

OFFICE OF INSPECTOR OF MINES, }
BRAZIL, IND., Jan. 16, 1895. }

W. S. Blatchley, State Geologist:

DEAR SIR—I herewith transmit to you, as required by law, my annual report as Inspector of Mines for the State of Indiana. It embraces all matters required by law to be reported, as fully as possible with the material furnished in the reports furnished by operators and from the personal investigation of myself and assistants.

Respectfully,

ROBERT FISHER,

Inspector of Mines.

REPORT OF STATE INSPECTOR OF MINES.

In compliance with law I submit the following report of the work of this office for the calendar year 1895, being the sixteenth annual report since the original organization of the Department in 1879 and the fifth made to the Department of Geology and Natural History.

The statistical tables contained herein are not as full and satisfactory as I should have been pleased to make them. There are several reasons for this, of which I may mention the following:

1. While the Inspector is required to collect and tabulate certain statistical facts no means are provided by which he is to obtain them. While 90 per cent. of the operators make regular and satisfactory reports a few pay no attention whatever to requests from this office for the information and others give only partial and unsatisfactory reports.

2. As stated by my predecessor in his last annual report he abandoned the attempt last year to collect such information and it was begun anew by him on January 1 of this year. Operators having dropped out of the habit of making regular reports did not resume it readily.

3. The fact of a change having occurred in the occupancy of the office after the commencement of the year caused some confusion in receiving mail addressed to my predecessor and intended for the office.

4. In preparing forms for reports, after taking possession of the office I made quite a number of changes in the blanks and in the information asked for. With the exceptions of the first of the above reasons the others will not exist during the current year and I hope to make my next annual report more satisfactory in this respect.

Several changes have been made in the personnel of the office during the year. About the beginning of the present year Mr. M. Comiskey having resigned the position of Assistant Inspector of Mines, Mr. B. Martin, Jr., was appointed to that position by my predecessor, Thomas McQuade, and served as such until March 15. Immediately on receiving my certificate of appointment on March 11, 1895, I appointed Wm. McCloud, of Linton, Greene County, as my Assistant. He qualified according to law, and we assumed the duties of the office on March 15, 1895. Mr. McCloud served in this position until December 1, when his resignation, which had been tendered on November 10, took effect, and James Epperson, also of Linton, was appointed to succeed him, and is still performing the duties of the position.

On taking possession of the office I found that there was no available compilation of the mining laws of the State in a convenient form for ready reference, and we spent some time in arranging them for our use, having them typewritten. So many requests were received for copies of the mining laws that I found it expedient to have them printed. As the expense fund of the office was not sufficient to justify me in assuming the cost of publication I had 125 copies bound with blanks for a record of the air measurements in mines required by law to be kept, and furnished the books to mine bosses at a price that will pay for printing and postage, if the books are all paid for.

EXAMINATION OF MINES.

About April 1st, myself and assistant, began a tour of inspection of the mines of the State, Mr. McCloud taking the southern district as defined by my predecessor, viz., the counties of Sullivan, Greene, Knox, Daviess, Perry, Pike, Vanderburgh and Warrick, while I inspected those mines in Owen, Clay, Vigo, Parke, Vermillion and Fountain, to which the mining law applies. So far as I have been able to learn during the year the counties of Dubois, Martin, Spencer and Gibson, in the southern part of the State, and Warren in the northern are without mines employing more than ten men. As there was nothing in the office showing the condition of the mines of the State, later than the report of the inspector for 1893, as published in the eighteenth annual report of the State Geologist, we labored under considerable disadvantage in our first inspection. Added to this the dullness of the coal business and unsettled conditions in wage questions threw many mines idle, and gave us very little opportunity to learn the actual conditions existing in them during their active operation. The result was that, in some cases, defects were allowed to pass unnoticed, and on our second visit their condition was very disappointing. This was especially true of impure air arising from the interruption of the current by the opening of trap doors for the passage of mules and coal cars in the operation of the mines, and from the use of impure oil by men employed in the mine. This is adulterated by being mixed with coal oil, an evil which I notice at greater length in another portion of this report. While mine bosses and officials were uniformly courteous, and in nearly all cases were ready to make the changes and improvements to which their attention was directly called, they generally seem to be very slow to discover the need of them, or are disinclined to make the necessary outlay to remedy them without outside pressure. In another part of this report I give a short description of the mines visited and the conditions in which they were found on each visit.

By the statistical tables given it will be seen that the number of mines in the State employing ten or more men is 106; the men employed in and about the mines, 7,885; mules used in the mines embraced in the report, 679; the total amount of coal of all kinds produced by such mines, 4,202,084 tons, to which is added an estimated amount produced by small mines of 110,000 tons, making a total of 4,312,084 tons. The estimated capital invested in the coal business in the State, exclusive of coal lands, is \$1,852,500.

This shows an increase of production amounting to 664,851 tons, and is exceeded by only the years 1892 and 1893, in the history of coal production of the State. The large increase from last year is accounted for by the comparative absence of labor troubles during the year.

LABOR DIFFICULTIES AND CONDITION OF THE COAL TRADE.

During the months of January and February, as will be seen by reference to the table of the output of coal for the year by months, the mines were in active operation in all the coal producing counties, and were fairly well employed during March and April. As it had been customary for several years to arrange the yearly wage scale to take effect on May 1, the large falling off during May is to be partially attributed to the fact that stocks had been increased in anticipation of a more or less serious stoppage of the mines about that time. By mutual concessions this was avoided over the greater part of the State. On the failure of a conference of operators and miners to formulate a national scale of prices to be paid for mining in the various localities, the National officers of the United Mine Workers' Organization recommended that each mining district endeavor to make a scale agreeable to itself rather than to repeat the attempt of 1894 to bring about a suspension of work in all the coal fields of the country for the enforcement of a national scale of prices. The condition of the coal trade at that time seemed to be such, that while a temporary reduction from last year's prices was inevitable, the upward tendency of all kinds of business gave promise that, within what is known as the scale year, *i. e.*, before May 1, 1896, prices would certainly advance to a degree that would justify even a higher price for mining than was then in force. The miners and operators of the Block Coal District met by committees, and on April 27, 1895, arrived at an agreement by the terms of which the standard price for mining was to be the same as for 1894-5, but that in certain contingencies the miners were to accept a reduction of not to exceed 5 cents per ton, and work was continued at this rate until June 15, when, by agreement, the price per ton of screened coal was reduced to 65 cents and other work in and about the mines in the same proportion. This rate continued until October 1, when the standard price of 70 cents per

ton was restored. As far as I have been able to learn no troubles of any consequence have occurred between operators and miners at any of the block coal mines during the year. Since November 1st nearly all the mines have been running full time, and the year closes with excellent promise for the immediate future.

The final settlement of a price for mining was not so easily nor speedily arrived at in the BITUMINOUS DISTRICT, from a complication of causes. The price paid during the scale year of 1894-5 in this district was based on the payment of sixty cents per ton for screened coal, but at some places all coal taken out of the mine is weighed before being screened (as is required by statute), and in others some is weighed in that way and some after being screened. A good deal of dissatisfaction existed among the miners over this state of affairs, and an effort was made to arrange a scale based on the price to be paid for "mine run" or unscreened coal. The operators objected to making the change at that time. One of their number, Joseph Martin, Superintendent of the Parke County Coal Company, had been fined in the Parke Circuit Court for violation of the statute requiring coal to be weighed before screening, and had appealed the case to the Supreme Court, and they desired to wait for a final decision of that case before making the necessary changes in their arrangements for handling coal, so that they could comply with the statute.

The condition of the coal trade noted above made the miners averse to entering into a contract fixing the price for a year at any figure, and they were unalterably opposed to a reduction, even temporarily, below the sixty cent rate. The price was finally fixed at that rate to continue until July 15th, and work was continued under this agreement everywhere in the district except at the mines in Vermillion County. The operators there claimed that the nature of the competition they encountered would not permit them to pay this price, and demanded a reduction to fifty-five cents per ton. The miners refused to accept and a strike ensued, which lasted, with slight interruptions, until about November 1st, and was finally ended by the defeat of the miners and the refusal of the operators to treat with, or in any way recognize, the miners' organization. The price being paid there now is fifty-five cents.

At the expiration of the agreement on July 15th, the operators tried to secure a reduction of five cents per ton, finally offering to compromise by restoring it on October 1st. This was rejected by the miners, resulting in a strike at all the bituminous mines, from the B. & O. S. W. Railroad northward except a few in Sullivan County which continued to pay the sixty cent rate. After several unsuccessful attempts to get those operators to join in a refusal to pay that rate the difficulty was finally adjusted by the operators conceding the demands made by the miners, and work was resumed at the old rate with the exception above noted. Since that time there have been some local troubles at the mines of the

Brazil Block Coal Company at Coxville, the Jackson Hill Coal Company at Eagle P. O. and Cabel & Co. at Washington, which accounts for the reduced production of coal at those mines as shown in the tables given. At present all difficulties are adjusted except that at Washington, where the end is not in sight.

As far as I have been able to learn, no difficulties between operators and miners occurred in the southern part of the coal fields during the year, and there was no special cause operating to reduce the production of coal in that region, except the extreme low water in the Ohio River. It is a cause for congratulation that so little time has been lost during the year from differences between miners and operators in the State, and that the present feeling existing between them is a promise of an equitable adjustment of any differences that may arise in the future.

STATISTICAL TABLES.

In the following tables I have endeavored to give as full a showing of the condition of the coal business of the State during the past year as is possible with the material that I have been able to collect. In the table showing the aggregate yearly production of each mine (No. 3) I have noted those mines from which reports were not regularly received. This will show to some extent the difficulties in preparing reliable tables in the time that could be given to the work between the close of the year and the date of submitting this report. The tables given are as follows:

1. The yearly production of coal each year since the organization of the department of Mine Inspector for the State of Indiana.
2. The total production of coal in the State for the year 1895, by months.
3. A table showing the number of mines in each county employing more than ten men, with an estimate of the capital invested, and the total amount of coal produced and men employed and animals used, as shown by reports furnished this office.
4. A table showing the mine bosses in charge of each mine, with their post-office addresses.
5. A table showing the names and addresses of persons and companies operating mines in the State, as far as the same have been obtained by this office, with names of mines classified as new, old, suspended and abandoned.

The amounts given for each year previous to 1894 are taken from the reports of the mine inspectors. The amounts for the years 1894 and 1895 are taken from reports made to this office, except that for such mines as are not reported I have been compelled to make an estimate. In doing so I have tried to make my estimates conservative. The total

for the current year shows a gratifying increase over that for last year, which is to be attributed to the comparative absence of labor troubles, as noticed in another part of this report.

From Table No. 2 it will be noticed that during the months of May and June the production was greatly reduced, and that the production for July, August and September would indicate that about one-half the capacity of the mines was produced. This is fully equal to the average production in other years, and is as much as can be reasonably expected during those three months.

From Table No. 3 it can be seen where the falling off was most noticeable. In connection with the statute requiring all coal to be weighed and credited to miners before being screened, and the suit now pending in the Supreme Court involving its validity, it will be interesting to note the small proportion of "mine run" or unscreened coal reported. It may be, however, that some reported as screened, and slack or nut, is weighed to the miner as it comes from the mine, and is reported as it is sent to market. How far this is true I have no means of knowing at present.

Tables 4 and 5 may be found useful to others, but are inserted principally because of their convenience in the work of this office.

During the last half of the year I attempted to collect statistics of the wages paid different classes of employes, and the distribution of coal, but the reports sent in are not sufficiently numerous to make a tabulation of them profitable.

I find also that the returns of the amount of money expended in improvements are very unsatisfactory. Some mine owners do not like to furnish the information asked for, as they seem to think that it may be used to their disadvantage. The total cost of improvements reported during the year is \$35,885.80, but many valuable and costly improvement have been made, to my knowledge, which do not appear in the reports made to this office. I do not tabulate those received, as I can conceive of no good results that would come from their publication. In another part of this report I summarize some of the more important improvements made during the year. I do not give the monthly reports in full, as I think few persons would be sufficiently interested in them to consider them worth perusal, and all that can be learned from them will be found in the tables given herewith.

TABLE No. 1.

Table showing the yearly production of coal for the State of Indiana from 1879 to 1895, inclusive.

YEAR.	TONS.	CAPITAL.	INSPECTOR.
Oct., 1879, to Oct., 1880.....	1,996,490	\$1,135,562	Richards.
1881.....	1,771,536	1,442,210	Wilson.
1882.....	*		Wilson.
1883.....	2,560,000	1,600,000	Wilson.
1884.....	Est. 2,260,000	1,750,000	Wilson.
1885.....	2,375,000	1,850,000	McQuade.
1886.....	Est. 3,000,000	1,975,000	.....
1887.....	3,140,979		McQuade.
1888.....	*		.....
1889.....	3,676,000	2,081,000	.....
1890.....			Tislow.
1891.....	3,819,600	New. 185,000	McQuade.
1892.....	4,494,811	No est.	McQuade.
1893.....	4,358,897	No est.	McQuade.
1894.....	3,440,353	No est.	McQuade.
1895.....	4,312,084	1,852,500	Fisher.

