## REPORT OF THE INSPECTOR OF MINES.

Office of the Inspector of Mines, Brazil, Indiana, Nov. 1, 1891.

HON. S. S. GORBY, State Geologist, Indianapolis, Ind.:

Sir—Complying with section 5 of Senate Bill No. 118, passed by the Fifty-Seventh General Assembly of the State of Indiana, I herewith transmit the accompanying report of the Inspector of Mines, and his assistant, to you. This report is for the year ending Oct. 31, 1891, and is the eleventh report on coal mines in this State. It contains the estimated coal production for the year; also, estimated additional capital invested, a brief description of the mines visited, list of scales tested, accidents, fatal and non-fatal, and such other information as we could give that was deemed of importance.

Respectfully,

THOMAS McQUADE, Inspector of Mines, Indiana.

## REPORT OF THE INSPECTOR OF MINES.

## BY THOMAS McQUADE.

By way of explanation, I desire to say that no data or information of any kind was furnished me by my predecessor in office, covering the time from November 1, 1890, to the time of my appointment, March 15, 1891. In view of these facts, there might have been several accidents in the State that do not appear in this report. There might also have been several urgent calls for the Inspector that were not answered. But since the time of our entering upon the duties of the office up to the present time no requests for our presence, or legitimate demands for assistance from this office, have been allowed to pass without getting the attention the circumstances of the case required. In doing this we have been very busy, and have been compelled to do almost one year's work in a little over seven months. However, we are pleased to be able to state that in our efforts to have the laws complied with we have not met with any serious opposition, and although in a few instances we have had to prosecute on account of failure to comply with the laws, the general disposition is to comply without trouble. Another thing I desire to mention is the passage of Senate Bill No. 118, which gives the Inspector appointed under that act authority to appoint an assistant. This was certainly a step in the right direction, and affords much needed assistance to the Inspector and puts the mines of the State in a better position than ever before to receive the full benefit of the laws passed for their protection.

After it had become generally known among the mines that an assistant was to be appointed there were several applications for the position, any of whom would have made worthy officers. Out of the number applying, Mr. Wellman Lackey, of Sullivan County, was selected, who has performed the duties of his office in a highly satisfactory manner. For convenience we have divided the coal producing counties into two districts, Mr. Lackey taking the southern district, comprising the counties of Sullivan, Greene, Knox, Daviess, Martin, Pike, Gibson, Dubois, Perry, Spencer, Warrick and Vanderburgh, while I have the northern district, composed of the counties of Clay, Vigo, Parke, Vermillion, Fountain and Warren. It will be observed that the southern district is

the larger in area, while the northern district gives employment to more men and produces the larger portion of our total output of coal; thus, in the end, the two districts are about equal.

Below is given the estimated production of coal for the year, which is 3,819,600 tons. This indicated a greater production than for any previous year, excepting 1890, when my predecessor, Mr. Tislow, estimated the production at 8,676,000 tons. This estimate must have been in excess of our total output in any two years, and consequently wrong and of no value. Therefore I claim that the year 1891 has seen the greatest production of coal in Indiana, and am of the opinion that had the supply of coal cars for transportation been equal to the demand our production this year would have reached almost five million tons. In estimating the capital invested this year in new mines, improvements, coal lands, railroad facilities, etc., we put it at one hundred and eighty-five thousand dollars (\$185,000). This is perhaps low, indeed, it may be too low, but according to the figures obtainable we believe it to be as nearly correct as we can make it.

#### WAGES.

Since the historical strike of the year 1889, in Clay County, when the miners struck against a reduction of wages, and after about seven months of a desperate struggle were compelled to accept the terms proposed by the operators, that friendly feeling that had existed for some years between operators and miners was broken, and has not, up to this time, been restored. The operators seem to think the men should be willing and ready to work at whatever price is offered. The miners take the position that their labor is all the capital they have, and to sustain themselves and families they must sell it at the highest possible price: but, notwithstanding this, there was almost universal peace in this county from November, 1889, to November 2, 1891, at which time the men held a mass meeting in the city of Brazil and decided to make a demand for an advance of ten cents per ton. The committee of miners who waited upon the operators reported that the demand had been refused. After some debate an adjournment was taken, to give the miners in all parts of the State an opportunity to meet and decide whether a universal demand by the miners of the State should be madefor what is known as the "Columbus scale." After a meeting in Terre Haute and one in Brazil, on November 7th a strike for the scale (mentioned above) was inaugurated. This strike is for an advance of ten cents per ton in the block coal mines and five cents per ton in the bituminous mines of the State. This is the beginning of the greatest strike among the miners in the history of the State-that is, more men have this week laid down their tools than at any one time since the first ton of Indiana coal was mined and put on the market. This strike, if a

protracted one, will bring privation and want into many a home in Indiana. It will also compel people to be very economical in burning coal, in order that they may be more certain to have their necessities supplied until peace is again restored. In observing the changes that have come to the miners in laws passed for their benefit in almost every coal-producing State, I find myself asking the question, Is there not some other and better way for labor and capital to adjust differences than by always having recourse to strikes as soon as a misunderstanding occurs between them? I can not say that I have a remedy to suggest, nor even a new idea to present, but it does seem that the miner or some one else ought to develop some satisfactory plan by which the disputes that arise from year to year may be adjusted without the miners having to lay down their tools to enforce a just and reasonable demand. conversation with an old miner recently, he said: "I believe we are beyond doubt entitled to an advance, but we should not be compelled to strike for that which the operators can well afford to give and still have a handsome profit on every ton of coal we produce, which profit he is deprived of as soon as we quit work, while we lose the only thing we have, that is, the product of our labor." Continuing, he said: "It is but a few years since we had to strike to have the mine owners in many places supply us with sufficient air in the mines to enable us to work, and again on account of scales being incorrect. After a while the State took up the matter and appointed men to look after the ventilation in mines, examine and test scales, and thus remove the cause of strikes of former days, making it safer and better for all concerned; and now, why not have the State authorize the appointment of a Board which shall have the right to investigate causes of complaint and render decisions that will be final and binding on all parties interested, and thus do away with strikes altogether?" I do not know that the State could do this, but certainly strikes are a great evil and should be done away with.

