACCIDENTS, DISTRICT NO. 2.

LAST HALF OF CALENDAR YEAR, 1914.

	Causes (U. S. Bureau of Mines Classification)	Fatal				Serious								
		Miners	Timbermen	Company men	Total	Miners	Drivers	Track-layers	Timbermen	Company men	Pushers	Trip riders on surface	Total	Grand total
1	(a) Falls of roof (rock, slate, etc.) at working face	5			5	13							13	18
	(b) Falls of roof (rock, slate, etc.) on entry		1	1	2	2			1	1			4	6
3	(c) Falling from trips or cars						2						2	2
	(d) Run over by cars or motors	1			1					1	1		2	3
5	(e) Coal dust explosion due to shot	1			1	4							4	5
12	(f) Hand tools, axes, bars, etc								4			1	5	5
	(h) Miscellaneous					2							2	2
	(b) Fall of person											1	1	1
	Total	5	1	1	7	21	5	1	5	1	1	1	35	42

FULL CALENDAR YEAR, 1915.

	Causes	Fatal				Serious													
		Miners	Timbermen	Company men	Total	Miners	Drivers	Timber men	Company men	Trip riders	Motormen	Trappers	Machine runners	Machine helpers	Cagers	Sinkers	Blacksmiths	Topmen	Total	Grand total
1	(a) Fall of roof (rock, slate, etc.) at working face	7			7	29								1					30	37
	(b) Fall of roof (rock, slate, etc.) on entry		1		1		1	3	2	1									6	7
	(b) Coupling cars																			
	(c) Falling from trips or cars							1												1

3	(d) Run over by cars or motors			1	1		1		1										2	3
	(f) Caught between car and roof			1	1	1	1												2	3
	(h) Miscellaneous														1				1	1
8	(d) Premature blast					2													2	2
9	Animals					2													2	2
10	Mining machine other than 8c																1		1	1
	(b) Machinery (other than 10)										2								2	2
12	(d) Falling timber	1			1					1									1	2
	(g) Nails, splinters, etc					1	1												2	2
	(h) Miscellaneous							1											1	1
13	Falling down shaft										1								1	1
15	(d) Struck by cage or bucket						1												1	1
	(b) Fall of person														1				1	1
22	(f) Splinters, nails, etc			1	1												1		1	2
	(g) Miscellaneous																	1	1	1
	Total	8	1	3	12	32	10	4	5	1	1	1	2	1	1	1	1	4	64	76

FATAL AND SERIOUS ACCIDENTS, DISTRICT NO. 2.

SUMMARY FOR LAST HALF OF CALENDAR YEAR, 1914.

Cause of Injury (U. S. Bureau of Mines Classification)	Result of Injury: Fatal	Permanent partial disability	Temporary disability	Total
1 (a) Falls of roof (rock, slate, etc.) At working face	2	1	12	15
(b) Falls of roof (rock, slate, etc.) On entry	2		5	7
3 (c) Falling from trips or cars			3	3
(d) Run over by cars or motors			3	3
5 (c) Coal dust explosion due to shot	3		4	7
12 (f) Hand tools, axes, bars, etc.			2	2
(h) Miscellaneous			2	2
22 (b) Fall of person			1	1
Total	7	1	32	40

SUMMARY FOR FULL CALENDAR YEAR, 1915.

Cause of Injury	Result of Injury: Fatal	Permanent total disability	Permanent partial disability	Temporary disability	Total
1 (a) Fall of roof (rock, slate, etc.) At working face	7	2		28	37
(b) Fall of roof (rock, slate, etc.) On entry	1			6	7
3 (b) Coupling cars				2	2
(c) Falling from trips or cars				2	2
(d) Run over by cars or motors	1			2	3
(f) Caught between car and roof	1			2	3
(h) Miscellaneous				2	2
6 (d) Premature blast				2	2
9 Animals				2	2
10 Mining machines other than 8c				2	2
12 (b) Machinery (other than 10)	1		1		2
(d) Falling timber				2	2
(g) Nails, splinters, etc.				2	2
(h) Miscellaneous				1	1
13 Falling down shaft				1	1
15 (d) Struck by cage or bucket				1	1
22 (b) Fall of person	1			1	2
(f) Nails, splinters, etc.				1	1
(g) Miscellaneous				2	2
Total	12	2	1	61	76

MINES, OUTPUT AND EMPLOYES, DISTRICT NO. 2.

Number of mines, output of coal, number of miners and other employes for last half of calendar year 1914, and full calendar year 1915.

1914

Counties	Mines in county	Amount of coal of all grades produced	Number of miners employed	Number of other inside employes	Number of outside employes	Total number of employes	Average number of days shipping mines worked	Average number of days local mines worked
Monroe (part)	11	300,715	1,002	288	91	1,381	103	100
Mahaska	12	106,400	404	96	51	551	111	106
Wapello	15	148,749	423	116	79	618	118	100
Jasper	10	144,780	366	137	50	553	124	108
Marion	18	108,642	518	168	103	789	124	115
Warren	7	11,987	31	4	4	39		105
Van Buren	4	1,801	9	3	3	15		93
Keokuk	3	2,908	11	6	4	21		105
Jefferson	1	1,324	4	1	1	6		112
Total	81	827,306	2,768	819	386	3,973		

1915

Counties	Mines in county	Amount of coal of all grades produced	Number of miners employed	Number of other inside employes	Number of outside employes	Total number of employes	Average number of days shipping mines worked	Average number of days local mines worked
Monroe (part)	12	695,614	1,031	275	96	1,402	213	130
Marion	22	377,286	533	184	91	808	217	144
Wapello	18	319,901	482	105	74	661	202	134
Jasper	10	271,847	343	155	53	551	241	185
Mahaska	22	261,433	353	114	54	521	244	148
Warren	5	8,700	32	7	13	52		169
Van Buren	6	6,190	18	0	4	22		147
Keokuk	2	3,568	8	0	2	10		205
Jefferson	2	1,506	8	3	4	15		212
Total	100	1,946,065	2,798	963	393	4,142		

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

MONROE COUNTY.

Name of Company	Superintendent	Postoffice Address	Shaft or Slope	Plan of Working	How entilated	Power Used	Shipping or Local
Excelsior Coal Co., No 2	Homer Harris	Ottumwa	Shaft	Room and pillar	Fan	Steam	M. & St. L. Ry.
Regal Coal Co., No. 2	Daniel Regal	Oskaloosa	Shaft	Room and pillar	Fan	Steam	C. & N. W. Ry.
Hoover Fuel Co.	E. M. Baysoar	Albia	Shaft	Room and pillar	Fan	Steam	C. & N. W. Ry.
Central Coal Co., No. 3	T. L. Evans	Lockman	Slope	Room and pillar	Furnace	Steam	M. & St. L. Ry.
Central Coal Co., No. 5	T. L. Evans	Lockman	Shaft	Room and pillar	Fan	Steam	M. & St. L. Ry.
M. & St. L. Coal Co.	D. E. Ridgeway	Lockman	Shaft	Room and pillar	Fan	Steam	C. & N. W. Ry.
Crescent Coal Co., No. 7	Clarence Durfee	Whiteburgh	Shaft	Room and pillar	Fan	Steam	C. & N. W. Ry.
Maple Coal Co., No. 1	H. H. Shuler	Des Moines	Shaft	Room and pillar	Fan	Steam	M. & St. L. Ry.
Woodward & Sons Coal Co., No. 1	W. L. Woodward	Coalfield	Slope	Room and pillar	Furnace	Steam	M. & St. L. Ry.
Woodward & Sons Coal Co., No. 2	W. L. Woodward	Coalfield	Slope	Room and pillar	Furnace	Steam	M. & St. L. Ry.
William Aubrey Coal Co.	W. Aubrey	Eddyville	Slope	Room and pillar	Furnace	Horse	Local

JASPER COUNTY.

Colfax Consol. Coal Co., No. 8	John Pearson	Colfax	Shaft	Room and pillar	Fan	Steam & electricity	Colfax & N. Ry
Colfax Consol. Coal Co., No. 9	John Pearson	Colfax	Shaft	Room and pillar	Fan	Steam & electricity	Colfax & N. Ry
Hughes Bros. Coal Co.	Ben Hughes, Jr.	Colfax	Slope	Room and pillar	Furnace	Horse	Local
Anderson Bros. Coal Co.	C. J. Anderson	Monroe, R.F.D.	Shaft	Room and pillar	Furnace	Horse	Local
Isaac Ledger Coal Co.	Isaac Ledger	Prairie City	Slope	Room and pillar	Furnace	Horse	Local
Hopkins Coal Co.	R. E. Hopkins	Colfax	Shaft	Room and pillar	Fan	Steam	Local
Plummers Grove Coal Co.	F. M. Bloomquist	Colfax	Shaft	Room and pillar	Fan	Steam	Local
Newton Coal Co.	U. G. Brown	Newton	Shaft	Room and pillar	Fan	Steam	Local
Geo. W. Lust & Co.	Geo. W. Lust	Monroe, R.F.D.	Shaft	Room and pillar	Furnace	Horse	Local
O'Rourke Bros. Coal Co.	James O'Rourke	Newton, R.F.D.	Shaft	Room and pillar		Steam	Local

WARREN COUNTY.