*No Report on file.

TABLE No. 2.

Table showing the number of mines, men employed, mules employed and estimated amount of coal produced and capital invested in the coal business in the State of Indiana, by counties :

	Mines.	Men.	Mules.	Pro- duction.	Capital.
Clay.....	32	3,076	180	1,334,436	700,000
Daviess.....	5	363	48	183,842	125,000
Fountain.....	3	80	8	20,687	27,000
Greene.....	6	692	59	336,740	175,000
Knox.....	3	60	4	25,895	37,500
Owen.....	1	22	3	5,706	10,000
Parke.....	14	1,213	108	585,941	300,000
Perry.....	2	60	8	16,819	23,000
Pike.....	4	484	40	227,033	115,000
Sullivan.....	11	720	87	433,204	275,000
Vanderburgh.....	6	309	35	167,185	110,000
Vermillion.....	5	200	34	176,434	115,000
Vigo.....	11	544	53	532,094	200,000
Warrick.....	3	62	12	67,748	45,000
	106	7,885	679	4,202,084	1,852,500

The estimate of capital above given does not include investments in coal lands.

TABLE No. 3.

Table showing the amount of coal produced in the State during the year 1895, by months:

January	534,173
February	443,186
March	338,887
April	332,999
May	133,914
June	190,293
July	239,800
August	248,060
September	258,158
October	437,275
November	539,812
December	505,527
Total	4,202,084
Small mines—estimate	110,000
Grand total	4,312,084

The estimate for small mines is made on the basis of reports from thirty-five of that class located in different parts of the State, and the names of persons operating mines furnished me, but who have not reported their output.

TABLE No. 4.

List of Mine Bosses.

MINE.	BOSS.	ADDRESS.
CLAY COUNTY.		
Brazil B. C. Co., No. 1	John Bolin	Brazil.
Brazil B. C. Co., Gart. No. 3	Wm. Conroy	Brazil.
Brazil B. C. Co., Gart. No. 5	Andrew Gilmore	Cardonia.
Brazil B. C. Co., Gart. No. 6	John Mushett	Brazil.
Brazil B. C. Co., Gart. No. 8	Robt. J. Wallace	Diamond.
Brazil B. C. Co., Gart. No. 10	James Donehay	Brazil.
Brier Hill	Robt. Bennie	Clay City.
Harrison, No. 2	Thos. Faulds	Clay City.
Gladstone	Henry Schlatter	Brazil.
Pratt	H. W. Jenkins	Perth.
Crawford, No. 2	Walter Knox	Asherville.
Crawford, No. 5	Wm. Penze	Hoosierville.
World's Fair	John Scott	Knightsville.
Diamond, No. 3	Thomas McQuade	Perth.
Fortner	Ellsworth Tibbitts	Turner.
Excelsior	H. B. Ehrlich	Brazil.
Superior Bituminous	Jacob Ehrlich	Turner.
Eureka, No. 1	S. J. Wilton	Carbon.
Eureka, No. 2	Thomas Dalton	Carbon.
Nickel Plate	John Cox, Sr.	Brazil.
Brazil	Moses Marks	Cardonia.
McIntosh, No. 2	Wm. L. Wallace	Brazil.
Monarch	James King	Brazil.
Nellie	David J. Evans	Brazil.
Fairview	Wm. J. Price	Cardonia.
San Pedro	Ed. Somers	Staunton.
Gartside	James Cuthbertson	Cardonia.
Louise	Wm. Parker	Center Point.
American Beauty	Thomas Thompson	Hoosierville.
Brier Hill	Mike Hofman	Asherville.
Columbia	George Myers	Knightsville.

TABLE No. 4—Continued.

MINR.	BOSS.	ADDRESS.
DAVISS COUNTY.		
Cable, No. 4.....	A. Kocher.....	Washington.
Cable, No. 9.....	Gus Wellinger.....	Washington.
Montgomery.....	George B. Brown.....	Montgomery.
Mutual.....	M. Cahill.....	Cannelburgh.
Wilson.....	.....	Washington.
Stoy.....	A. W. Stucky.....	Raglesville.
FOUNTAIN COUNTY.		
Indiana Bituminous, No. 2.....	Steward Shirkie.....	Silverwood.
Shipman.....	J. N. Dexter.....	Silverwood.
Sturm.....	J. S. Tiley.....	Silverwood.
GREENE COUNTY.		
Island, No. 1.....	S. C. Risher.....	Linton.
Island, No. 2.....	Virgil Robertson.....	Linton.
Island, Valley.....	Joe Fennel.....	Linton.
Fluhart.....	James B. Palmer.....	Linton.
South Linton.....	Joseph Ferry.....	Linton.
Summit.....	Frank Lockhart.....	Linton.
KNOX COUNTY.		
Bicknell.....	R. M. Freeman.....	Bicknell.
Prospect Hill.....	Joseph Drovetta.....	Vincennes.
Edwardsport.....	Richard Geade.....	Edwardsport.
GIBSON COUNTY.		
Francisco.....	J. W. Robbs.....	Francisco.
Oakland City.....	Fred Cotterill.....	Oakland City.
OWEN COUNTY.		
Lancaster, No. 4.....	James F. Andrews.....	Woodside.
PARKE COUNTY.		
Cox, No. 3.....	George A. Davis.....	Coxville.
Otter Creek.....	J. D. Lewis.....	Carbon.
Crawford, No. 1.....	Wm. Spears.....	Brazil.
I. McIntosh, No. 1.....	John Schlatter.....	Brazil.
Mecca, No. 1.....	James Skene.....	Mecca.
Mecca, No. 2.....	Morgan Roberts.....	Mecca.
Parke, No. 6.....	I. H. Valentine.....	Rosedale.
Parke, No. 7.....	Wm. Gatt.....	Odd.
Parke, No. 8.....	George Mitch.....	Rosedale.
Parke, No. 10.....	I. N. Williams.....	Rosedale.
Superior, No. 1.....	C. E. Peck.....	Diamond.
Superior, No. 2.....	John Chesterfield.....	Brazil.
Lyford, No. 1.....	J. C. Martin.....	Lyford.
Lyford, No. 2.....	.....	Lyford.
PERRY COUNTY.		
Cannelton.....	George W. Briggs.....	Cannelton.
Troy.....	Bergenroth Bros.....	Troy.
PIKE COUNTY.		
Hartwell.....	Thomas Small.....	Augusta.
Ayrshire.....	John Jennings.....	Ayrshire.
Blackburn.....	.....	.....
Littles.....	Andrew Dodds.....	Littles.
SPENCER COUNTY.		
Schafer.....	Henry Schafer.....	Lincoln City.
Romine.....	J. Romine.....	Gentryville.

TABLE No. 4—Continued.

MINR.	BOSS.	ADDRESS.
SULLIVAN COUNTY.		
Bush Creek	H. W. Robertson	Farnsworth.
Dugger Cooperative	R. W. Evans	Dugger.
Bunker Hill	Harry Conkel	Farnsworth.
Star City	John McCloud	Shelburn.
Dugger	H. A. Butler	Dugger.
Jumbo	W. E. Evans	Eagle.
Currys ville	C. C. Hall	Shelburn.
Phenix, No. 1	Wm. F. Brown	Alum Cave.
Old Pittsburg	John McAnally	Hymera.
Shelburn	Thomas Thomas	Shelburn.
VANDERBURGH COUNTY.		
Diamond	Wm. Horst	Evansville.
Union	Pius Schultheis	Evansville.
First Avenue	Louis M. Gaiser	Evansville.
Ingleside	John O'Dell	Evansville.
Sunnyside, No. 1	Henry Baetz	Evansville.
Sunnyside, No. 2		
VERMILION COUNTY.		
Hazel Creek, No. 1	Dexter Vannest	Clinton.
Fern Hill	F. P. Christy	Clinton.
Indiana Bituminous, No. 1	Stewart Shirkie, Sr.	Clinton.
Torrey, No. 4	W. H. Robertson	Voorhees.
VIGO COUNTY.		
Diamond	Charles Nash	Coal Bluff.
Peerless	G. R. Anthony	Fontanet.
Star	Thomas Gregory	Fontanet.
Union	Jas. Johnson	Fontanet.
Victor	C. R. McGrannahan	Fontanet.
Eagle	Ed Davis	Fontanet.
Nickel Plate	Peter Andrew	Terre Haute.
Seeleyville		
Grant	J. L. Devonald	Burnett.
Vigo	John W. Alvis	Kanawha.
Ray	Wm. Grey	Seeleyville.
WARRICK COUNTY.		
Star	George Archbold	Newburg.
Lauder	Wm. Wooley	Boonville.

TABLE No. 5.

Table showing names and addresses of operators of mines employing more than ten men, with the names of the mines, showing new mines opened during the year and those suspended and abandoned.

CLAY COUNTY.

OWNER.	ADDRESS.	MINR.	New.	Old.	Suspended.	Abandoned.
Brazil Block Coal Co	Brazil, Ind.	Brazil Block, No. 1.	1	.....	.....	.....
Brazil Block Coal Co	Brazil, Ind.	Gartscherrie, No. 4. ....	.....	1	.....	1
Brazil Block Coal Co	Brazil, Ind.	Gartscherrie, No. 5. ....	.....	1	.....	.....
Brazil Block Coal Co	Brazil, Ind.	Brazil Block, No. 6. ....	.....	1	.....	.....
Brazil Block Coal Co	Brazil, Ind.	Brazil Block, No. 8. ....	.....	1	.....	.....
Brazil Block Coal Co	Brazil, Ind.	Brazil Block, No. 9. ....	.....	.....	.....	1
Brazil Block Coal Co	Brazil, Ind.	Brazil Block, No. 10. ....	.....	1	10m	.....
Brazil Brick and Pipe Co	Brazil, Ind.	B. and P. Co.	1	.....	.....	.....
Briar Block Coal Co	Clay City, Ind.	Briar Hill .....	.....	1	.....	.....
Chicago and Indiana Coal Co.	Terre Haute, Ind.	Harrison .....	.....	1	.....	.....
Clay County Coal Co	Brazil, Ind.	Gladstone .....	.....	1	.....	.....
Coal Bluff Mining Co	Terre Haute, Ind.	Pratt .....	.....	1	.....	.....
Crawford Coal Co	Brazil, Ind.	Crawford, No. 2. ....	.....	1	.....	.....
Crawford Coal Co	Brazil, Ind.	Crawford, No. 5. ....	.....	.....	.....	1
D. H. Davis Coal Co	Knightsville, Ind.	World's Fair .....	.....	1	.....	.....
Diamond Block Coal Co	Chicago, Ill.	Diamond, No. 3. ....	.....	1	.....	.....
Eureka Block Coal Co	Terre Haute, Ind.	Eureka, No. 1. ....	.....	1	.....	.....
Eureka Block Coal Co	Terre Haute, Ind.	Eureka, No. 2. ....	.....	1	.....	.....
Goucher, McAdoo & Co.	Brazil, Ind.	Monarch	1	.....	.....	.....
Jackson Coal Mining Co	Brazil, Ind.	Brazil .....	.....	1	.....	.....
Jackson Coal Mining Co	Brazil, Ind.	Nickel Plate .....	.....	1	.....	.....
C. Ehrlich Mining Co	Turner, Ind.	Fortner .....	.....	1	.....	.....
C. Ehrlich Mining Co	Turner, Ind.	Excelsior .....	.....	1	.....	.....
P. Ehrlich	Turner, Ind.	Superior .....	.....	1	.....	.....
I. McIntosh & Co.	Brazil, Ind.	McIntosh, No. 2. ....	.....	1	.....	.....
Otter Creek Coal Co	Brazil, Ind.	Fairview .....	.....	1	.....	.....
Otter Creek Coal Co	Brazil, Ind.	Nellie .....	.....	1	.....	.....
Watson, Little & Co	Brazil, Ind.	Gartscherrie .....	.....	1	.....	.....
Henry E. Weaver, Agt.	Chicago, Ill.	Louise .....	.....	1	.....	.....
Zeller & Sigler C. and M. Co.	Knightsville, Ind.	American Beauty .....	.....	1	.....	.....
Zeller & Sigler C. and M. Co.	Knightsville, Ind.	Briar Hill .....	.....	1	.....	.....
Zeller & Sigler C. and M. Co.	Knightsville, Ind.	Columbia .....	.....	1	.....	.....
Jos. Somers	Staunton, Ind.	San Pedro .....	.....	1	.....	.....

DAVISS COUNTY.