## ACCIDENTS.

In giving the list of accidents reported to me I have no comment to offer on any of them, except that of John Jenkins, which occurred at Pratt Mine, October 21, 1891. This accident occurred in a room. The deceased was a youth in his fifteenth year. He was working with his father and brother, and while passing under what is known to miners as a "slant," it fell out, killing him instantly. A piece of the slant had already fallen, showing plainly there was a slant in this room, and to secure it properly should have been the first duty of the man working there, but this was not done. There was nothing to show that any special attention was given this bad stone. The result was the boy's death. The mine boss said that he had paid the deceased's father to properly timber the

room, but this was not done. It seems that, despite Mr. Jenkins', Sr., statement to the effect that he wanted nothing but what was at hand to timber the piece properly, the fact remains that his son lost his life through carelessness or ignorance, and possibly both. The other accidents were of the kind that are liable to occur in any mine at any time.

## ACCIDENTS-FATAL.

March 18, 1891, Charles Dixon; killed by fall of slate in No. 8 Mine, owned by Brazil Block Coal Company, in Clay County.

April 8, 1891, John O'Donnell; killed while driving mule in No. 8 Mine, owned by Brazil Block Coal Company, in Clay County.

April 29, 1891, G. Martin; killed by premature explosion of blast in Pratt Mine, owned by Coal Bluff Mining Company, in Clay County.

September 8, 1891, Wm. Sanders; killed by railroad cars while trying to let one down to be loaded, at No. 8 Mine, owned by Brazil Block Coal Company, in Clay County.

October 21, 1891, John Jenkins; killed by fall of slate in Pratt Mine, owned by Coal Bluff Mining Company, in Clay County.

## ACCIDENTS-NON-FATAL.

January 2, 1891, Joe McCann; leg broken by fall of slate in Diamond Mine, owned by Coal Bluff Mining Company, in Vigo County.

April 1, 1891, Robert Watts; seriously injured in back by fall of slate in Pratt Mine, owned by Coal Bluff Mining Company, in Clay County.

April 20, 1891, Charles Sinns; arm broken by fall of coal in Gartsherrie, No 3, owned by Brazil Block Coal Company, in Clay County.

May 20, 1891, Lindsey Morton; seriously injured by falling down Columbia Shaft, from the top to the bottom, a distance of 22 feet. Mine owned by Zeller & Sigler, in Clay County.

June 15, 1891, James R. Yaden; leg broken by fall of slate in Mine No. 2, Coxville, owned by Brazil Block Coal Company, in Parke County.

July 10, 1891, D. Byrs; injured in back by fall of slate in Watson's No. 3 Mine, owned by Gartsherrie Coal and Mining Company, in Clay County.

July 12, 1891, George Potts; injured in back by fall of slate in Mine No. 10, owned by Brazil Block Coal Company, in Clay County.

July 15, 1891, William Taylor (colored); back and leg injured by fall of slate in Jumbo Mine, owned by Watson, Little & Company, in Clay County.

August 20, 1891, David Moody; seriously injured by fall of slate in Jumbo Mine, owned by Watson, Little & Company, in Clay County.

September 2, 1891, Roe Crable; squeezed between bank cars at Mine No. 9, owned by Brazil Block Coal Company, in Clay County.

September 10, 1891, Morgan Summers; injured in back by fall of coal in Newburg Mine, owned by P. Ehrlich & Company, in Clay County.

September 18, 1891, S. Diggerish; foot injured while coupling railroad cars at Jumbo Mine, owned by Watson, Little & Company, in Clay County.

September 30, 1891, James Hawkins; leg broken while driving at Crawford's No. 2, owned by Crawford Coal Company, in Clay County.

October 21; 1891, F. Messinger; shoulder and back injured by fall of slate in Pratt Mine, owned by Coal Bluff Mining Company, in Clay County.

October 26, 1891, John Lark; collar bone broken by fall of slate in Gartsherrie No. 1, owned by Brazil Block Coal Company, in Clay County.

#### SCALES TESTED.

June 3, 1891, Diamond Mine, located just north of Clay City, in Clay County. Scales tested and found incorrect.

June 3, 1891, Morrier Mine, located just north of Clay City. Scales tested and found correct.

June 5, 1891, No. 7 Mine, located near Minshall, in Parke County. Scales tested and found correct.

June 13, 1891, No. 8 Mine, located just north of Perth, in Clay County. Scales tested and found correct.

June 19, 1891, Grant Mine, located near Grant, in Vigo County. Scales tested and found incorrect.

June 26, 1891, Gartsherrie No. 1, located north of Knightsville, in Clay County. Scales tested and found correct.

July 2, 1891, No. 6 Mine, located west of Cardonia, in Clay County. Scales tested and found correct.

July 2, 1891, No. 7 Mine, located west of Cardonia, in Clay County. Scales tested and found correct.

July 6, 1891, Banner Mine, located east of Carbon, in Clay County. Scales tested and found incorrect

July 9, 1891, Diamond Mine, located just north of Clay City, in Clay County. Scales tested and found correct.

July 13, 1891, White Elephant Mine, located just west of Newburg, in Clay County. Scales tested and found incorrect.

July 15, 1891, Gartsherrie No. 2, located north of Harmony, in Clay County. Scales tested and found correct.

July 15, 1891, Watson's No. 3, located south of Brazil, in Clay County. Scales tested and found correct,

August 11, 1891, Grant Mine, located near Grant, in Vigo County. Scales tested and found correct.

August 17, 1891, Jumbo Mine, located just north of Knightsville, in Clay County. Scales tested and found correct.

August 17, 1891, Columbia Mine, located southwest of Knightsville, in Clay County. Scales tested and found correct.

August 28, 1891, Watson's No. 2, located near Newburg, in Clay County. Scales tested and found correct.

Upon examination of the report of scales tested in the Northern district it will be observed only a very few were found incorrect. This shows that more attention is paid to scales than formerly, or that scales do not get out of repair to as great an extent in summer as in winter, which is probably true.

Below will be found a brief description of mines visited, their location, etc.:

## CLAY COUNTY.

Gartsherrie, No. 1. This mine was visited three times. Upon my first visit there were but few men at work, most of whom were working pillars near the shaft. A tunnel was being opened from the bottom to the top vein. The ventilation was poor. Immediately after this visit the company put down an air shaft at the top of the tunnel, thus making an upcast for the air and an escape shaft at the same time. Upon my second visit I requested that the air-course be cleaned and enlarged so that the volume of air might be increased, also that the air be split. On visiting the mine a third time, to see that the work had been done according to instructions, everything was found in a fairly satisfactory condition. Only the top vein is being worked at this time. The mine is owned by the Brazil Block Coal Company. Seventy-seven men are employed.