Carpenter & Miller Coal Co.	Roy Carpenter	Lacona	Shaft	Longwall	Natural	Horse	Local
Oakdale Coal Co.	T. T. Davis	Carlisle	Shaft	Room and pillar	Fan	Steam	Local
L. A. Miller Coal Co.	L. A. Miller	Lacona	Slope	Longwall	Natural	Horse	Local
E. E. Bishop Coal Co.	E. E. Bishop	Lacona	Shaft	Longwall	Natural	Horse	Local
Spring Hill Coal Co.	J. E. Jeffreys	Spring Hill	Shaft	Room and pillar	Fan	Steam	C. & R. I. Ry.

VAN BUREN COUNTY.

Crowley Coal Co.	Russell Crowley	Selma	Shaft	Room and pillar	Natural	Horse	Local
Myers & Edwards Coal Co.	Geo. Edwards	Donds-Leando	Shaft	Room and pillar	Furnace	Horse	Local
Kelly & Son Coal Co.	John Kelly	Donds-Leando	Shaft	Room and pillar	Furnace	Horse	Local
Oliver Coal Co.	H. Oliver	Selma	Slope	Room and pillar	Furnace	Horse	Local
Bayer Bros. Coal Co.	Noah Bayer	Farmington	Shaft	Room and pillar	Furnace	Horse	Local
H. Knott Coal Co.	H. Knott	Farmington	Shaft	Room and pillar	Furnace	Horse	Local

MAHASKA COUNTY.

Will Davis Coal Co.	Will Davis	Oskaloosa, r.f.d	Slope	Room and pillar	Furnace	Horse	Local
Tom Lewis Coal Co.	Tom Lewis	Beacon	Slope	Room and pillar	Furnace	Horse	Local
Dearinger & Owen Coal Co.	R. D. Owens	Beacon	Slope	Room and pillar	Furnace	Horse	Local
Evans Bros. Coal Co.	Gurlym Evans	Given, r.f.d	Shaft	Room and pillar	Furnace	Horse	Local
Atwood Coal Co., No. 4	Alex. Walker	What Cheer	Slope	Room and pillar	Fan	Steam & gasoline	C., R. I. & P. Ry.
Atwood Coal Co., No. 5	Alex. Walker	What Cheer	Slope	Room and pillar	Fan	Steam & gasoline	C., R. I. & P. Ry.
Lawrence Coal Co.	Jas Lawrence	Oskaloosa	Slope	Room and pillar	Furnace	Horse	Local
Equality Coal Co.	Earl Brown	Bussey	Shaft	Room and pillar	Fan	Steam	C. & N. W. Ry.
Morris Bros. Coal Co.	G. B. Morris	Oskaloosa	Slope	Room and pillar	Furnace	Horse	Local
Boggs Coal Co.	Jas. Boggs	Given, r.f.d	Slope	Room and pillar	Furnace	Horse	Local
Williams Coal Co.	W. F. Williams	New Sharon	Slope	Room and pillar	Furnace	Steam	Local
Herman Ahrweiler Coal Co.	H. Ahrweiler	Oskaloosa, r.f.d.	Slope	Room and pillar	Furnace	Horse	Local
Palmaga & Pedro	M. K. Pedro	Given, r.f.d	Slope	Room and pillar	Furnace	Horse	Local
Hoynick Coal Co.	John Hoynick	Given, r.f.d	Shaft	Room and pillar	Furnace	Horse	Local
Bolton-Hoover Co., No. 2	John Canty	Oskaloosa, r.f.d.	Slope	Room and pillar	Fan	Steam & electricity	C., B. & Q. Ry.
Rex Fuel Co., No. 2	John Lacost	Bussey	Shaft	Room and pillar	Fan	Steam	C. & N. W. Ry.
Wm. Kramer Coal Co.	Wm. Kramer	Beacon	Slope	Room and pillar	Furnace	Horse	Local
Levi Coal Co.	V. Van Wassenhove	Oskaloosa	Shaft	Room and pillar	Fan	Horse & gasoline	Local

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

Name of Company	Superintendent	Postoffice Address	Shaft or Slope	Plan of Working	How Ventilated	Power Used	Shipping or Local
Hart Coal Co.	Ralph Hart	Oskaloosa	Shaft	Room and pillar	Furnace	Horse	Local
Richards & Sons Coal Co.	E. A. Richards	Buxton	Shaft	Room and pillar	Fan	Steam	C. & N. W. Ry.
Coulter & Son Coal Co.	Allen Coulter	Beacon	Slope	Room and pillar	Furnace	Horse	Local
Griffiths Coal Co.	Wm. Griffiths	Beacon	Slope	Room and pillar	Fan	Gasoline & horse	Local
Dave Lewis Coal Co.	David Lewis	Beacon	Shaft	Room and pillar		Horse	Local
WAPELLO COUNTY.							
Job Carter Coal Co.	Job Carter	Eldon	Shaft	Room and pillar		Horse	Local
L. Cooper Coal Co.	L. Cooper	Ottumwa r.f.d.	Slope	Longwall	Furnace	Horse	Local
Fairhaven Coal Co.	R. C. Larson	Ottumwa	Shaft	Room and pillar	Fan	Steam	Local
Utterback Coal Co.	A. H. Utterback	Ottumwa r.f.d 9	Shaft	Longwall	Furnace	Horse	Local
Cooper & Alderson	R. E. Cooper	Ottumwa r.f.d.	Shaft	Longwall		Horse	Local
R. E. Cooper Coal Co.	R. E. Cooper	Ottumwa r.f.d.	Shaft	Longwall	Furnace	Horse	Local
Manual Arandus Coal Co.	Manual Arandus	Ottumwa r.f.d.	Slope	Longwall	Furnace	Horse	Local
Staton Coal Co.	J. H. Staton	Ottumwa r.f.d.	Slope	Longwall	Furnace	Steam	Local
Bidwell Coal Co.	Wm. Ramsay	Bidwell	Shaft	Room and pillar	Fan	Steam	C., M. & St. P. Ry.
Phillips Coal Co.	A. J. Erskine	Ottumwa	Shaft	Room and pillar	Fan	Steam	C., M. & St. P. Ry.
Garrett Coal Co.	John R. Garrett	Ottumwa r.f.d.	Shaft	Room and pillar		Horse	Local
Anchor Coal Co.	C. M. Shott	Ladisdale	Shaft	Longwall	Fan	Steam & electricity	C., R. I. & P. Ry.
Alpine Coal Co.	Ed. Fowler	Ottumwa	Slope		Fan	Steam & electricity	C., R. I. & P. Ry.
Robert Parker Coal Co.	Robert Parker	Ottumwa r.f.d.	Shaft	Room and pillar		Horse	Local
South Ottumwa Coal Co.	Geo. Chamlers	Ottumwa	Shaft	Room and pillar	Fan	Steam	Local
Union Coal Co.	Landon Erskine	Ottumwa	Shaft	Room and pillar	Fan	Steam & gasoline	Local
Wm. McIntosh Coal Co.	Wm. McIntosh, Jr.	Eldon	Shaft	Room and pillar		Horse	Local
Erskine Bros. Coal Co.	Frank Erskine	Ottumwa	Shaft	Room and pillar	Fan	Horse	Local
KEOKUK COUNTY.							
Creamery Coal Co.	J. T. Holliday	What Cheer	Shaft	Room and pillar	Jet	Horse	Local
Carson Bros. Coal Co.	Thos. Carson	What Cheer	Shaft	Room and pillar	Fan	Steam	Local

MARION COUNTY.

Youkon Coal Co.	J. B. Vreeslar	Otley	Slope	Room and pillar	Furnace	Horse	Local
Alex. Knox Coal Co.	Alex. Knox	Knoxville	Shaft	Room and pillar	Fan	Steam	Local
Vernon Bros. Coal Co.	Leo E. Vernon	Melcher	Slope	Room and pillar	Fan	Gasoline & horse	Local
Consolidated Indiana Coal Co. No. 1	Harry Evans	Melcher	Shaft	Room and pillar	Fan	Electricity	C., R. I. & P. Ry.
Pella Coal Co.	Godfrey H. Bevan	Pella	Shaft	Room and pillar	Fan	Gasoline	Local
Swanson & Son Coal Co.		Dallas	Slope	Room and pillar	Furnace	Horse	Local
Reynolds Coal Co.	O. B. Reynolds	Knoxville RFD.	Slope	Room and pillar	Fan	Gasoline & horse	Local
McKenzie Coal Co.	J. M. McKenzie	Harvey	Slope	Room and pillar	Furnace	Horse	Local
Otley Coal Co.	J. L. Shekelaugh	Otley	Slope	Room and pillar	Furnace	Horse	Local
Crawford Bros. Coal Co.	W. H. Crawford	Knoxville RFD.	Shaft	Room and pillar	Furnace	Horse	Local
Chas. Fortner Coal Co.	Chas. Fortner	Flagler	Slope	Room and pillar	Furnace	Horse	Local
Anderson Coal Co.	B. F. Evans	Knoxville RFD.	Shaft	Room and pillar	Fan	Steam	C., R. I. & P. Ry.
Mammoth Vein Coal Co., No. 13B.	J. A. J. Powers	Knoxville	Slope	Room and pillar	Fan	Electricity	Wabash Ry.
Mammoth Vein Coal Co., No. 13A.	J. A. J. Powers	Knoxville	Slope	Room and pillar	Fan	Electricity	Wabash Ry.
Mammoth Vein coal Co., No. 12B.	J. A. J. Powers	Knoxville	Slope	Room and pillar	Fan	Electricity	Wabash Ry.
English Creek Coal Co., No. 2	Edward Rowley	Knoxville	Shaft	Room and pillar	Fan	Steam	C., R. I. & P. Ry.
Roy Sterling Coal Co.	Roy Sterling	Dallas	Slope	Room and pillar		Horse	Local
Economy Coal Co.	J. C. Amberry	Bussey	Shaft	Room and pillar	Furnace	Horse	Local
JEFFERSON COUNTY.							
Ajax Coal Co.	Andy Swanson	Fairfield RFD.	Shaft	Room and pillar	Furnace	Horse	Local
Myers Coal Co.	Uriah Myers	Fairfield	Shaft	Room and pillar		Horse	Local

REPORT THIRD INSPECTION DISTRICT

EDWARD SWEENEY, Inspector, Des Moines.

