

REPORT
INSPECTOR OF MINES
OF KENTUCKY
—
1908

INDEX.

	Page
Accidents, Fatal	6, 39
" List of, with descriptions.....	39
" Non-fatal, descriptive list and causes.....	58
Addresses of Coal Companies.....	33
Animals, number of, employed in Mines.....	26
Assistant Inspectors added, etc.....	3, 4
Assistant Inspectors, Examination of Candidates.....	3
Barytes, Statistics of.....	28
Board of Examiners.....	7
Burke, Assistant Inspector, Reports of:	
For September	156
For October	160
For November	163
Cain, Assistant Inspector, Reports of:	
For January	118
For February	124
For March	125
For April	130
Cannel, Production of.....	12, 17
Certificated Mine Foremen Required.....	3, 7
Changes in Control of Mines.....	30
Coal:	
Annual Shipments for Period of Years.....	4
Disposition of Output of.....	14
Home Consumption	16
Lump and Nut Produced.....	14
Machine-Mined	17
Output of, General Tables.....	12
Output by Mines and Counties.....	17
Selling Value of.....	16
Tonnage Shipped to Other States.....	15, 16
Tons Raised per Death, etc.....	7
Coal Companies, Addresses of.....	33
Coke, Production of.....	24
Cole, Assistant Inspector, Report of.....	130
College of Mining Engineering, State University	8
Commercial Mines	30
Condition of Mines.....	3, 4, 5
Days Worked	25
Descriptive Lists of Accidents.....	39, 58
Disposition of Coal Produced.....	14
Districts, Inspection	5

Doss, Assistant Inspector, Reports of:	Page
For January	90
For February	94
For March	96
For April	99
For May	102
For June	106
For July	110
For August	113
For September	115
Employees, Number of.....	25
Examinations Held	8
Examinations, Required for Foremen and Inspectors.....	3
Fatal Accidents for 1908.....	6, 39
Fluorspar, Statistics of.....	26
General Condition of Mines.....	3, 4, 5
Geological Department	11
Inspection Districts	5
Inspection of Oil and of Scales.....	9
Jones, Assistant Inspector, Report of.....	117
Lead and Zinc, Statistics of.....	28
Legislation, Desirable	10
Letter of Transmittal.....	2
List of Coal Companies.....	33
Long, Assistant Inspector, Reports of:	
For July	77
For August	79
For September	80
For October	82
For November	84
For December	86
Machine-Mined Coal	17
Maps, Mine	10
Miners' Course, State University.....	8
Miners' Oil, Inspections of.....	9
Mines, Reports on.....	72
Mine Scales, Inspections of.....	9
Non-Fatal Accidents	58
Northeastern District	154
Oil, Inspections of.....	9
Personnel of Department.....	1
Powder Used	26
Production of Coal.....	12
Reports on the Mines.....	72
Reports on Mines of Following Companies:	
Aberdeen C. & M.....	100
Acme	144

INDEX.

v

Reports on Mines of Following Companies.—Continued.

	Page
Alpine	148
Archbold	82, 102
Bailey (Blue Gem).....	139
Beach Creek	96, 97, 108, 118
Beii-Jellico	130
Bell-Union	77
Bennett Mine (at Gatliff).....	143
Betsy Layne	159
Bowler	93, 98, 104, 118
Big Branch C. & C.....	157
Big Hill (in Bell county).....	121, 131
Black Diamond Mg.....	90, 93, 100, 110, 117
Blackwell	84
Blake, Edw. (Black Bear).....	121, 131
Brashear (in Muhlenberg).....	96
Broadway	104, 114
Buckman	99, 114
Burk Hollow	148
Burnwell	74, 75
Campbell (Coalmont)	149
Caney Creek C. & C.....	123, 134
Carbondale	76
Central (Bell county).....	136
Central C. & I. (Central City Mine).....	86, 92, 98, 116
Central C. & I. (Render Mine).....	107, 115
Charlton	140
Chenoa	123, 133
Chesley	72, 74
Clear Creek	122, 134
Clear Fork C. & C.....	130, 133
Coalport	139
Coffman	100, 112
Coleman Mg.	118, 132
Columbia	133
Continental Coal Corporation; Black Raven.....	131
“ “ “ ; Highland Rim	132
Cook-Jellico	149
Corydon	82
Cottengim-White (Blue Gem).....	139
Crabtree	76
Crescent	109
Crittenden C. & C. (Davis).....	78
Crystal Block	161
Diamond (Rockcastle county).....	148
Diamond (Webster county).....	85
Dovey	104, 112

Reports on Mines of Following Companies—Continued.

	Page
Dunavent, W. (Curvin's).....	126
Duncan, W. G., Graham.....	97, 112
" " Luzerne	97, 111
" " McDonald	97, 111
" " Red Bird	97, 111
" " Skibo	97, 112
Eagle (Barren Fork).....	147
East Jellico	134
East Tennessee (Dowlais).....	149
Elite	150
Elk	119
Elkhorn Consolidated C. & C.....	156
Elk Mines	132
Elk Valley	91, 109
Empire	72
Excelsior	135
Fairmount	84
Fern Lake	134
Fisher & Spillman.....	82
Fordsville Block	110
Forsythe & Robinson.....	87
French	150
Freeburn C. & C.....	155, 163
Gatliff	143
Gibraltar	107
Gidcumb, J. W.....	100
Gray, J. T.....	141
Greenough C. & C.....	158
Green River (Henderson county).....	79, 96, 101, 107
Green River (McLean county).....	100, 113
Green River C. & C.....	101, 112
Greenville (Powderly)	95, 108
Halsey Red Ash.....	150
Hays & Son (Zion).....	80, 103
Henry Clay C. & C.....	154, 157
Hillside	115, 117
Hoback	99, 114
Holt	93, 105
Hughes-Jellico	129, 140
Imperial-Jellico	151
Ingles-Jellico	128, 141
Interstate (Bennett No. 2).....	140
Jellico C. M. (Mtn. Ash).....	152
Jewell	159
Jones & Dunavent (Cross Mtn.).....	144
Karnes	113

INDEX.

vii

Reports on Mines of Following Companies.—Continued.

	Page
Keewanee	158
Kelly	122, 135
Kentucky Mg. (Waverly).....	79, 81, 106
" " (Uniontown)	80
Keystone Mg. & Mfg.....	83, 91, 102
Knuckles	136
Lam	109
Lily-Jellico	128, 144
Louisa	160
Louisville-Atlanta	94, 109, 115
Lowe	158
Luke & Drummond.....	135
Luton	86
Mahan-Jellico	143
Main Jellico Mtn. (Kensee).....	151
Majestic Collieries	164
Marrowbone C. & C.....	157
Mathews-Jellico (Mathews)	129, 141
May & Beatty (Standard).....	126, 145
McHenry (Echols Mine).....	97, 108
McHenry (McHenry Mine).....	90, 92, 93, 95
Meek	155, 163
Memphis	101, 108, 113
Middle Creek	162
Monroe	85
Moody	93, 117
Morgan	104, 112
Morganfield C. & M.....	78
Morgantown C. & M.....	99
Mt. Morgan	125, 126, 151
Nebo Consolidated C. & C.....	73, 76, 88
Nelson Creek	103, 110
New Altamont	145
New Laurel	128, 145
New Star	126, 146
New Victoria	128, 146
Northeast	160
North Jellico	142
North Point	141
Nortonville	73, 75
Oakland	91, 96, 105, 106, 110
Ohio & Kentucky.....	105, 111, 116
Ohio Valley (DeKoven).....	77, 95
Overstreet & Rudy.....	98, 114
Owensboro C. & L.....	98
Panama	83, 103

Reports on Mines of Following Companies.—Continued.

	Page
Peach Orchard	161
Peoples' Mg.	83, 103
Phenix-Jellico	127, 147
Pike C. & C.	156
Pike Collieries	74, 155
Pike Consolidated C. & C.	154
Pitman	127
Pittsburg (Baskett), Henderson county.....	79, 102
Pittsburgh (Laurel county).....	129, 146
Pleasant View	152
Poplar-Hignite C. & C.	123
Preston	159
Prestonsburg	162
Procter	153
Providence	87
Rash, Denton & Co.	103
Reinecke	76, 88
River & Rail C. & C.	81
Rose Creek	73, 76, 87
Rossland	142
Rudy, J. Lee	98, 114
Sagamore	137
Sandy River	162
Sebree	74, 84
Shelbyana C. & C.	158
Smith Mills	83, 95
St. Bernard Mg., Arnold.....	75
" " " Barnsley	76, 88
" " " Diamond	75
" " " Earlington No. 11.....	75, 89
" " " Earlington No. 9.....	73, 76
" " " Fox Run	89
" " " Hecla	76, 89
" " " Shamrock	86
" " " Sisk	89
Stearns, No. 1 North Main.....	120, 125
" No. 1 South Main.....	120, 124, 152
" No. 2 Mine.....	120, 124
" No. 3 Mine.....	120, 124
" No. 4 Mine.....	119, 124
Stoney Fork	138
Straight Creek Colliery.....	137
Straight Creek C. & C.	137
Straight Creek Mg. (Moss Mine).....	136
Sullivan	78
Sunrise	93, 104, 115

Reports on Mines of Following Companies—Continued.

	Page
Sunset	89
Taylor	93, 107, 108
Thacker C. M.	155
Thomas	78, 91, 95
Tibbals	163
Trosper	142
Turner	138
Utopia	82, 101
Vermillion (Sunbeam)	153
Victoria	88
Vulcan	156, 163
Wagner	159
Wallsend C. & C.	139
Wanless	85
Watt's Creek	153
Webster County (Coiltown)	87
Wender Blue Gem.	154
West Kentucky, Colliery B. & C.	78
" " " H.	73, 85
Wickliffe	90, 105, 116, 117
Williams	97, 107, 113
Williams & Patterson.	85
Wilson, J.	99, 114
Winona C. & C.	138
Scales, Inspection of.	9
Selling Value of Coal.	16
Shot-Firers	3
Southeastern District	118
Spillman, Assistant Inspector, Reports of:	
For January	72, 154
For February	74
For March	74
For June	75
For July	76
Statistics for 1908.	12
Value of Coal Produced.	16
Western District	72

PERSONNEL OF THE OFFICE.

For the Year 1908.

CHARLES J. NORWOOD, *Chief Inspector and State Geologist*, Lexington.

ASHER G. SPILLMAN (Resigned), *Assistant Inspector*, Lexington.

A. J. DOSS (Resigned), *Assistant Inspector*, Central City.

J. D. CAIN (Resigned), *Assistant Inspector*, London.

THOS. J. BARR, *Assistant Inspector*, Lexington.

PERRY V. COLE, *Assistant Inspector*, Barbourville.

WILLIAM BURKE, *Assistant Inspector*, Pikeville.

THOS. O. LONG, *Assistant Inspector*, Earlington.

HUW D. JONES, *Assistant Inspector*, Central City.

♦

LETTER OF TRANSMITTAL.

*To His Excellency, AUGUSTUS E. WILLSON,
Governor of Kentucky.*

Sir: I have the honor to submit herewith the report of this office for the calendar year 1908. At the same time I desire to fittingly acknowledge the services of my associate inspectors, those who voluntarily resigned during the year as well as those now serving; I feel quite sure that the mine inspection department of no State has ever been favored with more capable or more faithful public servants than these gentlemen have shown themselves to be. I wish to also make acknowledgement of the earnest support that you have rendered the office in all its efforts to minimize the dangers of coal mining in the State, and to promote the health and welfare of the miners.

Thanking you for the kindly personal consideration that you have accorded me, I have the honor to be

Your obedient servant,

CHARLES J. NORWOOD,

Chief Inspector of Mines, Etc.

*State University of Kentucky,
Lexington, Ky.*

I

MISCELLANEOUS.

The correspondence and general clerical work of the office during the past year has been more than usually large; without the services of the clerk of the Geological Survey, who, in addition to his especial duties, has looked after the monthly gathering of statistics, it would have been impossible to keep pace with the demands.

LEGISLATION OF 1908.

In recognition of the fact that the number of mines had so increased that, scattered as they are over wide territories, it was physically impossible, with only three Assistant Inspectors, for the department to keep proper supervision over all the mines, the Legislature of 1908 added two Assistant Inspectors to the field staff. The bill providing them was introduced into the Senate by Senator J. W. Wright and was managed in the House by Hon. R. L. Harris. The features of the act are the addition of two Assistant Inspectors, with the requirement that applicants for such positions must pass an examination as to qualifications; a provision for certificated mine foremen; a provision requiring the employment of shot-firers under certain conditions; and a requirement that miners shall be supplied with properly-sawed "caps" and "props" for timbering their working places. Acknowledgements are due Senator Wright and Mr. Harris for the zeal with which they worked to secure the passage of such a helpful measure, each provision of which makes for the greater safety of the miner and the better working of the mines.

GENERAL CONDITION OF THE MINES.

During the year 1908 a complete change occurred in the personnel of the staff of Assistants who were in service at the beginning of the year, due to resignations from time to time, and two additions were made to the force of Inspectors. Since some weeks elapsed, in each case, before vacancies due to resig-

nations were filled, and since the services of the additional Assistants that had been provided for were not available until the fall months, the department was embarrassed in its efforts to keep properly in touch with the mines, attend to the inspection of miners' oil with sufficient promptness, answer calls for the testing of mine scales, etc. Mr. J. D. Cain resigned as Inspector for the Southeastern District May 1st. His successor, Mr. Perry V. Cole, did not enter upon his duties until the end of June, the date of his first inspection being June 25th. Mr. A. G. Spillman, who had charge of all mines in the Northeastern District, together with those in Christian, Hopkins and Webster counties in the Western Field, resigned September 1st; his successor could not be named before December 8th, and Mr. Thos. J. Barr, who was chosen, did not qualify until about the middle of the month. Mr. A. J. Doss resigned as Inspector for the Western District September 28th, and Mr. Huw D. Jones, who succeeded him, did not enter upon his duties until the latter part of November, the date of his first inspection being December 14th. Appointments of the additional Assistants were, by force of circumstances, delayed. Mr. Thos. O. Long, of Hopkins county, was appointed in July and made his first inspection July 22d. Mr. Wm. Burke, of Pike county, was appointed in August and made his first inspection August 29th.

Necessarily, the new appointees required time in which to become acquainted with the mines of their districts; hence, except in the cases of Mr. Cole and Mr. Long, comparatively little field work could be accomplished by them within the remnant of the year at their disposal. On the other hand, since the law relating to mine foremen was to go into effect September 1st, much of the time of the older Inspectors (who subsequently resigned) was necessarily taken up by service on examining boards; hence, from the middle of July to the last of August fewer inspections could be made than normally would have been the case.

It is manifest, therefore, that in effect the services of no more than about three Assistant Inspectors were available during 1908, and that, in consequence of the circumstances indicated, the mine inspections could not be as uniformly distributed throughout the year as an effective supervision requires.

And yet the general condition of the mines, which was excel-

lent in 1907, deteriorated much less than might have been expected. It is not improbable that this was due to three facts: First, the work of Assistants Spillman, Cain, and Doss in preceding years had broadened the views of mine managers as to what was required by the law for the safe working of the mines, and had promoted a better habit of daily superintendence of the underground operations on the part of mine foremen. Second, upon request of the Governor, a series of extra and special inspections of the more dangerous mines in each district was carried on in January, February and March; the work was conducted in a vigorous manner, and the mines entered upon the summer months under favorable conditions. Third, the law requiring that, after September 1st, the mine foremen be certificated doubtless had a good effect, in that it awakened all those whose interests might be affected to the fact that something more than the mere ability to send coal out of a mine would be required thereafter—that ability to extract the coal under conditions reasonably safe and comfortable for the men, and in a workmanlike manner that would inure to the benefit of the property was equally necessary.

NEW INSPECTION DISTRICTS.

Upon the completion of the roster of Assistant Inspectors, the Western and Eastern fields were subdivided in accordance with provisions in the mining law. Following are the districts with the number of counties now in each:

Western No. 1, Huw D. Jones, Inspector, Central City.—The counties of Butler, Daviess, Hancock, McLean, Muhlenberg and Ohio.

Western No. 2, Thos. O. Long, Inspector, Earlington.—The counties of Christian, Crittenden, Henderson, Hopkins, Union and Webster.

Eastern No. 1, Perry V. Cole, Inspector, Barbourville.—The counties of Bell, Knox, and nearly all of Whitley.

Eastern No. 2, Wm. Burke, Inspector, Ashland.—The counties of Boyd, Carter, Johnson, Lawrence, and Pike.

Eastern No. 3, Thos. J. Barr, Inspector, Lexington.—The counties of Breathitt, Laurel, Lee, Morgan, Pulaski, Rockcastle, Wayne, and that part of Whitley traversed by the Cincinnati Southern railway.

Although it at present embraces fewer counties than any one of the other districts, Mr. Cole's district is perhaps the most difficult one to keep under proper supervision.

FATALITIES FOR 1908.

Kentucky stands in the front rank of those States having the lowest fatality rates, but, as the writer has hitherto said, we still have too many fatal accidents, especially from falls of roof. It is believed that were proper legislation with respect to blasting obtained, the effectiveness of the work of the Mine Inspectors would be very greatly enhanced, and that the number of deaths and injuries from explosions (whether of powder, dust, smoke, or gas), from burns due to flaming shots, and from falls of roof would be very materially reduced.

In the production of the output for 1908, i. e., 9,805,777 tons of coal, 40 lives were lost, 35 of them inside the mine, 1 in shaft, and 4 on the surface.

According to causes, the deaths were as follows:

Inside Mine.

	Killed.
Falls of roof	15
Afterdamp following smoke and dust explosion	9
Ignition of smoke by overcharged shot, followed by explosion of keg of powder	3
Premature blast	1
Returned or shot	2
Blown through shot	1
By cars or motor	3
Touched live trolley wire.....	1
Total inside mine	35

In Shaft.

Struck by falling piece of coal	1
---------------------------------------	---

On Surface.

Struck by cars which broke loose on incline	1
Mud drum of boiler blew out	1
Struck by switch engine	1
Riding up incline, cars uncoupled	1
Total on surface	4

This was an increase of eight over the number for 1907. Considering accidents inside the mine only, the increase was ten.

This was due to the two explosions caused by blown-out shots, and to an increase of five in the number of deaths due to falls of top. It will be noted that in one of the explosions a blown-out shot exploded a keg of powder, killing three men; that in the other, a blown-out shot set fire to coal dust and nine men died from the effects of afterdamp. It may be well to remark that the Inspector in whose district the latter explosion occurred had earnestly warned the mine operator that if solid shooting was persisted in an explosion was probable, since the mine was dusty. The explosion occurred within a few weeks after the warning had been given. (See Moody mine, descriptive list of fatalities in Chapter IV.) In this State blown-out shots seldom occur except where the coal is shot on the solid. Our Inspectors are powerless to prevent mining on the solid, and until such practice shall be explicitly prohibited by law, we may expect it to continue; there seem to be difficulties in the way of at least many of the operators who may undertake to make a "rule" against it. The first-named explosion illustrates evil of allowing kegs of powder to be taken inside the mine; also it may be remarked, the sometimes criminal recklessness of men. (See Thomas mine in descriptive list of fatal accidents, Chapter IV.)

The tonnage of coal raised per death and the number of deaths per each 1,000 persons employed were as follows:

Tons raised per inside death	280,165
Employees inside per inside death	415
Tons raised per deaths in mine and shaft	261,260
Tons raised per total deaths (mine, shaft and surface)..	245,119
Employees per total deaths	465
Deaths inside per each 1,000 persons inside	2.410
Deaths in mine and shaft per each 1 000 persons inside..	2.478
Total deaths per each 1,000 total employees	2.149

CERTIFICATED MINE FOREMEN.

One of the very best features of the Act of 1908 are the provisions requiring that in order to be eligible for employment as a mine foremen at mines in which ten or more persons are employed, a man must have a certificate of qualification from a Board of Examiners, the latter consisting of the Chief Inspector of Mines and two Assistant Inspectors. It would have been well had a representative of the operators and one of the miners been added to the Board.

The act provides for two classes of certificates. One, known as a Service Certificate, was intended to cover the cases of men who at the time of the enactment of the law were serving as mine foremen and who could show a service of at least four years as foreman or assistant foreman prior to the passage of the act; the other, known as a Merit Certificate, must be obtained through examination. The provision for Service Certificates has served its purpose; it is now an obstacle in the way of improving the grade of mine foremen in the State, and it should be repealed. It will be well to provide, also, that certificates which may, upon examination, be granted hereafter shall be divided into three grades, namely: Grade 1, good for all mines; Grade 2, good for all non-gaseous mines; Grade 3, good for non-gaseous mines in which not to exceed 25 persons are employed.

EXAMINATIONS HELD.

In order that there should be the least possible interference with the continuous operation of all mines when the "mine foreman law" should go into effect September 1st, seven examinations were held in different parts of the two coal fields and at Lexington, beginning in July, the latter month rather than an earlier one having been chosen in order to afford intending applicants ample time for preparation. The examinations were held at Williamsburg, Whitley county, and Middlesboro, Bell county, in July; and at Ashland, Boyd county, at Lexington (two), at Central City, Muhlenberg county, and at Madisonville, Hopkins county, in August. All examinations were written and care taken that the questions should be of practical value. The papers were graded by the members of the Board in sessions held in the Chief Inspector's office. For the Eastern Field the Assistants on the Board were Messrs. Spillman and Cole. Assistants Spillman and Doss served at Central City, and Messrs. Spillman and Long at Madisonville. The same Assistants who supervised the examinations were associated with the Chief Inspector in grading the examination papers. It may be remarked that in the main the examination papers were fairly good, some of them quite excellent, but that in most cases a surprising lack of knowledge of the Kentucky mining law was exhibited.

It may not be out of place to state here that before the enactment of the "mine foreman law" the Board of Trustees of

the State College* had provided for a "practical miner's" course of eight to ten weeks in the College of Mining Engineering, at nominal cost for tuition. This course had been established because it was believed that the many accidents which were occurring throughout the mining regions of the country indicated that a larger knowledge of the scientific side of coal mining was needed by and would ultimately be demanded of the "practical" miner than he, as a rule, possesses; the desire was to offer to the Kentucky miners an early opportunity to prepare themselves, under the most advantageous conditions, for the future. While the addition of this course to the curriculum of the College of Mining Engineering added to the duties of the instructors without an equalizing increase of compensation, and while it practically eliminated the customary "vacation," since the course must be given the summer months, those most directly concerned heartily took up the work in the belief that they might thus be of some service to the State. Upon the enactment of the "mine foreman's law" it was seen that the action of the Board of Trustees was indeed a wise one, since the course would prove of distinct help to those who desired to prepare themselves for the mine foreman examinations. Twelve men took the course in 1908, eleven of them subsequently entering the examinations and passing with credit.

Two examinations, both in Lexington, were held for candidates for appointment to the position of Assistant Inspector of Mines, one in the spring and one in the fall.

At the various sessions of the Board of Examiners held in Lexington numerous applications for mine foreman Service Certificates were acted upon, and while in some cases the Board doubted the ability of applicants, in every instance where the application fulfilled the requirements of the law touching such certificates, the certificate was necessarily granted. The Board has been criticized in some quarters because of some of the Service Certificates that were granted, but with the evidence before it and the law in the matter the Board could not, properly, have refused to grant any certificate that has been awarded.

INSPECTION OF MINERS' OIL AND OF SCALES.

The demands upon the time of the Inspectors for the inspec-

*Now State University.

tion of miners' oil have greatly exceeded what was expected at the time the law providing for such inspection was passed; oil inspections, in fact, have interfered with mine inspections. Nevertheless, the Inspectors are a unit in regarding the law as of utmost importance, since it makes for greater wholesomeness of the mine atmosphere and thus simplifies ventilation problems. While it can not be successfully claimed that we have succeeded in enforcing the law so thoroughly that no bad oil whatever finds its way to the mines, it can be said without fear of contradiction that the quantity of illegal oil now sold to the mines is exceedingly small. In order that oil inspections shall interfere as little as possible with mine inspections, the larger part of the oil inspection has been placed upon the Assistant Inspector who resides in Lexington. During the past year over 2,400 barrels of oil were inspected, Mr. Spillman having inspected 1,362 and Mr. Long 744.

Fewer calls have been made for the inspection of mine scales than was the case in 1906 and 1907. The fact that we have declined to test "dials," upon the ground that they are simply "attachments" to the scales, confining our inspections to the scales proper, may have had some effect in the matter.

MINE MAPS.

The apparent indifference of many mining companies with respect to mine maps and their consequent delays in furnishing them to this office each year, is astonishing. Conditions in the State are now such that there is no good excuse for any company to fail to send in its mine map within a reasonable time after January 1st, and warning is now given that indulgencies need not be expected hereafter. The importance of a correct map of a mine in case of an accident is too great to be neglected.

DESIRABLE LEGISLATION.

The following legislation is desirable:

1. Repeal of the provision for granting mine foremen Service Certificates, for the reasons already given.
2. A provision for grading mine foremen certificates that may be granted hereafter so as to have three classes, as has already been suggested.
3. A provision permitting the Chief Inspector to temporarily

deputize coal oil inspectors in mining counties, or at originating points of shipments within the State, to inspect miners' oil, subject to such limitations as the experience of the Chief Mine Inspector would suggest. This would prove of help in allowing the mine inspectors to give more of their attention to the mines.

4. A law regulating the amount of powder that a miner may have in a mine on any one day—limiting the amount to what he will actually need for the day—and prohibiting the storing of powder in mines by the companies.

5. Absolute prohibition of shooting on the solid.

6. Provision for furnishing the Mine Inspector's office with an adequate outfit of apparatus and appliances for use in rescue work at our mines in event of explosions and fires, similar to that exhibited at the demonstrations at the Pittsburgh Testing Station in December last.

STATE GEOLOGICAL DEPARTMENT.

The correspondence relating to the resources of the State was larger in 1908 than in any preceding year, and many persons have visited the office seeking information. Very many samples of minerals and rocks have been received and reported on, and a large number of free assays and analyses have been made. The location of the office of the Survey and of the State Geological Museum at the State University has proved of distinct advantage to the State in several ways, not the least of which is the information that the several hundred young men and young women, who attend the University each year, gain concerning the natural resources of their State, through inspection of the displays in the Museum. A review of the Geological Survey's operations, which have been conducted with diligence during the past year, will be given in the biennial report of progress.

II

STATISTICS FOR 1908.

For convenience and because of trade relations, those counties having mines subject to inspection are at present grouped in three districts, according to each one's relation, namely, the Western, the Southeastern, and the Northeastern. The Western District includes all counties that lie within the Western Coal Field. The Southeastern at present includes Bell, Knox, Laurel, Pulaski, Rockcastle, and Whitley counties. In the Northeastern are at present included Boyd, Breathitt, Carter, Floyd, Johnson, Lawrence, Lee, Morgan, and Pike counties. Other counties in the Eastern Field will be assigned to their proper districts as they enter the commercial list. Morgan county became a commercial producer in 1900. Pike county entered the list late in 1903; Floyd entered it in 1906. It is probable that Wayne county will enter the list in 1909.

PRODUCTION OF COAL.

The output of commercial coal for the calendar year 1908, amounted to 9,805,777 short tons, the production of each district being as follows:

District.	Tons.
Western, 10 counties producing.....	5,634,596
Southeastern, 5 counties producing	3,050,591
Northeastern, 9 counties producing	1,120,590
Total	9,805,777

Of the total output, 70,413 tons were cannel, all of which came from mines in the Northeastern district.

Compared with that for 1907, the output shows a loss of 630,284 tons. The losses occurred in the Western and Southeastern districts, the loss in the former being 526,186 tons, and in the latter 184,687 tons. The Northeastern district made a gain of 80,589 tons, due to increasing developments in Floyd, Johnson, Lee and Pike counties.

The following table shows the production by counties, and

exhibits the losses and gains as compared with the output for 1907:

Western District.

County.	1907 Tonnage	1908 Tonnage
Butler	8,388	4,968
Christian	61,833	33,191
Daviess	68,217	52,658
Hancock	9,338	
Henderson	227,904	226,152
Hopkins	2,053,566	1,772,253
McLean	143,789	97,287
Muhlenberg	1,860,499	1,774,314
Ohio	660,073	602,316
Union	474,788	513,015
Webster	592,387	558,442
Total	6,160,782	5,634,596

Southeastern District.