Gartsherrie, No. 2. This mine was visited twice and found in fair condition. It is the bottom vein that is being worked. They employ about forty-eight men. This mine is owned by the Brazil Block Coal Company.

Gartsherrie, No. 3. This mine was also visited twice and found in fair condition. Both veins are being operated here. Seventy-five men are employed. This mine is owned by the Brazil Block Coal Company.

Gartsherrie, No. 4. This mine was not visited. It is a new mine, which is just being opened. The bottom vein is operated. Twenty-five men are employed. The mine is owned by the Brazil Block Coal Company.

GARTSHERRIE, No. 6. This mine was visited three times. The two veins are operated. The men working in the bottom vein were well supplied

with air, but the men at work in the top vein had not enough. At my request some changes were made that gave all a sufficient supply. On my second visit what is known as the "old top vein" had been reopened, but the ventilation was poor in that part of the mine. At the expiration of ten days, given to make necessary changes, I again visited the mine and found it in satisfactory condition. Seventy-one men work here. It is owned by the Brazil Block Coal Company.

GARTSHERRIE, No. 7. This mine was visited twice. On both occasions it was found in good condition. Two veins are being worked here. Sixty-three men are employed. It is owned by the Brazil Block Coal Company.

GARTSHERRIE, No. 8. This mine was visited twice. On both visits it was found in good condition, although in one south and one east entry there was not enough ventilation. At my request the south entry was stopped, and to improve the east entry an additional split in the air was made. The top vein is worked here. The shaft is down to the lower vein, but there are no men at work in it yet. They employ 170 men. It is owned by the Brazil Block Coal Company.

GARTSHERRIE, No. 9. This mine was visited twice. On both visits it was found in good condition; the only change was to split the air and drive an air course with an entry on west side of the mine. The mine is owned by the Brazil Block Coal Company.

GARTSHERRIE, No. 10. This mine was visited twice. On my first visit the supply of air was inadequate. At my request the fan house was changed. When visited the second time the mine was in good condition. The only change needed was to split the air on east side of mine. This shaft is down to bottom vein. They employ 109 men. It is owned by the Brazil Block Coal Company.

CHICAGO. This mine was visited three times, but inspected only twice. On my first visit there was a lack of a sufficient supply of air. The mine boss put men at work clearing the air course and making the breaks through air-tight. On my second visit the condition of the mine was so much improved there was no cause for complaint. They employ 86 men. It is owned by the Brazil Block Coal Company.

CRAWFORD'S, No. 2. This mine was visited twice. On my first visit the mine was in good condition. On my second visit I found they needed the air split on east side very badly. This work is now being done. When completed it will improve the air very much. They employ 155 men. It is owned by the Crawford Coal Company.

Crawford's, No. 3. This mine is a new one, and was visited once. The shaft is 92 feet deep; they finished sinking it in August. It is ventilated by fan. The lower vein is operated, in which 21 men are at work. The mine is owned by the Crawford Coal Company.

Crawford's, No. 4. This mine was visited twice. On my first visit it was operated by the Schrepferman Coal Company, and several changes were suggested. On my second visit the present owners had taken charge and had begun making the changes needed, the most important of which was the making of an outlet for the men. Fifty-seven men work here. This mine is owned by the Crawford Coal Company.

NICKEL PLATE. This mine was visited twice, but aside from taking a few men out of places that were unfit for them to work in no changes were made, as the mine is an old one and nearly all the men are working on pillars. Eighty-six men are employed. It is owned by the Jackson Coal and Mining Company.

CHICAGO. This mine was visited twice. On my first visit the condition of the mine was fair. The only place that had not a sufficient current was that part known as the tunnel. On my second visit this tunnel was still short of air. The company went to work to improve it, and though I did not visit it a third time I am reliably informed it is in good condition. One hundred and twenty men are employed. It is owned by the Nickel Plate Coal and Mining Company.

NEWBURG. This mine was visited twice. On both occasions the ventilation was fair, but not perfect, owing to the air courses not being kept up with the entries. I have the assurance of the Superintendent of the company that this will be attended to in future. One hundred men are employed. It is owned by P. Ehrlich & Company.

Watson's, No. 3. This mine was visited once, and found in good condition. It is a new mine, and has only been in operation a short time. In fact, this opening is simply the continuance of what was formerly known as the "Brushville Mine," owned by the same company, the old Brushville being abandoned about the middle of July. Fifty-five men are employed. It is owned by the Gartsherrie Coal and Mining Company.

Watson's, No. 2. This mine was visited twice. On my first visit there was no escape shaft, but at my request one was put down immediately. On my second visit the mine was found in as good condition as it was possible to have it. The roof at this mine is very poor, causing extra work, care and attention. Thirty-five men are employed. It is owned by the Gartsherrie Coal and Mining Company.

DIAMOND. This mine was visited once. That part of the mine, where the men were there at work, was fairly well ventilated, but only a few men were then at work on account of the mine being then flooded with water, which was not all pumped out, and about the time the water was all out the pump buildings and engine house took fire, from some unknown cause, and burned to the ground, and have not yet been rebuilt. It is the intention of the company to temporarily rebuild, so as to enable them to take out the pillars, when the mine will be abandoned. Prior to the fire fifty-five men were employed. It is owned by Zeller & Sigler.

COLUMBIA. This mine was visited three times. On my first visit it was in fair condition. On my second visit it was in very poor condition. Almost everything presented the appearance of neglect. Ten days was given to make needed changes; at the expiration of that time the mine was again visited and found in a satisfactory condition. One hundred and sixty-eight men are employed. The two veins are operated. It is owned by Zeller & Sigler. This company own the Vandalia Mine, but it has been idle nearly all the year, only a few men having been at work.

Churchill. This mine was visited twice. On my first visit an insufficient amount of air was in circulation in the top vein. Cages were not properly covered. After ten days' time had expired I again visited the mine, and finding the work had not been done, I filed complaint before Esquire Schultz and had the Superintendent arrested, but after a statement to the court, which went to show that the work was delayed unavoidably, he was allowed to pay the costs and depart, agreeing to at once finish the work. Since that time I have had no complaint, and now believe the mine to be in good condition. They employ eighty men. It is owned by Weaver, Getz & Co.

Jumbo. This mine was visited twice and found in good condition. They need the air split very badly, and are now at work to make the changes. Both veins are being operated here. The coal from top vein is taken out by means of two slopes running down to lower vein. One hundred and ninety-four men find employment here. The mine is owned by Watson, Little & Co.