Third District—Polk, Dallas, Boone, Webster, Greene, Guthrie and Scott Counties.

At this season of the year in the mining industry of this state, is what is known as the dull season, for as a rule, the bituminous coal mines of the central west and west work only about half time, three days per week, from May to October. During the month of April just past, the coal mines of this state located on the Chicago, Burlington & Quincy road were in suspension, due, it is said, to the fact that the railroad companies had cancelled all orders for April, this action taken on account of their being a large quantity of coal put in stock during the months of February and March in anticipation of a strike as it was thought that the coal miners and coal operators would fail to agree in the making of a wage scale for the ensuing two years and a general strike of all the coal miners of this country would be the result. Happily, however, the men leading the forces on both sides of the mine wage question counseled and legislated together from January until late in March, and finally affected a settlement involving an advance in wages all along the line, and agreed to various concessions which made a basis for the adjustment of mine wage questions in the different coal producing states, including the anthracite coal regions of Pennsylvania Since then the various states and districts have been engaged in conciliatory efforts to adjust local questions to conform with the national arrangement. I desire to congratulate both the miners and operators of this state on the harmony along the lines indicated in the making of the Iowa wage agreement.

The coal mining industry of the state has made a slight advance in the past two years as is shown by the tables of statistics published in another part of this report. Some new mines have been developed and put into operation while some of the older mines have closed down, and a few mines have been abandoned. While Iowa is one of the smaller and more conservative of the coal producing states, it has been demonstrated in all movements affecting the coal mining industry of the United States, wage conferences, first aid meets, and field demonstrations that the Iowa representatives are the peers of any and all men connected with the coal industry.

I wish to extend my sincere appreciation to both miners and operators for their cooperation in all efforts tending to secure the saving of life and protection of health in and around the Iowa coal mines. There are and always will be questions over which the miners and operators will differ, but it has been the sincere desire of both parties to have the provisions of the Iowa mining laws observed, and all mining accidents reduced to the lowest possible minimum.

We take pleasure in publishing as a part of this report the new mining wage agreement entered into between the miners and operators of Iowa, and take this opportunity of hoping for at least a fair measure of prosperity under this agreement, which covers the two years ending March 31, 1918.

POLK COUNTY.

This county has long been one of the most important coal producing districts of the state. The beds of coal worked have an average thickness of about four and one-half feet, though the workable seams vary in different places from two to seven feet. The more important mines are located in the immediate vicinity of Des Moines, but only those located within the city limits do a local business, the others having railroad connections and doing a large shipping business. The majority of the mines in the county now being operated are within a radius of six miles of the center of Des Moines.

The first mining in Polk county was done as early as 1850 on the west side of the Des Moines River about a mile above the Raccoon fork. About the same time drifts were worked in the same vein at a number of points along the river. On the corner of what is now known as Sixth Avenue and School Streets the Rawson mine was worked for a number of years. On the east side of the Des Moines River mining was begun in an early day and a number of mines that were large producers were operated in the territory bounded by the State capitol grounds, the State fair grounds, the Rock Island tracks and Northeast Des Moines. All this territory is a closely built up residence district now. Much mining has also been done on the south side of the Raccoon River. The larger mines of the county are now operating some six or seven miles from the center of Des Moines. Four big mines are operated near Carney, two near Berwick, two east of

Des Moines, two south of Des Moines, one near Valley Junction, one near Clive and one northwest of Des Moines. Other mines are located within the city limits of Des Moines.

In connection with the mining that has been done in the county and the prospecting done for coal it is of interest to note that Charles Rollin Keyes of the Iowa Geological Survey says:

"In no case at present known is coal worked in Polk County at a greater depth than 100 feet below the river level. The coal measures at this place are probably not less than three to four hundred feet in thickness and there appears to be but little doubt that prospecting to the depth mentioned would reveal the presence of coal in quantities even greater than the known supplies at present mined."

It is also of much interest to note the development of the coal industry in this county in the last twenty years. For the decade covered by the years from 1895 to 1905 Polk County produced 7,559,126 tons of coal, while in the next ten years following the production almost doubled, there being produced 14,633,313 tons. Now Polk County produces more than a million and a half tons of coal a year, the calendar year 1915 showing a production in the county of 1,725,844 tons.

The special development of the coal industry in Polk County is in a large measure due to the excellent shipping facilities afforded, there being no less than 17 lines of railway entering this district, enabling the coal product to be loaded at the mines directly on the cars and shipped to all parts of the state and to the northwest. Add to this the local consumption at Des Moines which is greater than anywhere else in the state and which is bound to continue by reason of the large manufacturing establishments locating here to be close to cheap fuel and excellent transportation facilities.

It would be difficult to place a true estimate on the value of the coal industry of Polk County, both to the county and to the city of Des Moines. The mining industry means much to the farmers of the county by reason of the money received in royalty for the coal mined. It means much to the city of Des Moines because the money paid to the employes in the mines mostly finds its way into the trade channels in Des Moines. Probably one hundred and fifty thousand dollars, perhaps more, a month is paid to the employes of the mines in Polk County. The mining

industry of Polk County means much to the citizens of Des Moines because coal can be placed in the cellars here for little more than half what it could be were no coal mined in this state.

The coal mined in this county is a good bituminous product equal to that produced elsewhere in the United States. It stores well and is in demand as a furnace coal. It is claimed for it that it will store much better than the foreign coals shipped in here. Repeated analyses of the coals in this county show them to stand high in heat unit value running from 11,000 to 13,000 B. T. U. to the pound. This puts Iowa on a level with many of the eastern coals shipped in here, which by reason of the high freight rates from other points here must sell at a higher price than is asked for the coal mined in Polk County. Many persons who have used the foreign coals shipped into Des Moines have found that they could heat their homes at a much less cost when using Iowa coal and that the Iowa coal properly cared for does not make any more smoke and dirt than the so-called smokeless coals that are shipped in from other points.

BOONE COUNTY.

Recently there was filed in the office of the State Mine Inspector a map of an abandoned mine in Boone County, which mine had been in continuous operation for forty-two years. Perhaps no other mine in the county ever did so well, yet Boone County has been producing coal for more than half a century.

Ten years ago Boone County produced nearly a half million tons of coal per year. Since that date the production has steadily declined from year to year. Now the production is about one-third that amount.

In the central part of the county where coal has been taken out for the greatest length of time, two principal seams have been opened up. In the southwest part of the county, near Angus, several seams are known to exist. Many years ago the largest mines in the county were operated near Angus, and while the veins are thick and the coal of excellent quality there is a large volume of water overlaying a thin strata of slate, making a bad roof, thus making mining operations there very expensive.

Some coal has been mined near Moingona but at the present time there are no mines in operation near there. A number of years ago the Ogden Consolidation Coal Company did some deep

prospecting north of Ogden at a depth of some 270 feet and this resulted in the finding an excellent vein of coal there. Three mines have been operating there since and recently the fourth mine is being opened. The coal is of excellent quality at this depth, containing but little ash. Mining machines are being used here. Mining operations are yet being conducted near Boone, and at Fraser some new development work is now in progress.

The coal measures of Boone County extend north and south across the entire county along the Des Moines river. Most of the mining being done in the county is being done on the longwall system of mining.

Henry Hinds in "Coal Deposits of Iowa" (1908) says:

"The outlook for further discoveries of coal in Boone County is decidedly good. Drilling from the highlands, back from the river bluffs, has only recently been attempted in a determined manner and results have justified the efforts. Coal is most likely to be found between depths of 200 and 300 feet below the upland; above these levels it may occur though not in the same abundance. Prospectors must expect to find no coal in many of their test holes, but a continued display of energy should bring its reward."

DALLAS COUNTY.

Dallas County now stands second in the production of coal in the Third District of Iowa. While coal has been mined in a small way for years along the Raccoon River, it was not until nine years ago (1907), that any real large operations in mining in this county were undertaken. Previous to 1907 the largest producing mine in the county was that of the Van Meter Coal & Mining Company at Van Meter. This and the mine at Dawson were the only shipping mines in the county.

