



DRAWING A PILLAR IN GREEN VALLEY MINE, NEAR JASONVILLE, IND.

REPORT OF THE STATE INSPECTOR OF MINES
FOR THE YEAR 1908.

BY

JAMES EPPERSON

Office of Inspector of Mines,
Indianapolis, February 25, 1909.

PROF. W. S. BLATCHLEY, *State Geologist*:

Dear Sir—I have the honor to submit to you herewith my tenth annual report as Inspector of Mines, covering the calendar year of 1908, and being the Thirtieth Annual Report of this department and the eighteenth made to the Department of Geology and Natural Resources.

I trust it will receive your approval and be found worthy of consideration by the public.

JAMES EPPERSON,
Inspector of Mines.

CONTENTS.

	PAGE.
Letter of transmittal.....	154
Introduction.....	156
Summary.....	156
Conditions of coal trade.....	158
Average wage table.....	159
Strikes.....	161
Terre Haute agreement.....	163
Brazil agreement.....	173
Monthly table production wages.....	182
Changes in ownership.....	184
New Mines.....	185
Old Mines re-equipped.....	188
Improvements.....	188
Abandoned Mines.....	188
General table production wages.....	191
Employes table.....	205
Table showing kegs of powder used in block machine mines.....	210
Table showing kegs of powder used in Hand Mines.....	210
Table showing kegs of powder used in Bituminous machine mines.....	210
Table showing kegs of powder used in Bituminous hand mines.....	210
Geological table of mines.....	211
Examinations.....	218
Accidents to Mine employes.....	222
Table showing causes of accidents to employes.....	222
Summary of Fatal accidents.....	242
Comparative table of fatal accidents 1898 to 1908.....	244
Permanent accidents.....	245
Serious accidents.....	246
Table showing occupations of persons killed or injured.....	256
Table showing nationality of persons killed or injured.....	256
Legislation and its effect on Mine accidents.....	257
Accidents to mine property.....	267
Mine Directory.....	270

Thirtieth Annual Report of the Inspector of Mines for the State of Indiana.

STATISTICS OF COAL, LABOR AND MINE CASUALTIES, LEGISLATION AND GENERAL INFORMATION RELATING TO THE MINING INDUS- TRY FOR THE YEAR ENDING DECEMBER 31, 1908.

In compiling this report we include only such matters as we think will be of interest to the general public. In many instances the subject and the manner in which it has been treated was suggested through numerous inquiries made of the department for certain information concerning Mines and Mining.

The various statistical tables relating to coal production, labor, wages, mules, powder and mine casualties have been given along the same general lines as in our former reports, including certain additional information and improvement on their arrangement.

In treating the subject of legislation we comment on certain mining laws enacted, amendments needed, the repeal of the drill bitt law and the effect mine legislation may have in preventing accidents to employes.

A reference to the various subjects included in the report will be found in the following summary, which contains most of the totals for the State for the year:

SUMMARY FOR THE YEAR 1908.

Number of coal producing counties.....	18
Number of counties having shipping mines.....	14
Number of coal seams operated in the State.....	6
Number of new coal companies organized.....	11
Total number of coal companies operating in the State.....	104
Number of new block coal mines opened.....	1
Number of new bituminous mines opened.....	11
Number of block coal mines abandoned.....	7
Number of bituminous mines abandoned.....	21
Number of old bituminous mines re-equipped.....	2
Number of block coal mines in operation	29
Number of block coal mines idle	2
Number of bituminous mines in operation	139
Number of bituminous mines idle	18
Number of electric chain machine mines.....	62

Number of compressed air punching machine mines.....	11
Total number of machine mines	73
Total number of hand mines	115
Total number of mines employing more than ten men.....	138
Number of pick miners block coal mines.....	1,207
Number of pick miners bituminous mines	7,452
Number of machine runners and helpers block mines	34
Number of machine runners and helpers bituminous mines..	924
Number of loaders block coal mines.....	98
Number of loaders bituminous mines	3,819
Number of inside day and monthly men block mines	400
Number of inside day and monthly men bituminous mines..	3,607
Number of outside day and monthly men block mines.....	166
Number of outside day and monthly men bituminous mines.	1,385
Total number of employees.....	19,092
Number of kegs powder used in block coal mines.....	43,213
Number of kegs powder used in bituminous mines.....	358,134
Total number of kegs powder used in the State.....	401,347
Total number of days mines were operated.....	27,037
Tons hand mined block coal.....	736,668
Tons machine mined block coal.....	116,292
Total tons block coal.....	852,960
Tons screened coal, bituminous, hand mined.....	2,097,681
Tons slack and nut coal, bituminous, hand mined.....	1,302,909
Tons mine-run coal, bituminous, hand mined.....	2,491,135
Total tons hand mined bituminous coal.....	5,891,725
Tons screened coal, bituminous, machine mined.....	1,657,918
Tons slack and nut coal, bituminous, machine mined.....	900,014
Tons mine-run coal, bituminous, machine mined.....	2,694,687
Total tons machine mined bituminous coal.....	5,252,619
Total tons bituminous coal produced.....	11,144,344
Total production for the State.....	11,997,304
Tons block coal shipped outside the State.....	498,803
Tons block coal consumed in the State.....	354,157
Tons bituminous coal shipped outside the State.....	4,778,512
Tons bituminous coal consumed in the State.....	6,365,832
Total tons coal shipped outside the State.....	5,277,315
Total tons coal consumed in the State.....	6,719,989
Wages paid to miners	\$6,947,641 79
Wages paid to inside employees	\$2,391,528 77
Wages paid to outside employees	\$965,698 88
Total wages paid to employees.....	\$10,304,869 44
Total money expended on improvements.....	\$75,000 00
Number of fatal accidents	45
Number of permanent accidents	3
Number of serious accidents	375
Number of minor accidents	452
Number of accidents to mine employes	875
Number of accidents to mine property.....	13

CONDITIONS OF COAL TRADE.

The demands for coal, market prices, mining conditions and the conditions of coal trade in general throughout the State for 1908 were exceptionally poor, as relating to both miners and operators. The slack trade was due to the large number of factory and other consumers of coal closing down and the low prices to the extremely sharp competition in securing trade. A number of the largest producing mines were closed down the entire year and a number operated less than half time. The wage scale being made a year previous when better mining conditions prevailed, was the highest in the history of the State, thus the operator faced the proposition of unusually slack market demands, high prices paid for labor and low prices for his product. The miner faced the proposition of a high wage scale and a slack demand for his services.

The total production for the year was 11,997,304 tons, or a decrease of 2,253,411 tons under 1907. Of this tonnage 11,144,344 tons were bituminous coal, a reduction of 1,231,138 tons of 9.9% under 1907; and 852,960 tons of block coal, a decrease of 22,273 tons or 2.6% under 1908.

The total wages reported for the bituminous coal was \$9,268,922.62, a cost of 83.1+ cents per ton for production. The total wages reported from the Block coal mines was \$1,035,946.62, or a cost of \$1.20 per ton for production. The selling prices for bituminous coal during the year, ranging from 95 cents to \$1.20 for mine-run coal, a probable average would be \$1.10 per ton. Block coal prices ranged from \$2.00 to \$2.75 per ton for screened coal F. O. B. cars at mine; a fair average would probably be \$2.35 per ton.

Our report shows a total of 19,092 employes, an increase of 83 employes over 1907, and an aggregate of \$10,304,869.44 in wages, or an average of \$539.74 per mine employe, which shows a reduction of \$76.69 per employe under 1907. Added to the large reduction in the average earnings of employes, the prices of living were much higher than in 1907.

The average wages of all classes of mine employes are given in the following table:

TABLE

Exhibiting the Number of Miners, the Number of Inside Day and Monthly Men, the Total Wages Earned by Same and Average Earnings per Employe, in the Block and Bituminous Mines, Each Exhibited Separately.

BLOCK COAL MACHINE MINES.

COUNTY.	Number of Miners.	Total Wages.	Average Wages.	Number of Inside Employes.	Total Wages.	Average Wages.	Number of Outside Employes.	Total Wages.	Average Wages.
Parke.....	68	\$49,294 91	\$724 92	37	\$23,150 00	\$625 67	12	\$10,804 19	\$900 35
Vigo.....	167	77,359 81	463 23	53	32,688 43	616 76	25	12,214 98	488 59
General average block machine mines.....	235	\$126,654 72	\$538 95	90	\$55,838 43	\$620 42	37	\$23,019 17	\$622 13

BLOCK COAL HAND MINES.

Clay.....	792	\$376,325 52	\$475 15	208	\$140,276 47	\$674 40	94	\$72,177 38	\$767 84
Parke.....	342	150,953 03	441 38	102	57,714 97	565 83	35	32,986 93	942 48
General average hand block mines.....	1,134	\$527,278 55	\$464 97	310	\$197,991 44	\$638 68	129	\$105,164 31	\$815 22
General average block coal mines.....	1,369	\$653,933 27	\$477 67	400	\$253,829 87	\$634 57	166	\$128,183 48	\$772 18

TABLE EXHIBITING NUMBER OF MINERS, ETC.—Continued.

BITUMINOUS HAND MINES.

COUNTY.	Number of Miners.	Total Wages.	Average Wages.	Number of Inside Employees.	Total Wages.	Average Wages.	Number of Outside Employees.	Total Wages.	Average Wages.
Clay.....	321	\$137,309 36	\$427 77	94	\$39,213 46	\$417 16	35	\$12,698 88	\$362 53
Davies.....	109	36,172 90	331 86	21	12,320 96	586 71	19	9,579 35	504 17
Fountain.....	39	11,463 36	293 93	12	6,023 96	501 99	5	980 88	196 17
Greene.....	533	210,576 83	395 07	146	55,749 33	381 84	60	29,320 70	488 67
Gibson.....	134	107,876 63	805 05	53	42,716 59	805 97	22	12,546 02	570 27
Knox.....	56	20,774 36	370 98	15	6,488 71	432 58	7	3,997 28	571 04
Parke.....	155	81,332 57	524 72	63	27,817 41	441 54	16	10,621 68	663 85
Perry.....	15	2,667 45	177 83	3	819 72	273 24	3	531 80	177 26
Pike.....	441	195,704 12	443 77	114	60,184 11	527 93	57	26,025 17	456 58
Sullivan.....	321	82,158 64	255 94	112	33,711 17	300 99	56	18,075 06	322 76
Vanderburgh.....	309	174,799 76	565 69	79	53,224 52	673 72	50	38,210 94	764 21
Vermillion.....	1,193	695,298 08	582 81	305	204,042 96	668 99	73	46,689 01	639 57
Vigo.....	2,014	1,114,578 72	553 41	514	340,957 62	663 34	163	112,703 88	691 43
Warrick.....	150	66,234 11	441 56	22	15,230 96	692 31	21	9,970 06	474 76
General average of bituminous hand mines.....	5,790	\$2,937,046 89	\$507 26	1,553	\$898,541 48	\$578 58	587	\$331,950 67	\$565 50

BITUMINOUS MACHINE MINES.

Clay.....	347	\$114,421 16	\$329 74	83	\$60,560 95	\$729 65	39	\$44,303 47	\$1,135 98
Greene.....	1,859	1,002,139 93	539 07	603	341,186 61	565 81	198	28,961 98	146 27
Knox.....	347	173,869 31	501 05	154	57,051 83	370 46	52	36,777 62	707 26
Parke.....	187	122,810 30	656 73	68	53,320 70	784 12	24	19,118 87	796 61
Pike.....	83	39,791 33	479 41	19	14,250 91	750 04	15	10,010 42	667 36
Sullivan.....	2,300	1,331,548 91	578 93	813	537,850 07	661 56	314	190,207 00	605 75
Vermillion.....	72	45,662 54	634 20	15	17,024 15	1,134 94	9	3,326 25	369 58
Vigo.....	829	385,371 12	464 86	223	117,849 48	528 47	91	45,740 79	502 64
Warrick.....	351	141,047 03	401 84	76	40,062 72	527 14	56	27,118 33	484 25
General average Bituminous machine mines.....	6,375	\$3,356,661 63	\$526 53	2,054	\$1,239,157 42	\$603 28	798	\$505,564 73	\$633 53
Total general average Bituminous mines.....	12,165	\$6,293,708 52	\$517 36	3,607	\$2,137,698 90	\$592 65	1,385	\$837,515 40	\$604 70
Total general average per all mines.....	13,534	\$6,947,641 79	\$513 34	4,007	\$2,391,528 77	\$596 83	1,551	\$965,098 88	\$622 63

Notz.—Machine runners, helpers and loaders are classed as miners.

STRIKES.

There were a number of strikes in different parts of the State during the year, but with two exceptions, they affected only individual mines and were of but a few days' duration.

The two exceptions noted were the general strike in the Bituminous fields and the Hudson Mine strike. We have been unable to secure complete data on these strikes and can give but a brief outline as to the cause and the adjustment of each difficulty.

STRIKE IN DISTRICT NO. 11.

The International Convention of the United Mine Workers of America convened in Indianapolis January 18th, at which meeting it was agreed that the members of the organization in different States or localities should open negotiations with the operators in their respective districts with a view to securing a new wage agreement to become effective at the expiration of the contract then in force.

Pursuant to the Indianapolis agreement, the block coal miners and operators comprising District No. 8 met in joint convention March the 28th and formulated a scale covering the ensuing two years, and work continued in that district without interruption.

The bituminous miners and operators of District No. 11 met in joint convention April 1st, but failed to reach an agreement.

During the time this conference was in progress International President W. T. Lewis succeeded in arranging for a joint conference of the miners and operators of Ohio, Indiana and Western Pennsylvania, to be held in Toledo, Ohio, April 17th. At this conference the mining rates, day wage scale and general prices in existence in 1908 were reaffirmed, internal differences, however, both as to prices and conditions, were referred for adjustment to the different districts affected. There were a number of differences, "mainly relating to conditions," existing between the Indiana operators and miners, and the endeavor to reach an agreement was continued either in convention or through the officers and committees of the two organizations, the mines continuing in operation pending the outcome.

This condition prevailed until May the 12th, when all negotiations were broken off by the miners voting in convention a strike to take effect the 15th following. The miners came out as per vote of the convention, and the strike continued until the 28th, at which

time President Lewis succeeded in having the strike order rescinded. When this was done, negotiations were again opened between the contending parties, and after a three days' convention a contract was agreed upon, covering the period from April 1, 1908, to April 1, 1910.

STRIKE AT THE HUDSON MINE.

During the month of August a controversy between one of the drivers and the mine boss at this mine arose over the former refusing to haul coal under a piece of slate which he claimed was loose and dangerous on one of the haulage roads; the mine boss contended that the slate was not dangerous, and discharged the driver for refusing to drive under it.

The miners demanded that the driver be reinstated, and on the mine boss refusing to conform to the demand, a strike was called. The Bituminous Operators' Association declared the strike was called in violation of contract provisions and notified the national officers of the Miners' Organization that contract relations would cease until the mine had resumed work, pending a settlement of the controversy through the proper channels as provided for in the contract between the two organizations.

In order that their relations be restored and the conditions of the contract be observed, National President Lewis requested of W. D. Van Horn, State President of the Miners' Organization, that he order the mine to resume work, after which they would take up the case in dispute in the proper manner. Van Horn refused to accede to the request, and President Lewis then appealed to the Hudson Mine Local Union, who also refused to be governed by their National President, whereupon President Lewis took away their charter.

The strike was continued until November 24th, when a settlement was arrived at by the company reinstating the discharged driver.

AGREEMENTS.

We give herewith copies of the Terre Haute and Brazil agreements made between the Operators and Miners of District 8 in the Block Coal field and District 11 in the Bituminous field:

TERRE HAUTE AGREEMENT

Arranged and adopted by and between the United Mine Workers of District 11 and the Indiana Bituminous Coal Operators' Association, effective during the scale years from April 1, 1908, to April 1, 1910.

It is hereby agreed:

ARTICLE I.

Section 1. That the bituminous coal district of Indiana shall pay fifty-five cents (55 cents) per ton for all mine-run coal loaded and shipped as such. All other coal mined in that district shall be passed over regulation screen and be paid for at the rate of ninety cents (90 cents) per ton of two thousand (2,000) pounds for screened lump.

Sec. 2. The standard height of coal in Indiana shall be 3 feet 3 inches in mines opened prior to April 1, 1901, and in mines opened since April 1, 1901, the standard height shall be 3 feet 6 inches. All coal less than 3 feet 3 inches in thickness and over 2 feet 9 inches, the price shall be 98 cents per ton for screened lump coal, and 64 cents per ton for mine-run coal. All coal less than 2 feet 9 inches and down to 2 feet 6 inches the price shall be 106 cents per ton for screened lump coal and 65 cents per ton for mine-run coal.

Sec. 3. That the screen hereby adopted for the bituminous district of Indiana shall be uniform in size, six (6) feet wide by twelve (12) feet long, built of flat or Akron-shaped bar, of not less than five-eighths ($\frac{5}{8}$) of an inch surface, with one and one-fourth ($1\frac{1}{4}$) inches between bars, free from obstructions, and that such screens shall rest upon a sufficient number of bearings to hold the bars in proper position.

ARTICLE II.

MACHINE MINING.

Price Per Ton for Machine Mining for Punching Machine.

Vandalia track and north thereof:

Section 1. Screened Lump—Runner, $11\frac{1}{2}$ cents; helper, $10\frac{1}{2}$ cents; loading, shooting and timbering, 50 cents. Total, 72 cents.

Sec. 2. Run of Mine—Runner, $7\frac{1}{2}$ cents; helper, 7 cents; loading, shooting and timbering, $30\frac{1}{2}$ cents. Total, 45 cents.

South of Vandalia track:

Sec. 3. Screened Lump—Runner, $10\frac{1}{2}$ cents; helper, $9\frac{3}{10}$ cents; loading, shooting and timbering, $52\frac{2}{10}$ cents. Total, 72 cents.

Sec. 4. Run of Mine—Runner, $6\frac{6}{10}$ cents; helper, $6\frac{1}{10}$ cents; loading, shooting and timbering, $32\frac{3}{10}$ cents. Total, 45 cents.

For Chain Machine.

Sec. 5. Screened Lump—Runner, $6\frac{1}{4}$ cents; helper, $6\frac{1}{4}$ cents; loading, shooting and timbering, 56 cents. Total, $68\frac{1}{2}$ cents.

Sec. 6. Run of Mine—Runner, 4 cents; helper, 4 cents; loading, shooting and timbering, $34\frac{1}{2}$ cents. Total, $42\frac{1}{2}$ cents.

Sec. 7. Machine shovels shall be furnished by the operators, but when

replaced the old shovels must be returned, and in case of careless breaking or destruction the helper shall pay for the shovel so destroyed. Coal companies shall also furnish coal shovels for the machines when the use of such shovels is demanded by the company.

Day Work for Punching Machines.

Sec. 8. Machine work, when paid for by the day, shall be for machine runner, \$3.17; helper, \$2.56.

Day Work, Chain or Cutter Bar Machine.

Sec. 9. When paid for by the day shall be, for machine runner, \$3.01; helper, \$3.01. Day work by machines shall apply only to opening new mines and defective work, such as horsebacks, etc.

ARTICLE III.

Yardage and Room Turning Machine.

Section 1. In entries 7 to 9 feet wide, \$1.34; in entries 12 feet wide, $\frac{5}{8}$ of price of narrow entries, or 83 $\frac{1}{4}$ cents. Narrow work after punching machines shall be sheared when demanded by the operator. Narrow work after the chain machine must be done in a workmanlike manner.

Sec. 2. Break-throughs between entries same as entry prices. Break-throughs between rooms shall be paid for at same price when similarly driven.

Sec. 3. In narrow entries and narrow break-throughs between entries in chain machine mines the loader shall receive \$1.18 per yard and the machine runner and helper each 8 cents per yard, and in wide entries the same proportion. In entries and break-throughs between entries in punching machine mines the loaders shall receive \$1.14 per yard and the runner and helper each 10 cents per yard, except where coal is sheared, in which case the runner and helper shall receive all the yardage, and where machines are worked by the day the loaders shall receive all the yardage.

Room Turning—Machine Mines.

Sec. 4. Room turning, \$3.37 $\frac{1}{2}$. Room necks to be driven 12 feet in and widened at an angle of 45 degrees when so desired by operators. Any distance in excess of above shall be paid for proportionately, but no room neck shall exceed 15 feet. When room necks are driven 12 feet wide, price shall be $\frac{5}{8}$ of regular price, or \$2.10.

ARTICLE IV.

Yardage and Room Turning—Pick Mines.

Section 1. Narrow entries 7 to 9 feet wide, \$1.86 $\frac{3}{4}$ per yard. Wide entries 12 feet wide, \$1.16 $\frac{1}{2}$ per yard.

Sec. 2. Wide entries shall not be more than 13 feet nor less than 11 feet. In the event of a 10 or 11-foot entry being demanded by the operator, narrow entry prices shall be paid, if 14, 15, 16 or 17-foot entries are demanded the wide price shall be paid.

Sec. 3. Break-throughs between entries shall be paid for at entry prices. Break-throughs between rooms, when sheared or blocked, shall be paid for at entry prices, but no break-throughs shall be driven without consent of the operators. Nothing herein shall interfere with the law governing break-throughs.

Sec. 4. Room turning, \$4.50. Room necks to be driven 12 feet in and widened at an angle of 45 degrees when so desired by the operator. Any distance in excess of above shall be paid for proportionately, but no room neck shall exceed 15 feet. When room necks are driven 12 feet wide the price shall be $\frac{5}{8}$ of regular price, or \$2.81 $\frac{1}{4}$, and the right of the operators to drive an 18-foot room when necessary shall not be questioned.

Sec. 5. The price for mining herein agreed to for pick and machine work shall include all labor necessary to cut the coal, drill and blast the same, load it on the miner's car and properly care for and timber the miner's working place, and no division of the scale shall carry any exception to this rule. In case a miner fails to properly timber, shoot and care for his working place so any of the company's property is injured, the miner whose fault has occasioned such damage shall repair the same without compensation. Provided, however, that where shot-firers are employed and partially paid by the company the condition shall continue during the life of this agreement.

Blacksmithing.

Sec. 6. Price of blacksmithing shall be 1 $\frac{1}{4}$ cents on the dollar. Sharpening shall be done in a workmanlike manner, and men shall not have to wait for their tools.

ARTICLE V.

Day Labor.

Section 1. The wages of inside day labor shall be \$2.56 per day of eight hours where and when men are employed, except as herein provided.

Sec. 2. The wages of spike team drivers shall be \$2.80 per day. The drivers shall take their mules to and from the stables, and the time required in so doing shall not include any part of the day's labor, their work beginning when they reach the change at which they receive empty cars, but in no case shall a driver's time be docked while he is waiting for such cars at the point named.

Sec. 3. The wages of motor men shall be \$3.01 per day, and trappers \$1.13 per day.

Sec. 4. The wages of outside men except as herein provided shall be \$2.02 $\frac{1}{2}$ per day of eight hours on and north of the B. & O. S. W. R. R., and south of the B. & O. S. W. R. R. the wages shall be 20 $\frac{1}{4}$ cents per hour.

Sec. 5. The blacksmith's wages shall be \$2.94 per day of nine hours at all mines north of the B. & O. S. W. R. R., and in addition to his ordinary duties he shall do any other labor required of him by the mine management. Provided, however, that he shall receive his regular wages therefor.

Sec. 6. All day men shall at all times do and perform any and all kinds of labor required of them by the mine management. Provided, however, that on idle days men shall have an equal division of the work they

usually perform when the mine hoists, and where men are employed as drivers, cagers and motor men they shall have an equal share of all extra work, such as cleaning roads, getting in rails, timber or any other work required of them, when the same does not interfere with the work of other men, and day work shall be done on idle days and in cases of emergency on overtime.

Sec. 7. In the absence of any driver, any miner who can drive shall be expected to do so when requested. Any miner leaving his place to drive shall be permitted to load one car for each day that he drives.

Sec. 8. All day laborers working at the mines, excepting weighmasters, head flat-trimmer, dumper, fire bosses and boss drivers, who shall be regarded strictly as company men, shall be recognized as members of the U. M. W. of A. In emergencies or in the absence of any regular employe the right of the operator to employ men not members of the U. M. W. of A. for outside day labor shall not be questioned. Any and all flat-trimmers shall dock for dirty coal.

Sec. 9. The above scale is based upon an eight-hour work day; that it is definitely understood that this shall mean eight hours' work at the face, exclusive of the noon time, six days in the week, and that no local ruling shall in any way deviate from this agreement or impose conditions affecting the same, but any class of day labor may be paid at the option of the operator for the number of hours and fraction thereof actually worked at the hour rate, based on one-eighth of the scale rate per day; provided, that when men go into the mine in the morning they shall be entitled to two hours' pay whether the mine works or not, excepting in event of a mine being closed down by action of any member or members of the U. M. W. of A. the two hours' pay shall be forfeited.

ARTICLE VI.

Engineers' Wages and Their Duties.

The engineers' wages shall be:

Section 1. First engineer, \$84.37; second engineer, \$73.13; third engineer, \$67.50.

Sec. 2. Eight hours shall constitute a day's work, but the engineers shall outside of regular hours hoist and lower the men, and in addition shall perform all the duties which necessarily and usually pertain and belong to an engineer's position, and shall not receive any extra pay therefor. It is agreed further that no hoisting engineer shall be subjected to the interference or dictates of the mine committee nor the local unions, but all the differences between the engineer and his employer shall be adjusted by the officers of the U. M. W. of A. and employer interested.

Sec. 3. In case of either local or general suspension of mining, either at the expiration of this contract or otherwise, the engineers shall not suspend work, but shall, when mining is suspended, fully protect all of the company's property under their care, and operate fans and pumps, and lower and hoist such men, mules or supplies as may be required, and any and all coal required to keep up steam at the company's coal plants, but it is understood and agreed that the operators will not ask them to hoist any

coal produced for sale on the market, and there shall be no change in engineers' wages during the suspension.

Sec. 4. All hoisting engineers at pick mines shall do the firing where the production does not exceed 300 tons of coal per day, and at machine mines in process of development until the production shall have reached 200 tons per day. Engineers shall do the firing on idle days at the option of operator, except when dynamos or compressors are being run to furnish power to operate mining machines to cut coal, but the services of the fireman shall not be dispensed with where a mine ceases hoisting coal in the midst of a shift.

Sec. 5. The wages of firemen shall be: Per day of 10 hours, \$2.45; per month, \$65; per night of 12 hours, \$2.35; per month, \$63.50. The day firemen shall do and perform any service required of them by the mine management, and shall be entitled to an equal division of labor with other outside day men on idle days at such labor as they are competent to perform, and the night fireman, or watchman, in addition to his other duties, shall be responsible for the pumps within a distance of 250 feet from the main shaft bottom, and shall go into the mine when necessary to start them.

ARTICLE VII.

Dead Work.

Section 1. It is agreed that the companies shall have the working places as dry as local conditions will permit, and said working places shall be in working condition at time of starting work in the morning. If any company shall fail to have said working places dry or reasonably so one hour after starting time two successive days, the company shall, if said failure is traceable to neglect or carelessness of the company's agent, give miner or miners so affected other work or pay him or them for time so lost.

Sec. 2. The question of slate in or over the coal shall be and is regarded a local question to be taken up and adjusted by the methods provided in the annual Terre Haute agreement for the settlement of disputes. Provided, however, that established usages and prevailing conditions shall not be changed except in new mines where they have not been considered and adjusted.

Sec. 3. Where bottom coal is excessively hard to take up the operator shall have the option. If he demands that it be taken up he shall pay extra therefor: Provided, that where coal so left shall exceed 4 inches in thickness it shall be taken up by the loaders and paid for by the machine men, but this shall not apply when caused by sulphur boulders, rock or any unusual condition. And whenever there shall arise a dispute between any loader and boss, or committee and boss as to whether the bottom coal in any room is "excessively hard," the company interested shall select a man who shall take up one-third of such bottom coal, and if by such test it requires more than forty minutes to take up all the bottom coal in such room then the loader shall be paid at the rate of 32 cents per hour for such time so required in excess of forty minutes. This is to apply to the No. 4 vein of Linton coal.

Sec. 4. In mines where it is necessary to remove top or bottom in working places, commonly known as brushing, the following scale shall be paid:

Sec. 5. When necessary to shoot top or bottom in entries 9 inches in thickness, 45 cents per yard, and 5 cents per inch per yard for any additional thickness. In rooms where necessary to shoot 9 inches in thickness, 36 cents per yard, and for each additional inch 4 cents.

Sec. 6. When brushing is necessary and can be done without shooting the price in entries shall be 4 cents per inch per yard, and in rooms 3 cents per inch per yard.

Sec. 7. No brushing shall be done nor paid for without ordered and amount specified by the mine boss. The miner doing the brushing in entries shall load or "gob" the same, as directed by the mine boss. In rooms the miner shall "gob" the refuse. Brushing shall be six feet wide in entries and five feet wide in rooms.

Where material is so hard that the drilling cannot be done with regular machine or churn drill the above scale does not apply.

ARTICLE VIII.

General.

Section 1. When the coal is paid for mine run it shall be mined in as good condition as when paid for on a screened lump basis, and when loaded on the miner's car it shall as nearly as possible be free from slate, bone coal or other impurities, and if any miner shall load impurities in such quantities as to indicate knowledge and intent he shall be discharged. In case of dispute the impurities shall be kept until the case has been disposed of.

Sec. 2. Wages shall be paid semi-monthly on or before the 10th and 25th of each month.

Sec. 3. The time of beginning work in the morning and the length of intermission at noon shall be considered a local question which must be so arranged as to secure eight hours' work per day.

Sec. 4. The duties of the mine committee shall be confined to the adjustment of disputes between the mine boss or superintendent and any of the members of the United Mine Workers of America working in and around the mines. The mine committee shall have no other authority, nor exercise any other control, nor in any way interfere with the operation of the mine, and for violation of this clause the committee or any member thereof shall be discharged.

Sec. 5. It is agreed that if any differences arise between an employer or employe in or about the mines an attempt shall be made to adjust the same by the person or persons affected, with the company's representative in immediate charge. If they fail to agree the question shall be referred to the mine boss and mine committee. If they fail to agree it shall be referred to the president of District 11, U. M. W. of A., and the secretary of the Indiana Bituminous Coal Operators' Association, whose decision shall be final. It is imperative on the part of the two officials to reach an agreement on all questions referred to them and that the dispute shall be settled within five days, unless longer time is agreed to by the two officials named: Provided, that nothing in this clause shall pre-

vent the district officers from taking up for adjustment any dispute with the officers of the company affected.

Sec. 6. That pending negotiations the miners shall not cease work because of any dispute, and an agreement reached at any stage of the proceedings shall be binding on both parties thereto, and not subject to review or revision of any other party or branch of either association.

Sec. 7. That under no circumstances will the operators recognize or treat with a mine committee or any representative of the United Mine Workers of America during the suspension of work contrary to this agreement.

Sec. 8. No restriction shall be placed on the amount of coal which machines may mine, nor upon the number of places in which machines may cut, nor upon the number of loaders that may work after one machine, nor upon the amount of narrow work that any machine runner may be required to do, nor upon the number of cars that any miner may load in any specified time.

Sec. 9. The operators shall have the privilege of working a night shift for cutting coal with machines. All men so employed shall be paid 28 cents extra for each eight hours' work at night in addition to the scale price per ton.

Sec. 10. Work on driving entries and drawing pillars may be by double shift at the option of the operator.

Sec. 11. This contract shall in no case be set aside because of any rules of any local union of the U. M. W. of A. Nor shall there be any rules made controlling or affecting the operations of the mines nor shall any change be made in accepted rules without the operators and miners first consulting and agreeing thereto.

Sec. 12. All local rules in violation of this contract shall be null and void, and no local union nor group of local unions shall pass any rules in violation, neither shall any company enforce any rule in violation of this contract.

Sec. 13. Coal may be dumped as slowly as the operator may find necessary to thoroughly screen it, even if the car is brought to a stop, but it shall not be dumped in such a way as to throw the coal over the car door or unnecessarily break it.

Sec. 14. Any miner knowing his place to be unsafe shall protect same without delay and shall go into the mine for that purpose outside of regular hours and on idle days.

Sec. 15. Men shall work double in wide entries at option of operator in developing the mine or for running entries for purpose of increasing production.

Sec. 16. Where three places are now given to two loaders the custom shall continue.

Sec. 17. No more than three places for two men nor two places for one man shall be allowed. In mines where the coal averages 6 feet high or over, rooms 30 feet wide or over equipped with two tracks shall be considered double places, and two loaders may be limited to two such places.

Sec. 18. In Sullivan County where men work double in two rooms 25 to 30 feet wide, with track up the center, the custom shall continue.

Sec. 19. Whenever a new mine is opened it shall be governed by the same rules existing in other contiguous mines in the same vein of coal.

Sec. 20. The price of powder per keg shall be \$1.75. The miners agree to purchase the powder from their operators, provided it is furnished of standard grade and quality, that to be determined by the operators and expert miners jointly where there is a difference.

Sec. 21. It is further agreed that the operator shall deliver the powder to the working places of the miners, and will use all reasonable precautions to insure a safe delivery of same, and will co-operate with the mine committee in tracing powder lost in transit, but shall not in any way be responsible for powder lost, except in case where the loss is caused by the direct negligence of the operator or mine management, and in the event of kegs being broken or powder being caked, powder shall be replaced; provided, however, that where miners carry their powder from magazine to inlet the practice shall continue.

Sec. 22. All local rules regarding the number of cars required above the tippie south of the Vandalia are hereby abolished, and in lieu of which it is agreed that the operators shall blow the whistle at 8 o'clock in the evening when intending to work the following day, and again at 5 o'clock in the morning if cars are there or promised by the railroad company to be there at 7 o'clock, or starting time. If the company blows the whistle at 5 o'clock a. m. without the promise of cars and the miners report for work at 7 a. m., or starting time, and there are no cars the company shall pay to the local union a fine of \$25.

Sec. 23. The U. M. W. of A. shall have no jurisdiction nor exercise any control over construction work, such as the erection of tipples or mine buildings, scales, machinery or screening apparatus necessary to hoist and prepare coal.

Sec. 24. Where dirt must be removed to prepare pillars the miner shall be paid as agreed upon by miner and mine boss, or company, to remove same.

Sec. 25. An employe absenting himself from work for three days without a reasonable excuse, or having notified the mine manager and obtained his consent, may be discharged. This shall mean starting time of the third day.

Sec. 26. All miners shall put down their points and last pair of rails in their working places, and shall nail one end of same, but are not expected to tie and permanently lay their road.

Sec. 27. The chief electrician shall be exempted from control of mine committee or local union, but in case of any dispute between him and the company the district officers shall adjust the same with officers of company involved.

Sec. 28. Where any company operate more than one mine on the same line of road and in the same vein of coal, the work between the respective mines shall be as nearly as business conditions will permit equally divided.

Sec. 29. All machine men shall work on idle days at operators' option to make up time lost on previous working day.

Sec. 30. Every miner shall be given an opportunity to load an equal turn with every other miner doing the same class of mining. Where pick

and machine miners are working in the same mine the turn shall be in proportion to the ratio between pick mining prices and machine loading prices.

Sec. 31. The check weighman shall furnish the boss driver or mine boss from day to day a turn sheet, and he shall cause the turn to be regulated: Provided, further, that no run or entry in machine mines shall be permitted to get more than five cars in advance of another run or entry, and in pick mines not more than two cars, except in case of accident.

Sec. 32. It is further agreed that the operators shall offer no objection to the check-off for the check weighman, and for dues for the U. M. W. of A., provided that no check-off shall be made against any person until he shall have first given his consent in writing to his employer. This applies to all day work as well as miners.

ARTICLE IX.

Section 1. It is agreed that when miners come out or stay out of the mine for the purpose of redressing a grievance, real or supposed, thus entirely or partially shutting down mine or mines contrary to agreement, each employe so ceasing or refraining from work shall be fined in the sum of one dollar per day during such shut-down.

Sec. 2. Any mine manager, superintendent or mine boss who shall fail to comply with the expressed provisions of this contract shall be fined \$5 for the first offense and for each and every subsequent offense. It is understood and agreed that the penalty imposed in this paragraph shall not apply to Section 31, Article 8, or to violation of local rules that have not been agreed to by mine manager and mine committee and reduced to writing and forwarded to the secretary of the operators and president of District 11. The fine thus assessed shall be deducted from each person so offending through the pay roll, and this agreement is the company's authority for making such deductions.

Sec. 3. It is agreed that any employe showing that he spoke against or was not present when a suspension of work was ordered or took place, fine shall be refunded to such employe furnishing such evidence, and all money collected as fines shall be divided equally between District 11, U. M. W. of A., and the Indiana Bituminous Coal Operators' Association.

Sec. 4. It is agreed that in the event of an inside employe being wrongfully discharged, and it is so discovered by methods herein provided, and by the same methods is reinstated, he shall be paid for time lost at the rate per day prevailing for inside day labor; provided, however, that the company shall have the option of permitting the accused to continue at work pending the investigation, and the same shall apply to outside day laborers, except the outside day labor scale shall be paid.

Sec. 5. Except in cases of fatal accidents in the mine the mine shall in no case be thrown idle because of any death or funeral; in the event of a fatal accident in the mine the employes may discontinue work for the remainder of the day, but work at the option of the operator shall be resumed the day following and continue thereafter. Nothing herein shall be construed to prevent an employe from absenting himself from work to attend the funeral of a fellow employe or member of his family.

Sec. 6. In consideration of the observances of the above rule and the

enforcement of same it is agreed that the following schedule of death benefits shall be paid to all parties entitled to receive the same: For a man, \$50; for an employe's wife, \$50; for any member of the family over the age of fourteen years, excepting married children, \$35; the company to pay one-half of the above amounts and the local union the remainder: Provided, however, that in the event of the mine being thrown idle on the day of any funeral by reason of an insufficient number of men reporting for work, then the company shall not be expected to pay any part of the amounts herein named.

In behalf of the U. M. W. of A.:

W. D. VAN HORN, President,
District No. 11, U. M. W. of A.
CHAS. FOX, Sec'y. and Treas.,
District No. 11, U. M. W. of A.
D. N. CURRY, Vice-President,
District No. 11, U. M. W. of A.

In behalf of Indiana Bituminous Coal Operators' Association:

J. C. KOLSEM, President.
P. H. PENNA, Secretary.

HUGH SHIRKIE,
JNO. K. SEIFERT,
JOHN HEWITT,
Committee.

AGREEMENT OF ROLL COMMITTEE.

The undersigned having been appointed with authority of the joint convention May 29, 1908, to adopt a uniform method for the payment of rolls, which report was to become a part of the contract then adopted, agree:

1st. That the following conditions and rules shall govern the payment for rolls in the bituminous mines in the State of Indiana.

2d. That rolls in top or bottom coming up or down not to exceed six inches are not considered in this agreement, but when coming up or down from bottom or roof to exceed six inches, and it is not necessary to remove the same, the miner shall not be required to do so only for the width of the roadway.

3d. That all rolls shall be paid for by cubical contents to be measured on each rib, measurement to be from point where coal quits to a point where coal begins, and at right angles with roll, and in such way as to ascertain average thickness.