Cabel & Co	Washington, Ind.	Cabel, No. 4. ....	.....	1	.....	.....
Cabel & Co	Washington, Ind.	Cabel, No. 7. ....	.....	.....	1	.....
Cabel & Co	Washington, Ind.	Cabel, No. 9. ....	.....	1	.....	.....
Cabel & Co	Washington, Ind.	Maple Valley .....	.....	.....	1	.....
Davies County Coal Co	Montgomery, Ind.	Montgomery .....	.....	1	.....	.....
Mutual Mining Co	Cannelburg, Ind.	Mutual .....	.....	1	.....	.....
Washington Coal Co	Washington, Ind.	Wilson's, No. 1. ....	.....	1	.....	.....
Washington Coal Co	Washington, Ind.	Wilson's, No. 2. ....	.....	1	.....	.....
Abe Stoy	Odon, Ind.	Stoy .....	.....	1	.....	.....
J. M. Winklepleck	Odon, Ind.	Winklepleck .....	.....	1	.....	.....

FOUNTAIN COUNTY.

Indiana Bituminous Coal Co.	Terre Haute, Ind.	Shipman .....	.....	1	.....	.....
Indiana Bituminous Coal Co.	Terre Haute, Ind.	Silverwood, No. 2 .....	.....	1	.....	.....
M. Sturm	Silverwood, Ind.	Sturm .....	.....	1	.....	.....

GIBSON COUNTY.

OWNER.	ADDRESS.	MINES.	New.	Old.	Suspended.	Abandoned.
Fred Cotterill.....	Oakland City, Ind....	Oakland .....	.....	1	.....	.....
J. W. Robbs	Francisco, Ind	Francisco .....	.....	.....	.....	1
Maule Coal Co.....	Princeton, Ind	Princeton	1	.....	.....	.....

GREENE COUNTY.

Island Coal Co	Indianapolis, Ind....	Island, No. 1.....	.....	1	.....	.....
Island Coal Co	Indianapolis, Ind....	Island, No. 2.....	.....	1	.....	.....
Island Valley Coal Co.....	Linton, Ind.....	Island Valley.....	.....	1	.....	.....
Linton Coal Co.....	Linton, Ind.....	Fuhrart.....	.....	1	.....	.....
South Linton Coal Co	Linton, Ind.....	South Linton .....	.....	1	.....	.....
Summit Coal Co	Bloomfield, Ind.....	Summit .....	.....	1	.....	.....

KNOX COUNTY.

Bicknell Coal Co.....	Bicknell, Ind	Bicknell .....	.....	1	.....	.....
Hoffman Edwardsp't Coal Co.	Vincennes, Ind.....	Edwardsport	1	.....	.....	.....
Prospect Hill Coal Co.....	Vincennes, Ind.....	Prospect Hill .....	.....	1	.....	.....

OWEN COUNTY.

Lancaster Coal Co.....	Woodside, Ind	Lancaster, No. 3 .....	.....	.....	.....	1
Lancaster Coal Co.....	Woodside, Ind	Lancaster, No. 4	1	.....	.....	.....

PARKE COUNTY.

Brazil Block Coal Co	Brazil, Ind	Cox, No. 3.....	.....	1	.....	.....
Brazil Block Coal Co	Brazil, Ind	Otter Creek .....	.....	1	.....	.....
Calumet Coal Co	Chicago, Ill.....	Lyford, No. 1 .....	.....	1	.....	.....
Calumet Coal Co	Chicago, Ill.....	Lyford, No. 2 .....	.....	.....	1	.....
Crawford Coal Co	Brazil, Ind	Crawford, No. 1.....	.....	1	.....	.....
I. McIntosh & Co	Brazil, Ind	McIntosh, No. 1.....	.....	1	.....	.....
Otter Creek Coal Co	Brazil, Ind	Mecca, No. 1 .....	.....	1	.....	.....
Otter Creek Coal Co	Brazil, Ind	Mecca, No. 2 .....	.....	1	.....	.....
Parke County Coal Co.....	Rosedale, Ind.....	Parke, No. 6.....	.....	1	.....	.....
Parke County Coal Co.....	Rosedale, Ind.....	Parke, No. 7.....	.....	1	.....	.....
Parke County Coal Co.....	Rosedale, Ind.....	Parke, No. 8.....	.....	1	.....	.....
Parke County Coal Co.....	Rosedale, Ind.....	Parke, No. 9.....	.....	.....	.....	1
Superior Block Coal Co	Brazil, Ind	Superior, No. 1 .....	.....	1	.....	.....
Superior Block Coal Co	Brazil, Ind	Superior, No. 2	1	.....	.....	.....

PERRY COUNTY.

American Cannel Coal Co.....	Cannelton, Ind.....	Cannelton .....	.....	1	.....	.....
Bergenroth Bros.....	Troy, Ind	Troy .....	.....	1	.....	.....

PIKE COUNTY.

Cabel & Kaufman Coal Co.....	Washington, Ind.....	Hartwell .....	.....	1	.....	.....
D. Ingle	Oakland City, Ind...	Ayrshire .....	.....	1	.....	.....
S. W. Little Coal Co.....	Evansville, Ind.....	Blackburn .....	.....	1	.....	.....
S. W. Little Coal Co.....	Evansville, Ind.....	Littles .....	.....	1	.....	.....

SULLIVAN COUNTY.

OWNER.	ADDRESS.	MINE.	New.	Old.	Suspended.	Abandoned.
Dugger Coöperative Coal Co.	Dugger, Ind	Coöperative .....	.....	1	.....	.....
Ind. & Chicago Coal Co	Dugger, Ind	Dugger .....	.....	1	.....	.....
Hancock & Conkel	Farnsworth, Ind	Bunker Hill .....	.....	1	.....	.....
Jackson Hill Coal Co	Eagle, Ind	Jumbo .....	.....	1	.....	.....
New Pittsburgh C. and C. Co	Alum Cave, Ind	Phoenix, Nos. 1 and 2 .....	.....	1	.....	.....
New Currysville Coal Co	Shelburn, Ind	Currysville .....	.....	1	.....	.....
John Ingle Coal Co	Shelburn, Ind	Shelburn .....	.....	1	.....	.....
Harder-Hafer Mining Co	Shelburn, Ind	Star .....	.....	1	.....	.....
Watson, Little & Co	Chicago, Ill	Bush Creek	1	.....	.....	.....

VANDERBURGH COUNTY.

Diamond Coal Co.	Evansville, Ind	Diamond .....	.....	1	.....	.....
Evansville Union Coal Co	Evansville, Ind	Union .....	.....	1	.....	.....
First Avenue Coal Co	Evansville, Ind	First Avenue .....	.....	1	.....	.....
John Ingle Coal Co	Evansville, Ind	Ingle side .....	.....	1	.....	.....
Sunnyside Coal and Coke Co	Evansville, Ind	Sunnyside, No. 1 .....	.....	1	.....	.....
Sunnyside Coal and Coke Co	Evansville, Ind	Unity .....	.....	1	.....	.....

VERMILLION COUNTY.

Indiana Bituminous Coal Co.	Terre Haute, Ind	Indiana Bituminous No. 1 .....	.....	1	.....	.....
Hazel Creek Coal Co	Clinton, Ind	Fern Hill .....	.....	1	.....	.....
Hamilton, Vannest & Co	Clinton, Ind	Hazel Creek .....	.....	1	.....	.....
Torrey Coal Co	Voorhees, Ind	Torrey, No. 4 .....	.....	1	.....	.....
McClelland, Eastman & Co ..	Clinton, Ind	Buckeye	1	.....	.....	.....

VIGO COUNTY.

Coal Bluff Mining Co	Terre Haute, Ind	Diamond, No. 1 .....	.....	.....	.....	1
Coal Bluff Mining Co	Terre Haute, Ind	Diamond, No. 2	1	.....	.....	.....
Coal Bluff Mining Co	Terre Haute, Ind	Hercules .....	.....	1	1	.....
Coal Bluff Mining Co	Terre Haute, Ind	Peerless .....	.....	1	.....	.....
Coal Bluff Mining Co	Terre Haute, Ind	Star .....	.....	1	.....	.....
Coal Bluff Mining Co	Terre Haute, Ind	Victor .....	.....	1	.....	.....
Ed Davis Mining Co	Fontanet, Ind	Eagle	1	.....	.....	.....
J. Ehrlich	Seeleyville, Ind	Seeleyville .....	.....	.....	1	.....
Ehrman Coal Co	Terre Haute, Ind	Nickel Plate .....	.....	1	.....	.....
Grant Coal Co	Burnett, Ind	Grant .....	.....	1	.....	.....
Parke County Coal Co	Rosedale, Ind	Parke, No. 10 .....	.....	1	.....	.....
Vigo Coal Co	Chicago, Ill	Vigo .....	.....	1	.....	.....
Vigo County Coal Co	Seeleyville, Ind	Ray	1	.....	.....	.....

WARRICK COUNTY.

John Archbold	Evansville, Ind	Star .....	.....	1	.....	.....
Gough & Kelly	Boonville, Ind	Gough .....	.....	.....	1	.....
Howard-Jennings Co	Chandlers, Ind	Howard	1	.....	.....	.....
Clemens Vogt Coal Co	Evansville, Ind	Chandler .....	.....	.....	1	.....
Lauder-Wooley Coal Co	Evansville, Ind	Lauder .....	.....	1	.....	.....

RECAPITULATION.

COUNTY.	New.	Old.	Suspended.	Abandoned.	COUNTY.	New.	Old.	Suspended.	Abandoned.
Clay	5	24	...	3	Pike	1	4	...	...
Davless	3	5	2	...	Spencer .....	...	...	2	...
Fountain	1	2	...	...	Sullivan	1	7	4	...
Gibson	1	1	...	1	Vanderburgh .....	...	6	...	...
Greene .....	...	5	...	...	Vermillion	1	4	...	...
Knox	1	2	...	...	Vigo	4	6	1	2
Owen	1	...	...	...	Warrick	1	2	2	...
Parke	1	11	1	1	Totals	21	81	12	8
Perry .....	...	2	...	...			

TABLE No. 6.

Table showing the amount of coal produced during the year 1895, by counties, by mines employing 10 or more men.

Clay	1,334,436	In addition to the above, I estimate the amount of coal of all kinds produced by mines employing less than ten (10) men at 110,000 tons. This estimation is based upon reports received from 35 of such mines.
Davless	183,842	
Fountain	26,177	
Greene	336,740	
Knox	23,060	
Owen	6,516	
Parke	569,258	
Perry	15,819	
Pike	220,474	
Spencer	2,803	
Sullivan	453,807	
Vanderburgh	209,469	
Vermillion	191,626	
Vigo	558,152	
Warrick	69,905	
Total	4,202,084	

TABLE No. 7.

Table showing the total amount of coal produced each month during the year 1895.

January	534,173	August	248,060
February	443,186	September	258,158
March	338,587	October	437,275
April	332,969	November	539,812
May	133,914	December	505,527
June	190,293	Total	4,202,084
July	239,800		

TABLE No. 8.

*Table showing the total output of each kind of coal at each mine in the State for the year 1895.**

CLAY COUNTY.

Mines.	Days.	Screened.	Slack.	Mine run.	Total.
American Beauty	156	29,032	6,845	.....	35,877
Brazil, December estimate .....	.....	.....	.....	.....	23,199
Briar Hill	67	8,951	2,230	.....	11,181
Briar Hill Block	203	17,198	7,242	2,025	26,465
Columbia	213	40,444	9,410	.....	49,854
Crawford, No. 2	141	38,178	8,107	878	47,163
Crawford, No. 5	122	13,813	2,747	5,026	21,586
Diamond	194	58,940	18,485	.....	77,425
Eureka, No. 1	137	33,319	7,484	4,280	45,083
Eureka, No. 2	122	51,749	13,407	10,630	75,795
Excelsior	185	25,115	11,023	.....	36,138
Fortner	136	19,675	12,385	.....	32,060
Fairview	184	35,262	77,245	.....	42,507
Gladstone	187	25,687	5,020	23,216	53,923
Gartside	223	41,902	7,780	.....	49,682
Gart., No. 1	275	25,825	4,897	516	31,238
Gart., No. 3	171	36,047	5,700	.....	41,747
Gart., No. 4	141	15,928	2,140	.....	18,068
Gart., No. 5	201	102,175	17,385	1,133	120,693
Gart., No. 6	238	28,134	6,610	1,271	36,015
Gart., No. 8	199	57,520	10,028	4,584	72,132
Gart., No. 9	51	3,094	510	587	4,191
Gart., No. 10	33	3,501	480	.....	3,981
Harrison, No. 2	167	23,708	7,397	3,691	34,796
Louise, December estimate .....	.....	.....	.....	.....	46,366
McIntosh, No. 2	217	26,074	5,150	.....	31,224
Nellie	204	14,048	3,270	.....	17,318
Nickle Plate, December estimate .....	.....	.....	.....	.....	72,909
Pratt	194	32,135	6,079	14,159	52,373
San Pedro	215	45,941	23,704	90	69,735
Superior Bituminous	249	20,628	17,902	.....	38,530
World's Fair	85	11,692	3,410	.....	15,102
Totals .....	.....	885,715	234,072	72,095	1,334,436

DAVISS COUNTY.