Prior to 1907 prospecting had been done mostly along the Raccoon River and at shallow depths. In that year search was made for coal at a greater depth than formerly and resulted in a fine vein of coal being discovered near the present site of Scandia at a depth of about 170 feet. This lead to the sinking of the first shaft by the Scandia Coal Company and later by the sinking of another shaft by the same company. Other mining companies began prospecting, resulting in the mine of the High Bridge Coal Company being opened and also that of the Phillips

Coal Company near Phildia. Still later the Dallas Coal Company opened a mine north of Granger. All these mines have become big producers, and have added much to the wealth of Dallas County which is already classed as one of the richest farming counties in the state.

The mine that operated at Van Meter has long since been abandoned and no operations of any kind in mining are now being conducted there. The mine at Dawson has been closed for some time but the field has not been exhausted and this mine may again resume operations.

It is quite probable that the mines that operated at a shallow depth in former years near Linden, Madrid and Van Meter were operating in an entire different seam from that of the larger mines now operating.

Nearly all of Dallas County seems to be underlaid by the lower coal bed measures, (Des Moines formation), and it is to be hoped that coal prospecting in Dallas County will be continued until the coal measures of the county are fully developed. Henry Hinds, in writing of the coal deposits, says: "The future of the coal industry of Dallas County lies in the hands of those who are willing to risk considerable capital in systematic prospecting."

For the calendar year ending December 31, 1915, Dallas County produced 471,117 tons of coal, and the mining companies gave employment to 863 miners and other employes. The fatal and non-fatal accidents in the mines of this county are listed elsewhere.

SCOTT COUNTY.

Scott County has the unique distinction of being in a coal field all by itself. The field, however, is a very limited one, being really a small pocket or basin located in the vicinity of Buffalo. Coal has been mined here for a number of years, and at present a few small mines are in operation. The coal in the center of this basin was four feet and better in thickness, and of a good quality. The best has been mined out for some years, and the small mines in operation there now run simply to supply the local trade during the winter season only. The total production per year would be but little more than a thousand tons.

HARDIN COUNTY.

Hardin County lies within the proven coal belt in Iowa, and several years ago had in operation a number of small local mines. Of late years, however, but little coal mining has been done in this county. Quite recently renewed interest has been manifested in the coal resources of this county by reason of some better prospecting that has been done near Eldora. Several hundred acres of coal land were proven, the coal ranging in thickness from three and one-half to five feet, with a good substantial top and bottom which is essential to successful development. A new mine is now being sunk in this field some two miles from Eldora. The company is composed of some of the best coal men of Iowa and Illinois, and they expect to put in such an equipment as will enable them to do a shipping business, as they have connections with both the North-Western and the M. & St. L. railroads. When this mine is fully developed it will give employment to about two hundred men.

WEBSTER COUNTY.

Webster County lies the farthest north of the commercial coal producing counties of Iowa. Coal was first mined in this county in 1860, so the mining of coal has been continuous for more than fifty years. At one time extensive mining operations were carried on in Webster County, in the vicinity of Coalville, Kalo and Lehigh, but of late years the industry has declined so that at the present time but a small fraction of the former tonnage is produced. Some recent prospecting near Lehigh will result in a new mine being opened there this coming summer. Some mining operations are being conducted near Kalo. Webster County has the distinction of being the only county in Iowa producing Cannel Coal. This is found near Kalo. Systematic prospecting would very likely result in new coal mining operations in this county.

GREENE COUNTY.

The output of coal from Greene County has not been large for some years. In the southeastern part of the county coal has been extensively mined near Angus, and at one time more than a dozen mines were in active operation in that part of the county. Some of these mines did a large shipping business. Most of the coal now mined in this county lies close to the creeks or

some tributary of the Raccoon River. At present but three mines are in active operation in this county. Two are being operated near Rippey and one near Angus.

It may be that the future will see considerable coal mined in Greene County but this can only be brought about by systematic prospecting. The quality of coal produced in this county is good.

GUTHRIE COUNTY.

The coal measures of Guthrie County are found mostly along the Raccoon River and in the vicinity of Fanslers. At one time, a number of years ago, there were a number of mines operating near Bayard, Panora and Fanslers. Now but three companies are producing coal and these mines now operating are located near the old town of Fanslers. These mines operate only during the winter months to supply the local trade. The vein of coal mined is from two and one-half feet in thickness to three feet in thickness. The quality of the coal is excellent, being a very hard coal, a free burner and a bright coal. The longwall method is used in the mines here as that seems better adapted to a vein of this size. On account of lack of shipping facilities the mining of coal has not been developed to any great extent. Probably the time will come when this industry will reach a better stage of development than at the present time. As coal has been mined to advantage at Bayard, Panora and Fanslers, it would seem that considerable of this county is underlaid with workable coal measures.

No fatal or non-fatal accidents were reported from the mines of this county for the biennial period.

FATAL ACCIDENTS, DISTRICT NO. 3.

LAST HALF CALENDAR YEAR, 1914.

Date and Hour of Accident	Name, Age, Nativity and Occupation	Married or Single	Number of children	Cause of Death	Employing Company and County
Oct. 7, 10:00 a. m.	Joe Amedia, 46, Italian, miner	Married	4	Run over by car	Swanwood Coal Company, Polk
Oct. 21, 10:30 a. m.	Jacob Pewick, 32, American, miner	Married	8	Fall of slate	Eagle Coal Company No. 2, Polk
Oct. 22, 12:12 p. m.	J. W. Babb, 53, American, top foreman	Married	1	Pulled into shaft	Saylor Coal Company, Polk
Dec. 10, 3:30 p. m.	Henry Long, 35, Negro, miner	Married	5	Fall of slate	Wright Coal Company, Polk
Dec. 22, 9:30 a. m.	Harrison Hodges, 58, Negro, miner	Married	4	Fall of slate	Swanwood Coal Company, Polk
Dec. 23, 6:00 p. m.	Anthony Uetz, 40, Russian, shot firer	Married	2	Blown out shot	Maple Block Coal Co., Polk

FULL CALENDAR YEAR, 1915.

Jan. 16, 2:00 p. m.	Graconio Pifferetti, 33, Italian, miner	Single		Fall of slate	Enterprise Coal Company, Polk
Mar. 8, 3:00 p. m.	Stanley Damsky, 43, Russian, miner	Married	2	Fall of slate	Swanwood Coal Company, Polk
Mar. 12, 8:45 a. m.	Oscar Nordstrum, 28, Swede, miner	Single		Fall of slate	Phillips Coal Company, Dallas
Apr. 12, 10:30 a. m.	Joe Kelly, 30, Irish, miner	Married	3	Run over by car	Des Moines Coal Company, Polk
Apr. 22, ...	Chester McCully, 17, American, miner	Single		Caught by car	Saylor Coal Company, Polk
June 30, 10:45 a. m.	Fred Norton, 35, American, miner	Married		Fall of slate	Des Moines Coal Company, Polk
July 14, 4:30 p. m.	Marco Pompico, 30, Italian, miner	Single		Blown out shot	Enterprise Coal Company, Polk
July 21, 3:15 p. m.	John Runch, 34, Russian, miner	Married	1	Fall of slate	Gibson Coal Company, Polk
Aug. 30, 9:00 a. m.	V. Medici, 37, Italian, miner	Married	4	Fall of slate	Saylor Coal Company, Polk
Sept. 21, 10:00 a. m.	John Maurich, 51, Austrian, miner	Married		Fall of slate	Saylor Coal Company, Polk
Oct. 11, 9:45 a. m.	John Music, 28, Russian, miner	Single		Fall of slate	Gibson Coal Company, Polk

NON-FATAL ACCIDENTS, DISTRICT NO. 3.

LAST HALF CALENDAR YEAR, 1914.