4th. All material from rolls shall be removed by the miner. In narrow places where gobbing the dirt is impracticable he shall load it in cars. In wider places where there is room to gob such material, and the company requires it gobbled, the miner shall do so, provided, however, that he shall not be required to handle any such material more than once. Such material shall be removed at a sufficient distance from the face to allow the machine to operate unimpeded.

5th. All men working in roll shall have at least an equal turn of cars with the others on the run. This applies to the regular coal cars.

6th. The miner shall make height for the roadway the height of the vein of coal when required to do so.

7th. The prices to be paid per cubic foot of roll for chain machine, rolls 3 feet and over, $2\frac{1}{2}$ cents per cubic foot; rolls 18 inches to 3 feet, $3\frac{1}{2}$ cents per cubic foot; rolls from 0 to 18 inches, 4 cents per cubic foot.

For punching machines, rolls 3 feet and over, $2\frac{3}{4}$ cents; rolls 18 inches to 3 feet, $3\frac{3}{4}$, and rolls 0 to 18 inches, $4\frac{1}{4}$ cents.

Pick mining, rolls 3 feet and over $3\frac{1}{4}$ cents per foot; rolls 18 inches to 3 feet, $4\frac{1}{2}$ cents per foot; rolls 0 to 18 inches, $5\frac{1}{4}$ cents.

8th. These prices include the machine runner and loader, and shall be divided in the same proportion as regular work.

9th. The above scale does not apply to rolls that are so hard that they cannot be drilled with regular drilling machine. The thread bar to have not more than eight threads to the inch.

10th. Any dispute arising under this addition to our contract which cannot be settled by the means therein provided shall be referred to this committee for settlement.

Signed this 22d day of June, 1908.

In behalf of Indiana Bituminous Coal Operators' Association:

JNO. K. SEIFERT.

JOHN A. TEMPLETON.

THOMAS MCQUADE.

In behalf of District No. 11, U. M. W. of A.:

E. R. MONTAGUE.

J. W. BUCK.

CLINTON M. ALLEN.

CONTRACT.

PICK MINING SCALE FROM APRIL 1, 1908, TO APRIL 1, 1909.

BRAZIL BLOCK AGREEMENT.

1. Entered into this 28th day of March, 1908, between the operators' scale committee of the Brazil block coal district and the executive board of the United Mine Workers of America, representing district No. 8.

Pick Scale and Yardage.

2. The price for mining screened block coal in the block coal district of Indiana shall be \$1 per ton of two thousand pounds, it being understood also that the price for digging unscreened coal shall be an equivalent of the price paid for screened coal.

3. Further details in the scale price for pick mining in the block coal district shall be as follows:

4. The payment for low coal shall be upon the following scale:

5. For all coal two feet ten inches and under three feet one inch, \$1.05 per ton.

6. For all coal under two feet ten inches, \$1.10 per ton.

7. The price of yardage shall be as follows:

Single yardage for coal three feet one inch and over.....	\$1 00
Double yardage for coal three feet one inch and over.....	2 00
Gob entries in coal three feet one inch and over	1 50
Gob entries in coal three feet one inch and over without brushing	50
Single yardage for coal two feet ten inches and under three feet one inch	1 05
Double yardage for coal two feet ten inches and under three feet one inch	2 10
Gob entries in coal two feet ten inches and under three feet one inch	1 57½
Gob entries in coal two feet ten inches and under three feet one inch without brushing	52½
Single yardage in coal below two feet ten inches.....	1 10
Double yardage in coal below two feet ten inches.....	2 20
Gob entries in coal below two feet ten inches	1 65
Gob entries in coal below two feet ten inches without brushing...	55

All entries to be driven when required by the operator 5½ feet in the clear in height (and the miners agree to gob the dirt when they are not required to take it more than the distance of six rooms back from the last break-through, and when the dirt is hauled by a mule then the miners agree to unload same at a distance of not more than eight rooms back from the last break-through from the face of the entry). This agreement shall apply to all the block mines in the block coal district with the exception of the present No. 1 and No. 2 Superior mines of the Zeller-McClellan Company, and in these two mines the same conditions shall continue as were in force during the year just ending, viz.: The miners shall continue to gob the break-throughs. Twenty-five cents per yard shall be paid extra for all double yardage when the same is worked double shift, and 12½ cents per yard for all single yardage when the same is worked double shift. Work on driving entries and drawing pillars may be by double shift at the option of the operator.

Day Men's Scale.

8. Inside day scale:

Track layers	\$2 56
Trappers	1 13
Bottom cagers	2 56
Drivers	2 56
Trip riders	2 56
Water haulers	2 56
Timbermen, where such are employed.....	2 56
Pipemen for compressed air plants.....	2 50
All other inside day labor.....	2 56
Blacksmiths	2 85
All other outside day labor.....	2 02½

9. The firemen and night pumpers shall be paid at the rate of 25 3/10 cents per hour for their labor. The above wage is based on an eight-hour workday, but in event the operator desires it, the firemen and night pump-

men are to work overtime to the extent of not more than two hours in any one day or shift. However, it is understood that in the event of an emergency the firemen and night pumpers will not limit their time but continue working till such emergency is past.

10. The firemen and night pumpers shall be subject to the same rules and regulations as top men, and be in their class, and may be laid off in case the mine shall work part of days, and the work of firemen and top men shall be interchanged if it is found to be in the interest of the employer so to do, for example: Where work can be performed by one man, the firing and any other work about the top shall be done by any one of the top men selected.

11. When the miner is working a deficient place and is being paid by the day, his pay shall be \$2.56 per day, and if he uses his own tools during such time he shall be paid ten cents per day for the use of the same. The operator shall have the option of furnishing the tools for such work.

12. The price of blacksmithing shall be $1\frac{1}{2}$ cents on the dollar.

13. The semi-monthly pay shall continue until constitutionality of the law providing for weekly pays shall have been passed upon by the Supreme Court of Indiana and of the United States.

14. A miner shall not be compelled to load his coal more than six feet from the face at beginning time.

15. Inside day work may be done upon idle days, and in case of emergency on overtime.

Hours of Work.

16. The hour beginning work in the morning shall be 7 a. m., with thirty minutes' stop for dinner, and begin shooting at 3:30 p. m. from April 1, 1908, to October 1, 1908, and from October 1, 1908, to April 1, 1909, the mines shall start at 7:30 a. m., with thirty minutes' stop for dinner, and begin shooting at 4 p. m., and no shooting shall be done at any other time except by mutual consent between the bank boss and the bank committee, and in the event that the mine is to work half a day only it shall be the duty of the mine boss to notify the bank committee of the fact.

The officers and miners' board of district No. 8 hereby agree and pledge themselves to see that the men in the mines carry out the contract by working eight hours per day, and that they will put in effect and maintain rules which will compel the men to be at their working places on time and remain at work until the expiration of eight hours.

17. Eight hours a day means eight hours' work in the mine at the usual working places for all classes of inside men. This shall be exclusive of the time required in reaching such working places in the morning and departing from the same at night.

18. The miners hereby agree to do all the propping in their rooms except setting the props required to break the bottom in shooting the same, and if any props are loosened or displaced, thereby endangering the safety of the workmen, the miners agree to reset the same.

Setting Long Props.

19. The miners working at Zeller & McClellan's No. 4 mine and the Indiana Block Coal Company's mine at Saline shall set all the props in their rooms and shall set all the props along the roadway. When bottom is blasted for the road and long props are made necessary along the roadway the miners agree to reset them. And the operators agree to pay therefor 3 cents each for all long props so set by them. The companies above named shall provide the props of required length.

20. It is also agreed on the part of the operators not to require the miners to put down their own road, and bottom shooters may lay the road in the rooms when required.

21. The operators agree to give each miner as near as possible an equal turn of cars for coal, and not to allow any day hands to load coal on idle days, but in no case shall a turn apply to the handling of dirt, but the operators agree to put in the mines a sufficient number of mules to remove all the coal and dirt therefrom. It is agreed that nothing herein shall conflict with the gobbing of dirt as herein before provided. The operators will give an equal turn of work to all inside day men as near as practicable who are competent, excepting track layers and timber men, adjustment of turns to be semi-monthly.

22. No miner shall be discharged or discriminated against because of his refusal to do work by the day when called upon by the pit boss. If, by the absence or refusal to work of any day man or men, work is likely to be interfered with, the mine committee when called upon shall assist the mine boss to furnish competent men in case he fails to secure them at the scale rate, so that the mine shall continue work.

23. It is also agreed not to require miners to load or clean falls unless they are caused by some fault of the miner not properly timbering his working place, or his having shot or otherwise caused his timber to become insecure, in which case it will be the duty of the miner to put his place in good order again.

24. Should the mine boss or superintendent at any time discharge a miner or mine laborer, and upon investigation by the mine committee they believe there were not good and sufficient causes for so doing, they shall at once notify such boss or superintendent of their decision, and pending the matter being decided upon by the final board as provided in such cases the management may at their option retain in their employ such person so discharged pending the final decision. If said board finds the man was discharged without sufficient cause he shall be reinstated, and shall be paid his regular wage for all time lost by such discharge, but days which the mine was not in operation during this period shall not be reckoned as lost.

Settlement of Differences.

25. It is further agreed that if any differences arise between the operator or miners at any pit, settlement shall be arrived at without any stopping of work. If the parties immediately affected cannot reach an adjustment between themselves the question shall be referred to the executive board of the United Mine Workers of America representing district No.

8 and an equal number of operators, whose action shall be final, but no operator or miner interested in the difference shall be a member of said committee. The officers and miners' board of district No. 8, United Mine Workers of America, hereby agree and pledge themselves to put in effect at the different locals of the district certain rules and regulations requiring men to be fined one dollar per day for the violation of the above clause, said fine to be checked off by the operators and turned over to district No. 8. On failure of said officers and board to accomplish their agreement to see that this part of the contract is observed, the following clause shall become effective, and from that time on it shall be binding and have full force and be a part of this contract, viz.: It is understood and agreed that when any of the workmen in and about a mine stops the same for the purpose of redressing a grievance, real or supposed, thus shutting the mine down contrary to this agreement, each employe shall pay to the owner of said mine the sum of \$1 per day during such shut-down. The payment shall be deducted from each person through the pay roll, and this agreement is authority for making such deduction. It is further agreed that no coal company because of any grievance with an employe, real or supposed, shall stop the mine, and any company so shutting down its mine shall pay to each workman in and about the mine \$1 per day during such shut-down.

26. The duties of the mine committee shall be confined to the adjustment of disputes between the mine boss or superintendent and any members of the United Mine Workers of America working in and around the mines, excepting the engineer working at such mine. In no case shall the mine committee have power to send day men home when needed by the operator, but the mine committee may bring any grievance before the joint board through their district officials.

Drivers' Rules.

27. Regarding drivers:

They shall take their mules to and from the stables, and the time required in so doing shall not include any part of the day's labor, their work beginning when they reach the parting at which they receive empty cars, and in no case shall the driver's time be docked while he is waiting for such cars at the point named, but when the men go into the mine in the morning they shall be entitled to two hours' pay whether or not the mine works the full two hours, and after the first two hours the men shall be paid for every hour thereafter by the hour, or for each hour's work or fractional part thereof. If for any reason the regular routine of work cannot be furnished inside labor for a portion of the first two hours the operators may furnish other than the regular labor for the unexpired time.

28. But under no circumstances will the operators recognize or treat with the mine committee or any representative of the United Mine Workers of America during the suspension of work contrary to this agreement.

29. The block coal district of Indiana may continue the use of the diamond bar screen, the screen to be 72 feet superficial area, of uniform size, 1¼ inches between the bars, free from obstructions, and that such

screen shall rest upon a sufficient number of bearings to hold the bars in proper position.

30. It is hereby further agreed that track layers may begin work on top before the usual time for hoisting coal in getting the track material ready to send down on the cage, and that the time required in doing so shall be a part of the eight hours' work.

31. In case of emergency work the mine boss shall consult with the mine committee, and if they approve of the work being done on overtime the men engaged thereon shall not be required to lay off until their time is equalized with the others working in such mine.

32. The Crawford Coal Company in their mines at Center Point may continue to do the brushing in the entries where the coal is three feet one inch and under in thickness.

33. The wages of the blacksmith shall be \$2.85 per day at all the mines, and in addition to his ordinary duties he shall do any other labor and shall work at any mine owned by the company when required of him by the mine management, provided that he shall receive his regular wages therefor.

34. All local rules regarding the number of cars required above the tippie to be abolished.

35. In the event of death by accident in the mine the miners shall have the privilege of discontinuing work for the remainder of that day, but at the option of the operators work shall be resumed on the following day.

36. The miners shall not stop work on the day of a funeral where death is the result of an accident in the mine or otherwise, but instead men may absent themselves from work for the purpose of attending the funeral, and except in case of fatal accidents as above the mine shall not in any case be thrown idle because of any death or funeral.

Funeral Benefits.

37. On consideration of the enforcement of this agreement, referring to funerals of employes only of any particular mine, and not otherwise, it is mutually agreed that an assessment of 3 cents per month shall be deducted on the pay rolls from each employe of district No. 8, members of the United Mine Workers of America. Said deduction, when made, shall be turned over to the secretary-treasurer of district No. 8, together with an equal sum to be paid by the operators of said district. Said fund shall be deposited in the Citizens' National Bank, Brazil, Indiana. On the death of an employe only the sum of \$40 shall be paid from said fund to the family of the deceased or to the legal representative thereof. Said payment shall be made by checks only, and said checks shall be countersigned by the operators' commissioner of district No. 8. In the event that the above named assessment of 3 cents per man per month is insufficient to pay \$40 to each party entitled thereto, an increase in such assessment shall be made by the joint board of miners and operators convened for that purpose. Also, should the assessment prove to accumulate a fund greater than is necessary to pay the funeral benefits required, the assessment shall be suspended for a time till the fund is reduced to the sum of \$80, or two funeral benefits.

Hoisting Engineers' Scale.

38. On and after April 1, 1908, until April 1, 1909, the scale of hoisting engineers throughout the block coal district, or district No. 8, shall be as follows: Where one engineer is employed the compensation shall be eighty-four dollars and thirty-seven cents (\$84.37) per month, and where two engineers are required the first engineer shall receive eighty-four dollars and thirty-seven cents (\$84.37) per month, the second seventy-three dollars and twelve cents (\$73.12) per month, and when they change week about seventy-eight dollars and seventy-five cents (\$78.75) per month.

39. It is agreed on the part of engineers to be at their work in time to lower the men and mules and remain a sufficient time after the regular working hour to hoist the men and mules from the mine. Also to keep up all repairs on the machinery, including pumps in the mine.

40. It is also mutually agreed that a licensed engineer shall be employed at all times when steam is required at the throttle: Provided, however, that in all cases where the mine is not hoisting coal or the machines are not operated then in all such cases the engineers are required to do their own firing, it being understood that this provision does not apply to any case where the work of the mine may be stopped in the midst of any one shift. Nor does it cover any case where the fireman is required to assist in the washing or cleaning out of the boilers on Sunday.

41. It is fully understood and agreed upon the part of the United Mine Workers of America that the engineers will not under any circumstances allow affiliation with any labor organization to interfere with or prevent their being on duty at any and all times required by the operators, and that they will not suspend work in sympathy with any organization; and further, that they will during the continuance of this contract, at all times fully protect all the company's property under their care, and that they will operate fans and pumps, and lower and hoist such men or supplies as may be required to protect the company's property, and any and all coal that may be required to keep up the steam at the company's plant. But it is understood that the operators will not ask them during this period to hoist any coal produced by nonunion labor for sale on the market.

42. No engineer shall lay off or exchange shifts without the consent of the operators.

43. It is also agreed that in case of sickness or unexpected absence of the engineer any other engineer or engineers shall perform his duty; and if desired by them his wages for time so absent shall revert to the engineer performing such duty.

44. It is further agreed no hoisting engineer shall be subject to the interference or dictation of the mine committee, nor the local unions, but all differences between the engineer and his employer shall be adjusted by the officers of the United Mine Workers of America and employer interested.

45. It is also agreed upon the part of the operators that they will enforce a rule forbidding the entering of the engine room by loafers and disinterested parties, and that they will have cards printed and placed in conspicuous places to this effect.

46. This contract is entered into in good faith by both parties, and

there is to be no deviation from it by the operators, miners, laborers or any local union.

Committee on behalf of the operators for the block coal district:

J. H. McCLELLAND.
WILLIAM M. ZELLER.
W. W. RISHER.
W. E. EPPERT.
JOHN CHESTERFIELD, JR.
E. F. McGRANAHAN.
H. W. JENKINS.
W. PAUL ZIMMERMAN.
M. J. MURPHY.

Executive committee district No. 8, United Mine Workers of America, for block coal miners:

PATRICK GOLDEN.
RICHARD OWENS.
JOHN PATTISON.
HOMER FRANCE.
JOHN FOGG.

MACHINE MINING SCALE.

Contract Between the Machine Operators of the Block Coal District No. 8, United Mine Workers of America, Governing Prices and Conditions of Mining in Machine Mines, Block Coal District.

Entered into this 28th day of March, 1908, and continuing until April 1, 1909, between the operators of machine mines of the block coal district and the executive board of the United Mine Workers of America, representing district No. 8.

The price for loading, shooting, timbering, taking care of all draw slate that is four (4) inches and under in thickness, in rooms and entries, shall be fifty-three and one-half ($53\frac{1}{2}$) cents per ton.

Price for entry driving, 6 to 9 feet wide, fifty-three and one-half ($53\frac{1}{2}$) cents per yard.

Price for entry driving, 9 to 12 feet wide, thirty-two and one-half ($32\frac{1}{2}$) cents per yard.

The loaders agree to keep the bug dust and draw slate back 14 feet from the working face.

All entries more than twelve (12) feet in width shall be paid same as rooms.

Machine runners and helpers to be paid twenty-five (25) cents per ton, and when working by the day, machine runner to be paid $\$3.03\frac{3}{4}$ per day. Helpers, $\$2.70$ per day. Motormen, $\$3.03\frac{3}{4}$.

Entry driving, 6 to 9 feet wide, machine runner to be paid 25 cents per yard.

Entry driving, 9 to 12 feet wide, machine runner to be paid 16 cents per yard.

It is further agreed that where there is not sufficient room to gob the

bug dust and draw slate, the loader will load it in the bank cars and the company will unload it.

It is understood that there shall be nothing paid for room turning or low coal, and there shall be nothing charged for blacksmithing.

There shall be no discrimination against any employe.

That the system of loading coal in machine mines be on the following basis, to wit:

1. That one man shall have the right to two places where he can take care of the same.

2. That two men shall have the right to three places where they can take care of the same.

3. All others one place.

When a man is off work more than one day the mine boss shall have the right to put a man in the places if it is necessary, providing the man leaves the places in the same condition as near as possible as he found them.

The block coal district of Indiana may continue the use of the diamond bar screen, the screen to be seventy-two (72) feet superficial area, of uniform size, one and one-quarter ($1\frac{1}{4}$) inches between the bars, free from obstructions, and that such screen shall rest upon a sufficient number of bearings to hold the bars in proper position.

This agreement to become a part of the agreement entered into the 28th day of March, 1908, between the operators' scale committee of the block coal district and the executive board of the United Mine Workers of America, representing district No. 8.

On behalf of the machine operators of the block coal district:

JOHN CHESTERFIELD, JR.
W. E. EPPERT.
E. F. McGRANAHAN.

On behalf of the executive board, district No. 8, United Mine Workers of America:

PATRICK GOLDEN.
RICHARD OWENS.
JOHN PATTISON.
HOMER FRANCE.
JOHN FOGG.

TABLE

Showing by Months and by Counties the Number of Tons Mined and Wages Paid to Employes for the Year 1908 at Mines Employing More Than Ten Men.

MONTH.	CLAY COUNTY.		DAVISS COUNTY.	
	Tonnage.	Wages.	Tonnage.	Wages.
January.....	102,793	\$95,031 28	6,364	\$7,610 46
February.....	95,330	100,496 43	6,800	6,779 15
March.....	157,769	105,388 86	6,549	7,111 74
April.....	57,611	46,763 47	1,114	461 45
May.....	53,297	53,500 91	1,890	1,930 47
June.....	73,326	58,098 08	2,789	3,643 70
July.....	85,115	66,632 16	1,986	3,234 07
August.....	71,778	72,161 87	2,034	4,972 60
September.....	97,468	71,671 52	3,421	5,421 81
October.....	70,544	78,968 85	3,747	6,144 26
November.....	84,442	81,476 76	3,514	5,023 45
December.....	79,688	77,096 46	3,197	5,740 05
Total.....	1,029,161	\$997,286 65	43,185	\$58,073 21

MONTH.	FOUNTAIN COUNTY.		GIBSON COUNTY.	
	Tonnage.	Wages.	Tonnage.	Wages.
January.....	4,072	\$3,757 94	20,540	\$18,640 49
February.....	3,131	3,296 51	18,160	16,206 34
March.....	3,409	3,817 27	18,326	15,436 89
April.....	2,094	2,649 24	8,028	8,616 41
May.....	601	1,075 60	7,190	9,031 37
June.....	940	1,356 94	11,266	12,324 28
July.....	122	572 01	11,636	12,645 60
August.....	296	576 00	11,362	11,682 48
September.....	500	720 00	12,610	12,260 42
October.....	484	657 29	17,837	15,934 25
November.....			14,029	12,949 50
December.....			19,437	17,451 21
Total.....	15,849	\$18,468 20	170,421	\$163,179 24

MONTH.	GREENE COUNTY.		KNOX COUNTY.	
	Tonnage.	Wages.	Tonnage.	Wages.
January.....	220,120	\$180,082 41	73,594	\$29,207 56
February.....	238,446	190,450 10	51,219	26,707 93
March.....	216,163	217,390 50	24,314	37,793 79
April.....	85,700	102,727 03	28,469	14,087 36
May.....	114,890	95,595 82	37,666	20,421 76
June.....	133,150	98,690 40	29,362	29,422 36
July.....	138,435	122,892 52	32,264	17,830 48
August.....	137,060	123,218 91	34,678	19,326 78
September.....	203,486	143,439 91	34,995	20,029 94
October.....	248,646	183,492 56	36,177	25,897 01
November.....	228,391	148,852 72	22,261	28,091 11
December.....	293,159	161,102 50	23,000	32,143 03
Total.....	2,257,646	\$1,767,935 38	427,999	\$298,959 11

TABLE SHOWING BY MONTHS AND BY COUNTIES THE NUMBER OF TONS MINED, ETC.—Continued.

MONTH.	PARKE COUNTY.		PERRY COUNTY.	
	Tonnage.	Wages.	Tonnage.	Wages.
January	52,660	\$53,780 92	767	\$860 09
February	57,290	54,607 47	850	1,095 00
March	61,337	62,936 02	961	1,000 85
April	13,338	19,755 29	834	954 68
May	26,650	33,750 41	317	369 09
June	46,181	52,303 12		
July	55,128	57,072 22		
August	57,880	63,556 95		
September	55,713	65,825 84		
October	69,295	67,010 26		
November	48,962	52,341 18		
December	58,571	56,975 84		
Total	602,945	\$639,925 52	3,729	\$4,018 97

MONTH.	PIKE COUNTY.		SULLIVAN COUNTY.	
	Tonnage.	Wages.	Tonnage.	Wages.
January	41,951	\$36,756 50	215,710	\$208,507 26
February	42,313	37,553 19	292,779	234,722 73
March	46,406	41,352 70	349,083	282,023 10
April	18,747	17,698 12	149,366	118,583 37
May	14,173	13,058 69	138,425	114,406 66
June	24,494	24,741 36	165,533	145,504 26
July	25,006	18,514 32	156,491	136,956 75
August	25,442	25,141 39	165,914	140,343 57
September	48,030	32,314 70	219,853	190,994 27
October	45,240	36,211 83	219,098	206,442 05
November	45,823	35,574 74	230,870	202,165 01
December	47,340	37,068 72	252,871	213,401 82
Total	424,965	\$345,966 06	2,585,993	\$2,193,550 85

MONTH	VANDERBURGH COUNTY.		VERMILION COUNTY.	
	Tonnage.	Wages.	Tonnage.	Wages.
January	28,784	\$50,534 89	116,290	\$101,643 73
February	29,824	27,963 46	105,211	102,135 12
March	25,195	25,741 24	154,638	125,422 94
April	10,625	14,362 31	75,795	59,173 98
May	11,500	13,819 02	57,509	49,912 64
June	8,057	13,730 30	64,232	81,985 18
July	11,612	14,889 42	81,072	72,721 24
August	17,286	19,610 03	51,816	58,857 62
September	25,682	24,545 30	84,577	72,457 33
October	32,867	29,618 62	109,032	90,811 61
November	25,501	25,982 57	115,560	95,507 99
December	26,841	25,438 06	123,937	101,513 61
Total	253,774	\$266,235 22	1,139,669	\$1,012,142 99

TABLE SHOWING BY MONTHS AND BY COUNTIES THE NUMBER OF TONS MINED, ETC.—Continued.

MONTH.	VIGO COUNTY.		WARRICK COUNTY.	
	Tonnage.	Wages.	Tonnage.	Wages.
January.....	247,346	\$217,268 32	47,188	\$32,232 76
February.....	264,018	212,092 93	54,283	37,014 51
March.....	307,381	257,260 07	45,678	32,670 40
April.....	95,626	92,514 70	31,395	19,791 23
May.....	104,373	99,904 59	17,691	23,883 80
June.....	153,078	143,624 67	22,851	25,023 75
July.....	210,926	171,279 88	22,776	13,441 42
August.....	195,392	166,709 69	27,980	17,917 35
September.....	229,346	191,038 14	36,170	21,696 55
October.....	270,970	234,432 65	43,120	26,811 81
November.....	247,772	215,234 55	39,045	26,485 22
December.....	291,687	238,104 64	35,876	22,694 41
Total.....	2,617,915	\$2,239,464 83	424,053	\$299,663 21

CHANGES IN OWNERSHIP.

Changes in management and changes in ownership of mining properties were made during the year as follows:

The Gifford No. 1 and 2 mines, formerly owned by the Collins Coal Co., went into the hands of a receiver March 6th, Mr. Wm. C. Hall, of Brazil, being appointed receiver. The property was sold at receiver's sale during the summer to John C. Ricksbery, of Chicago, Ill., and was sold by him a short time later to O. S. Richardson, of Chicago, one of the original owners.

The Block Coal Co.'s. lower vein mine No. 1 was purchased July 2d, by the Nick Schefferman Coal Co., and was later dismantled and abandoned.

The P. & I. mine, located in Greene County, formerly owned by the Pennsylvania & Indiana Coal Co., has had a varied experience. The mine was leased in February to a co-operative company composed of seventy miners, former employes, and the original coal company. This company operated until April, when the mine was leased by the G. G. Hadley Coal Co. This company failed about June 1st, and the property was sold June 29th at sheriff's sale to satisfy labor and other outstanding indebtedness.

July 2d the Mooney & Donnelly mine, located in Stockton Township, Greene County, was purchased by the Enterprise Coal Co.

August 22d, J. K. Seifert, of Chicago, was appointed receiver for the Southern Indiana Coal Co. This company owned the Lattas Creek, Tower Hill and Hoosier No. 1 mine in Green County, and the Mammoth and Semi-Block mines in Sullivan County. Under

the new management the Tower Hill and Hoosier mines, in Greene County, and the Semi-Block, in Sullivan, were recently dismantled and abandoned.

The Bicknell mine, located at Bicknell, Knox County, owned by the Bicknell Coal Co., was leased in March to a company of former employes, who operate under the name of the Home Coal Co.

Hartwell No. 1 & 2 mines, located at Hartwell, Pike County, formerly owned by the Binghamton Trust Co., were purchased May 1st, by J. W. Welsh, of New York. This valuable property sold at the remarkably low purchase price of \$50,000.

The Winslow Gas Coal Co. property, located near Winslow, Pike County, was purchased in March by the Cedar Creek Coal Co., of St. Louis, Mo. Two mines are opened on this property, but neither of them have been in operation the past three years.

The Keystone mine, located at Shelburn, Sullivan County, owned by C. C. Heison, of Chicago, Ill., changed hands in August, at which time it was leased to the Gregory Coal Mining Co., who cleaned up the mine and began hoisting coal in September.

The Atherton mine, located at Atherton, Vigo County, owned by the Charles F. Keeler Coal Co., of Chicago, Ill., was purchased in July by the Atherton Splint Coal Co., whose offices will be located at Atherton.

NEW MINES.

Twelve new mines were opened and reported to this department in 1908, located in the different counties as follows: Clay County, one block. hand; Green County, one bituminous, hand, and one electric chain; Parke County, one bituminous, hand; Pike County, one bituminous, hand; Vigo County, three bituminous, electric chain machine, and one bituminous, hand; and Warrick County, three bituminous, two of which are compressed-air punching machine and one hand. The annexed table shows the names by which each mine is known, the geological number of each seam of coal mined, thickness of coal seam in feet and inches, character of coal, depth of overlying strata in feet, size of hoisting shaft, whether mining is done by hand or by machine, date of first shipment of coal, location of mine—that is, county, section, township and range; also the nearest town or city and the railroads on which the mines are located.

TABLE OF NEW MINES.

CLAY COUNTY.

NAME OF COMPANY.	Name of Mine.	Geological Number of Seam.	Thickness of Seam.	Character of Coal.	Depth of Shaft.	Size of Shaft.	Pick or Machine.	Date of First Shipment.	Location of Mine.	Railroad.
Harrison Coal Co.	Harrison No. 4.	IV	3"	Block.	70	9x16	Pick.	11-29-08	3 miles east of Clay City in Harrison Tp.	E. & I.

GREENE COUNTY.

Vandalia Coal Co.	Vandalia No. 20.	V	6'6"	Bituminous.	101	9x16	Electric chain.	9- 1-08	Sec. 19, T. 7 n. R. 7 w., Stockton Tp.	I. & V. br Vandalia S. I.
Robertson Bros. Coal Co.	Cherry Hill.	IV	5'	Bituminous.	45	6x13	Pick.	9- 0-08	Sec. 25, T. 7 n. R. 7 w., Stockton Tp.	

PARKE COUNTY.

Fairview Coal Co.	Fairview.	Minsh'll	5'	Bituminous.	240	8x17	Pick.	10- 1-08	2 miles east of Mecca in Sec. 16, T. 15 n. R. 8 w., Wabash Tp.	C. & E. I.
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PIKE COUNTY.

Peacock Coal & Min. Co.	Peacock No. 2.	VI	6'6"	Bituminous.	Slope.		Comp. air punch. mach.	11-22-08	3 miles n. of Oakland City, Sec. 4, T. 2 s. R. 8 w., Patoka Tp.	E. & I.
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VIGO COUNTY.

Miami Coal Co.....	Miami No. 4...	III	6'6"	Bituminous.....	55	6x18	Pick.....	7- 1-08	½ mile So. Ebrmandale in ¼ Sec. 3 T. 13 n. R. 8 w., Nevins Tp.....	C. & E. I.
Glen Ayr Coal Co.....	Glen Ayr.....	IV	5'	Bituminous.....	92	8x18	Electric chain machine..	2-14-08	Sec. 21 T. 12 n. R. 8 w., Lost Creek Tp.....	M. L. Vandalia.
Grant Coal & Mining Co.	Grant No. 3...	III	6'6"	Bituminous.....	40	8x12	Comp. air punch. mach.	7- 6-08	Sec. 26 T. 13 n. R. 8 w., Nevins Tp.....	C. & E. I.
Deep Vein Coal Co.....	Deep Vein.....	V	4'6" 4'3"	Bituminous.....	170 280	8x16 8x16	Pick..... Electric machine.....	-05 8- 1-08	Sec. 18 T. 12 n. R. 9 w., Sugar Creek Tp.....	Vandalia.

WARRICK COUNTY.

J. Wooley Coal Co.....	Polk No. 5.....	V	7'	Bituminous.....	2 slope	.....	Comp. air punch. mach.	2-14-08	Sec. 17, T. 5 s. R. 7. w., Boone Tp.....	3½ mile off M.L. So.
Epworth Coal Co.....	Epworth.....	V	4'	Bituminous.....	114	8x16	Pick.....	1- 1-08	Sec. 32, T. 6 s. R. 9 w. Ohio Tp.....	E.S. & J.W.
Big Four Coal Co.....	Big Four No. 2.	V	6'	Bituminous.....	Slope	.....	Comp. air punch. mach.	8- 1-09	Sec. 36, T. 5 s. R. 8 w., Boone Tp.....	Evansville Div. So.

OLD MINES RE-EQUIPPED.

The Francisco mine, located at Francisco, Gibson County, formerly worked on a small scale, employing less than ten men, has been re-equipped, a manway put down, and is now employing about thirty persons. The company was also reorganized and is now known as the Wyoming Coal Co.

The Star No. 1 mine, located at Newburg, Warrick County, formerly operated by the Jno. Archibald Coal Co., abandoned and dismantled three years ago, has been reopened and equipped by the Red Shaft Coal Co.

IMPROVEMENTS.

A total of \$75,000 was expended on improvements of various kinds in and about the mines in the State during the year.

The following shows some of the more important improvements made:

The Green Valley Coal Co. has installed electric traction motor haulage and made other improvements, expending \$20,000.

The New Summit Coal & Mining Co. installed a new fan at a cost of \$900, which has greatly improved the ventilation.

The Sunflower Coal Co. expended \$500 in building a concrete arch 250 feet in length over one of the entries. This is the first experiment of the kind in the coal mines of Indiana, and from all accounts it has proven a success.

The Dering Coal Co. built a new motor road at a cost of \$952.

The Mutual Mining Co. installed a system of rope haulage in their Mutual mine at a cost of \$4,180.

The Coal Bluff Mining Co. installed electric mining machines in their Wabash mine, using eight Morgan-Gardner chain machines. The cost of installation was \$14,000.

The Crescent Coal Co. installed electric motor haulage, traction type, in their Unity mine. The cost of the haulage plant and other improvements made amounted to \$20,000.

The remainder of the sum aggregate was expended on new cages, haulage roads and general improvements in and around different mines.

ABANDONED MINES.

Twenty-eight mines were abandoned during the past year, located in ten different counties, as follows:

In Clay County there were five block coal hand mines and six bituminous, two of which were electric chain and four hand.

Daviess County, one bituminous, hand; Greene County, three bituminous, hand; Gibson County, one bituminous, hand; Knox County, one bituminous, hand; Parke County, two block, hand; Perry County, one bituminous, hand; Pike County, one bituminous, hand; Sullivan County, five bituminous, two electric chain and three hand; and Vigo County, one hand and one compressed-air punching machine, both bituminous mines.

The following table exhibits by counties the names of the abandoned mines, the names of the companies owning them, the month the mines were abandoned and the railroad on which the mines were located:

TABLE OF ABANDONED MINES.

CLAY COUNTY.

NAME OF COMPANY.	Name of Mine.	Month of Abandonment.	Railroad.
O. S. Richardson Coal Co.	Gifford No. 1	March	C. & I. C.
Continental Brick Works	Fortner	April	M. L. Vandalia.
Vandalia Coal Co.	Vandalia No. 60	May	Vandalia.
C. E. Ehrlich	Klondyke	July	M. L. Vandalia.
Raccoon Manufacturing Co.	Raccoon	July	C. & E. I.
Harrison Coal Co.	Harrison No. 4	September	E. & I.
Jasonville Coal Co.	Gold Knob	September	S. I.
Brazil Block Coal Co.	Brazil No. 7	September	M. L. Vandalia.
Lower Vein Coal Co.	Lower Vein No. 1	September	E. & I.
Clay Product Co.	Continental	September	Vandalia.
Coal Bluff Mining Co.	Glen No. 1	December	C. & E. I.

DAVIESS COUNTY.

Daviess County Coal Co.	Montgomery No. 3	March	B. & O. S. W.
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GREENE COUNTY.

Southern Indiana Coal Co.	Hoosier No. 1	Not operated since 1907	S. I.
Vulcan Coal Co.	Vulcan	April	I. C.
Southern Indiana Coal Co.	Tower Hill	October	S. I.

GIBSON COUNTY.

Peacock Coal Co.	Massy	March	E. & I.
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KNOX COUNTY.

Big Muddy Coal Co.	Pine Knot	September	I. & V. Br., Vandalia.
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PARKE COUNTY.

Zeller-McClellan Co.	Superior No. 1	April	C. & E. I.
Bridgeton Coal & Mining Co.	Bridgeton	January	C. & E. I.

REPORT OF STATE GEOLOGIST.

TABLE OF ABANDONED MINES—Continued.

PERRY COUNTY.

NAME OF COMPANY.	Name of Mine.	Month of Abandonment.	Railroad.
Bergenroth Bros	Troy.....	June.....	Shipped on Ohio River.

PIKE COUNTY.

Central Indiana Coal Co.....	Aberdeen.....	June.....	Southern.
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SULLIVAN COUNTY.

Indiana Southern Coal Co.....	Washington.....	January.....	I. C.
Indiana Southern Coal Co.....	Cummins.....	June.....	S. I.
Vandalia Coal Co.....	West Linton.....	January.....	I. & V.
Dering Coal Co.....	Dering No. 12.....	January.....	E. & T. H.
Southern Indiana Coal Co.....	Semi-Block.....	October.....	S. I.

VIGO COUNTY.

Grant Coal and Mining Co.....	Grant No. 2.....	June.....	Big Four, Logansport.
Parke County Coal Co.....	Parke No. 10.....	June.....	Vandalia.

TABLE

Showing by Counties the Name of Mine, Number of Tons of Screened, Slack, Nut and Mine Run Coal, Total Tons of all Grades of Coal Produced and the Distribution Thereof, the Production of Block and Bituminous Coal, Each Being Shown Separately, as Is the Machine and Pick or Hand-Mined Coal.

BLOCK COAL MACHINE MINES.

PARKE COUNTY.

NAME OF MINE.	MACHINE MINED.				PICK MINED.				DISTRIBUTION.		WAGES PAID.			
	Tons of Screened Coal.	Tons of Slack and Nut.	Tons of Mine Run.	Total Tons of All Kinds of Coal Produced.	Tons of Screened Coal.	Tons of Slack and Nut.	Tons of Mine Run.	Total Tons of All Kinds of Coal Produced.	Indiana.	Other States.	To Miners.	To Inside Day Men.	To Outside Day Men.	Total Wages.
Mary.....	51,861	5,117	.....	56,978	6,788	565	.....	7,353	30,000	34,331	\$49,294 91	\$23,150 00	\$10,804 19	\$83,249 10
Total.....	51,861	5,117	.....	56,978	6,788	565	.....	7,353	30,000	34,331	\$49,294 91	\$23,150 00	\$10,804 19	\$83,249 10

VIGO COUNTY.

Plymouth No. 1.....	20,029	6,503	.....	26,532	21,800	7,392	.....	29,192	17,910	37,814	\$42,987 65	\$13,894 30	\$5,225 35	\$62,107 30
Domestic Block No. 1..	25,315	3,916	3,551	32,782	3,952	1,707	.....	5,659	.....	38,441	34,372 16	18,794 13	6,989 63	60,155 92
Total.....	45,344	10,419	3,551	59,314	25,752	9,099	.....	34,851	17,910	76,255	\$77,359 81	\$32,688 43	\$12,214 98	\$122,263 22
Total machine mined block coal.....	97,205	15,536	3,551	116,292	32,540	9,664	.....	42,204	47,910	110,586	\$126,654 72	\$55,838 43	\$23,019 17	\$205,512 32

BLOCK HAND OR PICK MINES.