Cabel, No. 4	123	22,466	8,559	.....	31,025
Cabel, No. 9	125	5,020	2,853	31,802	39,675
Mutual, December estimate .....	.....	.....	.....	.....	10,680
Montgomery	204	15,823	8,341	47,290	71,454
Montgomery, No. 2	76	3,768	7,690	.....	11,458
Wilson	208	4,823	4,548	10,179	19,458
Totals .....	.....	51,900	24,301	96,961	183,842

FOUNTAIN COUNTY.

Silverwood, estimate .....	.....	.....	.....	.....	7,500
Sturm, estimate .....	.....	.....	.....	.....	10,000
Shipman .....	.....	7,202	1,275	.....	8,677
Totals .....	.....	7,202	1,275	.....	26,177

*NOTE.—All months are reported except those marked estimated.

GREENE COUNTY.

MINES.	Days.	Screened.	Stack.	Mine run.	Total.
Fluhart, December Estimate					49,621
Island Valley	159	17,112	8,607	6,395	32,104
Island, No. 1, April to December Estimate					35,999
Island, No. 2, April to December Estimate					100,000
Summit	147	47,163	30,304	16,897	94,364
South Linton	124	16,814	8,807		25,651
Totals		81,119	47,718	23,282	336,740

KNOX COUNTY.

Bicknell	146	9,933	4,902	565	15,400
Prospect Hill	247	3,894	2,269	1,497	7,660
Totals		13,827	7,171	2,062	23,060

OWEN COUNTY.

Lancaster, No. 3	55	1,239	385		1,624
Lancaster, No. 4	144	3,723	1,169		4,892
Totals		4,962	1,554		6,516

PARKE COUNTY.

Crawford, No. 1	156	35,284	7,340		42,624
Cox, No. 3	135	686	103	66,748	67,537
McIntosh, No. 1	226	42,424	7,816		50,240
Mecca, No. 1	152	9,222	3,255	26,619	39,096
Mecca, No. 2	196	8,789	2,590		11,379
Parke, No. 6	155	70,217	23,013		93,230
Parke, No. 7	130	18,036	5,735		23,771
Parke, No. 8	170	34,622	11,943		46,565
Parke, No. 9	93	7,562	2,829		10,391
Otter Creek	225	13,953	2,099	578	16,630
Superior, No. 1	170	67,615	15,155		82,770
Superior, No. 2	198	7,453	1,770		9,223
Wabash, No. 1, December Estimate					75,802
Totals		315,863	83,648	93,945	569,258

PERRY COUNTY.

Camelton	22	2,884	1,006	5,451	9,341
Bergenroth	117			6,478	6,478
Totals		2,884	1,006	11,929	15,819

PIKE COUNTY.

Ayrshire	202	54,398	38,865	36,508	129,771
Hartwell	176	4,029	4,780	12,383	21,192
Little's	180	9,887	26,972	32,652	69,511
Totals		68,314	70,617	81,543	220,474

SPENCER COUNTY.

MINES.	Days.	Screened.	Slack.	Mine run.	Total.
Romine's.....					183
H. Schafer's.....	96	1,240	605	775	2,620
Totals		1,240	605	775	2,803

SULLIVAN COUNTY.

Alum Cave	216	5,526	9,878	90,233	105,637
Bunker Hill	157	9,420	5,200	1,674	16,294
Currys ville	229	10,964	4,991	9,728	25,683
Dugger, December Estimate.....					57,931
Dugger Co-op., June to Dec. Estimate					5,184
Jumbo	172	71,982	38,338		110,320
Old Pittsburgh	1,317	28,192	2,888	7,601	38,631
Shelburn, No. 1	176	17,700	5,091	3,699	26,490
Shelburn, No. 2	26			991	991
Star City	183	44,264	11,900	5,392	61,556
Bush Creek.....	50	1,273		3,817	5,090
Totals		189,321	78,236	123,135	453,807

VANDERBURGH COUNTY.

Diamond	281	8,851	6,160	12,544	17,555
First Avenue, July to December Estimate.....					25,414
Ingleside, December Estimate.....					87,776
Sunnyside, No. 1	259	18,382	10,548	28,487	57,417
Sunnyside, No. 2	91			6,870	6,870
Union	258	7,948	3,140	3,349	14,437
Totals		35,181	19,848	41,250	209,469

VERMILLION COUNTY.

Fern Hill.....	132	53,818	21,707	906	76,431
Hazel Creek, Aug. to December Estimate.....					49,621
Indiana Bituminous, Mar. to Dec. Estimate	17			13,236	13,236
Torrey, No. 4	133	7,024	915	44,399	191,626
Totals		60,842	22,622	58,541	191,626

VIGO COUNTY.

Diamond, No. 1.....	92	6,383	2,620		9,003
Diamond, No. 2.....	61	3,089	1,410		4,499
Grant	193	35,856	28,410	16,540	80,806
Hercules.....	154	21,237	5,732	1,709	28,678
Nickel Plate, December Estimate.....					170,484
Peerless.....	118	9,445	4,769	3,083	17,297
Secleyville.....	35	4,228	1,408		5,636
Star	194	29,142	10,565		39,707
Union	217	63,103	19,988		83,091
Victor	172	20,494	6,550		27,044
Vigo	218	18,380	12,105	8,543	39,928
Ray, December Estimate.....					42,476
Parke, No. 10.....	66	7,808	2,595		10,403
Totals.....		219,165	96,152	29,875	558,152

WARRICK COUNTY.

MINES.	Days.	Screened.	Slack.	Mine run.	Total.
Star.....	182	1,200	25,080		26,280
Lauder	226	2,410	41,215		43,625
Totals.....		3,610	66,295		69,905

NEW DEVELOPMENTS MADE DURING THE YEAR.

While quite a number of new mines have been opened during the year all except one have been in fields which have been partially developed heretofore. The shaft of the Maule Coal Co. at Princeton is an exception, however. After considerable difficulty on account of the soft strata which were encountered in the shaft, this company finally reached a vein of fine bituminous coal at a depth of 440 feet. It proved to be 6-ft. 10-in. in thickness and of excellent quality. The records of drill holes for gas wells indicate that the same vein underlies a large territory in the neighborhood of the city of Princeton. The Maule Company proposes to equip their shaft with first-class hoisting machinery, and a mining machine plant. The Yoch mining machine, driven by compressed air, will be used. Another shaft will be sunk during the coming summer and the prospects are bright for a large development in this field in the near future.

The development of the lower vein at Clinton and Geneva will tend to largely increase the output of coal from Vermillion County in the near future. Watson, Little & Co. have recently reached coal in a test shaft at Williamstown, Clay County, on the line which seems to divide the bituminous from the block coal fields and report the vein a good quality of bituminous with some of the properties of the block coal.

MINING MACHINERY.

My attention has been so fully occupied with other duties that I have been unable to give the question of mining by machinery in this State the attention it demands and consequently can not give the details of this branch of mining. During the year electric mining plants have been installed at the Brazil Block Coal Company's Mines, No. 1, in the city of Brazil and No. 8 on the line between Clay and Parke counties, in range 7. These are the only machines being used in the block coal field and it was so late in the year before their use passed the experimental stage that I have not data sufficient to base any predictions as to the

extent to which they will probably be adopted in this field. At the close of the year there are at No. 1, 12 Morgan-Gardner machines, the power for which is furnished by two 75 Kilowatt dynamos, and at No. 8, 5 Independent and 10 Morgan-Gardner machines, driven by two 100 Kilowatt dynamos. The intention is to use machines at the latter mine only in the bottom vein, all work in the upper vein being done by pick miners.

In the bituminous field machines are used in the following mines, the power employed being compressed air:

In Parke County, at Mecca, No. 1, Parke County Coal Company's Mines, Nos. 6, 7 and 8, and the Calumet Coal Company's Mine, No. 1, at Lyford

In Vermillion County, at the Torrey Coal Mine No. 4.

In Vigo County, at the Star and Peerless Mines of the Coal Bluff Mining Company; the Grant Mine and Parke County Coal Company's No. 10 Mine.

In Sullivan County, at Phoenix, Jumbo, Currysville, Shelburn and Dugger.

In Greene County at Island Nos. 1 and 2.

In Vanderburgh at Sunnyside mines Nos. 1 and 2.

In Warrick County at the Lauder Wooley mine.

Electric mining machines are in use at the Old Pittsburgh and Star mines in Sullivan County.

Rope haulage systems are in use at mines No. 6 and No. 8 of the Parke County Coal Co., in Parke County, Nos. 8 and 10 of the Brazil Block Coal Co., in Clay County, Island No. 1 and No. 2, in Greene Co., and the Ingleside mine in Vanderburgh County, and two electric motors are in use at the Old Pittsburgh mine in Sullivan Co.

MINES GENERATING FIRE DAMP.

There are but few mines in the State which generate light carburetted hydrogen (C H_4) in sufficient quantity to render the air explosive. By reference to the table of Causes of Accidents it will be seen that but two accidents have occurred from this cause during the year. Both of the injured men have brought suit for damages, and I content myself here with the statement made in the list of serious accidents. However, without special reference to those cases, I will say that I have learned in my inquiries that where this gas is found it is not unusual for miners, after the proper marks have been made by the "fire boss" to indicate its presence in their places, to attempt to "brush" the gas out themselves rather than lose time from work while waiting for the proper official to get around to do it. Aside from the lack of experience of miners generally with this gas, this is a dangerous practice from the fact that a naked

light must be used in the work, and there is no means of learning when the place is clear without carrying that light into the place where the gas had been standing, when there is danger of an explosion if the work has not been properly done. Serious explosions have also occurred by "brushing" the gas back upon a naked light which had been left at a presumably safe distance from the point where the gas had been found lodged. The only safe rule is that no person should enter a working place where gas has been detected until it has been cleared by the proper person, and shown to be so by the safety lamp.

The following are the mines in which this gas has been found in dangerous quantities:

Mecca, No. 1, in Parke County.

McIntosh, No. 1, in Parke County. Lower vein.

Lyford, No. 1, in Parke County.

Gladstone, in Clay County.

Shelburn, in Sullivan County.

Currys ville, in Sullivan County.

Howard-Jennings, in Warrick County.

OIL USED FOR ILLUMINATING PURPOSES.

One of the most difficult matters to deal with which is to be found in the mines of Indiana to-day is the inferior quality of the oil used for illuminating purposes. In several instances, on the first examination of mines, they being idle at the time, were found, when measured by the anemometer, to have sufficient ventilation in all parts for the number of men reported to be employed. On a subsequent visit, when the men were at work, with fully as good a current going the air was found loaded with a sickly smelling, heavy smoke, coming from the lamps used by persons at work in the mine. The impurities causing this smoke are principally the carbons of mineral oils used in adulterating the animal or vegetable oils which should be used. My observation is that this smoke is very difficult to move by any current that it is possible to produce in mines, especially where it accumulates in a dip or swamp, so that simply increasing the amount of air circulating in the mine would not remedy the evil. This question has engaged the attention of Mine Inspectors in the several States for years past, and some of them have succeeded in having laws passed making it a penal offense to use in the mines oils which have been so adulterated. I give herewith a copy of the Ohio statute on this subject, as amended, and would urge upon the Legislature of this State the passage of a similar law, with a penalty sufficient to insure compliance with its provisions.

OHIO PURE OIL LAW.

"Only a pure animal or vegetable oil, or other oil as free from smoke as a pure animal or vegetable oil, and not the product or by-product of

rosin, and which shall, on inspection comply with the following test, shall be used for illuminating purposes in the mines of this state: All such oil must be tested at 60° Fahrenheit. The specific gravity of the oil must not exceed 24° Tagliabue. The test of the oil must be made in a glass jar one and five-tenths inches in diameter by seven inches in depth. If the oil to be tested is below 45° Fahrenheit in temperature it must be heated until it reaches about 80° Fahrenheit; and should the oil be above 45° and below 60° Fahrenheit it must be raised to a temperature of about 70° Fahrenheit, when, after being well shaken, it should be allowed to cool gradually to a temperature of 60° Fahrenheit, before finally being tested. In testing the gravity of the oil, the Tagliebue hydrometer must be, when possible, read from below, and the last line which appears under the surface of the oil shall be regarded as the true reading. In case the oil under test should be opaque or turbid, one-half of the capillary attraction shall be deemed and taken to be the true reading. Where the oil is tested under difficult circumstances, an allowance of one-half degree may be made for possible error in parallax before condemning the oil for use in the mine. All oil sold to be used for illuminating purposes in the mines of this State shall be contained in barrels or packages, branded conspicuously with the name of the dealer, the specific gravity of the oil, and the date of shipment."