MORRIS. This mine was visited twice. On my first visit I found the fan needed changing. The air course on the east side was too small. The air nearly all over the mine was poor. These things needed changing at once. Ten days was given to do the work, and though the time was short, when it had expired I brought suit against the company, but on learning the mine had changed hands during the time, the case was not pressed to trial, and the work was done without further delay. Sixty-four men are employed here. It is owned by the Sherburne Coal Company.

HARRISON. This mine was visited twice, and found in fair condition, employing 77 men. It is owned by the Chicago & Indiana Block Coal Company.

ANCHOR. This mine was visited three times. On my first visit it was found in good condition. On my second visit they needed new cages and a new air shaft from top to bottom vein. On my third visit the work was all done except the air shaft, which was just being completed. Sixtysix men are employed. It is owned by the Coal Bluff Mining Company.

PRATT. This mine was visited three times. On my first visit it was found in bad condition. The Superintendent was instructed to clean out the air shaft, put stairs in escape shaft, split the air, cover the cages and put on safety catches. On my second visit none of this work was done, the Superintendent having left a few days after my former visit. I then gave fifteen days to have the work all completed. On my third visit the work was all finished, and the mine in good shape. During the summer a drop shaft was put down from top vein to bottom. It is located on south side of shaft, and all the coal from the south and west, in the top vein, is dropped to bottom vein, and there hoisted. Eighty-nine men find employment here. It is owned by the Coal Bluff Mining Company.

SWAMP ANGEL. This mine was visited twice. On both visits it was found in fair condition, and yet there were many complaints about leaving doors open, shooting during the day, and water in an abandoned mine. After careful investigation I concluded there was no danger from water at present, and the boss agreed to stop the shooting during the day, and see the doors was kept shut. This mine is a new one, having been put down during the past winter. Last summer an escape shaft was completed, and they are now driving a tunnel from top to bottom vein. They employ 31 men. It is owned by the Hoosier Coal Company.

NELLIE. This mine was visited three times. On my first visit the mine was in bad condition. There were several entries driven without air courses. The cages had neither safety catches nor covers on them; in short, it seemed to be operated without any regard for law. After two more visits had been made I found they were driving entries and air courses together. The cages had been covered, safety catches put on, and the mine was being put in good condition. One hundred and twenty men are employed. It is owned by the Otter Creek Coal Company.

EUREKA. This mine was visited twice and found in good condition. It is a new mine, having been put in operation this year. The bottom vein is operated. The coal is four feet high and the mine is ninety feet deep. After my first visit they immediately began sinking an escape shaft, which was finished in September. The mine is owned by Woodruff & Co., and is located one-half mile east of Carbon, on the Indianapolis & St. Louis Railroad. Fifty-five men are employed,

MORRIER. This mine was visited twice. On my first visit there was no escape shaft, no brake on drum, no indicator, a very bad rope inside the mine, and the breaks through were either too small or almost entirely filled up. On my return visit all those evils had been remedied, except the escape shaft, which they now have finished. Fifty six men are employed. It is owned by the Morrier Coal Company.

DIAMOND. This mine was visited twice, but there is no necessity for me to speak of what was done, as the mine is now abandoned. The company have sunk a shaft west of this one, and are now taking the coal all out of the new shaft, and are using this shaft for an escape shaft. They employ forty-nine men. It is owned by the Lancaster Coal Company.

In addition to the mines mentioned in Clay County, the Davis Coal Company are now at work sinking a new shaft about two miles northeast of Brazil. This is a new company that has not, prior to this time, been engaged in the coal business. Weaver, Getz & Co. are finishing a new mine near Center Point. This mine is on an extension of the Knightsville South Branch, owned by the Vandalia Railroad Company. This extension was made during the summer, and is intended to open a new field of coal land lying between Asherville and Center Point, and is the only one built in Indiana this year of any importance for the developing of the coal field.

## VIGO COUNTY.

FOUNTAIN, No. 2. This mine was visited twice. On my first visit it was found without an escape shaft, and the 39,420 cubic feet of air produced by the fan was circulating in one volume around the mine. I asked that an escape shaft for the men be made and the air divided. On my second visit I found the escape completed and nearly all the work complete. Since that time I have been informed that all is now finished. One hundred and fifty-two men are employed. It is owned by the Coal Bluff Mining Company.

NEW EDGAR. This mine was visited twice, but inspected once. The condition of the mine at that time was good. Forty-four men are employed. It is owned by the Coal Bluff Mining Company.

DIAMOND. This mine was visited twice. On my first visit they needed covers on cages and safety catches, brake on drum, air divided, etc. On my second visit all was done except safety catches, which were put on immediately afterward. Eighty-eight men are employed. It is owned by the Coal Bluff Mining Company.

SEELYVILLE. This mine was visited twice. On my first visit an entry was stopped at my request, on account of being ahead of air. On my second visit everything was in a satisfactory condition. Fifty-three men are employed. It is owned by P. Ehrlich & Co.

Grant. This mine was visited twice. On my first visit there appeared to be no regard for the law in the manner of operation. On my second visit very little change had been made. I then filed an affidavit against the Superintendent, who pleaded guilty and was fined. I have not been at the mine since the affidavit was filed, but have information to the effect that the mine is now all right in every particular. Fifty-five men are employed. It is owned by Woodruff & Trunkey.

In addition to the mines in this county mentioned above, the Indiana Coal Company is preparing to sink a shaft one mile northwest of Coal Bluff.

The Otter Creek Coal Company is still doing business on a small scale north of Cloverdale.

## OWEN COUNTY.

LANCASTER, No. 3. This mine was visited twice. On my first visit several entries were driven without air courses, and one east entry had failen in, and had almost completely cut off the return of the air. The cages were in very poor condition. On my second visit, which was twelve days after my first, I found cages fixed, the return air courses reopened, and I received assurances from the bank boss that no more entries would be driven without air courses being driven with them. One hundred and three men are employed. It is owned by the Lancaster Coal Company.

In addition to this mine there is another one in Coal City, which is owned by a resident of that place. I visited this mine twice, but never went down, as it was not in operation.

## VERMILLION COUNTY.

NORTON CREEK. This mine was visited once. At that time it was found in fair condition. The only objection made was on account of the breaks through not being properly constructed. The mine boss promised to remedy the defects at once. Fifty-nine men are employed. It is owned by the Norton Creek Coal Company.