CLAY COUNTY.

NAME OF MINE.	PICK MINED.				DISTRIBUTION.		WAGES PAID.			
	Tons of Screened Coal.	Tons of Slack and Nut.	Tons of Mine Run.	Total Tons of All Kinds of Coal Produced.	Indiana.	Other States.	To Miners.	To Inside Day Men.	To Outside Day Men.	Total Wages.
Brazil No. 1.	12,572	2,428		15,000	5,762	9,238	\$14,270 62	\$6,772 37	\$5,372 96	\$26,415 95
Brazil No. 4.	45,828	14,205		60,033	17,362	42,671	52,661 66	17,537 29	8,474 23	78,673 18
Brazil No. 7.	8,473	1,708		10,181	3,502	6,679	9,461 59	2,047 01	3,775 79	15,284 39
Robstock.	2,968	730		3,698	1,911	1,787	2,969 00	1,711 90	752 60	5,433 50
Superior No. 4.	29,019	7,050	237	36,306	24,204	12,102	34,838 33	14,174 81	6,658 57	55,671 71
Crawford No. 2.	17,753	3,665	306	21,724	7,842	13,882	20,033 17	12,403 46	4,851 64	37,288 27
Crawford No. 6.	18,221	3,950	51	22,222	6,325	15,897	19,950 79	8,970 10	3,545 78	32,466 67
Crawford No. 8.	9,425	2,125		11,550	3,801	7,749	10,487 00	4,083 93	2,463 34	17,034 27
Crawford No. 9.	32,924	7,265		40,189	21,285	18,904	35,472 29	16,003 19	6,797 38	58,272 86
Crawford No. 10.	10,526	2,295		12,821	3,695	9,126	14,501 84	6,337 75	3,180 62	24,020 21
Plymouth No. 2.	27,147	7,685		34,832	1,959	32,873	29,525 05	9,190 13	3,730 95	42,446 18
Glenn No. 1.	7,465	1,127		8,592	782	7,810	8,657 70	2,681 35	2,286 65	13,625 70
Monarch.			7,406	7,406	7,406		11,950 52	3,652 62	1,575 85	17,178 99
Eureka No. 5.	38,284	8,828		47,112	16,845	30,263	42,214 17	11,286 16	6,100 06	59,600 39
Treager.	5,797	964	222	6,983	6,983		6,045 23	992 35	775 00	7,812 58
Schefferman (Idle).										
Wizard.	27,908	3,693	1,251	32,852	26,776	6,076	31,721 71	6,039 51	3,418 61	41,179 83
Pyrah.	4,502	186		4,688	4,688		5,657 52	2,139 30	2,373 66	10,170 48
Indiana No. 1.	8,248	1,587	4,946	14,781	6,225	8,556	12,449 25	4,935 78	3,190 40	20,545 43
Progressive.	113,136	5,204	12,151	130,491	63,497	66,994	11,369 12	8,795 17	2,414 09	22,578 38
Continental.			2,176	2,176	2,176		2,088 96	522 24	469 20	3,080 40
Total.	420,196	74,695	28,746	523,637	233,030	290,607	376,325 52	\$140,276 47	\$72,177 38	\$588,779 37

PARKE COUNTY.

Brazil No. 9	12,980	2,600	15,580	6,431	9,149	\$14,065 95	\$7,505 68	\$5,548 42	\$27,120 05
Brazil No. 12	12,129	2,435	14,564	2,143	12,421	15,418 49	6,465 20	6,009 35	27,893 04
Superior No. 1	839	175	1,014	1,014	.....	744 15	175 25	248 13	1,167 53
Superior No. 2	30,815	7,450	38,939	13,629	25,310	35,738 92	12,890 74	6,378 89	55,008 55
Superior No. 3	27,786	9,599	37,365	20,000	17,365	30,940 76	13,675 09	6,619 40	51,235 25
Superior No. 5	50,565	12,800	63,365	30,000	33,365	54,044 76	17,003 01	8,182 74	79,230 51
Moore (Idle)									
Total	135,094	35,059	170,827	73,217	97,610	\$150,953 03	\$57,714 97	\$32,986 93	\$241,654 93
Total pick mined block coal	555,290	109,754	29,420	694,464	306,247	\$527,278 55	\$197,991 44	\$105,164 31	\$830,434 30

BITUMINOUS MACHINE MINES.

CLAY COUNTY.

NAME OF MINE.	MACHINE MINED.				PICK MINED.				DISTRIBUTION.		WAGES PAID.			
	Tons of Screened Coal.	Tons of Slack and Nut.	Tons of Mine Run.	Total Tons of all Kinds of Coal Produced.	Tons of Screened Coal.	Tons of Slack and Nut.	Tons of Mine Run.	Total Tons of all Kinds of Coal Produced.	Indiana.	Other States.	To Miners.	To Inside Day Men.	To Outside Day Men.	Total Wages.
Gifford No. 1	52	16	.....	68	1,056	124	.....	1,180	1,180	68	\$1,159 06	\$978 90	\$742 60	\$2,880 56
Gifford No. 2	1,529	298	.....	1,827	4,622	2,495	.....	7,117	3,773	5,171	6,090 46	3,105 26	8,108 56	17,304 28
Lewis	26,026	47,915	14,837	88,778	.....	.....	.....	.....	43,674	45,104	25,920 92	19,518 98	19,391 01	64,830 91
Vivian No. 2	28,180	11,588	30,433	70,203	3,099	1,181	3,699	7,979	52,164	26,018	34,431 39	21,839 94	8,620 03	64,891 36
Island Valley No. 4	50,874	25,763	13,294	89,931	4,916	2,191	1,014	8,121	57,131	40,921	46,819 33	15,117 87	7,441 27	69,378 47
Total	106,661	85,580	58,566	250,807	13,693	5,991	4,713	24,397	157,922	117,282	\$114,421 16	\$60,560 95	\$44,303 47	\$219,285 58

BITUMINOUS MACHINE MINES—Continued.

GREENE COUNTY.

NAME OF MINE.	MACHINE MINED.				PICK MINED.				DISTRIBUTION.		WAGES PAID.			
	Tons of Screened Coal.	Tons of Slack and Nut.	Tons of Mine Run.	Total Tons of all Kinds of Coal Produced.	Tons of Screened Coal.	Tons of Slack and Nut.	Tons of Mine Run.	Total Tons of all Kinds of Coal Produced.	Indiana.	Other States.	To Miners.	To Inside Day Men.	To Outside Day Men.	Total Wages.
Black Creek	25,546	11,909	9,408	46,953	40,183	18,400	13,209	71,792	74,031	44,714	\$71,646 78	\$25,065 35	\$10,400 76	\$107,112 89
Dickason	1,864	1,119	1,368	4,351	6,724	4,035	4,267	15,026	12,418	6,959	10,703 20	4,162 78	2,702 11	17,568 09
Vandalia No. 2			58,979	58,979			25,180	25,180	80,474	3,685	45,459 03	19,551 78	6,678 51	71,689 32
Vandalia No. 5	51,296	35,358	13,713	100,367	50,456	30,590	11,057	92,103	151,756	40,714	108,465 69	36,675 66	15,798 55	160,939 90
Vandalia No. 8	89,780	53,853	58,491	202,124	9,093	4,952	4,347	18,392	194,781	25,735	116,642 16	38,255 81	12,572 09	167,470 06
Vandalia No. 9	51,999	18,402	101,707	172,108	6,913	3,048	16,043	26,004	191,767	6,345	102,280 32	31,829 25	9,789 42	143,898 99
Vandalia No. 21	18,303	8,515	115,299	142,117					142,117		66,962 97	15,084 06	10,044 18	92,091 21
Lattis Creek	39,012	36,701	95,758	171,471	15,438		11,513	26,951		198,422	108,569 58	38,501 27	12,720 45	159,791 30
Gilmour			81,643	81,643			4,700	4,700	28,789	57,554	58,085 00	21,185 00	7,478 00	86,748 00
Summitt No. 2	52,995	32,846	85,034	170,875					170,875		78,176 82	37,305 75	9,062 78	124,545 35
Green Valley	35,400	15,970	98,647	150,017					90,883	59,134	71,580 30	22,341 64	9,933 73	103,855 67
North West	72,644	42,956	18,146	133,746	18,511	11,278	4,328	34,117	125,274	42,589	77,599 43	24,888 76	8,356 73	110,844 92
Twin No. 4	25,439	12,920	9,833	48,192	1,245	495	30	1,770	39,962	10,000	26,858 55	12,414 85	3,728 70	43,002 10
Twin No. 5	34,028	14,347	67,027	115,402	1,488	555		4,147	90,000	29,549	57,732 55	13,513 45	9,283 75	80,529 75
Vandalia No. 20			2,439	2,439			62	62	2,501		1,377 55	411 20	412 22	2,200 97
Total	498,306	284,896	817,582	1,600,784	150,051	73,353	96,840	320,244	1,395,628	525,400	\$1,002,139 93	\$341,186 61	\$128,961 98	\$1,472,288 52

KNOX COUNTY.

Knox	16,245	2,353	52,932	71,530	534	172	4,863	5,569	42,606	34,493	\$34,147 13	\$14,982 40	\$8,741 46	\$57,870 99
Lynn	10,074	4,686	34,479	49,239	1,455	815	3,884	6,154	55,393		25,770 19	11,046 18	6,673 06	43,489 43
Freeman	19,728	7,031	103,389	130,148					98,216	31,932	61,321 18	19,263 11	11,620 16	92,204 45
Tecumseh	19,827	9,278	99,878	128,983					90,735	38,248	52,630 81	11,760 14	9,742 94	74,133 89
Total	65,874	23,348	290,678	379,900	1,989	987	8,747	11,723	286,950	104,673	\$173,869 31	\$57,051 83	\$36,777 62	\$267,698 76

PARKE COUNTY.

Parke No. 11.....	17,035	10,835	89,474	89,474	.....	.....	49,278	49,278	115,312	23,440	\$74,178 60	\$30,453 35	\$10,648 28	\$115,280 23
Lyford No. 1.....	.....	.....	80,082	107,952	.....	.....	.....	.....	11,143	96,809	48,631 70	22,867 35	8,470 59	79,969 64
Total.....	17,035	10,835	169,556	197,426	.....	.....	49,278	49,278	126,455	120,249	\$122,810 30	\$53,320 70	\$19,118 87	\$195,249 87

PIKE COUNTY.

Ayrshire No. 5.....	17,134	11,861	5,491	34,486	.....	.....	.....	.....	19,526	14,960	\$18,622 30	\$7,374 58	5,030 60	\$31,027 38
Blackburn No. 2.....	.....	.....	8,941	8,941	.....	.....	30,731	30,731	39,672	.....	21,169 03	6,876 33	4,979 92	35,025 28
Total.....	17,134	11,861	14,432	43,427	.....	.....	30,731	30,731	59,198	149,60	\$39,791 33	\$14,250 91	\$10,010 42	\$61,052 66

SULLIVAN COUNTY.

Rainbow.....	.....	.....	66,454	66,454	.....	.....	.....	.....	24,554	41,900	\$43,910 00	\$13,344 00	\$7,065 00	\$64,349 00
Phoenix No. 4.....	.....	.....	67,684	67,684	.....	.....	.....	.....	12,775	54,909	43,505 00	18,610 00	6,131 00	68,246 00
Hocking.....	.....	.....	82,631	82,631	.....	.....	.....	.....	22,043	60,588	50,806 00	22,004 00	8,846 00	81,656 00
Citizens.....	.....	.....	4,402	4,402	.....	.....	5,231	5,231	6,331	3,302	6,308 00	2,462 00	1,731 00	10,501 00
Sunflower.....	66,622	26,933	12,214	105,769	.....	.....	.....	.....	5,283	100,486	55,093 18	8,868 64	15,905 05	79,866 87
Consolidated No. 25.....	43,217	22,396	30,449	96,062	43	21	.....	64	16,213	79,913	49,223 71	20,774 68	8,328 74	78,327 13
Consolidated No. 26.....	Idle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Consolidated No. 28.....	Idle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Consolidated No. 30.....	36,824	20,807	3,141	60,772	.....	.....	.....	.....	20,032	40,740	32,117 95	13,732 21	7,974 49	53,824 65
Consolidated No. 32.....	Idle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Consolidated No. 33.....	71,284	29,831	59,627	160,742	10,138	4,951	8,569	23,658	71,023	113,377	93,552 92	36,072 49	12,110 33	141,735 74
Vandalia No. 10.....	59,847	23,181	153,531	236,559	173	66	398	637	230,290	6,906	115,816 04	49,956 45	12,295 49	178,067 98
Jackson Hill No. 2.....	78,367	28,178	87,011	193,556	.....	.....	.....	.....	.....	193,556	93,575 58	32,505 79	10,319 94	136,401 51
Jackson Hill No. 4.....	106,754	64,097	2,547	173,398	.....	.....	.....	.....	.....	173,398	86,091 91	29,648 90	9,944 23	125,685 04
Dering No. 13.....	28,762	14,395	58,493	101,650	.....	.....	.....	.....	.....	101,650	51,795 95	26,306 92	7,053 10	85,155 97
Dering No. 14.....	95,632	68,686	1,143	165,461	.....	.....	.....	.....	.....	165,461	87,506 98	49,113 56	13,874 28	150,494 82
Mammoth Vein.....	31,729	20,146	41,105	92,980	135	.....	41	176	.....	3,187	50,961 94	18,760 92	8,248 85	77,971 71
Shirley Hill No. 1.....	39,686	13,229	27,365	80,280	25,514	9,220	12,062	46,796	127,076	.....	81,403 41	27,671 53	6,296 46	115,371 40
Shirley Hill No. 3.....	14,128	8,305	30,596	53,029	429	150	1,120	1,699	54,728	.....	30,245 74	12,402 74	5,118 07	47,766 55
Little Giant.....	14,333	6,456	89,731	110,520	26,306	7,123	90,147	123,576	234,096	.....	133,410 50	47,641 43	10,339 97	191,391 90
Clover Leaf.....	43,885	29,151	28,340	101,376	24,374	19,388	13,994	57,756	159,132	.....	94,941 69	47,312 45	7,763 66	150,017 80
Reliance.....	49,137	23,612	3,259	76,008	5,664	1,939	228	7,831	4,478	79,361	48,980 98	21,585 93	9,086 24	79,653 15
Diamond No. 1.....	194	150	52	396	17,027	9,711	14,182	40,920	4,721	36,595	24,054 39	6,728 13	4,359 33	35,141 85
Viola.....	10,189	6,718	30,104	47,011	.....	.....	.....	.....	38,785	8,226	25,182 53	14,553 83	10,092 43	49,828 79
Kettle Creek.....	37,209	18,790	5,727	61,726	1,778	525	178	2,481	50,739	13,468	33,034 51	17,793 47	7,323 34	58,151 32
Black Hawk.....	Idle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total.....	827,799	425,061	885,606	2,138,466	111,581	53,094	146,150	310,825	1,085,486	1,363,805	\$1,331,548 91	\$537,850 07	\$190,207 00	\$2,059,605 98

BITUMINOUS MACHINE MINES—Continued.

VERMILLION COUNTY.

NAME OF MINE.	MACHINE MINED.				PICK MINED.				DISTRIBUTION.		WAGES PAID.			
	Tons of Screened Coal.	Tons of Slack and Nut.	Tons of Mine Run.	Total Tons of all Kinds of Coal Produced.	Tons of Screened Coal.	Tons of Slack and Nut.	Tons of Mine Run.	Total Tons of all Kinds of Coal Produced.	Indiana.	Other States.	To Miners.	To Inside Day Men.	To Outside Day Men.	Total Wages.
Crown Hill No. 3.....	31,793	9,942	24,697	66,432	.....	.....	.....	.....	16,313	50,119	\$45,662 54	\$17,024 15	\$3,326 25	\$66,012 94
Total.....	31,793	9,942	24,697	66,432	.....	.....	.....	.....	16,313	50,119	\$45,662 54	\$17,024 15	\$3,326 25	\$66,012 94

VIGO COUNTY.

Parke No. 10.....	.....	.....	21,272	21,272	.....	.....	39,464	39,464	43,125	17,611	\$24,292 20	11,000 48	\$4,242 61	\$39,535 29
Forrest.....	.....	.....	66,451	66,451	.....	.....	50,743	50,743	60,504	56,690	67,086 00	20,195 00	9,592 00	96,873 00
Atherton.....	1,815	1,110	444	3,369	.....	.....	505	3,234	.....	256	6,347	3,564 64	2,217 53	561 69
Wabash.....	42,798	14,332	59,689	116,819	1,651	1,078	13,794	48,464	150,256	47,178	106,084 40	26,155 60	7,178 55	139,418 55
Vandalia No. 69.....	6,137	3,441	1,186	10,764	18,357	13,794	48,464	80,615	109,013	2,445	67,972 37	23,501 91	6,307 14	97,781 42
Deep Vein.....	311	193	474	978	54,865	39,683	6,146	100,694	63,253	12,353	47,505 08	12,444 10	6,571 28	66,520 46
Grant No. 3.....	20,615	16,866	7,972	45,453	30,971	19,163	24,494	74,628	.....	45,453	22,082 42	11,215 26	6,113 50	39,411 18
Glen Ayr.....	8,033	3,540	3,629	15,202	24,385	13,860	24,099	62,344	57,206	20,340	46,784 01	11,119 60	5,174 02	63,077 63
Total.....	79,709	39,482	161,117	280,308	120,229	87,578	193,915	411,722	483,613	208,417	\$385,371 12	\$117,849 48	\$45,740 79	\$548,961 39

WARRICK COUNTY.

Big Four.....	7,730	5,204	77,983	90,917					90,917		\$42,546 80	\$8,262 26	\$10,350 72	\$61,159 78
Chandler.....			13,413	13,413			9,408	9,408	8,984	13,837	12,294 51	3,459 02	1,935 58	17,689 11
DeForrest.....	5,280	3,415	3,785	12,480					12,480		5,173 78	2,123 79	1,457 44	8,755 01
Electric.....			41,024	41,024					22,493	18,531	17,435 18	7,239 55	3,142 18	27,816 91
Dawson.....	597	390	52,645	53,632					11,790	42,042	26,030 28	7,807 95	3,203 72	37,041 95
Erie Canal.....			37,153	37,153					27,355	9,798	15,811 93	6,314 65	2,666 24	24,792 82
Polk No. 5.....			46,450	46,450					46,450		21,754 55	4,855 50	4,362 45	30,972 50
Total.....	13,607	9,009	272,453	295,069			9,408	9,408	220,269	84,208	\$141,047 03	\$40,062 72	\$27,118 33	\$208,228 08
Total bituminous machine mined coal....	1,657,918	900,014	2,694,687	5,252,619	407,543	221,003	539,782	1,168,328	3,831,834	2,589,113	\$3,356,661 63	\$1,239,157 42	\$505,564 73	\$5,101,383 78

BITUMINOUS HAND OR PICK MINES.

CLAY COUNTY.

NAME OF MINE.	PICK MINED.				DISTRIBUTION.		WAGES PAID.			
	Tons of Screened Coal.	Tons of Slack and Nut.	Tons of Mine Run.	Total Tons of All Kinds of Coal Produced.	Indiana.	Other States.	To Miners.	To Inside Day Men.	To Outside Day Men.	Total Wages.
Vandalia No. 60.....	13,177	7,784	327	21,288	21,288		\$12,345 58	\$4,440 38	\$1,837 57	\$18,623 53
Vandalia No. 65.....	56,895	25,600	86,011	168,506	168,506		102,231 97	28,791 95	8,564 60	139,588 52
Vivian No. 1 (Idle).....										
Klondyke.....	19,232	14,107	7,187	40,526	20,263	20,263	22,731 81	5,981 13	2,296 71	31,009 65
Total.....	89,304	47,491	93,525	230,320	210,057	20,263	\$137,309 36	\$39,213 46	\$12,698 88	\$189,221 70

BITUMINOUS HAND OR PICK MINES—Continued.

DAVIESS COUNTY

NAME OF MINE.	PICK MINED.				DISTRIBUTION.		WAGES PAID.			
	Tons of Screened Coal.	Tons of Slack and Nut.	Tons of Mine Run.	Total Tons of All Kinds of Coal Produced.	Indiana.	Other States.	To Miners.	To Inside Day Men.	To Outside Day Men.	Total Wages.
Horney			9,445	9,445	9,445		\$5,407 25	\$1,281 71	\$1,885 45	\$8,574 41
Stucky (Idle)										
Montgomery No. 3			6,430	6,430	6,430		4,421 40	1,670 25	1,673 90	7,765 55
Mutual	8,780	2,750	15,780	27,310	17,550	9,760	26,344 25	9,369 00	6,020 00	41,733 25
Mandabach (Idle)										
Winklepeck (Idle)										
Total	8,780	2,750	31,655	43,185	33,425	9,760	\$36,172 90	\$12,320 96	\$9,579 35	\$58,073 21

FOUNTAIN COUNTY.

Indio	9,164	3,435	3,250	15,849	14,940	909	11,463 36	6,023 96	980 88	\$18,468 20
Total	9,164	3,435	3,250	15,849	14,940	909	\$11,463 36	\$6,023 96	\$980 88	\$18,468 20

GIBSON COUNTY.

Oswald	40,713	50,677	65,702	157,092	157,092		\$98,494 08	\$40,191 48	\$10,051 43	\$148,736 99
Massey	2,190	4,934	462	7,586	7,586		5,278 18	1,243 18	1,203 14	7,724 50
Fort Branch	1,514	1,435	2,794	5,743	5,743		4,104 37	1,321 93	1,291 45	6,717 75
Total	44,417	57,046	68,958	170,421	170,421		\$107,876 63	\$42,756 59	\$12,546 02	\$163,179 24

GREENE COUNTY.

Queen.....	10,771	10,260	33,056	54,087	54,087		\$33,095 59	\$8,389 76	\$4,283 55	\$45,768 90
North Linton (Idle).....										
Sponsler.....	18,562	8,179	61,462	88,203	59,975	28,228	55,887 04	12,727 52	6,843 28	75,457 84
Antioch.....	10,457	6,190	27,804	44,451	28,527	15,924	29,073 84	9,962 74	6,300 96	45,337 54
Vandalia No. 3.....	20,385	9,841	27,430	57,656	56,573	1,083	35,134 18	10,816 52	4,115 05	50,065 75
Vandalia No. 4.....	10,188	4,794	13,344	28,326	28,326		17,056 00	4,832 38	2,110 53	23,998 91
Vandalia No. 6.....	826	415	3,729	4,970	4,935	35	3,124 40	1,037 37	692 59	4,854 36
Tower Hill.....	24,429	12,062	2,547	39,038		39,038	25,553 65	5,476 16	3,050 97	34,080 78
Letsinger (Idle).....										
P. & I.....	4,517	2,392	9,988	16,897	4,719	12,178	10,132 13	1,811 88	1,463 77	13,407 78
Enterprise.....			2,990	2,990	2,990		1,520 00	695 00	460 00	2,675 00
Total.....	100,135	54,133	182,350	336,618	240,132	96,486	\$210,576 83	\$55,749 33	\$29,320 70	\$295,646 86

KNOX COUNTY.

Bicknell.....	8,512	6,555	2,932	17,999	17,999		\$9,707 69	\$1,918 38	\$1,202 45	\$12,828 52
Wheatland.....			18,377	18,377	18,377		11,066 67	4,570 33	2,794 83	18,431 83
Total.....	8,512	6,555	21,309	36,376	36,376		\$20,774 36	\$6,488 71	\$3,997 28	\$31,260 35

PARKE COUNTY.

Maeca No.13.....	27,657	13,457	8,840	49,954	11,390	38,564	\$31,186 20	\$10,754 30	\$4,595 29	\$46,535 79
Harrison (Idle).....										
Vandalia No. 316.....	38,101	22,555	10,473	71,129	67,836	3,293	50,146 37	17,063 11	6,026 35	73,235 83
Total.....	65,758	36,012	19,313	121,083	79,226	41,857	\$81,332 57	\$27,817 41	\$10,621 64	\$119,771 62

BITUMINOUS HAND OR PICK MINES—Continued.

PIKE COUNTY.

NAME OF MINE.	PICK MINED.				DISTRIBUTION.		WAGES PAID.			
	Tons of Screened Coal.	Tons of Slack and Nut.	Tons of Mine Run.	Total Tons of All Kinds of Coal Produced.	Indiana.	Other States.	To Miners.	To Inside Day Men.	To Outside Day Men.	Total Wages.
Ayrshire No. 3.....	20,159	12,588	10,928	43,675	27,998	15,677	\$24,273 21	\$7,246 90	\$3,755 12	\$35,275 23
Ayrshire No. 4.....	72,844	57,905	14,117	144,866	61,933	82,933	83,353 49	25,414 54	10,510 66	119,278 69
Muren.....			28,987	28,987	28,987		11,179 86	4,170 00	2,680 36	18,030 22
Blackburn No. 1.....	5,809	8,370	18,328	32,507	25,107	7,400	18,313 27	4,957 88	2,471 82	25,742 97
Littles.....	31,757	45,705	8,110	85,572	57,471	28,101	48,984 29	15,294 79	5,517 21	69,796 29
Petersburg (Idle).....										
Winslow No. 4 (Idle).....										
Winslow No. 5 (Idle).....										
Aberdeen.....			15,200	15,200	15,200		9,600 00	3,100 00	1,090 00	13,790 00
Hartwell No. 1 and 2 (Idle).....										
Total.....	130,569	124,568	95,670	350,807	216,696	134,111	\$195,704 12	\$60,184 11	\$26,025 17	\$281,913 40

PERRY COUNTY.

Troy.....			3,729	3,729	3,729		\$2,667 45	\$819 72	\$531 80	\$4,018 97
Total.....			3,729	3,729	3,729		\$2,667 45	\$819 72	\$531 80	\$4,018 97

SULLIVAN COUNTY.

Keystone.....	4,573	2,251	.....	6,824	4,440	2,384	\$4,637 99	\$1,596 76	\$1,902 39	\$8,137 14
Cummins.....	.....	.....	7,832	7,832	2,300	5,532	5,110 00	1,508 00	696 00	7,314 00
Freeman.....	29,386	14,872	3,354	47,612	29,751	17,861	32,150 81	9,842 82	6,153 85	48,147 48
Hudson.....	29,184	22,495	17,534	69,213	69,213	.....	37,009 83	18,385 96	7,152 44	62,548 23
Bellevue.....	1,770	1,267	2,184	5,221	5,058	163	3,250 01	2,377 63	2,170 38	7,798 02
Total.....	64,913	40,885	30,904	136,702	110,762	25,940	\$82,158 64	\$33,711 17	\$18,075 06	\$133,944 87

VANDERBURGH COUNTY.

Diamond.....	21,239	13,486	5,708	40,433	40,433	.....	\$28,024 39	\$6,161 36	\$6,433 14	\$40,618 89
Ingleside.....	7,316	768	37,228	45,312	45,312	.....	32,069 70	10,668 20	6,704 03	49,441 93
Sunnyside.....	20,565	6,942	4,533	32,040	26,825	5,215	21,975 89	8,820 48	9,692 23	40,488 60
Unity.....	26,727	22,020	49,258	98,005	98,005	.....	66,770 46	20,575 26	9,816 90	97,162 62
First Avenue.....	20,398	11,487	6,099	37,984	37,984	.....	25,959 32	6,999 22	5,564 64	38,523 18
Total.....	96,245	54,703	102,826	253,774	248,559	5,215	\$174,799 76	\$53,224 52	\$38,210 94	\$266,235 22

VERMILLION COUNTY.

Dering No. 5.....	31,801	21,331	30,287	83,419	83,419	.....	\$52,557 83	\$20,657 56	\$3,329 66	\$76,545 05
Dering No. 7.....	30,554	21,736	88,711	141,001	141,001	.....	82,771 39	30,089 09	6,140 42	119,000 90
Dering No. 8.....	50,113	53,673	28,526	132,312	132,312	.....	74,456 51	36,836 46	6,867 91	118,160 88
Eureka.....	.....	.....	6,053	6,053	6,053	.....	3,989 55	2,009 35	1,130 86	7,129 76
Crown Hill No. 1.....	61,844	20,628	81,801	164,273	60,072	104,201	129,826 43	31,026 00	4,075 25	164,927 68
Crown Hill No. 2.....	33,894	11,304	58,747	103,945	28,301	75,644	88,415 88	20,880 12	2,619 80	111,915 80
Oak Hill.....	3,511	2,290	13,720	19,521	.....	19,521	12,009 03	5,265 40	1,999 80	19,274 23
Maple Valley.....	8,940	8,180	46,934	64,054	.....	64,054	36,767 24	10,794 15	3,911 00	51,472 39
Buckeye No. 2.....	23,305	18,520	249,754	291,579	291,579	.....	171,466 73	35,929 05	10,656 15	218,051 93
Prince.....	739	400	65,941	67,080	67,080	.....	43,137 49	10,555 78	5,958 16	59,651 43
Total.....	244,701	158,062	670,474	1,073,237	94,426	978,811	\$695,398 08	\$204,042 96	\$46,689 01	\$946,130 05

BITUMINOUS HAND OR PICK MINES—Continued.

VIGO COUNTY.

NAME OF MINE.	PICK MINED.				DISTRIBUTION.		WAGES PAID.			
	Tons of Screened Coal.	Tons of Slack and Nut.	Tons of Mine Run.	Total Tons of All Kinds of Coal Produced.	Indiana.	Other States.	To Miners.	To Inside Day Men.	To Outside Day Men.	Total Wages.
Lawton.....	83,364	45,328	14,241	142,933	124,588	18,335	\$81,067 15	\$25,873 15	\$10,298 40	\$117,238 70
Victor.....	48,961	32,649	6,386	87,996	87,996		51,600 95	11,726 40	6,037 05	69,364 40
Minshall.....	25,216	13,272	37,221	75,709	65,639	10,070	50,354 60	10,793 55	5,446 70	66,594 85
Lower Vein No. 1.....	62,073	35,919	39,005	136,997	136,997		87,709 51	21,223 52	8,261 23	117,194 26
Vandalia No. 6.....	62,610	51,547	6,826	120,983	118,016	2,967	66,324 62	25,774 56	6,599 18	98,698 36
Vandalia No. 67.....	71,668	37,944	94,140	203,752	198,943	4,809	124,772 51	30,007 91	9,338 14	164,118 56
Vandalia No. 81.....	40,225	29,827	5,866	75,918	53,140	22,778	45,617 07	14,204 14	6,785 88	66,607 69
Miami No. 1.....	92,364	54,040	19,754	166,158		166,158	100,193 45	35,710 95	8,712 74	144,617 14
Miami No. 2.....	87,206	55,245	40,574	183,025		183,025	113,698 27	34,360 04	13,606 01	161,664 32
Miami No. 3.....	80,542	47,015	17,214	144,771		144,771	88,514 33	23,883 09	5,101 11	117,498 53
Miami No. 4.....	4,985	4,055	1,395	10,435		10,435	9,561 84	4,588 21	2,363 12	16,531 17
Fauvre No. 1.....	15,299	11,291	14,741	41,331	41,331		19,473 23	10,101 08	4,270 15	33,844 46
Fauvre No. 2.....	26,752	16,891	5,707	49,350	49,350		28,055 71	10,077 65	2,895 25	41,028 61
Ray No. 2.....	39,603	18,557	41,897	100,057	45,478	54,579	66,887 90	20,667 75	6,308 34	93,863 99
Chicago No. 6 (Idle).....										
Grant No. 2.....	2,805	1,278	31,705	35,788		35,788	20,440 73	10,375 55	4,237 76	35,054 04
Sugar Valley.....	9,742	4,841	8,503	23,086	22,894		14,703 61	3,810 84	3,329 22	21,843 67
Dering No. 6.....	57,296	26,084	138,760	222,140		222,140	139,968 34	45,842 85	6,965 54	192,776 73
National.....	4,085	2,810	4,396	11,291	11,291		5,634 30	1,938 38	2,128 06	9,700 74
Total.....	814,796	488,593	528,331	1,831,720	955,673	876,047	\$1,114,578 72	\$340,957 62	\$112,703 88	\$1,568,240 22

WARRICK COUNTY.

Red Shaft (Idle).....			60,943	60,943	60,943		\$32,708 95	\$5,783 15	\$3,753 50	\$42,245 60
Castle Garden.....			8,323	26,905	26,905		16,130 24	3,247 27	1,964 64	21,342 15
Brizius.....	11,426	7,156	22,109	22,109	22,109		12,159 95	5,570 33	2,794 83	20,525 11
Elberfeld.....			7,684	9,619	9,619		5,234 97	630 21	1,457 09	7,322 27
Epworth.....	1,418	517								
Total.....	12,844	7,673	99,059	119,576	119,576		\$66,234 11	\$15,230 96	\$9,970 06	\$91,435 13
Total bituminous pick mined coal.....	1,690,138	1,081,906	1,951,353	4,723,397	2,533,998	2,189,399	\$2,937,046 89	\$89,541 48	\$331,950 67	\$4,167,539 04

RECAPITULATION.

Showing Total Production and Wages of Indiana Mines for 1908.

TOTAL PRODUCTION OF BLOCK COAL.

	MACHINE MINED.				PICK MINED.				DISTRIBUTION.		WAGES PAID.			
	Tons of Screened Coal.	Tons of Slack and Nut Coal.	Tons of Mine Run Coal.	Total Tons of All Kinds of Coal Produced.	Tons of Screened Coal.	Tons of Slack and Nut Coal.	Tons of Mine Run Coal.	Total Tons of All Kinds of Coal Produced.	Indiana.	Other States.	To Miners.	To Inside Day Men.	To Outside Day Men.	Total Wages Paid.
Total mach. mined block coal	97,205	15,536	3,551	116,292	32,540	9,664	.....	42,204	47,910	110,586	\$126,654 72	\$55,838 43	\$23,019 17	\$205,512 32
Total pick mined block coal .....	.....	.....	.....	.....	555,290	109,754	29,420	694,464	306,247	388,217	527,278 55	197,991 44	105,164 31	830,434 30
Total block coal..	97,205	15,536	3,551	116,292	587,830	119,418	29,420	736,668	354,157	498,803	\$653,933 27	\$253,829 87	\$128,183 48	\$1,035,946 62

TOTAL PRODUCTION OF BITUMINOUS COAL.

Total bituminous machine mined coal	1,657,918	900,014	2,694,687	5,252,619	407,543	221,003	539,782	1,168,328	3,831,834	2,589,113	\$3,356,661 63	\$1,239,157 42	\$505,564 73	\$5,101,383 78
Total bituminous pick mined coal .....	.....	.....	.....	.....	1,690,138	1,081,906	1,951,353	4,723,397	2,533,998	2,189,399	2,937,046 89	898,541 48	331,950 67	4,167,539 04
Total bituminous coal	1,657,918	900,014	2,694,687	5,252,619	2,097,681	1,302,909	2,491,135	5,891,725	6,365,832	4,778,512	\$6,293,708 52	\$2,137,698 90	\$837,515 40	\$9,268,922 82

Summary.

Total machine mined coal	1,755,123	915,550	2,698,238	5,368,911	440,083	230,667	539,782	1,210,532	3,879,744	2,699,699	\$3,483,316 35	\$1,294,995 85	\$528,583 90	\$5,306,896 10
Total pick mined coal .....	.....	.....	.....	.....	2,245,428	1,191,660	1,980,773	5,417,861	2,840,245	2,577,616	3,464,325 44	1,096,532 92	437,114 98	4,997,973 34
Grand total.....	4,440,634	2,337,877	5,218,793	11,997,304	.....	.....	.....	.....	6,719,989	5,277,315	\$6,947,641 79	\$2,391,528 77	\$965,698 88	\$10,304,869 44

TABLE

Showing Number of Miners, Machine Runners and Helpers, Loaders, Inside Day and Monthly Men, Persons Employed Outside; Total Number of Employees at Each Mine, Number of Days Worked and Number of Mules Used; Totals by Counties.

CLAY COUNTY.

NAME OF MINE.	Pick Miners.	Machine Runners and Helpers.	Loaders.	Inside Day and Monthly Men.	Outside Day Men.	Total Employees.	Days Worked.	Mules Used.	Powder.
Brazil No. 1	23			8	3	34	270	5	1,204
Brazil No. 4	103			29	11	143	178	12	1,417
Brazil No. 7	26			4	4	34	143	2	272
Redstock	35			12	5	52	75	5	231
Superior No. 4	66			18	6	90	185	6	2,452
Crawford No. 2	40			19	7	66	160	5	976
Crawford No. 6	60			18	6	84	123	9	1,460
Crawford No. 8	28			6	4	38	181	2	816
Crawford No. 9	63			17	6	86	231	8	3,056
Plymouth No. 2	51			10	5	66	220	3	3,128
Monarch	20			6	2	28	277	4	1,216
Eureka No. 5	83			19	7	109	180	8	2,034
Treager	11			1	1	13	191	2	422
Schefferman (Idle)									
Wizard	58			10	5	73	158	3	1,504
Crawford No. 10	30			10	6	46	137	3	1,202
Pyrah	10			3	3	16	204	1	359
Indiana No. 1	35			6	5	46	127	3	824
Progressive	38			9	5	52	166	5	1,201
Gifford No. 1	21			9	5	35	19	3	110
Gifford No. 2	19	2	10	7	5	43	83	2	494
Lewis	36	18	56	19	11	140	135	8	1,446
Vivian No. 2	7	16	61	22	7	113	174	10	1,165
Gold Knob (Idle)									
Island Valley No. 4	11	14	76	26	11	138	106	14	1,066
Vandalia No. 60	54			22	11	87	76	5	457
Vandalia No. 65	174			50	15	239	245	19	5,971
Glenn No. 1	24			5	4	33	139	3	719
Vivian No. 1 (Idle)									
Klondyke No. 2	69			17	5	91	111	7	1,471
Continental	12			3	3	18	77	2	74
Total	1,207	50	203	385	168	2,013	4,371	159	39,437

DAVISS COUNTY.

Horney	16			2	2	20	143	1	245
Stueky (Idle)									
Montgomery No. 3	31			8	9	48	84	5	570
Mutual	62			11	8	81	177	6	1,765
Mandabach (Idle)									
Winklepeck (Idle)									
Total	109			21	19	149	404	12	2,580

FOUNTAIN COUNTY.

Indio	39			12	5	56	119	6	869
Total	39			12	5	56	119	6	869

TABLE SHOWING NUMBER OF MINERS, ETC.—Continued.

GREENE COUNTY.