In this connection I desire to say that my predecessor has in several of his annual reports called attention to this evil and recommended the passage of a law to prevent the sale and use of adulterated oil in the mines of the State. In the last Legislature a bill for such an act was introduced into the House of Representatives by Mr. O'Brien, of Clay County, and referred to the Committee on Mines and Mining. This committee was composed of members who, with one exception, had no personal experience in coal mines, and they could not believe that miners or other employees in mines would deliberately injure their health for the sake of saving a few cents per month in the cost of illuminating oil.

I will also say that from the time I took possession of my office until the present, I have had more complaints of this matter, and requests from both miners and operators to assist in securing the use of pure oil than of all other evils affecting the working of the mines. Several miners have told me that the use of impure oil has driven them to abandon work in the mines entirely on account of its effect upon their lungs, already affected with asthmatic troubles. After talking with one of these I visited a mine where his brother was at work and found him working in a cloud of smoke so thick as to make his light have the appearance of a blood red danger signal, all coming from the lamps of himself and his son. On remonstrating with him on using such oil and referring to his brother's case his reply was that it was no use for one to use good oil while others were using cheap oil. I then called his at-

tention to the fact that the air was coming to him fresh from the fan and that if he had good oil, smoke from others would not trouble him. He said : "Ay, but this place winna last long, then I may ha' to go on the air ahint the oother." Compulsion by law is the only way to influence such men and they are numerous in the mines. While mine officials profess to be very anxious to have pure oil used by employes I have seen some of the worst oil I have met in the mines, being used by the mine bosses and drivers. A few mine bosses have taken the matter in hand and shown that where they are in earnest, even in the absence of a penal law, a reform can be effected. But there are so few of these, that the general result is unsatisfactory, and the passage of a law similar to that of Ohio seems to be the only adequate remedy.

MINES EXAMINED.

I give below a brief description of the condition of mines visited during the year, by myself and assistants.

CLAY COUNTY.

No. 1 MINE.

Owned by Brazil Block Coal Company. Located in the northwest part of the city of Brazil. Is a new mine and has been more or less out of proper condition during the year. The company have been experimenting here with electric mining machinery and the changes necessary in putting in, first the experimental plant, and afterwards the permanent plant have prevented the proper arrangement and development of the mine. It is now equipped with machines in successful operation, the first in the Block Coal field, and is in fair condition as regards ventilation. The escape shaft has been practically useless since it was finished on account of an accumulation of water in the road to it, but that has been lately removed. During the year an air and escape shaft has been sunk and a twelve-foot fan erected at this mine.

COLUMBIA MINE.

Zeller & Sigler Coal and Mining Co., located one-half mile southwest of Knightsville. The top vein, bad roof, wet roads, air courses in bad shape, and several doors broken down. Air bad in nearly all working places, though a good current was in nearly every case carried up to where working began. This is an old mine and work is a long way from the shaft. On a second visit I found the condition greatly improved and

as the pillars are being drawn I think there will be little difficulty with air during the remaining time the shaft will be worked. It will probably be abandoned during 1896.

CRAWFORD No. 2 MINE.

Located at Center Point, Ind. I found this mine idle on both of my visits. It is a new mine and is in excellent condition as far as I was able to discover under the circumstances.

DIAMOND No. 3 MINE.

This mine was idle on my first visit. It is a new mine owned by the Diamond Coal Company, of Chicago, Ill., situated on the N. W. quarter of Sec. 7, T. 13, R. 7. No recommendations were found necessary on my second visit, as the mine was in good condition.

BRIAR HILL MINE.

Briar Block Coal Company, Clay City. On my first visit, April 4th, I found the whole air current being sent around all the workings. A large part of the air course was badly choked and the ventilation of the mine very bad, and I suggested that the air be split by opening a certain door in the mine so that about three-fourths of the air would be allowed to pass to working places without passing through the obstructed air course. On a visit made shortly afterward to see if this and other suggestions had been complied with, I found that it had not, and that pillars were being removed which would make it impossible, and the mine was in very little better condition than on my first visit. I opened the door myself and ordered the work stopped on the pillar. The desired effect was produced and I have heard no complaint of the air from there since. This is one of the few instances, since I took charge of the work, in which I have to complain of the refusal of mine officials to take my advice.

AMERICAN BEAUTY.

Owned by Zeller & Sigler Coal and Mining Company. Situated on Center Point Branch of the Vandalia Railroad, one mile east of Ashersville. On my first visit the mine was idle, but I found the air courses in bad condition. On the second visit the mine was in fair condition. It will probably be finished during the present season.

No. 6 MINE.

Brazil Block Coal Company, located on the Brazil Division of the C. & E. I. R. R., three miles north of Brazil. I found this mine idle on my first visit, May 10th, but in apparently good condition. Shortly after

complaints reached me, and on a second visit I found that the working force had been greatly increased and there was not air enough for the men then in the mine. Several improvements were suggested which were carried out, and on a third visit I found the mine in good condition. No complaints have reached me from there since that time. Pillars are being drawn preparatory to abandoning this mine, and it will probably be finished during the present season.

EUREKA No. 1 MINE.

On my first visit I found this mine idle and in apparently good condition. On a subsequent visit I found a good deal of air escaping and smoke hanging in a number of places. The upper vein had also been opened and was not properly ventilated. I spent nearly two days with the mine boss on this visit and found that the mine was in such a condition that a large amount of time would be necessary to place it in proper condition for work. The mine boss knew what was necessary and how to do it.

EUREKA No. 2 MINE.

Just east of Carbon. When first inspected ventilation was very poor on account of the small space available for a down cast; on my recommendation this was enlarged to double its size and partitions between the down-casts and up-casts were repaired. On my second visit I found the mine in good condition.

EXCELSIOR MINE.

Located northwest of Perth one mile. There are two veins worked in this shaft, and it is well ventilated in both. Some dangerous roof is found in the top vein, but with this exception the mine is in excellent condition. By a break in the roof this mine was flooded by water from the abandoned works in a vein overlying the two now being operated. Though all the men employed were at work at the time, and the water nearly reached the roof in places, by good management on the part of H. B. Ehrlich, Superintendent, all were gotten out without injury. The water is being pumped out and the mine is nearly ready for operation again.

FORTNER MINE,

One mile southwest of Turner, is a bituminous mine. The vein is nearly seven feet high and lies very near the surface, in numerous places not over eight feet of strata overlying the coal. There are so many openings that a complete system of ventilation for the mine is impossible. However, on my visit to the mine on November 28 I found there was good air in all parts of it from natural ventilation, and the company

have two fans on the premises ready to be put into immediate use if necessary. In other respects the mine is in excellent condition. It is owned by C. Ehrlich. Ell. Tibbits is the mine boss.

FAIRVIEW MINE.

Located four miles northwest of Brazil. At the time of my first visit this mine was idle, making some repairs in the bottom vein. As far as could be learned under the circumstances the mine was in good condition. On the two subsequent visits I found the mine idle, and did not make another inspection.

GART. No. 3.

Located two miles northwest of Harmony. Preparations had been made to abandon this mine, when it was determined to work another piece of coal by the same opening. On my first visit I found it very poorly ventilated, and suggested quite a number of improvements. These were made and the bottom vein workings were put in a fair condition. A tunnel was driven from the bottom to the top vein, and on my second visit I found the air very poor in that part of the mine, but preparations were being made which I thought would remedy that, and since the completion of the improvements I have heard no complaint.

GART. No. 4.

This mine was in good condition on my first inspection, all the work being done upon pillars, and since that time the mine has been worked out and abandoned.

GART. No. 5.

Located in the town of Cardonia. It is one of the largest mines in the State, employing about 350 men when running to its full capacity. This mine is well laid out, and the only objection I can find with the way it is conducted is that break-throughs are not closed up as quickly as they should be, which makes the air very poor near the faces of the entry. On my last visit I found less reason to complain of this, and the mine was in good shape in every way.

GLADSTONE MINE.

Located on the line between Clay and Vigo counties one-half mile north of the "Big Four" Railroad. Some trouble is experienced in this mine from fire damp, but the ventilation is kept in such condition that there has been no accident from this cause since January, when Joseph Debouille was severely burned.

HARRISON No. 2 MINE.

Located four miles north of Clay City. Was working only one side when inspected April 30th. It was in fair condition with respect to safety and ventilation. The second inspection of the mine was made by Mr. McCloud in July, who reported favorably of its condition.

GARTSIDE MINE.

Located one mile north of Knightsville. On my first visit April 30th I found that no work was being done in the mine, except in drawing pillars preparatory to abandonment, and the mine was in as good condition as possible for that work to be done. I am informed that the mine will be abandoned during January of this year.

LOUISE MINE.

This mine was visited twice during the year and found in fair condition on both occasions. It is worked on the single entry plan and the doors used in directing the ventilation are frequently allowed to stand open. I recommended that additional trappers be employed and the doors more carefully attended. When this is done the mine will be in good condition.

McINTOSH No. 2.

This is a new mine situated one mile east of Brazil. During the year an escape shaft has been sunk, covers and safety catches put upon the cages, and safety gates at the top of the shaft. On the occasion of my last visit, November 28th, the mine was in fair condition. Another split in the air current is necessary, which the superintendent promises to make soon.

NELLIE MINE.

Located one mile south east of Brazil. Was visited twice during the year. The first visit, April 25th, the east side was not being worked at all and there were but few men on the west. On account of water lying in the air course the current was very weak in places. I recommended that the water be taken out which had been done before my next visit, and conditions there materially improved, though nearly the same thing existed on the east side as were on the west at my first visit. By the opening of a new air course this trouble has been largely done away with and the mine is now in fair condition.

NICKLE PLATE MINE.

Located one mile south of Benwood. Several improvements in the way of stoppings and air courses have been made at this mine during

the year and on my last visit I found it in fair condition with the exception of a few places in the top vein, which was just being started, it having been unworked for some time. I recommended that the air course leading to it be cleaned out and two breakthroughs made, which Mr. Cox, the mine boss, promised to have attended to immediately.

OTTER CREEK MINE.

This mine was not working the bottom vein at the time of either of my two visits, the workings in the top vein were in excellent condition.

PRATT MINE,

One mile west of Perth, was found in a satisfactory condition on each of my two visits, though the mine boss was pushing some further improvements in the way of shortening his air current to secure better results.

SUPERIOR MINE.

A new mine one-half mile west of Turner, in a seven foot vein of bituminous coal, began taking out coal in January 1895, during the year has sank an escape shaft, placed covers and safety catches on his cages and safety gates on the shaft. The shaft was sunk on a fault which threw the coal down about eighteen feet, consequently only one side of the mine is being worked. Owned and superintended by P. Ehrlich.

WORLD'S FAIR MINE,

One mile northeast of Brazil, was found in good condition on the occasion of both of my visits.

BRAZIL MINE.

Situated one mile north of the World's Fair mine. Works three veins, was idle during the greater part of the year. When examined October 27, shortly after having begun work, was found in fair condition. The strata between the top and the second vein are very weak and there are several falls through which the air escapes between the two veins. In spite of this the mine is well ventilated, and in a safe condition, with the exception of the middle vein where the roof will require to be constantly watched.

CRAWFORD No. 5 MINE.

This mine is worked out and abandoned, as is also No. 9 of the Brazil Block Coal Company. Brazil Block Coal Company's No. 10 mine was not in operation during the year until the latter part of November and I have not had an opportunity to visit it since operations were resumed.

OWEN COUNTY.

Lancaster Mine, No. 3, was finally abandoned during the summer of 1895, and No. 4 has been opened up and is in good condition for a new mine, though all the provisions of the law have not been complied with at the date of our last visit.

PARKE COUNTY.

COX No. 3 MINE.

Near Coxville, Indiana. This is a bituminous mine owned by the Brazil Block Coal Company. This mine has been idle a good deal during the year on account of differences between miners and operators. I did not have an opportunity to examine it while it was in operation. As far as I could discover from the examination when the men were not at work the mine is in fair condition as regards ventilation, but there is some very dangerous roof in the mine which requires constant watching. Some accidents happened in spite of the utmost care, used on part of the mine boss and the superintendent.

CRAWFORD No. 1 MINE.

Two miles northeast of Carbon. This mine was shut down during the greater part of the summer and after operations were resumed it worked so irregularly that I was not able to make a proper inspection of it during the year, but have been informed that the mine is in good condition.

LYFORD No. 1 MINE.

On my first visit to this mine I found that it was shut down for repairs and I could not get down. On my second visit I found the mine in a bad shape, but the owners were at work trying to improve the condition by cleaning out air courses, improving brattices and stoppings, and were building an over cast on the north side of the mine. These improvements will materially better the existing conditions. The slate overlying the coal is very hard to keep up with timbers and gives a great deal of extra work in mining the coal, besides the constant danger attending it, and great care is necessary to prevent accidents from that cause. The Lyford Mining Company has recently disposed of its holdings of coal property to the Calumet Coal Company, of Chicago, Ill., who are preparing to develop the same more fully than has heretofore been done, making the improvements noted above in No. 1 Mine, and are preparing to entirely remodel the No. 2 shaft, which has been idle for some years. This promises to be a more important point in coal mining than it has been heretofore.