County.	1907 Tonnage	1908 Tonnage
Bell	1,319,128	1,434,742
Knox	709,579	520,089
Laurel	314,221	212,585
Pulaski	139,334	69,634
Rockcastle	6,524	
Whitley	746,492	813,541
Total	3,235,278	3,050,591

Northeastern District.

County.	1907 Tonnage	1908 Tonnage
Boyd	57,725	79,763
Breathitt	27,015	24,043
Carter	120,507	78,509
Floyd	17,655	52,857
Johnson	131,649	154,459
Lawrence	30,213	24,751
Lee	69,864	92,533
Morgan	54,811	62,290
Pike	530,562	551,385
Total	1,040,001	1,120,590

The proportions of coal classed as "lump" and "nut" included in the total output reported were as follows, amounts being in short tons:

District.	Lump.	Nut.	Miscellaneous.	Total.
Western	807,138	220,721	4,606,737	5,634,596
Southeastern	813,400	185,804	2,051,387	3,050,591
Northeastern	305,079	91,380	724,431	1,120,590
Totals	1,925,617	497,605	7,382,555	9,805,777

Miscellaneous includes "block," "mixed lump and nut," "egg," "run-of-mine," "pea," "mixed pea and slack," slack, etc.

DISPOSITION OF THE PRODUCT.

The output in tons of the several districts was disposed of as follows:

For Calendar Year 1908.

District	Sold Locally.	Used at Mine.	Coked.	Shipped.	Total Product.
Western	234,831	180,976	85,349	5,133,440	5,634,596
Southeastern	46,755	58,871	390	2,944,665	3,050,591
Northeastern	19,857	22,626		1,078,107	1,120,590
Totals	301,443	262,473	85,649	9,156,212	9,805,777

The tonnages annually shipped from the mines for the past five years were as follows:

Coal Shipped.

Year.	District.			Total.
	Western.	Southeastern.	Northeastern.	
1904	3,755,043	2,348,152	564,727	6,667,922
1905	4,242,258	2,643,600	556,869	7,442,727
1906	5,276,778	2,859,040	785,980	8,921,798
1907	5,648,871	3,137,934	1,016,057	9,802,862
1908	5,133,440	2,944,665	1,078,107	9,156,212

The gains in shipments for 1908 as compared with the figures for 1904 were as follows:

District.....	Tons Gain	Per cent. Gain.
Western	1,378,397	26.83
Southeastern	596,513	25.40
Northeastern	513,380	90.90

The shipments for 1908 compared with those for 1907, when the total product amounted to 10,436,061 tons—the high-water mark—show as follows:

Western District, tons loss	515,431
Southeastern District, tons loss.....	193,269
	708,700
Northeastern District, tons gain.....	62,050
Net loss	646,650

Tonnage Shipped to Other States.

Omitting the coal that is consumed at and near the mines (for steam, for ventilation, for mine offices, and by local trade) and that which is converted into coke at the mines, thus dealing only with the tonnage shipped from the mines, it is found that the percentages of shipments which go to other States were as follows for the last two calendar years:

Calendar Years 1907 and 1908.

District.	1907.			1908.		
	Shipped from the Mines.	Tons to Other States.	Per Cent. to Other States.	Shipped from the Mines.	Tons to Other States.	Per Ct. to Other States.
Western	5,648,871	3,617,417	64.03	5,133,440	3,191,390	62.11
Southeastern ..	3,137,934	1,575,607	50.21	2,944,665	1,483,255	50.37
Northeastern ..	1,016,057	532,666	52.42	1,078,107	630,354	58.48
Totals	9,802,862	5,725,690	58.40	9,156,212	5,304,999	57.93

The tonnages shipped from mines to market and the proportions of such shipments which went to other States for the past five years were as follows:

Year.	Shipped from Mines.	Tons to Other States.	Per Cent. to Other States.
1904	6,667,922	3,216,173	48.26
1905	7,442,727	3,932,656	52.82
1906	8,921,798	5,001,440	56.05
1907	9,802,862	5,725,690	58.40
1908	9,156,212	5,304,999	57.93

HOME CONSUMPTION.

The proportion of the annual output used within the State, exclusive of that used at the mines and the tonnage made into coke, for the past five years was as follows:

Year.	Output Tons.	Tons Used in State.	Per Cent.
1904	7,167,324	3,652,755	50.96
1905	8,039,246	3,763,382	46.81
1906	9,598,529	4,212,750	43.91
1907	10,436,061	4,368,008	41.85
1908	9,805,777	4,152,656	42.35

SELLING VALUE OF PRODUCT.

For statistical and trade purposes all Kentucky coal other than cannel is distinguished as bituminous. The total selling value of the combined product (cannel and bituminous) at the mines was \$9,776,762, giving an average of 99.70 cents per ton. The average value of the cannel alone was \$2.439 per ton, and that of the bituminous alone was 98.56 cents per ton.

The selling value, at the mine, of the bituminous product alone was as follows, according to districts:

District.	Bit. Ton	Total Val.	Av. Val.
Western	5,634,596	\$5,116,885	\$0.9081
Southeastern	3,050,591	3,481,973	1.1414
Northeastern	1,050,177	1,006,167	0.9580
All districts	9,735,564	\$9,605,025	\$0.9856

MACHINE MINED COAL.

Machine mining continues to gain in the State, the gains for 1908 being in the Southeastern and Northeastern district, the percentage of output mined by machine in the Western district in 1908 being about the same as in 1907. The amount of coal mined by machine in each district was as follows:

District.	Tons Mined by Machine.	Percentage of Product.
Western	3,971,924	70.52
Southeastern	993,508	32.56
Northeastern	554,942	49.52
All districts	5,520,374	56.32

The gains in the percentages were: For the Southeastern district 5.34, and for the Northeastern district 22.02.

PRODUCTION OF CANNEL.

For the year 1908 the total output of cannel, amounting to 70,413 tons, was produced in the Northeastern district. The total value was \$171,737. The counties producing cannel were Carter, Johnson, and Morgan.

Output by Counties.

Following is the output by individual companies, with address of each, arranged according to counties in the three districts. In some instances changes occurred in the ownership of mines during the year. In such cases, for convenience of present publication, the operator in control during the latter part of the year is usually the one named:

WESTERN DISTRICT—

Butler County—	Tons
A. A. Main & Sons, Morgantown.....	3,150
J. W. Gilecumb (Ben Topmiller mine), Morgantown....	1,818
Total	4,968
Christian County—	
Empire Coal Co., Empire.....	32,151
Terry C. & C. Co., Hopkinsville.....	1,040
Total	33,191

Daviss County—		Tons.
John Hagan (Geo. Lucas mine), Owensboro.....		4,000
Louis Hoback, Owensboro.....		4,000
Overstreet & Rudy, Owensboro.....		15,245
Owensboro C. & L. Co., Owensboro.....		15,780
J. Lee Rudy (J. H. Rudy mine), Owensboro.....		11,832
James Wilson, Owensboro.....		1,801
Total		52,658

Henderson County—		
Archbold, John, Coal Co., Bluff City.....		29,222
Corydon Coal Co. (Magnolia mine), Corydon.....		23,962
Green River Coal Co., Spottsville.....		45,039
Hayes, Wm., & Son, Zion		5,358
Keystone Mining and Manufacturing Co., Henderson....		25,863
Peoples' Mining Co., Henderson		18,801
Pittsburg Coal Co., Baskett.....		54,192
Southern Coal & Transportation Co. and predecessors, Robards		4,365
Smith Mills Coal and Mining Co., Smith Mills.....		5,211
Utopia Coal Co., Curdsville.....		14,139
Total		226,152

Hopkins County—		
Brasher Coal Co. and Chesley Coal Co., Chesley.....		29,220
Carbondale Coal & Coke Co., Carbondale.....		38,410
Crabtree Coal Mining Co., Ilsley.....		91,016
Kington Coal Co., Morton's Gap.....		29,580
Nebo Consolidated C. & C. Co., Nebo.....		60,851
Nortonville Coal Co. (2 mines), Nortonville.....		66,008
Reinecke Coal Mining Co., Madisonville.....		133,904
Rose Creek Coal Co., Nebo.....		81,928
St. Bernard Mining Co. (7 mines), Earlington.....		1,000,952
The Stirling C. & C. Co. (Daniel Boone mine), Daniel Boone		86,534
Sunset Coal Co., etc. (Royal mine), Madisonville.....		28,954
Victoria Coal Co., Madisonville.....		124,896
Total		1,772,253

McLean County—		
Green River Coal Co., Livermore.....		4,989
Green River Coal & Coke Co., Island.....		64,154
Karnes, Alva, Island.....		4,200
Memphis Coal Co., Island.....		23,944
Total		97,287

REPORT OF INSPECTOR OF MINES.

19

Muhlenberg County—	Tons.
Beech Creek Coal Co., Browder.....	51,202
Bevier Coal Co., Cleaton.....	81,068
Black Diamond Mining Co., Drakesboro.....	78,159
Central Coal & Iron Co. (Central mine), Central City .	161,757
Crescent Coal Co., Bevier.....	190,477
Dovey Coal Co., Mercer.....	70,286
Duncan, W. G., Coal Co. (3 mines), Luzerne.....	478,427
Elk Valley Coal Co., Drakesboro.....	78,357
Gibraltar Coal Mining Co., Hillside.....	78,112
Greenville Coal Co. (Powderly mine), Powderly.....	97,307
Hillside Coal Co. (Hillside mine), Greenville.....	28,615
Holt Coal Co., Central City.....	30,226
Lam Coal Co., Bevier.....	70,151
Louisville-Atlanta Coal Co., Drakesboro.....	23,830
Moody Coal Co., South Carrollton.....	7,296
Morgan, R., C., C. & Mining Co., Mercer.....	66,143
Nelson Creek Coal Co., Nelson.....	23,260
Oakland Coal Co., Greenville.....	57,275
Ohio and Kentucky Coal Co. and predecessor (Woodson mine), Hillside.....	52,715
Sunrise Coal Co., Drakesboro.....	1,334
W. A. Wickliffe Coal Co., Browder.....	48,317
Total	1,774,314

Ohio County—	
Broadway Coal Mining Co., McHenry.....	125,502
Central Coal & Iron Co. (Render mine), Render.....	64,600
Coffman Coal Co. and predecessors, Coffman.....	7,069
Fordsville Block Coal Co., Fordsville.....	2,603
McHenry Coal Co. (Echols mine), Echols.....	71,376
McHenry Coal Co. (McHenry mine), McHenry.....	39,155
Taylor Coal Co., Taylor Mines.....	117,297
Williams Coal Co., McHenry.....	174,717
Total	602,316

Union County—	
Bell Union Coal & Coke Co., Curlew.....	21,307
Crittenden Coal & Coke Co., Sturgis.....	22,619
Kentucky Coal Mining Co., Uniontown.....	49,482
Kentucky Coal Mining Co., Waverly.....	47,421
Morganfield Coal & Mining Co., Morganfield.....	41,957
Ohio Valley Coal & Mining Co., DeKoven.....	106,180
River and Rail Coal & Coke Co. (Davidson mine), Union- town	6,217
Sullivan Coal Co., Sullivan.....	10,735
Thomas Coal Co., Morganfield.....	42,249
West Kentucky Coal Co. (mines B and C), Sturgis.....	164,848
Total	513,015

Pulaski County—	Tons.
Alpine Coal Co., Alpine.....	7,453
Cogar Creek Coal Co., Flatrock.....	2,958
Eagle Coal Co., Barren Fork.....	59,105
Mahoning Coal Co. (Paris mine), Parker's Lake.....	118
Total	69,634

Whitley County—

Burke Hollow Coal Co., Jellico, Tenn.....	22,390
Campbell Coal Mining Co., Coalmont.....	92,014
Cooke Jellico Coal Co., Jellico, Tenn.....	25,141
Dowlais Blue Gem Coal Co., Jellico, Tenn.....	3,215
East Tennessee Coal Co., Jellico, Tenn.....	29,929
Elite Coal Co., Jellico, Tenn.....	14,356
French Coal Co., Halsey.....	11,443
Halsey Red Ash Coal Co. (Anderson mine), Halsey....	1,388
Halsey Red Ash Coal Co. and predecessor, Halsey.....	11,721
Gatliff Coal Co., Gatliff.....	654
Imperial Coal Co., Rockhold.....	25,355
Jellico Coal Mining Co., Mountain Ash.....	97,895
Mahan Jellico Coal Co., Gatliff.....	4,544
Main Jellico Mountain Coal Co. (2 mines), Kensee.....	77,341
Mt. Morgan Coal Co., Williamsburg.....	51,524
Pleasant View Jellico Coal Co., Pleasant View.....	8,430
Procter Coal Co., Red Ash.....	85,698
Rogers Blue Gem Coal Co., Jellico, Tenn.....	3,535
Stearns Coal Co. (3 mines), Stearns.....	191,134
Sunbeam Coal Co., Jellico, Tenn.....	10,841
Watts Creek Jellico Coal Co., Wofford.....	19,703
West Jellico Coal Co. (Strunk mine), Silersville.....	15,743
Wender Blue Gem Coal Co., Halsey.....	5,426
Total	815,541

NORTHEASTERN DISTRICT—

Boyd County—	Tons
Big Run Coal Co., Princess.....	21,162
Clere, D. R., Coalton.....	20,180
Hammonds, Geo. W., Rush.....	7,290
Hull, George Rush.....	323
Wurts, C. & H., lessees (2 mines), Ashland.....	20,708
Wurts, Wm., Ashland.....	10,100
Total	79,763

Breathitt County—	Tons.
Imperial Coal Co., Jackson.....	24,043

Carter County—

Adkins Coal Co., Mt. Sterling.....	6,621
Ashland Iron & Mining Co. (Bailey No. 1), Ashland....	1,955
Geigerville Coal Co., Rush (Boyd Co.).....	9,482
Kentucky Cannel Co. (Boghead mine), Riverton.....	3,442
N. Thayer estate (Lost Creek mine), Riverton.....	22,056
Strait Creek Coal Co., Denton.....	34,953
Total	78,509

Floyd County—

Betsy Layne Coal Co., Betsy Layne.....	1,300
Jewell Coal Co., Emma.....	519
Preston Coal Co., Emma.....	22,444
Middle Creek Coal Co., Prestonburg.....	28,594
Total	52,857

Johnson County—

East Kentucky Coal Co., East Point.....	6,215
Meek Coal Co., Meek.....	14,099
North East Coal Co. (Acrogen mine No. 2), Paintsville..	39,899
North East Coal Co. (No. 3 mine), Paintsville.....	14,021
North East Coal Co (Muddy Branch mine No. 1), Paintsville	47,010
Sandy River Coal Co., Williamsport.....	6,775
Tibbals Coal Co., Lower Greasy.....	26,440
Total	154,459

Lawrence County—

Crystal Block Coal Co., Peach Orchard.....	1,906
Louisa Coal Co., Torchlight.....	1,163
Peach Orchard Coal Co., Peach Orchard.....	21,682
Total	24,751

Lee County—

Beattyville Block Coal Co., White Ash.....	31,976
Big Hill Coal Co., Idamay.....	29,758
McGuire Coal Co., Beattyville.....	3,204
Phillips Coal Co., White Ash.....	1,525
Richardson, J. C., Coal Co., Beattyville.....	26,070
Total	92,533

Morgan County—		Tons.
Kentucky Block Cannel Coal Co., Cannel City.....	61,811	
Lee Coal Co., Clearfield.....	59	
North Fork Cannel Coal Co., Wrigley.....	423	
Total	62,290	
Pike County—		
Big Branch Coal Co., Lookout.....	12,815	
Borderland Coal Co., Borderland, W. Va.....	141,584	
Burnwell Coal & Coke Co., Sprigg, W. Va.....	28,308	
Cabin Branch Coal Co., Pikeville.....	12,844	
Elkhorn Consolidated C. & C. Co., Hellier.....	29,374	
Freeburn Coal & Coke Co., Edgerton, W. Va.....	77,820	
Greenough Coal & Coke Co., Hellier.....	22,171	
Henry Clay Coal & Coke Co., Lookout.....	18,917	
Kewanee Coal Co., Pikeville.....	190	
Lowe Coal Co., Mossy Bottom.....	5,325	
Majestic Collieries Co., Cedar, W. Va.....	1,200	
Marrowbone Coal & Coke Co., Lookout.....	11,502	
Pike Consolidated C. & C. Co. and predecessors, Hellier	37,659	
Pike Collieries Co., McCarr.....	45,249	
Shelbyana C. & C. Co., Shelbyana.....	260	
Thacker Coal Mining Co., Thacker, W. Va.....	59,853	
Vulcan Coal Co., Vulcan, W. Va.....	38,295	
Wagner Coal Co., Mossy Bottom.....	8,019	
Total	551,385	

Those counties which produced 200,000 tons or more come in the following order: Muhlenberg, Hopkins, Bell, Whitley, Ohio, Webster, Pike, Knox, Union, Henderson, Laurel.

PRODUCTION OF COKE.

But little coke was made. Indeed, for the last four years the production of coke has been falling off, the loss occurring chiefly at Bell county ovens, which turn out the only iron-making coke produced in the State. The Straight Creek ovens show a decrease from 17,419 tons in 1906 to 100 in 1908, having been idle nearly all of the latter year. The production, in short tons, for 1907 and 1908, respectively, was as follows:

	1907	1908
St. Bernard Mining Co.....	44,339	36,416
Ohio Valley C. & M. Co.....	1,394	1,837
Straight Creek C. & C. Co.....	2,665	100
Totals	48,398	38,353

It does not seem probable that Kentucky will make any material advance toward its destined position as a great coke-making State until ovens begin to burn in the Big Sandy Valley and it seems a pity that the high-grade coking coal of that splendid region should now be going into the domestic market; it will be needed at Pittsburg in time.

NUMBER OF EMPLOYES AND DAYS WORKED.

There has been an increase of somewhat more than 35 per cent. in the number of persons employed at the coal mines within the last four years, the number having grown from 13,906 (with 10,991 underground) in 1904, to 18,611 (with 14,522 underground) in 1908. The number of hours constituting a working day are eight, nine, or ten, depending upon locality.

For the sake of uniformity, the days worked per operation are reduced to ten-hour units in these statistics.

The number of persons employed in each district and the average number of ten-hour days worked per operation in each, were as follows:

District.	Employees.			Average Days Worked.
	Inside.	Outside.	Total.	
Western	7,398	1,428	8,826	161
Southeastern	5,228	1,862	7,090	162
Northwestern	1,896	799	2,695	174
	14,522	4,089	18,611	

There must now be in the neighborhood of 100,000 persons directly dependent upon the working of the Kentucky coal mines.

POWDER AND ANIMALS.

Returns relating to consumption of powder are only approximately correct. When pick miners (who furnish their ammunition) are employed, they not infrequently buy more or less powder elsewhere than at the company store.

Following are the aggregate returns for powder used and animals employed for each district:

District.	Kegs Powder.	Animals.		
		In.	Out.	Total.
Western	96,887	899	208	1,107
Southeastern	60,153	538	170	708
Northeastern	32,187	228	73	301
Totals	189,227	1,665	451	2,116

PRODUCTION OF FLUORSPAR IN 1908.

The statistics of the production of fluorspar were, as usual, gathered through personal visits by Mr. F. J. Fohs, of the State Geological Survey, from whose detailed report the data here given are derived. The ton used is that of 2,000 pounds.

The first six months of 1908 proved to be the duller period for the fluorspar industry that had been experienced for years past. The chief circumstance affecting the consumption of the mineral was the shutting down of iron and steel plants, the Kentucky mines being especially affected by the shut-downs in the South. With the partial resumption at the furnaces in June, a better demand ensued for the remainder of the year.

As in 1907, the Kentucky production was confined to Crittenden and Livingston counties. The tonnage mined was nearly 25 per cent. less than in 1907, and the shipments fell below those of any year since 1899; while the tonnage held in stock December 31st was greater by nearly 3,000 tons than for any preceding year. The production came from nine mines, the bulk in fact from five, whereas more than twice that number were necessary to yield an equal amount in 1906 and 1907, showing that with a

certain amount of development the output capacity of individual mines may readily be increased.

The following table shows the amounts in short tons of fluorspar mined, marketed, and in stock December 31st, for the calendar years 1907 and 1908:

Year.	Mined.	Marketed.	In Stock.
1907	15,918	13,946	8,876
1908	12,010	6,323	12,899

The amount of each grade marketed was as follows:

Grade.	1907		1908	
	Tons.	Value.	Tons.	Value.
Gravel	6,433	\$28,851	2,840	\$14,226
Lump	1,033	5,855	307	1,828
Ground	6,030	58,727	3,176	32,588
Totals	13,496	\$93,433	6,323	\$48,642

In 1908 the prices ranged from \$4.35 to \$8.00 for gravel; \$5.50 to \$7.00 for second and third grade lump, and \$9.00 to \$15.00 per short ton for ground fluorspar. The average prices were: Gravel, \$5.01; lump, \$5.95; ground, \$10.25, and for all grades, \$7.69.

Though workable deposits are found in some other States, practically all the fluorspar produced in the United States at present comes from Kentucky and Illinois mines. The Kentucky deposits are themselves sufficient to form the basis of a large and enduring mining industry, and with the increasing use of gravel spar in steel making a steady growth in our production might be expected were it not for the effect of competition coming from the free importation of foreign fluorspar. The annual importation of 100,000 tons of gravel spar from English waste dumps, which enters free of duty, however—a duty free article to be used in making a protected product—is a most serious hindrance to the development of our fluorspar districts.

From data received from an entirely competent and trustworthy source, it appears that gravel fluorspar from the waste dumps of Derbyshire is laid down at Baltimore at a total cost

of about \$3.10 per short ton (using the latter ton in order to make comparison with American figures), and that the railroad rate to Pittsburg is \$1.34 per ton; making the total cost at Pittsburg \$4.44 per net ton. The sale price at Pittsburg (\$5.80), therefore yields the English shippers a good profit on material that was mined many years ago simply as "waste" from lead mining. On the other hand, the cost of producing gravel spar in Western Kentucky (not allowing for mine depreciation, etc.) is stated by one company to be \$4.48 per short ton, and the freight to Pittsburg is \$2.50. Manifestly, it is impossible to compete with the duty-free foreign fluorspar, and unless a countervailing duty is laid on gravel spar, one of the most promising young industries of this State must suffer greatly. It may be remarked that, since the average maximum amount of fluorspar used per ton of open hearth steel does not exceed 15 pounds, an equalizing tariff would not materially affect the cost of production.

PRODUCTION OF BARYTES IN 1908.

Notwithstanding that in the United States Mineral Resources for 1906 and 1907 Kentucky was assigned to a very minor position as a producer of barytes, and that in various more or less "expert" articles on barytes this State is not even named, Kentucky is really a very respectable producer of that mineral—possibly third in 1908—and it is the belief of the State Geological Survey, as the result of field work that has been in progress for some months, that the Central Kentucky district is, all things being considered, the greatest barytes district in this country. The statistics relating to this mineral were also collected by the State Geological Survey.

The production for 1906 amounted to 3,375 short tons, valued at \$15,187; for 1907 it was 9,435 tons, valued at \$44,059; and for 1908 it was 11,051 tons. Of the 1908 output 5,233 tons of crude barytes, valued at \$21,504, and 3,300 tons of ground, valued at \$39,600 were shipped; a certain amount was used for making blanc fixe (concerning which details may not be published, since the one concern making it does not authorize publication), and a certain amount was stocked. The average value of crude barytes was \$4.11 per ton, and that of ground \$12.00.

LEAD AND ZINC.

No lead is produced other than as a by-product of fluorspar and barytes mining. In the Western district only 107 tons of lead concentrates were produced from more than 12,000 tons of fluorspar, and none was shipped owing to the low price of lead in 1908. In the Central district about 60 tons of lead concentrates were produced, but none shipped.

It seems well to state here that the returns of 2 ounces of silver per ton from some Western Kentucky lead reported in the United States Mineral Resources for 1907 was an error; no Kentucky lead has yet shown silver in commercial amount. The silver probably came from some lead concentrates made at a Kentucky mill from Rosiclare, Ill., ore.

No zinc was mined in the Western district, but 56 tons of carbonate were shipped from the Crittenden Springs and Keyes mines. No zinc was shipped from Central Kentucky; indeed, no zinc ore is mined as such in that district.

III

COMMERCIAL MINES.

A number of changes in the control of mines occurred near the close of 1907 or during 1908, and a number of new companies began shipping during the latter year, as follows:

Bell County.—The Elk Coal Co., Tinsley, was succeeded by the Bell County Coal Co. The Fern Lake Mining Co., Middlesboro, was succeeded by the Mountain Lake Coal Co. The Highland Rim Mining Co., Rim, was succeeded by the Continental Coal Corporation in December, 1908. The St. Clair Coal Co., Middlesboro, was not running in 1908.

The following began shipping in 1908: Central Coal Co., Cary; Edgewood Coal Co., Shamrock; Robert Ellwood, Pineville; Hignite Coal Mining Co., Shamrock; Home Coal Co., Middlesboro; Left Fork Coal Co., Cary; Mary Moore Coal Co., Excelsior; The Poplar-Hignite Coal & Coke Co., Davisburg, began shipping in December, 1907.

Boyd County.—The Princess Land & Mining Co., Princess, was succeeded by the Big Run Coal Co. Geo. W. Hammonds began shipping in 1908.

Breathitt County.—The Imperial Coal Co., Jackson, succeeded the Kentucky Union Co. in 1907.

Butler County.—The Aberdeen Mining & Towing Co. (Aberdeen mine), Morgantown, was succeeded by A. A. Main & Sons. The Morgantown Coal & Mining Co., Morgantown, produced no coal in 1908.

Carter County.—The Bailey No. 1 mine of the Ashland Iron & Mining Co. closed down February 8, 1908. J. H. Jacobs, lessee (Dawson Branch mine), closed down in April, 1907.

Christian County.—The Terry Coal & Coke Co. began shipping in 1908.

Daviess County.—James Wilson began producing in October, 1907.

Floyd County.—The following companies began shipping in 1908: The Betsey Layne Coal Co., Betsey Layne, and the Jewell Coal Co., Emma.

Hancock County.—The Auburn Ash Coal Co., which succeeded the Fenley Coal Co. in February, 1907, closed down August 1, 1908.

Henderson County.—The Panama Coal & Coke Co., Robards, was succeeded by the Southern Coal & Transportation Co. The Magnolia Coal & Mining Co., Corydon, were out of business in 1908.

Hopkins County.—The Chesley Coal Co., Chesley, was succeeded by the Brasher Coal Co. The Kington Coal Co. began shipping in May, 1908. The Madisonville Mining Co. (Royal mine), Madisonville, was succeeded by the Sunset Coal Co.

Johnson County.—The Rittenhouse Coal Co., Lower Greasy, was succeeded by the Tibbals Coal Co., June 12, 1907.

Knox County.—The Artemus Jellico Coal Co., Artemus, produced no coal in 1908. The Cumberland Valley Coal Co., was succeeded by the Blue Gem Coal Co., in November, 1907. The Charlton Coal Co., Grays, succeeded J. T. Gray, in the control of the Charlton mine. The Ingles Jellico Coal Co., Hujel, succeeded the Charlton Coal Corporation. The Brush Creek Coal Co. (Bay's mine), Warren, was succeeded by the Interstate Coal Co., in January, 1908. The Interstate Coal Co., also succeeded the Mathews Coal Co. (Cumberland mine), at Trosper, in January, 1908. The Lynn Camp Coal Co., Grays, was succeeded by the Parker Gray Coal Co. The Richland Jellico Coal Co., Bailey's Switch, was succeeded by the Richland Blue Gem Coal Co. The Moss Rock Coal Co., Barbourville, and the Power Coal Co., Trosper, began shipping in 1908. The Rossland Coal Co. was not in business in 1908.

Laurel County.—May and Beatty took charge of the Standard mine, as lessees, in 1908. The New Altamont Coal Co. was out of business in 1908.

Lawrence County.—The Crystal Block Coal Co., Peach Orchard, and the Louisa Coal Co., Torchlight, began shipping in 1908.

Lee County.—The Louisville-Atlantic Coal Co., Idamay, was succeeded by the Big Hill Coal Co., which began shipping in 1908.

Morgan County.—The North Fork Cannel Coal Co., Wrigley, and the Lee Coal Co., Clearfield, began shipping in 1908.