NAME OF MINE.	Pick Miners.	Machine Runners and Helpers.	Loaders.	Inside Day and Monthly Men.	Outside Day Men.	Total Employees.	Days Worked.	Mules Used.	Powder.
Black Creek	74	6	34	44	9	167	234	14	3,845
Bickason	57	4	14	24	8	105	44	8	782
Vandalia No. 2	95	14	28	41	12	190	144	17	2,094
Vandalia No. 5	95	30	67	63	25	280	234	14	3,908
Vandalia No. 8	17	22	127	63	17	246	229	16	2,579
Vandalia No. 9	27	14	104	56	14	215	213	14	2,690
Vandalia No. 21	1	28	78	22	14	143	248	8	1,496
Lattas Creek	65	32	123	65	22	307	156	13	3,945
Gilmour	31	14	87	49	16	197	108	15	3,153
Summit No. 2	11	18	97	50	10	188	180	22	1,868
Green Valley	11	16	84	35	11	146	185	15	1,683
Queen	56			13	6	75	195	6	3,089
North West	31	12	65	33	14	155	197	10	2,424
Twin No. 4	12	26	29	20	7	94	197	6	561
Twin No. 5	11	10	78	23	10	132	161	9	1,199
North Linton (Idle)									
Sponsler	83			20	7	110	204	13	3,745
Antioch	59			19	9	87	163	6	2,879
Vandalia No. 3	72			25	9	106	89	10	2,213
Vandalia No. 4	95			29	9	133	50	9	1,118
Vandalia No. 6	68			2	2	72	12	1	183
Tower Hill	100			37	14	151	35	7	1,472
Letsinger (Idle)									
P. & I.	45			12	8	65	65	18	727
Enterprise	11			2	2	15	52	2	138
Vandalia No. 20		6	9	2	3	20	61	1	21
Total	1,116	252	1,024	749	258	3,399	3,456	254	47,812

GIBSON COUNTY.

Oswald	94			47	11	152	253	18	6,404
Peacock No. 2	28			3	7	38	58	5	451
Fort Branch	12			3	4	19	89	2	230
Total	134			53	22	209	400	25	7,085

KNOX COUNTY.

Knox	10	14	60	82	13	179	149	7	1,038
Lynn	7	8	31	18	9	73	197	8	847
Freeman	8	18	85	36	17	164	180	9	1,668
Bicknell	12			4	2	18	145	4	1,045
Wheatland	44			11	5	60	72	6	927
Tecumseh		32	74	18	13	137	180	6	1,752
Total	81	72	250	169	59	631	923	40	7,277

TABLE SHOWING NUMBER OF MINERS, ETC.—Continued.

PARKE COUNTY.

NAME OF MINE.	Pick Miners.	Machine Runners and Helpers.	Loaders.	Inside Day and Monthly Men.	Outside Day Men.	Total Em- ployes.	Days Worked.	Mules Used.	Powder.
Brazil No. 9.....	27			13	5	45	170	5	896
Brazil No. 12.....	36			8	4	48	167	4	1,274
Superior No. 1.....	6			1	3	10	54	1	40
Superior No. 2.....	85			22	8	115	144	11	2,605
Superior No. 3.....	85			24	7	116	180	9	2,348
Superior No. 5.....	103			34	8	145	153	10	4,520
Mary.....	12	14	42	37	12	117	244	12	567
Mecca No. 3.....	44			22	6	72	165	7	1,656
Parke No. 11.....	31	26	47	37	12	153	234	10	2,834
Lyford No. 1.....		28	55	31	12	126	209	12	1,492
Harrison (Idle).....									
Moore..... (Idle)									
Vandalia No. 316.....	111			41	10	162	169	18	2,803
Total.....	540	68	144	270	87	1,109	1,889	99	21,035

PERRY COUNTY.

Troy.....	15			3	3	21	82	1	178
Total.....	15			3	3	21	82	1	178

PIKE COUNTY.

Ayrshire No. 5.....	2	6	21	10	7	46	216	4	826
Ayrshire No. 3.....	56			13	10	79	147	7	1,768
Ayrshire No. 4.....	141			37	22	200	213	16	7,323
Muren.....	44			12	8	64	140	5	1,535
Blackburn No. 1.....	14			5	4	23	135	3	993
Littles.....	146			42	10	198	173	15	4,307
Petersburg (Idle).....									
Winslow No. 4 (Idle).....									
Winslow No. 5 (Idle).....									
Aberdeen.....	40			5	3	48	75	2	280
Blackburn No. 2.....	44	2	8	9	8	71	161	2	2,217
Hartwell No. 1 (Idle).....									
Hartwell No. 2 (Idle).....									
Total.....	487	8	29	133	72	729	1,260	54	18,969

TABLE SHOWING NUMBER OF MINERS, ETC.—Continued.

SULLIVAN COUNTY.

NAME OF MINE.	Pick Miners.	Machine Runners and Helpers.	Loaders.	Inside Day and Monthly Men.	Outside Day Men.	Total Em- ployes.	Days Worked.	Mules Used.	Powder.
Rainbow.....		16	92	26	16	150	90	13	2,476
Phoenix No. 4.....	1	20	110	47	15	193	110	16	2,707
Hocking.....		16	77	41	17	151	133	10	3,047
Citizens.....	12	8	35	9	7	71	124	5	442
Sunflower.....		12	84	23	12	131	136	11	875
Consolidated No. 25.....		20	68	31	13	132	185	9	1,365
Consolidated No. 26.....	(Idle)								
Consolidated No. 28.....	(Idle)								
Consolidated No. 30.....		12	51	23	13	99	145	9	727
Consolidated No. 32.....	(Idle)								
Bellevue.....	29			5	4	38	43	2	310
Vandalia No. 10.....	3	20	133	72	18	246	201	16	2,325
Jackson Hill No. 2.....		20	109	36	14	179	188	19	1,191
Jackson Hill No. 4.....		20	107	35	16	178	172	18	1,081
Keystone.....	40			6	4	50	52	2	302
Dering No. 13.....	2	14	65	31	14	126	194	15	1,276
Dering No. 14.....	7	18	94	58	20	197	204	19	1,717
Mammoth Vein.....	7	14	95	52	23	191	120	12	1,711
Shirley Hill No. 1.....	42	10	54	32	12	150	222	12	3,555
Little Giant.....	140	12	81	69	20	322	225	17	7,924
Reliance.....	15	12	64	36	12	139	223	9	1,138
Diamond No. 1.....	60			25	12	97	102	6	1,699
Black Hawk (Idle).....									
Clover Leaf.....	23	14	80	50	11	178	239	16	3,190
Shirley Hill No. 3.....		6	38	13	10	67	228	3	808
Viola.....	35	6	24	25	21	111	160	5	1,631
Cummins.....	35			15	15	65	51	7	312
Freeman.....	45			18	9	72	187	6	2,466
Hudson.....	112			42	12	166	137	15	3,413
Consolidated No. 33.....	35	24	136	74	19	288	150	18	2,402
Kettle Creek.....	5	12	70	31	11	129	124	14	701
Total.....	648	306	1,667	925	370	3,916	4,345	304	50,429

VANDERBURGH COUNTY.

Diamond.....	51			9	10	70	144	5	1,713
Ingleside.....	60			15	12	87	287	8	2,350
Sunnyside.....	36			11	7	54	204	8	1,658
Unity.....	116			36	13	165	201	14	5,950
First Avenue.....	46			8	8	62	248	5	1,914
Total.....	309			79	50	438	1,084	40	13,585

VERMILLION COUNTY.

Dering No. 5.....	143			47	9	199	110	19	5,935
Dering No. 7.....	139			47	11	197	196	14	8,925
Dering No. 8.....	83			30	7	120	226	9	7,194
Eureka.....	12			3	2	17	95	3	291
Crown Hill No. 1.....	215			39	9	263	230	20	11,777
Crown Hill No. 2.....	164			32	12	208	225	15	8,793
Oak Hill (not reported).....									
Maple Valley.....	108			32	8	148	109	15	3,735
Buckeye No. 2.....	264			59	11	334	206	26	19,558
Klondyke.....	65			16	4	85	251	4	4,270
Crown Hill No. 3.....		28	44	15	9	96	234	4	1,081
Total.....	1,193	28	44	320	82	1,667	1,882	129	72,700

TABLE SHOWING NUMBER OF MINERS, ETC.—Continued.

VIGO COUNTY.

NAME OF MINE.	Pick Miners.	Machine Runners and Helpers.	Loaders.	Inside Day and Monthly Men.	Outside Day Men.	Total Em- ployes.	Days Worked.	Mules Used.	Powder.
Vandalia No. 81.....	59			24	12	95	263	8	3,976
Parke No. 10.....	103	4		41	15	163	44	12	1,796
Forrest.....	67	22	42	40	20	191	178	14	5,216
Atherton.....	21	12	20	19	10	82	54	6	176
Lawton.....	153			38	14	205	248	28	4,910
Plymouth No. 1.....	41	6	26	15	7	95	215	5	2,797
Victor.....	92			17	9	118	250	6	3,148
Wabash.....	55	14	91	33	9	202	253	12	7,603
Lower Vein No. 1.....	162			39	10	211	200	12	8,012
Vandalia No. 66.....	111			45	12	168	232	12	4,892
Vandalia No. 67.....	180			55	18	253	243	19	6,716
Miami No. 1.....	113			34	10	157	229	15	5,346
Miami No. 2.....	186			26	9	221	252	13	6,216
Miami No. 3.....	203			34	9	246	151	17	5,056
Fauvre No. 1.....	37			14	7	58	195	6	2,212
Fauvre No. 2.....	71			15	9	95	129	5	2,603
Vandalia No. 69.....	105	4	10	42	11	172	229	13	5,005
Deep Vein.....	94	2	8	18	10	132	179	10	3,997
Ray No. 2.....	228			44	10	282	188	19	4,303
Chicago No. 6 (Idle).....									
Grant No. 2.....	85			35	11	131	89	17	1,781
Sugar Valley.....	26			4	3	33	230	2	1,260
Dering No. 6.....	207			67	7	281	168	28	12,924
Minshall.....	62			14	6	82	229	5	3,302
Domestic Block No. 1.....	20	14	60	38	18	150	106	10	909
Miami No. 4.....	14			6	5	25	123	2	567
Grant No. 3.....		18	40	15	8	81	155	5	639
National.....	25			3	2	30	142	2	655
Glen Ayr.....	48	8	41	15	8	120	165	5	3,087
Total.....	2,568	104	338	790	279	4,079	5,139	308	108,494

WARRICK COUNTY

Big Four.....		14	43	10	16	83	223	7	1,332
Chandler.....	35	6	14	7	5	67	121	4	879
DeForrest.....		6	17	6	4	33	99	3	194
Electric.....	17	6	36	22	9	90	120	11	986
Dawson.....		16	30	11	6	63	248	7	817
Erie Canal.....	11	8	40	13	7	79	107	7	679
Red Shaft (Not reported).....									
Castle Garden.....	64			11	9	84	135	6	2,982
Brizius.....	34			5	5	44	203	4	1,261
Elberfeld.....	40			5	5	50	117	4	526
Epworth.....	12			1	2	15	160	1	801
Polk No. 5.....		14	38	7	9	68	151	3	440
Total.....	213	70	218	98	77	676	1,683	57	10,897
Grand total.....	8,650	958	3,917	4,007	1,551	19,092	27,037	1,488	401,347

TABLE

Showing by Counties the Total Number of Miners and Total Number of Kegs of Powder Used in 1908, the Number of Kegs per Miner, the Total Tons of Coal Produced and the Number of Tons Produced per Keg of Powder.—The Block and Bituminous Mines Each Shown Separately, as Are the Machine and Hand Mines.—Also a General Average of Tons Produced per Keg in All the Mines in the State Combined.

BLOCK COAL MACHINE MINES.

COUNTY.	No. Tons Produced.	Kegs of Powder.	No. of Miners.	Kegs per Miner.	Tons Per Keg.
Parke.....	64,331	567	54	10.5	113.4
Vigo.....	94,165	3,706	147	25.2	25.4
General average.....	158,496	4,273	201	21.2	37

BLOCK COAL HAND MINES.

Clay.....	523,637	27,257	792	34.4	19.2
Parke.....	170,827	11,683	342	34.1	14.6
General average.....	694,464	38,940	1,134	34.3	17.8
Total general average block mines.....	852,960	43,213	1,335	32.3	19.7

BITUMINOUS MACHINE MINES.

Clay.....	275,204	4,281	297	14.4	64.2
Greene.....	1,921,028	32,248	1,607	20.6	59.5
Knox.....	391,623	5,305	275	19.2	73.8
Parke.....	246,704	4,326	133	32.5	57
Pike.....	74,158	3,043	75	40.5	24.3
Sullivan.....	2,449,291	42,239	1,994	21.2	57.9
Vermillion.....	66,432	1,081	44	24.5	61.4
Vigo.....	692,030	27,519	745	36.8	25.1
Warrick.....	304,477	5,327	281	18.9	57.1
General average.....	6,420,947	125,369	5,451	22.9	51.2

BITUMINOUS HAND MINES.

Clay.....	230,320	7,899	321	24.6	29.1
Daviess.....	43,185	2,580	109	23.6	16.7
Fountain.....	15,849	869	39	22.2	18.2
Greene.....	336,618	15,564	533	29.2	21.6
Gibson.....	170,421	7,085	134	52.8	24
Knox.....	36,376	1,972	56	35.3	18.4
Parke.....	121,083	4,459	155	28.7	27.1
Perry.....	3,729	178	15	11.8	20.9
Pike.....	350,807	15,926	441	36.1	22
Sullivan.....	136,702	8,190	321	25.5	16.6
Vanderburgh.....	253,774	13,585	309	43.9	18.6
Vermillion.....	1,073,237	71,619	1,193	60	14.9
Vigo.....	1,831,720	77,269	2,014	38.3	23.7
Warrick.....	119,576	5,570	150	37.1	21.4
General average.....	4,723,397	232,765	5,790	40.2	20.2
Total general average bituminous mines.....	11,144,344	358,134	11,241	31.8	31.1

RECAPITULATION.

General average block hand mines.....	694,464	38,940	1,134	34.3	17.8
General average block machine mines.....	158,496	4,273	201	21.2	37
General average bituminous hand mines.....	4,723,397	232,765	5,790	40.2	20.2
General average bituminous machine mines.....	6,420,947	125,369	5,451	22.9	51.2
Total general average for the State.....	11,997,304	401,347	12,576	31.9	29.8

TABLE

Exhibiting the Names of Coal Companies, Names of Mines Operated by Them, the Geological Number of the Different Coal Seams Mined, Character and Thickness of Seam in Feet and Inches, Depth From Surface to Coal, and Railroads on Which Each Mine is Located; Also Location of Mine by Section, Range and Township, and Surface Elevation Above Sea Level Where Same Could be Obtained.

CLAY COUNTY.

NAME OF COMPANY.	Name of Mine.	Railroad.	Location.	Geological Number.	Character of Coal.	Thickness of Coal in Feet and Inches.	Depth from Surface to Coal.	Elevation Above Sea Level.
Brazil Block Coal Co.	Brazil No. 1	C. & E. I.	Sec. 56, T. 13 n. R. 7 w., Brazil Tp.	IV	Block	3' 6"	96	
Brazil Block Coal Co.	Brazil No. 4	C. & E. I.	Sec. 10, T. 13 n. R. 7 w., Brazil Tp.	III	Block	3' 4"	146	
Superior Block Coal Co.	Rebstock	C. & E. I.	Sec. 21, T. 13 n. R. 7 w., Dick Johnson Tp.	Rider	Block	3' 6"	75	
Zeller-McClellan Co.	Superior No. 4	E. & I.	Sec. 13, T. 12 n. R. 7 w., Posey	IV	Block	4' 8"	85	
Crawford Coal Co.	Crawford No. 2	Vandalia, Center Point branch.	Sec. 32, T. 12 n. R. 6 w., Jackson Tp.	IV	Block	4' 2"	85	
Crawford Coal Co.	Crawford No. 6	Vandalia, Center Point branch.	Sec. 4, T. 11 n. R. 6 w., Sugar Ridge Tp.	IV	Block	3' 2"	42	
Crawford Coal Co.	Crawford No. 8	E. & I.	Sec. 31, T. 12 n. R. 6 w., Jackson Tp.	III	Block	3' 4"	106	
Crawford Coal Co.	Crawford No. 9	C. & E. I.	Sec. 36, T. 13 n. R. 7 w., Brazil Tp.	IV	Block	3' 1"	20	
Crawford Coal Co.	Crawford No. 10	C. & E. I.	Sec. 21, T. 13 n. R. 7 w., Dick Johnson Tp.	IV	Block	3' 6"	99	
Indiana Block Coal Co.	Indiana No. 1	E. & I.	Sec. 25, T. 11 n. R. 7 w., Sugar Ridge Tp.	IV	Block	3' 10"	120	
Coal Bluff Mining Co.	Plymouth No. 2	C. & E. I.	Sec. 4, T. 13 n. R. 7 w., Dick Johnson Tp.	III	Block	2' 10"	56	
American Clay Manufacturing Co.	Monarch	Product consumed at factory.	Sec. 25, T. 13 n. R. 7 w., Brazil Tp.	IV	Block	3' 7"	115	
Eureka Block Coal Co.	Eureka No. 5	Big Four	Sec. 10, T. 13 n. R. 7 w., Dick Johnson Tp.	IV	Block	2' 6"	75	
Treasure Coal Co.	Treasure	Wagon mine	Sec. 30, T. 13 n. R. 7 w., Brazil Tp.	III	Block	3' 3"	115	
Harrison Coal Co.	Harrison No. 4	E. & I.	Sec. 27, T. 10 n. R. 6 w., Harrison Tp.	IV	Block	3' 6"	64	
Nick Schefferman	Schefferman	Wagon mine	Sec. 4, T. 12 n. R. 6 w., Jackson Tp.	IV	Block	4' 6"	70	
Hall & Zimmerman	Wizard	Central Indiana	Sec. 19, T. 13 n. R. 6 w., Van Buren Tp.	III	Block	4' 2"	67	
Sam Pyrah	Pyrah	Wagon mine	Sec. 1, T. 12 n. R. 7 w., Dick Johnson Tp.	III	Block	3' 4"	45	
Progressive Coal & Mining Co.	Progressive	Vandalia, main line.	Sec. 6, T. 12 n. R. 6 w., Jackson Tp.	IV	Block	3' 6"	35	
Big Vein Mining Co.	Lewis	S. I.	Sec. 30, T. 9 n. R. 7 w., Lewis Tp.	IV	Block	3' 10"	101	
Vivian Colliers Co.	Vivian No. 1	S. I.	Sec. 34, T. 9 n. R. 7 w., Lewis Tp.	V	Bituminous	8'	80	
Vivian Colliers Co.	Vivian No. 2	S. I.	Sec. 34, T. 9 n. R. 7 w., Lewis Tp.	III	Bituminous	5' 10"	160	
O. S. Richardson Coal Co.	Gifford No. 2	C. & E. I.	Sec. 33, T. 13 n. R. 7 w., Dick Johnson Tp.	IV	Bituminous	4' 2"	34	
				III	Bituminous	4' 3"	77	
Vandalia Coal Co.	Vandalia No. 65	Vandalia, main line.	Sec. 18, T. 12 n. R. 7 w., Posey Tp.	Minshall	Bituminous	7' 2"	99	
United Fourth Vein Coal Co.	Island Valley No. 4	S. I.	Sec. 33, T. 9 n. R. 7 w., Lewis Tp.	Minshall	Bituminous	4' 10"	104	

TABLE EXHIBITING THE NAMES OF COAL COMPANIES, ETC.—Continued.

DAVISS COUNTY.

NAME OF COMPANY.	Name of Mine.	Railroad.	Location.	Geological Number.	Character of Coal.	Thickness of Coal in Feet and Inches.	Depth from Surface to Coal.	Elevation Above Sea Level.
Horney & Winterbottom.....	Horney No. 3.....	Wagon mine.....	Sec. 9, T. 2 n. R. 7 w., Washington Tp.....	Minshall.	Bituminous.	3' 9"	40	.....
Mutual Mining Co.....	Mutual.....	B. & O. S. W.....	Sec. 23, T. 3 n. R. 5 w., Barr Tp.....	Minshall.	Bituminous.	3' 9"	100	.....
Winklepeck & Overton.....	Winklepeck.....	Wagon mine.....	.....	Minshall.	Bituminous.	3' drift	.....	.....
Mandabach Bros.....	Mandabach.....	Wagon mine.....	Sec. 6, T. 2 n. R. 7 w., Washington Tp.....	V	Bituminous.	5' 6"	97	.....
River Island Coal Co.....	River Island.....	Wagon mine.....	Sec. 8, T. 5 n. R. 6 w., Elnora Tp.....	Minshall.	Bituminous.	3' 6"	113	.....

FOUNTAIN COUNTY.

Rush Coal Co.....	Indio.....	Clover Leaf.....	Sec. 9, T. 18 n. R. 8 w.....	III?	Bituminous.	4' 6"	50
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GREENE COUNTY.

United Fourth Vein Coal Co.....	Black Creek.....	S. I.....	Secs. 9, 10, 15 and 16, T. 7 n. R. 7 w., Stockton Tp.....	IV	Bituminous.	4' 6"	83
United Fourth Vein Coal Co.....	Dickason.....	S. I.....	Secs. 10, 15, and 16, T. 7 n. R. 7 w., Stockton Tp.....	IV	Bituminous.	4' 6"	81	.....
United Fourth Vein Coal Co.....	Sponsler.....	S. I.....	Secs. 35 and 36, T. 7 n. R. 7 w., Stockton Tp.....	IV	Bituminous.	5' 3"	50	.....
United Fourth Vein Coal Co.....	Antioch.....	S. I., Sullivan division.....	Secs. 29, 30 and 31, T. 8 n. R. 7 w., Wright Tp.....	IV	Bituminous.	4' 4"	168	.....
United Fourth Vein Coal Co.....	North Linton.....	S. I.....	Secs. 10 and 11, T. 7 n. R. 7 w., Stockton Tp.....	IV	Bituminous.	4'	64	.....
Vandalia Coal Co.....	Vandalia No. 2.....	I. & V., Coal branch.....	Sec. 26, T. 7 n. R. 7 w., Stockton Tp.....	IV	Bituminous.	5'	66-6"	.....
Vandalia Coal Co.....	Vandalia No. 3.....	I. & V., Coal branch.....	Sec. 26, T. 7 n. R. 7 w., Stockton Tp.....	IV	Bituminous.	5'	82	.....
Vandalia Coal Co.....	Vandalia No. 4.....	I. & V., Coal branch.....	Sec. 23, T. 7 n. R. 7 w., Stockton Tp.....	IV	Bituminous.	5'	55	.....
Vandalia Coal Co.....	Vandalia No. 5.....	I. & V., Coal branch.....	Sec. 22, T. 7 n. R. 7 w., Stockton Tp.....	IV	Bituminous.	5'	91	.....
Vandalia Coal Co.....	Vandalia No. 6.....	I. & V., Coal branch.....	Sec. 27, T. 7 n. R. 7 w., Stockton Tp.....	IV	Bituminous.	5'	75	.....
Vandalia Coal Co.....	Vandalia No. 8.....	I. & V., Coal branch.....	Sec. 17, T. 7 n. R. 7 w., Stockton Tp.....	IV	Bituminous.	5' 6"	130	.....
Vandalia Coal Co.....	Vandalia No. 9.....	I. & V., Coal branch.....	Sec. 17, T. 7 n. R. 7 w., Stockton Tp.....	IV	Bituminous.	5'	129	.....

TABLE EXHIBITING THE NAMES OF COAL COMPANIES, ETC.—Continued.

PARKE COUNTY.

NAME OF COMPANY.	Name of Mine.	Railroad.	Location.	Geological Number.	Character of Coal.	Thickness of Coal in Feet and Inches.	Depth from Surface to Coal.	Elevation Above Sea Level.
Brazil Block Coal Co.	Brazil No. 9.	C. & E. I.	Sec. 34, T. 14 n. R. 7 w., Raccoon Tp.	IV	Block.	4' 3"	121	
Brazil Block Coal Co.	Brazil No. 12.	C. & E. I.	Sec. 34, T. 14 n. R. 7 w., Raccoon Tp.	III	Block.	3' 6"	136	
Zellar-McClellan & Co.	Superior No. 2.	C. & E. I.	Sec. 35, T. 14 n. R. 7 w., Raccoon Tp.	IV	Block.	4' 4"	90	
				IV	Block.	3' 4"	123	
Zellar-McClellan & Co.	Superior No. 3.	C. & E. I.	Sec. 35, T. 14 n. R. 7 w., Raccoon Tp.	IV	Block.	4' 4"	55	
				III	Block.	3' 3"	85	
Zellar-McClellan & Co.	Superior No. 5.	C. & E. I.	Sec. 26, T. 14 n. R. 7 w., Raccoon Tp.	III	Block.	3' 4"	150	
Otter Creek Coal Co.	Mary No. 1.	C. & E. I.	Sec. 26, T. 14 n. R. 7 w., Raccoon Tp.	III	Block.	3'	154	
United Coal & Mining Co.	Mecca No. 3.	C. & E. I.	Sec. 21, T. 15 n. R. 8 w., Wabash Tp.	Minshall.	Bituminous.	4' 6"	160	
Parke County Coal Co.	Parke No. 2.	Vandalia, Logansport branch.	Sec. 33, T. 14 n. R. 8 w., Florida Tp.	III	Bituminous.	6' 6"	125	
Fairview Coal Co.	Fairview.	C. & E. I.	Sec. 16, T. 15 n. R. 8 w., Wabash Tp.	Minshall.	Bituminous.	5'	240	
Vivian Colliers Co.	Lyford No. 1.	C. & E. I.	Sec. 13, T. 14 n. R. 8 w., Florida Tp.	III	Bituminous.	6'	160	
Vandalia Coal Co.	Vandalia No. 316.	Vandalia, Logansport branch.	Sec. 18, T. 14 n. R. 8 w., Raccoon Tp.	Minshall.	Bituminous.	4' 6"	154	
James Moore.	Moore.	Wagon mine.	Sec. 9, T. 17 n. R. 7 w., Sugar Creek Td.	IV	Block.	4'	24	
W. P. Harrison.	Harrison.	Wagon mine.	Sec. 34, T. 16 n. R. 7 w., Washington Tp.	Minshall.	Bituminous.	3' 5"	Slope.	

PIKE COUNTY.

Ayrshire Coal Co.	Ayrshire No. 3.	Main Line Southern.	Sec. 6, T. 2 s. R. 7 w., Patoka Tp.	V	Bituminous.	5'	26	470
Ayrshire Coal Co.	Ayrshire No. 4.	Main Line Southern.	Sec. 6, T. 2 s. R. 7 w., Patoka Tp.	V	Bituminous.	5'	Drift.	
Ayrshire Coal Co.	Ayrshire No. 5.	Main Line Southern.	Sec. 1, T. 2 s. R. 8 w., Patoka Tp.	V	Bituminous.	5'	Slope.	
Central Indiana Coal & Mining Co.	Muren.	Main Line Southern.	Sec. 10, T. 2 s. R. 8 w., Patoka Tp.	V	Bituminous.	7' 6"	Slope.	
S. W. Littles Coal Co.	Blackburn No. 1.	E. & I.	Sec. 12, T. 1 n. R. 8 w., Washington Tp.	V	Bituminous.	6' 6"	Slope.	
S. W. Littles Coal Co.	Blackburn No. 2.	E. & I.	Sec. 14, T. 1 n. R. 8 w., Washington Tp.	V	Bituminous.	6'	70	
S. W. Littles Coal Co.	Littles.	E. & I.	Sec. 27, T. 1 n. R. 8 w., Patoka Tp.	V	Bituminous.	6'	80	
Peacock Coal & Mining Co.	Peacock No. 2.	E. & I.	Sec. 4, T. 2 n. R. 8 w., Patoka Tp.	VI	Bituminous.	7' 6"	Slope.	
Muncie Coal & Mining Co.	Petersburg.	E. & I.	Sec. 27, T. 1 n. R. 8 w., Washington Tp.	V	Bituminous.	5'	40	
Winslow Gas Coal Co.	Winslow No. 4.	Southern Main Line.		V	Bituminous.			
Winslow Gas Coal Co.	Winslow No. 5.	Southern Main Line.		V	Bituminous.			
J. W. Welsh.	Hartwell No. 1.	Southern Main Line.	Sec. 22, T. 2 s. R. 7 w.	V	Bituminous.	4' 8"	Drift.	
J. W. Welsh.	Hartwell No. 2.	Southern Main Line.	Sec. 22, T. 2 s. R. 7 w.	V	Bituminous.	4' 8"	Drift.	

S LLIVAN COUNTY.

Indiana Southern Coal Co.	Rainbow	I. S.	Sec. 31, T. 8 n. R. 8 w., Cass Tp.	VI	Bituminous.	5'	92
Indiana Southern Coal Co.	Phoenix No. 4	E. & T. H.	Sec. 34, T. 9 n. R. 9 w., Curry Tp.	VI	Bituminous.	5' 6"	202
Indiana Southern Coal Co.	Hocking.	E. & T. H.	Sec. 13, T. 9 n. R. 9 w., Curry Tp.	VI	Bituminous.	5' 2"	219
Indiana Southern Coal Co.	Citizens.	S. I.	Sec. 35, T. 8 n. R. 9 w., Hamilton Tp.	VI	Bituminous.	5'	163
Sunflower Coal Co.	Sunflower.	I. C.	Sec. 1, T. 7 n. R. 8 w., Cass Tp.	VI	Bituminous.	5' 9"	104
Consolidated Indiana Coal Co.	Consolidated No. 25.	E. & T. H.	Sec. 22, T. 8 n. R. 9 w., Hamilton Tp.	VI	Bituminous.	5'	221
Consolidated Indiana Coal Co.	Consolidated No. 26.	E. & T. H.	Sec. 22, T. 8 n. R. 9 w., Hamilton Tp.	VI	Bituminous.	5' 5"	187
Consolidated Indiana Coal Co.	Consolidated No. 28.	S. I.	Sec. 11, T. 8 n. R. 9 w., Hamilton Tp.	VI	Bituminous.	5' 6"	187
Consolidated Indiana Coal Co.	Consolidated No. 30.	S. I.	Sec. 25, T. 9 n. R. 9 w., Curry Tp.	VI	Bituminous.	5' 6"	187
Consolidated Indiana Coal Co.	Consolidated No. 32.	S. I.	Sec. 33, T. 9 n. R. 8 w., Jackson Tp.	V	Bituminous.	5'	108
Consolidated Indiana Coal Co.	Consolidated No. 33.	E. & T. H.	Sec. 33, T. 9 n. R. 8 w., Jackson Tp.	V	Bituminous.	5'	103
Vandalia Coal Co.	Vandalia No. 10.	I. & V., Coal branch.	Sec. 10, T. 7 n. R. 8 w., Cass Tp.	IV	Bituminous.	5' 6"	260
Larsh Coal Co.	Larsh.	Wagon mine.	Sec. 1, T. 9 n. R. 9 w., Curry Tp.	VI	Bituminous.	5' 3"	104
Jackson Hill Coal & Coke Co.	Jackson Hill No. 2.	E. & T. H., Coal branch.	Sec. 9, T. 8 n. R. 8 w., Jackson Tp.	VI	Bituminous.	5' 6"	105
Jackson Hill Coal & Coke Co.	Jackson Hill No. 2.	E. & T. H., Coal branch.	Sec. 1, T. 8 n. R. 8 w., Curry Tp.	VI	Bituminous.	5' 8"	165
Gregory Coal & Mining Co.	Keystone.	E. & T. H., Main line.	Sec. 10, T. 6 n. R. 9 w., Haddon Tp.	V	Bituminous.	5'	305
Dering Coal Co.	Dering No. 13.	E. & T. H.	Sec. 12, T. 8 n. R. 9 w., Hamilton Tp.	VI	Bituminous.	5' 8"	144
Dering Coal Co.	Dering No. 14.	E. & T. H.	Sec. 30, T. 9 n. R. 8 w., Jackson Tp.	VI	Bituminous.	5'	103
Southern Indiana Coal Co.	Mammoth Vein.	S. I.	Sec. 2, T. 9 n. R. 9 w., Hamilton Tp.	VI	Bituminous.	5' 2"	177
Shirley Hill Coal Co.	Shirley Hill No. 1.	C. I. & L.	Sec. 16, T. 7 n. R. 8 w., Cass Tp.	VI	Bituminous.	5' 6"	111
Shirley Hill Coal Co.	Shirley Hill No. 3.	I. & V. Vandalia.	Sec. 9, T. 7 n. R. 8 w., Cass Tp.	VI	Bituminous.	5' 6"	104
Shirley Hill Coal Co.	Little Giant.	C. I. & L.	Sec. 36, T. 7 n. R. 8 w., Jefferson Tp.	VI	Bituminous.	5' 9"	109
Shirley Hill Coal Co.	Clover Leaf.	I. S.	Sec. 34, T. 8 n. R. 8 w., Cass Tp.	IV	Bituminous.	5'	313
Kettle Creek Coal Co.	Pearl.	S. I.	Sec. 35, T. 9 n. R. 9 w., Curry Tp.	VI	Bituminous.	5' 10"	170
Peabody-Alwart Coal & Mining Co.	Reliance.	E. & T. H.	Sec. 4, T. 8 n. R. 9 w., Hamilton Tp.	VI	Bituminous.	5' 6"	228
Hamilton Coal Co.	Hamilton.	E. & T. H.	Sec. 3, T. 8 n. R. 8 w., Jackson Tp.	III	Bituminous.	6'	254
United Fourth Vein Coal Co.	Black Hawk.	S. I.	Sec. 25, T. 9 n. R. 8 w., Jackson Tp.	III	Bituminous.	6'	229
Carlisle Coal & Clay Co.	Viola.	E. & T. H.	Sec. 4, T. 6 n. R. 9 w., Haddon Tp. (donation).	V	Bituminous.	4' 8"	305
Sullivan County Coal Co.	Freeman.	I. C.	Sec. 2, T. 7 n. R. 8 w., Cass Tp.	VI	Bituminous.	5' 6"	110
Hudson Coal & Mining Co.	Hudson.	S. I.	Sec. 6, T. 9 n. R. 8 w., Curry Tp.	VII	Bituminous.	5'	112
Bellevue Coal Co.	Bellevue.	E. & T. H., Main line.	Sec. 33, T. 6 n. R. 9 w., Haddon Tp.	V	Bituminous.	5'	335

VANDEBURGH COUNTY.

Diamond Coal Co.	Diamond.	Wagon mine.	Sec. 17, T. 6 s. R. 10 w.	V	Bituminous.	4'	247
D. Ingle Coal Co.	Ingleside.	L. & N.	Sec. 26, T. 6 s. R. 11 w., Pigeon Tp.	V	Bituminous.	4'	265
Sunnyside Coal Co.	Sunnyside.	L. & N.	Sec. 24, T. 6 s. R. 11 w., Pigeon Tp.	V	Bituminous.	4'	268
Crescent Coal Co.	Unity.	L. & N.	Sec. 13, T. 6 s. R. 11 w., Pigeon Tp.	V	Bituminous.	4'	265
Banner Coal Co.	First Avenue.	Wagon mine.	Sec. 18, T. 6 s. R. 10 w., Pigeon Tp.	V	Bituminous.	4'	261

TABLE EXHIBITING THE NAMES OF COAL COMPANIES, ETC.—Continued.

VERMILION COUNTY.

NAME OF COMPANY.	Name of Mine.	Railroad.	Location.	Geological Number.	Character of Coal.	Thickness of Coal in Feet and Inches.	Depth from Surface to Coal.	Elevation Above Sea Level.
Dering Coal Co.	Dering No. 5.	C. & E. I.	Sec. 28, T. n. R. 9 w., Clinton Tp.	V	Bituminous.	4' 10"	81	
Dering Coal Co.	Dering No. 7.	C. & E. I.	Sec. 21, T. 14 n. R. 9 w., Clinton Tp.	III	Bituminous.	5' 6"	217	
Dering Coal Co.	Dering No. 8.	C. & E. I.	Sec. 33, T. 14 n. R. 9 w., Clinton Tp.	IV	Bituminous.	5' 3"	200	
Cayuga Brick & Coal Co.	Eureka.	Use all coal in brick yard.	Sec. 7, T. 17 n. R. 9 w., Eugene Tp.	Minshall.	Bituminous.	4' 6"	110	
Clinton Coal Co.	Crown Hill No. 1.	C. & E. I., Coal branch.	Sec. 21, T. 14 n. R. 9 w., Clinton Tp.	V	Bituminous.	4' 10"	165	
Clinton Coal Co.	Crown Hill No. 2.	C. & E. I., Coal branch.	Sec. 17, T. 14 n. R. 9 w., Clinton Tp.	V	Bituminous.	4' 10"	155	
Clinton Coal Co.	Crown Hill No. 3.	C. & E. I., Coal branch.	Sec. 21, T. 14 n. R. 9 w., Clinton Tp.	III	Bituminous.	6'	345	
Oak Hill Coal Co.	Oak Hill.	C. & E. I., Coal branch.	Sec. 28, T. 14 n. R. 9 w., Clinton Tp.	V	Bituminous.	4' 10"	57	
Oak Hill Coal Co.	Maple Valley.	C. & E. I., Coal branch.	Sec. 16, T. 14 n. R. 9 w., Clinton Tp.	V	Bituminous.	5' 6"	225	
Oak Hill Coal Co.	Buckeye No. 2.	C. & E. I., Coal branch.	Sec. 7, T. 14 n. R. 9 w., Clinton Tp.	V	Bituminous.	4' 8"	149	
Oak Hill Coal Co.	Klondyck No. 2.	C. & E. I., Coal branch.	Sec. 8, T. 14 n. R. 9 w., Clinton Tp.	III	Bituminous.	7'	300	

VIGO COUNTY.