Date and Hour of Accident	Name and Occupation	Cause of Accident	Nature of Injury	Employing Company and County
July 1, 2:30 p. m.	Matt Locatis, driver	Caught by car	Hand lacerated and finger cut off	Maple Block Coal Co., Polk
July 6, 10:30 a. m.	Emil Insson, miner	Fall of coal	Bruised leg and foot	High Bridge Coal Co., Dallas
July 7, 11:00 a. m.	Chas. Carpenter, miner	Fall of coal	Broken finger	Ogden Cons. Coal Co., Boone
July 9, 2:30 p. m.	George Wolk, miner	Caught by car	Bruised hand	Maple Block Coal Co., Polk
July 18, 9:00 a. m.	Uni Rosen, miner	Fall of slate	Fractured fibula and bruised ankle	High Bridge Coal Co., Dallas
July 21, 10:30 a. m.	George Morgan, driver	Run into by car	Leg broken	Enterprise Coal Co., Polk
July 22, 8:30 a. m.	Jewell Paquet, coupler	Caught by car	Foot fractured	Saylor Coal Co., Polk
July 25, 6:30 p. m.	Joe Harvey, miner	Caught by car	Foot cut	Ogden Cons. Coal Co., Boone
July 26, 11:30 a. m.	Ray Griffin, motorman	Gasoline explosion	Face and hands burned	Scandia Coal Co., Dallas
Aug. 4, 3:40 p. m.	Olaf Anderson, timberman	Caught by car	Lungs injured	High Bridge Coal Co., Dallas
Aug. 4, ...	Harley Cole, miner	Fall of slate	Back bruised	Norwood-White Coal Co., Polk
Aug. 13, 11:15 a. m.	William Riley, company man	Fall of slate	Internal injuries	Norwood-White Coal Co., Polk
Aug. 13, 9:30 a. m.	Prema Rossi, miner	Fall of coal	Foot bruised	Enterprise Coal Co., Polk
Aug. 13, 11:30 a. m.	George Nash, miner	Fall of roof	Leg broken	Enterprise Coal Co., Polk
Aug. 18, 2:00 p. m.	John Samuelson, miner	Fall of slate	Foot bruised	Enterprise Coal Co., Polk
Aug. 20, 7:00 a. m.	Jacob Anwey, miner	Fall on iron chute	Hand sprained	High Bridge Coal Co., Dallas
Aug. 28, 1:00 p. m.	George Fletcher, miner	Fall of coal	Foot mashed	Saylor Coal Co., Polk
Sept. 9, 9:00 a. m.	Pexie Carnseo, dirt man	Fall of slate	Dislocated hip	Enterprise Coal Co., Polk
Sept. 16, 8:30 a. m.	Tony Bellndo, miner	Fall of slate	Bruised back and leg	Norwood-White Coal Co., Polk
Sept. 19, 1:30 p. m.	A. Zaanolla, miner	Caught by car	Ankle broken	Saylor Coal Co., Polk
Sept. 22, 1:30 p. m.	Samuel Ford, day man	Caught by cage	Leg broken	Heaps Coal Co., Boone
Sept. 23, 2:15 p. m.	C. W. Brown, miner	Fall of slate	Ribs broken	Maple Block Coal Co., Polk
Oct. 6, 3:00 a. m.	Charles C. Crouse, miner	Fall of coal	Ankle broken	Heaps Coal Co., Boone
Oct. 8, 9:30 a. m.	Frank Morna, miner	Fall of slate	Ribs broken	Swanwood Coal Company, Polk
Oct. 8, 10:00 a. m.	Charles Brooker, driver	Kicked by mule	Ribs broken	Maple Block Coal Co., Polk
Oct. 19, 7:45 a. m.	Spencer Warner, miner	Scalded in washh'se	Leg scalded	Maple Block Coal Co., Polk
Oct. 23, 2:00 p. m.	Henry Whitted, miner	Fall of slate	Finger cut off	Keystone Coal Co., Polk
Oct. 24, 2:30 p. m.	Ed. Williams, miner	Fall of slate	Ankle bruised	Des Moines Coal Co., Polk
Oct. 24, 11:30 a. m.	P. Moratti, timberman	Fall of slate	Three ribs broken	Gibson Coal Co., Polk
Oct. 30, ...	James Benson, cager	Prop fell off cage going down shaft	Jaw broken and 3 teeth knocked out	Boone Block Coal Co., Boone
Nov. 2, 10:00 a. m.	Edward Graves, driver	Caught by car	Finger cut off	Enterprise Coal Co., Polk
Nov. 6, 10:30 a. m.	Louis Bartoletti, blacksmith	Caught in drill	Finger broken	Enterprise Coal Co., Polk
Nov. 6, 11:00 a. m.	Vinco Bianci, entry driver	Fall of slate	Bruised back	Phillips Coal Co., Dallas

NON-FATAL ACCIDENTS DISTRICT NO. 3—Continued.

Date and Hour of Accident	Name and Occupation	Cause of Accident	Nature of Injury	Employing Company and County
Nov. 11, 2:15 p. m.	Gust Ahlson, day man	Fall of slate	Leg broken	High Bridge Coal Co., Dallas
Nov. 13, 9:30 a. m.	Tom Roberts, day man	Fall of slate	Leg broken	Ray Coal Co., Polk
Nov. 21, 12:40 p. m.	L. Harvey, driver	Caught by car	Foot bruised	Wright Coal Co., Polk
Nov. 25, 3:00 p. m.	George Wallace, driver	Fell on stone	Ligaments of knee torn	American Coal Co., Polk
Nov. 27, 2:00 p. m.	Virgil Walden, driver	Thrown off car	Collar bone broken	Enterprise Coal Co., Polk
Nov. 28, 2:30 p. m.	Carl Jones, miner	Powder explosion	Face and arms burned	High Bridge Coal Co., Dallas
Dec. 11, 2:30 p. m.	Sam Conley, miner	Fall of coal	Ankle bruised	Sam McClure Coal Co., Webster
Dec. 11, 10:15 a. m.	Charles Saunders, miner	Fall of slate	Bones in foot broken	Norwood-White Coal Co., Polk
Dec. 14, 9:00 a. m.	Wm. Ulfries, top man	Caught by fan	Finger cut off	Heaps Coal Co., Boone
Dec. 17, 10:00 a. m.	Rex Balanati, driver	Caught by car	Left knee hurt	Wright Coal Co., Polk
Dec. 21, 10:00 a. m.	John Samuelson, miner	Fall of slate	Finger cut off	Enterprise Coal Co., Polk
Dec. 26, 12:30 p. m.	Robert Kennedy, mine foreman	Fall of slate	Ankle fractured	Ogden Cons. Coal Co., Boone

FULL CALENDAR YEAR, 1915.

Jan. 5, 10:00 a. m.	Albert Railey, driver	Caught by car	Four fingers cut off	Saylor Coal Co., Polk
Jan. 7, 11:45 a. m.	Frank Robusky, driver	Flying coal from shot	Three ribs broken	Eagle Coal Co., Polk
Jan. 8, 2:00 p. m.	John H. Lloyd, miner	Fall of slate	Ankle broken	Saylor Coal Co., Polk
Jan. 11, 2:30 p. m.	John Heaps, miner	Fall of cap rock	Back broken	W. D. Johnson Coal Co., Boone
Jan. 16, 9:00 a. m.	Alecki Richle, miner	Fall of slate	Ribs broken	Saylor Coal Co., Polk
Jan. 16, 10:15 a. m.	William See, miner	Fall of slate	Ankle broken	Bennett Bros. Coal Co., Polk
Jan. 21, 3:45 p. m.	James McKee, miner	Run over by car	Leg broken	Enterprise Coal Co., Polk
Jan. 22, 8:25 a. m.	Harry Craver, miner	Fall of slate	Back and ankle hurt	Wright Coal Co., Polk
Jan. 27, 3:00 p. m.	T. Amidi, miner	Fall of coal	Back, leg and head hurt	Wright Coal Co., Polk
Feb. 3, 10:30 a. m.	Clint Hersilin, miner	Fall of slate	Bruised head and ankle	Maple Block Coal Co., Polk
Feb. 4, 9:30 a. m.	Cesta Fiori, miner	Fall of slate	Face cut and leg bruised	Enterprise Coal Co., Polk
Feb. 11, 2:30 p. m.	Wm. McKinley, driver	Squeezed by mule	Back bruised	Scandia Coal Co., Dallas
Feb. 13, 2:00 p. m.	Frank Benes, miner	Fall of slate	Leg broken	Craig & Dawson Coal Co., Webster
Feb. 16, 9:00 p. m.	H. B. Imus, driver	Caught by car	Hips bruised	Maple Block Coal Co., Polk
Feb. 17, 10:30 a. m.	Lew Menden, machine man	Fall of slate	Hip bruised, eye cut	Ogden Cons. Coal Co., Boone
Feb. 18, 2:00 p. m.	Art Brown, miner	Fall of slate	Bruised hips and ribs	Economy Coal Co., Polk
Feb. 19, 12:10 p. m.	Harry Groom, miner	Fall of slate	Hand mashed	Ogden Cons. Coal Co., Webster
Feb. 20, 2:30 p. m.	William Seer, miner	Fall of slate	Body bruised	Sam McClure Coal Co., Webster