Muhlenberg County.—The Brasher Coal Co. (Woodson mine) was succeeded by the Ohio & Kentucky Coal Co., at Hillside. The Nelson Creek Coal Co., Nelson, and the Sunrise Coal Co., Drakesboro, began shipping in 1908.

Ohio County.—The Green River Mining Co., Coffman, was succeeded by the Coffman Coal Co.

Pike County.—The following companies began shipping in 1908: Big Branch Coal Co., Lookout; Burnwell Coal & Coke Co., P. O. Sprigg, W. Va.; Majestic Collieries Co., P. O. Cedar, W. Va.; Shelbyana Coal & Coke Co., Shelbyana. The Pike Coal & Coke Co., Hellier, was succeeded by the Pike Consolidated Coal & Coke Co. The Pike Collieries Co., McCarr, was idle from July to the end of the year.

Pulaski County.—The Alpine Coal Co., Alpine, produced no coal in 1908. Peters & Souleyret, Flatrock (Cogar Creek mine), were succeeded by the Cogar Creek Coal Co. The Mahoning Coal Co. (Paris mine), Parker's Lake, was idle the last nine months of 1908. The mines of the New Cumberland Coal Co., at Indian Head, namely, "Indian Head" and "New Cumberland," were idle all the year.

Rockcastle County.—The Diamond Coal Co., which had succeeded the New Livingston Coal Co., at Livingston, was idle.

Whitley County.—The Halsey Red Ash Coal Co., Halsey, succeeded the following companies: The Anderson Coal Co. (Anderson mine), and the Louisville Property Co. The Gatliff Coal Co., Gatliff, and the Mahan Jellico Coal Co., Gatliff, began shipping in 1908.

The following are the names and addresses of the coal companies, arranged according to counties:

Addresses of Coal Companies.

BELL COUNTY.

Bell County Coal Co.....	Tinsley.
Bell Jellico Coal Co.....	Bell Jellico.
Big Hill Coal Co.	Blanche.
Blake, Edw., Lessee Black Bear C. Co.....	Fourmile.
Caney Creek C. & C. Co.....	Chenoa.
Central Coal Co.....	Cary.
Chenoa Coal Co.....	Cairnes.
Clear Creek Coal Co.....	Chenoa.
Clear Fork Coal & Coke Co.....	Fonde.
Coleman Mining Co.....	Cary.
Columbia Coal Co.....	Middlesboro.
Crawford & Co., Lessee (Black Raven mine).....	Fourmile.
East Jellico Coal Co.....	Bell Jellico.
Edgewood Coal Co.....	Shamrock.
Ellwood, Robert.....	Pineville.
Excelsior Coal Co.....	Excelsior.
Mountain Lake Coal Co.....	Middlesboro.
Flat Wood Coal Co.....	Middlesboro.
Continental Coal Corporation.....	Rim.
Hignite Coal Mn'g Co.....	Shamrock.
Home Coal Co.....	Middlesboro.
Knuckles (J. C.).....	Ferndale.
Kelly Coal Co.....	Chenoa.
Left Fork Coal Co.....	Cary.
Luke & Drummond Coal Co.....	Logmont.
Mary Moore Coal Co.....	Excelsior.
Poplar-Hignite C. & C. Co.....	Davisburg.
Sagamore Coal Co.....	Logmont.
Shamrock Coal & Coke Co.....	Middlesboro.
Straight Creek Coal & Coke Co.....	Pineville.
Straight Creek Coal Mining Co.....	Cary.
Stony Fork Coal Co.....	Middlesboro.
Turner Coal Co.....	Middlesboro.
Wallsend Coal & Coke Co.....	Wallsend.
Winona Coal & Coke Co.....	Gravity.

BOYD COUNTY.

Big Run Coal Co.....	Winchester, (Clark Co.).
Clere, D. R.....	Coalton.

Hammonds, Geo. W.....Rush.
 Hull, George.....Rush.
 Wurts, C. & H. (Lessees A. I. & M. Co.) (2 mines).....Ashland.
 Wurts, Wm.....Asnland.

BREATHITT COUNTY.

Imperial Coal Co.....Jackson.

BUTLER COUNTY.

Gidcumb, J. W., Lessee (Ben Topmiller's mine).....Morgantown.
 Main & Sons, A. A.....Morgantown.

CARTER COUNTY.

Adkins Coal Co., mine in Carter, but address.....Mt. Sterling.
 Estate of N. Thayer (Lost Creek) mine in Carter
 but address.....Riverton.
 Geigerville Coal Co., mine in Carter, but address.....Rush.
 Kentucky Cannel Co., mine in Carter, but address.....Riverton.
 Strait Creek Coal Co.....Denton.

CHRISTIAN COUNTY.

Empire Coal Co.....Empire.
 Terry Coal & Coke Co.....Hopkinsville.

DAVIESS COUNTY.

Hagan, Jno., operating Geo. Lucas mine.....Owensboro.
 Hoback, Louis.....Owensboro.
 Overstreet & Rudy.....R. F. D. No. 4.....Owensboro.
 Owensboro Coal & Land Co.....R. F. D. No. 4.....Owensboro.
 Rudy, J. Lee (J. H. Rudy mine).....Owensboro.
 Wilson, Jas.....Owensboro.

FLOYD COUNTY.

Betsy Layne Coal Co.....Betsy Layne.
 Jewell Coal Co.....Emma.
 Middle Creek Coal Co.....Frestonburg.
 Preston Coal Co.....Emma.

HENDERSON COUNTY.

Archbold, John, Coal Co.....Bluff City.
 Corydon Coal Co. (Magnolia mine).....Corydon.
 Green River Coal Co.....Spottsville.
 Hayes, Wm., & Son.....Zion.
 Keystone Mn'g M'fg Co.....Henderson.
 Peoples Mining Co.....Henderson.
 Pittsburg Coal Co.....Baskett.

Southern Coal & Transportation Co.....	Robards.
Smith Mills Coal & Mining Co.....	Smith Mills.
Utopia Coal Co.....	Curdsville.

HOPKINS COUNTY.

Brasher Coal Co. (Oak Hill mine).....	Chesley.
Carbondale Coal & Coke Co.....	Carbondale.
Crabtree Coal Mining Co.....	Ilisley.
Kington Coal Co.....	Morton's Gap.
Nebo Consolidated C. & C. Co.....	Nebo.
Nortonville Coal Co. (2 mines).....	Nortonville.
Reinecke Coal Mining Co.....	Madisonville.
Rose Creek Coal Co.....	Nebo.
St. Bernard Mining Co. (7 mines).....	Earlington.
The Stirling C. & C. Co. (Daniel Boone mine).....	Daniel Boone.
Sunset C. Co. (Royal mine).....	Madisonville.
Victoria Coal Co.....	Madisonville.

JOHNSON COUNTY.

East Kentucky Coal Co. (Flambeau mine).....	East Point.
Meek Coal Co.....	Meek.
North East Coal Co. (Acrogen mine No. 2).....	Paintsville.
North East Coal Co. (No. 3 mine).....	Paintsville.
North East Coal Co. (Muddy Branch mine No. 1).....	Paintsville.
Sandy River Coal Co.....	Williamsport.
Tibbals Coal Co.....	Lower Greasy.

KNOX COUNTY.

Bennetts Blue Gem Coal Co.	Barbourville.
Blue Gem Coal Co.....	Hujel.
Charlton Coal Co. (Charlton mine).....	Grays.
Coalport Coal Co.....	Coalport.
Cottengim-White Coal Co.....	Barbourville.
J. T. Gray (Tilden Gray's mine).....	Grays.
Hughes Jellico Coal Co.....	Hujel.
Ingles Jellico Coal Co.....	Hujel.
Interstate Coal Co. (Bays mine).....	Warren.
Interstate Coal Co. (Cumberland mine).....	Warren.
Interstate Coal Co. (Trosper mine).....	Trosper.
Matthews Jellico Coal Co.....	Hujel.
Moss Rock Coal Co.....	Barbourville.
North Jellico Coal Co. (3 mines).....	Bertha.
North Point Jellico Co.....	Grays.
Parker Gray Coal Co.....	Grays.
Power Coal Co.....	Trosper.
Richland Blue Gem C. Co.....	Bailey's Switch.
Trosper Coal Co. (Bennett Jellico Co.).....	Trosper.

LAUREL COUNTY.

Bryants, C. B. & J. B. (Rockwell mine).....	London.
Dunavant, Wm., Lessee (Crescent mine).....	Viva.
Lily Jellico Coal Co.....	Lily.
May & Beatty, Lessees (Standard mine).....	Viva.
New Altamont Coal Co.....	Altamont.
New Laurel Coal Co.....	Pittsburg.
New Victoria Coal Co. (McNeill Bros.).....	Pittsburg.
Phenix-Jellico Coal Co. (2 mines).....	Altamont.
Pittsburg Coal Co.....	Pittsburg.
Star Coal Co.....	East Bernstadt.

LAWRENCE COUNTY.

Crystal Block Coal Co.....	Peach Orchard.
Louisa Coal Co.....	Torchlight.
Peach Orchard Coal Co.....	Peach Orchard.

LEE COUNTY.

Beattyville Block Coal Co.....	White Ash.
Big Hill Coal Co. (Idamay mine).....	Idamay.
McGuire Coal Co.....	Beattyville.
Phillips Coal Co.....	White Ash.
Richardson (J. C.) Coal Co.....	Beattyville.

MCLEAN COUNTY.

Green River Coal Co.....	Livermore.
Green River Coal & Coke Co.....	Island.
Karnes, Alva.....	Island.
Memphis Coal Co.....	Island.

MORGAN COUNTY.

Kentucky Block Cannel Coal Co.....	Cannel City.
North Fork Cannel Coal Co.....	Wrigley.
Lee Coal Co., mine in Morgan, but address.....	Clearfield.

MUHLENBERG COUNTY.

Beech Creek Coal Co.....	Browder.
Bevier Coal Co.....	Cleaton.
Black Diamond Mining Co.....	Drakesboro.
Central Coal & Iron Co. (Central mine).....	Central City.
Crescent Coal Co.....	Bevier.
Dovey Coal Co.....	Mercer.
Duncan, W. G., Coal Co. (3 mines).....	Luzerne.
Elk Valley Coal Co.....	Drakesboro.
Gibraltar Coal Mining Co.....	Hillside.
Greenville Coal Co. (Powderly mine).....	Powderly.
Hillside Coal Co. (Hillside mine).....	Greenville.
Holt Coal Co.....	Central City.
Lam Coal Co.....	Bevier.
Louisville-Atlanta Coal Co.....	Drakesboro.

Moody Coal Co.....	South Carrollton.
Morgan, R., Coal, Coke & Mining Co.....	Mercer.
Nelson Creek Coal Co.....	Nelson.
Oakland Coal Co.....	Greenville.
Ohio & Kentucky Coal Co. (Woodson mine)	Hillside.
Sunrise Coal Co.....	Drakesboro.
W. A. Wickliffe Coal Co.....	Browder.

OHIO COUNTY.

Broadway Coal Mining Co.....	McHenry.
Central Coal & Iron Co. (Render mine).....	Render.
Coffman Coal Co.....	Coffman.
Fordsville Block Coal Co.....	Fordsville.
McHenry Coal Co. (Echols mine).....	Echols.
McHenry Coal Co. (McHenry mine).....	McHenry.
Taylor Coal Co.....	Taylor Mines.
Williams Coal Co.....	McHenry.

PIKE COUNTY.

Big Branch Coal Co.....	Lookout.
Borderland Coal Co.....	Borderland, W. Va.
Burnwell Coal & Coke Co.....	Sprigg, W. Va.
Cabin Branch Coal Co.....	Pikeville.
Elkhorn Consolidated C. & C. Co.....	Hellier.
Freeburn Coal & Coke Co.....	Edgerton, W. Va.
Greenough Coal & Coke Co.....	Hellier.
Henry Clay Coal & Coke Co.....	Lookout.
Kewanee Coal Co.....	Pikeville.
Lowe Coal Co.....	Mossy Bottom.
Majestic Collieries Co.....	Cedar, W. Va.
Marrowbone Coal & Coke Co.....	Lookout.
Pike Consolidated C. & C. Co.....	Hellier.
Pike Collieries Co.....	McCarr.
Shelbyana C. & C. Co.....	Shelbyana.
Thacker Coal Mining Co.....	Thacker, W. Va.
Vulcan Coal Co.....	Vulcan, W. Va.
Wagner Coal Co.....	Mossy Bottom.

PULASKI COUNTY.

Alpine Coal Co.....	Alpine.
Cogar Creek Coal Co.....	Flatrock.
Eagle Coal Co.....	Barren Fork.
Mahoning Coal Co. (Paris mine).....	Parkers Lake.

UNION COUNTY.

Bell Union Coal & Coke Co.....	Curlew.
Crittenden Coal & Coke Co.....	Sturgis.
Kentucky Coal Mining Co.....	Uniontown.
Kentucky Coal Mining Co.....	Waverly.
Morganfield Coal & Mining Co.....	Morganfield.

Ohio Valley Coal & Mining Co.....	DeKoven.
River & Railroad & Coke Co. (Davidson mine).....	Uniontown.
Sullivan Coal Co.	Sullivan.
Thomas Coal Co.....	Morganfield.
West Kentucky C. Co. (Collieries B. & C.).....	Sturgis.

WEBSTER COUNTY.

Diamond Coal Co.....	R. F. D., No. 2.....	Providence.
Fairmont Coal Mining Co.....		Providence.
Forsythe (R. L.) (Dupont mine).....		Providence.
H. D. Hill (L. Wright mine).....		Providence.
Luton (S. K.).....		Providence.
Monroe, W. H. (began in 1908).....		Providence.
Providence Mining Co. (3 mines).....		Providence.
Sebree Coal Mining Co.....		Sebree.
St. Bernard Mining Co. (Shamrock mine).....		Earlington.
Thos. Blackwell C. & Mining Co.....		Clay.
Thos. Wanless.....		Providence.
Webster County Coal Co.....		Providence.
West Kentucky Coal Co. (Collieries F., G. & H.).....		Sturgis.
Williams & Patterson, Lessees (Togo mine).....		Wheatcroft.

WHITLEY COUNTY.

Burk Hollow Coal Co.....		Jellico, Tenn.
Campbell Coal Mining Co.....		Coalmont.
Cooke Jellico Coal Co.....	R. F. D. No. 1.....	Jellico, Tenn.
Dowlais Blue Gem Coal Co.....		Jellico, Tenn.
East Tennessee Coal Co.....		Jellico, Tenn.
Elite Coal Co.....		Jellico, Tenn.
French Coal Co.....		Halsey.
Halsey Red Ash Coal Co. (Anderson mine).....		Halsey.
Halsey Red Ash Coal Co. (Vanderpool mine).....		Halsey.
Gatliff Coal Co.....		Gatliff.
Imperial Coal Co.....		Rockhold.
Jellico Coal Mining Co.....		Mountain Ash.
Jellico Mining Co. (Saxton Blue Gem mine).....		Saxton.
Mahan Jellico Coal Co.....		Gatliff.
Main Jellico Mountain Coal Co. (2 mines).....		Kensee.
Mt. Morgan Coal Co.....		Williamsburg.
Pleasant View Jellico Coal Co.....		Pleasant View.
Procter Coal Co.....		Red Ash.
Rogers (J. C.) Blue Gem Coal Co.....		Jellico, Tenn.
Stearns Coal Co. (3 mines).....		Stearns.
Sunbeam Coal Co.....		Jellico, Tenn.
Watts Creek Jellico Coal Co.....		Wofford.
West Jellico Coal Co. (Strunk mine).....		Silersville.
Wender (S. A.) (Wender Blue Gem).....		Jellico, Tenn.
Wender Blue Gem Coal Co.....		Halsey.

IV

ACCIDENTS FOR 1908.

For the calendar year 171 noteworthy accidents were reported, 40 of which were fatal. Of the fatal accidents, 35 occurred inside mine, 1 in shaft, and 4 on the surface. Of the 131 non-fatal accidents, 75 were serious or severe enough to cause a lay-off of a week, and of these 72 occurred underground, 1 in shaft and 2 on the surface.

DESCRIPTIVE LIST OF FATALITIES.

A summary of the fatalities grouped according to causes, with coal raised per death, number of deaths per 1,000 persons employed, etc., has been given in Chapter I.

BELL COUNTY.

Big Hill Coal Co., Blanche mine.—Henry Perkins, miner, age 38; June 22. Killed by fall of slate. Wife; no children.

Highland Rim Mining Co.—James Conch, age 22; May 28. Killed by fall of slate. Wife and one child.

Sagamore Coal Co.—"Trapper boy killed by fall of slate while away from post; age 13 years." December 19. No name given.

Straight Creek Coal & Coke Co.—(1) David Nelson, miner; age about 45; February 14. Killed by fall of slate. Wife.

(2) Job Jones, mine foreman; in November. Killed by switch engine in the yard. Wife and six children.

Wallsend Coal & Coke Co.—(1) N. Sumner, miner; age 30; August 28. Went back on shot. Blew top of head off. Wife.

(2) Dock Baker; about 40; December 8. Killed by fall of slate. Wife.

CHRISTIAN COUNTY.

Empire Coal Co.—(1) O. S. Bowling, loader; age 32; April 22. Right leg broken and hurt internally by a fall of slate (due to mudslip or horseback) at face of room. Subsequently died. Was loading coal at the time.

(2) Finis Rankin; June 29. Killed by fall of slate. While wedging down some standing coal slate was loosened.

FLOYD COUNTY.

Middle Creek Coal Co.—Frank Rupert, employed by machine man; age 37; September 7. Report is: "Was working for miner about 4:30 a. m. No one in the mine. Supposed to have pulled post and slate shot fell on him. Dead when found." Wife and three children.

HOPKINS COUNTY.

Brasher Coal Co., Oak Hill Mine.—Odie Blanks; motorman; age about 38; August 15. Killed in collision between loaded car and motor. Wife; no children.

KNOX COUNTY.

Coalport Coal Co.—Robert Woods, miner; age 28; January 29. Report is: "He was riding the empty cars up the incline when one of the men in the car in front of him uncoupled the cars and turned them back on the incline. All the other men made their escape, but he was killed." Unmarried:

LAUREL COUNTY.

New Laurel Coal Co.—Richard Stringer, miner; age 19; July 15. Killed by a blown-through shot.

Phenix-Jellico Coal Co., Diamond mine.—Mac Gaines, miner; age 35; May 12. Was hurt by jumping off trip of loads, when coupling broke and trip ran back. Died from injuries on May 14. Wife and 8 children.

MCLEAN COUNTY.

Green River Coal & Coke Co.—Henry Franklin, trip rider on rope haulway; age about 24; October 20. Run over and instantly killed. Wife; no children.

MORGAN COUNTY.

Kentucky Block Cannel Coal Co.—Henderson Davis, miner; age 33; July 29. Killed by fall of slate. "Was drawing stump

and pillar work, and by failure to sufficiently prop was caught by fall of slate. Back broken." Wife and five children.

MUHLENBERG COUNTY.

Elk Valley Coal Co.—George Thompson; December 5. Injured by mud drum blowing out of boiler, and died. Was not on duty at the time.

Moody Coal Co.—Nine men killed as result of blown-out shot off the solid; February 10th. The dead were: John Rush and R. B. Cook, white; and Charles Ross, Hugh Corbin, Charles Van, Leslie Gatton, Charles Van, Jr., Peter Penick, and Richard Blacklock, negroes.

The following report concerning the accident was made to the Governor on February 22:

GOVERNOR AUGUSTUS E. WILLSON,
Frankfort, Ky.

SIR:—I have the honor to make the following special report concerning an explosion, in which nine men were killed and one so seriously injured that he may not recover, which occurred at the mine of the Moody Coal Company, at South Carrollton, Muhlenberg county, in Assistant Inspector Doss's district, on the afternoon of Monday, February 10th, 1908. I received word of the accident about noon Tuesday, the 11th, and being myself unable to go to the scene immediately, I sent Assistant Inspector Spillman to assist in investigating the matter. Mr. Doss had visited the mine Tuesday morning, but finding part of the partition in the shaft torn out deferred making an examination beyond the bottom of the shaft until the partition should be repaired. When Mr. Spillman arrived Wednesday morning, he found shaft and mine just as they were after the explosion, but he at once had the shaft repaired and ventilation restored, and, in company with Mr. Doss, whom he had advised of his presence, made a thorough investigation of the cause of the accident.

The Moody mine is a dusty one, and has been reported by Mr. Doss as yielding firedamp. The facts gathered conclusively show that the explosion was caused by two (possibly three) blown-out shots. The flame from the shots set fire to the fine coal dust (and possibly some firedamp), and the explosion fol-

lowed. The blown-out shots were due to the fact that the coal is shot on the solid (i. e., without undermining), and the shot holes were so deep and improperly pointed that, instead of breaking out the coal, the charge of powder with its tamping "fired" from the hole, in each case, as if from a gun, and caused such a blast of air as to stir up the fine dust in the mine. The large amount of flame, sufficient to set fire to the dust, was due to the excessive amounts of powder used. The holes were six feet deep, and since evidence was obtained that the practice was to load such holes with about three feet of powder, it may be safely assumed that there were not less than three feet of powder in each of the holes that caused the explosion.

The men were found in a room some distance away from the seat of the explosion, on an entirely different entry or gallery, as shown by the rough sketch I have made, and Mr. Spillman is of opinion that they were not killed by the concussion of the explosion, but were overcome by the afterdamp, i. e., by the fatal gases (carbon monoxide, carbon dioxide, etc.), produced by the burning powder and ignited dust. I think it probable, however, that they were at the same time subjected to tremendous pressure, and they may have inhaled some flame. The Coroner's inquest was held Tuesday, before Mr. Spillman's arrival, and since neither of the Assistant Inspectors was present, we do not know whether such examination was made of the dead as would settle that question. The injured man seems to have inhaled some flame, but he was not in condition to be questioned at the time the mine was examined.

The fact that, although they were on a different entry and a considerable distance away from the room in which the explosion started, the men were killed is not strange. They were directly in the path of the ventilating current, and when an explosion in a mine occurs it, as a rule, first proceeds against the incoming air (the burning gases being fed by the oxygen brought by the fresh air), and after that retraces its path toward the outlet. That the men in the room referred to should be caught, while those who were not on that "split" of air were uninjured, is precisely what might have been predicted.

This explosion was clearly due to failure to comply with instructions that had been given by Assistant Doss. On December 31, 1907, in a notice served on the company, Mr. Doss said:

"I desire to call your especial attention to the fact that there is a great deal of firedamp generating in this mine; also, your mine is very dry, and there is a great deal of fine coal and dust scattered over most all the roads and in many parts of the mine, which cause the mine to be very liable to an explosion. Especially under the conditions which exist at this time, as there are a great many improperly arranged shots being fired, and coal being shot on the solid and much powder being used in close places. I am instructed by the Chief Inspector to most rigidly enforce the mining law in all mines where I apprehend any danger, and I now notify you that a competent man must be sent in to examine the mine in the morning to see if danger exists. You must also keep the mine well sprinkled, so that no dust or fine coal will be in the air. I strongly advise you that you employ competent shot-firers to do all the shooting in the mine, and also see that the shooting is not done until everybody else is out of the mine. Such shots as are now being fired positively must be stopped, and holes must not be drilled further than the chance to knock. The men must be prohibited from loading such heavy charges of powder in close places."

Mr. Doss reports that he again visited the mine on January 5th and repeated the instructions just quoted.

Investigation by Mr. Spillman developed the fact that the mine has never been sprinkled; that although the company made an attempt to have the men cease shooting on the solid, it was of no avail; that the employment of shot-firers seems to have been left with the men rather than made a rule by the company, and amounted to nothing; and that the men continued to use excessive charges of powder. There can be little doubt that had the mine been kept thoroughly sprinkled and the directions given by Mr. Doss been fully complied with, this accident would not have occurred.

Shooting on the solid and overloading holes are responsible for many fatal accidents. Even should there be neither dust nor gas present in dangerous quantities, men may be fatally burned (as was the case at the Thomas mine, in Union county), by the "smoke taking fire," as it is expressed. As you are doubtless aware, about 25 per cent. of the products of exploded mining powder consists of inflammable gases, and when excessive amounts of powder are used in shot holes, it is no uncom-

mon thing for the smoke to take fire, even when the shot pulls the coal; and even when the smoke does not take fire, the poisonous gases are in sufficient quantity to endanger life. "Black powder," the sort commonly used for blasting in coal mines in this country, is notoriously dangerous. Vivian B. Lewis has shown that a pound and a quarter of mining powder yields over three cubic feet of combustible gas, mostly carbon monoxide, an exceedingly fatal gas when inhaled, and quite as explosive as firedamp. Further, I think it beyond question that explosions occur that are solely due to enormous quantities of inflammable smoke (the latter holding over 40 per cent. of extremely fine solid matter) produced by excessive charges of powder. There is even reason to believe that an explosion may be brought about simply by the detonation waves set up by blasting. Aside from explosions and large flames, heavy blasting is unquestionably responsible for a large proportion of the accidents due to falls of top, the roof being shaken by the heavy shooting.

As our law stands, the Inspectors are powerless to do much more than protest against shooting on the solid and the use of too much powder, and we have no power to compel the employment of shot-firers even in the most dangerous of mines. There is a bill now before the General Assembly which will go far toward remedying this weak spot in our law. The bill also seeks to so increase the inspection force of this office that we can more effectively guard the lives and health of those who are employed in the mines. There are now more than 319 mines, scattered over 28 counties, with new mines and new counties coming in the list. It is physically impossible for the present small force of Inspectors, no matter how diligent they may be, to take adequate care of that many mines. I respectfully ask your favorable consideration of the legislation sought.

I append a copy of Mr. Spillman's report, with accompanying statements.

Very respectfully,

C. J. NORWOOD,

Chief Inspector of Mines, etc.

A. G. SPILLMAN'S REPORT.

LEXINGTON, KY., Feb. 14, 1908.

PROF. C. J. NORWOOD,

Chief Inspector of Mines,

DEAR SIR:—On February 10th, at 4 p. m., there was an explosion in the Moody Mine, at South Carrollton, in Muhlenberg county, in which nine persons were killed, and one seriously injured. Below I give you the names of the men killed.

Chas. Ross (colored), 35 years of age; married; wife; no children.

Hugh Corbin (colored), 35 years of age; married; wife and four children.

Chas. Van (colored), 55 years of age; married; wife and one child.

Chas. Van, Jr. (colored), 30 years of age; married; wife and three children.

Richard Blacklock (colored), 56 years of age; married; (wife and two children.

Leslie Gatton (colored), 30 years of age; married; wife and two children.

Pete Penick (colored), 40 years of age; single.

Robert Cook (white), 40 years of age; married; wife and one child.

John Rush (white), 39 years of age; married; wife and three children.

John Bryant (white) was seriously injured.

Immediately upon the receipt of the telegram notifying you of the accident, I was directed by you to proceed at once to this mine to make an investigation. I left at once, and arrived at the mine on the morning of the 12th instant. This is a shaft mine, 288 feet deep, and at present has only one outlet. The air compartment is bratticed off the main hoisting shaft and the mine is ventilated by a 10-foot Crawford & McCrimmon fan, which is running as a downcast, the current being split at the bottom of the shaft. One split ventilates the east side of the mine, and the other split the west side of the mine.

I found upon my arrival that about 40 feet of the brattice work had been blown off the air compartment, and while the fan

was running it was impossible to get any air in the mine until this was repaired. After getting this brattice replaced, temporary curtains were provided in order that we might carry the air with us and, in company with Mr. Doss, the Inspector for that district, I went through the mine.

I found that the explosion occurred in room No. 2 off the first south on the east side of the shaft. There were two shots fired in the room, and they were both blown-out shots and failed to pull the coal. They were each about 6 feet deep and were drilled in the solid, but of course it was impossible for me to tell how much powder was used in them. I found that two more shots had been fired beside the two just mentioned. One was in the last break-through between the first and second south entries, and one in room No. 3, off first south entry. The one in the break-through between the entries was a blown-out shot and failed to pull the coal.

I am informed that the mine had never been sprinkled, and there is no doubt in my mind that the explosion was caused by the two blown-out shots in room No. 2 off first south entry igniting the fine coal dust. It seems that after lighting these shots on the south entries, all of the men employed on that side of the mine went across the main entry and, together with the men employed on the north entries, went into room No. 2 off the second north to await for the shots to fire, since they were all found in said room, except Pete Penick. He probably started to the bottom of the shaft, but, as is usually the case, went in the opposite direction to what he intended to go, and his body was found in the entry a few feet from the parting.