Vandalia Coal Co.	Vandalia No. 66.	Vandalia, Main line.	Sec. 11, T. 12 n. R. 8 w., Lost Creek Tp.	III	Bituminous.	5'	102	
Vandalia Coal Co.	Vandalia No. 67.	Vandalia, Main line.	Sec. 13, T. 12 n. R. 8 w., Lost Creek Tp.	III	Bituminous.	7' 6"	100	
Vandalia Coal Co.	Vandalia No. 69.	Vandalia, Main line.	Sec. 10, T. 12 n. R. 8 w., Lost Creek Tp.	III	Bituminous.	5'	120	
Vandalia Coal Co.	Vandalia No. 81.	Vandalia, Main line.	Sec. 24, T. 12 n. R. 10 w., Sugar Creek Tp.	III	Bituminous.	4' 6"	64	
Indiana Southern Coal Co.	Forrest.	Big Four.	Sec. 31, T. 13 n. R. 8 w., Otter Creek Tp.	IV	Bituminous.	6' 6"	159	
Otter Creek Coal Co.	Mary No. 2.	C. & E. I.	Sec. 1, T. 13 n. R. 8 w., Nevins Tp.	IV	Block.	3' 9"	257	
Atherton-Splint & Coal Co.	Atherton.	C. & E. I.	Sec. 1, T. 13 n. R. 9 w., Otter Creek Tp.	III	Bituminous.	6'	158	
Coal Bluff Mining Co.	Lawton.	Big Four.	Sec. 24, T. 13 n. R. 8 w., Nevins Tp.	III	Bituminous.	6' 9"	116	
Coal Bluff Mining Co.	Plymouth No. 1.	Big Four.	Sec. 7, T. 13 n. R. 7 w., Nevins Tp.	III	Block.	3' 11"	224	
Coal Bluff Mining Co.	Victor.	Big Four.	Sec. 7, T. 13 n. R. 7 w., Nevins Tp.	IV	Bituminous.	6'	55	
Coal Bluff Mining Co.	Wabash.	Big Four.	Sec. 8, T. 12 n. R. 9 w., Sugar Creek Tp.	IV	Bituminous.	5' 4"	300	
Coal Bluff Mining Co.	Minshall.	Big Four.	Sec. 7, T. 13 n. R. 7 w., Nevins Tp.	Minshall.	Bituminous.	5'	175	
Lower Vein Coal Co.	Lower Vein No. 1.	Big Four.	Sec. 18, T. 11 and 12 n. R. 9 and 10 w., Sugar Creek Tp.	V	Bituminous.	4' 8"	192	
Miami Coal Co.	Miami No. 1.	C. & E. I.	Sec. 12, T. 12 n. R. 8 w., Lost Creek Tp.	III	Bituminous.	6'	36	
Miami Coal Co.	Miami No. 2.	C. & E. I.	Sec. 36, T. 13 n. R. 8 w., Nevins Tp.	III	Bituminous.	6'	55	

Miami Coal Co.	Miami No. 3	C. & E. I.	Sec. 12, T. 12 n. R. 8 w., Lost Creek Tp.	III	Bituminous.	6'	92
Miami Coal Co.	Miami No. 4	C. & E. I.	Sec. 36, T. 13 n. R. 8 w., Nevins Tp.	III	Bituminous.	6' 6"	55
Fauvre Coal Co.	Fauvre No. 1	Vandalia, Main line	Sec. 24, T. 12 n. R. 10 w., Sugar Creek Tp.	VII	Bituminous.	5'	100
Fauvre Coal Co.	Fauvre No. 2	Vandalia, Main line	Sec. 24, T. 12 n. R. 10 w., Sugar Creek Tp.	V	Bituminous.	4' 6"	219
Deep Vein Coal Co.	Deep Vein	Vandalia	Sec. 18, T. 12 n. R. 9 w., Sugar Creek Tp. (one mile west Terre Haute)	V	Bituminous.	4' 3"	280
Vigo County Coal Co.	Ray No. 2	Vandalia	Sec. 12, T. 12 n. R. 8 w., Lost Creek Tp.	VII	Bituminous.	4' 6"	170
M. D. West Coal Co.	Chicago No. 6	C. & E. I.	Sec. 17, T. 13 n. R. 7 w., Nevins Tp.	III	Bituminous.	7'	97
Grant Coal & Mining Co.	Grant No. 3	C. & E. I.	Sec. 26, T. 13 n. R. 8 w., Nevins Tp.	III	Bituminous.	6'	8
Sugar Valley Coal Co.	Sugar Valley	Wagon mine	Sec. 24, T. 12 n. R. 10 w., Sugar Creek Tp.	III	Bituminous.	6' 6"	35
Dering Coal Co.	Dering No. 6	C. & E. I.	Sec. 16, T. 13 n. R. 9 w., Fayette Tp.	V	Bituminous.	4' 4"	140
Domestic Block Coal Co.	Domestic Block No. 1	C. & E. I.	Sec. 29, T. 13 n. R. 7 w., Nevins Tp.	V	Bituminous.	4' 8"	111
National Coal Fuel Co.	National	Vandalia	Sec. 29, T. 13 n. R. 7 w., Nevins Tp.	IV	Block	3' 8"	110
Glen Ayr Coal Co.	Glen Ayr	Vandalia, Main line	Sec. 36, T. 12 n. R. 10 w., Sugar Creek Tp.	VII	Bituminous.	4' 8"	42
			Sec. 21, T. 12 n. R. 8 w., Lost Creek Tp.	IV	Bituminous.	5'	90

WARRICK COUNTY.

Big Four Coal Co.	Big Four	Southern, Evansville division	Sec. 36, T. 5 s. R. 8 w., Boone Tp.	V	Bituminous.	6' 3"	Slope
Chandler Coal Co.	Chandler	Southern, Evansville division	Sec. 35, T. 5 s. R. 9 w., Campbell Tp.	V	Bituminous.	4' 5"	120
Chas. Menden Coal Co.	De Forrest	Southern, Evansville division	Sec. 32, T. 5 s. R. 8 w., Boone Tp.	V	Bituminous.	6'	65
T. D. Scales Coal Co.	Electric	Southern, Evansville division	Sec. 25, T. 5 s. R. 8 w., Boone Tp.	V	Bituminous.	6' 5"	45
Caladonia Mining Co.	Dawson	Southern, Evansville division	Sec. 31, T. 5 s. R. 8 w., Boone Tp.	V	Bituminous.	5'	86
Erie Canal Coal Co.	Erie Canal	Southern, Evansville division	Sec. 25, T. 5 s. R. 9 w., Campbell Tp.	V	Bituminous.	4' 5"	130
Red Shaft Coal Co.	Red Shaft (Old Star No. 1.)	Southern, Evansville division (Electric)	Sec. 34, T. 6 s. R. 9 w., Ohio Tp.	V	Bituminous.	4'	180
J. Woolley Coal Co.	Polk No. 5	Southern, Evansville division	Sec. 17, T. 5 s. R. 7 w., Skelton Tp.	V	Bituminous.	6' 6"	Slope
J. Woolley Coal Co.	Castle Garden	Southern, Evansville division	Sec. 3, T. 6 s. R. 9 w., Ohio Tp.	V	Bituminous.	4' 2"	80
Worshen-Newburg Coal Co.	Brizius	E. E. Electric	Sec. 33, T. 6 s. R. 9 w., Ohio Tp.	V	Bituminous.	4'	128
Elberfeld Coal Co.	Elberfeld	E. & I.	Sec. 30, T. 4 s. R. 9 w., Greer Tp.	V	Bituminous.	5'	196
Epworth Coal Co.	Epworth	E. E. Electric	Sec. 32, T. 6 s. R. 9 w., Ohio Tp.	V	Bituminous.	4'	114

NOTE.—The geological number of the seam mined in the vicinity of Seeleyville along the Main Line Vandalia Railroad and at West Terre Haute, Clinton, Atherton, Parke No. 11, Grant No. 3, Miami Nos. 1, 2, 3 and 4 and other points has been changed from No. VI to III. This and other changes in the geological number of seams from that given in former reports was made in conformance to the Supplementary Coal Survey made during the year by Professor G. H. Ashley and his assistants, the results of which are given in the first paper of the present Geological Report.

EXAMINATIONS.

Examinations of applicants for certificates of competency to serve as mine bosses, fire bosses and hoisting engineers were held at three different time during the year in the city of Terre Haute. The annexed table shows the date on which each examination was held, the number of applicants examined each time, the number passing a successful examination and the number who failed:

DATE.	TOTAL APPLICANTS.			PASSED.			FAILED.		
	M. B.	F. B.	H. E.	M. B.	F. B.	H. E.	M. B.	F. B.	H. E.
May 20 and 21.....	38	17	18	27	8	9	11	9	9
September 2 and 3.....	21	31	8	13	17	2	8	14	6
November 18 and 19.....	35	14	14	20	6	6	15	8	8
Totals.....	94	62	40	60	31	17	34	31	23

The above table shows that nearly sixty-four per cent of applicants for mine boss certificates, fifty-eight per cent of fire boss and forty-two and five-tenths per cent of applicants for hoisting engineers' certificates passed a successful examination and were granted certificates. We give herewith the name and address of each person receiving a certificate and number of each certificate and the per cent grade made by the holder thereof:

MINE BOSS.

Examination held in Terre Haute, May 20 and 21, 1908.

Total number of candidates, 38. Total number passed, 27.

<i>Certificate No.</i>	<i>Name and Address.</i>	<i>Per Cent.</i>
1.	Thomas Harrop, Linton, Ind.....	86
2.	Samuel McClain, Coal Bluff, Ind.....	82
3.	John Aitken, Fontanet, Ind.....	78
4.	William W. Muir, Shelburn, Ind.....	76
5.	Thomas Stevenson, Cass, Ind.....	84
6.	Charles Claymeyer, Elberfeld, Ind.....	82
7.	Thomas Leppatt, Dugger, Ind.....	76
8.	Robert Simpson, Jasonville, Ind.....	80
9.	Nat Hagerman, Linton, Ind.....	80
10.	Charles Flynn, Terre Haute, Ind.....	80
11.	Herman Kunze, Terre Haute, Ind.....	79
12.	Jas. Shirkie, Clinton, Ind.....	84
13.	Jesse Palm, Brazil, Ind.....	83

<i>Certificate No.</i>	<i>Name and Address.</i>	<i>Per Cent.</i>
14.	J. O. Willson, Shelburn, Ind.....	76
15.	William Brown, Chandler, Ind.....	79
16.	Hugh Rice, Linton, Ind.....	82
17.	Tim Pool, Linton, Ind.....	80
18.	Wm. Sherry, Brazil, Ind.....	79
19.	Clay Pigg, Dugger, Ind.....	76
20.	Wm. E. Bledsoe, Shelburn, Ind.....	82
21.	Henry Surmont, Sullivan, Ind.....	87
22.	Arthur Debarge, Paxton, Ind.....	82
23.	Albert J. Ward, Terre Haute, Ind.....	77
24.	Wm. Strachan, Linton, Ind.....	78
25.	James Burk, Linton, Ind.....	82
26.	John Richards, Dugger, Ind.....	76
27.	Jno. W. Cooper, Evansville, Ind.....	76

FIRE BOSS.

Examination held in Terre Haute, May 20 and 21, 1908.

Total number of candidates, 17. Total number passed, 8.

<i>Certificate No.</i>	<i>Name and Address.</i>	<i>Per Cent.</i>
1.	George F. Archibold, Evansville.....	82
2.	James Owens, Clay City.....	84
3.	John Wm. Mass, West Terre Haute.....	82
4.	Charles Clayton, Fontanet.....	82
5.	James Lewis, Dugger.....	80
6.	Charles Wilder, Boonville.....	80
7.	T. A. Oxley, Linton.....	86
8.	Frank Leveck, Sullivan.....	84

HOISTING ENGINEER.

Examination held in Terre Haute, May 20 and 21, 1908.

Total number of candidates, 18. Total number passed, 9.

<i>Certificate No.</i>	<i>Name and Address.</i>	<i>Per Cent.</i>
1.	Harvey Sanders, Carlisle.....	81
2.	Eugene Ransford, Sullivan.....	80
3.	Elijah Powers, Boonville.....	80
4.	Matthaus Bader, Brazil.....	80
5.	Gus Wiggins, Shelburn.....	78
6.	Wm. Garrison, West Terre Haute.....	81
7.	J. M. Kohlmeier, Elberfeld.....	84
8.	F. G. Schultz, Elberfeld.....	81
9.	John W. Slites, Sullivan.....	85

MINE BOSS.

Examination held in Terre Haute, September 2 and 3, 1908.

Total number of candidates, 21. Total number passed, 13.

<i>Certifi- cate No.</i>	<i>Name and Address.</i>	<i>Per Cent.</i>
28.	George W. Higgins, Clinton.....	89
29.	Fred W. Armstrong, Mecca.....	76
30.	Joseph Robinson, Mecca.....	77
31.	William Brumett, Cass.....	79
32.	Everet Rollison, Linton.....	80
33.	Wm. C. Campbell, Gilmour.....	78
34.	George W. Briggs, Winslow.....	78
35.	Mahlon Ellingsworth, Jasonville	77
36.	F. I. Pearce, Brazil.....	85
37.	Homer Cargal, Bicknell.....	77
38.	Adolph Belval, Linton.....	79
39.	James Morris, Brazil.....	77
40.	Freeman Shell, Cayuga.....	76

FIRE BOSS.

Examination held in Terre Haute, September 2 and 3, 1908.

Total number of candidates, 31. Total number passed, 17.

<i>Certifi- cate No.</i>	<i>Name and Address.</i>	<i>Per Cent.</i>
9.	James S. Deeble, Carlisle.....	86
10.	Edward Church, Linton.....	80
11.	James M. Scully, Coalmont.....	80
12.	Samuel Roebuck, Dugger.....	82
13.	John McKain, Chandler.....	80
14.	John Thompson, Bicknell.....	82
15.	Herman Kunce, Atherton.....	81
16.	Theodore Mason, Boonville.....	85
17.	Gustave Mollet, Diamond.....	86
18.	Thomas Derby, West Terre Haute.....	77
19.	George Came, Brazil.....	77
29.	Wellington O'Connor, Terre Haute.....	90
30.	Albert A. Sames, Chandler.....	90
31.	John A. Kelly, Boonville.....	88
32.	Wm. Woolley, Boonville.....	88
33.	Julien O'Connor, Boonville.....	89
34.	Jonathan Thomas, Brazil.....	90

HOISTING ENGINEER.

Examination held in Terre Haute, September 2 and 3, 1908.

Total number of candidates, 8. Total number passed, 2.

<i>Certifi- cate No.</i>	<i>Name and Address.</i>	<i>Per Cent.</i>
10.	Wm. Kelley, Edwards.....	81
11.	Millard McPherson, Terre Haute.....	84

MINE BOSS.

Examination held in Terre Haute, November 18 and 19, 1908.

Total number of candidates, 35. Total number passed, 20.

Certifi-

<i>cate No.</i>	<i>Name and Address.</i>	<i>Per Cent.</i>
41.	James Kerr, Sullivan.....	78
42.	George E. Soliday, Switz City.....	77
43.	George Came, Brazil.....	89
44.	Henry Taylor, Vicksburg.....	79
45.	E. V. Benjamin, Terre Haute.....	78
46.	Henry Willoughby, Sullivan.....	80
47.	George C. Richardson, Linton.....	76
48.	Sol. Davis, West Terre Haute.....	80
49.	Thomas Richardson, Linton.....	78
50.	D. E. Suthard, Jasonville.....	80
51.	Edward Keers, Jasonville.....	80
52.	W. B. Beattee, Petersburg.....	83
53.	Maurice W. Conners, Shelburn.....	81
54.	Dan Thomas, Clinton.....	89
55.	Charles Barker, Terre Haute.....	77
56.	Richard Owens, Terre Haute.....	83
57.	William Ross, Fontanet.....	78
58.	J. H. Riffle, Terre Haute.....	80
59.	Isaac Womeldorf, Linton.....	86
60.	Joseph Davison, Linton.....	79

FIRE BOSS.

Examination held in Terre Haute, November 18 and 19, 1908.

Total number of candidates, 14. Total number passed, 6.

Certifi-

<i>cate No.</i>	<i>Name and Address.</i>	<i>Per Cent.</i>
35.	A. L. Rogers, Linton.....	86
36.	James Harper, Linton.....	83
37.	Ebenezer Davies, Carlisle.....	80
38.	F. I. Pearce, Brazil.....	90
39.	Maxwell Derby, West Terre Haute.....	79
40.	Frank Zib, Linton.....	92

HOISTING ENGINEER.

Examination held in Terre Haute, November 18 and 19, 1908.

Total number of candidates, 14. Total number passed, 6.

Certifi-

<i>cate No.</i>	<i>Name and Address.</i>	<i>Per Cent.</i>
12.	Daniel Reynolds, Center Point.....	79
13.	Ira Bray, Linton.....	83
14.	William Hess, Bicknell.....	78
15.	C. H. Day, Burnett.....	83
16.	Lemuel Brewer, Bicknell.....	80
17.	Frank D. Kenman, Petersburg.....	79

ACCIDENTS TO MINE EMPLOYES.

In treating this subject we class accidents to mine employes under four heads, viz, fatal, permanent, serious and minor accidents, each class being treated separately. Under the head of fatal accidents we include persons killed outright and those whose injuries proved fatal. Under permanent injuries we include accidents resulting in the amputation of a limb, the loss of both eyes, a broken spine or other injuries unfitting persons to follow their usual occupation. Under the head of serious accidents we report accidents resulting in broken or dislocated limbs, internal injuries, cuts, bruises or other injuries of a nature serious enough to call for special mention.

The minor accidents include persons who have suffered only slight cuts or bruises or injuries that entail but little loss of time. Through the reports of coal companies, mine bosses and reports of inspections made to this office during the year 1908, we show a total of eight hundred and seventy-five accidents to mine employes, classed as follows: Fatal, 45; permanent, 3; serious, 375; minor, 452. The different causes of these accidents are shown in the annexed table:

TABLE

Showing the Number of Fatal, Permanent, Serious and Minor Accidents Occurring in the Mines of Indiana During the Year 1908, the Different Causes of Such Accidents, and Whether the Mine in Which the Accident Occurred was a Machine or Hand Mine.

CAUSE OF ACCIDENT.	MACHINE MINES.					HAND MINES.					Grand Total.
	Fatal.	Permanent.	Serious.	Minor.	Total.	Fatal.	Permanent.	Serious.	Minor.	Total.	
Falling slate.....	10	1	67	58	136	10	1	47	38	96	232
Falling coal.....	1		16	15	32	1		28	32	61	93
Falling down shaft.....	1		2		3			1		1	4
Mine car.....	3		83	109	195	2		45	60	107	302
Mining machine.....		1	11	32	44						44
Mine motor.....	1		2	4	7				1	1	8
R. R. cars.....			2	1	3			1	1	2	5
Ascending cage.....	2				2	1		2		3	5
Descending cage.....											
Explosion fire damp.....	1		1	4	6			7	1	8	14
Explosion of powder.....			2		2						3
Blown out shots.....								9	9	9	9
Windy shots.....			1		1	4		6	4	14	15
Shots blowing through pillars.....								1		1	1
Premature shots.....	1		2		3	1		4		5	8
Delayed shots.....	2				2	2		3		5	7
Electricity.....	1		3	2	6				1	1	7
Coal falling down shaft.....								1	3	4	4
Kicked by mule.....	1		5	20	26			5	19	24	50
Miscellaneous.....			18	28	46			8	10	18	64
Total.....	24	2	215	273	514	21	1	160	179	361	875

FATAL ACCIDENTS.

We give herewith by months and by counties a brief description of the above fatal accidents, with a statement of facts and circumstances attendant thereto, as adduced by investigation made by this department acting in conjunction with the coroners of the various counties in which the accidents occurred.

The first mine casualty for the year occurred on January 8th, in the Oswald mine, Gibson County. About 7:30 p. m., while the shots were being fired in the east workings of the mine, a terrific explosion took place, caused by a blown-out shot. As a result of this explosion two shot firers, McClelland St. Clair and Solomon Lawrence, were both killed instantly. A careful inspection of the affected area of the mine was made the morning following the accident by Assistant Inspector Irving and myself. We also assisted the coroner of Gibson County in examining witnesses and conducting a rigid inquiry as to the causes that produced the explosion. Our inspection of the mine, together with the testimony of witnesses examined, evidenced gross negligence both on part of the mine management and the employes, and to this fact the explosion and two deaths may be attributed.

The east workings of this mine comprise the main east entry and the air course and two pair of north-and-south cross-entries. The main entry and air course had been driven through a heavy squeeze, which had closed off tight all the workings for a distance of about one thousand feet. When the end of the squeeze was reached the main entry and air course were driven a distance of one hundred and fifty feet before the cross-entries were turned, thus leaving a solid block of coal one hundred feet wide between them and the squeeze. The cross-entries were driven a probable distance of two hundred feet, and two or three rooms turned on each entry. None of the rooms, however, were driven in far enough to have been connected with break-throughs, hence all the force of concussion, powder smoke, flame from shots, gases generated in blasting, coal dust, etc., could find vent only through the main entry and air course, each but about seven feet wide. This part of the mine was also very dry, and varying quantities of finely-powdered dust had accumulated along the roadways, on the timbers, and entry sides. Miners tamped their shots with coal slack or the drill dust; shots were drilled past the cutting or loose end; kegs of powder opened with a pick were permitted to sit along the sides of the entries or in break-throughs, within easy distance of the flame from shots, and a small per cent of gas was given off at times

in some of the working faces. All of these dangerous conditions were known to the mine boss, and it was his duty to guard against such accidents as did happen by wetting or removing the fine dust, by providing tamping, seeing that no shots were improperly placed, overcharged or drilled past the cutting or loose end, and that nothing but noninflammable materials be used for tamping; also that too many shots were not fired in rapid succession and that all kegs of powder were kept beyond the range of flame from shots. Apparently little consideration was given any of those safeguards either by the mine boss, miners or shot firers.

In our inspection we found that almost every shot that had been fired was excessively overcharged; we also found three badly laid shots. One of these shots was located in the face of the fifth south entry, drilled twenty-four inches past the cutting or loose end; one located in a room neck on the fifth south drilled thirty inches past the cutting or loose end, both excessively overcharged, and one in Room No. 1, on the fifth south. This shot was drilled eight feet deep, was seven feet wide at the point and three feet wide at the heel, measured at right angles to the drill hole. This shot was prepared on the 7th by a miner named Harry Whitman, and fired that same evening by the shot firers. The shot failed to bring down the coal, merely breaking or cracking the seam from top to floor, leaving what miners term a "tight shot." On the morning of the 8th Whitman recharged this same shot, filling up six feet of the drill hole (which was not less than three inches in diameter) with powder, on which he placed twelve inches of tamping, leaving it for the shot firers to fire. The shot firers commenced firing the shots on the return air, that is, the first room on the fifth north, firing against the air around the sixth south, finishing at Room No. 1, on the fifth south. Eighteen shots, all fired in quick succession, probably three or four exploding simultaneously, were fired on the evening of the explosion, generating a large volume of explosive gas in the form of carbon monoxide, due to the excessive quantity of powder burned. Add to this mixture a quantity of finely-powdered dust brought in suspension from the floor and sides by the concussion of shots, and a large quantity of heated dust used for tamping thrown into the air by the shots and we have an explosive mixture at just the right temperature to be lighted from the large volume of flame, the only possible result to obtain from the shot in Room No. 1, on the fifth south, the last shot fired. Nine empty powder kegs burst from the inside, evidently burst by powder exploding in them, were found scattered along the roadways, thus

proving powder to have been a powerful agent in the explosion. The shot firers were both practical miners and knew the results most likely to follow the firing of the shot in Room No. 1, on fifth south, the second time, they having fired it on both occasions, which proves the fact that they gave their own safety about as little consideration as did the mine boss or the person who prepared the shot. Both men were of American nationality. St. Clair was thirty-six years of age and is survived by a wife and four children; Lawrence was thirty-eight years of age and leaves a wife.

January 14th, Greene County, Gilmour Mine.—Alonzo Ragsdale, mine boss, forty-seven years of age, nationality American, survived by a wife and two children, was killed by falling slate. At the time he met his death decedent and his boss driver, Wm. Recktor, were engaged in cleaning up a fall of slate which occurred on one of the cross-entries. Before commencing work on the fall they examined and found the roof above where they intended working was loose. Recktor advised setting some temporary timbers to secure themselves from the loose rocks above, but Ragsdale objected, saying he thought the place was safe and that as soon as they had cleaned up the fall they would do the timbering permanently. About 1:50 p. m. they were engaged breaking and cleaning away the fallen slate when the roof above them began to chip and small particles fall off, which should have been sufficient warning of their danger. Both men stopped to listen to the slate chipping, but resumed work without making any examination whatever. About five minutes later a large mass of the slate gave way, falling on Ragsdale, killing him instantly. From the foregoing it is evident that decedent, who was mine boss and in charge of the work, was not only negligent of his own safety but also that of a fellow-employee working under his direction.

January 23d, Greene County, P. & I. Mine.—Enoch P. Venable, miner, twenty-two years of age, single, was killed by falling coal and draw slate. The coal seam in this mine is divided into two benches, the upper 4 feet and lower 3½ feet thick, being separated by a six-inch binder of slate and bone coal. The two benches of coal are each mined separately. On the evening of the 22d decedent and his buddy fired a shot in the lower bench in their working place. They were loading out this shot the following day. About 12:15 noon they were engaged loading a car when about two tons of coal, overlaid with four inches of draw slate, gave way from the upper bench, falling on Venable, killing him instantly.

January 24th, Black Creek Mine.—Julian Maurice, miner, twen-

ty-five years of age, nationality French, single, was killed instantly by ascending cage. There were no eye-witnesses to this accident. The mine boss testified that, thinking all of the employes were out of the mine, he had started home and had gone but a short distance when he heard the signal given to hoist the cage. On returning to the shaft he found the engineer had hoisted the north cage to the surface landing empty; he then descended the shaft and found Maurice lying dead in the south sump with his head crushed. The distance from the signal lever to the cage is about five feet, and a car of coal had been dumped in the north sump just at quitting time, which prevented the cage floor from coming down level with the mine floor by about eleven inches. It is presumed that decedent gave the signal to hoist and was slow in getting on the cage before the engineer started to hoist, probably due to the slightly elevated position of the cage, and was caught against the brow timber and was dragged off into the south sump, crushing his head against the timber.

January 25th, Vigo County, Minshall Mine.—David Black, driver, age thirty-eight years, American, was killed by a blast. In addition to his duties as a driver, Black was employed to go through the mine after firing time and extinguish any mine fires that might have ignited from the shots. There were no eye-witnesses to this accident. When found decedent was lying near the face of Room No. 1, on the second northeast cross-entry, dead, partially covered with coal. The miners in this mine do their own shot firing and on the above date Charles Evans, the miner who worked No. 1 room in which decedent was found, had charged and tamped a shot which for some reason he decided not to fire until the following day. It is presumed that Black in making his rounds discovered this shot, and attempted to fire it; in doing so his light was extinguished and he was unable to reach a place of safety before the shot exploded, with the result above mentioned. Decedent is survived by a wife and one child.

January 27th, Sullivan County, Clover Leaf.—Asa Sargent, timberman, age twenty-seven years, nationality American, fatally injured by falling draw slate. About 3 p. m. of the above date decedent had knocked the props out from under some loose slate which he intended taking down. After knocking out the props he for some reason stepped under the loose slate to do some work, when a large piece of the slate suddenly gave way, falling on him and crushing his ankle. His injury at the time was known to be serious, but it was thought his life was in no danger. On February 7th

he was taken to the Union Hospital in Terre Haute and his foot amputated. He was removed to his home in Linton on the 10th and died on the 15th from blood poisoning due to the injury received. He leaves a wife and one child.

January 29th, Greene County, P. & I. Mine.—A second fatal accident occurred in this mine. James Philips, miner, sixty-five years of age, American, single, was fatally injured by a blast. From evidence adduced at the investigation of this accident it was learned that on the evening he met his death decedent had four shots, all tamped on fuse ready to fire in his working place. At 3:30 p. m., firing time, he lighted one of these shots, and in doing so his light in some way was extinguished. In order to procure a light he must travel twenty feet in the dark, back to the breakthrough between his and an adjoining room. This he did, and over the protest of his neighbor workmen returned to the face of his own room and lighted a second shot without waiting for the one first lighted to explode. In lighting the second shot his light was again in some way extinguished, presumably from the powder in the end of the fuse, and being in the dark he was unable to reach a place of safety when his shot first lighted exploded. The flying coal from this shot knocked him down, and by reason of another shot being lighted his neighbor workmen did not dare venture to his assistance until it had exploded. The coal flying from this shot also struck him. The injuries received from one or both shots proved fatal. He died three days later in the St. Anthony Hospital in Terre Haute.

The statute provides that it shall be unlawful to light more than one shot at a time in any one working place. This statute decedent absolutely disregarded, as well as all common-sense or mining law, and the result was but what could be expected.

February 12th, Sullivan County, Jackson Hill No. 4 Mine.—Frank Bishluk, loader, age thirty-six years, nationality Polander, was killed instantly by falling slate at about 3:20 p. m. There were no eye-witnesses to this accident. Decedent's buddy had removed some tools to an adjoining room when he heard the slate fall which caught Bishluk. On rushing into the room he found decedent lying under a large piece of slate, 10 feet in length, 8 feet wide and nine inches thick, dead. Decedent leaves a wife and three children.

February 13th, Sullivan County, Sunflower Mine.—Ray Leighman, day laborer, sixteen years of age, nationality American, was killed by an ascending cage. The accident occurred about 6:40

o'clock a. m. Decedent and the mine superintendent had taken the mules down into the mine preparatory to the day's work. The superintendent, wishing to go out of the mine, stepped on the cage and gave the signal to hoist. Leighman, who was standing back some distance from the shaft bottom at the time, ran and attempted to get on the cage just as the engineer started to hoist, and was caught between the side of the cage and the shaft curbing, which has a clearance of only about three inches. He was dragged in this position about seventy-five feet up the shaft before the cage could be stopped, killing him instantly.

February 16th, Greene County, Vandalia No. 8 Mine.—J. W. Masters, jerry, thirty-two years of age, American, single, was killed by falling slate. On the evening of the accident Masters and one other person were engaged cleaning up a fall of slate on one of the cross-entries. About 11:20 p. m. they were pushing a loaded dirt car into an idle room for the purpose of unloading it when a large piece of slate 4 feet 6 inches wide, 6 feet 6 inches in length, and 6 inches thick, suddenly gave way, falling on Masters, breaking his neck and killing him instantly.

February 21st, Sullivan County, Mildred Mine.—William Stevenson, timberman, fifty-six years of age, nationality Scotch, single, was fatally injured by falling slate. At the time of the accident decedent and a fellow-workman by the name of Kirkpatrick were making the necessary arrangements to set a crossbar under some loose slate on one of the cross-entries. At the point where the crossbar was needed, a thin ledge of slate eight inches thick extended from the side of the entry out over the roadway about three feet. In order to secure sufficient height under the crossbar it was found necessary to cut through this ledge the width of the bar, which was twelve inches wide. There was a slip in the roof which crossed the entry at about a forty-degree angle here, which together with cutting through the ledge still further loosened the then already dangerous slate, and at about 12:20 p. m., when decedent was finishing the above-mentioned cut, a large mass of the slate suddenly gave way, falling on him and injuring him so that he died at 11:30 a. m. the following day. A few props set temporarily under this loose slate for protection would have prevented the accident.

February 22d, Vigo County, Forrest Park Mine.—Richrd Roberts, driver, twenty-five years of age, American, single, was fatally injured by being caught and crushed between a moving mine car and a road prop. About 2:50 p. m. deceased had gone into a room

with his mule after a loaded car. The mine track in this room was laid with wooden rails and a few feet outside the point where the loaded car was standing and over which it must pass the end of one of the rails was split. In order to prevent the wheels of the car from entering this split rail and cause the car to jump the track, the driver must of a necessity stand on one side of the track and push or guide the car until it had passed that point. This Roberts did, and after the defective rail had been crossed he made an attempt, while the car was moving, to get around to the front end of the car so that he could take his position on the end of the draw bar, the place where drivers usually ride. In making this attempt he was caught between the end of the moving car and a road prop which stood within about twelve inches of the track, crushing him through the hips and abdomen and so injuring him that he died on the 26th following.

February 25th, Sullivan County, Hudson Mine.—Louis Dublemont, miner, sixty-one years of age, French, who leaves a dependent wife, was killed by falling slate. About 8 p. m. deceased was at work mining off a loose shot, mining in the top of the coal seam, when a large piece of slate 11 feet in length, 5 feet wide and 2 feet thick, suddenly gave way, falling on him and killing him instantly.

February 25th, Knox County, Freeman Mine.—Frank Buddle, machine helper, single, was fatally injured by falling coal. At the time he met with his injuries Buddle and J. H. Hornbrook, machine runner, were engaged in undercutting with a mining machine the face of Room No. 4 on the second southeast cross-entry. The mining machine they were using was of the electric chain type and made an undercut, three feet wide, six and one-half feet deep. They had completed four undercuts and were working on the fifth one, the machine being about half way in, when a slab of coal 5 feet in width, 2 feet thick and the full height of the seam (7 feet), extending out over the fourth cut, just completed, suddenly gave way and fell on decedent, breaking and mangling his left leg so that amputation was necessary, also inflicting internal injuries from which he died at 9:15 p. m. following. The coal which fell on Buddle had evidently been loosened when shooting down the room the previous undercut, the powder from one of the shots probably flying ahead a few inches into the solid coal, and as soon as the bottom of the seam was removed back to and past this powder crack, the coal, having no support, gave way and fell, the noise of the machine when running preventing Buddle from hearing the breaking or crackling noise the coal usually makes before fall

ing. From evidence brought forth at the investigations it is apparent that negligence on the part of three persons, that is the mine boss, machine runner and decedent himself, was partially if not wholly responsible for this accident. The mine boss in machine mines should either in person or by a competent representative examine all working places after they have been shot down and loaded out, and take down or make safe any loose coal that may have been left standing, such as described above. This the mine boss evidently did not do.

Hornbrook testified that he and decedent knew the coal was loose when they were making the fourth cut, and that he advised decedent to keep back from the face out of the way, as it was liable to fall. This being true, they should have spragged the coal before commencing the fifth cut, or Hornbrook, being the older and more experienced miner, should, by force, if necessary, have compelled decedent to conform to his advice.

March 4th, Parke County, Superior No. 2 Mine.—Charles Leachman, miner, thirty-eight years of age, American, was killed by falling coal. There were no eye-witnesses to this accident. The last seen of Leachman alive was at 9 a. m., when the driver, Charles Sills, gave him an empty car. About an hour later the driver, thinking he would have had time to load the car, went into the room after it and found him lying under a large block of coal dead. Deceased leaves a wife and three children.

March 5th, Pike County, Ayrshire No. 5 Mine.—Buxton Bradley, miner, sixty-five years of age, colored, single, was crushed to death between the top of a loaded mine car and the roof. About 8 a. m. Jesse Little, who was driving off the entry on which decedent met his death, met Bradley, who began chaffing him about being a better driver than he. In the conversation that followed Little jokingly proposed to Bradley that if he thought he was the better driver of the two that he (Little) would load a car for him while he made a trip. Bradley accepted the proposition. Taking the mule into an adjoining room he hitched it to a loaded car and started for the shaft bottom. This was the last seen of decedent alive. When found about thirty minutes later he was dead, lying on his back, crushed between the top of the loaded car and the roof in a space of about eight inches.

March 13th, Greene County, Vandalia No. 9 Mine.—John Kopic, driver, twenty-three years of age, Austrian, was killed instantly by falling slate. On the morning of the accident decedent was at his usual work, hauling coal out of the second cross-entry

off the fourth west. About 9:30 he was coming out of the mine with a loaded car, riding with one foot on the tail-chain and the other on the drawbar of the car, when from some cause the car jumped the track, striking and knocking the timbers out from under a large mass of loose slate. When decedent saw the car jump the track, realizing his danger, he made an effort to reach a place of safety, but before he could do so the slate fell, catching him and crushing him into an almost unrecognizable mass. He leaves a wife.

March 16th, Greene County, Queen Mine.—William Fenwick, miner, thirty-seven years of age, English, single, was fatally injured by a blast. From evidence adduced at the investigation of this accident it was learned that decedent had prepared three shots in the face of his working place, ready to fire at firing time, 3:30 p. m. His working place, Room No. 2 off the main east entry, was driven in about forty feet and the three shots, each tamped on fuse, were located one on each rib and one in the center of the room. The shot firing, as was customary, commenced in the face of the main east entry, each room man firing in turn. It was also customary for a miner to light all the shots to be fired in a place, no matter how many, before leaving it. In lighting his shots Fenwick's light was in some way extinguished, presumably from the powder in the end of the fuse of the third shot lighted, and he called to a fellow-miner by the name of Thomas Machie for a light. Machie ran up into his room, meeting him about half way, or twenty feet from the entry, gave him a light and turned and ran for a place of safety, calling on Fenwick to follow him. The latter for some reason, however, returned to the face of his room, and when within about six feet of the face the shots began to explode, each of the three exploding, the pieces of flying coal striking him, crushing his skull and injuring him otherwise so that he died the following day. Owing to the fact that he never regained consciousness after being injured it was not learned why he returned to the face of his room instead of following Machie to a place of safety. It is presumed that he thought that he had failed to light one of his shots and was returning for that purpose. One more life chargeable to the long list due to the use of fuse in shot firing.

March 28th, Vermillion County, Maple Valley Mine.—George Howser, miner, fifty-four years of age, American, was killed by falling slate. At about ten a. m. decedent was at work in the face of his room mining off a loose shot when a piece of slate 5 feet in length, 2 feet 11 inches in width, and 19 inches in thickness, sud-

denly gave way, falling on him, crushing his head and inflicting internal injuries from which he died at 9:05 p. m. of the same date. He is survived by a wife and ten children.

April 11th, Vermillion County, Maple Valley Mine.—William Ryan, shot firer, thirty-five years of age, American, was killed in an explosion of carbon monoxide gas and coal dust combined. Decedent and Thomas Deal were employed regularly as shot firers at this mine. On the afternoon of above date they entered the mine and commenced firing the shots at 3 o'clock p. m. At 3:30 they had lighted all the shots in the mine except three, lighting about 175 shots in thirty minutes. A number of these shots were drilled past the cutting or loose end, and practically all of them were excessively overcharged. A conservative estimate as to the amount of powder burned would place it at not less than 875 pounds. There was some dust in the mine air brought into suspension from the mine floor by the concussion of heavy shots and from shots tamped with drill dust. In firing this amount of powder within the limited space of time above mentioned, with the other attending conditions, and one hundred or more shots any one of which would furnish a sufficient volume of flame to ignite the explosive gases generated by burning coal dust and powder burned in shots previously fired, only one result could obtain, that is, an explosion such as followed. Ryan is survived by a wife.

May 7th, Vigo County, Ray Mine.—Frank Jones, driver, thirty years of age, American, was fatally injured by being caught and crushed between a moving mine car and the entry rib. At the time of the accident, Jones was standing between the empty and loaded tracks on the main east double parting. The train driver was starting with a trip of two loaded cars for the shaft bottom and just as the cars began to move decedent jumped between them intending to cross over to a break-through on the opposite side, in doing so he in some way was caught between the moving cars and the entry rib and dragged or rolled along the entry side a distance of about six and one-half feet. The accident occurred at 9 a. m., May 7th, death resulting at 12:30 o'clock noon, June 21st. Decedent is survived by a wife and two children.

May 8th, Sullivan County, Consolidated Indiana No. 33 Mine.—Wm. McCoskey, electrician, twenty-three years of age, American, was fatally injured by a mine motor. At the time he met with his accident McCoskey, in company with Arthur Beckett, motorman, was riding on the rear end of the motor out of the twelfth south-

west cross-entry with a trip of loaded cars. Just before they reached a double parting, McCoskey jumped off the motor intending to run ahead and see if the switches were set right, in passing the motor, his clothes were caught and his arm drawn into the gearing, the muscles of his arm were torn out and several arteries severed. He was taken to St. Anthony Hospital, Terre Haute, where he died three days later. He leaves a wife.

May 8th, Sullivan County, Consolidated Indiana No. 25 Mine.—Shelby Johnson, top laborer, thirty-five years of age, American, was killed by falling down the hoisting shaft. Decedent was employed to do general work around the top of the mine, among his other duties was that of sending props down into the mine. At about 2:30 p. m. of above date, wishing to send a car of props down the shaft, he called to A. B. Radeliff to open the west shaft gate for him, thinking the cage was at that landing. The engineer, however, had hoisted the cage up to the top landing just a few moments previous, and Johnson pushed the car into the shaft, involuntarily clutching the car, was jerked over into the shaft, falling with the car to the bottom, a distance of 225 feet, killing him instantly. He leaves a wife and two children.