NORTON CREEK, No. 2. This mine was visited once, and found in fair condition. Sixty-five men are employed. It is owned by the Norton Creek Coal Company.

NORTON CREEK, No. 3. This mine was visited once. On that occasion I found that the air should be divided on the north side of shaft, and covers put on the cages. I returned several days after, and without entering the mine I found the work was all done. One hundred and eighteen men are employed. It is owned by the Norton Creek Coal Company.

HAZEL CREEK. This mine was visited twice. On my first visit the only objection made was the distance between breaks through between entry and air course, and the failure to split the air. On my return visit the overcast made to enable them to split the air was almost complete, and the bank boss assured me that in future breaks through would be made not more than fifteen yards apart. One hundred and twenty men are employed. It is owned by the Hazel Dell Coal Company.

In addition to the mines above mentioned in this county, the old Brown mine was being cleaned up, a new tipple being built, and extensive preparations were being made to get out large quantities of coal.

## PARKE COUNTY.

- No. 6. This mine was visited twice, and found in fair condition on both visits. Eighty-seven men are employed. It is owned by the Parke County Coal Company.
- No. 7. This mine was visited twice, and found in good condition on both visits. Seventy-three men are employed. It is owned by the Parke County Coal Company.
- No. 8. This mine was idle a good portion of the year, consequently was visited but once. It was found in good condition. Twenty-three men are employed. It is owned by the Parke County Coal Company.
- No. 9. This mine was visited twice. The general condition of the mine is good, but breaks through are not made often enough, and when they are filling them up again they are not made air-tight. They have orders to split the volume of air. The changes that are necessary here the mine boss promised to make at once. One hundred and four men are employed. It is owned by the Parke County Coal Company.
- No. 3, Coxville. This mine was visited twice. When first visited they were taking up the bottom at bottom of shaft, preparing to start the mine. On my second visit a great many complaints were made about the breaks through not being made often enough, and the air not being split on northeast side of mine. After going all through the mine I arranged, with the assistance of the Superintendent, to remove the causes

of complaint at once. One hundred and twenty-nine men are employed. It is owned by the Brazil Block Coal Company. This company was also operating Mine No. 2, at Coxville, which was worked out and abandoned in August.

BLAINE. This mine was visited twice, but owing to it not being in operation I did not enter on both occasions. This mine has been idle for two years, and has been reopened with a view to working it out and abandoning it at an early date. The mine boss thinks this can be done in about seven months. The general condition of the mine was fair. The slopes that were operated in connection with this mine are abandoned, except one, and only three men are at work in it. Fifty men are employed, and it is owned by the Brazil Block Coal Company.

McCune. This mine was visited once, and the ventilation is good, but they have no escape shaft. Twenty-three men are employed. It is owned by S. S. McCune.

Wabash Valley, No. 1. This mine was visited once. This is a new mine. The shaft is 153 feet deep, and it is located just across the river from Clinton. This company intends sinking several shafts in this territory, they having purchased and leased several hundred acres of land. At the time of my visit twenty-nine men were employed. It is owned by the Wabash Valley Coal Company.

Office of Assistant Inspector of Mines, Dugger, Ind., November 1, 1891.

Thos. McQuade, Inspector of Mines of the State of Indiana:

Sir.—In accordance with the statutes, the first annual report of the Assistant Inspector of Mines is submitted.

Respectfully,

WELLMAN LACKEY,

Assistant Inspector of Mines of the State of Indiana.

LOCATION AND DESCRIPTION OF MINES IN DAVIESS COUNTY, INDIANA.

BUCKEYE MINE. Operated by the Mutual Mining Company. It is located at Cannelburgh, on the O. & M. R. R. This mine was inspected twice and found in good condition. The mine will be worked out in about eight months. The men are now all working on pillars,

MUTUAL MINE. Operated by the Mutual Mining Company. It is located one mile south of Cannelburgh. On my first visit to this mine

the air was very bad. On my second visit I found that they had made repair in doors and brattice, but had not as yet sealed their downcast through which the most of the air was escaping, and was returning up the main shaft without reaching the working part of the mine. They will fix the air shaft soon, and then the air will be good.

MURRAY & BAILEY'S MINE. Operated by White River Valley Coal Company. It is located seven miles south of Washington on the E. & I. R. R. This mine was only inspected once; the air was good. On my last visit the mine was idle on account of a change of ownership.

WILSON, No. 2. Operated by Wilson & Co. It is located one and one-half miles northwest of Washington on the E. & I. R. R. This mine was inspected twice and found in good condition on both visits.

Wilson's Mine. Operated by the Wilson Coal Company. It is located near Montgomery on the O. & M. R. R. On my first visit to this mine the air was not good in some parts of the mine, on account of connecting with some old works. But on my last visit these old works had been cleaned up and they were using the old shaft as an upcast and the air was good. The south side of this mine has not been worked for a long time, on account of a large hill which they are now cutting through, the highest point being eight feet. After this work is completed they will be able to drain their mine, which is very wet on that side.

MAPLE VALLEY MINE. Operated by Cable & Company. It is located two miles southwest of Washington, on a branch of the O. & M. R. R. This mine was inspected twice and found in good working order. Almost every feature of the law was complied with. This mine has a fifteen foot fan; seam being the thickest in Southern Indiana.

- No. 6 MINE. Operated by Cable & Company. It is located two miles west of Washington. This mine will soon be worked out. All the men are drawing pillars. It was inspected twice and found in good condition.
- No. 7 MINE. Operated by Cable & Company. It is located one and one-half miles west of Washington. This mine was inspected twice. The ventilation is good, though the roof is very bad. Two entries going west have run into quick sand and are closed in at face. All entries going east have raised until they have almost reached the surface.
- No. 4 Mine. Operated by Cable & Company. It is located two miles south of Washington. On both visits to this mine it was found in good working condition. The north side of this mine is worked out with the exception of the pillars. They are now working sixteen men on them, and will have them completed by the first of February, 1892.

## PIKE COUNTY.

BLACKBURN MINE. Operated by the Posey Coal Company. It is located three miles east of Petersburgh, on the E. & I. R. R. This mine was inspected twice. It was filled with water last winter and laid idle until the first of July, and on my first visit they had just started to work. The doors and brattice were all down and the air was very bad. On my second visit they had remodled the mine, but the air was not good yet. They are sinking a new slope just west of the old one, which they will have completed by the first of January. They will connect the old and new mines together and the air will be good.