I did not find anything wrong with the ventilation of the mine, except there should have been a check-curtain on the first south between Room No. 2 (in which the explosion occurred) and room No. 1. Room No. 2 was 95 feet deep, and there was a break-through between this and Room No. 1.

I do not believe that any of the men were killed by the force of the explosion, as there were no marks on any of the bodies to indicate that such was the case, nor were any of the bodies mangled or disfigured in any way. It is evident to my mind that they all died from the effects of the after-damp.

You will understand that there are no machines in this mine, but it is known what is known as a pick mine. All the coal is

shot on the solid, no mining being done. There were thirteen (13) persons in the mine at the time of the explosion. Three (3) on the west side, and 10 on the east side of the shaft. I hand you herewith statements of Joe Brackett and Rufus Shrewsbury, who were on the west side of the shaft at the time of the explosion. These statements were taken for the purpose of showing the usual depth of the shot-holes drilled by the men and the amount of powder used therein.

Very respectfully,

A. G. SPILLMAN,
Assistant Inspector of Mines.

APPENDIX TO A. G. SPILLMAN'S REPORT.

Joe Brackett (colored) says that he has worked for the Moody Coal Co. since December, 1907. That he was working on the west side of the shaft on February 10th, the date of the explosion. He states that he was sitting in his room with Rufus Shrewsbury and heard two shots fired on the east side. The first shot, he says, sounded all right, but when the second shot went off he remarked to Shrewsbury that it was a heavy shot, and that Rufus Shrewsbury remarked that he thought it was a "windy."

He says that he waited about 30 minutes, and hearing no more shooting, started to the bottom of the shaft. When he reached the bottom, he found some cars blown across the track, and timbers blown out of the shaft. He then called to men on the east side and, after getting timbers out of the way so the cages would work, went outside.

He says that he had one hole tamped up ready to shoot, but did not go back to shoot it. This hole was drilled in the solid and was 6 feet deep and had 3 feet of powder in it. He says that he made an attempt to go to the men on the east side, but could not do it on account of the gas. He says that the company had tried to get the men to quit shooting the coal on the solid.

He further states that the shooting the coal on the solid has been against the instructions and wishes of the company. On account of the damage to the cages, it was a little more than three (3) hours before he could get out of the mine.

His
JOE X BRACKETT.
mark.

Attest: C. W. FINCH.

Rufus Shrewsbury (colored) says that he has worked for the Moody Coal Co. for one year. That he was working on the west side of the shaft on February 10th, the date of the explosion. He says he heard three (3) shots fired on the east side. He says that the first shot sounded all right, but that the second shot sounded very heavy and he says that he remarked that it was a "windy," and that he felt the concussion of the air.

He also felt considerable heat, and that it raised quite a lot of dust in the room. He sat in his room about twenty minutes before going to the bottom of the shaft. He went out with Joe Brackett.

He states that he had two holes drilled in the solid, but never went back to fire them. They were each about $6\frac{1}{2}$ feet deep. One hole was near the right-hand rib and had $2\frac{1}{2}$ feet of powder in it. The other hole was toward the left-hand rib of his room and had 3 feet of powder in it.

He further states that Mr. Moody, the Superintendent, called the men in a body to the top on two different occasions and warned to not shoot on the solid; that written notice was posted at the mine directing the men to cease shooting the coal on the solid; that he believes that the men have been using too much powder, and that he knows they have been shooting the coal on the solid.

That at one time the men agreed to mine the coal, and afterward they changed the decision and decided they would not mine the coal. He further states that in December there was a shot fired that raised the cages about six feet; that he was on one of the cages at the time coming out of the mine.

(Signed) RUFUS SHREWSBURY.

Wade Chisholm that he has worked for the Moody Coal Co. about two (2) years; that in November, 1907, he was appointed by the miners as a shot firer in the Moody mine; that he started to fire shots on a Monday and quit the following Friday night; that the reason he refused to act any longer was on account of shooting the coal on the solid, and the miners using such heavy charges of powder he considered it dangerous and refused to act any longer. He further states that when he quit he told Mr. Moody, the Superintendent, he was going to quit, for if a change was not made in the way of loading the holes that there would be an explosion.

(Signed) WADE CHISHOLM.

A. J. DOSS' REPORT OF THE MOODY MINE ACCIDENT.

CENTRAL CITY, KY., Feb. 24, 1908.

PROF. C. J. NORWOOD,

*Chief Inspector of Mines,**Lexington, Ky.*

Dear Sir:—On the morning of the 11th inst., about 7 o'clock, I was notified that an explosion had occurred in the Moody mine at South Carrollton. I was at home when I received the message and had been at home since about 6 o'clock the previous evening. The message was from Robert Vinson, at Bevier, who asked me if I had heard of the disaster at South Carrollton. After telling him that I had not, I immediately got in communication with Dr. Barnes at South Carrollton and asked him to give me some information about the explosion, and he gave me the following statement: "I was right on the scene and nine men were killed and one seriously injured; two white and seven colored were killed and the one man injured was white."

After receiving this information I immediately telegraphed you the following message: "Prof. C. J. Norwood, Lexington, Ky.: Explosion at South Carrollton. Nine men killed." I then at once started to the scene accompanied by Mr. H. L. Tucker, who is the agent for the Morgan and Gardner Electric Machine Company, and a well experienced man in mining. When I arrived at the mine I found a number of people there at the top of the shaft and in the engine room. The dead and injured had all been taken to their homes. After securing a safety lamp I, accompanied by Mr. Tucker, Henry House, mine foreman of this mine, and Wade Chism, a miner who had helped to rescue the dead, went down in the mine. When we landed at the bottom of the shaft I found about 30 feet of the casing in the shaft between the air department and the cage had been torn out. I also found that a considerable amount of water had overflowed the bottom from the sump at the bottom of the shaft. Also, a car loaded with coal was near the bottom on the west side of the shaft. This car was badly shaken up, much of the coal being piled in around the car against the rib and on the road. The car was setting across the road and I was informed by foreman House that the car had been blown from the east side of the

shaft across the sump by the explosion. Also, I found the brattice across the break-through between Main East Entry and Blind near the bottom had been torn out and the curtain across mouth of 1st North Entry was blown out and one of the large cross timbers near the bottom had been knocked down and the guide on the north side of the shaft was broken near the bottom of the shaft.

I went over into the Main Air Course near the bottom of the air shaft and found there was no air going back into the mine. I then told Foreman House and the parties who were with me that there could be no further investigation made until the casing was put back in the shaft and a brattice or curtain put across the break-through near the bottom and also a curtain across the mouth of the 1st North Entry. I then proposed to Foreman House that if he would furnish me with the necessary material I would take charge of the work and help to make the necessary repairs. Mr. House said that he did not know what would be done and would rather I would see Mr. Moody, the Superintendent of the company. I then went out of the mine and immediately went to Mr. Moody's residence, finding him very sick from the effects of the bad air in the mine when he was rescuing the dead the night before. I told Mr. Moody that I had been to his mine for the purpose of investigating, and if possible finding the cause of the explosion. I also told him of the proposition I had made to the mine foreman in regard to making the necessary repairs. Mr. Moody told me that he was then very sick and not able to go to the mine, but that he would go on the following morning if possible, and would see that the necessary repair work was done at once, and that no investigation would be made until I had been notified and was present.

When I returned home I received the following message in answer to the one which I had sent in the morning. "Go to South Carrollton at once. Spillman will leave on first train. C. J. Norwood."* As I had just returned from South Carrollton before receiving this message, I then watched the trains and anxiously awaited the arrival of Mr. Spillman, but failed to see or hear anything from him until about 12 o'clock the following day, when I received a message that Mr. Spillman was at South Carrollton. I then at once went to South Carrollton,

*To my regret it was quite impossible to leave Lexington at the time.—C. J. N.

found Mr. Spillman at the mine and learned that he had come by way of Owensboro and had arrived at South Carrollton on the 8 o'clock train that morning. I also found Mr. Moody with a crew of men doing the necessary repair work in and near the bottom of the shaft. Mr. Spillman and I waited until those repairs had been made and then went down in the mine. We were accompanied by Mr. Moody, Superintendent, and Mr. Moore, Secretary-Treasurer of the company, and by Wade Chism, a miner who assisted in the rescue. After reaching the bottom of the shaft we were informed by Mr. Moody and others that had assisted in rescuing the dead and injured on the night of the explosion that six of the dead men and John Bryant who was seriously injured, were all found in Room No. 2, on 2d North, and one was found out near the mouth of the room and one was found in the mouth of Room No. 3, on the same entry. We first went to the room where the men were found and found the caps and lamps which the dead men had worn. The caps were not scorched or burned as far as could be detected. In the mouth of Room No. 3, on 2d North, we found a dinner bucket sitting near the end of an empty car. The car had not been disturbed in any way that could be discovered. No shooting had been done on either 1st or 2d North the day of the explosion. There was a shot tamped on fuse in Room No. 2, 2d North, and also a shot ready for firing in Room No. 3, same entry, there being only four rooms turned off of the 2d North Entry, and no one was working in either Rooms 1 or 4. There were two break-throughs open between 1st and 2d North Entries. We went to all the working places on 1st and 2d South. We found several shots ready for firing in the rooms on 2d South, but the first shot that had been fired was in the 2d South Entry at the face. Also, there had been a shot fired in a break-through near the face of the entry between 1st and 2d South. The shot in the 2d South Entry had done its work very well and had knocked most of the coal. The hole in the break-through had been drilled six feet deep and evidently had been heavily charged with powder although it had failed to knock the coal, but was a completely blown-out shot as nothing was left in the drill hole. John Rush and a man by the name of Stuart were working together in the 2d South Entry, and break-through. Stuart had gone out before shooting time, leaving Rush both shots to fire. Also, one shot

had been fired in Room No. 3 on 1st South. This place was worked by Charlie Van, Sr., who was killed, and the room was 45 feet in from the entry and the shot which had been fired in this room had evidently been heavily charged with powder. The coal was scattered from the face out to near the mouth of the room and a part of the shot was still standing. Two shots had been fired in Room No. 2 on 1st South Entry. One was on the right hand rib and was going from the center of the room toward the right hand rib and the holes were but a shot distance apart at the back and each hole had been drilled six feet deep, and, like the others, had been heavily charged with powder. This room had been driven in 95 feet from the entry, and there was a break-through into Room No. 1, but no break-through from Room No. 2 to No. 3, and there was no curtain on the entry between Rooms 1 and 2. Room No. 2 was worked by Bob Cook, who was killed. Five shots were fired in the mine on the day of the explosion and it is very reasonable to think that all of them had been lighted before any of them had fired, as Bob Cook, working in Room No. 2, Charlie Van, working in Room No. 3, and John Rush, who was working in the break-through near the head of the 1st South Entry, were the only ones that had done any shooting, and they were all found dead together in Room No. 2 on 2d North. It is quite probable that these three men all lighted their shots together and went over into Room No. 2 on 2d North to wait for the shots to go off, where they were found dead. It has been stated by some of the men who worked in the mine that there were only two reports of shots in the mine on the evening of the explosion, and this, together with other proof, makes it very reasonable to think that the shots were all touched off at or near the same time. And it is very reasonable to think that the five shots that were fired were all so close together that only two reports were heard from all of them, and the shots that made the first report were the shots that hurled the dust and the flash from the shots that made the last report ignited this dust and the smoke made by the first shots that had been fired and thus caused the explosion. It was very plainly to be seen that the shots that had been fired in Room No. 2 on 1st South were the shots that caused the explosion. There was a great deal of charred coal and charred dust on the rails and props and ribs in this room, and it was very

plain that it was an explosion of dust and powder smoke which had occurred, and the cause of the explosion was too rapid firing of shots heavily charged with powder. It was also very plainly to be seen that the men who lost their lives were neither mangled nor burned to such an extent as would make it reasonable to think that their deaths were caused by the burns they received nor from the force of the explosion. Their deaths were caused by the after damp of the explosion.

I submit below the statement of J. L. Stuart:

"I was working partners with J. W. Rush in the Moody mine on the day of the explosion. After getting through with our work, I came out of the mine. I got out about 3:30 o'clock, leaving him two shots to fire, one in the 2d South Entry and one in the break-through between 1st and 2d South Entries. I was not in the mine when the explosion occurred, but was up in town. I have been working in the Moody mine for one month or more and have known the men to light as many as five shots at one time. We all shot with fuse, generally using fuse from 4 to 6 feet long in each hole. It has been a custom to fire the shots on 1st South first and everybody working on 1st and 2d South would go across Main East Entry into Room No. 2 on 2d North and wait there for the shots to go off and then the shots on 2d South would be touched off and the men would all go across to the west side of the shaft and wait until the shots all went off. Then we would go out of the mine.

His
(Signed) J. L. X STUART.
mark.

Also the statement of John Bryant:

"We had all gone off the 1st and 2d South over into Room No. 2, on 2d North to wait until the shots went off. John Rush, Charlie Van and Bob Cook were the only ones who had lighted their shots. I was working in Room No. 3, on 2d South, but we all usually went off 1st and 2d South over into Room No. 2, on 2d North, when shooting was being done on 1st South. Sometimes we would go across to the west side and wait for the shots on 2d South to go off. All that I know of what took place after the explosion occurred was that I heard some of them praying

and I heard Bob Cook begging for water. This appeared to be at least two hours after it occurred. It has been a custom to light four or five shots at a time. We all shot with fuse, generally using fuse about $4\frac{1}{2}$ feet long in each hole."

(Signed) JOHN BRYANT.

Following is a list of the persons killed, with the number of family of each:

Bob Cook, white, wife, 3 children.
John Rush, white, wife, 4 children.
Dick Blacklock, colored, wife, 2 children.
Pete Penick, unmarried, colored.
Charlie Ross, colored, wife.
Charlie Van, Sr., colored, wife, 2 children.
Charlie Van, Jr., colored, wife, 2 children.
Pet Gatton, colored, wife, 2 children.
Hugh Carbon, colored, wife, 7 children.

Very respectfully,

A. J. DOSS, *Assistant Inspector of Mines.*

An inquest was held on February 10th by J. H. Brown, Coroner of Muhlenberg county. The jury's verdict was as follows:

"We, the jury, find that Charlie Ross, John W. Rush (white), Hugh Corbin, Charlie Van, Leslie Gatton, Charlie Van, Jr., Peter Penick, Richard Blacklock, R. B. Cook (white), came to their death in the Moody mines at South Carrollton, Ky., by an explosion in the mines by inexperienced men shooting windy shots.

"The jury: L. R. Finch, J. W. Ross, W. T. Harris, S. L. Ross, Tade Foley, John Withers."

Ohio and Kentucky Coal Co.—Peter Ehlschide, Jr., boss driver; age 22; December 5. Crossed cage before coal had stopped falling; piece of falling coal struck him on head and he died from injury three days later. Wife.

PIKE COUNTY.

Big Branch Coal Co.—John Goodman, miner and contractor; age 39; April 2. Killed by fall of rock while (with his partner, Joe Bradley) cutting coal with machine in a room. Had "failed

to set timbers, although the mine boss had sent timber into them to timber that particular place." Wife; no children.

UNION COUNTY.

Crittenden Coal & Coke Co., Davis Mine.—Charles Dempsey, miner; age about 26; September 30. "Killed by going in on shot after he had lit the fuse. He had fired the shot in one room, on the rib side, and he went into the next room to tamp up and the shot blew through."

Thomas Coal Co.—Three men, all miners, were fatally injured, February 4, as the result of the explosion of a keg of powder caused by a windy shot due to an overloaded hole which was fired by Claude Whitworth. Following were the men: (1) Claude Whitworth, age 26; died from burns. (2) Tillman Holcomb, age 55; crushed. Wife and three children. (3) Chester Howard, age 50; died from burns.

Following is a report on the accident by A. J. Doss, Assistant Inspector at the time, and in whose district Union county was included:

CENTRAL CITY, KY., February 29, 1908.

PROF. C. J. NORWOOD,

Chief Inspector of Mines,

Lexington, Ky.

DEAR SIR:—After having made an investigation of the explosion which occurred in the mine of the Thomas Coal Co., at Morganfield, the 4th inst., I herewith submit my report of the cause of the explosion and the condition of the mine on the day of my investigation.

I was not notified of the explosion by any one, only seeing a few words about it in a newspaper. Thinking from this it was not of such a serious nature as to excite any particular attention or to justify an investigation, I did not go at once to Morganfield. When I arrived at Morganfield I first consulted Mr. Thomas, the general manager of the company, and he gave me the following statement:

There were five persons very badly burned and two slightly burned. Also one man was knocked into the sump at the bottom

of the shaft by an empty coal car which was hurled by the great concussion. Since the accident two of the men who were burned and the man who was knocked into the sump have died. Two were white and one colored.

Tim Holcomb, knocked in sump, one leg broken, died February 6 or 7. Married, wife and 3 children.

Chester Howard, died February 8. Widower, 2 sons.

Claude Whitworth, died February 12 or 13; single.

On making my investigation, I found that the explosion occurred in the 2d West Entry on the south side of the shaft. The entry was 12 feet wide and the face of the coal was nearly square. A hole had been drilled on the right hand rib 8 feet deep, nearly straight down the rib. No cutting or mining at all had been done. The hole had been drilled and charged by Claude Whitworth who was working the place, and the following statements show that he had $4\frac{1}{2}$ quarts of powder tamped in the hole. The face of the entry was 39 feet from the first break-through and was 114 feet from the second break-through. Both break-throughs were open on day of the explosion, I was informed by Mr. Franklin, the mine foreman, but on the day of my investigation the second break-through had a curtain across it. In the open break-through, 39 feet from the face I measured 5,672 cubic feet of air. The shot had failed to knock any coal except a very small amount at the mouth of the hole, and had also blown out the tamping, it being impossible to knock the shot the way it was arranged.

There was very little dust in the mine at any place, and it was plainly to be seen that these parties were burned by the ignition of powder smoke caused by a blown-out shot in the 2d West Entry, which was very heavily charged with powder. The shot was very poorly arranged for firing, and being heavily charged with powder, it was very dangerous.

I herewith submit statement of a miner who helped rescue the ones who were injured:

"I helped rescue all the men who were burned. Claude Whitworth said his shot was the one that caused the explosion. He said also that he had $4\frac{1}{2}$ quarts of powder in the hole."

(Signed) VERB GOWERS.

Statement of R. E. L. Davis, who was very badly burned:

"I saw Claude Whitworth's shot after it was tamped, and I advised him not to shoot it. I told him if he did he was liable to kill everybody in the mine. The hole was drilled very straight in the face of the coal, and there was neither mining or cutting. There was no chance to knock the shot the way it was arranged."

(Signed) R. E. L. DAVIS.

Statement of Will Taylor, who was very badly burned:

"I helped Claude Whitworth tamp the shot that caused the explosion. I was working close to him in a room. He said the hole was 8 feet deep, but I did not measure it. He told me that he put $4\frac{1}{2}$ or $5\frac{1}{2}$ quarts of powder in the hole. When he told me the amount of powder he had I asked him what in the name of God did he mean; he said he was shooting for all that was in it. I told him that when that shot went off we would get all that was in it, and we did."

(Signed) WILL TAYLOR, Colored.

Names of those who were badly burned but were still living on the day of the investigation:

R. E. L. Davis, white.

Sam Hatfield, white.

Jess Thurman, white.

Will Taylor, colored.

Very respectfully,

A. J. DOSS,

Assistant Inspector of Mines.

WEBSTER COUNTY.

Providence Coal Mining Co., Mine No. 2.—Lucian (also known as George) Carroll, miner; age 35; November 30. Burned about face, breast, and arms as result of premature blast caused by striking "sulphur" with tamping bar while tamping shot, and died December 6th.

St. Bernard Mining Co., Shamrock Mine.—Austin Smith, miner; December 8th. Killed by fall of roof. Report is: "Had neglected to prop; had loaded most of his coal out and drilled a hole before the roof fell. Had this death not occurred, it would

have made the St. Bernard output 1,200,000 tons to each life lost the past eleven years, instead of 1,100,000 tons to the life lost."

WHITLEY COUNTY.

French Coal Co.—Grant Cornutt, miner; age 38; April 10th. Fatally injured by roof fall in room. Wife and three children.

Halsey Red Ash Coal Co., Vanderpool Mine.—(1) Wiley Jones, motorman; age 26; July 18th. Fatally shocked by coming into contact with wire carrying 250 volts d. c. Wife and two children.

(2) E. W. Davenport, weighman on tippie; age about 25; October 1st. Three mine cars, out of trip of four, became uncoupled in passing over knuckle and ran down incline. Warning was given. Davenport, with others, ran out of building toward the run-away cars. One of latter jumped track and struck Davenport, killing him.

Jellico Coal Mining Co.—(1) Jas. McCree, loader; age 30; September 8th. Killed by fall of slate. Wife and two children.

(2) George Ford, loader; age 50; September 10th. Killed by fall of slate. Wife and seven children.

Mt. Morgan Coal Co.—Thomas Murry, miner; age about 32; August 19th. Left his room and went into another part of the mine to pull a joint of track; while there slate fell on him, and he died from his injuries a few hours thereafter.

NON-FATAL ACCIDENTS FOR 1908.

Serious accidents include fractures, dislocations, loss of an eye, bad sprains, injuries necessitating amputation, or which in any way endanger life, and those which necessitate long confinement or from which lameness or continued disability may result. Other accidents, though they may be painful, are usually regarded as not serious.

It is not always easy to determine from a report as received from the mine, whether the accident reported was serious or not; or, if manifestly not serious, whether it was in fact such as should be reported, or slight and of no statistical importance. It would materially aid the Chief Inspector in the prep-

aration of this report if mining companies would in all instances make such reports as will plainly show how an accident is to be classed.

Following is a summary of the serious and severe accidents in mine and shaft, according to causes:

Causes.	Serious.		Severe	
	Mine	Shaft	Mine	Shaft
Fall of top.....	19	..	18	..
Fa'll of coal.....	4	..	2	..
Dust explosion	1	..	..	..
Burning powder, smoke ignited powder, etc.....	4	..	..	..
Premature blast.....	1	..	6	..
Returned on shot.....	1	..	1	..
Caught by shot.....	1	..	..	..
Drilling missed shot.....	..	..	1	..
Flames from windy or blown-out shot.....	3	..	3	..
By cars or motor.....	11	..	11	..
Mining machine.....	3	..	2	..
Cage dropped.....	..	1	..	1
Miscellaneous	6	..	14	..
Totals	54	1	58	1

Serious accidents on the surface were caused by the following: Railroad cars, 1; falling of a pole, 1. Two minor accidents are also included in the total of those which occurred on the surface.

Minor injuries, those which caused loss of less than a week's time, are, as a rule, omitted from the following descriptive list.

BELL COUNTY.

Bell Jellico Coal Co.—(1) Steve Johns; spinal column injured by fall of slate, causing partial paralysis of legs. September 30th.

(2) Nick Kavauras; July 27th. Ankle severely bruised by fall of slate.

Central Coal Co., Cary.—(1) J. Y. Patterson; October 9th. Arm and collar bone broken and head wounded by blown-out shot.

(2) Ephram Lane, wounded in the head, and

(3) C. Moore, arm broken, by the same cause that injured Patterson.

On October 30th Assistant Inspector Cole sent to the Chief Inspector a copy of report on the accident at the Central Coal Company's mine, the original report having been addressed to the company. It is as follows:

"PITTSBURGH, KY., October 19, 1908.

"No. 70.

To CENTRAL COAL CO.,

Cary, Ky.

DEAR SIR:—You are respectfully notified that on October 12th, the date of inspection, an examination of your mine, the, showed it to be in the condition noted below. Statements herein are framed as if made on the day of inspection. The results of my investigation of your mine Monday, October 12th, after the explosion of the 9th, is concluded as follows: I am firmly of the opinion that it was caused by too much solid shooting, or, in other words, the burning of too much powder in closely-confined space and probably limited amount of air, which shooting caused gathering of carbon monoxide gas or after-damp gas, and that with the powder smoke gas was ignited by a blown-out shot and the gases exploded, causing the injury to the men inside the mine. It seems very clear that the main explosion started somewhere near the head of your Main Entry, or your 2d Left Entry, which is not far from Main Entry.

It is evident that it did not start from your 1st Left Entry. There is no indication of the presence of marsh gas at this time. No doubt there was some fine dust burned in this explosion. However, I do not believe it was a general dust explosion, as there was no indication of that kind of an explosion. See section of the Mining Law, a copy of which has been furnished you.

Very respectfully,

"PERRY V. COLE,

"Assistant Inspector of Mines."

In Mr. Cole's letter accompanying the copy of his report, he asked whether the Chief Inspector thought he (Mr. Cole) should order shot-firers put in the mine. The Chief Inspector could see nothing in Mr. Cole's report to raise such a question; hence, he did not suggest that shot-firers should be employed. When shot-firers are asked for a mine simply because the men persist in shooting on the solid and yet recognize that they are following a practice that is dangerous (otherwise, why shot-firers?), the writer insists that instead of asking for shot-firers the better plan is to cease shooting on the solid.

Clear Fork Coal & Coke Co.—(1) F. Willis; October 6th. While putting up timber at new opening, dirt fell on him and broke one of his legs.

(2) John Adams; February 18th. Two toes broken by being caught between car bumpers.

Fern Lake Mining Co.—Reuben Gilbert; April 27th. Leg broken by falling of "jack rock."

Poplar Hignite Coal & Coke Co.—(1) Edward Jones; June 29th. Injured by fall of slate; not serious.

(2) Cornell Pritchard; June 30th. Returned on hanging shot; injured about eyes.

Sagamore Coal Co.—(1) Garfield Noah; October 26th. Piece of slate tipped over on ankle and broke both bones.

(2) Chas. Goanes; in August. Right leg broken by fall of slate.

Straight Creek Coal Mining Co.—(1) C. E. Joyce; July 25th. Returned on shot and was caught by the explosion. Injured about face and legs. Lost three weeks.

(2) Peter France; June 4th. Hand mashed by fall of slate. Off for two weeks.

Straight Creek Coal & Coke Co.—Milton McClure; April 25th. Mashed through hips and bone in ankle broken by fall of roof. Was pushing out a car of slate.

Turner Coal Co.—John Stammers; in September. Injured by fall of slate in room. Under doctor's care four months.

BOYD COUNTY.

C. F. Wurts, Lessee A. I. & M. Co.'s No. 12 Mine.—James Barber; November 16th. Leg broken by fall of slate.

HENDERSON COUNTY.

Keystone Mining & Mfg. Co.—Albert C. Mills; January 6th. "Cage dropped and ankle broken."

People's Mining Co.—On August 7th Christ Annis and James Rudy were bruised by fall of slate while working in a heading. Rudy was off a week; Annis a somewhat longer time.

Pittsburg Coal Co.—Jodie Jackson, July 2d. Was slightly burned and received cut over the eye while drilling out a missed shot.

HOPKINS COUNTY.

Carbondale Coal & Coke Co.—(1) Richard Palmer; May 14th. Right foot injured by fall of coal in pillar work.

(2) Reuben Hays, a driver; September 21st. Car jumped track and hand was "mashed" (but no bones broken) by being caught between car and prop. Off about a week.

Nebo Consolidated Coal & Coking Co.—(1) Walton Wright, driver; in February. Was riding front end of loaded car to where he gathered loaded cars. Ankle was caught between standing car and the one he was riding, and was badly mashed. Report was: "Doctor says he will not be able to work for 60 days."

(2) M. Cunningham, spragger on motor; April 15th. Motor was derailed by piece of roof which had fallen on track, knock-

ing out a timber which struck Cunningham, cutting small gash in his head. Off for "a few days."

(3) Frank Bynum; June 17. Bruised full length of back and face skinned by fall of piece of slate at face of his room. Report says "he had been notified two hours before by the mine foreman to put post up." Time lost not stated, but from remark in report it appears to have been two weeks or more.

Nortonville Coal Co.—J. W. Whited, shooter; in November. Report is: "Burned about face and bruised on left shoulder by carelessness in firing a shot." Time lost not stated.

Reinecke Coal Mining Co.—(1) Stephen Southall, loader; January 28th. "Coal fell on right foot." Extent of injury not stated.

(2) James Lewis, driver; April 17th. Mule he was driving was hitched to four cars, two with props and two with coal. Lewis was sitting on the second car, when in passing a switch the front car side-tracked while the one he was on kept the straight track. His leg was caught between the two cars and bruised. Off 10 days.