May 9th, Sullivan County, Consolidated Indiana No. 25 Mine.—John Ewings, machine runner, thirty-eight years of age, American, was killed by falling slate. About 8:45 a. m. Ewings and his helper had finished cutting a room and had loaded their machine on the truck preparatory to leaving the room when a large piece of slate 13 feet in length, 5 feet and 6 inches thick, suddenly gave way, falling on decedent, injuring him so that he died four hours later. He leaves a wife.

June 4th, Pike County, Ayrshire Mine No. 3.—John Adams, miner, forty-five years of age, American, was fatally injured by a delayed shot. Decedent and a miner by the name of John Black were at work drawing pillars on the main east entry. Adams' working place was just inside that of Black. On the afternoon of above date they had prepared three shots ready to fire, each tamped on fuse. One of these shots belonged to Adams and two to Black. At firing time they lighted all of these shots and ran to a place of safety. Two of the shots exploded, and after waiting about ten minutes Black decided that he had failed to light one of his shots, and he and Adams went back into the place for the purpose of lighting it. They had reached the mouth of the drill hole, and just as Adams took hold of the fuse the shot exploded, the full force of the coal thrown out by the shot striking him, injuring him so

that he died thirty minutes later. Decedent leaves a wife and five children.

June 6th, Vigo County, Minshall Mine.—Starl Biggs, miner, forty-nine years of age, American, was fatally injured by falling slate. At the time of his death decedent and his son were driving the main north entry. On entering his place the morning of the accident he noticed some very loose slate at the face of the entry and returned to the shaft bottom to notify the mine boss of the same. On his return he found his son at work under the loose slate loading a car of coal. He ordered his son back out of the way and took his place. He had thrown but a few shovels of coal when a large piece of the slate measuring 8 feet in length, $2\frac{1}{2}$ feet in width, and 14 inches thick, gave way, falling on him, inflicting injuries from which he died at eight a. m. of the following day. He leaves a wife and five children.

June 8th, Vermillion County, Crown Hill No. 1 Mine.—Tony Bonami, miner, forty years of age, Italian, single, was killed by an ascending cage. About eight a. m. decedent, wishing to go out of the mine, came to the shaft bottom, and asked for a cage. About twenty minutes later he was given the cage and the cager gave the signal to hoist. When last seen alive Bonami was standing on the cage holding to one of the supports attached to the crosshead of the cage. When the cage was about eighty-five feet up the shaft he was heard to give an outcry and the next instant his body fell back into the sump. The space between the side of the cage and the buntings through which decedent was dragged was only eight inches and his death was evidently instantaneous. It is not known what caused him to fall, as the cage was well equipped with supports by which he could maintain his balance. It is supposed that his fall was due to dizziness produced by the motion of the cage or by heart failure induced from the same cause.

June 18th, Parke County, Parke No. 11 Mine.—Joseph Hookey, timberman, sixty-five years of age, American, was killed by falling slate. At the time he met his death, Hookey, in company with John Philips, also a timberman, was at work cutting hitch holes preparatory to setting some crossbars under a large body of loose slate over a double parting. While so engaged, at 2:40 p. m., a piece of the slate measuring 36 feet in length, 12 feet in width, and 12 inches in thickness, suddenly gave way, falling on both men, killing Hookey instantly and seriously injuring Philips. Decedent leaves a wife. A few temporary props set under this loose slate

would have saved the life of one person and prevented serious injury to another.

June 25th, Clay County, Brazil Block No. 1 Mine.—George Inglehart, miner, fifty-one years of age, American, was killed instantly by falling slate. About 7:15 a. m. decedent was at work gathering up some loose coal along his roadway and loading it into a car. He had cleaned the roadway up to within fifteen feet of the face of his place when a large piece of slate, weighing out two tons, fell on him, crushing his head beyond recognition against one of the wooden track rails. He leaves a wife and three children.

July 18th, Sullivan County, Vandalia No. 10 Mine.—Orvil Gray, miner, sixteen years of age, American, was fatally injured by falling slate. On the morning of the accident, decedent was at work with his father in room No. 1 on the fifth northwest cross entry. About eight p. m. he had occasion to leave his room. Just as he was passing out of the mouth of the room into the entry a large mass of slate fell, crushing and injuring him so that he died on the 20th following.

August 4th, Dering No. 14 Mine.—James McLoney, driver, nineteen years of age, American, single, was kicked by a mule and fatally injured. McLoney was employed as a gathering driver and was hauling coal from the fifth and sixth southeast cross-entries to a double parting on the main east. About 8:30 a. m. the morning of his accident he came into the double parting with a loaded trip, and not being able to get out of the empty parting with his empty cars by reason of some loaded cars which stood in the way, was standing between the empty and loaded tracks waiting for the parting driver to pull the loaded cars up out of the way. The mule they were trying to move the cars with was known to be very fractious and addicted to kicking. The cars were very hard to move and after making one or two ineffectual attempts to start them, the mule commenced kicking and running backwards to where decedent stood, some ten feet distant, and before he could get out of reach the mule kicked him in the right side of the abdomen. He was not thought to be seriously injured at the time. Peritonitis set in in a short time, from which he died at 9 a. m. the day following.

August 6th, Sullivan County, Vandalia No. 10 Mine.—J. W. Wilson, loader, twenty-four years of age, English, single, was fatally burned in an explosion of fire damp. The fire boss had examined the face of Wilson's working place, the second north-

east cross-entry, at five a. m., and found considerable fire damp. He placed a danger signal across the entry near the last break-through, in the shape of a piece of 2×4 inch railing marked in chalk, "Gas; brush out," it being customary where the gas was not in large quantity, for the loader to brush or fan it out with his coat. In addition to the danger signal, the fire boss met decedent on his way to work and notified him of the gas and warned him to be careful. Decedent continued to his working place, set his lamp in the break-through which was thirty-six feet from the face of the entry, and proceeded to fan the gas out of the entry face with his coat, directly toward his open light. The result was only what might have been expected: the gas ignited, causing an explosion in which he was so badly burned that he died at 6:10 p. m. following.

September 4th, Parke County, Superior No. 3 Mine.—Lewis Morgan, miner, twenty-nine years of age, American, was killed by falling slate. Little could be learned of this accident as there were no eye-witnesses. The mine boss visited decedent about 8 a. m. and found his place well timbered and, as he thought, safe. At the time the boss visited him, Morgan was working off a loose shot, mining in the top of the coal seam. About 11:30 a. m. the driver went into his room to pull his loaded car and found him lying close up to the face of the coal under a large piece of slate, dead. He is survived by a wife and one child.

September 28th, Sullivan County, Shirley Hill No. 1 Mine.—William Madison, miner, fifty-six years of age, English, was killed by a blast. The investigation of this accident brought forth but little information other than the fact that decedent was killed by a blast, either premature or delayed. The miners do their own shot firing in this mine, and at firing time, 3:30 p. m. the afternoon he met his death, all the shots adjacent to Madison's working place were fired and the miners had left the mine, leaving him to fire his shots alone. The miners traveled to and from the mine on a miners' train, and while waiting for the train it was noticed that decedent was not present. A searching party was immediately organized, and on returning into the mine they found him lying in his room, dead. Two shots had been fired and a third remaining one had not been lighted, considerable loose coal was scattered over the room and around the body, evidently thrown out by the exploded shots, and decedent's head was crushed and other cuts and bruises in evidence, indicating that he had been struck by flying coal. It is the general opinion that he was trying to light the three shots before leaving his room and that one of the shots first lighted

exploded prematurely. He is survived by one child and an invalid wife.

September 29th, Vermillion County, Klondyke Mine.—Joe Karbastus, shot firer, forty-five years of age, Russian, single, was killed in an explosion caused by rapid shot firing and blown out shots. This accident was investigated by Assistant Inspectors Thomas and Irving. From evidence adduced at their investigations it was learned that decedent and one other person had been employed for some time as regular shot firers in this mine. On the afternoon of the explosion, they commenced firing the shots at 3:15 p. m., the explosion occurring one hour and thirty minutes later. There were seventy-eight miners employed in the mine who had prepared at least two shots each, or there were not less than 156 shots to be fired. Their shots were each charged with not less than five pounds of powder; some of them contained considerably more than five pounds and were excessively overcharged. A conservative estimate of the total quantity of powder burned in the shots would place it at not less than 780 pounds. All the shots in the mine had been fired when the explosion occurred, and two of the last ones fired were blown-out shots. Thus it will be seen that an average of nearly two shots were fired, and not less than ten pounds of powder burned each thirty seconds during the time of shot firing. In some instances probably a half-dozen or more shots exploded simultaneously. Thomas estimates that approximately 6,250 cubic feet of carbon monoxide gas was generated from the powder burned. This quantity of gas, brought to its highest explosive point, "is indicated by the explosion," would furnish an explosive mixture of about 62,500 cubic feet volume, which was evidently lighted by one of the blown out shots. Decedent was found in room No. 2, on the twelfth east cross-entry, dead, having been overcome by afterdamp.

October 2d, Vigo County, Wabash Mine.—James Swabrick, machine runner, twenty-seven years of age, American, was killed by an electric shock. At the time of the accident, 3 p. m., Swabrick and his helper, Charles Flynn, were unloading their mining machine at the face of the second southeast cross-entry, preparatory to undercutting the entry. The machine they were operating was of the Morgan-Gardner self-propelling type, and before commencing to unload they connected the electric cable to the machine, intending the propeller to assist in the unloading. Just as the machine was dropped off the track on the skids, the positive wire attached to the terminal block was in some way disconnected, thereby causing the machine frame, chain and other gearing to become

highly charged with electricity. At this moment Swabrick, who was using one of the jackbars, a piece of hollow pipe, as a lever to push the machine forward on the skids, received the full voltage. Flynn heard him give an outcry. Surmising the trouble he ran back and disconnected the cable. When he returned to the face of the entry he found deceased lying face downward on the machine, dead. He leaves a wife and one child.

October 20th, Vigo County, Miami No. 1.—George Morris, miner, thirty-six years of age, English, and Thomas Boot, also a miner, twenty-eight years of age, and English, were both killed at the same time by a fall of rock. Morris and Boot had been employed for several months drawing pillars in the first southeast cross-entry and aircourse. At the time of the accident they were working on the pillar between the entry and aircourse. They were working the pillar loose and intending to retreat, taking all the coal, and had excavated a large area, the roof over which, being robbed of the support of the pillar, had begun to settle and break along the edges of the coal where they were working. This condition was noticed on the morning of the accident by Peter Spence, a fellow-miner, who warned them of the fact and advised them to set more props. The roof, however, was a very hard sandstone, the safety of which the two unfortunates evidently overestimated, and to this fact is due the accident which followed. Notwithstanding the warning of Spence, also that given by the roof settling and breaking, they continued their work after setting but five props, where they should have set not less than fifty. About 12 o'clock at noon, Boot was loading a car and Morris was mining off some loose coal when a large piece of rock, measuring 24 feet in length, 18 feet in width, $3\frac{1}{2}$ feet thick, the estimated weight of which was ninety tons, suddenly gave way, falling on decedents, killing them both instantly. Eighty props were required to be set for safety of workmen and three hours' labor required before the bodies were recovered. Morris is survived by a wife and three children, and Boot by a wife.

October 21st, Parke County, Mecca No. 3 Mine.—John Graves, miner, nineteen years of age, American, single, was killed by falling slate. Graves and a fellow-miner, Samnel Sylvester, were working buddies in room No. 2 on second south cross-entry, the room was only partially turned, being driven in about fourteen feet from the entry and was about fourteen feet wide at the face. About 9 o'clock the morning of the accident, decedent was engaged loading a car and his buddie was drilling a hole in the face of the room.

While in the act of bending over the car to level down the coal he had been shoveling, a piece of slate 14 feet in length, 8 feet wide, and 12 inches thick, gave way, falling and catching him on the edge of the car, killing him instantly. The same fall caught his buddie and broke his leg, seriously injuring him otherwise. The slate which caused the accident was known by both Graves and Sylvester to be loose, and they were advised the day previous to the accident to timber it, by William Johnson, a neighbor miner. They also had abundance of props of proper length lying in their room neck with which they could have made themselves safe, yet they continued their work of mining and loading coal without setting any props whatever. The result which followed was all that could have been expected.

October 29th, Sullivan County, Jackson Hill No. 4 Mine.—George Gill, loader, twenty-six years of age, Polander, was killed by falling slate. At the time the accident occurred, Gill and his buddie, Lucus Protuske, also a Polander, were loading coal out of room No. seven on the sixth southeast cross-entry. The room, which had been undercut with an electric chain mining machine, was shot down by them the evening previous to the accident. The undercut was about $6\frac{1}{2}$ feet deep, and when the coal was shot down a rock roll or slip was uncovered. The roll lay diagonally across the face of the room and the slip extended for some distance up into the roof. As a rule the roof adjacent to slips or rolls of this character is affected and becomes very dangerous and requires careful attention in the way of setting props, crossbars, etc., to prevent it from falling. The mine superintendent, in company with the mine boss, visited decedent's working place early on the morning of the accident and saw the roll, which had been uncovered, and knowing the dangerous conditions liable to result therefrom, gave orders to the loaders to timber the room securely before commencing to load coal. They, that is, the superintendent and boss, continued on their way through the mine, though without waiting to see if the order would be conformed to. Both of the loaders were non-English speaking, and probably only partially understood the order, and not fully realizing their danger proceeded to load coal without setting the necessary timbers to secure themselves, and about 10 a. m., while they were engaged loading a car, a large piece of the slate gave way, falling on decedent and inflicting injuries from which he died one hour later. The superintendent and boss were both negligent of their duty in this instance, by reason of the fact that they did not stay in the room until they knew that

their order given with reference to timbering would be conformed to, or by instructing the driver to give the loaders no empty cars until the room had been securely timbered. The loaders also evidently knew to some extent, at least, the dangerous nature of the roof and contributed to the accident when they commenced to load coal without first having made some effort to secure themselves. Decedent is survived by a wife and one child.

November 13th, Greene County, Vandalia No. 8 Mine.—Louie Vonderschmitt, driver, sixteen years of age, German, was killed by a mine car. Decedent was employed hauling coal on the second northwest cross-entries. About 8:10 a. m. he was coming into the double parting on that entry with a trip of two loaded cars, riding in the position in which drivers usually ride—that is, standing with one foot on the drawbar of the car and the other on the tail-chain. When he came to the west end of the parting the mule, instead of following the loaded track as it should have done, turned into the empty switch, Vonderschmitt jumped down off the car for the purpose of turning the mule and to slew or guide the car over the switch points. While so doing he was in some way caught between the moving car and the entry rib, breaking his neck and killing him instantly.

December 15th, Sullivan County, Dering No. 4 Mine.—George Peyton, loader, fifty years of age, American, was killed by falling slate. There were no eye-witnesses to this accident. Decedent was last seen alive about 7 a. m. At that time he was pushing an empty car up his room. About 7:30 the driver, thinking he would have the car loaded, went into the room for the purpose of pulling it, and found him lying under about $3\frac{1}{2}$ tons of slate, dead. The car was partially loaded, and from the position in which the body was found it is presumed he was loading the car when the slate fell on him. He leaves a wife and three children.

December 21st, Sullivan County, Hocking Mine.—Thomas Beasley, driver, twenty-five years of age, American, single, was run over and killed by a loaded mine car. There were no eye-witnesses to this accident and little information could be obtained at the investigation. Beasley was employed as a train driver between the double parting on the sixth west cross-entry and that on the main south. He was last seen alive about 10 o'clock a. m. At that time he was leaving the sixth west parting with a trip of two loaded cars, riding on the front end of the first car in the trip. About thirty minutes later he was found 442 feet from the main south

parting, lying under the front car in his trip, dead. He leaves a dependent mother.

December 22d, Gibson County, Oswald Mine.—Anton Bonheim, shot firer, forty-two years of age, German, was killed by a delayed shot. Bonheim and Wm. Bush were employed as regular shot firers in the mine, and on the evening of the above date they were in the mine firing the shots in the usual manner. About 5:15 they tamped two shots on fuse in room 9 on the sixth southwest cross-entry. After lighting their two shots they moved on to room 10, where they tamped one shot, leaving Bonheim to fire it. Bush moved on down the entry, expecting Bonheim to follow him after lighting this shot. However, instead of following Bush, Bonheim turned and went back into room 9, where one of the shots previously lighted had not exploded. When within a short distance of the face of the room the shot exploded, the pieces of flying coal striking him, killing him instantly. It is not known why he returned to room 9, unless he thought he had failed to light one of the shots and was returning for that purpose. He leaves a wife and two children.

The following summary of fatal accidents exhibits the date on which each fatality occurred; the name, age, occupation and nationality of person killed; the dependents left at each death; the cause of the accident; the name of the mine wherein the accident occurred, and the county in which the mine is located:

TABLE.

Summary of Fatal Accidents.

Date.	NAME.	Occupation.	Age.	Cause of Accident.	Mine.	County.	DEPENDENTS.			Nationality.
							Wife.	Children.	Other Dependents.	
Jan. 8	McClellan St. Clair	Shot-firer	36	Explosion of powder gases.	Oswald.	Gibson	1	4		American.
Jan. 8	Solomon Lawrence	Shot-firer	53	Explosion of powder gases.	Oswald.	Gibson	1			American.
Jan. 14	Alonso Ragsdale	Mine boss	47	Falling slate.	Gilmour.	Greene	1	2		American.
Jan. 23	Enoch P. Venable	Miner	22	Falling coal and slate.	P. & I.	Greene				American.
Jan. 24	Julien Maurice	Miner	25	Ascending cage.	Black Creek.	Greene				French.
Jan. 25	David Black	Driver	38	Premature blast.	Minshall	Vigo	1	1		American.
Jan. 27	Asa Sargent	Timberman	27	Falling slate.	Clover Leaf	Sullivan	1	1		American.
Jan. 29	James Philips	Miner	65	Delayed shot.	P. & I.	Greene				American.
Feb. 12	Frank Bishluk	Loader	36	Falling slate.	Jackson Hill No. 4.	Sullivan	1	3		Polander.
Feb. 13	Ray Leighman	Day laborer	16	Ascending cage.	Sunflower	Sullivan				American.
Feb. 16	J. W. Masters	Jerry	32	Falling slate.	Vandalia No. 8.	Greene				American.
Feb. 21	Wm. Stevenson	Timberman	56	Falling slate.	Dering No. 13.	Sullivan				Scotch.
Feb. 22	Richard Roberts	Driver	25	Mine cars.	Forrest Farke	Vigo				American.
Feb. 25	Louis Dublemont	Miner	61	Falling slate.	Hudson	Sullivan	1			French.
Feb. 25	Frank Buddle	Machine helper	20	Falling coal.	Freeman	Knox				American.
Mar. 4	Charles Leachman	Miner	38	Falling coal.	Superior No. 2.	Parke	1	3		American.
Mar. 5	Buxton Bradley	Miner	65	Mine cars.	Ayrshire No. 5.	Pike				Colored.
Mar. 13	John Coparice	Driver	23	Falling slate.	Vandalia No. 9.	Greene	1			Austrian.
Mar. 16	Wm. Fenwick	Miner	37	Delayed shot.	Queen	Greene				English.
Mar. 28	George Houser	Miner	54	Falling slate.	Maple Valley	Vermillion		10		American.
Apr. 11	William Ryan	Shot-firer	35	Explosion powder gases.	Maple Valley	Vermillion	1			American.
May 7	Frank Jones	Driver	30	Mine cars.	Ray	Vigo	1	2		American.
May 8	Wm. McKaskey	Electrician	23	Mine motor.	Con. Ind. No. 33.	Sullivan	1			American.
May 8	Shelby Johnson	Top laborer	35	Fell down shaft.	Con. Ind. No. 25.	Sullivan	1	2		American.
May 9	John Ewings	Machine runner	38	Falling slate.	Con. Ind. No. 25.	Sullivan	1			American.
June 4	John Adams	Miner	45	Delayed shot.	Ayrshire No. 3.	Pike	1	5		American.
June 6	Starl Biggs	Miner	49	Falling slate.	Minshall Mine.	Vigo	1	5		American.
June 8	Louie Bonami	Miner	40	Ascending cage.	Crown Hill No. 1.	Vermillion				Italian.
June 18	Joseph Hockey	Timberman	65	Falling slate.	Parke No. 11.	Parke	1			American.
June 25	George Inglehart	Miner	51	Falling slate.	Brasil Block No. 1.	Clay	1	3		American.
July 18	Orvil Gray	Miner	16	Falling slate.	Vandalia No. 10.	Sullivan				American.

parting, lying under the front car in his trip, dead. He leaves a dependent mother.

December 22d, Gibson County, Oswald Mine.—Anton Bonheim, shot firer, forty-two years of age, German, was killed by a delayed shot. Bonheim and Wm. Bush were employed as regular shot firers in the mine, and on the evening of the above date they were in the mine firing the shots in the usual manner. About 5:15 they tamped two shots on fuse in room 9 on the sixth southwest cross-entry. After lighting their two shots they moved on to room 10, where they tamped one shot, leaving Bonheim to fire it. Bush moved on down the entry, expecting Bonheim to follow him after lighting this shot. However, instead of following Bush, Bonheim turned and went back into room 9, where one of the shots previously lighted had not exploded. When within a short distance of the face of the room the shot exploded, the pieces of flying coal striking him, killing him instantly. It is not known why he returned to room 9, unless he thought he had failed to light one of the shots and was returning for that purpose. He leaves a wife and two children.

The following summary of fatal accidents exhibits the date on which each fatality occurred; the name, age, occupation and nationality of person killed; the dependents left at each death; the cause of the accident; the name of the mine wherein the accident occurred, and the county in which the mine is located:

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Summary of Fatal Accidents.

Date.	NAME.	Occupation.	Age.	Cause of Accident.	Mine.	County.	DEPENDENTS.			Nationality.
							Wife.	Children.	Other Dependents.	
Jan. 8	McClellan St. Clair	Shot-firer	36	Explosion of powder gases.	Oswald	Gibson	1	4		American.
Jan. 8	Solomon Lawrence	Shot-firer	53	Explosion of powder gases.	Oswald	Gibson	1			American.
Jan. 14	Alonzo Ragsdale	Mine boss	47	Falling slate.	Gitmour	Greene	1	2		American.
Jan. 23	Enoch P. Venable	Miner	22	Falling coal and slate.	P. & I.	Greene				American.
Jan. 24	Julien Maurice	Miner	25	Ascending cage.	Black Creek.	Greene				French.
Jan. 25	David Black	Driver	38	Premature blast.	Minshall	Vigo	1	1		American.
Jan. 27	Asa Sargent	Timberman	27	Falling slate.	Clover Leaf.	Sullivan	1	1		American.
Jan. 29	James Phillips	Miner	65	Delayed shot.	P. & I.	Greene				American.
Feb. 12	Frank Bishluk	Loader	36	Falling shot.	Jackson Hill No. 4.	Sullivan	1	3		Polander.
Feb. 13	Ray Leighman	Day laborer	16	Ascending cage.	Sunflower	Sullivan				American.
Feb. 16	J. W. Masters	Jerry	32	Falling slate.	Vandalia No. 8	Greene				American.
Feb. 21	Wm. Stevenson	Timberman	56	Falling slate.	Dering No. 13	Sullivan				Scotch.
Feb. 22	Richard Roberts	Driver	25	Mine cars.	Forrest Parke	Vigo				American.
Feb. 25	Louis Dublemont	Miner	61	Falling slate.	Hudson	Sullivan	1			French.
Feb. 25	Frank Buddle	Machine helper	20	Falling coal.	Freeman	Knox				American.
Mar. 4	Charles Leachman	Miner	38	Falling coal.	Superior No. 2	Parke	1	3		American.
Mar. 5	Buxton Bradley	Miner	65	Mine cars.	Ayrshire No. 5	Pike				Colored.
Mar. 13	John Coparice	Driver	23	Falling slate.	Vandalia No. 9	Greene	1			Austrian.
Mar. 16	Wm. Fenwick	Miner	37	Delayed shot.	Queen	Greene				English.
Mar. 28	George Houser	Miner	54	Falling slate.	Maple Valley	Vermillion	1	10		American.
April 11	William Ryan	Shot-firer	35	Explosion powder gases.	Maple Valley	Vermillion	1			American.
May 7	Frank Jones	Driver	30	Mine cars.	Ray	Vigo	1	2		American.
May 8	Wm. McKaskey	Electrician	23	Mine motor.	Con. Ind. No. 33	Sullivan	1			American.
May 8	Shelby Johnson	Top laborer	35	Fell down shaft	Con. Ind. No. 25	Sullivan	1	2		American.
May 9	John Ewings	Machine runner	38	Falling slate.	Con. Ind. No. 25	Sullivan	1			American.
June 4	John Adams	Miner	45	Delayed shot.	Ayrshire No. 3	Pike				American.
June 6	Starl Biggs	Miner	49	Falling slate.	Minshall Mine.	Vigo	1	5		American.
June 8	Louie Bonami	Miner	40	Ascending cage.	Crown Hill No. 1	Vermillion	1			Italian.
June 18	Joseph Hookey	Timberman	65	Falling slate.	Parke No. 11	Parke	1			American.
June 25	George Inglehart	Miner	51	Falling slate.	Brazil Block No. 1	Clay	1	3		American.
July 18	Orvil Gray	Miner	16	Falling slate.	Vandalia No. 10	Sullivan				American.

Aug. 4	James McLoney	Driver	19	Kicked by mule	Dering No. 14	Sullivan				American
Aug. 6	J. W. Willson	Loader	24	Explosion of fire damp	Vandalia No. 10	Sullivan				English
Sept. 4	Louis Morgen	Miner	29	Falling slate	Superior No. 3	Parke	1	1		American
Sept. 28	William Madison	Miner	56	Delayed shot	Shirley Hill No. 1	Sullivan	1	1		English
Sept. 29	Joe. Swismiski	Shot-firer	45	Explosion of powder gases	Prince	Vermillion				Russian
Oct. 2	James Swabrick	Machine runner	27	Electric shock	Wabash	Vigo	1	1		American
Oct. 20	George Morris	Miner	36	Falling rock	Miami No. 1	Vigo	1	3		English
Oct. 20	Thomas Boot	Miner	28	Falling rock	Miami No. 1	Vigo	1			English
Oct. 21	John Graves	Miner	19	Falling slate	Mecca No. 3	Parke				American
Oct. 29	George Gill	Loader	26	Falling slate	Jackson Hill No. 4	Sullivan	1	1		American
Nov. 13	Louis Vonderschmitt	Driver	16	Mine car	Vandalia No. 8	Greene				German
Dec. 15	George Peyton	Loader	55	Falling slate	Dering No. 14	Sullivan	1	3		American
Dec. 21	Thomas Beasley	Driver	25	Mine car	Hocking	Sullivan			1	American
Dec. 22	Anton Bonheim	Shot-firer	42	Delayed shot	Oswald	Gibson	1	2		German

Aug. 4	James McLoney	Driver	19	Kicked by mule	Dering No. 14	Sullivan			American
Aug. 6	J. W. Willson	Loader	24	Explosion of fire damp	Vandalia No. 10	Sullivan			English
Sept. 4	Louis Morgen	Miner	29	Falling slate	Superior No. 3	Parke	1	1	American
Sept. 28	William Madison	Miner	56	Delayed shot	Shirley Hill No. 1	Sullivan	1	1	English
Sept. 29	Joe. Swismiski	Shot-firer	45	Explosion of powder gases	Prince	Vermillion			Russian
Oct. 2	James Swabrick	Machine runner	27	Electric shock	Wabash	Vigo	1	1	American
Oct. 20	George Morris	Miner	36	Falling rock	Miami No. 1	Vigo	1	3	English
Oct. 20	Thomas Boot	Miner	28	Falling rock	Miami No. 1	Vigo	1		English
Oct. 21	John Graves	Miner	19	Falling slate	Meeca No. 3	Parke			American
Oct. 29	George Gill	Loader	26	Falling slate	Jackson Hill No. 4	Sullivan	1	1	American
Nov. 13	Louis Vonderschmitt	Driver	16	Mine car	Vandalia No. 8	Greene			German
Dec. 15	George Peyton	Loader	55	Falling slate	Dering No. 14	Sullivan	1	3	American
Dec. 21	Thomas Beasley	Driver	25	Mine car	Hocking	Sullivan			American
Dec. 22	Anton Bonheim	Shot-firer	42	Delayed shot	Oswald	Gibson	1	2	German

TABLE OF FATAL ACCIDENTS.

TABLE

Showing the Number of Tons of Coal Mined, the Number of Persons Employed, the Number of Fatalities and the Number of Tons of Coal Produced per Each Fatality Each Year from January 1, 1898, to January 1, 1909.

YEAR.	Tons Produced.	Employes.	Fatalities.	Tons per Fatality.
1898	5,146,920	No report.	22	233,950
1899	5,864,975	7,366	15	390,997
1900	6,283,063	8,858	18	349,059
1901	7,019,203	10,296	24	292,466
1902	8,763,197	13,139	24	365,133
1903	9,992,563	15,128	55	181,683
1904	9,872,404	17,838	34	290,304
1905	10,995,972	17,856	47	233,956
1906	11,422,027	19,562	31	368,450
1907	13,250,715	19,009	53	250,013
1908	11,997,304	19,092	45	266,606

TABLE OF PERMANENT ACCIDENTS.

The Following Table Exhibits the Date of Accident, the Name, Age, and Occupation of Each Person Injured, the Number of Persons Dependent on Each for Support, the Nature and Cause of Injury, and the Name of the Mine and the County Wherein the Accident Occurred.

Date.	NAME.	Age.	Occupation.	DEPENDENTS.			Days Lost.	Injury.	Cause of Accident.	Mine.	County.
				Wife.	Children.	Other Dependents.					
Mar. 31	James Gott.....	26	Miner.....					Back injured.....	Falling slate.....	Mecca No. 3.....	Parke.
Aug. 4	Wm. Hagg.....	29	Machine helper.....	1	3			Leg amputated.....	Mining machine.....	Dering No. 14.....	Sullivan.
Sept. 10	Jack Moreland.....	24	Machine runner.....	1	1			Dislocated spine.....	Falling slate.....	Vandalia No. 9.....	Greene.

TABLE

Exhibiting the Number of Serious Accidents Occurring in 1908, the Name, Age and Occupation of Persons Injured, the Number of Persons Dependent on them for Support, the Length of Time they were Idle by Reason of Injuries (where Same could be Learned), the Name of the County and the Mine Wherein the Accident Occurred.

Date.	NAME.	Age.	Occupation.	DEPENDENTS.			Days Lost.	Injury.	Cause of Accident.	Mine.	County.
				Wife.	Children.	Other Dependents.					
Jan. 11	Coon Littles	52	Timberman	1	1			Broken ribs	Falling slate	Lyford No. 1	Parke.
Jan. 30	Irvin Jones	23	Loader					Broken leg	Falling slate	Parke No. 11	Parke.
Jan. 6	Jonathan Winterbottom	58	Loader	1	2			Foot fractured	Falling slate	Ind. Con. No. 25	Sullivan.
Jan. 8	W. R. Richardson	32	Miner	1	2			Face and hands burned	Explosion of fire damp	Clover Leaf	Sullivan.
Jan. 8	Wm. Stephens	50	Timberman					Rib fractured	Falling timber	Dering No. 13	Sullivan.
Jan. 10	Frank Love		Machine runner					Leg cut	Mining machine	Dering No. 13	Sullivan.
Jan. 11	Ore Hatfield	19	Driver					Internally injured	Mine car and prop.	Vandalia No. 10	Sullivan.
Jan. 18	Wm. Ralston	72	Loader	1				Broken leg	Falling slate	Freeman	Sullivan.
Jan. 19	Wm. Thompson	35	Miner	1	2			Face and hands burned	Explosion of fire damp	Clover Leaf	Sullivan.
Jan. 19	Wm. Winfield	35	Miner	1	2			Face and hands burned	Explosion of fire damp	Clover Leaf	Sullivan.
Jan. 22	Roy Norris	24	Driver					Back injured	Mine cars	Phoenix	Sullivan.
Jan. 23	Fred Mullen	34	Loader					Hips and legs	Falling slate	Ind. Con. No. 25	Sullivan.
Jan. 24	Pete Stevenson	26	Driver					Shoulders injured	Mine cars	Dering No. 13	Sullivan.
Jan. 28	Claude Ewing	19	Driver					Mashed fingers	Rail and tail chain	Jackson Hill No. 2	Sullivan.
Jan. 28	Asa Sargent	27	Jerry man	1	1			Crushed ankle	Falling slate	Clover Leaf	Sullivan.
Jan. 30	H. E. Bennett	39	Electrician	1	5			Back injured	Falling over piece of coal	Hocking	Sullivan.
Jan. 8	Joe Motrin	22	Miner				18	Back injured	Falling slate	Brazil Block No. 1	Clay.
Jan. 14	Leon Waugh		Timberman					Leg injured	Falling slate	Vandalia No. 65	Clay.
Jan. 2	Charles Burrtts	35	Fire boss	1	4			Arm fractured	Falling slate	Letsinger	Greene.
Jan. 4	John Hains	44	Load dropper	1			17	Rib broken	R. R. car	Vandalia No. 3	Greene.
Jan. 11	Dave Keyhoe		Machine runner				43	Ankle bruised	Falling slate	Vandalia No. 9	Greene.
Jan. 13	Joseph Nicodemmm	44	Miner	1			35	Face and hands burned	By blast	Vandalia No. 3	Greene.
Jan. 14	Sam Roberts	57	Miner				29	Ribs fractured	Falling coal	Vandalia No. 3	Greene.
Jan. 17	Thomas Dodds	28	Trip rider	1	4			Broken foot	Mine car	Lattas Creek	Greene.
Jan. 18	Jas. Losig	37	Miner					Ribs fractured	Falling down on track	Green Valley	Greene.
Jan. 20	Joe Jones	45	Miner	1				Leg broken	Falling on slate	Black Creek	Greene.
Jan. 23	Jas. Philips	64	Loader					Arm fractured	Coal from flying shot	P. & I.	Greene.
Jan. 24	Pat Fowler	68	Miner					Back injured	Falling slate	Lattas Creek	Greene.

Jan. 30	Jas. South	45	Cager	1	1	27	Shoulder dislocated	Caught between mine car	Vandalia No. 21	Greene.
Jan. 30	George Waters	23	Driver	1	1	27	Arm dislocated	Caught between mine car mule	Lattas Creek	Greene.
Jan. 30	J. W. Hunter	23	Miner	1	1	27	Leg bruised	Struck by moving car	Vandalia No. 3	Greene.
Jan. 7	Paul Kirkman	23	Driver				Back injured	Mine car	Lyford No. 1	Parke.
Jan. 9	Nate Bryan	24	Driver	1	1		Ribs and forearm	Mine car and roof	Lyford No. 1	Parke.
Jan. 3	Benjamin Lape	24	Driver				Shoulder dislocated	Mine car	Buckeye	Vermillion
Jan. 6	Nick Grase	45	Miner	1	3		Leg fractured	Mine car	Buckeye	Vermillion
Jan. 20	Mack Luck	29	Driver				Hips injured	Mine car	Dering No. 7	Vermillion
Jan. 8	Andrew Winterbottom	21	Driver				Hips injured	Mine car	Fauvre No. 2	Vigo.
Jan. 28	Adam Lutz	24	Driver	1			Stomach	Kicked by a mule	Dawson	Warrick.
Feb. 7	Len Smith	26	Driver	1	3		Hips injured	Mine ears	Island Valley	Clay.
Feb. 8	James Rojert	43	Miner			2	Face and arms burned	Delayed shot	Progressive	Clay.
Feb. 3	Colonel Bonet	23	Miner				Foot mashed	Mine car	Oswald	Gibson.
Feb. 11	Comodore Lake	36	Miner	1	4		Back injured	Falling slate	Vandalia No. 5	Greene.
Feb. 11	Sid Edington	35	Miner	1	2		Broken jaw	Falling slate	Vandalia No. 3	Greene.
Feb. 11	Howard Taylor	20	Driver			109	Hips injured	Mine car	Vandalia No. 3	Greene.
Feb. 13	Devon Beck	47	Miner	1			Rib broken	Falling slate	Vandalia No. 3	Greene.
Feb. 13	Clay Tennis	...	Machine runner	1	1		Foot crushed	Mining machine	Gilmour	Greene.
Feb. 13	Eben Terril	...	Driver			24	Body bruises	Mine car	Vandalia No. 9	Greene.
Feb. 16	Andy Gogd	...	Jerry						Vandalia No. 8	Greene.
Feb. 16	John O'Herin	15	Trapper				Collar bone broken	Mine car	Summitt	Greene.
Feb. 24	Roy Buckner	...	Miner			30	Bruised head	Falling coal	Vandalia No. 9	Greene.
Feb. 6	Benjamin Goodwine	49	Miner	1			Dislocated hip	Falling coal	Freeman	Knox.
Feb. 27	Lawrence Malitts	56	Miner				Back injured	Falling slate	Superior No. 3	Parke.
Feb. 7	Jno. Courtney	36	Machine helper	1			Arm burned	Electric current	Phoenix No. 4	Sullivan.
Feb. 10	H. H. Shelton	20	Loader	1	1		Fingers mashed	Falling coal	Rainbow	Sullivan.
Feb. 12	Philip Hart	34	Machine helper	1	5		Ribs fractured	Falling slate	Ind. Con. No. 25	Sullivan.
Feb. 13	Vern Nicholson	25	Machine helper	1	1		Finger mashed	Mining machine	Jackson Hill No. 2	Sullivan.
Feb. 17	Frank Richardson	...	Cager			70	Leg bruised	Mine car	Phoenix	Sullivan.
Feb. 20	Thomas Morrison	19	Driver				Arm injured	Mine car	Clover Leaf	Sullivan.
Feb. 20	Eugene Fitchner	45	Timberman				Broken leg	Falling slate	Dering No. 13	Sullivan.
Feb. 20	Dolph Starks	54	Miner	1	1		Both legs broken	Falling slate	Hudson	Sullivan.
Feb. 27	John Bains	22	Loader				Broken toes	Falling slate	Ind. Con. No. 25	Sullivan.
Feb. 29	Levi Bardsley	35	Timberman	1			Fingers broken	Falling coal	Phoenix No. 4	Sullivan.
Feb. 4	Wm. Bridgewater	22	Miner				Broken leg	Falling slate	Lawton	Vigo.
Feb. 24	Andrew Howell	20	Bottom shooter				Legs and back sprained	Falling slate	Domestic Block	Vigo.
Feb. 25	Ralph Shelton	26	Shot firer				Face and hands burned	Shot through pillar	Lower Vein No. 1	Vigo.
Feb. 29	James Lambert	30	Tripp rider	1	3		Hips injured	Mine car	Miami No. 2	Vigo.
Feb. 22	Jno. F. Pritchard	28	Driver				Shoulders fractured	Mine car	Castle Garden	Warrick.
Mar. 5	Charles Fowler	42	Miner	1	4		Shoulder and leg	Falling slate	Crawford No. 9	Clay.
Mar. 13	Ava Phillippie	22	Driver				Jaw broken	Kicked by mule	Crawford No. 8	Clay.
Mar. 14	Dugger Canader	16	Loader				Injured foot	Nail in foot	Vivian No. 2	Clay.
Mar. 18	Sherman Johnson	31	Miner				Hands and face burned	Premature shot	Crawford No. 9	Clay.
Mar. 19	William Nelson	42	Miner	1			Broken fingers	Falling coal	Crawford No. 1	Clay.
Mar. 26	Fred Buchanan	30	Machine runner				Skull fractured	Mining machine	Vivian No. 2	Clay.
Mar. 31	Ora Kastner	23	Driver	1	2		Hand crushed	Mine car	Rebstock	Clay.
Mar. 21	Henry Hill	20	Driver				Collar bone dislocated	Mine car	Oswald	Gibson.
Mar. 10	Mitt. Price	34	Driver				Shoulder blade fractured	Mine car	Gilmour	Greene.