ROGER'S MINE. Operated by Samuel Rogers. It is located at Rogers Station, on E. & I. R. R. This mine was only inspected once. On my last visit the men were on a strike. This mine is very wet. The air was good, with very few exceptions.

LITTLE'S MINE. Operated by S. W. Little. It is located at Littles, five miles east of Oakland City, on the E. & I. R. R. On my first visit to this mine there was plenty of air, but it was very hot, on account of fan-room being connected with the boiler house. On my second visit they had disconnected the two rooms, and the air was cool, and the mine in good condition. This mine has been working electric mining machines, and on my second visit they had taken them out for some cause, which I was unable to ascertain.

AYSHIRE MINE. Operated by David Ingle. It is located at Ayrshire, on the Air Line Railroad. This mine is ventilated on one side by fans, and other side by a furnace. This is a very large mine. On both my visits the air was not what it should have been. They are sinking a new shaft east of the old slope. This shaft was down to the coal on my last visit. Both mines will be connected in a very short time, as there is only about thirty yards of entry to drive. When this is completed there will be no trouble in ventilating the mine.

## GIBSON COUNTY.

Francisco Mine. Operated by E A. Powell. It is located at Francisco, on the Air Line Railroad, six miles west of Oakland City. This is a new mine. On my first visit the condition was not very good. The air-ways connecting with the downcast were so small that it was impossible for a sufficient volume of air to be forced through them. I gave instruction, and on my last visit they had widened the air-ways, and the air was good. This company is putting in mining machinery. They have no man-way, but will sink one at once.

#### PERRY COUNTY.

CANNELTON MINE. Operated by the American Cannel Coal Company. It is located three miles northeast of Cannelton. This mine was inspected twice, and found in good working condition.

TROY MINE. Operated by Bergamroth Bros. It is located one half mile south of Troy. I visited this mine twice. On first visit the air was very bad, and the furnace stack had been blown down, but on my second visit they had rebuilt the stack, and the air was better. The Superintendent promised to put up a fan at once.

## GREENE COUNTY.

SUMMIT MINE. Operated by the Summit Coal Company. It is located four miles southeast of Dugger, on the I. & I. S. R. R. and Greene County Coal Branch Railroad. On my first visit to this mine there were only about forty men in, and the air was good. On my second visit they were working ninety-five men, and the air was bad on account of leak in the downcast, which they have since sealed, and the air is now good.

BUCKEYE MINE. Operated by the Linton Coal and Mining Company. It is located one mile south of Linton, on the Greene County Coal Branch Railroad. It was inspected twice, and found in good working condition.

ISLAND, No. 1. Operated by Island Coal Company. It is located two miles south of Linton, on the Greene County Coal Branch Railroad. On my first visit this mine was found in bad condition. On my second visit, September 28, it was closed for repairs. The curbing in shaft was decayed.

Island, No. 2. Operated by the Island Coal Company. It is located at Linton, on the Greene County Coal Branch Railroad. This mine was inspected twice. On my first visit the air was bad in a great many rooms, on account of having no break through. Some rooms were in seventy yards without any circulation of air through them. On my last visit they had made breaks through, and the air was good. They now have a man employed to look after the circulation of the air. All coal in this mine is produced by machinery. They are now using twenty-five mining machines, and producing more coal than any other mine in Southern Indiana. They hoist from nine to twelve hundred tons per day.

## SPENCER COUNTY.

Lincoln Mine. Operated by Scott & Schafer. It is located one mile east of Lincoln, on the Cannelton branch of the Air Line Railroad. This is a new mine, and had never been inspected until July 28, 1891. The

mine produces but very little coal, but considerable of fire clay, which finds a ready market in Evansville. This mine was inspected twice. On my first visit the doors and brattice were in a bad condition. On my second visit they had improved the ventilation of the mine. They have no man-way, but will sink one at once. The coal is only thirty feet from the surface.

## WARRICK COUNTY.

STAR MINE. Operated by John Archbold. It is located one-half mile east of Newburgh. This mine was inspected twice. On my first visit the air was very bad on account of not having an air shaft. On my second visit they had sunk an air shaft and erected a fan, and the ventilation was good.

GOUGH MINE. Operated by Robert Gough. It is located one-half mile north of Boonville, on the Boonville branch of the Air Line R. R. On my first visit to this mine I found the air very bad. On my second visit they had put np a good furnace, doors and battrice, and the air was good.

CHANDLER MINE. Operated by Hall & Brewis. It is located at Chandler, on the Boonville branch of the Air Line R. R. This mine was inspected twice. On my first visit the air was very bad on account of the air-ways being closed up by falls of slate. On my second visit they had cleaned up the air-ways, but the air was not very good yet, on account of having to travel through old works. They will put up a fan, and then they can circulate the air without going through the old works. The head gearing is not good, but will be rebuilt at once.

Lowder Mine. Operated by the Lowder-Wooley Company. It is located one mile east of Boonville, on the Boonville Branch of the Air Line R. R. This is a new mine. On my first visit the mine was found in good working condition. On my last visit the mine was closed on account of a strike.

ST. ELMO MINE. Operated by Gaslee & Lockwood. It is located two miles west of Boonville, on the Boonville branch of the Air Line R. R. This mine was only inspected once. On my first visit they were working four men and it did not come under the law. On my second visit they were working 15 men and two mining machines. The air was not very good, but they will put up a fan at once.

## VANDERBURGH COUNTY.

First Avenue Mine. Operated by the First Avenue Coal Company. It is located north of Evansville. On my first visit to this mine it was found in bad condition on account of its having been idle three

months, and was just starting up. On my last visit the mine was in better condition. They had connected their east and north works together and had better ways of conducting the air. This mine is not worked on any system and is very hard to ventilate. There is considerable of the gas known as "black damps" to contend with.

DIAMOND MINE. Operated by the Diamond Coal Company. It is located northeast of Evansville. This mine is worked on the system of double entries. It has a good fan. It was inspected twice and the ventilation was very good.

INGLESIDE MINE. Operated by John Ingle & Company. It is located west of Evansville. This mine is affected some with "black damps." It was inspected twice and found in good working condition. It is ventilated by a fan, and has an upcast. The company is putting in electric drills.

SUNNYSIDE MINE. Operated by the Sunnyside Coal and Coke Company. It is located north of Evansville on the Belt R. R. This mine was inspected twice and its condition was good. This mine is worked by machinery.