McINTOSH No. 1 MINE,

Owned by I. McIntosh & Co., was sunk to the bottom vein during the summer. A good quality of coal was found, of fair height and with a good top. The mine developed some fire damp, and one serious accident occurred during the year from an explosion of the same. Since that time the proper precautions have been taken to prevent explosions and no further damage has been done from that cause. The top vein workings of this mine are in a very dangerous and poorly ventilated condition and are being worked solely with a view to their further abandonment, which will probably be accomplished early in the present year.

MECCA Nos. 1 AND 2 MINES.

These mines are now owned and operated by the Otter Creek Coal Co., of Brazil, Ind. No. 1 was found in splendid condition when inspected on April 18th. No. 2 is being finished preparatory to abandonment.

PARKE No. 6 MINE.

This mine was visited several times, I having made two regular inspections and being called there twice on account of accidents resulting in death, which are noted in their proper place in this report. On my first visit I found insufficient air on the north entries on the east side of the shaft, and also on the fifth north on the west side. I suggested several improvements in air courses and doors and on my last visit found the conditions materially improved and the mine in good condition.

PARKE No. 8 MINE.

On my first visit to this mine I found it in fair condition, with the exception that breakthroughs were not closed properly as the workings advanced, which caused the air to be dull near the faces of the entries. On my second visit I found the air very bad in several of the entries on the north side of the mine, and suggested changes to be made which I thought would improve conditions there. On a third visit I found that they were working toward making the changes suggested and that in the meantime temporary measures have been taken to improve the faulty conditions, with fair success, and the mine was in a passable condition.

PARKE No. 9 MINE.

This mine was worked out and abandoned during the year.

SUPERIOR No. 1 MINE.

This mine has given me more trouble than any other during the year, and I have found it necessary to make four visits for the purpose of having my suggestions complied with, looking to the better ventilation of the

mine. On my last visit, however, I found that the mine had been given a thorough overhauling and was in fair condition. Owing to the character of the roof of this mine it is very difficult to keep the air courses and entries open and in a safe condition, and it can only be done by constant watchfulness.

SUPERIOR No. 2 MINE.

Is a new mine sunk during the year and is only fairly opened up. It is located about half a mile southwest of No. 1 mine, and promises to be a good mine, as it is well laid out and the coal is proving of good quality. Ventilated by a twelve-foot fan, and is fully equipped with all appliances and safeguards required by law.

PARKE No. 7 MINE.

From a combination of causes I have been unable to inspect this mine during the year, but I have been reliably informed that preparations are being made to abandon it. For quite a good portion of the year it was not in operation, and when it was, other duties kept me so busy that I could not conveniently visit it, but hope to do so soon.

FOUNTAIN COUNTY.

SHIPMAN MINE.

This mine worked only a few months during the year and was finally transferred to the Indiana Bituminous Coal Company, during the month of November. I did not inspect it during the year, and have no record that my predecessor did. It was suspended at the time of both of my visits to Fountain County.

SILVERWOOD MINE.

This is a new mine situated about a mile and a half northwest of Silverwood, shaft sixty-five feet deep, into a good vein of bituminous coal. Though not fully equipped when I visited it, it was in a fair condition as to safety and ventilation.

STURM MINE.

Owned by M. Sturm, Silverwood, Ind. This is a small mine, employing from twelve to fifteen men. The underground pillars are being drawn and the mine will soon be abandoned. On my first visit I ordered safety gates put upon the top of the shaft, and suggested that the rope being used was too light for the work required of it. On my second visit, a month later, I found that gates had been erected as suggested, and was informed that a new rope had been ordered. This mine may be run on a small scale for some time before being entirely abandoned, as the underground workings are in good condition.

DAVIESS COUNTY.

BUCKEYE MINE.

Located near Cannelburgh. This mine has not been in operation for some time. At the time of my visit, they were making arrangements to take the water out preparatory to starting the mine.

MONTGOMERY No. 1 MINE.

Located at Montgomery, operated by the Daviess County Coal Co. The coal is three feet eight inches thick, worked by shaft. When inspected December 19, it was in bad condition. In some parts of the mine the ventilation was bad, due to badly closed breakthroughs. Several changes were ordered which the company agreed to do at once. They employ eighty-five men at this mine.

MONTGOMERY No. 2 MINE.

Located at Montgomery, operated by Daviess County Coal Co. The coal is three feet eight inches thick, operated by shaft. When last inspected was in good condition. This mine employs fifty miners.

MUTUAL MINE.

Located at Clark Station. Operated by shaft, one hundred feet deep. The coal is partly cannel and partly bituminous, the cannel being three feet and bituminous one and one-half feet thick. This place was inspected on December 18, and found in good condition.

No. 4 MINE.

Owned by Cable & Kaufman Co. Located two miles south of Washington. This mine has been idle for two months. When last inspected was in good condition.

No. 9 MINE.

Owned by Cable & Kaufman Co. Located two miles south-west of Washington. This mine was inspected on April 7. Ventilation was found very bad, due to damp coming from old workings. The same were ordered bratticed off from the new workings.

STOYS' MINE.

Located at Ragsville. Owned and operated by Abraham Stoy & Son. The mine is situated two miles from the E. & R. R. R. The coal is three feet thick and of excellent quality. It is operated by shaft fifty feet deep. They employ twenty-three miners at this mine.

WINKLEPLECK MINE.

Owned and operated by Jonas Winklepleck. Located near Raglesville, two miles from the E. & R. R. R. Operated by shaft fifty feet deep. The coal is three feet thick and of excellent quality. I inspected this mine December 3, and ordered several changes made to place the mine in compliance with the law. This mine employs twenty-four miners.

WILSON'S MINE.

Located near Washington, Indiana. Operated by Washington Coal Co. The coal is six feet thick, of a good quality. This mine is nearly worked out, and they are drawing the pillars on nearly all the entries. This place is operated by shaft sixty-four feet deep. When last inspected was in fair condition.

GREENE COUNTY.

FLUHART MINE.

Operated by Linton Coal and Mining Company. Located one and one-half miles southwest of Linton, and operated by shaft seventy-two feet deep. The coal is five feet thick, of good quality. This mine was inspected March 25, when the air courses were badly filled with slate and water. The necessary changes were ordered made to place the mine in compliance with the law.

ISLAND VALLEY MINE.

Located two miles southeast of Linton, on the I. & V. Railway. The coal is five feet thick, of excellent quality for steam and domestic use. Operated by shaft fifty-two feet deep. The output at this place is about three hundred tons daily. When last inspected the mine was in good condition. Fifty men are employed at this mine.

ISLAND No. 1 MINE.

Owned by Island Coal Company. Located one and one-half miles south of Linton. Operated by shaft sixty-six feet deep. This mine has lately been equipped as a machine mine, and they also have the latest improved machinery for hauling and screening the coal. The coal is five feet thick, of excellent quality for steam and domestic use. They employ one hundred men. When last inspected was in good condition.

ISLAND No. 2 MINE.

Located at Linton, owned by Island Coal Company, operated by shaft ninety-five feet deep. This is a machine mine, one of the largest in the

State. They run twenty-two Harrison machines. The capacity at this place is one thousand tons daily. The coal is five feet thick and of excellent quality. They have lately put in rope haulage. One hundred and twenty-five to fifty persons are employed. In good condition when inspected.

SUMMIT MINE.

Located one mile west of Linton, on the I. & V. Branch R. R., operated by shaft ninety-five feet deep. The coal is five and a half feet thick, of good quality. This mine was inspected December 1st, the ventilation was found bad, due to badly stopped break-throughs. The necessary repairs were ordered and on my return two weeks later I found the mine in good condition. This mine employs 150 men.

SOUTH LINTON MINE.

Located one mile south of Linton, on a branch of the I. & V. R. R., operated by the South Linton Coal Company. The coal is five feet thick, of good quality, operated by a shaft eighty-one feet deep. They have lately put down a manway. When last inspected this mine was in excellent condition. This place has a daily capacity of 400 tons.

TEMPLETON'S MINE.

Located three-fourths of a mile southwest of Linton. This mine is operated by shaft, the coal is five and a half feet thick and of excellent quality. At present they employ less than ten men, but are putting in machinery preparatory to opening a large mine.

KNOX COUNTY.

BICKNELL MINE.

Located at Bicknell, Ind. Operated by the Bicknell Coal Company. The coal is four feet three inches thick, and of good quality. It is worked by a shaft ninety-seven feet deep. They employ forty-five miners at this mine, and when last inspected it was found in good condition.

EDWARDSPORT MINE.

Operated by the Hoffman-Edwardsport Coal Company. This is a new mine, having been opened within the past year. The coal is four and one half feet thick and of good quality; operated by a slope. This place was inspected December 16th, and found in good condition. They employ twenty-seven miners.

PROSPECT HILL MINE.

Located at Vincennes, Ind. Owned by Frank Clark, operated by a shaft 335 feet deep. The coal is three feet thick, of fair quality. It is underlaid with fire-clay of a very soft nature which heaves so that it is hard to keep roadways and air courses open, making it a very expensive coal to work. I inspected this mine on December 17th, and found the general condition of the mine bad.

PIKE COUNTY.

AYRSHIRE MINE.

Operated by David Ingle, Oakland City. This mine is located at Ayrshire, six miles east of Oakland, it is operated by a shaft twenty feet deep. The coal is five feet thick and of excellent quality. They employ about 150 miners. When last inspected the mine was in fair condition, except ventilation, which was bad, due to badly stopped break-throughs and use of curtains instead of doors. I recommended putting in doors and fixing up the break-throughs, which they readily agreed to do. I think the next inspection will find the mine in good condition.

BLACKBURN MINE.

Owned and operated by S. W. Little. Located at Blackburn Station and operated by a slope. The coal is seven feet thick with considerable sulphur. The company has lately put in the latest improved machinery for handling and screening the coal. They employ twenty-seven miners. When last inspected the mine was in fair condition.

HARTWELL MINE.

Owned and operated by Cable & Kaufman, Washington, Ind. Managed by Thomas Small. This mine is located near Augusta, on a branch of the Air Line R. R. It was inspected on Dec. 21st, and found in excellent condition. The coal is four feet thick. When the mine was inspected they were working sixty-nine miners and two mules in the mine, and five men on the outside.

LITTLE'S MINE.

Owned and operated by S. W. Little Co., Evansville, Indiana. Located at Little Star, on the Evansville & Indianapolis R. R. The coal is six and a half feet thick, of fair quality, operated by a shaft eighty-six feet deep. They employ sixty-five miners. I inspected this mine December 23d, and found it in good condition.

VERMILLION COUNTY.

FERN HILL MINE.

Located near Clinton. Was idle on my first visit. On my second visit, Aug. 19th, the mine was in good condition in all respects.

INDIANA BITUMINOUS No. 1 MINE.

Northwest of Clinton. This mine has been remodeled during the year and fitted with patent self-dumping cages, new boilers and a twelve foot fan, also a new eighty thousand pounds capacity track scales. These repairs were under way on my first visit and I did not inspect the mine. When inspected, Aug. 19th, the mine was in good condition.

TOREY No. 4 MINE.

On my first visit this mine was being sunk to the bottom vein, and no work was being done in the upper vein. On my second visit the mine was just starting, after a strike, and was in bad shape in the upper vein works. Very little work has been done in opening the bottom vein which is the same coal that is being mined at Lyford, in Parke County. This mine is located at Geneva, Vermillion County.

HAZEL CREEK No. 1 MINE.

This mine is being worked by a company of miners who have it leased from the Hazel Creek Coal Co. When examined it was in fair condition with the exception of one part of the mine where about eight men were at work. The air was very bad there, and I gave the mine boss ten days to remedy it or cease work there. I have since learned that that part of the mine was abandoned. There is nothing but pillar work left in the mine, but it may be run on a small scale during the whole of the present year.

VIGO COUNTY.

GRANT MINE.

Located near the town of Grant, on the C. & E. I. R. R. When examined this mine needed a good deal of improvement, as the road to the escape shaft had been allowed to fall in and the shaft was not available to the use of the men. The air in some parts of the mine was also bad, and I instructed the Superintendent to make the necessary improvements. He has since reported that this has been done, though I have not made a second inspection of the mine.

VIGO MINE.

One mile west of Foleyville. Is a new mine operated by slope. It is in good condition in all respects, well aired and safe. A safety spring was recommended on the top of the slope to prevent cars running back. On my second visit I found that one had been placed there.

RAY MINE.

At Seeleyville, Ind. Is a new mine opened by shaft. Is fitted with self-dumping cages, and is aired by a twelve-foot fan. An escape shaft is being sunk at this mine, and is nearly completed at this writing. When this is done the mine will be in excellent condition in all respects.