TABLE EXHIBITING THE NUMBER OF SERIOUS ACCIDENTS OCCURRING IN 1908, ETC.—Continued.

Date.	NAME.	Age.	Occupation.	DEPENDENTS.				Injury.	Cause of Accident.	Mine.	County.
				Wife.	Children.	Other Dependents.	Days Lost.				
Mar. 13	M. A. Tait.	35	Loader.	1				Broken leg.	Falling slate.	Vandalia No. 8	Greene.
Mar. 16	A. L. Beal.	23	Driver.					Ankle crushed.	Mine car.	Vandalia No. 5	Greene.
Mar. 4	Wm. Thompson.	20	Driver.					Hips injured.	Mule fell on him.	Knox.	Knox.
Mar. 12	Claude Van Meeter.	24	Driver.					Two ribs broken.	Kicked by mule.	Tecumseh.	Knox.
Mar. 23	Mattis Robey.	18	Driver.					Collar bone broken.	Mine car.	Knox.	Knox.
Mar. 23	Charles Meyers.	24	Driver.					Hand mashed.	Mine car.	Freeman.	Knox.
Mar. 25	Mat Towbridge.	35	Driver.					Foot fractured.	Mine car.	Freeman.	Knox.
Mar. 17	Ott Yocom.	21	Driver.					Back injured.	Mine car.	Superior No. 5	Parke.
Mar. 20	John Buskenowsky.	59	Miner.	1	2			Hands and face burned.	Powder explosion.	Superior No. 2	Vigo.
Mar. 24	Wm. Cooper.	35	Miner.	1				Broken leg.	Falling slate.	Parke No. 10	Parke.
Mar. 3	Harry Brown.	46	Miner.	1	1			Leg fractured.	Mine cars.	Little.	Pike.
Mar. 6	Wm. Fetinger.	35	Dumper.	1	4			Dislocated arm.	Falling.	Ayrshire No. 4	Pike.
Mar. 7	John Black.	23	Driver.	1	2			Hips injured.	Mine car.	Ayrshire No. 5	Pike.
Mar. 3	Herman Engle.	19	Spragger.					Leg mashed.	Mine car.	Hocking.	Sullivan.
Mar. 5	John Herr.	22	Loader.					Wrist broken.	Mine car.	Hocking.	Sullivan.
Mar. 7	George Carty.	32	Electrician.	1				Hand burned.	Electric cable.	Phoenix No. 8	Sullivan.
Mar. 9	A. C. McKee.	36	Machine helper.	1				Hand burned.	Electric cable.	Dering No. 13	Sullivan.
Mar. 10	Claude Norris.	23	Machine runner.	1	2			Fingers fractured.	Mining machine.	Shirley Hill No. 3	Sullivan.
Mar. 11	A. B. Yantz.	47	Loader.	1	2			Broken leg.	Falling slate.	Little Giant.	Sullivan.
Mar. 16	Fred Worthington.	26	Machine runner.	1				Broken leg.	Falling slate.	Vandalia No. 10	Sullivan.
Mar. 20	Henry Puck.	42	Driver.	1	1			Breast injured.	Mine car.	Ind. Con. No. 30	Sullivan.
Mar. 26	Charles T. Watters.	23	Driver.	1	1			Foot mashed.	Mine car.	Rainbow.	Sullivan.
Mar. 28	Fred Sims.	23	Trip rider.	1	1			Fractured foot.	Mine car.	Vandalia No. 10	Sullivan.
Mar. 27	Alf. Shoptew.		Driver.				16	Leg bruised.	Mine car.	Rainbow.	Sullivan.
Mar. 3	Steve. Weise.	45	Miner.		1			Dislocated shoulder.	Falling slate.	Vandalia No. 69.	Vigo.
Mar. 3	Mike Bandore.	25	Cager.					Fractured arm.	Coal falling down shaft.	Dering No. 6	Vigo.
Mar. 4	Frank Moore.	40	Fireman.				43	Legs scalded.	Steam.	Vandalia No. 69.	Vigo.
Mar. 4	Fred Scoltz.		Driver.				15	Arm bruised.	Mine car.	Vandalia No. 69.	Vigo.
Mar. 10	Lewis Englehart.	22	Miner.					Hand mashed.	Falling coal.	Miami No. 3.	Vigo.
Mar. 10	Charles Story.		Greaser.				30	Foot mashed.	Mine car.	Vandalia No. 69.	Vigo.
Mar. 12	Edward Linsley.	34	Machine runner.	1	3			Leg broken.	Falling slate.	Domestic Block.	Vigo.
Mar. 19	John Bonnetta.	18	Driver.					Arm broken.	Mine car.	Dering No. 6	Vigo.
Mar. 20	Mike Mesae.	45	Miner.					Ear cut, back injured.	Falling slate.	Victor.	Vigo.
Mar. 23	Clarence Norris.	50	Miner.	1			30	Back injured.	Falling slate.	Forrest.	Vigo.

Mar. 23	Allen Lutz	21	Loader	1	3	Internal injuries.	Mine car	Electric	Warrick.
Mar. 27	B. Taylor	50	Miner			Collar bone broken	Falling slate	Big Four	Warrick.
April 30	Willes Scaggs	26	Day man	1		Leg scalded	Steam	Vivian No. 2	Clay.
April 27	Walter Damall	27	Day man	1	2	Body burned	Explosion of fire damp	Oswald	Gibson.
April 27	Jeen Powell	21	Day man	1		Body burned	Explosion of fire damp	Oswald	Gibson.
April 22	Charles Myers	15	Driver			Ankle dislocated	Mine car	Twin No. 5	Greene.
April 9	Joe Stout	45	Driver	1	4	Leg crushed	Mine car	Gilmour	Greene.
April 10	Charles Gordon	36	Loader	1		Back injured	Falling slate	Calora	Greene.
April 24	H. Watson	19	Driver			Foot crushed	Mine car	Green Valley	Greene.
April 25	John Savio	50	Miner			Back injured	Falling rock	Brazil Block No. 9	Parke
April 11	Harry Carshman	20	Driver			Hips injured	Mine car	Vandalia No. 10	Sullivan
April 13	Robert Clemmins	18	Loader			Head cut	Falling slate	Hocking	Sullivan
April 16	John Galleger	30	Loader	1	3	Face and hands burned	Explosion of fire damp	Hocking	Sullivan
April 22	Pete Hardesty	23	Driver			Two broken ribs	Mine car	Viola	Sullivan
April 27	Orvil Heck	17	Driver			Wrist dislocated	Mine car	Hocking	Sullivan
April 27	John McCoskey	27	Machine helper			Back injured	Falling coal	Hocking	Sullivan
April 20	B. Maddle	18	Miner			Leg injured	Mine car	Crescent	Vanderburgh.
April 19	Charles Sadler	21	Driver			Arm broken	Falling slate	Dering No. 8	Vermillion.
April 29	Arthur S. Hanover	15	Trapper			Ribs fractured	Kicked by mule	Buckeye	Vermillion.
April 18	John Seelock	62	Miner	1		Both legs broken	Falling slate	Vandalia No. 69	Vigo.
April 22	Joe Bainley	27	Driver			Leg injured	Mine car	Victor	Vigo.
April 23	Thomas McKenna	15	Miner			Back injured	Falling slate	Lawton	Vigo.
April 28	Edwin Sherrell	35	Top man			Back injured	R. R. car	Forrest	Vigo.
May 6	Ollie Huff	21	Miner			Fingers cut off	Electric drill	Vivian No. 2	Clay.
May 12	Fred Pierceton	40	Miner		1	Ribs fractured	Falling slate	Progressive	Clay.
May 13	Cliff Chatham		Top laborer	1		Head and ankle injured	Falling from scaffold.	Clay Product Co.	Clay.
May 9	Ton. Dewater	25	Miner	1	2	Toes broken	Falling coal	Oswald	Gibson.
May 5	Thomas Buckner	48	Loader		1	Back injured	Falling slate	Twin No. 4	Greene.
May 5	Louis Ford	22	Jerry			Back injured	Falling slate	Twin No. 4	Greene.
May 12	Cleve Goodman	22	Driver	1		Feet and hips injured	Falling slate	Vandalia No. 9	Greene.
May 11	Claude Ewing	19	Driver			Ankle injured	Mine car	Jackson Hill No. 2	Sullivan
May 14	Orvil Renvard	19	Miner			Leg broken	Falling coal	Ind. Con. No. 33	Sullivan.
May 2	George Martin	39	Miner	1	4	Back injured	Falling coal	Vandalia No. 67	Vigo.
May 13	Charles Campton	40	Jerry	1	3	Fingers broken	Mining machine	Wabash	Vigo.
May 13	Wm. McDonald	45	Boss driver	1	1	Finger amputated	Mine car	Vandalia No. 67	Vigo.
May 20	Pat. Branon	24	Driver			Foot crushed	Mine car	Forrest	Vigo.
June 19	Alf. Connett	48	Miner	1		Ribs broken	Falling coal	Vandalia No. 65	Clay.
June 10	Andrew Craig	27	Miner			Back injured	Falling coal	Superior No. 3	Clay.
June 5	Gus. Miller	22	Driver		2	Ribs broken	Mine car	Oswald	Gibson.
June 9	Peter Campbell	28	Carpenter	1	1	Broken nose	Falling from scaffold.	Island Valley No. 4	Clay.
June 10	Charles Bicknell	35	Driver	1		Ankle injured	Falling coal	Vandalia No. 5	Greene.
June 19	Oral Trump	23	Loader	1		Back injured	Falling slate	Calora	Greene.
June 25	Sam Bonham	47	Miner	1	7	Face injured	Delayed shot	Lattas Creek	Greene.
June 26	Robert Gibson	18	Jerry			Leg mashed	Caught by sinking bucket	Calora	Greene.
June 30	George Tucker	30	Miner	1		Back and hips injured	Falling slate	Vandalia No. 5	Greene.
June 18	John Philips	25	Jerry	1	2	Internally injured	Falling slate	Parke No. 11	Greene.
June 6	Curtus Bidwell	25	Motorman	1		Body bruises	Motor collided with mule	Vandalia No. 10	Sullivan.
June 10	Paul Congach	25	Loader			Back injured	Falling slate	Dering No. 13	Sullivan.

TABLE EXHIBITING THE NUMBER OF SERIOUS ACCIDENTS OCCURRING IN 1908, ETC.—Continued.

Date.	NAME.	Age.	Occupation.	DEPENDENTS.			Days Lost.	Injury.	Cause of Accident.	Mine.	County.
				Wife.	Children.	Other Dependents.					
June 19	John Boss	21	Driver					Foot dislocated	Mine car	Shirley Hill No. 3	Sullivan.
June 20	Hebis Niler	32	Track man	1				Foot injured	Stepped on nail	Rainbow	Sullivan.
June 25	Orville Watson	31	Machine runner	1	1			Leg broken	Mining machine	Phoenix No. 4	Sullivan.
June 29	Harry Tryon	60	Miner	1				Legs and two ribs broken	Falling slate	Little Giant	Sullivan.
June 29	Thomas Bidwell	32	Loader	1	3			Back and shoulder	Falling coal	Ind. Con. No. 33	Sullivan.
June 30	John N. Howard	46	Loader	1	6			Body bruised	Falling slate	Phoenix No. 4	Sullivan.
June 11	Bert Clark	22	Driver	1				Collar bone broken	Mine car	Oak Hill No. 5	Vermillion.
June 16	James Davy	18	Trip rider					Back injured	Mine car	Dering No. 5	Vermillion.
June 23	Charles Boenar	47	Jerry	1	2			Back injured	Falling slate	Crown Hill No. 3	Vermillion.
June 9	Charles Cruthers	26	Driver					Leg injured	Mine car	Forrest	Vigo.
June 23	John Smith	22	Jerry				2	Injured foot	Stepping on nail	Wabash	Vigo.
June 23	Ed. Hains	38	Miner	1	2			Back injured	Falling slate	Vandalia No. 69	Vigo.
June 23	Amiel Caron		Loader	1	3			Body bruised	Falling slate	Plymouth No. 1	Vigo.
June 25	E. G. Lockwood	42	Miner	1				Rib fractured	Falling coal	Glen Ayr	Vigo.
June 25	John Walkins	31	Loader	1				Fingers amputated	Falling slate	Wabash	Vigo.
July 10	Tony Buse	34	Miner	1				Side injured	Prop fell on him	Vandalia No. 65	Clay.
July 23	Otis Harrison	25	Driver					Broken arm	Mine car	Crawford No. 9	Clay.
July 15	Coe. Barnett		Driver					Arm fractured	Kicked by mule	Oswald	Gibson.
July 18	Elsie Malone		Lead dropper					Finger broken	Mine car	Oswald	Gibson.
July 7	Del Plane	35	Miner	1				Ankle crushed	Falling coal	Black Creek	Greene.
July 10	Walter Cammons	38	Loader	1				Hips and leg crushed	Falling coal	Freeman	Knox.
July 8	Riley Muncy	23	Driver	1	1			Arm and wrist crushed	Mine car	Lyford No. 1	Parke.
July 16	Bert Short	23	Driver	1	3			Hips crushed	Mine car	Lyford No. 1	Parke.
July 25	Edwin Johnson	40	Track man			4	4	Hips crushed	Falling slate	Superior No. 4	Parke.
July 1	Otis Johnson	24	Driver					Ankle fractured	Falling slate	Ayrshire	Pike.
July 27	Jas. Church	22	Driver					Shoulder	Mine car	Blackburn No. 2	Pike.
July 3	Charles Hill	46	Timberman	1	3		55	Head and shoulder	Falling slate	Phoenix No. 4	Sullivan.
July 3	Comodore Parks	27	Track man				27	Back injured	Falling slate	Vandalia No. 10	Sullivan.
July 3	Vest Gill	47	Mine boss	1	3		75	Leg broke	Motor and mine door	Little Giant	Sullivan.
July 14	Otte Hale	20	Miner					Foot crushed	Falling coal	Little Giant	Sullivan.
July 14	John R. Murphy	50	Loader	1				Hip and abdomen injured	Falling slate	Hamilton	Sullivan.
July 11	H. W. White	23	Spragger	1	1			Foot crushed	Mine car	Oak Hill	Vermillion.
July 13	A. Attaiga	24	Driver	1				Ribs fractured	Mine car	Dering No. 5	Vermillion.
July 13	Jas. Shetton	32	Driver	1	1			Back injured	Mine car	Dering No. 7	Vermillion.

July 13	A. Evans	34	Driver				Ribs fractured	Mine car	Dering No. 7	Vermillion.
July 13	John Terrel	26	Driver	1			Hip dislocated	Mine car	Prince	Vermillion.
July 15	Joe Stupan		Miner				Foot crushed	Falling coal	Prince	Vermillion.
July 16	August Bonheimer	15	Trapper				Arm and back injured	Mine car	Crown Hill No. 1	Vermillion.
July 28	Frank Rodes	37	Jerry	1	6		Legs injured	Falling slate	Dering No. 8	Vermillion.
July 28	Evert Rodes	28	Jerry	1	1		Both legs broken	Falling slate	Dering No. 8	Vermillion.
July 6	Fred Stutts	33	Miner	1	1		Internal injuries	Falling slate	Lawton	Vigo.
July 7	Silas Montgomery	40	Machine runner	1	4	30	Toes broken	Mining machine	Forrest	Vigo.
July 10	Grover Hains	23	Miner	1	3		Toe broken	Falling coal	Lawton	Vigo.
July 10	Orie Morehead	28	Spragger				Head mashed	Mine car	Forrest	Vigo.
July 16	Otis Jackson	26	Driver				Fingers broken	Mine car	Vandalia No. 69	Vigo.
July 20	Ray Steppens	27	Driver				Hips crushed	Mine car	Vandalia No. 69	Vigo.
July 21	John F. Beid	39	Miner				Ankle and leg injured	Falling coal	Tower Hill	Vigo.
July 21	L. C. Wright	34	Miner	1	2		Back and leg injured	Falling coal	Vandalia No. 69	Vigo.
Aug. 8	George Church	54	Miner	1			Side and hips injured	Falling slate	Crawford No. 2	Clay.
Aug. 12	Raymond Wright	20	Driver				Nose fractured	Kicked by mule	Plymouth No. 2	Clay.
Aug. 18	Arthur Maxwell	18	Cager			50	Hand crushed	Ascending cage	Vandalia No. 65	Clay.
Aug. 20	Thomas Geddon	32	Cager			38	Foot crushed	Ascending cage	Vandalia No. 65	Clay.
Aug. 28	Earl Martin	18	Miner				Head mashed	Falling coal	Wizard	Clay.
Aug. 28	Isack Housel	34	Superintendent	1	1		Shoulder dislocated	Fell off box car	Superior No. 5	Clay.
Aug. 31	Ord. Rhodrick	30	Driver				Hips and legs injured	Mine car	Vivian No. 2	Clay.
Aug. 26	J. W. Smith	45	Miner	1	3		Foot fractured	Falling coal	Oswald	Gibson.
Aug. 5	John McCann	27	Miner	1			Leg and collar bone broken	Falling slate	Vandalia No. 8	Greene.
Aug. 13	Nathan Tipton	50	Miner	1	4		Shoulder injured	Falling slate	Vandalia No. 5	Greene.
Aug. 24	James Hale	22	Driver				Shoulder and right ear	Mine car	Vandalia No. 2	Greene.
Aug. 24	Joseph Penland	60	Miner	1	2		Leg and shoulder	Falling slate	Gilmour	Greene.
Aug. 31	Otis Cahall	26	Loader				Broken leg	Falling slate	Green Valley	Greene.
Aug. 1	Jno. Daughtery	23	Miner	1	2		Broken leg	Falling slate	Mecca No. 3	Parke.
Aug. 19	Irwin Young	40	Driver	1	4		Foot injured	Mine car	Mecca No. 3	Parke.
Aug. 28	Fred Gudenbach	31	Driver	1	4		Finger mashed	Mine car	Vandalia No. 316	Parke.
Aug. 28	Hugh Hirkland	60	Mine boss	1			Back injured	Falling slate	Superior No. 3	Parke.
Aug. 31	Keller	36	Driver				Back injured	Mine car	Vandalia No. 316	Parke.
Aug. 3	Emery West	30	Miner	1			Two fingers mashed	Falling slate	Peacock No. 2	Pike.
Aug. 4	Wm. Hagg	29	Machine runner	1	3		Leg broken	Mine car	Dering No. 14	Sullivan.
Aug. 6	James Ferguson	18	Driver				Foot mashed	Mine car	Vandalia No. 10	Sullivan.
Aug. 14	Burl Dubrie	45	Miner	1	2		Leg broken	Falling slate	Citizens	Sullivan.
Aug. 27	Pearl Miller	27	Driver				Two ribs broken	Mine car	Jackson Hill No. 4	Sullivan.
Aug. 27	Amos Chipman	26	Driver				Leg injured	Mine car	Jackson Hill No. 4	Sullivan.
Aug. 4	Harry Gall	24	Driver				Face injured	Kicked by mule	Crown Hill No. 3	Vermillion.
Aug. 5	Fred Nelson	28	Driver		1		Hips injured	Mine car	Crown Hill No. 3	Vermillion.
Aug. 25	David Davis	41	Jerry	1			Back injured	Falling slate	Dering No. 8	Vermillion.
Aug. 26	Chas. Kemskey	28	Shot firer				Face and hand burned	Delayed shot	Prince	Vermillion.
Aug. 27	John Fescolle	33	Machine runner				Foot mashed	Mining machine	Crown Hill No. 3	Vermillion.
Aug. 28	F. Dugger	20	Miner				Body bruised	Mine car	Buckeye	Vermillion.
Aug. 6	Evert Woods	22	Driver	1	2		Finger cut off	Mine car	Lawton	Vigo.
Aug. 10	Dora Ward	28	Shot firer	1	2		Back and hips injured	Coal from flying shot	Vandalia No. 69	Vigo.
Aug. 11	Frank Cunningham	24	Driver				Leg broken	Mine car	Glen Ayr	Vigo.
Aug. 12	Philip Erwin	21	Cager				Back injured	Mine car	Vandalia No. 67	Vigo.

TABLE EXHIBITING THE NUMBER OF SERIOUS ACCIDENTS OCCURRING IN 1908, ETC.—Continued.

Date.	NAME.	Age.	Occupation.	DEPENDENTS.			Days Lost.	Injury.	Cause of Accident.	Mine.	County.
				Wife.	Children.	Other Dependents.					
Aug. 22	Dave Smider	40	Miner	1	2			Broken collar bone	Falling coal	Ray	Vigo.
Aug. 29	Wm. Dorman	28	Shot firer	1	1			Face and hands burned	Premature shot	Fauvre No. 2	Vigo.
Sept. 9	Frank Nickle	37	Miner					Leg broken	Falling coal	Plymouth No. 2	Clay.
Sept. 2	George Merdith	23	Driver	1	3			Broken fingers	Kicked by mule	Calora	Greene.
Sept. 5	John Sims	38	Track man				61	Back injured	Falling slate	Vandalia No. 8	Greene.
Sept. 11	Howard Taylor	21	Driver				41	Leg broken	Mine car	Vandalia No. 8	Greene.
Sept. 13	John Styles	28	Pumper	1	3			Back injured	Falling slate	Vandalia No. 8	Greene.
Sept. 21	Henry Jett	21	Driver	1	1			Back injured	Mine car	Antioch	Greene.
Sept. 26	H. Vigner	26	Cager					Arm broken	Mine car	Green Valley	Greene.
Sept. 4	Charles Jackman	34	Miner	1	3			Wrist broken	Coal falling down shaft	Summitt	Greene.
Sept. 9	Jessie Adams		Miner	1	1			Broken leg	Falling down	Vandalia No. 316	Parke.
Sept. 24	Thomas West	28	Driver	1	2			Collar bone broken	Falling coal	Vandalia No. 316	Parke.
Sept. 30	Frank C. Meyers	28	Miner	1	1			Back injured	Falling slate	Vandalia No. 316	Parke.
Sept. 2	Andrew Craig	37	Loader	1	3			Lost an eye	Coal from flying shot	Ayrshire No. 4	Pike
Sept. 2	George Greek	20	Loader					Body bruised	Falling slate	Dering No. 13	Sullivan.
Sept. 12	Charles Johnson	26	Driver					Hip injured	Reliance	Reliance	Sullivan.
Sept. 14	Jessie Dix	23	Loader	1	3			Finger mashed	Mine car	Little Giant	Sullivan.
Sept. 14	H. H. Shilton	70	Flagman	1	1			Ankle fractured	Falling rock	Con. Ind. No. 25	Sullivan.
Sept. 16	Elmer Martin	28	Miner					Leg broken	Mine car	Rainbow	Sullivan.
Sept. 19	John Cazzill	22	Loader					Leg broken	Falling slate	Con. Ind. No. 25	Sullivan.
Sept. 25	Ted. G. Lewis	26	Mine boss	1	4			Foot crushed	Falling slate	Sun Flower	Sullivan.
Sept. 26	H. J. Hoover	25	Driver					Crushed body	Mine car	Citizens	Sullivan.
Sept. 26	George Reighhead	17	Driver					Legs crushed	Mine car	Dering No. 13	Sullivan.
Sept. 29	Elza Stewart	35	Loader	1	1			Foot crushed	Falling coal	Vandalia No. 10	Sullivan.
Sept. 30	G. Francis	35	Miner	1				Back injured	Falling slate	Reliance	Sullivan.
Sept. 29	Wm. Kelly	23	Cager	1	1			Rib broken	Falling slate	Little Giant	Sullivan.
Sept. 16	Ed. Horten	31	Driver	1	6			Internally	Falling down shaft	Dering No. 6	Vigo.
Sept. 16	Henry Mucker	35	Timberman	1	1			Neck and head	Mine car	Fauvre No. 2	Vigo.
Sept. 16	George Montgomery	19	Miner					Leg and back	Falling slate	Forrest	Vigo.
Sept. 21	John Biggs	48	Miner	1				Foot broken	Falling coal	Lawton	Vigo.
Sept. 25	Elmer Cruss	24	Miner					Hips and chest crushed	Falling coal	Minshall	Vigo.
Sept. 21	Harvey Day	23	Driver					Hips crushed	Falling coal	Vandalia No. 66	Vigo.
Sept. 1	E. Hammock	30	Fire boss	1				Face and hands burned	Mine car	Crown Hill No. 3	Vermillion.
Sept. 1	Hiram Punninger	25	Miner					Face and hands burned	Explosion fire damp	Elberfeld	Warriek
									Explosion fire damp	Elberfeld	Warriek.

Sept. 26	Frank Hargrove	24	Driver	1			Broken arm	Mine car	Dawson	Warrick.
Sept. 28	J. S. Austin	50	Miner	1	4		Face and hands burned	Powder explosion	Polk Patch	Warrick.
Oct. 10	Thomas Bennett	49	Miner	1	3		Broken arm	Premature shot	Brazil Block No. 4	Clay.
Oct. 23	Ben. Batchler	24	Miner	1	1		Ribs broken	Falling slate	Eureka No. 5	Clay.
Oct. 23	Roy Gribble	16	Trapper				Foot mashed	Mine car	Vandalia No. 65	Clay.
Oct. 27	Tongo Bare		Miner			16	Shoulder bruised	Falling slate	Vandalia No. 65	Clay.
Oct. 1	Patrick O'Hern	47	Miner	1	8		Broken thigh	Falling slate	Summitt	Greene.
Oct. 7	John Wilson	29	Miner			1	Leg broken	Falling slate	Queen	Greene.
Oct. 8	Walter Salecup	32	Driver				Shoulder	Falling slate	Calora	Greene.
Oct. 15	Westly Baldwin	19	Driver				Arm and leg cut	Kicked by mule	Vandalia No. 9	Greene.
Oct. 15	Ray Watson	19	Driver				Hips crushed	Mine car	Green Valley	Greene.
Oct. 17	Michael Moss	18	Driver				Arm broken	Kicked by mule	Summitt	Greene.
Oct. 24	Wm. Johnson	22	Driver				Arm dislocated	Mine car	Vandalia No. 21	Greene.
Oct. 29	John Cox	32	Track cager	1	3	57	Arm broken	Mine car	Vandalia No. 8	Greene.
Oct. 30	Jerry Coakly	55	Miner	1	4		Mashed through chest	Mine car	Vandalia No. 5	Greene.
Oct. 2	Joe Todd	23	Loader				Ankle fractured	Falling slate	Knox	Knox.
Oct. 12	George Hooker	28	Driver			26	Fingers cut off	Mine car	Mary	Parke.
Oct. 22	Samuel Sylvester	49	Miner	1	2		Broken leg	Falling coal	Mecca No. 3	Parke.
Oct. 26	John Galleger	24	Driver			2	Knee injured	Mine car	Mary	Parke.
Oct. 27	Corbett Martin	15	Miner				Thumb fractured	Falling coal	Brazil Block No. 9	Parke.
Oct. 27	George Curry	51	Miner	1	2		Back and hips injured	Falling slate	Mecca No. 3	Parke.
Oct. 20	Ben. Clarke	20	Driver				Broken leg	Falling slate	Jackson Hill No. 4	Sullivan.
Oct. 20	Geo. M. Carke		Loader			16	Hips bruised	Falling coal	Rainbow	Sullivan.
Oct. 28	John Lewis	22	Driver				Two fingers broken	Mine car	Crown Hill No. 3	Vermillion.
Oct. 7	William Patrie	36	Machine runner	1	4		Broken arm	Falling slate	Domestic Block	Vigo.
Oct. 10	Edgar Gains	34	Miner				Broken foot	Falling rock	Miami No. 1	Vigo.
Oct. 19	John Scott	68	Timberman	1			Broken leg	Falling slate	Miami No. 4	Vigo.
Oct. 22	Leslie Ogden	20	Driver				Hip dislocated	Mine car	Vandalia No. 81	Vigo.
Oct. 24	Edward Burke	40	Miner				Back injured	Falling slate	Lawton	Vigo.
Oct. 24	Ernest Batterman	16	Miner				Ankle broken	Falling slate	Vandalia No. 67	Vigo.
Oct. 24	Dan. Gargess	40	Miner	1	4		Foot mashed	Falling coal	Victor	Vigo.
Oct. 28	John Graves	42	Driver	1		8	Injured thigh	Mine car	Vandalia No. 60	Vigo.
Nov. 13	Frank Careenskie	29	Miner				Body injured	Falling slate	Vandalia No. 66	Vigo.
Nov. 20	Arthur James	30	Miner	1	2		Broken toe	Falling coal	Crawford No. 9	Clay.
Nov. 24	Oddie Hill	19	Driver				Ribs broken	Mine car	Oswald	Gibson.
Nov. 6	S. E. Freely	25	Driver	1			Pelvic bone broken	Mine car	Queen	Greene.
Nov. 7	A. D. Osborn		Loader			21	Thumb mashed	Falling slate	Summitt	Greene.
Nov. 16	Joseph Mitchell	33	Boss driver	1	3		Thigh bruised	Mine car	Summitt	Greene.
Nov. 17	Chas. Bailey	32	Loader				Broken leg	Falling coal	Lattas Creek	Greene.
Nov. 19	Clarence Cross	26	Loader	1			Back wrenched	Falling slate	Lattas Creek	Greene.
Nov. 23	Paris Beach	42	Machine runner	1			Broken leg	Falling slate	Lattas Creek	Greene.
Nov. 23	Emmet Boden		Machine helper			16	Bruised head	Falling slate	Lattas Creek	Greene.
Nov. 28	Frank Baggh	26	Motorman	1	2		Mashed hand	Mine car	Lattas Creek	Greene.
Nov. 13	J. C. Smith	26	Driver	1			Finger mashed	Coal falling off car	Freeman	Knox.
Nov. 7	Frank McVay	24	Driver	1		14	Fractured ankle	Mine car	Mary	Parke.
Nov. 4	Tom Archer	23	Driver	1		21	Wrist dislocated	Mine car	Mary	Parke.
Nov. 12	Frank Thurley	40		1	4		Face scalded	Repairing boiler	Vandalia No. 316	Parke.
Nov. 5	Marion King	34	Miner	1	1		Back injured	Falling slate	Ayrshire No. 4	Pike.

TABLE EXHIBITING THE NUMBER OF SERIOUS ACCIDENTS OCCURRING IN 1908, ETC.—Continued.

Date.	NAME.	Age.	Occupation.	DEPENDENTS.			Days Lost.	Injury.	Cause of Accident.	Mine.	County.
				Wife.	Children.	Other Dependents.					
Nov. 7	Wm. Loveless	29	Miner	1	3			Bruised arm	Falling coal	Littles	Pike
Nov. 2	John Godfrig	60	Miner	1				Broken leg	Falling coal	Kettle Creek	Sullivan.
Nov. 3	James Powers	24	Jerry man	1				Broken arm	Falling slate	Jackson Hill No. 4	Sullivan.
Nov. 3	James Priest	27	Machine runner	1	1			Broken leg	Falling slate	Shirley Hill No. 3	Sullivan.
Nov. 6	Jas. Cockran	21	Driver					Body crushed	Mine car	Rainbow	Sullivan.
Nov. 7	Robert Harris	50	Machine helper	1				Broken arm	Falling slate	Ind. Con. No. 33	Sullivan.
Nov. 11	John Collins	48	Loader					Body bruises	Premature shot	Reliance	Sullivan.
Nov. 21	Joseph Keen	36	Miner					Body burned	Premature shot	Clover Leaf	Sullivan.
Nov. 23	Herbert Murrat	25	Loader					Foot crushed	Mine car	Ind. Con. No. 25	Sullivan.
Nov. 23	Kirk McCrosby	51	Jerry man	1	5			Ankle out of place	Falling slate	Phoenix No. 4	Sullivan.
Nov. 16	Jacob Rabus	20	Driver					Collar bone broken	Mine car	Dering No. 8	Vermillion.
Nov. 2	Chas. Riggs	32	Driver					Fractured finger	Mine car	Glen Ayr	Vigo.
Nov. 4	Joseph Hoffman	38	Loader	1	3			Foot broken	Falling slate	Grant No. 3	Vigo.
Nov. 6	Frank Hodges	26	Driver					Bruised back	With mule	Fauvre No. 2	Vigo.
Nov. 7	Wm. Pierce		Miner				17	Bursting finger	Water pipe	Forrest	Vigo.
Nov. 11	Thomas Waters	26	Miner	1				Bruised hip and leg	Falling coal	Lawton	Vigo.
Nov. 11	Joe Blinskie	30	Miner					Broken toes	Falling slate	Lawton	Vigo.
Nov. 16	P. Surretie	40	Miner					Head bruised, broken rib	Windy shot	Minshall	Vigo.
Nov. 16	Robert Adams	17	Miner					Body bruises	Windy shot	Minshall	Vigo.
Nov. 16	Chas. McQuillin	35	Miner	1	2			Broken leg, body bruises	Windy shot	Minshall	Vigo.
Nov. 20	Wm. Sims	32	Machine runner	1	1			Squeezed hips	Mining machine	Forrest	Vigo.
Nov. 28	John Anderson	60	Day man	1				Hip dislocated	Falling slate	Miami No. 1	Vigo.
Dec. 3	Elza Pell	36	Miner	1	3			Broken toe	Falling slate	Big Vein	Clay
Dec. 4	Clarence Light	27	Miner	1				Broken leg	Falling slate	Big Vein	Clay
Dec. 28	Chas. Cutts	40	Miner					Arm fractured	Mine car	Vivian No. 2	Clay
Dec. 31	Alex Brown	45	Miner	1				Back bruised	Falling slate	Vandalia No. 65	Clay
Dec. 24	C. E. Anderson	28	Driver	1	1			Collar bone broken	Mine car	Oswald	Gibson
Dec. 1	William Hays	35	Track layer	1	1			Back bruised	Falling slate	Vandalia No. 8	Greene.
Dec. 1	Seral Battle	38	Machine runner	1	4			Broken leg	Mining machine	Vandalia No. 21	Greene.
Dec. 2	R. Conrad	23	Timberman	1	1			Foot injured	Stepping on nail	Summitt	Greene.
Dec. 3	Holmer Gott	22	Driver					Broken hand	Mine car	Summitt	Greene.
Dec. 6	Albert Abbott							Wrist and two ribs broken	Falling down shaft	Black Creek	Greene.
Dec. 14	Geo. Walters		Driver	1	2			Shoulders squeezed	Mine car	Lattas Creek	Greene.
Dec. 19	Jal Cox	15	Trapper					Broken ankle	By mule	Lattas Creek	Greene.

Dec. 29	Carl Gott	24	Driver					Foot broken	Foot caught in frog	Summitt	Greene.
Dec. 10	Hugh Wampler	19	Driver					Bruised leg	Mine car	Knox	Knox.
Dec. 29	William Onions	24	Miner					Ankle and leg bruised	Falling coal	Knox	Knox.
Dec. 31	Carl Norris	32	Loader					Hand lacerated	Falling coal	Freeman	Knox.
Dec. —	George Myers	17	Pick carrier					Shoulder and back bruised	Mine car	Tecumseh	Knox.
Dec. 1	John Sargent	25	Spragger	1	1			Body bruises	Mine car	Phoenix No. 4	Sullivan.
Dec. 9	Dave Edwards	24	Driver				9	Hips crushed	Water box	Hocking	Sullivan.
Dec. 16	John Bick Enerhart	22	Driver					Ear cut, bruised head	Mine car	Jackson Hill No. 2	Sullivan.
Dec. 18	Ham Tony	21	Driver					Foot mashed	Falling coal	Jackson Hill No. 2	Sullivan.
Dec. 26	Claude Carter	20	Driver					Broken foot	Mine car	Rainbow	Sullivan.
Dec. 26	Parke Rusher	68	Mule tender					Fractured rib	Squeezed by mule	Rainbow	Sullivan.
Dec. 10	Joseph M. McCormick	33	Shot firer					Face and arms burned	Windy shot	Plymouth No. 1	Vigo.
Dec. 12	John Wrimmer	50	Miner	1				Toes broken	Falling slate	Glen Ayr	Vigo.
Dec. 28	Clarence Mann	25	Miner	1	1			Broken toe	Falling slate	Lawton	Vigo.
Dec. 29	Alex Getuck		Miner					Bruised back	Falling duty band	Vandalia No. 67	Vigo.
Dec. 30	James Keith	53	Cager	1	5			Muscles torn from hip	Caught between cage & mine car	Wabash	Vigo.
Dec. 5	Harry Wright	54	Day man	1				Body injured	Falling slate	Dering No. 8	Vermillion.
Dec. 12	W. Shorter	17	Driver					Hips and head crushed	Falling slate	Dering No. 8	Vermillion.
Dec. 24	Wade Erwin	23	Driver					Thigh broken	Mine car	Buckeye	Vermillion.

TABLE

Showing the Total Number of Fatal, Permanent, Serious and Minor Accidents and the Different Occupations of Persons Injured.

OCCUPATION.	Fatal.	Serious.	Per- manent.	Minor.	Total.
Drivers.....	7	114		187	308
Pick miners.....	18	113	1	89	321
Loaders.....	4	39		36	79
Machine men.....	3	22	2	32	59
Car greasers.....		1		1	2
Timbermen.....	3	9		14	26
Trappers.....		5		2	7
Pumpers.....		1		4	5
Cagers.....		9		16	25
Motor men.....		2		6	8
Electricians.....	1	2		4	7
Road men.....		6		8	14
Trip riders.....		4		3	7
Car couplers.....				3	3
Boss drivers.....		2		1	3
Top men.....	1	6		11	18
Mine superintendent.....		1			1
Mine bosses.....	1	3		4	8
Fire bosses.....		2		2	4
Shot firers.....	5	5		4	14
Spragers.....		4		2	6
Jerry men.....	2	18		22	42
Flag man.....		1			1
Dumper.....		1			1
Firemen.....		1			1
Load dropper.....		2			2
Carpenter.....		1			1
Total.....	45	375	3	452	875

TABLE

Showing the Nationality of Persons Killed and Persons Permanently or Seriously Injured.