Unity Mine. Operated by the Sunnyside Coal Company. It is located north of Evansville on the P., D. &. E. R. R. On my first visit to this mine it was lying idle. On my second visit there were four men employed. They were driving an entry to connect with Sunnyside Mine.

## KNOX COUNTY.

BICKNELL MINE. Owned by the Bicknell Coal Company. It is located east of Bicknell on the I. &. V. R. R. This is a new mine and has been in operation about nine months. It was inspected twice and found in good condition.

FREEMAN MINE. Owned by the Vincennes Coal Company, It is located east of Vincennes. On my first visit to this mine there was plenty of air, but it was not conducted throughout the mine properly on account of not having enough doors and brattice. On my second visit they had made repairs and the air was good.

PROSPECT HILL MINE. Operated by Frank Clark. It is located one-half mile southeast of Vincennes. On my first visit to this mine they were working about fourteen men. The air was not good on account of not having an air shaft. On my second visit they were working two men and sinking an air shaft. They will not have good air until the air shaft is completed.

#### SULLIVAN COUNTY.

NEW PITTSBURGH MINE. Located ten miles southeast of Farmersburg, on a branch of the E. & T. H. R. R. On my first visit to this mine it was idle on account of the miners being on a strike. On the 9th of July, 1891, the engine room and tipple were burned down. They are now sinking a new shaft, and will abandon the old works.

Dugger Mine. Operated by the Dugger & Neal Coal Company, located at Dugger, on the I. & I. S. R. R. and Green County Coal Branch Railroad. When first inspected this mine was found in bad condition; the air-ways were closed up; the main air-way leading to the downcast was stopped up, so that it was impossible for a man to get through. They at once proceeded to repair defects in the air-ways, and on my second visit I found the mine very much improved. This mine has two men employed now to work on ventilation.

OLD PITTSBURGH MINE. Operated by Stark & Company. It is located one-fourth of a mile west of Hymera. This mine is run on a small scale. On my first visit the air was not very good. On my second visit they had connected the mine with the Hymera mine. The mine was not running, and I could not get in. They will sink an air shaft at once.

JUMBO MINE. Operated by Jackson Hill Coal and Coke Company. It is located three miles south of Hymera, on a branch of the E. & T. H. R. R. This is a machine mine, all the coal being produced by machinery. It was inspected twice, and found in good working condition.

HYMERA MINE. Operated by the Pittsburgh Coal and Coke Company. It is located one-half mile south of Hymera, on a branch of the E. & T. H. R. R. This mine was inspected twice, and found in good condition. This company is putting in electricity for mining and hauling coal.

LYONTON MINE. Operated by the Lyonton Coal and Coke Company. It is located at Lyonton, two miles northwest of Dugger. Very little coal is produced at this mine. On my first visit very few men were employed. The air was bad, the furnace stack was down and the air-ways closed up. On my second visit they had made repairs, and the air was much better.

SHELBURN MINE. Operated by the Shelburn Coal Company. It is located at Shelburn, on the E. & T. H. R. R. This mine contains a considerable amount of "fire damps," but is well ventilated, and is inspected every morning by a competent man before the miners are permitted to go into the mine. This mine was inspected twice and found in good condition. Coal is produced in this mine by machinery.

CURRIESVILLE MINE. Operated by the Curriesville Coal Company. It is located one-half mile north of Shelburn, on the E. & T. H. R. R. This is an old mine, and is not operated on a very large scale. Machines are used to produce the coal. This mine contains considerable "fire damp," but is well ventilated. It was inspected twice and found in good condition.

SUPERIOR MINE. Operated by the Island Coal Company. It is located two miles west of Dugger, on the Greene County Coal Branch Railroad. This mine is just being started up, after an idleness of two and one-half years. Nearly all of the entries are in rock rools, cutting the coal entirely out. The air in this mine is good. It is a machine mine.

Farmersburg Mine. Operated by the Farmersburg Coal and Mining Company. It is located one-half mile south of Farmersburg, on the E. & T. H. R. R. Very little work has been done in this mine during the past year. On my first visit this mine was lying idle, on account of misunderstandings in the company. On my last visit they had resumed work. There were twelve men employed. The air was good. They had no safety catches or bonnets on the cages, but were arranging to put them on at once.

BUNKER HILL MINE. Operated by Hancock & Conkle. It is located at Farnsworth, on the I. & I. S. R. R. This mine was inspected twice and found in very good condition. They have no manway, but are sinking one.

#### FATAL ACCIDENTS.

July 9, 1891, Fred Daniels was killed by a fall of slate in Rogers Mine, in Pike County. Mine owned by Samuel Rogers.

## NON-FATAL ACCIDENTS.

April 13, 1891, Charley Taylor, finger taken off by fall of coal from top of shaft while caging in Dugger Mine. Mine owned by Dugger & Neal Coal Company, in Sullivan County.

June 20, 1891, M. Back, burned by gas. The cause of the explosion was a shot in the mine. Mine owned by Robert Gough, in Warrick County.

July 28, 1891, John Jarbor, injured by fall of coal in Sunnyside Mine. Mine owned by the Sunnyside Coal Company, in Vanderburgh County.

July 28, 1891, J. Troyer, collar-bone broken by fall of clay in Jumbo Mine. Mine owned by the Jackson Hill Coal and Coke Company, in Sullivan County.

September 15, 1891, John Keith, arm dislocated by bank cars, in Ayshire Mine. Mine owned by David Ingle, in Pike County.

## SCALES TESTED.

July 30, 1891, Francisco Mine, owned by E. A. Powell, in Gibson County. His scales were tested and found to be correct.

July 31, 1891, Little's Mine, owned by S. W. Little, in Pike County. His scales were tested and found to be correct and in good condition.

Table Giving Names of Mines in Indiana, with Name and Address of Owners and Total Number of Employes.