(3) Joe Miller, loader; April 20th. With a boy was pushing a car up hill and was about to get car off the track. Told the boy to set the brake, but before he did it the car pushed Miller backward, wrenching his back. Off a week.

(4) Harry Adams, hostler; August 28th. Left leg broken by fall of coal.

(5) Andrew Sugg, loader; September 30th. While picking some coal from the roof the lump fell, injuring his right foot. Extent of injury not stated, except "not serious."

(6) Palmer Mitchell, machine runner; October 15th. "Let machine run on toes, mashing two toes on left foot. Not serious." Time lost not stated.

(7) John Watkins, cager; November 19th. Jumped on motor and fell off, breaking left leg below knee.

St. Bernard Mining Co., Earlington No. 9 Mine.—(1) Tom Vance, cutter; May 4th. Machine fell off board and mashed his foot. Lost 15 days.

(2) Dearward Hart, driller and shooter; July 2d. Had fired holes and did not wait long enough, and was caught by shot. Lost 59 days.

(3) Frank Cross, driver; in December. Was pushing car backward with mule still hitched; mule started and he was caught between car and roof. Collar bone broken.

St. Bernard Mining Co., Hecla Mine.—Sam Eaves, machine runner; January 7th. Right leg injured by fall of slate while he was cutting coal. Lost 22 days.

Kington Coal Co.—(1) J. M. Kington, "foot sprained and mashed by car catching foot in frog;" August 7th.

(2) Given Mills, "foot sprained while driving;" August 15th.

(3) Given Mills, "foot slightly mashed by slipping off front end of car;" September 10th. No statement is given as to time lost in any of these cases; hence, the real extent of the injuries can not be judged.

JOHNSON COUNTY.

Tibbals Coal Co., Tibbals Mine.—Lee Daniels, timberman, was injured by fall of slate while removing posts from neck of room; September 28th. Lost about 4 weeks.

KNOX COUNTY.

Lynn Camp Coal Co.—Report for March simply is: "Two only slightly injured, working on tippie; one, finger cut off; the other, foot mashed."

Matthews Jellico Coal Co.—John Sutton, driver; in October. Foot mashed by car. Off 8 days.

North Jellico Coal Co., Bertha and Wilton Mines.—(1) J. T. Dozier, loader; June 18th. Both legs broken below knee by slate fall.

(2) Esom Steele, motorman; November 19th. While in charge of trip of slate en route from Olive Hill mine to trestle between Cannel Ridge and Bertha, he jumped from motor to avoid unavoidable collision between his train and one already on the trestle. In jumping, he struck his head against something, supposedly one of the trolley line posts. Back and top of head badly cut, but no fractures. Recovery noted at time report was made.

(3) J. F. Lawson, loader at Wilton mine; September 2d. Sev-

eral ribs fractured and back and shoulders severely bruised by slate fall. Recovered.

(4) Harrison Troutman, at Wilton mine; January 28th. Severely, but not dangerously, cut on head and face by fall of slate while picking up coal in 8th Left Entry. Recovered.

J. T. Gray Mine.—(1) E. Taylor; in November. Foot run over by car on entry. Off 3 weeks.

(2) J. E. Duck, miner; September 16th. Foot and hip bruised by fall of slate. Confined to house about a week.

LAUREL COUNTY.

Lily Jellico Coal Co., Lily Mine.—(1) Will Goodin, machine helper; August 29th. While working after a machine he stepped upon the machine, foot slipped and was caught by machine and cut off just above ankle.

(2) Wm. O'Bener (colored), employed as laborer by a contractor; in June. Was firing shots with squibs. Lighted a squib too close and was caught by the shot. Extent of injury not stated, but report noted that man was recovering.

May & Beatty Coal Co.—C. C. Dees; November 13th. Leg broken by fall of small piece of coal.

Phenix-Jellico Coal Co., Diamond Mine.—Injuries to several persons were reported from this mine. In some instances the degree of severity of the injury can not be told from the reports, since "only slightly disabled" and "temporary disablement" are frequently used, in such reports, in a broad way. The following appear to require noting: (1) Neut Gaines, trapper; age 14; February 26th. Motor did not stop to signal, but ran right through door. Foot mashed. "Slight injuries."

(2) Robert Gaines, coal tipper; April 13th. While attempting to clean away coal from a clogged screen, other employes, not warned, tipped coal on him. Back and hip bruised. "Was able to ride on horse to his home, about four miles."

(3) Presley Southard, timberman; June 19th. Was setting up a timber and had another leaning against trolley wire. A rush of wind caused by a blast caused the second timber to fall and strike him, breaking collar bone. "Disablement about 10 days."

(4) Dan McDonald, motor coupler; September 3d. "Care-

lessness in firing shot; bruised right arm and face cut. Only slightly disabled."

(5) Wm. Kimbroe, miner; September 4th. "Contusion of left ankle caused by motor striking loose prop. Only slight disablement."

(6) Centers Bowlin, miner; September 24th. Right hip bruised by fall of slate in entry. "Temporary disabled."

(7) Wm. Vance, miner; November 19th. While he was undermining with pick, top coal fell, mashing right foot; no bones broken. "Temporary disablement."

Phenix-Jellico Coal Co., Nelson Mine.—(1) Charles Hayslett, miner; April 28th. "Draw slate fell on Hayslett, due to his not making proper use of props which were at hand. Back bruised. Injury not of serious nature."

(2) Wm. Jackson, miner; July 30th. While mining bottom coal, a stratum of rock between coals fell, fracturing his spine." Jackson was sent to a Cincinnati hospital, reports from which at time report was made showed improved condition, with indications of recovery.

Pittsburg Coal Co.—(1) Robert Adams, driver; September 30th. Run over by empty car and bruised about hips. Off about 10 days.

(2 and 3) Arnold Schupbach and John Higgins, miners; July 30th. Shot went off while being tamped, and they were slightly burned about the face. Returned to work in August.

LAWRENCE COUNTY.

Peach Orchard Coal Co.—John McGranahan, boss of underground gin-hands; December 16th. Arm and right leg broken by fall of slate. Was told to take some timbers down that were becoming dangerous. Instead of using a rail and sledge, he knocked out the posts with sledge alone and was caught under the resulting fall.

LEE COUNTY.

Beattyville Block Coal Co.—(1) Wilson McDaniels, miner; August 3d. Loose slate fell on his foot, bruising and straining it. Off 2 weeks.

(2) Wm. Laywaytas, miner; August 4th. Knocked out an old prop to use again, instead of getting a new one. Slate fell, bruising his chest. Off a week.

Richardson Coal Co.—Chester McDaniel, driver; May 21st. Car jumped track. Small bone of ankle broken and ankle joint bruised.

MUHLENBERG COUNTY.

Beech Creek Coal Co.—(1) Will Rieves, driver; January 3d. Arm strained by mule turning too quickly. Report, made in February, states: "Is most ready for work again."

(2) D. H. Craig, driver; February 10th. Arm strained by being jerked against car. Report (made in March) states: "Is at work again."

(3) Will Rieves, driver; August 12th. Arm strained. Caused by another driver running into him on an entry. Lost 7 days.

(4) B. Frank Stanley, bradder; in September. Coal fell on him. Thumb mashed off, hand bruised and other less serious injuries.

(6) Lon Hause, driver; October 16th. Foot mashed. Details not given. In November was "nearly well."

(7) Pearley Buckhanon, driver; October 27th. Report made in November is: "Hurt on October 27th. Nearly well."

Dovey Coal Co.—(1) Report for January is: "Tom Lewis had his hand mashed while driving. Lost a finger."

(2) Report for October is: "Tip Angland was burnt by shot." (May have been premature blast or a blown-out shot; or, he may have been caught by a shot.)

Elk Valley Coal Co.—L. D. Greggs; December 22d. Was carrying brick, etc., for bricklayers. Was under a gin pole. 'Latter fell and broke one of his legs.

Greenville Coal Co., Powderly Mine.—John Reynolds, bottom cager; October 27th. While cageing a car, his foot got under a car wheel, which bruised two of the toes very badly; one toe amputated.

Ohio & Kentucky Coal Co.—G. C. South, Spragger; August 4th. Pushed sprag too far in wheel and caught thumb, which was broken.

Lam Coal Co.—(1) Andy Dunning, driver; in August. Kicked on jaw. Lost 6 days.

(2) Edmore Miller, driver; in August. "Spreader caught in frog. Mashed between mule and car. Lost 10 days."

(3) Earl Lacefield, driver; December 23d. Ran into another driver at switch. Collar bone broken.

W. A. Wickliffe Coal Co.—John Tompson, extra driver; February 12th. Fell off front end of car and broke small bone of left leg.

OHIO COUNTY.

Coffman Coal Co.—(1) G. P. Whittinghill; April 21st. Hand caught between mine car and post. Lost index finger of right hand.

(2) John McDonald; in May. Struck by fall of slate while drawing. Bruised and severe scalp wounds.

McHenry Coal Co., Echols Mine.—John Byrnes, flat trimmer; July 17th. Hurt by railroad cars. Small bone of leg broken.

PIKE COUNTY.

Big Branch Coal Co.—Joe Bradley, machine helper; April 2d. Hurt by fall of rock in same accident that killed John Goodman. (See lists of fatalities.) Had returned to work by May 1st.

Burnswell Coal & Coke Co.—(1) John Marcum, laborer; June 20th. Flesh around thumb cut bruised while timbering; "was told to hold the collar, but lifted it instead and let leg fall and catch his hand against a mine car." Off about three weeks.

(2) William Carr, machine helper; November 17th. Great toe of right foot broken by fall of piece of top coal while he was shoveling "bug dust" from the coal cutter. Injury healed readily and Carr was going about on December 21st.

Marrowbone Coal & Coke Co.—Roy Lawson, miner; November 23d. Foot badly lacerated by fall of slate. Report says accident was due to his failure to set timbers after being instructed to do so by mine foreman.

Pike Consolidated Coal Co.—(1) Wm. Coughlin, miner; June 22d or 23d. Back and chest hurt by slate fall. Able to work again July 14th.

(2) J. D. Srick, machine miner; September 9th. Back and right leg hurt by slate fall. In hospital some time, but in October had about recovered.

(3) Will Ratliff, driver; November 20th. Leg broken below knee. Report says "reckless driving."

Vulcan Coal Co.—Alex L. Mounts, miner; September 8th. Arm and leg broken by fall of rock.

PULASKI COUNTY.

Mahoning Coal Co., Paris Mine.—J. B. Farris, miner; February 11th. "Was trying his fuse, and letting it catch into his powder, burned his face and hands."

UNION COUNTY.

Bell Union Coal Co.—J. T. Pierson; in September. Leg broken by fall of slate.

Kentucky Coal Mining Co., No. 1 (Waverly) Mine.—(1) Will Mills, miner; November 21st. "Two cars of coal came in together and were spragged, but this failed to stop them. Mills attempted to cross the track, but was caught between the cars, sustaining injuries which caused him to be disabled for several days."

(2) Henry Harrison, machine helper; December 29th. "Setting jack pipe against machine bits and turning on power caused pipe to fly and hit him on leg, breaking same."

Thomas Coal Co.—Robert Lee Davis, Wm. Taylor, Sam Hatfield, and J. B. Thurmond, miners, were burned by the powder explosion which was caused by the windy shot fired by Claude Whitworth on February 4th. (See list of Fatalities.) All recovered.

West Kentucky Coal Co., Mine B.—Sam Martin and Led Anderson, miners; September 15th. Face and hands burned, but not dangerously, by blown-out shot.

WEBSTER COUNTY.

Diamond Coal Co.—Wayne Huse, miner; March 13th. Leg broken by slate fall.

Providence Coal Mining Co.—(1) Ellis McCormick, driver in shaft mine; February 18th. Was pulling loaded car out of

room; car derailed and jammed into a prop, catching his ankle between car and prop, bruising, spraining and slightly dislocating ankle. Lost 3 weeks or more.

Barber Davis, machine hostler; March 26th. While setting jack slate fell and bruised hip, back and chest. Lost a week.

(3) J. A. McClennan, cager; March 27th. Piece of machinery fell on left foot, bruising it. Lost one week.

(4) Richard Hutchinson, driver at shaft mine; June 23d. Hand caught between car and rib, and bones fractured. Lost 3 weeks or more.

(5) Barber Davis, machine runner; June 24th. Jack fell on hand, breaking a bone in same. Lost 3 weeks or more.

(6) Paul Saunders, miner in No. 1 mine; October 2d. Was passing a room at time a shot in said room was fired. Saunders "got directly in front of the blaze and was considerably burned about the face and ears." Lost 3 or 4 weeks.

(7) Ben Gilbert, miner in No. 1 mine; November 3d. Burned about hands and face by premature blast. Not serious.

(8) Clarence Bishop, miner in No. 2 mine. Burned on face and above waist by premature blast which caused death of Lucian Carroll. (See list of fatalities.) Lost several weeks.

WHITLEY COUNTY.

Elite Coal Co.—Mart Broy; October 16th. Right leg and hip sprained by slate fall. Not serious.

Gatliff Coal Co.—J. M. Fulks, laborer; November 9th. While helping to install boilers (on surface) got two fingers broken.

Jellico Coal Mining Co.—(1) Joseph Lawson, machine hostler; June 26th. Leg broken by slate fall.

(2) Arthur Johnson, driver; September 10th. Leg broken by slate fall.

Halsey Red Ash Coal Co., Vanderpool Mine.—Sherman Moore, miner; October 29th. Mashed through back and hips by fall of top.

Wender Blue Gem Coal Co.—Joe Honeycut; March 8th. Leg broken by fall of rock. Was necking a room. "Failed to set timbers."

West Jellico Coal Co.—(1) Elijah Ramsey, miner; June 29th. Struck by flying coal while on his way out of mine. "Fellow miner fired before regular shooting time." (Would appear that Ramsey was passing by a room in which a shot was fired.) Bruised about limbs and body, but no bones broken. Time off not stated.

(2) J. M. Stevens, miner; July 29th. Small piece of slate fell from roof of entry in which he was working and injured his leg. No bones broken. Off "a few days."

(3) Jack Freel, miner; August 27th. While turning over lump of coal, index finger was caught between coal and prop and badly mashed; no bones broken.

V

REPORTS ON THE MINES.

In consequence of the changes in the personnel of the staff of Inspectors during the past year, it is not possible to present the notes on the mines, for 1908, in the form of annual reports of the Assistants in the manner hitherto followed. As a substitute, the monthly reports of the Inspectors, arranged according to Coal Fields, are presented:

WESTERN DISTRICTS.

Reports of A. G. Spillman.

REPORT FOR JANUARY, 1908.

LEXINGTON, KY., February 1, 1908.

PROF. C. J. NORWOOD,

Chief Inspector of Mines.

DEAR SIR:—I hand you herewith my report showing the inspections made by me during the month of January:

EMPIRE COAL CO.

Empire, Ky.

Empire Mine.—I examined this mine January 1st. The ventilation was defective. The main air-way was choked with falls of slate, and the air was not sent into the rooms as required by law. Drainage and timbering were satisfactory. See Inspection Notice No. 132.

WALTER GATLIN, RECEIVER CHESLEY COAL CO.

Madisonville, Ky.

Royal Mine.—Inspected January 2d. The volume of air entering the mine was ample, but on account of the absence of check curtains in some places, the current did not reach all of the work-

ing places as it should have done. Drainage satisfactory and no neglect of proper timbering was noticed. For particulars see Inspection Notice No. 133.

NORTONVILLE COAL CO.

Nortonville, Ky.

Number 1 Mine.—I examined this mine January 14th. The mine was defective with respect to ventilation in that the ventilating current did not travel within 60 feet or less of all the working places as required by law. Drainage and timbering were satisfactory. See Inspection Notice No. 134.

ST. BERNARD MINING CO.

Earlington, Ky.

No. 9 Mine.—Inspected January 14th at night, and all conditions were found to be satisfactory. See Inspection Notice No. 135.

ROSE CREEK COAL CO.

Nebo, Ky.

Shaft Mine.—I examined this mine January 15th. The current did not serve all the working places as it should have done. Otherwise, the conditions were satisfactory. See Inspection Notice No. 136.

NEBO CONSOLIDATED COAL & COKE CO.

Nebo, Ky.

Nebo Mine.—I examined this mine January 15th. Natural means were depended upon for ventilation, which was very good. An air shaft had been sunk, however, and a fan had been ordered. See Inspection Notice No. 137.

WEST KY. COAL CO.

Wheatcroft, Ky.

Colliery H.—Inspected January 16th. The break-throughs between rooms were too narrow in some instances, and some check curtains were needed on the entries to send the air into the rooms. Drainage and timbering were satisfactory. See Inspection Notice No. 138.

(Mr. Spillman also made inspections in Pike County in January. See the Northwestern District.—C. J. N.)

REPORT FOR FEBRUARY.

D. W. GATLIN, RECEIVER CHESLEY COAL CO.

Madisonville, Ky.

Royal Mine.—I examined this mine February 27th. The ventilating current did not serve all the working places as it should have done, on account of break-throughs between rooms not being closed promptly. Props were not set close enough to the room faces, and in some instances were not set thick enough. See Inspection Notice No. 149.

SEBREE COAL CO.

Sebree, Ky.

Sebree Mine.—I inspected this mine February 28th. Written notice was served on the company to keep the dry and dusty entries better and more frequently sprinkled, and to see that all persons other than those whose duty it is to fire the shots are out of the mine at the time the shots are fired. Ventilation and timbering were satisfactory. See Inspection Notice No. 150.

Very respectfully,

A. G. SPILLMAN,

Assistant Inspector of Mines.

REPORT FOR MARCH.

C. W. CAMPBELL, SPECIAL RECEIVER PIKE COLLIERIES CO.

McCarr, Ky.

No. 2 Mine.—The faces of the 1st, 2d and 3d Cross Entries were more than 60 feet ahead of the air, and the current did not travel the working places as it should have done. Proper written notice was served on the receiver, directing that the evils complained of be remedied. See Inspection Notice No. 151. Inspected March 19th.

BURNWELL COAL & COKE CO.

P. O., Sprigg, W. Va.

No. 1 Mine.—Inspected March 20th, and all conditions were satisfactory. See Inspection Notice No. 152.

BURNWELL COAL & COKE CO.

P. O., Sprigg, W. Va.

No. 2 Mine.—Inspected March 20th, and all conditions were satisfactory. See Inspection Notice No. 153.

Very respectfully,

A. G. SPILLMAN,

Assistant Inspector of Mines.

REPORT FOR JUNE.

ST. BERNARD MINING CO.

Earlington, Ky.

Diamond Mine.—Inspected June 20th and found to be in an excellent condition in all respects. See Inspection Notice No. 154.

No. 11 Mine.—I inspected this mine on June 20th. The ventilation was defective on the 10th East Entry, and the 9th East Entry was very dry and dusty. Written notice was served on the company directing that this 9th East Entry be kept well sprinkled with water. No other cause for complaint. See Inspection Notice No. 155.

Arnold Mine.—Inspected June 22d. Ventilation, drainage and timbering were satisfactory. See Inspection Notice No. 156.

NORTONVILLE COAL CO.

Nortonville, Ky.

No. 1 Mine.—Inspected this mine on June 22d. Ventilation and timbering were satisfactory, but there was too much mud and water on the entry roads. See Inspection Notice No. 157.

NORTONVILLE COAL CO.

Nortonville, Ky.

No. 2 Mine.—Inspected on June 22d. Break-throughs were not being made wide enough between the rooms. The Main Entry near the lie-way was very dry and dusty. Written notice was served on the company directing that the Main Entry be kept well sprinkled with water. See Inspection Notice No. 158.

ST. BERNARD MINING CO.

Earlington, Ky.

Barnsley Mine.—Inspected on June 23d, and all conditions were found to be satisfactory. See Inspection Notice No. 159.

Hecla Mine.—I inspected this mine on June 23d. The 5th West Entry off 8th South, and the 6th West Entry off 6th South were both defective with respect to ventilation. All conditions elsewhere were satisfactory. See Inspection Notice No. 160.

REINECKE COAL MINING CO.

Madisonville, Ky.

Eureka Mine.—Inspected June 24th. Ventilation, drainage and timbering were satisfactory. See Inspection Notice No. 161.

CARBONDALE COAL & COKE CO.

Carbondale, Ky.

No. 1 Mine.—Inspected on June 25th and found to be in an excellent condition in all respects. See Inspection Notice No. 162.

No. 2 Mine.—Inspected on June 25th and found to be in an excellent condition in all respects. See Inspection Notice No. 163.

CRABTREE COAL MINING CO.

Ilsley, Ky.

Crabtree Mine.—I examined this mine on June 25th. Ventilation was defective on the 7th West and 11th West Entries. All conditions elsewhere in the mine were satisfactory. See Inspection Notice No. 164.

Very respectfully,

A. G. SPILLMAN,

Assistant Inspector of Mines.

REPORT FOR JULY.

ST. BERNARD MINING CO.

Earlington, Ky.

No. 9 Mine.—Inspected on July 7th and found to be in a satisfactory condition in all respects. See Inspection Notice No. 165.

ROSE CREEK COAL CO.

Nebo, Ky.

Shaft Mine.—I examined this mine on July 8th. The volume of air entering the mine was ample for the number of persons employed in the mine, but on account of the lack of break-throughs between some of the rooms the current did not travel within 60 feet or less of all the working places as required by law. For particulars see Inspection Notice No. 166.

NEBO CONSOLIDATED COAL & COKING CO.

Nebo, Ky.

Nebo Mine.—I examined this mine on July 8th and found the ventilation, drainage and timbering satisfactory. See Inspection Notice No. 167.

Very respectfully,

A. G. SPILLMAN,

Assistant Inspector of Mines.

REPORTS OF THOS. O. LONG.

REPORT FOR THE MONTH OF JULY, 1908.

EARLINGTON, KY., August 1, 1908.

Following is a report of the mines inspected, in the order they were examined, together with a statement of other matters of interest to the office:

OHIO VALLEY COAL & COKE CO.

Inspection Notice No. 1.

P. O., DeKoven, Ky.

No. 9 Mine.—Inspected July 22d. In general, the ventilation at the time of this inspection was poor; owing to the numerous changes in the haulage system it was required to cut into the present course of the air current, thereby conflicting with and short-circuiting the air current. Timbering and drainage were good.

BELL-UNION COAL & COKE CO.

Inspection Notice No. 2.

P. O., Curlew, Ky.

Curlew Mine.—Inspected July 23d. Curtains were needed

in several places. The main return airway was choked; was directed to be cleaned out. Caution was given in regard to windy shots, which seem to be prevalent at this time. Other conditions good.

CRITTENDEN COAL & COKE CO.

Inspection Notice No. 3. P. O., Sturgis, Ky.

Old Davis Mine.—Inspected July 24th. Curtains were needed; were ordered placed. Otherwise ventilation, drainage and timbering good.

WEST KENTUCKY COAL CO.

Inspection Notice No. 4. P. O., Sturgis, Ky.

Colliery "B."—Inspected July 28th. A check curtain was needed in two different places, which were directed to be put up. Otherwise the mine was in first-class shape.

Inspection Notice No. 4. P. O., Sturgis, Ky.

Colliery "C."—Inspected July the 28. This mine was in satisfactory condition in all respects.

SULLIVAN COAL COMPANY.

Inspection No. 6. P. O., Sullivan, Ky.

Sullivan Mine.—Inspected July 29th. This mine has not been producing coal since July 22d on account of the miners being out on a strike; therefore no inspection could be made.

THOMAS COAL CO.

Inspection Notice No. 7. P. O., Morganfield, Ky.

Thomas Mine.—Inspected July 30th. There was a sufficient amount of air entering the mine, but it was not properly conducted to the working faces. At present is sinking an air shaft, which, when completed, will place this mine in first-class shape so far as ventilation is concerned.

MORGANFIELD COAL AND MINING CO.

Inspection Notice No. 8. P. O., Morganfield, Ky.

Floyd Mine.—Inspected July 30th. The condition of this mine inside was good in all respects. The safety gate at top of shaft was gone; this was ordered to be replaced at once.

KENTUCKY MINING CO.

Inspection Notice No. 9.

P. O. Waverly, Ky.

No. 1 Mine.—Inspected July 31. Ventilation, timbering and drainage was good. Check curtains were needed in two places. The company was directed to adopt a system of sprinkling, with water, the 1st and 2d North West and their rooms, as they were dry and dusty.

(Signed) THOS. O. LONG,

Assistant Inspector of Mines.

REPORT FOR THE MONTH OF AUGUST, 1908.

Following is a report of the mines inspected, in the order they were examined, together with a statement of other matters of interest to the office:

PITTSBURG COAL CO.

Inspection Notice No. 10.

P. O. Baskett, Ky.

Basket Mine.— Inspected August 4th. There was no operation carried on on the north side of the mine at the time of inspection, except two persons at the head of the Main North Entry, who were cleaning up the fallen debris and retimbering preparatory to making future developments on this side of the mine.

On the south side of the mine a check curtain which was needed on the Main South was ordered to be placed; also one on the 2d Right. Very little attention has been paid to the making of break-throughs and timbering in the rooms. A curtain was ordered placed on the 3rd Right. Attention was called to the very small amount of timbering done throughout the mine, which would, if permitted to continue, bring about serious results.

GREEN RIVER COAL CO.

Inspection Notice No. 11.

P. O. Spottsville, Ky.

Spottsville Mine.—Inspected August 5th. Very little timbering was being done in this mine. Several open break-throughs that should have been closed were ordered stopped with an air-tight stopping as near as possible. Several bridges of slate were noticed along the haulage way and were directed to be taken down or timbered so as to prevent injury to men and animals.

WM. HAYS & SONS' MINE.

Inspection Notice No. 12.

P. O., Zion, Ky.

Zion Mine.—Inspected August 6th. Ventilation, timbering and drainage in first-class shape.

(Signed) THOS. O. LONG,

Assistant Inspector of Mines.

REPORT FOR THE MONTH OF SEPTEMBER.

Following is a report of the mines inspected, in the order they were examined, together with a statement of other matters of interest to the office:

KENTUCKY COAL MINING CO.

Inspection Notice No. 13.

P. O., Morganfield, Ky.

No. 2 Mine, Uniontown, Ky.—Inspected September 10th. Check curtains were needed in two different places (which were ordered to be put up) on the north side of the mine. There was no special arrangement made for the air to cross the Main East Entry, which is the return airway; consequently, there was very little ventilation on the south side of the mine. A fall of gob was found near the foot of the downcast shaft that almost closed the airway; this was ordered to be cleaned away.

The ladder-way in the second outlet was not in repair so as to afford ingress and egress to the mine; this was ordered to be put in a good, safe condition. The safety gates at top of shaft were gone; they were ordered to be replaced and kept closed.

RIVER & RAIL COAL & COKE CO.

Offices: 701-2-3 Tennessee Trust Building, Memphis, Tenn.
Union County Bank Building, Morganfield, Ky.

Mines located at Uniontown, Ky.

G. L. Drury, President; M. E. Scott, Secy. and Manager.

This company owns 2,176 acres of coal rights in fee simple, the coal being of an extra good quality, and the field is practically level; 25 acres of surface rights.

The old shaft, formerly used as a hoisting shaft, is to be converted into an air shaft, being 6 ft. by 12 ft. in the clear.

Have recently sunk a new shaft, 9 ft. by 13 ft. in the clear, lined all the way down with first-class timbers.

Have built a new brick powerhouse 27 ft. by 61 ft., and a boiler room 40 ft. by 60 ft.

The following machinery is being installed:

A 20x36 Crawford-McCrimmon, 1st-motion hoisting engine with a five foot drum; this is set in a good solid concrete foundation.

A belt-driven Morgan-Gardner, 100 k. w., direct current generator run by a 17x16 Skinner engine.

A 16-foot Crawford-McCrimmon downcast run by a "Wiley" motor.

Five chain breast machines of the Morgan-Gardner heavy duty type.

A Deming electric pump 5½x8 inches, run by a Roberts & Meyers motor.

Erecting a four-track tippie, with the latest improved Shaker screens, run by motor.

When completed, this plant will rank among the most modern and best equipped mines in the Western Field of Kentucky.

Inspection Notice No. 14.