NATIONALITY.	Fatal.	Per- manent.	Serious.	Total.
American.....	29	3	319	351
English.....	5		2	7
Scotch.....	1		8	9
Welsh.....			4	4
Irish.....			9	9
German.....	3		8	11
French.....	2		3	5
Polish.....	1		1	2
Finlander.....			2	2
Russian.....	1		1	2
Roumanian.....			1	1
Austrian.....	1		1	2
Slav.....			2	2
Italian.....	1		10	11
Colored.....	1		3	4
Greek.....			1	1
Total.....	45	3	375	423

LEGISLATION AND ITS EFFECT ON MINE ACCIDENTS.

In order that this subject may be treated properly, it is necessary that we discuss, at length, the conditions and practices that obtain in Indiana Coal Mines at the present time and note the many dangerous factors in connection with mining that have become prominent of late years, some of which may be partially if not wholly removed through legislation.

Also to note the several mining laws recently enacted and the effect such laws have had in the past, or may have on mine accidents in the future.

EXPLOSIVES.

Next to fire-damp, the most dangerous elements that enter the daily life of persons engaged in mining, those that have directly or indirectly been responsible for the greatest number of accidents to mine employes arise from the use or handling of explosives. Under this head we class these dangerous factors, arranged in the order of their importance, as follows:

The use of fuse in shot firing, drill bits of too large diameter, shots tamped with coal slack or drill dust, shots drilled past the cutting or loose end, misplaced shots, overcharged shots, charging shots a second time, a number of shots fired in rapid succession, kegs of powder placed within range of the flame from shots and kegs of powder opened with coal picks.

No matter what care we exercise the element of danger is always present, at every stage, when explosives are being used or handled. Add to this, the recklessness and utter disregard for all laws of safety, either of a statutory nature or of good judgment, exhibited daily by miners when handling or using explosives and the increased dangers cannot be calculated.

The practice of firing shots with fuse we consider one of the most dangerous in connection with mining. This method of firing shots came into practice in the Clinton field somewhere about the year 1899, and at the present time practically all the shot firing in the State is done by this method.

The origin of the practice was first due to the excessive use of blasting powder, where miners had charged one or more shots so heavily they were afraid to remain in the near vicinity when the shots were exploded. Later other fields adopted the method as a matter of convenience, because of the fact that where a miner had a number of shots to fire he could light all of them before leaving

his working place. In this lies the chief danger in firing shots with fuse. The greater number of accidents from this source occur in hand mines where the coal is blasted off the solid. At present shot firers are employed in nearly all of this class of mines, and in many instances miners take advantage of this fact and misplace or overcharge their shots in a manner they would not think of were they to be fired by themselves. A shot tamped on fuse leaves the shot firer no means whatever of determining the distance the shot may be drilled past the cutting or loose end nor the direction in which the hole is drilled, and as a result he may light an extremely dangerous shot which to all outward appearance is safe. Perhaps the greatest danger from this practice lies in the fact that there may be anywhere from fifty to two hundred shots ready to fire in a mine; the charges in these shots range from three to ten or more pounds of powder. At firing time they are lighted one after another in rapid succession as long as there are any shots to light, and as the fuse on which the shots are tamped is cut at as many different lengths as there are shots, the result is there may be from five to twenty-five shots exploded at the same time. Perhaps one or more of this number may be windy or blown out shots, in which event an explosion is sure to follow.

Each year records a number of deaths and serious accidents due to miners going back on delayed shots tamped on fuse. The most criminal negligence, however, is noted in the following accident.

On November 21st a miner by the name of Joseph Keen was seriously burned and otherwise injured by a blast in the Clover Leaf Mine, Sullivan County. On investigation it was learned that at firing time Keen had lighted the fuse in a charge of powder, after which he placed the charge in the drill hole and proceeded to tamp it, the shot exploding sooner than expected, nearly costing him his life.

This is probably the most suicidal practice that has yet come to our notice, and on inquiry we find it has become quite prevalent in this particular mine.

DRILL BITS AND MATERIAL FOR TAMPING.

Two factors closely related to each other that should receive the most serious consideration.

When holes drilled for the purpose of blasting are made of too large diameter there is an opportunity to place an overcharge of powder which the miner seldom fails to take advantage of. This

feature, however, is of secondary importance to other dangerous conditions that follow. The chief danger lies in the fact that the charge is usually tamped so loosely that the gases generated by the powder at the moment of explosion may, instead of breaking down the coal, slip the tamping and be thrown into the mine air and cause an explosion. For illustration we cite the Clinton field, where nine-tenths of the smoke explosions in the State occur. In this field considerable of the tamping is done with a cartridge pin or with the button on the end of a scraper instead of a tamping bar such as miners should use. The tamping formerly used (also used to a considerable extent at the present time) was composed of fine drill dust or dry coal slack made up into cartridges ranging from six to twelve inches in length, called dummies. These cartridges are pushed back against the charge loosely; in fact, it would be impossible to tamp them solid even with a heavy tamping bar, much less a cartridge pin or scraper, hence they can have but little if any, effect in confining the charge.

Inasmuch as powder will always follow the point of least resistance and the fact that the drill hole (especially if of large diameter), when tamped as above described, would afford the point of least resistance, it is only natural that even with holes of medium diameter at least a portion, frequently all, of the charge is spent in the mine air, and the dry coal slack or drill dust loosely packed in the hole, lying directly in the path the flame from the blast must travel, is distilled into carbon monoxide gas and thrown into the air, combining with that of the powder burned, forming an explosive mixture ready to be lighted by the flame from a succeeding shot of like character. If this condition results with holes of medium diameter, what may we expect of those of large diameter.

Shots drilled past the cutting or loose end and misplaced shots are each extremely dangerous factors that have been responsible for many mine accidents. The dangers arising from each of this class of shots lies in the fact that the point of the shot where the charge is located is of such thickness or strength the coal cannot be thrown out and the force of the charge finds vent only through the drill hole or by seaming, i. e., by breaking a flat or vertical crack in the coal seam, through which the force of the charge is spent in the mine air, causing a windy or blown out shot.

The dangers arising from a number of shots being fired in rapid succession and that of overcharging shots are very closely related. It is safe to say that ninety-five per cent of the shots fired in hand

mines are excessively overcharged and that at least fifty per cent of the exploded powder remains in the mine air in the form of carbon monoxide gas. When the fact is considered that powder at the moment of explosion expands 1,700 times its original volume, it can easily be seen that a small amount of powder will generate a large volume of gas which, if mixed in proper proportions with air, at a high temperature, becomes dangerously explosive.

When a number of shots are fired in rapid succession two results follow, viz., large volumes of the above gas are generated from the exploded powder, and the temperature of the mine air rises rapidly. When this condition obtains and a sufficient time has not elapsed between the exploding shots for the air to cool, or the gases to become diluted beyond the exploding point, an explosion may be easily induced by the flame from a blown out shot projected into the mixture. Ordinarily there is a greater or less quantity of coal dust burned which adds to the volume of carbon monoxide, or there may be present a small per cent of marsh gas, either of which greatly increases the danger of an explosion. An explosion may be brought about, however, under the above-named conditions in the absence of one or both of these agents.

The danger arising from recharging a shot that has once been fired and that of placing kegs of powder within range of the flame from shots are fully demonstrated in the explosion that occurred January the 8th in the Oswald Mine, Gibson County. This explosion was the direct result of a recharged shot, the flame from which exploded a number of kegs of powder. This shot was drilled eight feet deep, prepared on the 7th by Harry Whitman, a practical miner of several years' experience, and was fired on the evening of the same date by the shot firers. The blast failed to bring down the coal, and on the following day Whitman recharged the shot, filling up six feet of the drill hole with powder, on which he placed twelve inches of tamping.

The same shot firers who fired the shot on the first occasion fired it again on the evening of the 8th, and the excessively large volume of flame, the only possible result that could be expected from a shot of this character, exploded a number of kegs of powder in a break-through near by; these in turn fired other kegs farther up the entry. The gases generated from the exploding kegs of powder and those from a number of shots previously fired, all combined to bring about an explosion of unusual violence, in which both shot firers were killed.

FIRE DAMP.

This dangerous element is present in all coal mines, though not always in sufficient quantity to enable its detection with a light nor to affect persons breathing it. The latter feature, however, does not preclude the fact that fire damp is an extremely dangerous factor even in so-called non-gaseous mines.

There are instances of record where inbursts from either roof or floor have completely filled mines with gas in which none had previously been detected. An instance of this kind occurred during the past year in the Buckeye mine, Vermillion County. This is practically a non-gaseous mine, only a small per cent of gas being found at times in the advanced workings. The pump man, on going down into the mine early one morning to look after the pumps, found a quantity of gas on one of the main entries, and on investigating it was found that the workings of the mine were almost completely filled with gas, the inflow coming from a gas-bearing strata located some distance above the coal seam, which had been uncovered by a caved-in working place.

Had this body of gas not been discovered some hours before the regular time of starting the mine, an explosion and a terrible loss of life in all probability would have resulted. There are a number of mines in Indiana where the component gases that form a fire damp mixture are constantly given off from the coal seam or contiguous strata in considerable quantity, which requires the utmost care to prevent accidents. There are also many mines where the per cent is so small as to become dangerous only at times. Perhaps a greater number of accidents occur in the latter class of mines than in the former, due to the fact that because the danger is not always present men become negligent and, notwithstanding the fact that competent fire bosses are employed to examine mines for fire damp before workmen are permitted to enter them, also other laws relating to safety of employes are generally observed, each year records one or more fatalities and a number of serious or minor accidents from fire damp. An example of carelessness may be had in the fatal accident occurring August 6th in the Vandalia No. 10 mine. The fire boss, in making his rounds of the mine in the morning, found a considerable body of firedamp in one of the working places. He marked the place, "Gas. Brush out," and proceeded with the remainder of his examination. Some two hours later the miner to whom the place belonged entered the place, set his lamp in the break-through near the face and proceeded to fan

the gas out with his coat directly toward the open light, with the result that the gas ignited, burning him so badly he died some ten hours later.

Another striking example of negligence occurred at the DeForest Mine, Warrick County, when a mine boss, Patrick Bartley, ordered a number of miners into the mine before it had been examined by the fire boss and discharged one of them for refusing to obey the order. The miners who obeyed the order were liable to punishment by fine; it became a question, however, of losing a position or paying the fine, and a number of them chose the latter. The mine boss was also liable to punishment, after he had compelled the miners to conform to his order, only to the extent of a nominal fine.

Accidents from falling slate, falling coal, mine cars and the other numerous causes incident to mining have been commented on "generally" in our description of fatal accidents, and no further comments are necessary at the present time.

An investigating committee, composed of Senators Goodwine, Cavins and Moss and Representatives Slimp, Johnson, Garrard and Pierson, was appointed during the Legislature of 1907 for the purpose of investigating mine explosions and other dangerous conditions existing in coal mines, with a view to recommending legislation through which the number of mine accidents occurring might be reduced.

This committee met and organized January 25th by electing Senator Cavins chairman and Representative Garrard secretary. There were present representatives of the coal operators of the State collectively, the U. M. W. of A. and the state inspector of mines. It was decided by the committee, which decision was concurred in by the several interests present, that the investigation should first take up the question of mine explosions in general without regard to any particular explosion, which investigation should include examination of expert mining engineers, chemists of acknowledged standing in their profession and the current standard literature on this subject. Proceeding under this determination, the committee called as witnesses: The State Inspector of Mines of Indiana; Professor Harry E. Barnard, Chemist of the State Board of Health; W. S. Taylor, Mine Inspector for the Third District of the State of Illinois. Also, with the assistance of Reference Librarian Clarence V. Lester, of the State Library, all the standard works on mine engineering available at the State Library and the

library of the city of Indianapolis were examined, and the scientific and technical information relating to mine explosions were laid before the committee.

There was a difference of opinion concerning the causes of mine explosions held by the witnesses examined, and similar differences were found in the standard works which were accessible to the committee. There was unanimity of opinion, however, that marsh gas stands first as a source of explosions in coal mines, and that excessive use of blasting powder, smoke arising from exploding powder, coal dust, heat, rapid shot firing with fuse, drill bits of too large diameter, drill dust or coal slack used for tamping shots, kegs of powder opened with coal picks, etc., where each dangerous factors prominent in explosions or other mine accidents.

The investigating committee recommended and were instrumental in the enactment of several much-needed new mining laws and the amendment of several laws then on the statute books. We make mention of all these new laws and amendments in our report for 1907, but must of necessity again refer to some of the more important ones enacted, to some of which we shall recommend amendments. Among the most important was the law prohibiting drilling past the cutting or loose end; prohibiting the use of more than six pounds of powder in any one shot; making the maximum size of drill bits two and one-half inches in diameter; prohibiting the use of inflammable material for tamping; regulating the dimensions of shots; regulating the manner of lighting or firing shots; prohibiting the opening of kegs of powder with coal picks and establishing *prima facie* evidence.

The committee in its report to the Legislature makes the following statements, viz: "Your committee is of opinion that under the restriction which we have recommended be placed against the charges of powder, the diameter of the drill hole and the lighting of shots, the elements of danger from the use of shot firers are practically eliminated, and the advantages claimed for the system can be secured without imperiling either the life of the miner or the properties of the operators." A portion of another paragraph reads: "Forty per centum of the fatal accidents incident to coal mining in our State are the results of the use of powder in shooting coal. No precaution, therefore, should be omitted which will tend to reduce the sacrifice of life from this cause." It will be noticed that there are three dangerous factors mentioned in the above, viz: charges of powder, diameter of the drill hole and the lighting of shots. The closing paragraph of the committee's re-

port, which bears a relation to the laws enacted and to "subsequent events," reads as follows:

"Your committee presents no recommendation which was not accepted by the unanimous vote, including representatives of both the miners and operators and the members of the joint committee."

The new laws took effect April 11, 1907, but cannot be said to have become operative until the latter part of May in that year, and since that time, where the laws have been observed, not a single accident has occurred from windy or blown-out shots or smoke explosion.

In every instance where a fatality or an accident of any kind has occurred from this source, flagrant violations of the law and negligence of the grossest kind have been in evidence. Added to this, our report for 1907 shows that more coal per keg of powder was mined and greater average wages earned by miners during that year than ever before in the history of the State. Notwithstanding these facts and the unanimous acceptance of the recommendations, referred to above, the miners, through W. D. Van Horn and other members of U. M. W. of A., came before the Legislature convening in extra session September 18, 1908, and asked that the law prohibiting drill bitts being made larger than two and one-half inches in diameter be repealed and that the size of the bitt be permitted to be increased to three and one-half inches. We regret to say the law was repealed by a unanimous vote of both the Senate and House of Representatives and a law enacted which permits drill bitts to be made three and one-fourth inches in diameter, thus making the area of the drill hole practically double what the committee had previously recommended as being within the bounds of safety. This change was made over the protest of this department and only at the solicitation of the members of the U. M. W. of A., who represented to the Legislature that ninety-five per centum of the miners in the State wished the change, which statement was true only in certain localities, conspicuous among which was the Clinton field; and in that field there is not one per centum of the miners who face any of the danger of shot fire. The shot firers in this and other dangerous fields in the State are the only ones who face that danger. The operators, with few exceptions, refused to permit the drill bitts used in their mines to be made larger than two and one-half inches in diameter, and up to the present time the changes have not been sufficient to determine what effect the larger bitt may have in the increase of accidents.

PROSECUTIONS.

Notwithstanding the fact that this department made 253 prosecutions for different violations of the mining laws during the year 1907, we were compelled to make 98 prosecutions in 1908 for practically the same violations. We give herewith the occupation of the persons prosecuted, the violation for which the prosecution was made and the number prosecuted under each violation:

Mine bosses, for failure to provide break-throughs required by law....	11
Mine bosses, for failure to report accidents	1
Mine bosses, for failure to conform to inspectors of mines' orders given for repairs	3
Companies, for failure to report tonnage, etc.....	2
Mine bosses, for failure to provide splits in air currents as required by law	3
Companies, for failure to employ fire bosses.....	2
Mine bosses, for failure to provide places of refuge on haulage roads....	1
Top boss, for failure to keep mine gates closed.....	1
Mine bosses, for failure to provide space along haulage roads.....	11
Mine superintendent, for failure to keep approach to manway in proper condition	1
Coal companies, for failure to provide a second outlet.....	1
Miners, for drilling past the cutting or loose end.....	50
Miners, for tamping with drill dust.....	2
Miners, for preparing shots more than the maximum thickness provided by law	1
Miners, for opening kegs of powder with picks.....	6
Miners, for burning machine oil in the mine.....	2
Total	98

NOTE.—One of the prosecutions made for failure to provide space on haulage roads was against the management of the Vandalia No. 10 mine, Sullivan County. We met a reverse decision in this case. The plaintiff claimed that inasmuch as the block coal field was exempt from the provisions of the statute relating to the space to be left along haulage roads the law was class legislation and unconstitutional. This contention was sustained in the lower court and the case was appealed to the Supreme Court, whose opinion has not yet been rendered.

RECOMMENDED LEGISLATION.

There are a number of mining laws that are practically impossible of enforcement that should be so amended as to produce the desired results. Prominent among this class of laws is the law relating to the number of pounds of powder that may be placed in any one charge and the law relating to the manner in which shots may be lighted.

The former law is violated daily in almost every hand mine in the State, and the latter is scarcely observed at all in mines where shot firers are employed. The present statute provides that no more than six pounds of powder may be placed in any one charge. Violations of this law cannot be prevented because of the fact that when shots are charged and tamped there is no one present except the person who does the charging and tamping, and the only evidence possible to secure where an excessive amount of powder has been used is the effect produced when the charge has been exploded. This evidence is not sufficient to convict the violator.

The statute relating to the manner in which shots may be lighted is not operative in mines where shot firers are employed because of the fact that it only applies where more than one person is engaged in firing shots on the same entry.

Accidents resulting from violations of each of these laws may be prevented, or at least reduced in number, by the enactment of a statute making it the duty of the shot firers to charge, tamp and fire all shots in coal mines where coal is shot off the solid. The benefits of a law of this character would be manifest in the fact that the temptation, if not the opportunity, to fire a large number of shots at the same time is removed. The shot firer may also measure the length of the drill hole, note the direction in which the hole is pointed and determine whether the shot has been misplaced or drilled past the cutting or loose end, thus reducing the possibility of windy or blown-out shots and smoke explosions, and inasmuch as the shot firer would be the sole judge as to the amount of powder contained in each charge, the miner will in a majority of cases be more careful in the preparation of his shots. It will also be of mutual advantage that none but experienced miners are employed as shot firers. We heartily recommend the enactment of this law.

The evils attending shot firing with fuse have been fully explained in this and in former reports, and we recommend a statute prohibiting the use of fuse in connection with blasting coal.

We recommend a statute making it unlawful to recharge a drill hole that has once been charged and fired.

Drill bits of large diameter, as previously explained, are conducive to mine accidents, and we recommend a statute prohibiting bits being made more than two and one-half inches in diameter. We also recommend a statute prohibiting miners from clearing out a working place of gas by the method known as brushing.

There are two means by which more complete conformance to the mining laws may be had. One is by removing the temptation to

commit a violation by removing the opportunity to commit the act. In every case where it is possible this method should be adopted, but where the temptation and opportunity cannot be removed the penalty attached should be made so severe that persons inclined to commit violations cannot afford to run the risk of conviction. At present the punishment attached for violation of any of the mining laws is practically the same, and usually consists of a nominal fine, to which the court may add imprisonment. Thus, a driver who burns a lamp of machine oil is punished as severely as the mine boss who imperils the lives of employes, or the miner who, by overcharging or misplacing a shot, may cause a loss of life or lives.

There are two cases of record in the past year where justice demanded that the violators be punished by imprisonment. One of these was the case of Bartley, the mine superintendent who compelled a number of miners to go down into the mine before it had been examined by the fire boss; the other was the case of Whitman, who, over the protest of his fellow-employes and against the dictates of good judgment, placed a shot which caused the loss of two lives.

The statute should be so constructed that when certain violations occur and extreme criminal negligence is in evidence, resulting in the loss of life, the charge should be manslaughter and the violator punished accordingly.

The mines of Indiana are being sunk to coal beds lying at greater depths each year, thus increasing the avenues of danger which are attendant to deep mining, and while we may invoke the aid of science, deriving some benefits therefrom, without discipline the daily and yearly increase in the number of mine accidents can never be checked.

ACCIDENTS TO MINE PROPERTY.

The flooding of the Charles F. Keeler Coal Company's Atherton Mine, located at Atherton, Vigo County, probably represents the greatest financial loss of any one accident to mine property during the year. On the night of January 16th a large volume of water broke into this mine, coming down through a slip or fault in the roof. This slip, it is presumed, extended up to a gravel bar or sand bed lying some sixty to one hundred feet above the level of the coal seam. The fact that the mine is only one and one-half miles distant from the Wabash River, and the excessive quantity of water

coming into the mine, furnishes good grounds for the supposition that the gravel or sand bar is fed from that source. All of the workings in the mine were not flooded by the first inbreak of water, and the company entertained hopes of being able to handle it with pumps and continue to operate at least the unaffected workings of the mine. The water, however, continued to gain so rapidly, despite the fact that a number of large pumps were kept running constantly day and night, that they were compelled to suspend operation early in February. An effort was then made by the company to dam off the water permanently with bulk-heads constructed of brick and cement. Eleven bulk-heads in all were required to effectually seal off the water, ten of whose respective widths ranged from seven to eleven feet and one fifty feet, built along a very thin pillar. In constructing these bulkheads evidently but little consideration was given the height of water head and the extremely heavy pressure incident thereto. The bulkheads in the narrow places were of sufficient thickness, viz., six feet of solid brick and cement, but they were built with a square face to the water pressure, having an anchorage of only twelve to twenty-four inches in a soft fire clay floor, while at the side some of the bulk-heads had no anchorage whatever and none of them more than eighteen inches, and no anchorage whatever in the roof. The fifty-foot bulkhead was fifteen inches at the roof, four and one-half feet at the bottom, with an anchorage of about two feet in the floor and none in the roof. A short time after their completion the bulkheads were inspected by Assistant O'Connor, and all of them found leaking badly, indicating a very heavy pressure, and at this time the full pressure was partially relieved by a ten-inch wooden pipe laid in one of the bulk-heads which was running full. Mr. O'Connor condemned the bulkheads and notice was served on the company that the mine would not be permitted to operate until the bulkheads had been properly constructed. Accompanying this notice we furnished specifications under which bulkheads could be constructed that in our judgment would insure the safety of employes from a mine flood.

In July the Atherton Splint Coal Co. assumed control of the property, and through the able management of their superintendent, John Shirkie, the bulkheads were reconstructed and pronounced, in our judgment, safe. The mine was cleaned up and made ready to hoist coal the latter part of December. This is a valuable mine property, and under the present management bids fair to become one of the largest producers in the county. The

total estimated cost to both companies for pumping water, constructing bulkheads, cleaning up and timbering the mine is given at about fifty thousand dollars. A blue-print plan giving specifications of each of the bulkheads was filed with this department by the company.

Fauvre No. 1 Mine.—This mine suffered a small mine fire during the month of January. The fire occurred at the face of the Main North Entry, and was lighted by a shot. About one hundred (\$100) dollars was expended before the fire was extinguished.

Vandalia No. 66 Mine.—The Vandalia Coal Co. expended several hundred dollars constructing dams and pumping to prevent this mine from being flooded with water from the old abandoned Hector Mine.

Massie Mine was flooded in February through a cave-in to the surface, and after the water had been pumped out the pillars were found to have started to squeeze and the general conditions of the mine were such that it was abandoned.

Ayrshire No. 3 Mine was flooded in February and was idle as a result during the months of March, April and May. Cost of removing water not learned.

Vandalia No. 65 Mine suffered a small mine fire in the interior of the mine in February, which resulted in laying idle a portion of the mine one week. The cost of extinguishing the fire was probable five hundred dollars (\$500).

Brazil Block No. 1 Mine was idle twenty-three days in May by reason of water flooding the mine. Financial loss not known.

Parke No. 10 Mine.—The entire surface plant at the mine, consisting of tipple, engine and boiler-room, also dynamo and compressor-rooms, was burned the morning of May 10th. Cause of fire is unknown. Total estimated loss is twenty-seven thousand dollars (\$27,000). Insurance is twenty-two thousand dollars (\$22,000). The mine was so near worked out the company decided to abandon it.

Consolidated Indiana No. 33 Mine.—The coal around the bottom of the manway at this mine caught fire in June, and before it could be extinguished had made such progress that it was found necessary to brattice off the approach to the manway. Notwithstanding the fact that this left the mine with but one means of escape, viz., the main hoisting shaft, the company continued to operate while they were making a very dilatory effort to remove the water that lay between this mine and No. 32, their purpose being to use the latter as an escape or second outlet for No. 33. An

investigation of the matter was made June 29 by Assistants O'Connor and Irving, at which time the mine was closed down until the second outlet should have been provided and the mine superintendent and the mine boss prosecuted.

Consolidated Indiana No. 25 Mine.—The coal at the face of one of the working places caught fire from a shot on the evening of August 21st; little damage was done and a very small expense entailed in extinguishing the fire.

Fauvre No. 2 Mine.—The coal at the face of the Main South entry caught fire the evening of September 18th, igniting from an explosion of gas and powder smoke; a part of the mine was idle for three weeks and an expense of about three hundred dollars (\$300) incurred before the fire was extinguished.

Viola Mine.—Fire broke out at the face of the first southeast cross-entry the evening of October 2d, igniting from a shot. The fire was not discovered until the following morning, by which time it had gained such headway it could be extinguished only by sealing up the top of the hoisting shaft, manway and fan shaft. The mine was reopened in eight days, and fire was found still burning but was so reduced that it could be bratticed off in the bottom, and a portion of the mine resumed work. The cost of fighting the fire was five hundred dollars (\$500).

MINE DIRECTORY.

CLAY COUNTY.

NAME OF COMPANY.	ADDRESS OF COMPANY.	NAME OF MINE.
Brazil Block Coal Co.	Brazil.	Brazil No. 1.
Brazil Block Coal Co.	Brazil.	Brazil No. 4.
Superior Block Coal Co.	Brazil.	Rebstock.
Zellar-McClellan Co.	Brazil.	Superior No. 4.
Crawford Coal Co.	Brazil.	Crawford No. 2.
Crawford Coal Co.	Brazil.	Crawford No. 6.
Crawford Coal Co.	Brazil.	Crawford No. 8.
Crawford Coal Co.	Brazil.	Crawford No. 9.
Crawford Coal Co.	Brazil.	Crawford No. 10.
Indiana Block Coal Co.	Saline City.	No. 1.
Coal Bluff Mining Co.	Terre Haute.	Plymouth No. 2.
American Clay Manufacturing Co.	Brazil.	Monarch.
Eureka Block Coal Co.	Terre Haute.	Eureka No. 5.
Treager Bros.	Brazil.	Treager.
Harrison Coal & Mining Co.	Clay City.	Harrison No. 4.
Schefferman Coal Co.	Brazil.	Schefferman.
Hall & Zimmerman.	Brazil.	Wizard.
Sam Pyrah.	Brazil.	Pyrah.
Progressive Coal & Mining Co.	Brazil.	Progressive.
Big Vein Mining Co.	Terre Haute.	Lewis.
Vivian Colliers Co.	Chicago, Ill.	Vivian No. 1.
Vivian Colliers Co.	Chicago, Ill.	Vivian No. 2.
United Fourth Vein Coal Co.	Linton.	Island Valley No. 4.
O. S. Richardson Coal Co.	Brazil.	Clifford No. 2.
Vandalia Coal Co.	Indianapolis.	Vandalia No. 65.

MINE DIRECTORY—Continued.

DAVIESS COUNTY.

NAME OF COMPANY.	ADDRESS OF COMPANY.	NAME OF MINE.
Horney & Winterbottom.....	Washington.....	No. 3.
Mutual Mining Co.....	Cannelburg.....	Mutual.
Mandabach Bros.....	Washington.....	Mandabach
Winklepeck & Overton.....	Raglesville.....	Winklepeck.

FOUNTAIN COUNTY.

Rush Coal Co.....	Toledo, Ohio.....	Indio.
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GREENE COUNTY.

United Fourth Vein Coal Co.....	Linton.....	Black Creek.
United Fourth Vein Coal Co.....	Linton.....	Dickason.
United Fourth Vein Coal Co.....	Linton.....	Sponsler.
United Fourth Vein Coal Co.....	Linton.....	Antioch.
United Fourth Vein Coal Co.....	Linton.....	North Linton.
Vandalia Coal Co.....	Indianapolis.....	Vandalia No. 2.
Vandalia Coal Co.....	Indianapolis.....	Vandalia No. 3.
Vandalia Coal Co.....	Indianapolis.....	Vandalia No. 4.
Vandalia Coal Co.....	Indianapolis.....	Vandalia No. 5.
Vandalia Coal Co.....	Indianapolis.....	Vandalia No. 6.
Vandalia Coal Co.....	Indianapolis.....	Vandalia No. 8.
Vandalia Coal Co.....	Indianapolis.....	Vandalia No. 9.
Vandalia Coal Co.....	Indianapolis.....	Vandalia No. 20.
Vandalia Coal Co.....	Indianapolis.....	Vandalia No. 21.
Indiana So. Coal Co.....	Chicago, Ill.....	Gilmour.
Summit Coal & Mining Co.....	Bloomfield.....	Summit No. 2.
Green Valley Coal Co.....	Jasonville.....	Green Valley.
Southern Indiana Coal Co.....	Chicago, Ill.....	Lattas Creek.
Queen Coal & Mining Co.....	Jasonville.....	Queen.
Calora Coal Co.....	Indianapolis.....	North West.
Coal Bluff Mining Co.....	Terre Haute.....	Twin No. 4.
Coal Bluff Mining Co.....	Terre Haute.....	Twin No. 5.
Cherry Hill Coal Co.....	Linton.....	Cherry Hill.
Letsinger Coal Co.....	Bloomfield.....	Letsinger.
Morehead Coal Co.....	Midland.....	P. & I.
Enterprise Coal Co.....	Linton.....	Lyons.

GIBSON COUNTY.

Princeton Coal & Mining Co.....	Princeton.....	Oswald.
Fort Branch Coal & Mining Co.....	Fort Branch.....	Fort Branch.
Wyoming Coal Co.....	Francisco.....	Francisco.

KNOX COUNTY.

Knox Coal Co.....	Bicknell.....	Knox.
Lynn Coal Co.....	Bicknell.....	Lynn.
Freeman Coal Co.....	Bicknell.....	Freeman.
Home Coal Co.....	Bicknell.....	Bicknell.
Washington-Wheatland Coal Co.....	Wheatland.....	Wheatland.
Tecumseh Coal & Mining Co.....	Bicknell.....	Tecumseh.

MINE DIRECTORY—Continued.

PARKE COUNTY.

NAME OF COMPANY.	ADDRESS OF COMPANY.	NAME OF MINE.
Brazil Block Coal Co.	Brazil.	Brazil No. 9.
Brazil Block Coal Co.	Brazil.	Brazil No. 12.
Zellar-McClellan & Co.	Brazil.	Superior No. 2.
Zellar-McClellan & Co.	Brazil.	Superior No. 3.
Zellar-McClellan & Co.	Brazil.	Superior No. 5.
Fairview Coal Co.	Mecca.	Fairview.
Otter Creek Coal Co.	Chicago, Ill.	Mary No. 1.
United Coal & Mining Co.	Mecca.	Mecca No. 3.
Parke County Coal Co.	Rosedale.	Parke No. 2.
Vivian Colliers.	Chicago, Ill.	Lyford No. 1.
Vandalia Coal Co.	Indianapolis.	No. 316.
James Moore.	Kingman.	Moore.
W. P. Harrison.	Kingman.	Harrison.

PIKE COUNTY.

Ayrshire Coal Co.	Oakland City.	Ayrshire No. 3.
Ayrshire Coal Co.	Oakland City.	Ayrshire No. 4.
Ayrshire Coal Co.	Oakland City.	Ayrshire No. 5.
Central Indiana Coal & Mining Co.	St. Louis, Mo.	Muren.
S. W. Little Coal Co.	Evansville.	Blackburn No. 1.
S. W. Little Coal Co.	Evansville.	Blackburn No. 2.
S. W. Little Coal Co.	Evansville.	Littles.
Muncie Coal & Mining Co.	Muncie.	Petersburg.
Winslow Gas Coal Co.	Winslow.	Winslow No. 4.
Winslow Gas Coal Co.	Winslow.	Winslow No. 5.
J. W. Welsh.	New York, N. Y.	Hartwell No. 1.
J. W. Welsh.	New York, N. Y.	Hartwell No. 2.
J. W. Welsh.	New York, N. Y.	Hartwell No. 3.
Peacock Coal & Mining Co.	Indianapolis.	Peacock No. 2.

SULLIVAN COUNTY.

Indiana So. Coal Co.	Chicago, Ill.	Rainbow.
Indiana So. Coal Co.	Chicago, Ill.	Phoenix No. 4.
Indiana So. Coal Co.	Chicago, Ill.	Hocking.
Indiana So. Coal Co.	Chicago, Ill.	Citizens.
Sunflower Coal Co.	Dugger.	Sunflower.
Consolidated Indiana Coal Co.	Chicago, Ill.	Consolidated No. 25.
Consolidated Indiana Coal Co.	Chicago, Ill.	Consolidated No. 26.
Consolidated Indiana Coal Co.	Chicago, Ill.	Consolidated No. 28.
Consolidated Indiana Coal Co.	Chicago, Ill.	Consolidated No. 30.
Consolidated Indiana Coal Co.	Chicago, Ill.	Consolidated No. 32.
Consolidated Indiana Coal Co.	Chicago, Ill.	Consolidated No. 33.
Consolidated Indiana Coal Co.	Chicago, Ill.	Vandalia No. 10.
Vandalia Coal Co.	Indianapolis.	Jackson Hill No. 2.
Jackson Hill Coal & Coke Co.	Terre Haute.	Jackson Hill No. 4.
Jackson Hill Coal & Coke Co.	Terre Haute.	Keystone.
Gregory Coal & Mining Co.	Sheiburn.	Dering No. 13.
Dering Coal Co.	Chicago, Ill.	Dering No. 14.
Dering Coal Co.	Chicago, Ill.	Mammoth Vein.
Southern Indiana Coal Co.	Chicago, Ill.	Shirley Hill No. 1.
Shirley Hill Coal Co.	Indianapolis.	Shirley Hill No. 3.
Shirley Hill Coal Co.	Indianapolis.	Little Giant.
Shirley Hill Coal Co.	Indianapolis.	Clover Leaf.
Shirley Hill Coal Co.	Indianapolis.	Pearl.
Kettle Creek Coal Co.	Terre Haute.	Reliance.
Peabody-Alwart Coal & Mining Co.	Chicago, Ill.	Hamilton.
Hamilton Coal Co.	Linton.	Black Hawk.
United Fourth Vein Coal Co.	Linton.	Viola.
Carlisle Coal & Clay Co.	Carlisle.	Freeman.
Sullivan County Coal Co.	Terre Haute.	Hudson.
Hudson Coal & Mining Co.	Farmersburg.	Bellevue.
Bellevue Coal Co.	Carlisle.	Larsh.
Larsh Coal Co.	Farmersburg.	

MINE DIRECTORY—Continued.

VANDERBURGH COUNTY.

NAME OF COMPANY.	ADDRESS OF COMPANY.	NAME OF MINE.
Diamond Coal Co.	Evansville.	Diamond.
D. Ingle Coal Co.	Evansville.	Ingleside.
Sunnyside Coal Co.	Evansville.	Sunnyside.
Crescent Coal Co.	Evansville.	Unity.
Banner Coal Co.	Evansville.	First Avenue.

VERMILLION COUNTY.

Dering Coal Co.	Chicago, Ill.	Dernig No. 5.
Dering Coal Co.	Chicago, Ill.	Dering No. 7.
Dering Coal Co.	Chicago, Ill.	Dering No. 8.
Cayuga Brick & Coal Co.	Cayuga.	Eureka.
Clinton Coal Co.	Clinton.	Crown Hill No. 1.
Clinton Coal Co.	Clinton.	Crown Hill No. 2.
Clinton Coal Co.	Clinton.	Crown Hill No. 3.
Oak Hill Coal Co.	Clinton.	Oak Hill.
Oak Hill Coal Co.	Clinton.	Maple Valley.
Oak Hill Coal Co.	Clinton.	Buckeye No. 2.
Oak Hill Coal Co.	Clinton.	Klondike.

VIGO COUNTY.

Vandalia Coal Co.	Indianapolis.	Vandalia No. 66.
Vandalia Coal Co.	Indianapolis.	Vandalia No. 67.
Vandalia Coal Co.	Indianapolis.	Vandalia No. 69.
Vandalia Coal Co.	Indianapolis.	Vandalia No. 81.
Indiana Southern Coal Co.	Chicago, Ill.	Forrest.
Atherton Splint Coal Co.	Atherton.	Atherton.
Coal Bluff Mining Co.	Terre Haute.	Lawton.
Otter Creek Coal Co.	Chicago, Ill.	Mary.
Coal Bluff Mining Co.	Terre Haute.	Plymouth No. 1.
Coal Bluff Mining Co.	Terre Haute.	Victor.
Coal Bluff Mining Co.	Terre Haute.	Wabash.
Coal Bluff Mining Co.	Terre Haute.	Minshall.
Lower Vein Coal Co.	Terre Haute.	Lower Vein No. 1.
Miami Coal Co.	Brazil.	Miami No. 1.
Miami Coal Co.	Brazil.	Miami No. 2.
Miami Coal Co.	Brazil.	Miami No. 3.
Miami Coal Co.	Brazil.	Miami No. 4.
Fauvre Coal Co.	Indianapolis.	Fauvre No. 1.
Fauvre Coal Co.	Indianapolis.	Fauvre No. 2.
Deep Vein Coal Co.	Terre Haute.	Deep Vein.
Vigo County Coal Co.	Seeleyville.	Ray No. 2.
M. D. West Coal Co.	Cloverland.	Chicago No. 6.
Grant Coal & Mining Co.	Burnett.	Grant No. 3.
Sugar Valley Coal Co.	W. Terre Haute.	Sugar Valley.
Dering Coal Co.	Chicago, Ill.	Dering No. 6.
Domestic Block Coal Co.	Kokomo.	Domestic Block No. 1.
National Coal & Fuel Co.	W. Terre Haute.	National.
Glen Ayr Coal Co.	Terre Haute.	Glen Ayr.

WARRICK COUNTY.

Big Four Coal Co.	Boonville.	Big Four.
Chandler Coal Co.	Evansville.	Chandler.
C. Menden Coal Co.	Evansville.	De Forrest.
T. D. Seales Coal Co.	Boonville.	Electric.
Caladonia Mining Co.	Boonville.	Dawson.
Erie Canal Coal Co.	Boonville.	Erie Canal.
Red Shaft Coal Co.	Newburg.	Red Shaft.
J. Woolley Coal Co.	Boonville.	Castle Garden.
Warsham-Newburg Coal Co.	Newburg.	Brinius.
J. Woolley Coal Co.	Boonville.	Polk No. 5.
Elberfeld Oil, Gas & Mining Co.	Elberfeld.	Elberfeld.
Epworth Coal Co.	Newburg.	Epworth.