Feb. 23, ...	John Strosko, driver	Caught by car	Ribs broken	Maple Block Coal Co., Polk
Feb. 24, 2:00 p. m.	Alex Calvert, trip rider	Caught by car	Hand bruised	South Des Moines Coal Co., Polk
Feb. 24, a. m.	Clarence Williams, machine man	Fall of slate	Ligaments of knee torn	Saylor Coal Co., Polk
Mar. 5, 8:00 a. m.	Lee Stanton, track layer	Run over by car	Body bruised	Enterprise Coal Co., Polk
Mar. 8, 9:00 a. m.	W. H. Owens, miner	Struck by car door	Wrist and arm hurt	South Des Moines Coal Co., Polk
Mar. 12, 4:00 p. m.	Christy Patton, driver	Caught by car	Finger bruised	Maple Block Coal Co., Polk
Mar. 12, 2:30 p. m.	Tony Bargiel, miner	Fall of slate	Broken rib	Saylor Coal Co., Polk
Mar. 17, 2:00 p. m.	Norris Jones, miner	Fall of slate	Back and hips bruised	Swanwood Coal Co., Polk
Mar. 19, 10:00 a. m.	Jake Hickman, driver	Kicked by mule	Hip dislocated	Swanwood Coal Co., Polk
Mar. 18, 9:45 a. m.	John Reid, motor man	Caught by car	Body bruised	Highbridge Coal Co., Dallas
Mar. 30, 11:00 a. m.	Edward Johnson, miner	Fall of slate	Bruised foot	Enterprise Coal Co., Polk
Apr. 2, 11:30 a. m.	A. R. Morris, miner	Fall of slate, gob	Foot bruised	South Des Moines Coal Co., Polk
Apr. 2, 9:30 a. m.	John Burns, miner	Fall of slate	Body bruised and instep broken	Des Moines Coal Co., Polk
Apr. 23, 10:00 a. m.	Sam Smith, miner	Fall of slate	Leg broken	Des Moines Coal Co., Polk
Apr. 26, 12:10 p. m.	J. S. Piper, mechanic	Caught by motor	Internal injuries, fracture of pelvis	Norwood-White Coal Co., Polk
May 12, 10:00 a. m.	Carlo Dischi, miner	Fall of slate	Hip dislocated	Enterprise Coal Co., Polk
May 15, 10:00 a. m.	Thomas McQuaid, miner	Fall of slate	Arm bruised	South Des Moines Coal Co., Polk
May 17, 10:30 a. m.	John Poncher, miner	Struck by bar	Fractured jaw	Enterprise Coal Co., Polk
June 1, 1:00 p. m.	Gilbert Waggoner, driver	Caught by car	Eye cut, body bruised	Keystone Coal Co., Polk
June 5, 9:30 a. m.	Joe Beck, timberman	Fall of slate	Back injured	Beck Coal Co., Polk
June 22, 3:00 a. m.	Joseph Hall, driver	Fall of slate	Face cut, shoulder bruised	Keystone Coal Co., Polk
July 7, 4:00 p. m.	Jake Smith, miner	Caught by car	Hip dislocated	Saylor Coal Co., Polk
July 8, 2:30 p. m.	Mike Resovich, miner	Fall of slate	Finger mashed	Saylor Coal Co., Polk
July 12, 2:00 p. m.	Al Lumley, machine man	Mining machine	Two fingers cut off	Beck Coal Co., Polk
July 13, 8:00 a. m.	Mart Kennedy, miner	Fall of slate	Back injured	Norwood-White Coal Co., Polk
July 17, 3:00 a. m.	Wm. McKinley, stable boss	Engineer let cage strike shaft bot'm	Back bruised	Scandia Coal Co., Dallas
July 28, 2:00 a. m.	Edris Mable, pumpman	Caught hand in pump bearings	Finger cut off	Wright Coal Co., Polk
July 31, 12:30 p. m.	F. Amadio, miner	Powder explosion	Face and body burned	Scandia Coal Co., Dallas
July 31, 12:30 p. m.	C. Piecioli, miner	Powder explosion	Burned some	Scandia Coal Co., Dallas
Aug. 13, 9:45 a. m.	—— Granquisch, miner	Caught by prop	Thumb broken	Saylor Coal Co., Polk
Aug. 14, 9:00 a. m.	W. M. Waggoner, miner	Fall of slate	Foot mashed	Keystone Coal Co., Polk
Aug. 16, 11:30 a. m.	Jake Clark, driver	Kicked by mule	Arm bruised	South Des Moines Coal Co., Polk
Aug. 24, 1:00 p. m.	A. Pontier, Sr., miner	Fall of slate	Leg broken	Norwood-White Coal Co., Polk
Aug. 26, 3:30 a. m.	Joe Maxinovich, night man	Caught by cage	Back bruised	Scandia Coal Co., Dallas
Aug. 28, 9:00 a. m.	H. Bolavana, miner	Fall of slate	Scalp cut, nose broken, body bruised	Norwood-White Coal Co., Polk
Aug. 31, 11:00 a. m.	Frank Olander, timberman	Fall of slate	Rib broken	Bennett Bros. Coal Co., Polk
Sept. 4, 3:00 p. m.	Charles Coles, driver	Caught by car	Finger mashed	Enterprise Coal Co., Polk
Sept. 15, 3:30 p. m.	William Pratt, driver	Fall of slate	Bones in hand broken	Smiley & Heaps Coal Co., Boone
Sept. 20, 11:30 a. m.	Peter Wasnell, timberman	Fall of slate	Lacerated foot	Wright Coal Co., Polk
Sept. 21, 10:15 a. m.	Stephen Dennis, eager	Caught by cage	Lacerated arm	Gibson Coal Co., Polk
Sept. 27, 9:00 a. m.	Joe Ford, miner	Fall of slate	Leg broken	Enterprise Coal Co., Polk

NON-FATAL ACCIDENTS—DISTRICT NO. 3—Continued.

Date and Hour of Accident	Name and Occupation	Cause of Accident	Nature of Injury	Employing Company and County
Oct. 1, 8:30 a. m.	John Carney, miner	Caught by car	Three fingers cut	Keystone Coal Co., Polk
Oct. 1, 9:00 a. m.	Daniel Harding, timberman	Fall of slate	Finger mashed off	Enterprise Coal Co., Polk
Oct. 5, 2:30 p. m.	Tony Monado, miner	Fell against car	Chest bruised	Norwood-White Coal Co., Polk
Oct. 7, 11:00 a. m.	George Turner, driver	Caught by trap door	Hip and leg bruised	Saylor Coal Co., Polk
Oct. 8, 9:00 a. m.	John Kaunuski, miner	Fall of slate	Body bruised	Norwood-White Coal Co., Polk
Oct. 10, ...	Tom Patton, day man	Caught by car	Finger cut off	Swanwood Coal Co., Polk
Oct. 16, 9:30 a. m.	Richard Price, eager	Car ran over foot	Bruised foot	Keystone Coal Co., Polk
Oct. 20, 3:30 p. m.	W. M. Roberts, Miner	Caught by car	Ankle dislocated	Ray Coal Co., Polk
Oct. 23, 11:30 a. m.	Mike Nicklovitch, miner	Hot water pipeman-way	Back sprained	High Bridge Coal Co., Dallas
Oct. 25, 9:00 a. m.	Gavin Harper, miner	Fall of coal	Leg broken	Smiley & Heaps Coal Co., Boone
Oct. 29, 3:30 p. m.	Ed Lewis, driver	Caught by car	Leg broken	Gibson Coal Co., Polk
Oct. 30, 1:30 p. m.	H. Freeman, miner	Fall of slate	Back bruised	Des Moines Coal Co., Polk
Nov. 5, 8:00 p. m.	V. Peretti, timberman	Fall of slate	Arm cut	Enterprise Coal Co., Polk
Nov. 5, 3:40 p. m.	Joe Ferrino, miner	Fall of slate	Leg broken	Saylor Coal Co., Polk
Nov. 10, 8:00 a. m.	A. L. Lyod, miner	Fall of slate	Foot mashed	South Des Moines Coal Co., Polk
Nov. 12, 1:00 p. m.	Harry Cunningham, driver	Caught by car	Two ribs broken	Boone Block Coal Co., Boone
Nov. 13, 10:00 a. m.	Harry Clagburn, driver	Kicked by mule	Bruised body	Wright Coal Co., Polk
Nov. 16, 11:00 a. m.	J. W. Hill, miner	Struck by prop	Back bruised	Norwood-White Coal Co., Polk
Nov. 16, ...	James Cross, miner	Fell over rail	Back sprained	Beck Coal Co., Polk
Nov. 18, 1:30 p. m.	C. V. Laey, driver	Caught by car	Fingers cut off	Saylor Coal Co., Polk
Nov. 20, 8:00 a. m.	Frank Polack, miner	Fall of slate	Left hand cut off	Enterprise Coal Co., Polk
Nov. 22, 11:00 a. m.	M. Rappish, miner	Struck by wedge	Hand injured	Norwood-White Coal Co., Polk
Dec. 1, 12:30 p. m.	Pete Cadle, miner	Fall of slate	Broken ankle	Saylor Coal Co., Polk
Dec. 2, 1:30 p. m.	Henry Schell, miner	Fall of coal	Hand cut	Boone Block Coal Co., Boone
Dec. 7, 10:30 a. m.	Major Barber, driver	Crushed by car	Ribs fractured	Keystone Coal Co., Polk
Dec. 8, 10.00 a. m.	D. Bemley, miner	Fall of slate	Left leg hurt	Saylor Coal Co., Polk
Dec. 9, 10:30 a. m.	Dan Lamberti, eager	Caught by cage	Toes mashed	Enterprise Coal Co., Polk
Dec. 13, 10:00 a. m.	Gus Norton, miner	Fall of slate	Head bruised	Enterprise Coal Co., Polk
Dec. 14, 9:00 a. m.	R. H. McCarty, driver	Fall of slate	Hand cut	Enterprise Coal Co., Polk
Dec. 20, ...	Nellee Barbiere, eager	Caught by car	Finger bruised	Saylor Coal Co., Polk

FATAL ACCIDENTS IN IOWA GYPSUM MINES.

FROM JULY 1, 1914, TO JANUARY 1, 1916.