VICTOR MINE,

Southeast of Fontanet, was found in good condition, except that the roof is dangerous. However, it was well timbered and all possible care taken to prevent accidents. This mine is nearly worked out, and will probably be abandoned during the year.

UNION MINE.

North of Fontanet, is a new shaft, fitted with self-dumping cages. I found all the conditions of the law complied with at this mine. The roof is very bad in some places, but proper care has been taken to prevent accidents, and none were reported from this cause during the year.

STAR MINE.

Just south of Fontanet. I found this mine in excellent condition, in all respects. They are now engaged in drawing pillars preparatory to abandoning the mine and it will probably be completed during 1896.

PEERLESS MINE.

Located one-half mile north of the Coal Bluff crossing, on the C. & E. I. R. R. This mine has run so irregularly during the year, that I have been unable to visit it when it was at work. When inspected it was in fair condition and I considered no recommendations necessary.

NICKLE PLATE MINE.

Located one mile southwest of the Vigo mine. The coal lies nearly on a level with the valley and is brought to daylight by mules. The mine is aired by two fans, and was in good condition when inspected, except that breakthroughs were not being well closed, however there was plenty of air in the mine to keep it well ventilated, in spite of the waste.

HERCULES MINE.

This mine was worked out and abandoned during the year.

DIAMOND MINE No. 1.

This mine did not resume operation after the stoppage on May 1st. It has been definitely abandoned. The machinery has been moved to Diamond No. 2 near Grant, which has been opened since that time.

EAGLE MINE.

Located just west of the Vigo mine. Opened by a slope. When first examined this mine was in a very bad condition for air, but on my recommendation a fan was erected and on subsequent examination the mine was found in good condition.

SULLIVAN COUNTY.

SHELburn MINE.

Located in the town of Shelburn. This mine was examined by Mr. McCloud who reports it in bad condition, dirt being allowed to accumulate in the air courses, and the road to the escape shaft being badly filled up. It has recently passed into the hands of C. C. Heisen, Chicago, who has made a great many improvements on the outside of the mine during the year, and I hope that the inside condition will be bettered soon.

OLD PITTSBURGH MINE.

Located at Hymera. Was in fair condition when examined, except that the roof was bad in places, and the air having to travel through old works, was not as good as it should have been. Electric machines are used in this mine, and the coal is brought to the bottom of the shaft by two electric motors. There has been several changes in superintendents during the year so that it has been impossible to have improvements made systematically, and on a later visit, the air courses were found in very bad condition.

JUMBO MINE,

Located at Jackson Hill, is in fair condition only. The mine has been opened up extensively and proper attention has not been given to the air courses, so that the air is bad in some parts of the mine. I have recommended that the air be split on each side of the shaft, and the superintendent has promised to comply with this.

STAR MINE.

Located at Grammercy Park. This mine was found in fair condition on all visits made during the year, as it is nearly new, with good roof and bottom. Mr. McCloud resigned the position of Assistant State Mine Inspector to take charge of this mine, and reports from there lately indicate that conditions have considerably improved.

CURRYSVILLE MINE.

One mile north of Shelburn on the E. & T. H. R. R. Is in poor condition; the main shaft in several places has given way and it needs a recurbing. The air is very poor at the head of the workings.

PHOENIX MINE.

Located at Alum Cave, on the line between Clay and Sullivan counties. Some repairs were needed here on the first visit. On the second visit the mine was found in fair condition, while there is still room for improvement.

BUSH CREEK MINE.

Located four miles east of Sullivan on I. & St. L. R. R. Owned by Watson, Little Coal Co. Operated by shaft one hundred and six feet deep. This is a new mine, having been opened within the last two years. The coal is five feet three inches thick, of good quality. When last inspected the mine was in good condition. They employ thirty-three men.

HANCOCK MINE.

Located at Farnsworth on I. & St. L. R. R. Owned by Hancock & Conklin. Operated by shaft seventy-three feet deep. When last inspected this mine was in excellent condition. The coal is four and a half feet thick, of good quality. They employ forty men in the mine.

LYONTON MINE.

Owned by Lyonton Coal Co. Operated by shaft forty-five feet deep. The coal is five feet in thickness of good quality. This mine has been idle for several months.

DUGGER MINE.

Located at Dugger on the I. & S. R. R. and I. & V. Coal Branch. When first visited, Mr. McCloud reported the mine in a bad shape. The mine changed hands during the summer and is now being operated by

the Indiana & Chicago Coal Co. After taking possession of the mine they spent nearly three months in making repairs underground, and when last visited it was found to be in a fair condition.

DUGGER COÖPERATIVE MINE.

Located one mile west of Dugger. Is operated on a small scale by a joint stock company. Mr. McCloud, on his first visit, ordered that an escape way be provided at this mine. Some work was done towards this but on our last visit nothing was being done toward completing it. We found that less than ten men were being employed under ground and that, consequently, the law did not compel the company to make the opening. The ventilation was fair and the condition of the mine in other respects good.

Several mines reported from Sullivan county last year by my predecessor are now employing less than ten men and have not been inspected nor required to report to this office since my term began. Myself and assistants found our time so fully employed in inspecting and recommending improvements in the larger mines of the State and seeing that our recommendations were complied with there that we were compelled to entirely neglect those to which the law does not apply, and may have omitted some mines employing between ten and fifteen men. However, during the present year we shall attempt to visit, at least once, all mines in the State, and be able to report fully on their condition, production and the number of men employed in them. In another part of this report I give an estimate of the amount of coal produced by mines of this class, based on the best data I have been able to obtain in the time at my disposal, which shows this to be a very important industry in itself.

VANDELBURGH COUNTY.

DIAMOND MINE.

Was inspected twice and found in fair condition on both occasions. In common with all mines in Vanderburgh County this mine has a good roof and the ground is dry. During the summer the outside work of the shaft has all been rebuilt and made new and the mine is in good condition.

FIRST AVENUE MINE.

This mine was visited twice during the year, and on my second visit I found that several improvements had been made during the year, by cleaning out the air course, bratticing break-throughs, and hanging new doors in the mine, putting it in a fair condition.

SUNNYSIDE MINE.

Was visited twice during the year. Between my two visits the main air course had been cleaned out and three patent doors hung, which, with other needed improvements, has brought the air to a good condition. In other respects the mine is all that is to be desired.

UNION MINE.

This mine is operated by the Evansville Union Coal Mining Company, which is composed entirely of persons working in and about the mines. The mine was found in bad condition on my first visit, it having very poor arrangements for ventilation and no escape shaft. Curtains were used in place of trap doors and the signal law of the State was not being complied with. I recommended the necessary change and that an escape shaft be sunk immediately. This was started and sunk about 100 feet, and on my second visit work in it had been abandoned for some time. I ordered that all men except ten be taken out of the mine unless work was immediately resumed on the escape shaft. After trying this for some days they decided to push the work on the escape shaft and are doing so at the end of the year.

INGLESIDE MINE.

Operated by John Ingle & Co. This is the oldest mine in the State. The main entry being driven a mile from the bottom of the shaft, an endless rope is used for drawing coal in the main entry, a distance of 1,300 yards. The mine was found in good condition on both of my visits, except that the air courses required cleaning in some places. On my second visit I found that this had been done and the mine was in good condition in all respects.

PERRY COUNTY.

CANNELTON MINE

Located three miles northeast of the city of Cannelton. Is operated by a drift. This mine was found in good condition when inspected in April. It was idle during the latter part of the year and was not visited again. Work was resumed on December 10.

TROY MINE.

Is located at Troy on the Ohio River. Is ventilated by a furnace, which at times is not properly cared for, causing the air to be bad in the mine. If it should be attended to sufficient air would be provided, and the mine would be in good condition. This mine was visited but once during the year, as it was idle during a great part of the summer.

WARRICK COUNTY.

STAR MINE.

Located at Newburgh. Was inspected twice and found in good condition on both occasions.

LAUDER MINE.

Located at Boonville. Mine machines are used in this mine, it is well ventilated, has a good roof and is in good condition in all respects.

HOWARD JENNINGS MINE.

This is a new mine located near Chandlers on the L., E. & St. L. R. R. When visited on September 9, it was not fully equipped but the persons in charge promised to comply with the law in all respects, as soon as possible. Some fire damp has been found in this mine.

LIST OF ACCIDENTS—FATAL.

- January 11, 1895. Diamond mine, Diamond Block Coal Co. Walter Hays, fall of rock; killed.
- January 12, 1895. Gart. No. 3 mine, B. B. C. Co. J. W. Elliott, fall of rock in room; died same evening.
- January 16, 1895. Gart. No. 4 mine, Clay county. George Smallcombe, killed by falling slate.
- January 25, 1895. Prospect Hill mine, Knox county. J. Todd, killed by falling down shaft.
- February 2, 1895. Ingleside mine, Vanderburgh county. Robt. Love, injured by premature blast; died a week later. No report made to this office until in April.
- March 14, 1895. Star mine, Warrick county. Patrick McGuire, killed by premature blast.
- March 25, 1895. Parke No 6 mine, Parke county. Otis Jackson, killed by fall of slate.
- March 26, 1895. Peerless mine, Vigo county. Richard Richards, caught by cage; died from injury.
- May 21, 1895. Excelsior mine, Clay county. Dominie Gelwey, ignited keg of powder in his room and died next day.
- June 17, 1895. Jackson Hill mine, Sullivan county. Michael Crynes and James Sity, killed by falling slate in working place.
- August 12, 1895. Harrison mine, Clay county. Josiah Wells, killed by falling slate in entry.

- September 17, 1895. Island No. 1 mine, Greene county. Patrick Dugan, killed by mine cars.
- October 7, 1895. Brazil mine, Clay county. Joseph Brown, killed; caught by ascending cage.
- October 28, 1895. Prospect Hill mine, Knox county. Bernard Clements, killed by falling slate while timbering.
- December 10, 1895. Cox No. 3 mine, Parke county. John Hokin, killed by a fall of slate in a room.
- December 10, 1895. Cox No. 3 mine, Parke county. J. Davie, hurt by same fall; died two days later.
- December 10, 1895. Parke No. 6 mine, Parke county. Ed. Opendorf, killed; fell in front of loaded trip.
- December 17, 1895. Union mine, Vanderburgh county. Carl Muller, injured in air shaft; died two days later; supposed to have fallen in a fit.
- December —, 1895. Vigo mine, Vigo county. Marion Hayne, killed by a loaded mine car.

I have learned of three deaths by accident in the small mines in the State during the year, but have been unable to learn the names of the injured parties or the dates of the accidents.

After writing the above I learned that one of the parties killed in small mines was Ernest Lester, at Carlisle shaft, by pushing a car into the shaft, December 23, 1895.

LIST OF ACCIDENTS — SERIOUS.

- January 2, 1895. Gough mine, Warrick county. Jos. Cullen, hip dislocated.
- January 11, 1895. Diamond mine, Diamond Block Coal Company. Michael McGragian, fall of rock; leg broken.
- January 14, 1895. Gladstone mine, Clay county. Jos. Deboulle, badly burned by explosion of fire damp.
- February 19, 1895. Hancock & Conklin mine, Sullivan county. R. C. Carty; draw slate fell, not timbered; leg broken.
- February 22, 1895. Gart. No. 1 mine, B. B. C. Co. Sam. Batchelor, pushed block from in front of empty car, which ran against him; leg broken.
- March 12, 1895. Gart. No. 3 mine, Clay county. John Sims, fall of slate; injured in the back.
- March 14, 1895. Superior mine, Clay county. Wm. Cushner, lost a finger.
- March 25, 1895. Parke No. 6 mine, Parke county. Thos. Gibson, by fall of slate; arm broken, back sprained.