P. O., Morganfield, Ky.

Uniontown Mine.—Inspected September 11th. This mine employs from 5 to 7 men underground, exhaust steam and natural ventilation being depended on for the ventilating current. This mine, which only sells to the wagon trade, is being abandoned. Before the end of the year the present owners of this mine will begin operations at their new developments. It will then become a commercial mine. See report of new improvements attached:

KENTUCKY COAL MINING CO.

Inspection Notice No. 15.

P. O., Morganfield, Ky.

No. 1 Mine, Waverly.—Inspected September 25th. The sprinkling of the 1st and 2d North West and their rooms, which was ordered in the inspection of July 31, 1908. has not been attended to. This was ordered to be done immediately. All other conditions satisfactory.

(Signed) THOS. O. LONG,

Assistant Inspector of Mines.

REPORT FOR MONTH OF OCTOBER.

Following is a report of the mines inspected, in the order they were examined, together with a statement of other matters of interest to the office:

J. A. ARCHBOLD COAL CO.

Inspection Notice No. 17.

P. O., Bluff City, Ky.

Shaft Mine.—Inspected Oct. 7. Instructions were given in regard to the cleaning out and enlarging and maintaining an open and direct way through the old works for the ventilating current; check curtains that were needed, were ordered placed. The rooms were not being propped as should be and instructions were given to prop more closely to the face of the workings as there were a number of falls noticed while traveling through the rooms. The break-throughs were too small, some being only 2 or 3 ft. wide; this is detrimental to the ventilating current and should be larger.

FISHER & SPILLMAN, OPR.

Inspection Notice No. 16.

P. O., Hebbardsville, Ky.

Shaft Mine.—Inspected October 6th. The foot of the air shaft should be cleaned out to enable a larger amount of air to enter the mine. A check curtain was ordered placed at the mouth of the South Entry to force the air to the working faces.

UTOPIA COAL CO.

Inspection Notice No. 18.

P. O., Utopia, Ky.

Slope Mine.—Inspected October 8th. Ventilation, timbering and drainage in good condition.

CORYDON COAL CO.

Inspection Notice No. 19.

P. O., Corydon, Ky.

Shaft Mine.—Inspected October 27th. The air course for the return air from the north side is badly choked and was ordered to be opened up to allow the passage of a larger volume of air. The intake air course for the north side of the mine is choked and must be cleaned out. A check curtain was ordered placed at the mouth of the South Entry. The safety gate at the top of

the shaft was missing; this was ordered replaced and kept closed at all times when not necessary to be opened to allow the passage of traffic.

SMITH MILLS COAL & MINING CO.

Inspection Notice No. 20.

P. O., Smith Mills, Ky.

Shaft Mine.—Inspected October 28th. The 1st East Entry being 108 ft. ahead of the air, was ordered stopped until a break-through was made into the air course. There was not enough air to turn the anemometer on the 2d North. The slack, throughout the entire mine, was ordered loaded and sent out of the mine, and not stored along the ribs of the rooms as is now the practice. A sufficient amount of air was entering the mine, but was not reaching the working faces. The air course was ordered opened up and the stoppings made as near air-tight as possible.

KEYSTONE MINING & MFG. CO.

Inspection Notice No. 21.

P. O. Henderson, Ky.

Shaft Mine.—Inspected October 29th. Check curtains were needed; were ordered placed. Not enough to turn the anemometer on the 1st and 2d South West. The Intake Airway at the foot air shaft was too small; this was ordered to be made larger. The material used for curtains is of a very light weight and very inflammable cloth. A heavy duck that was fireproof as near as possible was recommended to be used.

PANAMA COAL & COKE CO.

Inspection Notice No. 22.

P. O. Robards, Ky.

Shaft Mine.—Inspected October 30th. A check curtain was needed on 2d South between rooms 5 and 6. All other conditions satisfactory.

PEOPLE'S MINING CO.

Inspection Notice No. 23.

P. O., Henderson, Ky.

Shaft Mine.—Inspected October 30th. Ventilation, timbering and all conditions satisfactory.

SEBREE COAL & MINING CO.

Inspection Notice No. 24.

P. O., Sebree, Ky.

Shaft Mine.—Inspected October 31st. Several check curtains were ordered placed on the different entries. Quite a lot of bad top was noticed in the rooms and instructions were given to prop or timber the rooms better, for if the present condition is allowed to prevail it is only a matter of time until some one will be injured by a fall of roof. There was not enough air to turn the anemometer on the 8th, 9th and 10th North Entries. The mine has no doubt outgrown the present fan; i. e., the capacity of the fan is not sufficient to properly ventilate the mine. The company was referred to a former notice issued by the Inspector's office in regard to this matter, and it is very necessary that a fan of a larger capacity should be installed.

(Signed) THOS. O. LONG,

Assistant Inspector of Mines.

REPORT FOR THE MONTH OF NOVEMBER.

Following is a report of the mines inspected, in the order they were examined, together with a statement of other matters of interest to the office:

THOS. BLACKWELL COAL & MINING CO.

Inspection Notice No. 25.

P. O., Clay, Ky.

Shaft Mine No. 1.—Inspected November 10th. Ventilation, drainage and timbering satisfactory. Safety gates at the top of the shaft were ordered to be kept closed at all times, except when necessary to be opened to allow the passing of traffic. Orders were issued to the mine foreman to keep all men off the right hand cage until the safety catches are put in first-class working order.

FAIRMONT COAL CO.

Inspection Notice No. 26.

P. O., Fairmont, Ky.

Fairmont Slope Mine.—Inspected November 10th. A check curtain was ordered placed between the 3rd and 4th working rooms. The ventilation was poor on account of there not being a fire in the furnace. The stack of the furnace was recommended

to be built higher or a ventilating fan should be installed. Drainage only fair; timbering good.

DIAMOND COAL CO.

Inspection Notice No. 27. P. O., R. R. No. 2, Providence, Ky.

Diamond Slope Mine.—Inspected November 11th. A check curtain was ordered placed on the 2d West Entry between the 3rd and 4th rooms. There were two open break-throughs at head of the Main North Entry; also at the head of the 2d East. The rear break-throughs were ordered closed. All other conditions with respect to ventilation, drainage and timbering were satisfactory.

WEST KENTUCKY COAL CO.

Inspection Notice No. 28. P. O., Sturgis, Ky.

Colliery "H" (Baker Shaft).—Inspected November 11th. There were two open break-throughs at the head of the 1st South off the East Entry; the rear one was ordered closed. A check curtain was ordered, placed between rooms 1 and 2 on this entry.

There was not enough air to turn the anemometer at the head of the Main Dip Entry. The drainage on the south side was not good. Collieries "F" and "G" have been closed down since August 1st to date; consequently, no inspection was made of these two mines.

WILLIAMS & PATTERSON, OPRS.

Inspection Notice No. 29. P. O., Wheatcroft, Ky.

Togo Mine (Slope).—Inspected November 12th. The mine was not running on the date of visit and no fire was in the furnace. Operations at this mine will be carried on possibly a month or six weeks longer. (The leased property is about worked out.)

W. H. MONROE, OPR.

Inspection Notice No. 30. P. O., Providence, Ky.

Monroe Mine (Slope).—Inspected November 13th. There were two open break-throughs at the head of the East Entry. The rear one was ordered closed. Ventilation and drainage good.

THOMAS WANLESS, OPR.

Inspection Notice No. 31.

P. O., Providence, Ky.

Thomas Wanless Mine (Slope).—Inspected November 13th. Ventilation, drainage and timbering in satisfactory condition.

ST. BERNARD MINING CO.

Inspection Notice No. 32.

P. O., Earlington, Ky.

Shamrock, Mine.—Inspected November 13th. The 1st North Entry was dry and dusty. The mine foreman was directed to sprinkle this entry and keep same in a dampened condition at all times. All other conditions excellent.

S. K. LUTON, OPR.

Inspection Notice No. 33.

P. O., Providence, Ky.

Luton Mine (Drift).—Inspected November 14th. Not enough air was traveling through the mine to turn the anemometer on account of a large fall on the airway occurring only a few days before the Inspector's visit. The route for the air to travel, with this exception, was in good shape. At other times the ventilation was evidently good. It was only a matter of two or three days' time until the ventilation would be restored.

(Signed) THOS. O. LONG,

Assistant Inspector of Mines.

REPORT FOR THE MONTH OF DECEMBER.

Following is the report of the mines inspected, in the order they were examined, together with a statement of other matters of interest to the office:

CENTRAL COAL & IRON CO.

Inspection Notice No. 36.

P. O., Central City, Ky.

Central City Shaft Mine.—Inspected December 6th. A sufficient amount of air was entering the mine, but the return airways were in poor condition, being full of falls of slate; these were ordered to be cleaned up so as to afford good passage way. A new escape is to be sunk at the junction of the Main West and one of the South entries. The engine for hoisting men out of the second outlet was in poor condition; this was ordered to be placed in first-class shape.

PROVIDENCE MINING CO.

Inspection Notice No. 37.

P. O., Providence, Ky.

Slope Mine No. 1.—Inspected December 8th. Ventilation, drainage and timbering good. The dust made by "chain-breast" machines was being allowed to accumulate in the rooms; this was ordered hauled outside of the mine and not to allow the accumulation of dust hereafter.

FORSYTHE & ROBINSON, OPRS.

Inspection Notice No. 38.

P. O., Providence, Ky.

Forsythe Mine.—Inspected December 8th. Ventilation and timbering good. Drainage only fair. Instructions were issued to stop using drill dust for tamping the shots and use more fire-clay or some other non-inflammable material.

PROVIDENCE MINING CO.

Inspection Notice No. 39.

P. O., Providence, Ky.

Shaft Mine No. 2.—Inspected December 9th. A check curtain was ordered placed on the 7th East between Rooms 11 and 12; also one on 5th East between Rooms 14 and 15. Instructions were given to have all bars used for tamping shots tipped with copper.

WEBSTER COUNTY COAL CO.

Inspection Notice No. 40.

P. O., Providence, Ky.

Shaft Mine.—Inspected December 10th. Ventilation defective on the east side of the mine. Ventilation fair on west side of the mine. A check curtain was needed on 3rd West; also one on 2d West.

ROSE CREEK COAL CO.

Inspection Notice No. 41.

P. O., Nebo, Ky.

Coiltown Shaft.—Inspected December 15th. Ventilation, drainage and timbering good. Instructions were given to allow no dust to accumulate along the roadways or entries. This company began sinking an air shaft (8x12 ft.) on June 14, 1908, and completed same (which was 300 ft. deep) on August 25, 1908.

On August 1, 1908, this company installed two 19A-5 ft. Jeffrey electric "chain breast" machines, and two 3½ tons Jeffrey gathering motors, equipped with cable reel so as to allow the motor to enter the rooms. This makes a total of 7 "chain breast" machines and three motors.

NEBO CONSOLIDATED COAL & COKING CO.

Inspection Notice No. 42.

P. O., Nebo, Ky.

Davidson Slope Mine.—Inspected December 16th. Ventilation was defective on 6th West and 3rd and 4th East. A number of curtains were ordered placed on the different entries so as to produce better ventilation along the working faces of the mine. Timbering and drainage good. Quite a lot of inferior oil was being used in this mine for illuminating purposes, and instructions were given to prevent the use of such in accordance with the mining laws of the State of Kentucky.

VICTORIA COAL CO.

Inspection Notice No. 43.

P. O., Madisonville, Ky.

Victoria Shaft Mine.—Inspected December 18th. Ventilation, drainage and timbering satisfactory.

ST. BERNARD MINING CO.

Inspection Notice No. 43½.

P. O., Earlington, Ky.

Barnsley Mine.—Inspected December 19th. Ventilation was defective in this mine owing to a fall on the air course, which was being cleaned out. Other conditions good.

REINECKE COAL MINING CO.

Inspection Notice No. 44.

P. O., Madisonville, Ky.

Reinecke Shaft Mine.—Inspected December 21st. Ventilation, drainage and timbering satisfactory. "Danger" boards were ordered placed around any fall of top where there was any possibility of gas gathering in the pocket above the fall. Too much dust was being left inside the mine; instructions were given to load the dust and send outside the mine.

SUNSET COAL CO.

Inspection Notice No. 45. P. O., Madisonville, Ky.

Sunset Shaft Mine.—Inspected December 22d. Ventilation, drainage and timbering satisfactory. Instructions were given to allow no dust to accumulate along the ribs of the rooms and haulage ways. All dust must be loaded up and hauled out of the mine.

ST. BERNARD MINING CO.

Inspection Notice No. 46. P. O., Earlington, Ky.

Sisk Mine.—Inspected December 28th. All conditions satisfactory.

Inspection Notice No. 47. P. O., Earlington, Ky.

No. 11 Mine.—Inspected December 28th. All conditions satisfactory.

Inspection Notice No. 48. P. O., St. Charles, Ky.

Fox Run Mine No. 2.—Inspected December 30th. A check curtain was ordered placed on 2d West. Otherwise, conditions good. Attention was called to the inferior oil being used by the miners for illuminating purposes, and instructions were given to stop the use of such oils in accordance with the mining laws of the State of Kentucky.

Inspection Notice No. 49. P. O., St. Charles, Ky.

Fox Run Mine No. 4.—Inspected December 28th. Two check curtains were ordered placed on the 4th East off South. Attention was called to the oil used in this mine for illuminating purposes. Other conditions good.

Inspection Notice No. 50. P. O., St. Charles, Ky.

Fox Run Mine No. 11.—Inspected December 30th. All conditions satisfactory.

Inspection Notice No. 51. P. O., Earlington, Ky.

Hecla Mine.—Inspected December 31st. Ventilation, drainage and timbering good. Some of the miners were found burning an inferior oil for illuminating purposes.

REPORTS OF A. J. DOSS.

REPORT FOR JANUARY.

CENTRAL CITY, KY., February 1, 1908.

PROF. C. J. NORWOOD,

*Chief Inspector of Mines,
Lexington, Ky.*

DEAR SIR:—Following is a report of the mines inspected by me during the month of January, 1908, in the order they were inspected, together with a statement of other matters of interest to the office:

MCHENRY COAL CO.

Inspection Notice No. 364.

P. O., McHenry.

McHenry Mine.—Inspected January 2d. This mine was in a very bad condition; the proper amount of ventilation was not circulating to a great many of the working places, many of the air-courses being almost completely choked with slate. I also found many places in the mine, especially the Main Slope, very much needing to be timbered. There was only one way for the men to get from the 11th South out of the mine to either of the other openings. In case a fall should come on Main Entry between mouth of 11th South and the fan shaft, every man working on the inside of the fall would be completely shut off. A great deal of water had also collected on the Main Entry and at other points in the mine. Gave twenty days' notice to put this mine in a condition to conform to the requirements of law.

W. A. WICKLIFFE COAL CO.

Inspection Notice No. 365.

P. O., Browder.

Inspected January 7th. This mine in tolerably good condition, except the second outlet was not arranged to be available at all times.

BLACK DIAMOND MINING CO.

Inspection Notice No. 366.

P. O., Drakesboro.

Inspected January 8th. I found this mine to fail in some respects to conform to the law. The proper amount of air was

not circulating on the east side of the Main Entry. I asked that a number of curtains be repaired, and also that the dam in the Main Blind Air Course be removed, which had the air badly choked. I also asked that the dust that had accumulated in rooms be moved out, and served twenty days' notice for this work to be done.

THE THOMAS COAL CO.

Inspection Notice No. 367. P. O., Morganfield.

Inspected January 10th. Ventilation not entirely satisfactory, although the required amount of air was entering the mine. This mine is being worked on a very bad system, which makes it almost impossible to properly ventilate all the working places. Drainage not good. The air shaft which is being arranged for the second outlet was not yet near completion.

KEYSTONE MINING & MFG. CO.

Inspection Notice No. 368. P. O., Henderson.

Inspected January 10th. The ventilation in this mine was very satisfactory with the exception of the entry that is being driven to connect with the air shaft was more than 60 feet ahead of air. Fire damp being generated in this mine and it being also very dry and dusty, I notified the company to keep all places well sprinkled.

ELK VALLEY COAL COMPANY.

Inspection Notice No. 369. P. O., Drakesboro.

Inspected January 13th. I visited this mine on the above date for the purpose of ascertaining if the second outlet was such as to conform to the law. I found that it did not. An electric wire running up the shaft near the ladder was a source of danger to persons climbing out by this ladder. Notified the company the conditions did not comply with the law.

OAKLAND COAL CO.

Inspection Notice No. 370. P. O., Hillside.

Inspected January 15th. Ventilation very satisfactory throughout the mine. Drainage not very good on day of inspection owing to negligence in running the pumps. There is a good

deal of bad top on Main Entry and 1st North Entry, which I directed to be taken down and the places timbered.

There is still no second outlet arranged for this mine, which I insist shall be done.

CENTRAL COAL & IRON CO.

Inspection Notice No. 371.

P. O., Central City.

Central Mine, East Side.—Inspected January 27th, 1908. The east side of the Central Mine was in a very bad condition on the date of my inspection, especially on the 13th and 14th South Entries. Practically none of the instructions given at my previous inspection had been carried out, except closing some of the room-necks on the 14th South. The air was exceedingly mixed with black damp on date of this inspection. This was greatly due to the low speed at which the fan was being run, a very small engine being used to run the fan, as the mine had been idle for several days on account of some machinery being broken. Drainage and timbering on 13th and 14th South not at all satisfactory, there being a great deal of water collected on the main road, and a great deal of bad top.

Inspection Notice No. 372.

P. O., Central City.

Central Mine, West Side.—Inspected January 27, 1908. Ventilation on the west side of the Central Mine not satisfactory in some parts. The objections were as to insufficiency and also that it was mixed with black damp. There was still no second outlet arranged on this side, there being but one way for the men to travel from the air shaft to the main hoisting shaft. By a single fall sufficient to close this route, every man on this side would be shut up in the mine with no way of escape. Safety catches on the south cage were in a very bad condition and not at all satisfactorily arranged.

McHENRY COAL CO.

Inspection Notice No. 373.

P. O., McHenry.

McHenry Mine.—Inspected January 28, 1908. This was the expiration of my twenty days' notice, and the mine still failed to conform to the requirements of the law. A wreck on the Main Entry prevented a thorough inspection, but I could see

that the slope was not properly timbered. By walking over to the air shaft on the outside I found that it had not been arranged as a second outlet.

BLACK DIAMOND MINING CO.

Inspection Notice No. 374.

P. O., Drakesboro.

Inspected January 29, 1908. Ventilation tolerably satisfactory. Directed to finish removing the dust and urged to employ special shot firers. Additional time allowed for removing machine dust which had been stored in rooms.

TAYLOR COAL CO.

Inspection Notice No. 375.

P. O., Taylor Mines.

Main Straight.—Inspected January 31, 1908. Inspection of this mine disclosed it to be in first-class condition.

Old Side—Inspected January 31, 1908. This mine was in first-class condition in every respect.

TAYLOR COAL CO.

Inspection Notice No. 376.

P. O., Taylor Mines.

Monday, the 6th, I visited the Moody Coal Company's mine at South Carrollton to repeat and insist on my former instructions regarding sprinkling of entries and shooting on the solid and to provide for a competent man to inspect the mine each morning before the men should go in. As there was a controversy on between the miners and the company on this date, the mine was idle and I did not make an inspection, but strongly urged upon the superintendent to comply with my instructions.

Wednesday, the 8th, I visited the new mine located on the L. & N. between the Crescent Coal Company's mine and the Elk Valley mine, and secured the name of the company, which is Sunrise Coal Company, postoffice, Drakesboro.

On the same day I visited the mine of the Bevier Coal Company, Cleaton, and investigated the working of the new gasoline motor.

Tuesday, the 14th, I visited the mine of the Holt Coal Company, and inspected the man-way arranged in the air shaft and found it to be very well arranged. It is an iron ladder resting on buntings and securely fastened at the top and bottom.

Thursday, the 30th, I went before Hon. Ben D. Ringo, Com-

monwealth's Attorney, at Owensboro, and made application for an injunction to close the McHenry mine.

Very respectfully,

A. J. DOSS,
Assistant Inspector of Mines.

REPORT FOR MONTH OF FEBRUARY.

CENTRAL CITY, KY., March 1, 1908.

I went to the mine of the William Coal Co., McHenry, on the 4th, for the purpose of making an inspection, but could not inspect as the fans were not running for lack of water to supply the boilers.

McHENRY COAL CO.

Inspection Notice No. 377D.

P. O., McHenry.

McHenry Mine.—Inspected February 7, 1908. I inspected this mine on the above date with a view to ascertaining conditions, as the injunction trial was to come up the next day. I found the mine in a very bad condition.

On the 8th I went to Owensboro for the injunction trial. I took three witnesses with me, and the evidence of myself and these three witnesses was heard, and the company asked that the case be continued and no evidence was heard on behalf of the company.

On the 11th I was called to South Carrollton to investigate the explosion in the Moody mine.

On the 12th I returned to South Carrollton and made a thorough investigation, a copy of which I furnished you.

On the 13th I went to Owensboro, this being the day the suit with the McHenry Coal Co. was to be completed. The case was agreed upon between Mr. Ben D. Ringo, Commonwealth's Attorney, and Mr. Harry Taylor, attorney for the company. With my consent, the agreement was that not more than 10 men should be allowed to work inside the mine at any one time until the mine should be put in a condition to conform to the requirements of law.

On the 14th I was notified to come to the Louisville Atlanta Coal Co.'s mine at Drakesboro, and when I arrived there I found

the water had broken in from the surface up near the head of the Main Entry and was rapidly filling up the mine, and continued until the main hoisting shaft was nearly full of water, lacking only a few feet. The company at once set to work and got the hole filled up and they are now pumping the water out.

On the 15th I went to Morganfield to investigate the explosion in the Thomas Coal Co.'s mine. I made the investigation and mailed you a copy of my report.

SMITH MILLS COAL CO.

Inspection Notice No. 378D.

P. O., Smith Mills.

Inspected February 18, 1908. Ventilation very satisfactory. Timbering somewhat neglected. There is some very bad top in some parts of this mine.

OHIO VALLEY COAL CO.

Inspection Notice No. 379D.

P. O., Dekoven.

Inspected February 19, 1908. This mine in good condition. Some fire damp is generated here and I reminded the company of the law requiring the mine to be examined each day before the men enter, and directed that it be complied with.

On the 22d I went to South Carrollton to get statements from John Bryant and other persons regarding the explosion.

On the 24th I tested the scales at the Greenville Coal Co.'s mine, Powderly, and found them to be slightly incorrect. I also tested the scales at the Gibraltar Coal Mining Co.'s mine, and found them to be correct.

On the 25th I was requested by the superintendent of the McHenry Coal Co. to make an investigation of the McHenry mine, which I did and found the mine to still be in a defective condition, although much work had been done toward repairing. The main outlet had been arranged, but water was still collected at the bottom of the shaft. More timbering was needed on the Main Entry, and the air was not circulating satisfactorily on the 11th South.

On the 27th I inspected 6 barrels of cotton-seed oil for the Crescent Coal Co., Bevier. Approved.

Very respectfully,

A. J. DOSS,
Assistant Inspector of Mines.

FOR MONTH OF MARCH.

CENTRAL CITY, KY., April 1, 1908.

OAKLAND COAL CO.

Inspection Notice No. 381.

P. O., Hillside.

Old Hillside Mine.—Inspected March 2d. Ventilation was very satisfactory, but the second outlet was not properly arranged; neither were the cages in proper repair.

BRASHER COAL CO.

Inspection Notice No. 382.

P. O., Hillside.

Woodson Mine.—Inspected March 2d. The ventilation was not entirely satisfactory, as the proper amount of air did not reach all the working places. The outlet for this mine was in bad condition. I gave notice that it should be placed in proper condition at once.

OAKLAND COAL CO.

Inspection Notice No. 383.

P. O., Hillside.

Oakland Mine.—Inspected March 6th. Ventilation throughout the mine is very satisfactory with the exception that some of the curtains need repair. Drainage is also very good.

GREEN RIVER COAL CO.

Inspection Notice No. 384.

P. O., Spottsville.

Inspected March 17th. The mine was in a very defective condition in respect to ventilation; also timbering is being greatly neglected, and the general condition of the mine is bad. I gave a 20 days' notice to the company to place the mine in a safe and wholesome condition as required by law.

BEECH CREEK COAL CO.

Inspection Notice No. 385.

P. O., Beech Creek.

No. 11 Mine.—Inspected March 21st. The ventilation throughout the mine is very satisfactory, and the general condition of the mine is very good.

Inspection Notice No. 386.

P. O., Beech Creek.

No. 9 Mine.—Inspected March 21st. Ventilation was very satisfactory; drainage in and around the bottom of the shaft was not good. Timbering very good.

W. G. DUNCAN C. CO. MINES.

Inspection Notice No. 387.

P. O., Graham.

Graham Mine.—Inspected March 23d. Ventilation and general condition throughout the mine is very satisfactory. Mine in good condition.

Inspection Notice No. 388.

P. O., Graham.

Skibo Mine.—Inspected March 23rd. The ventilation throughout the mine is very satisfactory with the exception of a few break-throughs that were open that should have been closed.

Inspection Notice No. 389.

P. O., Luzerne.

Red Bird.—Inspected March 24th. Condition of the mine is satisfactory and mine is in good condition.

Inspection Notice No. 390.

P. O., Luzerne.

Luzerne Mine.—Inspected March 24th. The ventilation throughout the mine was very satisfactory, conditions were very good with the exception that some of the entries were dry and dusty. I gave orders for those entries to be kept well sprinkled.

Inspection Notice No. 391.

P. O., Luzerne.

McDonald Mine.—Inspected March 24th. Ventilation entirely satisfactory, conditions very good with the exception of some very bad top near the head of 2d North Entry.

MC HENRY COAL CO.

Inspection Notice No. 392.

P. O., Echols.

Echols Mine.—Inspected March 25th. The ventilation satisfactory, condition of the mine good with the exception that coal dust has accumulated in the rooms. I gave notice for the dust to be removed.

WILLIAMS COAL CO.

Inspection Notice No. 393.

P. O., McHenry.

Inspected March 26th. Ventilation and condition of the mine very satisfactory.

BEVIER COAL CO.

Inspection Notice No. 394.

P. O., Cleaton.

Inspected March 27th. The mine was in a defective condition as to ventilation as the required amount of air did not reach a number of the working places. Although the sufficient amount was entering the mine. I advised that they would place a trap door across the mouth of the 6th South Entry. Timbering and drainage very satisfactory.

CENTRAL COAL & IRON CO.

Inspection Notice No. 395.

P. O., Central City.

Central Mine.—Inspected March 29th. Ventilation was very satisfactory throughout the entire mine. The 2d outlet was not properly arranged and they were hoisting coal with no safety catch on but one side of the South Cage. Other conditions around the mine were very satisfactory.

THE OWENSBORO COAL & LAND CO.

Inspection Notice No. 396.

P. O., Owensboro.

Inspected March 30th. Ventilation not very satisfactory as there were some working places on the left-hand side of Main Entry that were not properly ventilated. I gave orders for a new air shaft to be arranged at once, and also for the second outlet to be made to comply with the law.

OVERSTREET & RUDY.

Inspection Notice No. 397.

P. O., Owensboro.

Inspected March 30th. The ventilation, timbering and drainage was satisfactory. Some of the entries were very dry and I gave orders that they must be kept well sprinkled.

J. LEE RUDY MINES.

Inspection Notice No. 398.

P. O., Owensboro.

Inspected March 30th. Ventilation was not satisfactory in all parts of the mine as it did not circulate within 60 feet of the working places. Condition of the mine very good.

L. HOBACK MINES.

Inspection Notice No. 399.

P. O., Owensboro.

Inspected March 31st. The ventilation was very satisfactory, but the entire mine was very wet and muddy, due to the water which had broken in from out the old works. This placed the mine in a bad condition.

JAMES WILLSON MINE.

Inspection Notice No. 400.

P. O., Owensboro.

Inspected March 31st. The ventilation was very good; drainage was not what it ought to be. Timbering was being somewhat neglected.

E. H. BUCKMAN MINE.

Inspection Notice No. 401.

P. O., Owensboro.

Inspected March 31st. The mine was in a defective condition and not a sufficient amount of air entering the mine, there being no way for the air to make its return. I gave instructions that a new shaft be sunk. Timbering is being somewhat neglected and much bad top is in the mine.

According to your instructions on the fourth day of March, I went to the Moody Mine at South Carrollton and measured the excavation of the entire mine and found that there were 6,192 square yards taken out. Also I inspected two pair of scales at the W. G. Duncan coal mines on March 23rd and found them to be correct.