Date and Hour of Accident	Name, Age, Nativity and Occupation	Married or Single	Number of children	Cause of Death	Employing Company and County
1915					
May 14, 10:30 a. m.	A. Cechmeister, 24, Austrian, driller	Single	.....	Fall of rock	U. S. Gypsum Co., Webster
Aug. 19, 3:20 p. m.	A. Johnson, 53, Norwegian, driller	Married	2	Fall of rock	U. S. Gypsum Co., Webster

NON-FATAL ACCIDENTS, GYPSUM MINES OF IOWA.

LAST HALF CALENDAR YEAR, 1914.

Date and Hour of Accident	Name and Occupation	Cause of Accident	Nature of Injury	Employing Company and County
July 11, 10:00 a. m.	W. Suer, loader	Fall of rock	Finger cut off at tip	U. S. Gypsum Co., Webster
Aug. 3, 11:30 a. m.	J. Gobris, driller	Caught in drill machine	Thumb cut	U. S. Gypsum Co., Webster
Aug. 13, 1:00 p. m.	P. Garbresh, driller	Fall of rock	Head cut	U. S. Gypsum Co., Webster
Aug. 17, 3:00 p. m.	S. Stello, driver	Caught by car	Leg bruised	U. S. Gypsum Co., Webster
Oct. 21, 2:00 p. m.	P. Danko, loader	Run over by car	Left ankle bruised	U. S. Gypsum Co., Webster
Oct. 29, 3:40 p. m.	Pete Stromberg, timberman	By timber	Left side injured	U. S. Gypsum Co., Webster
Nov. 5, 2:00 p. m.	Archie Formands, driller	Caught in drill	Body badly bruised	Wasem Plaster Co., Webster
Nov. 7, 9:30 a. m.	G. Carlo, loader	Lifting heavy rock	Hip strained	American Cement Plaster Co., Webster
July 9, 2:00 p. m.	S. Robrot, loader	Fall of rock	Fingers mashed	U. S. Gypsum Co., Webster

FULL CALENDAR YEAR, 1915.

Jan. 13, 9:30 a. m.	J. Cechvola, loader	Fall of rock	Foot bruised	U. S. Gypsum Co., Webster
Jan. 28, 10:30 a. m.	C. A. Gilbert, driller	Fall of rock	Leg broken	American Cement Plaster Co., Webster
Apr. 23, 1:00 p. m.	A. Pocobak, driller	Caught by car	Foot bruised	U. S. Gypsum Co., Webster
May 3, 8:00 a. m.	A. Gobori, loader	Caught by car	Ankle and foot bruised	U. S. Gypsum Co., Webster
May 10, 10:00 a. m.	S. Karstens, driver	Slipped on car bumper	Ankle injured	U. S. Gypsum Co., Webster
June 2, 11:30 a. m.	F. Sheman, driller	Caught by drill	Arm fractured	U. S. Gypsum Co., Webster
Aug. 31, 3:30 p. m.	S. Karstens, helper	Misfire of shot	Face and head cut	U. S. Gypsum Co., Webster
Oct. 1, 7:45 a. m.	Elmer Eastman, helper	Fall of roof	Back strained	American Cement Plaster Co., Webster

NOTE.—Only such accidents as have kept the parties receiving them from work for ten days or more are listed in this report.

FATAL AND SERIOUS ACCIDENTS, DISTRICT NO. 3.

SUMMARY FOR LAST HALF OF YEAR 1914.

	Cause of Injury (U. S. Bureau Mines Classification)	Result of Injury: Fatal	Permanent partial disability	Temporary disability	Total
1	(a) Falls of roof (rock, slate, etc.) At working face	3	2	12	17
	(b) Falls of roof (rock, slate, etc.) On entry		1	9	10
	(a) Switching and spragging			1	1
3	(b) Coupling cars			1	1
	(c) Falling from trips			1	1
	(d) Run over by car or motor	1		5	6
	(e) Caught between car and rib		1	2	3
	(h) Miscellaneous			1	1
	(a) Handling and transportation (explosives)			1	1
6	(f) Blown out or windy shot	1			1
	(m) Miscellaneous (gasoline explosion)			1	1
9	Animals (kicked by mule)			1	1
	(a) Fall of person			2	2
12	(b) Machinery (other than 10)		1	1	2
13	Falling down shafts or slopes	1			1
14	Objects falling down shafts or slopes		1		1
15	(d) Struck by cage			1	1
22	(n) Miscellaneous (scalded in wash house)			1	1
	Total	6	6	39	51

FOR THE CALENDAR YEAR, 1915.

	Cause of Injury (U. S. Bureau Mines Classification)	Result of Injury: Fatal	Permanent partial disability	Temporary disability	Total
1	(a) Falls of roof (rock, slate, etc.) At working face	7		36	43
	(b) Falls of roof (rock, slate, etc.) On entry	1	2	8	11
	(a) Switching and spragging			1	1
	(b) Coupling cars			1	1
	(d) Run over by car or motor	2	4	8	14
	(e) Caught between car and rib			7	7
3	(f) Caught between car and roof while riding			2	2
	(g) Runaway car or trip			1	1
	(h) Miscellaneous			1	1
	Explosives—				
6	(f) Blown out and windy shot	1		1	2
	(g) Sparks from match, lamp or candle			2	2
9	Animals			6	6
10	Mining machines (other than 8c)		1		1
	(a) Fall of person			1	1
	(b) Machinery (other than 10)		1		1
12	(d) Falling timbers			3	3
	(f) Hand tools, axes, bars, etc.			2	2
	(h) Miscellaneous			1	1
15	(a) Runaway cage			1	1
	(h) Miscellaneous			1	1
	Total	11	8	81	100

FATAL AND SERIOUS ACCIDENTS, DISTRICT NO. 3.

Classified by Cause of Accident and Occupation of the Injured.

LAST HALF CALENDAR YEAR, 1914.

	Causes (U. S. Bureau of Mines Classification)	Fatal				Serious											
		Miners	Shot firers	Top men	Total	Miners	Drivers	Motormen	Couplers	Timbermen	Cagers	Company men	Top men	Mine foremen	Entry drivers	Blacksmith	Total
	(a) Falls of roof (rock, slate, etc.) At working face	3			3	15			1			1					16
1	(b) Falls of roof (rock, slate, etc.) On entry					2				1		3		1	1		8
3	(c) Falling from car or trip						1										1
	(d) Run over by car or caught by car	1			1	3	5		1	1							10
4	(d) Powder explosion					1											1
	(e) Gasoline explosion																
6	(f) Blownout or windy shot		1		1												
9	(Animals) Kicked by mule						1										1
	(a) Fell on stone						1										1
12	(b) Machinery. Caught in fan (surface)															1	1
	(f) Machinery. Caught in drill (surface)												1				1
13	Falling down shaft			1	1												
14	Prop fell from cage in shaft										1						
15	(d) Caught by cage											1					1
22	(b) Fell on iron chute					1											1
	(g) Scalded in wash house					1											1
	Total	4	1	1	6	23	8	1	1	2	1	5	1	1	1	1	45

FULL CALENDAR YEAR, 1915.

	Causes	Fatal		Serious										
		Miners	Total	Miners	Drivers	Motormen	Timbermen	Cagers	Company men	Machine men	Mechanics	Trip riders	Pumpmen	Total
1	(a) Falls of roof (rock, slate, etc.) at working face	6	6	21	1		1			2				25
	(b) Falls of roof (rock, slate, etc.) on entry	2	2	5	2		4							11
3	(d) Run over by car or caught by car	2	2	4	10	1		2	2		1	1		21
	(h) Struck by car door			1										1
6	(f) Blownout or windy shot	1	1		1									1
	(g) Powder explosion			2										2
9	(Animals) Kicked or squeezed by mule				4									4
	(a) Fell on rail, against cars, etc													
	(b) Caught in mining machine			2										2
	(c) Caught in pump bearings									1				1
12	(d) Falling timbers												1	1
	(f) (Tools) Bars, wedges, etc.			2										2
	(h) Miscellaneous			1	1									2
	(a) Engineer lost control of cage								1					1
15	(d) Caught by cage							2	1					3
	Total	11	11	50	19	1	5	4	4	3	1	1	1	80

MINES, OUTPUT AND EMPLOYES, DISTRICT NO. 3.

Number of mines, output of coal, number of miners and other employes for last half of calendar year, 1914, and full calendar year, 1915.

1914

Counties	Mines in county	Amount of coal or slack produced	Number of miners employed	Number of other inside employes	Number of outside employes	Total number of employes
Polk	23	902,484	2,013	544	200	1,457
Dallas	4	250,275	594	212	70	876
Boone	9	87,304	332	109	65	506
Webster	3	11,947	47	16	8	71
Greene	3	5,100	16	12	2	30
Guthrie	4	4,010	23	1	4	28
Scott	1	2,240	3	0	1	4
Total	47	1,269,360	3,028	954	448	4,430

1915

Polk	21	1,755,844	2,928	608	286	3,822
Dallas	5	471,117	571	216	76	863
Boone	9	149,709	397	113	44	554
Webster	3	18,507	55	15	10	80
Greene	3	6,300	21	3	3	27
Guthrie	3	2,915	18	0	1	19
Scott	1	2,240	7	0	1	8
Total	46	2,376,532	3,997	955	425	4,373

OUTPUT OF COAL, DISTRICT NO. 3, FOR EIGHT YEARS.