## CLAY COUNTY.

NAME OF MINE.	Address of Owner.	No of Men Employed Inside.	No. of Men Employed Outside.
Gartsherrie, No. 1 Gartsherrie, No. 2 Gartsherrie, No. 3 Gartsherrie, No. 4 Gartsherrie, No. 6 Gartsherrie, No. 6 Gartsherrie, No. 7 Gartsherrie, No. 8 Gartsherrie, No. 9 Gartsherrie, No. 10 Chicago Carbon Crawford, No. 2 Crawford, No. 3 Crawford, No. 3 Crawford, No. 3 Watson's, No. 3 Watson's, No. 3 Watson's, No. 2 Diamond Columbia Churchill Jumbo Morris Harrison Anchor Pratt Swamp Angel Nellie Eureka Morrier	Brazil Block Coal Co., Brazil.  Crawford Coal & Mining Co., Brazil.  Crawford Coal & Mining Co., Brazil.  Crawford Coal & Mining Co., Brazil.  Jackson Coal & Mining Co., Brazil.  N. P. Coal & Mining Co., Brazil.  N. P. Coal & Mining Co., Brazil.  P. Ehrlich & Co., Newburg  Gartsherrie Coal & Mining Co., Brazil.  Zeller & Sigler, Brazil.  Zeller & Sigler, Brazil.  Zeller & Sigler, Brazil.  Weaver, Getz & Co., Brazil.  Watson, Little & Co., Brazil.  C. & I. Block Coal Co., Terre Haute.  C. B. M. Co., Fontanet.  C. B. M. Co., Fontanet.  Hoosier Coal Co., Brazil.  Otter Creek Coal Co., Brazil.  Woodruff & Co., Carbon.  Morrier Coal Co., Clay City	72 44 70 23 65 57 155 170 100 78 149 18 57 78 107 90 30 50 160 74 185 60 70 61 182 26 115 50	5 4 5 5 2 6 6 6 10 7 7 9 9 8 6 6 3 4 4 10 5 5 4 4 7 7 4 4 8 5 5 5 6 6
Diamond	Lancaster Coal Co., Clay City	45	4

## VIGO COUNTY.

NAME OF MINE.	Address of Owner.	No. of Men. Employed Incide.	No. of Men Employed Outside.
Fountain, No 2 New Edgar Diamond Seelyville	C. B. M. Company, Fontanet P. Ehrlich & Co., Newburgh Woodruff & Trunkey, Grant	130 40 80 45 50	22 4 8 8 5
	OWEN COUNTY.		
Lancaster, No. 3	Lancaster Coal Company	98	5
	VERMILLION COUNTY.	1	
Norton Creek, No. 1 . Norton Creek, No. 2 . Norton Creek, No. 3 . Hazel Creek	Norton Creek Coal & Mining Co., Clinton. Norton Creek Coal & Mining Co., Clinton. Norton Creek Coal & Mining Co., Clinton. Hazel Dell Coal Co., Clinton	54 55 108 113	7 10 12 13
	PARKE COUNTY.		
No. 6	Parke County Coal Co., Rosedale. Parke County Coal Co., Brazil Brazil Block Coal Co., Brazil Blazil Block Coal Co., Brazil S. S. McCune, Rockville Wabash Valley Coal Co., Clinton	75 65 18 92 120 46 21 22	12 8 5 12 9 4 2 7
	SULLIVAN COUNTY.		
Dugger Lyonton Little Pittsburgh Hymera Curriesville Shelburn Alum Cave Jumbo Superior Bunker Hill Farmersburg	D. & N. C. Co, Dugger L. C. & C. Co., Lyonton Stark & Co., Hymera P. C. & C. Co., Hymera C. C. Co., Shelburn S. C. Co., Shelburn N. P. C. & C. Co., New Pittsburgh J. H. C. & C. Co, Hardereville I. C. Co, Linton H. & C., Farnsworth F. C. & M. Co., Parkersburg	125 12 15 100 50 50 80 60 25 40	15 2 2 10 6 6 15 10 7 4

## VANDERBURGH COUNTY.

Name of Mine.	Address of Owner.	No. of Men Employed Inside.	No. of Men Employed Outside.
Ingleside	J. Ingle & Co, Evansville	60 50 45 25 20	, 9 9 8 7 4
	PIKE COUNTY.		
Ayrshire	D. Ingle, Oakland City S. Rogers, Washington P. C. Co., Blackburn S. W. Little, Littles	135 25 25 25 50	15 6 5 8
	KNOX COUNTY.		
Freeman	V. C. Co., Vincennes	25 14 25	5 3 4
	GIBSON COUNTY.		
Francisco	E. A. Powell, Francisco	20	5
	GREENE COUNTY.		
Island, No. 1 Island, No. 2	Island Coal Co., Linton	60 150 45 110	7 12 8 8
	PERRY COUNTY.		
Cannelton	A. C. C. Co., Cannelton Bergenroth Bros., Troy	55 15	10 2

## SPENCER COUNTY.

Name of Mine.	Address of Owner.	No. of Men Employed Inside.	No. of Men Employed Outside.
Lincoln	S. & S., Lincoln City	15	2
	WARRICK COUNTY.		
Star	J. Archbold, Evansville R. Gough, Boonville G. & L., Evansville H. & B., Chandler L. W. Co., Boonville	24 14 20 18 25	6 3 4 3 4
	DAVIESS COUNTY.		
Maple Valley No. 4 No. 6 No 7 Wilson Wilson's, No. 2 Murry Buskeye Mutual	C. & Co., Washington	75 90 30 30 18 28 12 16 28	10 8 4 5 3 5 3 4 5

# NAMES OF COUNTIES, WITH NUMBER OF MEN AND MINES IN THE SOUTHERN DISTRICT.

	No. of Mines	No. of Men Employed Inside.	No. of Mer Employed Outside.
Daviess County	. 9	327	47
Gibson County	. l i	20	5
Greene County		405	32
Knox County		64	12
Perry County	. 2	70	12
Pike County	. 4	235	34
Sullivan County	. 11	500	82
Spencer County	. 1	15	2
Vanderburgh County	. 5	200	37
Warrick County	. 5	100	20
Total	45	1,936	283

## MAMES OF COUNTIES, WITH NUMBER OF MEN AND MINES IN THE NORTHERN DISTRICT.

									,	,		No. of Men Employed.	No. of Mines
Clay County	_			_	_	_	_			_		2,800	41
Vigo County												500	15
Owen County												200	8
Vermillion County												450	11
Parke County												600	12
Warren County												35	5
Fountain County		•	•	•	•	•	•		•	•		30	4
Total in Norther	n 1	Dia	atr	ict								4,615	96
Total in Souther												2,219	45
Total in State .												6,834	1-11

In giving the number of men and mines in the Northern District, the number of small mines and men employed in them is given along with the large mines. In the Southern District only the mines that employ ten or more men are considered in giving the total number of men and mines, but in estimating total production of coal, and additional capital invested this year, all are considered.