Very respectfully,

A. J. DOSS,

Assistant Inspector of Mines.

FOR THE MONTH OF APRIL.

CENTRAL CITY, KY., May 2, 1908.

MORGANTOWN COAL & MINING CO.

Inspection Notice No. 402.

P. O., Morgantown, Ky.

Inspected April 2d. This mine is not satisfactorily ventilated, mostly due to the system by which it is being worked, as

there is practically no way to ventilate the mines under the present circumstances, as there has been very little of the coal left in the mine and the working places have been driven at random

ABERDEEN COAL & MINING CO.

Inspection Notice No. 403. P. O., Morgantown, Ky.

Inspected April 2d. Ventilation throughout the mines is very satisfactory. Drainage bad, mud and water on the entries.

J. W. GIDCOMBS MINES.

Inspection Notice No. 404. P. O., Morgantown, Ky.

Inspected April 3rd. Ventilation is very satisfactory with the exception of the curtain being badly torn that is hung across Main Entry near the mouth of Room No. 1. This mine is in a very dangerous condition, as the top is very bad and timbering throughout the mines is being neglected.

BLACK DIAMOND MINING CO.

Inspection Notice No. 405. P. O., Drakesboro, Ky.

Inspected April 6th. Ventilation and timbering very satisfactory. Drainage was not what it should be, for there was some water accumulated on the 4th West Entry. This was mostly due to the pumps being out of repair.

COFFMAN COAL CO.

Inspection Notice No. 406. P. O., Coffman, Ky.

Inspected April 8th. Ventilation in this mine was not satisfactory, which is mostly due to the door which goes into the furnace being badly wrecked and almost completely down. Also the ashes from out the furnace had been allowed to accumulate in the air course.

GREEN RIVER COAL CO.

Inspection Notice No. 407. P. O. Livermore, Ky.

Inspected April 8th. This mine is in a very bad condition as to ventilation, as I was unable to get a reading at the intake. This was mostly due to the air shaft which has fallen in at the top, and also the system in which the mine is being worked.

MEMPHIS COAL CO.

Inspection Notice No. 408.

P. O., Island, Ky.

Inspected April 9th. Ventilation and timbering throughout the mine is very satisfactory with the exception that the air was badly mixed with black damp on the day of my inspection. It was due to the fan not being run regularly. Drainage still bad; much mud and water on the entry road.

GREEN RIVER COAL & COKE CO.

Inspection Notice No. 409.

P. O., Island, Ky.

Inspected April 9th. Ventilation throughout the mine was not entirely satisfactory, as there were a number of the break-throughs that were leaking air very badly. Also the curtain across the Main Entry that turns the air on the south side was in very bad repair. I have asked the company to sink a new air shaft near the head of the Main Entry on the east side so as to properly ventilate the mines. Drainage bad on north side of Main Entry.

GREEN RIVER COAL CO.

Inspection Notice No. 410.

P. O., Spottsville, Ky.

Inspected April 16th. This mine still remains in a very defective condition as to ventilation, and the twenty days' notice which I served on the company has expired. I have instructed this company that they must place a fan at the new air shaft so as to properly ventilate the mine. The air courses throughout the mine are still badly choked, some of them being mostly filled up with slate and dirt. I am still insisting that my instructions be carried out.

UTOPIA COAL CO.

Inspection Notice No. 411.

P. O., Curdsville, Ky.

Inspected April 17th. Ventilation was not satisfactory, mostly due to the curtains being in bad repair, and also there was a very large fall of slate in the air course near the air shaft, which causes the air to be badly blocked. Timbering and drainage very good.

JOHN ARCHBOLD COAL CO.

Inspection Notice No. 412.

P. O., Bluff City, Ky.

Inspected April 17th. Ventilation is not at all satisfactory. This was due to almost all the break-throughs throughout the mine being made entirely too small. The attention of this company has been called to this before, but still they continue to make the break-throughs too small. I have now instructed the company that all break-throughs must be made not less than 6 feet wide. Drainage bad; mud and water on the entries.

You will please note the change of the James Wilkerson Coal Co., at Morgantown, Ky., to the J. W. Gidcombs mine. You will also note that the Memphis Coal Company, at Island, was idle at the time of my inspection, being closed only temporarily, as it was claimed that business was so dull that he had no sale for the coal. I was informed that the mine would not operate for at least sixty days.

Very respectfully,

A. J. DOSS,

Assistant Inspector of Mines.

REPORT FOR MAY.

CENTRAL CITY, KY., June 1, 1908.

PITTSBURG COAL CO.

Inspection Notice No. 413.

P. O., Baskett, Ky.

Inspected May 11, 1908. Ventilation throughout mines satisfactory, only objections being as to curtains being in bad shape. Also some break-throughs being neglected.

KEYSTONE MINING & MANUFACTURING CO.

Inspection Notice No. 414.

P. O., Henderson, Ky.

Inspected May 12, 1908. The ventilation was satisfactory, the greatest difficulty existing at this mine being the bad top, as, in a number of places, it being next to impossible to hold the roof in place. I was informed that this place would be abandoned in a short time and the company would only operate the upper vein, and had made the start to that end on date of my inspection.

PEOPLE'S MINING CO.

Inspection Notice No. 415.

P. O., Henderson, Ky.

Inspected May 12, 1908. Ventilation, timbering and drainage all satisfactory. The intention of this company is to connect this mine with a new opening which they are now putting in operation, after which this shaft will be used for the 2d outlet for the men.

RASH, DENTON & CO.

Inspection Notice No. 416.

P. O., Robards, Ky.

Inspected May 13, 1908. Ventilation, timbering and drainage all satisfactory. There is some bad top in this mine, but well secured by timbers. The general conditions in the mine were very good.

WM. HAYS & SON.

Inspection Notice No. 417.

P. O., Zion, Ky.

Inspected May 13, 1908. There was some complaint as to ventilation in this mine, although the requisite amount of air was entering the mines. The check curtains were not properly arranged and the casing in the air shaft was leaking air badly.

CORYDON COAL CO.

Inspection Notice No. 418.

P. O., Corydon, Ky.

Inspected May 14, 1908. The requisite amount of air was entering the mine, but did not reach some of the working places as it should. This was due to the fact that several break-throughs were left open that should have been closed; also their main air course was choked with fallen slate. This company is now sinking a new air shaft, which will be used for the 2d outlet also.

NELSON CREEK COAL CO.

Inspection Notice No. 419.

P. O., Nelson, Ky.

Inspected May 16th. The ventilation was not altogether satisfactory in this mine, as the West Blind Entry on the north side of shaft was more than 60 feet ahead of air, and the Main North Entry and East blinds had two break-throughs open between

them. There is much bad top in this mine, but the timbering is being looked after very satisfactorily.

BROADWAY COAL MINING CO.

Inspection Notice No. 420.

P. O., McHenry, Ky.

Inspected May 18, 1908. The ventilation throughout the mine satisfactory, the only complaint being the opening and closing of the doors across Main Entry caused the air to be badly baffled. Drainage bad; much mud and water on the entry roads.

SUNRISE COAL CO.

Inspection Notice No. 421.

P. O., Drakesboro, Ky.

Inspected May 19, 1908. This mine was in a very defective condition in respect to ventilation, and the company has neither fan nor furnace at their air shaft. I notified the company that they must, at once, create a better means of ventilation. There is much bad top in this mine and timbering was being somewhat neglected.

R. MORGAN COAL, COKE & MINING CO.

Inspection Notice No. 422.

P. O., Mercer, Ky.

Inspected May 20, 1908. The ventilation at this mine was quite satisfactory, the only complaint being that the fan was being run at too slow speed while the men were in the mine. I instructed this company that the fan must be run at a much greater speed at all times while the men were inside. Drainage was bad on 3rd South Entry; also timbering needed on this entry.

DOVEY COAL CO.

Inspection Notice No. 423.

P. O., Central City, Ky.

Inspected May 21, 1908. Ventilation, timbering and drainage satisfactory. Mines in good condition. This company has installed a new fan which is a great improvement in ventilating. Also arranging steam hoist for 2d outlet.

BEVIER COAL CO.

Inspection Notice No. 424.

P. O., Bevier, Ky.

Inspected May 22, 1908. The ventilation was circulating satisfactorily through the mines, the most serious complaint being several break-throughs between 6th North and Blind were not

properly closed. Drainage was bad on 5th South Entry and props were too far back from face of rooms on 5th South.

OHIO & KENTUCKY COAL CO.

Inspection Notice No. 425.

P. O., Hillside, Ky.

Inspected May 23, 1908. This is the Woodson mine, formerly owned by the Brashear Coal Co. On date of my inspection ventilation was satisfactory except on 6th North; the requisite amount of air was not circulating through this part of the mine. I instructed the company to place a door across the Main Entry where a curtain is now used for the purpose of turning the air through the working places on north side of the mines.

W. A. WICKLIFFE COAL CO.

Inspection Notice No. 426.

P. O., Browder, Ky.

Inspected May 27, 1908. The air was circulating throughout the mines very satisfactorily, but condition of the mine was not good, as the mines were full of slips where fire-damp is generated, which causes the mines to be somewhat dangerous. Also gas has accumulated over a number of falls in different parts of the mines. Also a great deal of fine coal and dust scattered over some parts of the mines. I instructed the company to employ shot-firers to do all shooting in this mine.*

HOLT COAL CO.

Inspection Notice No. 427.

P. O., Central City, Ky.

Inspected May 28, 1908. Ventilation satisfactory, although the Main East Entry was more than 60 feet ahead of air. Drainage was bad on 1st and 2d North; also much bad top in this mine.

OAKLAND COAL CO.

Inspection Notice No. 428.

P. O., Hillside, Ky.

Oakland Mine.—Inspected May 29, 1908. Requisite amount of air was entering the mines, but was not satisfactorily conducted to all the working places. There were two breakthroughs open between Main Entry and Blind and some of the curtains were leaking badly.

*Shot-firers were already employed in the mine, having been put in at the suggestion of Assistant Spillman, hence the order of Mr. Doss was unnecessary and was held up by the Chief Inspector for the time being. The shot-firers have never been taken out by the company, though the latter requested the Chief Inspector to authorize it to do so—a request which he declined.—C. J. N.

Inspection Notice No. 429.

P. O., Hillside, Ky.

Old Hillside Mine.—Inspected May 29, 1908. Ventilation satisfactory, timbering somewhat neglected on Main Entry near the face. First North and Blind was wet at the face. There is much bad top in this mine.

You will please note the new coal company, title The Nelson Creek Coal Co., postoffice, Nelson, Ky., who shipped their first car of coal on February 20th last. Also note change of name of firm now operating the Woodson mine, from The Brashear Coal Co. to The Ohio & Kentucky Coal Co. This change was made April 1st last. Also note the address of the Morgan Coal, Coke & Mining Co. changed from Central City, Ky., to Mercer, Ky.

Very respectfully,

A. J. DOSS,
Assistant Inspector of Mines.

REPORT FOR JUNE.

CENTRAL CITY, KY., July 1, 1908.

On the 7th I went to Sullivan Coal Co.'s mine and remained there until the 8th, but did not inspect the mine, as they had no steam in the boiler, no fan running, and I was informed that the mine was closed for an indefinite period. I had been asked by the committee to visit the mine and they claimed that the ventilation was bad. I have since learned that the mine has resumed operations.

KENTUCKY COAL MINING CO.

Inspection Notice No. 430.

P. O., Waverly, Ky.

Inspected June 8, 1908. According to your instructions I inspected this mine to ascertain the necessity of shot-firers being employed. I found that the condition of this mine was not such as to warrant the necessity of shot-firers, as the ventilation, timbering and drainage was all quite satisfactory, the worst objections being that the coal being shot off the solid and much powder being used in close places.

GREEN RIVER COAL CO.

Inspection Notice No. 431.

P. O., Spottsville, Ky.

Inspected June 10th. I found that the fan had been installed at the new air shaft and the ventilation throughout the mines was greatly improved, the worst objection being that some of the curtains were in bad repair and timbering was being somewhat neglected.

TAYLOR COAL CO.

Inspection Notice No. 432.

P. O., Taylor Mines, Ky.

Mine No. 2.—Inspected June 12th. This mine was idle on day of inspection and had been for some time; closed for the purpose of putting in new boilers, but the inside of the mines was not being neglected, and they were in excellent condition in respect to timbering, ventilation and drainage.

CENTRAL COAL & IRON CO.

Inspection Notice No. 433.

P. O., Render, Ky.

Render Mine.—Inspected June 13th. Ventilation, timbering and drainage satisfactory in all parts of the mines that are being worked. Mine in good condition.

WILLIAMS COAL CO.

Inspection Notice No. 434.

P. O., McHenry, Ky.

Inspected June 15th. Ventilation, timbering and drainage very satisfactory, the only objections being that some of the curtains were not in good repair and props were too far back from face in some of the rooms.

GIBRALTAR COAL CO.

Inspection Notice No. 435.

P. O., Mercer, Ky.

Inspected June 17th. Ventilation in this, timbering and drainage was quite satisfactory, although could be somewhat improved by placing a trap door across Main Entry between 3rd and 4th South and by closing some of the break-throughs tighter between these entries.

GREENVILLE COAL CO.

Inspection Notice No. 436. P. O., Powderly, Ky.

Inspected June 17th. Ventilation, timbering and drainage throughout the mine was very good, although the air was badly baffled on the north entries by the opening and closing of the door across Main Entry; also there were two break-throughs open between 5th and 6th South.

BEECH CREEK COAL CO.

Inspection Notice No. 437. P. O., Beech Creek, Ky.

Mine No. 11.—Inspected June 18th. Ventilation, timbering and drainage were very satisfactory, the only complaint being that there were two break-throughs open between Main Entry and Blind and some curtains not in good repair.

Inspection Notice No. 438. P. O., Beech Creek, Ky.

Mine No. 9.—Inspected June 18th. Ventilation, timbering and drainage satisfactory; mine in good condition.

MCHENRY COAL CO.

Inspection Notice No. 439. P. O., Echols, Ky.

Inspection June 18th. Ventilation, timbering and drainage satisfactory.

TAYLOR COAL CO.

Inspection Notice No. 440. P. O., Taylor Mines, Ky.

Mine No. 1.—Inspected June 19th. Ventilation, timbering and drainage satisfactory. This mine was idle, due to repairs being made on outside.

MEMPHIS COAL CO.

Inspection Notice No. 441. P. O., Island, Ky.

Inspected June 23rd. This was a special inspection made at request of the committee, and I found the mines in condition not conforming to law in respect to ventilation and drainage.

LAM COAL CO.

Inspection Notice No. 442.

P. O., Bevier, Ky.

Inspected June 25th. Ventilation and drainage were very satisfactory; timbering somewhat neglected, as there was some very bad top near the face of the Main Entry which was not sufficiently timbered.

CRESCENT COAL CO.

Inspection Notice No. 443.

P. O., Bevier, Ky.

Inspected June 26th. The ventilation in some parts of the mine was not circulating to some parts of the mine in accordance with law. This was principally due to the main air course being badly choked with falling slate and some curtains being in bad repair. The company was rapidly driving an air course to connect with the main intake air shaft which would greatly improve the ventilation. Timbering and drainage very satisfactory.

LOUISVILLE-ATLANTA COAL CO.

Inspection Notice No. 444.

P. O., Drakesboro, Ky.

Inspected June 29th. This mine is in a defective condition in respect to ventilation and drainage, although the requisite of air was entering the mines and only 31 persons employed underground. It is to be remembered that this mine has been completely filled with water and had only been operating a few days when inspected; therefore, I found a great amount of mud and water on the roads and most all the braticees and curtains in bad repair.

ELK VALLEY COAL CO.

Inspection Notice No. 445.

P. O., Drakesboro, Ky.

Inspected June 30th. The ventilation in this mine was not entirely satisfactory. This was due to a number of breakthroughs being left open that should have been closed and a number of curtains being in bad repair. Timbering and drainage very good.

BLACK DIAMOND MINING CO.

Inspection Notice No. 446.

P. O., Drakesboro, Ky.

Inspected June 30th. The ventilation and drainage was very satisfactory. Timbering was being somewhat neglected in some parts of the mines; also shots were being fired in some of the entries before the dust was removed.

You will note that on June 15th I inspected the scales at the mine of the Williams Coal Co. and found them to be correct.

Very respectfully,

A. J. DOSS,

Assistant Inspector of Mines.

REPORT FOR JULY.

CENTRAL CITY, KY., Aug. 1, 1908.

FORDSVILLE BLOCK COAL CO.

Inspection Notice No. 447.

P. O., Fordsville, Ky.

Inspected July 3, 1908. The ventilation was not altogether satisfactory, although the proper amount of air was entering the mines. There were some places more than 60 feet ahead of air, and it was very necessary their their 1st Right Entry be broke through into the other opening in order to properly ventilate the mine. Timbering and drainage were good.

NELSON CREEK COAL CO.

Inspection Notice No. 448.

P. O., Nelson, Ky.

Inspected July 6, 1908. Ventilation was very satisfactory throughout the mines with the exception there were two breakthroughs open between Main North Entry and East Blind. There was much bad top in this mine, also some fire-damp is generated and the attention of the company was called to the law requiring the mines to be examined each morning by a competent person before the men go into the mines.

OAKLAND COAL CO.

Inspection Notice No. 449.

P. O., Hillside, Ky.

Old Hillside Mine.—Inspected July 14, 1908. Ventilation, timbering and drainage was very satisfactory, although there is

much bad top and water in the mines, but both under good control.

Inspection Notice No. 450.

P. O., Hillside, Ky.

Oakland Mine.—Inspected July 14, 1908. Ventilation, timbering and drainage were satisfactory, the only complaint being that some break-throughs were open that should have been closed and some curtains were in bad repair.

OHIO & KENTUCKY COAL CO.

Inspection Notice No. 451.

P. O., Hillside, Ky.

Inspected July 15, 1908. A sufficient amount of air was entering the mines but was not reaching all the working places satisfactorily. I asked for a trap door to be put across the Main Entry to turn the full volume of air to the north side of the mines. There were some break-throughs open that should have been closed, and also much bad top on north side.

W. G. DUNCAN COAL CO.

Inspection Notice No. 452.

P. O., Luzerne, Ky.

Luzerne Mine.—Inspected July 16, 1908. Volume of air entering the mine was sufficient but was not well conducted to the working places. There were places being worked more than 60 feet ahead of air and some of the break-throughs were left open that should have been closed. Drainage was not good; mud and water on the entries.

Inspection Notice No. 453.

P. O., Luzerne, Ky.

Red Bird Mine.—Inspected July 16, 1908. The ventilation and timbering throughout the mine were very satisfactory. The drainage was not good; mud and water on main entry road.

Inspection Notice No. 454.

P. O., Luzerne, Ky.

McDonald Mine.—Inspected July 16, 1908. The ventilation, timbering and drainage were very satisfactory. Especial attention was called to timbering, as there was much bad top in the mine.

Inspection Notice No. 455. P. O., Graham, Ky.

Skibo Mine.—Inspected July 17, 1908. Ventilation, timbering and drainage very satisfactory. Mine in good condition.

Inspection Notice No. 456. P. O., Graham, Ky.

Graham Mine.—Inspected July 17, 1908. Ventilation, timbering and drainage quite satisfactory. Some curtains were in bad repair.

DOVEY COAL CO.

Inspection Notice No. 457. P. O., Mercer, Ky.

Inspected July 21, 1908. Ventilation, timbering and drainage quite satisfactory. There was some dust in the mines and I asked that they be kept well sprinkled.

R. MORGAN COAL & COKE CO.

Inspection Notice No. 458. P. O., Mercer, Ky.

Inspected July 25, 1908. The ventilation was not altogether satisfactory throughout the mine, as some of the places were more than 60 feet ahead of the air and a number of break-throughs left open that should have been closed, and props were too far back in most rooms throughout the mines.

GREEN RIVER COAL & COKE CO.

Inspection Notice No. 459. P. O., Island, Ky.

Inspected July 27, 1908. The ventilation was not satisfactory as a number of places were being worked more than 60 feet ahead of air. Many of the brattices were in bad repair and some break-throughs left open that should have been closed. Some of the air courses were badly choked with slate and gob.

COFFMAN COAL CO.

Inspection Notice No. 460. P. O., Coffman, Ky.

Inspected July 28, 1908. The volume of air entering the mines was sufficient, but for the need of some curtains the air would not circulate to the working places as it should. Drainage bad; mud and water on Main Entry. Props are not being kept up in the rooms as they should be.

GREEN RIVER COAL CO.

Inspection Notice No. 461.

P. O., Livermore, Ky.

Inspected July 29, 1908. This mine still remains in bad condition as to ventilation and is being worked on a very bad system. The air shaft is in bad repair and the proper amount of air is not entering the mines.

ALVA KARNES.

Inspection Notice No. 462.

P. O., Island, Ky.

Inspected July 29, 1908. This mine is very inadequate in respect to ventilation, timbering and drainage and only being operated on a very small scale, there being only four men inside the mine at time of inspection, but arrangements are being made to operate on a larger scale. Therefore, it became necessary for the mine to be kept in condition required by law.

MEMPHIS COAL CO.

Inspection Notice No. 463.

P. O., Island, Ky.

Inspected July 30, 1908. The air was circulating through the working places in this mine in a sufficient quantity, although it was very impure, being badly mixed with black damp. This was due to the fan not being run as it should have been, and I asked the company to see that the fan was run at all times to avoid trouble. You will note that on the night of the 31st the tippie and engine-house and fan-house at Elk Valley Coal Co.'s mines were burned.

Very respectfully,

A. J. DOSS,

Assistant Inspector of Mines.

REPORT FOR AUGUST.

CENTRAL CITY, KY., Sept. 1, 1908.

WILLIAMS COAL CO.

P. O., McHenry, Ky.

The ventilation, timbering and drainage was satisfactory with the exception that the Main West Entry was wet at the face and some timbering that should have been done on 8th South.

BROADWAY COAL MINING CO.

P. O., Simmons, Ky.

Inspected August 5th. Ventilation, timbering satisfactory throughout the mine; drainage yet bad, especially on 2d West.

J. LEE RUDY, LESSEE OF J. H. RUDY.

P. O., Owensboro, Ky.

Inspected August 11th. The mine was in bad condition, air badly mixed with black damp caused by furnace not being properly fired; also some places being worked more than 60 feet ahead of air. On same date I visited Owensboro Coal & Land Co.'s mine near Owensboro, but did not inspect as the mines were closed and, as I was informed, company had failed and would not resume operations until a receiver was appointed.

L. HOBACK'S MINES.

P. O., Owensboro, Ky.

Inspected August 12th. This mine was being badly neglected in respect to ventilation and drainage and was not in condition as required by law.

OVERSTREET & RUDY.

(Omitted in order.)

P. O., Owensboro, Ky.

Ventilation, timbering and drainage satisfactory. Inspected 11th.

J. E. BUCKMAN'S MINES.

P. O., Owensboro, Ky.

Inspected August 12th. This mine still remains in bad condition, although it is practically closed down, but what is being done is on a very poor system. The mine was not properly ventilated and the timbering not sufficient.

JAS. WILSON'S MINES.

P. O., Owensboro, Ky.

Inspected August 13th. Ventilation satisfactory and drainage bad on entry roads. The timbering was too far back in some of the rooms.

On the 17th I entered the examination for the mine foreman at Central City, Ky.

On the 21st went to Browder to inspect mines, but find my anemometer was out of repair and could not take the measurements.

On the 22d I started to Lexington, Ky., to assist in grading.

On the 29th I went to Drakesboro to investigate the Webb and Scott case.

Very respectfully,

A. J. DOSS,
Assistant Inspector of Mines.

REPORT FOR SEPTEMBER.

CENTRAL CITY, KY., Oct. 1, 1908.

LOUISVILLE-ATLANTA COAL CO.

Drakesboro, Ky.

Inspected September 3rd. East side of mine in bad condition and had been so since the overflow of water some months before. The west side was in fairly good condition.

SUNRISE COAL CO.

P. O., Drakesboro, Ky.

Inspected September 3rd. This mine was in bad condition, especially in respect to drainage, as most every place that was being worked was wet. The mine is worked under very bad systems and practically no way to better the condition.

CENTRAL COAL & IRON CO.

P. O., Render, Ky.

Inspected September 7th. Ventilation, timbering and drainage satisfactory.

HILLSIDE COAL CO.

P. O., Hillside, Ky.

Old Hillside Mine.—Inspected September 6th. Ventilation very satisfactory except some break-throughs open that should have been closed. Some water at the head of Main Entry and also at the head of 2d North. Some timbering was being neglected.

OHIO & KENTUCKY COAL CO.

P. O., Hillside, Ky.

Inspected September 8th. Ventilation was not satisfactory on the north side of Main Entry. I advised that the company sink a new shaft and install a fan so as to properly ventilate the mine.

CENTRAL COAL & IRON CO.

P. O., Central City, Ky.

East Side.—Inspected September 21st. The volume of air entering the mines was sufficient for the number of persons, but the conditions were not satisfactory, especially on 13th and 14th South. Drainage and timbering also were bad in this part of mines.

W. A. WICKLIFFE COAL CO.

P. O., Browder, Ky.

Browder Mine.—Inspected September 22d. The mines very satisfactorily ventilated, but at a number of points in the mines fire-damp had gathered over falls in dangerous quantities. Drainage and timbering were very good.

On the 18th inst. I went to Drakesboro to further investigate the Webb-Scott case, and on the 21st I inspected one barrel of oil for W. H. Kittinger & Co., at Central City, Ky., which was rejected. The oil was made by the Atlas Oil Co.

On the 22d I inspected the scales for the W. A. Wickliffe Coal Co. and found them to be correct.

Very respectfully,

A. J. DOSS,
Assistant Inspector of Mines.

REPORT OF H. D. JONES.

FOR DECEMBER.

CENTRAL CITY, KY., Jan. 1, 1909.

PROF. C. J. NORWOOD,

*Chief Inspector of Mines,**Lexington, Ky.*

DEAR SIR:—I herewith submit report of mines inspected during the month of December, 1908, and order in which they were inspected, together with a brief statement of matter coming under my observation as may be of interest to the office:

W. A. WICKLIFFE COAL CO.

Inspection Notice No. 1.

P. O., Browder, Ky.

Inspected December 14, 1908. Plenty of air for the men employed and fairly well conducted to the working faces; there was some gas, but it was all on top of some old falls and was being properly looked after. Timbering good, except in some places it was not close enough to the face of the rooms. Drainage good.

HILLSIDE COAL CO.

Inspection Notice No. 2.

P. O., Hillside, Ky.

Inspected December 16, 1908. There was not enough of air entering the mines for the men employed, and what was entering was not properly conducted to the working faces. Drainage bad.

BLACK DIAMOND COAL CO.

Inspection Notice No. 3.

P. O., Drakesboro, Ky.

Inspected December 17, 1908. Plenty of air entering the mines, but on some entries it was not properly conducted to the working faces. Timbering satisfactory. Drainage not good in places.

MOODY COAL CO.

Inspection Notice No. 4.

P. O., South Carrollton, Ky.

Inspected December 19, 1908. There was plenty of air in the mines for the men employed and with one exception well conducted. Drainage and timbering satisfactory.

BEECH CREEK COAL CO.

Inspection No. 5.

P. O., Beech Creek, Ky.

No. 11 Mines.—Inspected December 29, 1908. Plenty of air and was well conducted with two exceptions. There were two open break-throughs that should be filled; this done, the air would be up to the proper place. Timbering and drainage good. I did not have time to inspect No. 9 mines on account of having scales to test.

BEVIER COAL CO.

Inspection Notice No. 6.

P. O., Cleaton, Ky.

Inspected December 30, 1908. Plenty of air entering the mines and well conducted, except that the curtains on 6th South Entry need repairing. Drainage and timbering good.

Very respectfully,

HUW D. JONES,

Assistant Inspector of Mines.

THE SOUTHEASTERN DISTRICT.

REPORTS OF J. D. CAIN.

REPORT FOR JANUARY.

PROF. C. J. NORWOOD,

*Chief Inspector of Mines,**Lexington, Ky.*

DEAR SIR:—Following is a report of the mines inspected, in the order they were examined, during the month of January, together with a statement of other matters of interest to the office:

THE COLEMAN MINING CO.

Inspection Notice No. 385C.