Showing the output of the coal producing counties of District No. 3, for the past eight years.

Counties	1908	1909	1910	1911	1912	1913	1914	1915
Polk	1,358,007	1,647,136	1,736,092	1,952,291	1,846,541	1,464,300	1,530,625	1,755,844
Boone	218,491	271,994	247,405	241,128	253,015	219,492	218,232	149,709
*Jasper	467,502	332,580	334,186					
Webster	59,031	60,467	48,086	44,706	44,270	50,800	37,589	18,507
Greene	22,206	13,240	15,700	10,128	11,800	8,500	7,770	6,300
Guthrie	12,143	14,388	9,885	8,299	10,871	9,467	7,736	2,915
Dallas	108,700	202,700	240,056	286,497	292,000	311,211	475,311	471,117
Scott	2,750	2,960	2,600	3,000	3,900	500	700	2,240
Total	2,249,990	2,546,245	2,635,602	2,257,021	2,944,087	2,264,260	2,377,975	2,376,131

*Jasper county now in Second Inspection District.

TONNAGE, DISTRICT NO. 3, FOR FIFTEEN YEARS, RELATED TO ACCIDENTS.

Year	No. of fatal accidents	Tons of coal mined each year	No. of employes	Tons of coal mined per accident	No. of employes per accident
1901	7	1,607,690	2,894	229,670	558
1902	13	1,655,152	3,878	127,166	298
1903	5	1,835,456	3,691	367,091	738
1904	10	1,840,390	4,089	184,038	409
1905	11	2,050,101	5,380	186,736	489
1906	8	2,040,343	5,560	255,042	695
1907	14	2,226,097	5,340	159,721	388
1908	14	2,249,990	5,664	160,713	404
1909	11	2,546,245	6,514	231,476	592
1910	16	2,635,602	6,923	164,725	407
1911	14	2,257,021	4,788	161,258	342
1912	8	2,944,087	4,750	255,311	593
1913	5	2,264,260	4,562	452,852	913
1914	12	2,377,975	4,551	198,164	379
1915	11	2,376,532	4,385	216,048	398

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
Norwood-White Coal Co., No. 4	J. D. Phillips	Des Moines	Shaft	Room and pillar	Fan	Steam	Shipping
Norwood-White Coal Co., No. 5	J. D. Phillips	Des Moines	Shaft	Room and pillar	Fan	Steam	Shipping
Eagle Coal Co., No. 2	E. A. Sayre	Des Moines	Shaft	Room and pillar	Fan	Steam	Local
Eagle Coal Co., No. 3	E. A. Sayre	Des Moines	Shaft	Room and pillar	Fan	Steam	Local
South Des Moines Coal Co	S. E. Wagner	Des Moines	Shaft	Room and pillar	Fan	Electricity	Shipping
American Coal Co	Isaac Evans	Des Moines	Shaft	Room and pillar	Natural	Steam	Shipping
Avon Coal Co	F. B. Schultz	Avon	Shaft	Room and pillar	Fan	Horse	Local
Wright Coal Co	C. T. Carney	Des Moines	Shaft	Room and pillar	Fan	Electricity	Shipping
Saylor Coal Co	J. D. Owen	Des Moines	Shaft	Room and pillar	Fan	Electricity	Shipping
Economy Coal Co	Peter Reynolds	Des Moines	Shaft	Room and pillar	Fan	Steam	Shipping
Beck Coal Co	Thos. Beck	Des Moines	Shaft	Room and pillar	Fan	Steam	Shipping
Keystone Coal Co	George Heaps	Des Moines	Shaft	Room and pillar	Fan	Steam	Shipping
Swanwood Coal Co	Fred Norwood	Des Moines	Shaft	Room and pillar	Fan	Steam	Shipping
Ray Coal Co	T. A. Ray	Des Moines	Shaft	Room and pillar	Fan	Steam	Local
Madison Coal Co	W. F. Moore	Des Moines	Shaft	Room and pillar	Fan	Steam	Local
Des Moines Coal Co	E. M. Gray	Des Moines	Shaft	Room and pillar	Fan	Steam	Shipping
Bennett Bros. Coal Co	John Bennett	Des Moines	Shaft	Room and pillar	Fan	Steam	Local
Maple Block Coal Co	H. M. Schuler	Des Moines	Shaft	Room and pillar	Fan	Steam	Shipping
Gibson Coal Co	Wm. R. Gibson	Des Moines	Shaft	Room and pillar	Fan	Steam	Shipping
Enterprise Coal Co., No. 1	C. W. Carpenter	Des Moines	Shaft	Room and pillar	Fan	Steam	Shipping
Enterprise Coal Co., No. 2	C. W. Carpenter	Des Moines	Shaft	Room and pillar	Fan	Steam	Shipping
Bloomfield Coal Co	Geo. Yarn	Des Moines	Shaft	Room and pillar	Fan	Electricity	Shipping
Jos. Raplinger Coal Co	Jos. Raplinger	Runnells	Shaft	Room and pillar	Natural	Horse	Local

WEBSTER COUNTY.

Sam McClure Coal Co	Sam McClure	Ft. Dodge	Shaft	Long wall	Fan	Steam	Shipping
Craig & Dawson Coal Co., No. 1	J. L. Craig	Kalo	Shaft	Long wall	Fan	Steam	Shipping
Craig & Dawson Coal Co., No. 2	J. L. Craig	Otho	Shaft	Long wall	Fan	Steam	Shipping

BOONE COUNTY.

Smiley & Heaps Coal Co., No. 1	Robert Heaps	Boonesboro	Shaft	Long wall	Fan	Steam	Shipping
Smiley & Heaps Coal Co., No. 2	Saml. Smiley	Boonesboro	Shaft	Long wall	Fan	Steam	Shipping
Boone Block Coal Co	George Heaps, Sr.	Boonesboro	Shaft	Long wall	Fan	Steam	Shipping
W. D. Johnson Coal Co., No. 3	H. H. Canfield	Boonesboro	Shaft	Long wall	Fan	Steam	Shipping
Heaps Coal Co	Robert Heaps	Boonesboro	Shaft	Long wall	Fan	Steam	Shipping
Ogden Consolidated Coal Co., No 1	P. H. Waterman	Ogden	Shaft	Long wall	Fan	Steam	Shipping
Ogden Consolidated Coal Co., No. 5	P. H. Waterman	Ogden	Shaft	Long wall	Fan	Steam	Shipping
Ogden Consolidated Coal Co., No. 3	P. H. Waterman	Ogden	Shaft	Long wall	Fan	Steam	Shipping
Deep Vein Coal Co		Fraser	Shaft	Room and pillar	Fan	Steam	Shipping
Pestotnik Bros. Coal Co	Andrew Pestotnik	Boone	Shaft	Long wall	Fan	Steam	Shipping
					Fan	Horse	Local

DALLAS COUNTY.

High Bridge Coal Co., No. 1	John Lindbloom	Madrid	Shaft	Room and pillar	Fan	Steam	Shipping
Scandia Coal Co., No. 1	H. Zook	Madrid	Shaft	Room and pillar	Fan	Steam	Shipping
Scandia Coal Co., No. 2	H. Zook	Madrid	Shaft	Room and pillar	Fan	Steam	Shipping
Phillips Fuel Co., No. 10	Wallace Convey	Woodward	Shaft	Room and pillar	Fan	Steam	Shipping
Dawson Coal Co., No. 2	T. C. Thorpe	Dawson	Shaft	Room and pillar	Fan	Steam	Shipping
Dallas Coal Co	John Lindbloom	Granger	Shaft	Room and pillar	Fan	Steam	Shipping
					Fan	Electricity	Shipping

SCOTT COUNTY.

Buckmeyer Coal Co	Jas. Buckmeyer	Buffalo	Shaft	Room and pillar	Grate	Steam	Local
Carl Henning Coal Co	Carl Henning	Davenport	Shaft	Room and pillar	Grate	Horse	Local
David Thomas Coal Co	David Thomas	Davenport	Shaft	Room and pillar	Grate	Horse	Local

GUTHRIE COUNTY.

Matt Mallon Coal Co	Matt Mallon	Guthrie Center R. F. D.	Shaft	Long wall	Fan	Horse	Local
Edgar Lewis Coal Co	Edgar Lewis	Guthrie Center R. F. D.	Shaft	Long wall	Fan	Horse	Local
Mansell Bros. Coal Co	John Mansell	Guthrie Center R. F. D.	Shaft	Long wall	Fan	Horse	Local

GREENE COUNTY.

Name of Company	Superintendent	Postoffice Address	Shaft or Slope	Plan of Working	How Ventilated	Power Used	Shipping or Local
Buckeye Coal Co.	Michael Feith	Rippey	Shaft	Room and pillar.	Natural	Horse	Local
Keystone Coal Co.	James Bennett	Rippey	Shaft	Long wall	Furnace	Horse	Local
Willow Groves Coal Co.	H. A. McKibenney	Angus	Shaft	Long wall	Fan	Steam	Local