- March 29, 1895. Nickel Plate mine, Vigo county. James Feathers, fall of coal, mining off shot; leg broken.
- March 30, 1895. Diamond mine, Clay county. Corsetto Farnio, fell in a fit; broke his nose.
- May 24, 1895. Gart No. 4 mine, Clay county. Andrew Hamilton, fall of coal; leg broken.
- May —, 1895. Buckeye mine, Greene county. T. G. Morgan, fall of slate; foot injured.
- May 28, 1895. Phoenix mine, Sullivan county. E. H. Bisby, falling from elevator frame; arm broken.
- May —, 1895. Grant mine, Vigo county. Joe Neace, by falling slate; leg broken.
- June 22, 1895. Pratt mine, Clay county. Levi Evans, fell down drop shaft; ankle and hip broken.
- June 29, 1895. Harrison No. 2 mine, Clay county. George Everet, fall of slate in room; back injured.
- July 1, 1895. Phoenix No. 2 mine, Sullivan county. George Miller, fall of coal; back fractured.
- July 11, 1895. Ray mine, Vigo county. Two men hurt, one by falling slate, one by shot through pillar.
- July 8, 1895. Fairview mine, Clay county. John Baird, by falling slate; leg broken.
- July 18, 1895. Gart No. 3 mine, Clay county. Willis Hice, hand crushed by falling coal.
- July 30, 1895. Lyford No. 1 mine, Parke county. Joe Caravelle, fall of slate; leg broken.
- August 13, 1895. Nellie mine, Clay county. Ire Hadley, by falling slate; arm broken.
- August 19, 1895. No. 4 mine, Daviess county. George Sutherland, hurt in the back by draw slate.
- August 19, 1895. No. 3 Gart mine, Clay county. Dan. Mooney, finger taken off by mine car.
- September —, 1895. Nickel Plate mine, Vigo county. A. J. King, falling slate; injury not stated.
- September —, 1895. Currysville mine, Sullivan county. A. N. Colohan, injured in the back by falling slate.
- September 9, 1895. Briar Hill mine, Clay county. Chas. Miller, leg bruised by mine car.
- October 2, 1895. Island No. 2 mine, Greene county. Ed. Sherwood and Al. Greenwood, injured by falling coal.
- October 9, 1895. Pratt mine, Clay county. Edward David, fall of coal; leg broken in two places.
- October 9, 1895. Hazel Creek No. 2 mine, Vermillion county. John Kemp, hurt by premature blast.

- October 9, 1895. Hazel Creek No. 2, Vermillion county. John Crumby, arm broken.
- October 9, 1895. McIntosh No. 1, Parke county. Wm. James, seriously burned by explosion of gas.
- November 11, 1895. Silverwood No. 2, Fountain county. Elsnor Vickrey, fell off cage; leg broken.
- November 28, 1895. B. B. C. Co., No. 8 Mine, Clay county. George Crynock, falling slate while mining; collar bone broken.
- November 13, 1895. McIntosh No. 1 mine, Parke county. Henry Prulheire, leg mashed between mine cars.
- November —, 1895. Brazil mine, Clay county. Adam Metz, foot mashed by falling stone on entry.
- November —, 1895. Brazil mine, Clay county. Lue Haliger, hand mashed by falling coal.
- December 30, 1895. Island No. 2 mine, Greene county. Wesley Brooks, leg broken by a shot.
- December 3, 1895. Cox No. 3 mine, Parke county. James Yadan, fall of slate in room; thigh broken.
- December 12, 1895. Brazil Block No. 8 mine, Clay county. Charles Sims, head bruised by falling slate while loading coal.
- December 23, 1895. Pratt mine, Clay county. John Farley, hurt by fall of slate.
- December 23, 1895. Pratt mine, Clay county. Charles Riggs, hurt by mine car; also a mule killed.
- December 2, 1895. Brazil Block No. 1 mine, Clay county. Ed. Murray, lost a finger by mine car jumping track.
- December 17, 1895. Gart. No. 3 mine, Clay county. David Waugh, badly strained by ascending cage; head caught on bunting.
- December —, 1895. Gart. No. 5 mine, Clay county. Charles Simons, leg broken by mine car.
- December 10, 1895. Bicknell mine, Knox county. Ade Vincent, seriously hurt by falling coal.
- December 18, 1895. Crawford No. 1 mine, Parke county. William Moore, leg broken by falling slate and timbers.
- December —, 1895. Jumbo mine, Sullivan county. John Pope, hand mashed by railroad cars.
- December —, 1895. Ingleside mine, Vanderburgh county. A miner, name not given, arm broken by a shot in coal.
- December 16, 1895. Union mine, Vigo county. Ed. Skoworgo, driver, crushed by mine cars.

LIST OF ACCIDENTS—MINOR.

- February 18, 1895. Parke No. 10 mine, Parke county. Thos. Bingham and Alf Watkins injured on cage; engine got away from engineer. Bingham bruised about head, arm and leg; Watkins ankle joint hurt.
- February 22, 1895. World's Fair mine, Clay county. Joseph Beadlin, leg hurt by falling slate.
- March 11, 1895. Dugger mine, Sullivan county. George Schofield, hurt slightly, falling slate.
- April 23, 1895. Vigo mine, Vigo county. D. Hornady, foot crushed by coal falling off cars.
- May 23, 1895. No. 1 mine, B. B. C. Co., Clay county. Neal Watts, coal fell, hand injured; off two weeks.
- May 23, 1895. Same place. Fred. Phelps, draw slate fell.
- March 29, 1895. Vigo mine, Vigo county. Steve Lovas and George Spoors burned by explosion of powder, making cartridges.
- June, 1895. No. 1 mine, B. B. C. Co., Clay county. Michael Rau, foot hurt, fall of coal; off ten days.
- June 17, 1895. Phenix mine, Sullivan county. James Lindsey, leg bruised by mine car jumping track.
- June 17, 1895. Victor mine, Vigo county. Jeff. King, hurt by mine cars.
- June 18, 1895. No. 4 mine, Daviess county. George Wetzel, back hurt.
- June 24, 1895. Summit mine, Greene county. Nathan Holman, fall of slate in room, hip hurt.
- June 24, 1895. Same place. George Wise, hurt by falling coal.
- July 24, 1895. No. 8 mine, Clay county. Harmon Wax, leg bruised, falling slate in room.
- July 24, 1895. Same place. Thos. Trump, foot crushed, falling coal.
- July 26, 1895. Harrison mine, Clay county. George Ramsdell, slightly hurt by falling slate.
- July 26, 1895. Nickel Plate mine, Clay county. Henry Atkins, shot; not serious.
- August —, 1895. Crawford No. 1 mine, Parke county. Wm. Bucholtz, foot hurt by mine car.
- August —, 1895. Nickel Plate mine, Clay county. Michael Navin, hurt by falling slate.
- August 15, 1895. Same place, James Stott, hand mashed by falling slate.
- August 15, 1895. Same place, A. Nicodemus, hurt by falling slate.
- August 15, 1895. Excelsior mine, Clay county. W. C. Conner, bruised by falling slate.
- August 19, 1895. No. 6 mine, B. B. C. Co., Clay county. Wm. Andrews, hurt by falling slate.

- September 6, 1895. Star Mine, Sullivan county. Jos. Krakowsky, mashed two fingers; how not stated.
- September 13, 1895. Lauder Wooley mine, Warrick county. A. H. Cochran, back injured by falling slate.
- September 24, 1895. Pratt mine, Clay county. John Jones, fall of slate; knee hurt.
- September —, 1895. B. B. C. Co. No. 1 mine. Sam Genet, foot hurt by draw slate.
- September 24, 1895. Gart No. 3 mine, Clay county. Robert Pimerman, lost two fingers by railroad cars.
- October 11, 1895. Victor mine, Vigo county. David Gwinn, ankle bruised while handling slate.
- October 21, 1895. Dugger mine, Sullivan county. Wm. Headley, slightly hurt by mine cars.
- October —, 1895. Parke No. 6 mine, Parke county. Wm. T. Carroll, back hurt by falling slate.
- October 24, 1895. B. B. C. Co., No. 8 mine, Clay county. Hugh Haggerty, fingers mashed, railroad cars.
- October 26, 1895. Summit mine, Greene county. Tim Pool, ankle bruised by mine cars.
- October 24, 1896. Nickel Plate mine, Vigo county. Robert Cuthbertson and Wm. Cuthbertson, slightly injured by draw slate.
- November 2, 1895. Phenix mine, Sullivan county. Tom Griffith, head cut by falling coal.
- November 8, 1895. Same place. Lloyd Nugers, hip bruised by mine car.
- November 9, 1895. B. B. C. Co., No. 1 mine, Clay county. James Shields, leg injured; fall of slate in room.
- November 11, 1895. Same place, Wm. Patrick, arm injured by mining machine.
- November 14, 1895. Keen Davis, hand bruised while handling coal.
- November 16, 1895. M. Stoupo, hand bruised by revolving screen.
- November 20, 1895. Parke No. 8 mine, Parke county. Fred Wimmer, foot mashed by falling coal.
- November 23, 1895. Union mine, Vanderburgh county. Theodore Perasat, foot mashed between mine cars.
- November 27, 1895. Crawford No. 1 mine, Parke county. William Bucholtz, Sr. Knee hurt by falling coal.
- November 28, 1895. Gart. No. 3 mine, Clay county, Wm. Travis, finger broken.
- December 3, 1895. Cox No. 3 mine, Parke county. West Carroll, leg hurt by falling coal.
- December 3, 1895. Nickel Plate mine, Clay County. James Phillips, slightly injured by falling coal.
- December 4, 1895. Same place. Charles Morman, finger mashed; how not stated.

- December —, 1895. Brazil mine, Clay county. Bert McAllister and John McGuire each had a hand mashed with falling coal.
- December 17, 1895. Nellie mine, Clay county. Wm. Ball, leg hurt by falling coal.
- December 23. Briar Hill mine, Clay county. James Blakely, slightly hurt by falling coal.
- December 18. Island No. 1 mine, Greene county. Dora Benjiman, wrist hurt by mine car.
- December 3. Summit mine, Greene county. Nick Woods, hurt by falling coal.
- December 19. Summit mine, Greene county. Wm. Brown, caught by a mine car.
- December 3. Dugger mine, Sullivan county. Jasper A. Cumbaugh and W. U. Somers, hurt by delayed shot.
- December 20. Parke No. 8 mine, Parke county. Frank O'Donnel, back bruised by falling slate.
- December 11. Phenix mine, Sullivan county. James Anderson, ankle sprained by a mine car.
- December 17. Phenix mine, Sullivan county. Joe Drake, ankle sprained by a car.
- December 17. Phenix mine, Sullivan county. James Wilson, finger mashed on right hand by a car.

Table showing the causes of accidents occurring during the year

CAUSE.	Fatal.	Serious.	Minor.	Total.
Fall of roof.....	12	21	20	53
Fall of coal.....	.....	9	14	23
By mine cars	3	8	13	24
By explosion of gas .....	.....	2	.....	2
By explosion of blasts	2	4	3	9
By cages in shaft	2	2	2	6
By railroad cars .....	.....	1	2	3
Miscellaneous.....	1	5	8	14
Fell down shaft	3	1	.....	4
Totals.....	23	53	62	138

Table showing the number of accidents in each county during the year.

COUNTY.	Fatal.	Serious.	Minor.	Total.
Clay	6	24	28	58
Daviess .....	.....	1	1	2
Fountain .....	.....	1	.....	1
Greene	1	5	6	11
Knox	2	1	.....	3
Owen .....	.....	.....	.....	.....
Parke	4	6	8	18
Perry .....	.....	.....	.....	.....
Pike	1	.....	.....	1
Sullivan.....	3	5	11	19
Vanderburgh	2	1	1	4
Vermillion .....	.....	2	.....	2
Vigo	2	6	6	14
Warriek.....	2	1	1	4
Totals.....	23	53	62	138

It will be seen from the above table that falls of roof and coal are responsible for more than half the accidents happening in the State. In a large majority of cases accidents from these causes are to be attributed to the carelessness either of the person injured or that of the person whose duty it is to see that travelling ways in the mines are made safe.

There are some exceptions to this rule, as an examination will not always discover defects in the roof of the mine, however carefully it may be made. Still it can not be too strongly urged upon those charged with the duty of making this examination, and the persons who are to incur the danger, that a frequent and careful examination of the roof and coal in the travelling ways and at the working places is absolutely necessary to render the work of the mine employe even comparatively safe. The

three fatal injuries resulting from mine cars during the year were of such a character that the persons injured were largely responsible for the accidents. Two of them were of drivers who were riding upon the front end of the cars, so that they could be near their mules, which is a very common practice in the mines, though the law expressly forbids any person from riding upon a loaded car. This is treated as implying an exception in the case of drivers and persons in charge of cars where haulage systems are employed, and indeed it appears that this exception is necessary. The most that the Inspector can do in such cases is to recommend that extraordinary care be taken to prevent accidents, by the persons whose duty requires them to occupy such places.

Of the accidents noted as having been caused by the explosion of blasts, all but two were caused by persons becoming impatient of waiting for their shots to explode after having been lighted, and in returning to see what was wrong the explosion took place while they were in range of coal thrown from the shot. These could have been prevented by allowing the proper time to elapse before returning to see whether the fuse had died out. Of the two exceptions, one was caused by a shot blowing through a pillar and the other occurred while a missed shot was being drilled out. Accidents of the first kind can be prevented by pillars being left at proper thickness, as would be done if the mine was properly surveyed, and their occurrence is the fault of the persons in charge of the mine. Death from falling down the shaft might have been prevented by compliance with the law requiring safety-gates to be placed upon the top of the shaft. One of them occurred at a mine where less than ten men were employed, and to which the Mining Law does not apply, and the others were caused by gates being left open. I found a great deal of reason to complain of this when I first began my inspection, but during the last few months of the year I inspected but one mine where the gates are not kept closed, except when in actual use.