P. O., Cary, Ky.

The Coleman Mine.—Inspected January 2d. The ventilation, drainage and timbering were found in a satisfactory condition. This is a slope mine, the hoisting being done with an engine from the outside. No safety device was being used on

slope to guard against broken trips running back down the mine. The company was notified to use drag on rear end of trips. A second opening that will serve for manway is being made to the mine by driving the 2d Left outside. Written notice served to the company to rush this opening and to work force from outside to meet those coming out. If proper diligence is observed this opening will be made thirty days from date of this visit.

THE ELK COAL CO.

Inspection Notice No. 386C.

P. O., Tinsley, Bell Co.

The Elk Mine.—Inspected January 3rd. The drainage and timbering of this mine is all that could be desired. The ventilation was satisfactory except on the 1st Left, where the entry was found too far ahead of air and the proper measures was not being taken to insure good ventilation. Instructions were given in writing for the proper ventilation of this part of the mine. Written notice was served the company that they post notice at mine entrance prohibiting the tamping of holes with drill dust; that the overcharging of shots must cease; that only one shot must be fired at one time ahead of air, this to include rooms without a break-through.

THE STEARNS COAL CO.

Inspection Notice No. 397C.

P. O., Stearns, Ky.

Mine No. 4.—Inspected Jan. 7. The ventilation of this mine had been allowed to become both very deficient and defective; so much so that a written warning notice was served the company. While this mine has two furnaces and large returns to them, only 9,450 feet of air was entering the mine. The company was urged to install a powerful fan. This mine was carefully examined for gas, but none was found. While the greater portion of the coal here is undercut before shooting some shooting on the solid is being done. The dust was ordered cleaned up and all dry parts of the mine to be thoroughly wetted down and kept wet. Many of the brattices were ordered built over and the mine well scaled. Special rules for the governing of shooting and use of explosives was given the company; they to apply to all mines now being operated by them. A copy of these rules was mailed you at the time they were issued.

Inspection Notice No. 398C.

Mine No. 3.—Inspected January 7th. The general condition of this mine was very good, but as a precaution the company's attention was called to the enforcement of the special rules.

Inspection Notice No. 389C.

Mine No. 2.—Inspected January 8th. This mine is well moistened and the timbering well maintained. The furnace is making ample air, but it is not being well conducted. A general overhauling of the brattices was ordered and entry curtains to be replaced with trap doors. The 1st Left Entry on West Main was ordered to be driven to the outside for the second opening; this will take about forty days on double-shift time to complete. The special rules were to be posted. Company notified to this effect.

Inspection No. 390C.

South Main No. 1 Mine.—Inspected January 8th. This mine was found to be unsatisfactory as to the manner of maintaining doors and brattices, the greater part of the currents never reaching the faces of working places. Another bad feature was that while the mine is laid out for a force fan, ventilation is with suction furnace. The result of this manner of procedure is that every time a trap door is opened to allow a trip to pass through the entire volume is directed to the furnace without passing a single working place. Instructions were given in notice how to properly handle the air so that when a door has to be opened fresh air will be sent through the working places of that entry.

Gas was found in head of the Main Entry and instructions given how to ventilate that part of the work. All defects were covered in notice served. Special rules to be posted at mine entrance.

Inspection Notice No. 391C.

North Main Mine No. 1.—Inspected January 8th. The general condition of this mine was fairly well maintained, but minor defects of bratticing was noted. The mine was well dampened. The volume of air at last crosscut on the various

entries being held at 4,000 feet and better. Notice served calling attention to whatever defects that were observed. Special rules ordered posted at mine entrance.

EDWARD BLAKE, LESSEE BLACK BEAR COAL CO.

Inspection Notice No. 392C.

P. O., Fourmile, Ky.

Black Bear Mine.—Inspected January 14th. The ventilation, drainage and timbering of this mine were entirely satisfactory. The dust had been loaded out and the mine well dampened. Water was placed at all headings to sprinkle before shots were fired. In addition to the instructions that had previously been given at this mine, others were given for the regulation of powder stored in mine by the miners. The company was urged in written notice served to employ special shot-firers.

THE BIG HILL COAL CO.

Inspection Notice No. 393C.

P. O., Blanche, Ky.

Mine No. 2.—Inspected January 15th. The ventilation of this mine was found to be as at the previous inspection—well maintained, except on No. 3 Main, where conditions that were defective and had been ordered remedied were found exactly the same condition as when previously inspected. The company, however, recurtained this part of the work during the inspection. Notice served that if the air could not be maintained at head of entry with curtains, to remove same and place doors on the room-necks.

The Inspector had called the company's attention on both the previous inspections to the fact that this mine had not been provided with a separate second opening that is required of mines. Some little difference of opinion seemed to prevail between the company and the Inspector as to what constitutes the second opening, and after a consultation with the Chief Inspector a warning notice was served the company to provide the mine with a separate opening.

The mine was thoroughly inspected for bodies of standing gas, but none was found in the old works. Some little gas is showing in the Main Entry and airway and also in the last cross entries, but so far no feeders have been encountered, the gas showing only in the drill holes. At the last visit the In-

spector made to this mine before this inspection, rigid instructions were served the company as to the manner of safeguarding the lives of the persons here employed. It seems that these instructions were not gracefully received either by the company or the employes, the company's manager treating them in the light of a roast and the labor as an abridgment of their personal privileges.

THE KELLY COAL CO.

Inspection Notice No. 394C.

P. O., Chenoa, Bell Co.

Mine No. 1.—Inspected January 24th. This mine commenced shipping in September. It consists of the upper lease on Bear Creek and is reached by the Chenoa branch of the L. & N. The elevation is overcome by two switchbacks. Present operation is two separate openings in the Poplar Lick seam, using one incline to tippie. Thickness of seam, 52 inches, with a fire-clay parting of about 4 inches. Mine opened on the double entry system; ventilated at present by small furnace. Company intends to install fans in the near future. All conditions satisfactory.

Inspection Notice No. 395C.

Mine No. 2.—This mine is about 600 feet to the left of No. 1 and consists of a main entry and back heading. Ventilated with small furnace, but a fan is to be installed. Conditions satisfactory.

THE CLEAR CREEK COAL CO.

Inspection Notice No. 396C.

P. O., Chenoa, Ky.

Mine No. 1.—Inspected January 24th. This company commenced shipping in July, 1907. Consists of the first lease above the old Log Mountain Coal Co.'s lease on Bear Creek. This mine has a good furnace and the air is handled in three splits. The general conditions of this mine are excellent; nothing noted to be defective. Notice served that all conditions were satisfactory. The Poplar Lick seam is being now developed, which is the same as at Kelly Coal Co.

THE CHENOA COAL CO.

Inspection Notice No. 397C.

P. O., Cairns, Ky.

Mine No. 1 (Mason Seam).—Inspected January 25th. This mine was opened and operated until December by the Miller interests, when they sold to the present parties, who consist of Jas. Tinley, Prest. Tamaqua, Pa., Mr. Tinley is also General Manager. M. MacFarlane, Supt. While the ventilation was ample for the number of persons now in the mine, it was noted that the main return was a small one, and the company was advised to drive the main entry and airway on the double entry system. The top that at first was not of the best has rapidly grown better as the mine advances under the mountain.

THE CANEY CREEK COAL & COKE CO.

Inspection Notice No. 398C.

P. O., Davidsburg, Ky.

Mine No. 1 (Poplar Lick Seam).—Inspected January 25th. This operation consists of a lease between the Chenoa Coal Co. and the Poplar-Lignite Coal & Coke Co., on Caney Creek. The first coal was shipped in July, 1907. The mines consist of two openings, but No. 2 was not being worked at the present time, so no inspection of that mine was made. Both openings are in the Poplar Lick seam. Mine is ventilated with a 10-foot Crawford & McCrimmon fan. The coal carries a good slate top. The mine was in fine condition day of inspection. Notice to that effect served.

THE POPLAR-HIGNITE COAL & COKE CO.

Inspection Notice No. 399C.

P. O., Davidsburg, Ky.

Mine No. 1 (Poplar Lick Seam).—Inspected January 25th. This company shipped their first coal in December, 1907. Nothing so far developed except main entry and airway. Mine idle the day of inspection, so nothing determined as to ventilation, but it must be good when fan is running. The approach is well timbered and good roof has been found. The first cross entries are now ready to be broken off. Fan is a Foss, 10 feet in diameter, driven by a 9 H. P. Foss gasoline engine. Notice served that conditions were satisfactory.

This completes my inspections of mines. I wish to report that your instructions to visit the most dangerous mines before

writing my annual report has been obeyed, and on account of the condition of two of them a second visit will be necessary at the beginning of the coming month.

Yours very respectfully,

J. D. CAIN,

Assistant Inspector of Mines.

FOR THE MONTH OF FEBRUARY.

STEARNS COAL CO.

Inspection Notice No. 400C.

P. O., Stearns, Ky.

Mine No. 4.—Inspected February 3rd. All the instructions given in the warning notice had been faithfully carried out except to keep the mine well dampened. This had not been done to the satisfaction of the Inspector, and arrangements were then made and a crew started to work sprinkling the dry parts of the mine. The furnaces showed 15,680 feet per minute. This, with only 57 persons within the mine, must be admitted to be ample air, so the matter of the installation of the fan was not pressed. Notice served that except that the mine was not as damp as desired that the mine was satisfactory.

Inspection Notice No. 401C.

Mine No. 3.—Inspected February 3rd. This mine was found in excellent condition; the mine had been kept well dampened. Notice served to this effect.

Inspection Notice No. 402C.

Mine No. 2.—Inspected February 4th. The defects that were found at the previous inspection in the manner of ventilating the mine had been remedied; the only defect that now exists is that the second opening has not yet been completed. It will take another month to do this. This mine was found damp in all parts. Notice served as to the satisfactory condition of the mine and to rush work on the second opening.

Inspection No. 403C.

South Main No. 1 Mine.—Inspected February 4th. The ventilation, drainage and timbering of this mine was good, but

up the Main Entry, towards the head of the entry the mine was not as well dampened as it should have been. Notice served to keep this mine well dampened. The company has specially prepared places of safety made within this mine for the shot-firers to go to while the shots are exploding—a good idea.

Mine No. 1, North Main.—This mine was found in a satisfactory condition and notice served to that effect. What gets these mines out of condition is the heavy shots shattering the brattices and failure to hunt them up and repair them; therefore, the current gets weak, or is lost altogether towards the head of the entries.

Later in the month a visit was attempted to the Big Hill mine, but on account of the hard rain, and the fact that the Inspector learned at Pineville that work was on in their second opening, he went no farther than Pineville. Since then the company reports the second opening completed and requests an inspection. No reply was made, as I am waiting the action of the Chief Inspector, on my request, that I be verified by some other Inspector with better instruments for making a test than has been provided for me.

The scales at the Hughes-Jellico Coal Co. was inspected February 25th. Previous to this I had arranged for the weights to be hauled from Black Bear mine and shipped to meet me at Ely, as I expected the letter from the Chief to go there.

The balance of the month has been devoted to the annual report and some court proceedings not connected with this office.

Yours very respectfully,

J. D. CAIN,

Assistant Inspector of Mines.

FOR MONTH OF MARCH.

MT. MORGAN COAL CO.

Inspection Notice No. 405C. P. O., Williamsburg, Ky.

No. 1 Mine.—Inspected March 6th. The ventilation was poor as the result of long and narrow airways. Arrangements were made with the company to increase the fan power and later to move the fan to the far side of the plant where the mining now is mostly being done. Other conditions were good.

Inspection Notice No. 406C.

Mine No. 2.—Inspected March 6th. Only two entries were in operation (the 14th and 15th Butts) at the time of this inspection and conditions were well maintained. This mine had been provided with a new furnace since the last visit of the Inspector of sufficient power to work out what coal yet remains here to mine.

MAY & BEATTY.

Inspection Notice No. 407C.

P. O., Viva, Ky.

Standard Mine.—Inspected March 11th. For the last few months this mine has been operated by the above firm on a lease. The ventilation was very bad and work was requested rushed on the air shaft. Some bad drainage was encountered on the first left.

WM. DUNEVANT (LESSEE CURVINS MINES).

Inspection Notice No. 408C.

P. O., Viva, Ky.

Cross Mt. Mine.—Inspected March 11th. This mine was leased by Mr. Dunevant October, 1907, but little operated since then to date of Inspection, when the mine was found idle. The general condition of the mine was good and while nothing was determined as to ventilation, it should be good from appearance.

THE NEW STAR COAL CO.

Inspection Notice No. 409C.

P. O., East Bernstadt, Ky.

New Star Mine.—Inspected March 11th. The mine was well bratticed and the currents properly conducted, but the volume was below the required amount as prescribed by the mining law. In the judgment of the Inspector the present furnace could not be made to furnish the necessary amount of ventilation and the company was requested to sink an air shaft on or near the Williams Entry and install a force fan. This arrangement would not require any doors on the main haulage between the side track and bottom of slope. Other conditions were satisfactory.

PHENIX-JELICO COAL CO.

Inspection Notice No. 410C.

P. O., Altamont, Ky.

New Nelson Mine.—Inspected March 12th. This is a new mine some little distance to the right of the old Nelson and will be of short duration. The current was not carried as near the face of the entry as it should have been, and the furnace was poorly arranged. Proper instructions were given the company in regard to this matter. The mine was well drained and timbered.

Inspection Notice No. 411C.

Diamond Mine No. 2.—Inspected March 13th. The timbering and drainage of this mine were all that could be desired, but the ventilation was simply wretched. The company had been warned at a previous inspection of the defective condition of this mine, but owing to a change in managers, nothing had yet been done toward remedying the defects in the mine. A detailed report was made the company, with a notice if not at once complied with that steps would be taken to take the matter into the courts.

Inspection Notice No. 412C.

Diamond No. 1 Mine.—Inspected March 13th. Ventilation was somewhat deficient toward the head of the Main Entry. This mine is in a long way, and the company was advised to sink another air shaft nearer to their present workings. Drainage was well attended, and except two places on the motor haul, the mine was fairly well timbered. The company's attention was called to the two bad places on the motor haul with a written request that these places be timbered at once.

PITMAN COAL CO.

Inspection Notice No. 413C.

P. O., Pittsburg, Ky.

Pitman Shaft Mine.—Inspected March 17th. Since the previous inspection this mine had been well overhauled and was found in very good condition as to timbering and ventilation. The drainage had been bettered, but on the first left there was still too much mud and water.

THE NEW LAUREL COAL CO.

Inspection Notice No. 414C.

P. O., Pittsburg, Ky.

The New Laurel Mine.—Inspected March 18th. Both the timbering and drainage had been improved and was generally satisfactory. The ventilation was ample, but not well conducted through and around the working places. There was not enough traveling the 4th Left Split. The old Fagan needed bratticing off and several rock brattices needed claying as far up the haulage entry as the Johnson entry.

THE NEW VICTORIA COAL CO.

Inspection Notice No. 415C.

P. O., Pittsburg, Ky.

No. 2 Mine.—Inspected March 18th. This mine was idle the day of inspection on account of the poor state of the coal trade then existing, and nothing could be determined as to volume of circulation, out from all appearances conditions in all respects should be good. The mine was well timbered and drained.

THE LILY-JELICO COAL CO.

Inspection Notice No. 416C.

P. O., Lily, Ky.

Ohler Mine.—Inspected March 20th. As mentioned in a previous report, this mine is situated on the waters of Roberson Creek and connected to the tippie of the old O. K. mine by some two miles of electric tram track. The mine has only been in operation a short time and consists of about 300 feet of main entry and air course. The ventilation for the present is with furnace and was ample for the four persons working within the mine. The cover over the coal here is better than at the old mines, and no trouble should be had in safely propping this mine. The seam is the same as previously worked around Lily. Between the mine and tippie the company was preparing to strip several acres of the outcrop coal with steam and electric machinery.

THE INGLES-JELICO COAL CO.

Inspection Notice No. 417C.

P. O., Elys (Hujel), Ky.

Ingles Mine.—Inspected March 24th. By amending their charter, this company has resumed the name as when first op-

erated, but was changed for a short while to the Charlington Coal Corporation, and the previous inspection was made under this name. On the date of inspection the mine was idle, owing to the extreme slackness of the coal business. Nothing was determined as to the state of ventilation. The timbering and drainage were good.

THE MATHEWS-JELICO COAL CO.

Inspection Notice No. 418C.

P. O., Elys, Ky.

Mathews Mine.—Inspected March 24th. The brattices along the Main Entry had been allowed to get in bad condition again; this has been a chronic complaint with this mine. A trap door was needed on the 1st Right. A new opening had been made and connected to the old through 1st Right Entry of the old mine. This part of the mine was in good condition, and arrangements were being made to place a new furnace to this part of the work that will be of ample power to properly ventilate this mine for quite a length of time.

HUGHES-JELICO COAL CO.

Inspection Notice No. 419C.

P. O., Elys, Ky.

Hughes-Jellico.—Inspected March 25th. This mine was below the general average in ventilation, leakages, long returns and an unfavorable location for the furnace being some of the more important causes. Written instructions were filed with the company for the betterment of the ventilation with the assurance of another inspection at an early date.

PITTSBURG COAL CO.

Inspection Notice No. 420C.

P. O., Pittsburg, Ky.

Welsh's Mine.—Inspected March 27th. Mine idle on account of trade conditions. Nothing determined as to ventilation, but the airways were in good condition. Mine was well timbered and drained.

No other inspections were made after this date, the slack work rendering inspections of little value.

Yours very respectfully,

J. D. CAIN,

Assistant Inspector of Mines.

REPORT FOR APRIL.

PROF. C. J. NORWOOD,
Chief Inspector of Mines,
Lexington, Ky.

DEAR SIR:—No mines were inspected this month. On the 3rd of the month an effort was made to inspect the Clear Fork Coal & Coke Co.'s mines at Fonde, Ky., but a wash-out was encountered on the railroad on the way up to the plant, and after remaining over night at Anthers it was thought best to return to London and later inspect the mine when the road was repaired.

The next work was getting up the delinquent reports for the home office, after which the Assistant was called to Lexington to act on the Board of Examiners for Assistant Mine Inspectors, held at Lexington, April 20-22, after which some effort was made to send in the balance of the delinquent reports.

Yours very respectfully,

J. D. CAIN,

Assistant Inspector of Mines

REPORT OF PERRY V. COLE.

FOR THE LAST HALF OF 1908.

Bell County.

BELL JELICO MINE.

Main Office, Bell Jellico. Freight and Tel. Office, Four Mile.
Transportation, L. & N. R. R.

Operated by Bell Jellico Coal Co. M. G. Yingling, Manager; office at the mines about three miles from Four Mile. This company has one of the best seams of coal in southeastern Kentucky. It is about 5 feet thick and is almost clear from impurities, having only about 4 inches of parting. They have a well-equipped mine with mule haulage to knuckle and coal is then let down a 500-foot incline to tippie. They work about 100 men.

At the inspection of this mine, August 13th, the air was not sufficient for the number of men employed at their old mine known as the No. 1. They were asked to put in fan instead of furnace, which was not doing good work. Their No. 2, or new side, was satisfactory, both as to air and other conditions.

BLANCHE MINES.

Mine Office, Blanche.

Telegraph Office, Pineville.

Transportation, L. & N.

Operated by Big Hill Coal Co. Harry P. Jones, Manager.; main office at Cincinnati, O. Located on left fork of Straight Creek, about six miles from Pineville. A well-equipped mine with latest improved machinery, having motor haulage to main liaway and rope haulage from there to tipple, the grade being too heavy for motor from liaway to drift mouth.

At the inspection, December 15th, air was not being well distributed. They had 45,000 feet of air entering the mine, but on some of their entries air was weak on account of leakage through bad curtains. Taking all things into consideration, we think this mine fully up to the average, both as to management and condition. They have a first-class coal about 40 inches thick and very little impurities. Tipple one of the best in this part of the State.

BLACK BEAR MINES.

Main Office, Four Mile.

Transportation, L. & N.

Operated by Edward Blake, lessee of the Black Bear Coal Co. This mine is located at the extreme end of the spur track which leaves the main line at Four Mile. They were working only about twenty persons at last inspection for 1908. At this inspection the mine was found to be in satisfactory condition.

BLACK RAVEN MINE.

Main Office, Four Mile.

Head Office, Chattanooga, Tenn.

The Black Raven and the Highland Rim Nos. 1, 3, and 4 are now all under the control of the Continental Coal Corporation, whose headquarters are at Chattanooga, Tenn. All these mines are on the spur track running off from Four Mile.

Black Raven.—This seam is not very thick, being only about 34 or 36 inches, but is a good clean coal. At the inspection, July 10th, it was not found to be very well ventilated; airways seemed not to be large enough. Improvements were ordered and the company agreed to make them at once. We later found that they kept their word and did improve the air.

Highland Rim.—At present they are not working their No. 3 mine. The No. 1 is a small seam, while the No. 4 is a large one. The No. 1 is about 36 inches and the No. 4 is about 46 inches; however, the No. 1 is the better seam of coal. The No. 4 is about 300 feet above the No. 1 and has mule haulage to the knuckle and is then let down an incline to tippie while No. 1 has mule haulage direct to tippie. Have air mining machinery at both No. 1 and No. 4.

THE ELK MINES.

P. O., Tinsley.

Transportation, L. & N.

Operated by Bell County Coal Co., lessee, leased by F. D. Wood and John Williams. This company is working what is called the Dean seam of coal, same as that of the Bell Jellico and East Jellico Coal Co. Located near the East Jellico Coal Co. on the spur road from Four Mile. They have well-equipped mine, and coal is hauled to drift mouth by mules and then let down quite a long incline. They work about 50 or 60 men. At last inspection for 1908 their mine was in very good condition both as to ventilation and other conditions.

COLEMAN MINE.

Mine Office, Cary.

Head Office, Louisville, Ky.

Transportation, L. & N.

Operated by Coleman Mining Co. Daniel Scanlon, President; C. R. Coleman, General Manager. This company works from 50 to 70 men and is well equipped in every respect; shaker screens, rope and mule haulage. Located on left fork of Straight Creek, working what is called the regular Straight Creek vein of coal, and is well managed by Mr. C. R. Coleman, of Stanford, Kentucky.

At inspection, July 9th, their ventilation was good, but at inspection December 16th had neglected their airways and brattices so much that their ventilation was not satisfactory. Notice was given of same and company seemed anxious to make needed improvements.

CLEAR FORK MINE.

Offices, Middlesboro.

Transportation, Southern R. R.

Operated by Clear Fork Coal & Coke Co. J. D. Templin, President; G. P. Morrison, General Manager; Peter Derr, Superintendent.

This mine is near the line between Kentucky and Tennessee on Clear Fork Creek on a spur road which leaves the main line at Habersham, Tenn. The coal is hauled to the outside by mules and then let down an incline to tipple.

At last inspection was found to be in satisfactory condition.

COLUMBIA MINE.

Office at Gravity.

Head Office, Middlesboro.

Transportation, L. & N.

Operated by Columbia Coal Co. E. R. Vowels, President, and John Wells, General Manager.

This mine has a very thick vein of coal, being about 7 feet, but it is not clean, having two or three partings consisting of some kind of rash. Upon the whole, however, it is a good workable coal, and they are separating it so as to make it merchantable. Mule haulage to knuckle and then let down incline to tipple. They have a good output—about 300 tons daily.

At last inspection, October 5th, the air was not very well distributed through the mines, but the foreman seemed willing to obey orders from the Inspector and soon had needed repairs made.

CHENOA MINES.

Office at Cairnes.

Transportation, L. & N.

Operated by Chenoa Coal Co.

This mine is located on branch road leaving L. & N. at Wasiota and running about ten or twelve miles up into the mountains south of Pineville. They work in coal of Louisville Property Co.'s lands, and is same vein as that of Clear Creek, Kelly, Caney Creek, and Poplar Hignite coal companies. Coal is hauled with mules to outside and let over incline to tipple. Passenger trains run daily from Pineville to these mines and return.

CLEAR CREEK MINES.

P. O., Chenoa.

Transportation, L. & N.

Operated by Clear Creek Coal Co. Located near Chenoa mines. Coal seam is about 1,500 feet up in Pine mountain and is hauled to drift mouth by mules and then let down incline to tipple. This company also has a mine at Davisburg called Mine No. 2, operated on about the same system as the one at Chenoa, and was inspected on the same day, October 28th, and both were in very good condition both as to air and other conditions. They have good fan at both places run by steam that does good service.

CANEY CREEK MINE.

Office at Davisburg.

Transportation, L. & N.

Operated by Caney Creek Coal Co. and is located in the Chenoa Hollow between the Poplar Hignite and the Chenoa No. 2 mines. Mule haulage and incline. At the inspection October 2d only 8 or 10 men in the mines and conditions satisfactory.

EAST JELICO MINE.

P. O., Bell Jellico.

Tel. Office, Four Mile.

Transportation, L. & N.

Operated by East Jellico Coal Co. S. Taylor Scheaffer, General Manager. This company has not been operating at its present location very long. They are working the Dean seam of coal, the same as the Bell Jellico mine, which is 5 or 6 feet thick and is almost clear of impurities. Have electric motor and mule haulage to drift mouth and let down incline to tipple. At time of inspection, August 13th, mine was not well ventilated. They had furnace and stack, and it was not in very good shape. They were advised to install a fan. We were later informed by letter that they had done so.

FERN LAKE MINE.

Office at Middlesboro.

Transportation, L. & N.

Operated by Fern Lake Coal Co. and located near Middlesboro. At time of last inspection they were not doing very much

business, and was not in satisfactory condition, as the air was not sufficient. They were ordered to improve the air currents and to clean up the entries.

EXCELSIOR MINE.

Office, Middlesboro.

Transportation, L. & N.

Operated by the Excelsior Coal Mining Co. Clyde Miller, General Manager. Mine is about two miles north of Middlesboro on the L. & N. R. R.. This place is mostly worked out; the stumps and pillars are being pulled. Mule haulage to mouth of mine and from there to the knuckle by steam engine and then let down incline to tipple. This mine has coal bins to supply railroad locomotives. At last inspection, October 24th, mine was very wet and roof bad. Ventilation satisfactory. Notice was served on the company to clean up the entry and timber the roof.

KELLY MINES.

P. O., Chenoa.

Transportation, L. & N.

Operated by Kelly Coal Co. near the mines of Chenoa Coal Co. on the Chenoa branch of the L. & N. R. R., which leaves the main line at Wasiota, Ky. This mine was idle when last visited by Inspector this year and had been for several weeks, but from information gained by going through the mine they should have fairly good conditions. Mule haulage to knuckle and incline from there to tipple.

LUKE & DRUMMOND MINE.

P. O., Logmont.

Transportation, L. & N.

Operated by Luke & Drummond Coal Co. Geo. Luke, President; Hugh Drummond, General Manager. This mine is located on the Stony Fork branch road of the L. & N., which leaves the main line at Middlesboro. They are just opposite the mine of the Sagamore Coal Co., but are not working the same vein of coal, it being considerably higher up the mountain. A good seam of coal about 40 inches thick. At last inspection mine was not in a very good condition, the roads being in bad shape

and the roof dangerous. However, the company was doing repair work in the mine at the time of inspection, and cleaning up the entries and airways. Mule haulage and incline.

MOSS MINES.

Main Office, Cary, Ky.

Transportation, L. & N.

Operated by Straight Creek Mining Co. M. J. Moss, President and General Manager. Located on left fork of Straight Creek, about three miles from Pineville, Ky., on railroad of Straight Creek Coal & Coke Co., said road leaving L. & N. at Pineville. This mine was in good condition at all inspections for the year 1908. Inspected by Perry V. Cole June 26th. and December 15, 1908. They have a good seam of Straight Creek coal about 40 inches in thickness.

CENTRAL COAL CO.

Mine Office, Cary, Ky.

Transportation, L. & N.

Operated by Central Coal Co. M. L. Stallsworth, Manager. This is a new mine, having just began operation in month of September, 1908. It is located on left fork of Straight Creek five miles from Pineville. They work the regular Straight Creek seam. There was an explosion at this mine October 12, 1908, in which eight men were hurt, but none fatally. Names of parties hurt were as follows: J. P. Patterson, Andrew Patterson, Wm. Rains, James Robinson, Eph Lane, Leonard Moore, Oscar Enicks, Louie Bullock.

KNUCKLES MINE.

Office, Ferndale, Ky.

Transportation, L. & N.

Operated by J. C. Knuckles and Wife.

Located five or six miles north of Middlesboro, Ky. This mine has only a small output and works about twenty men. At inspection, October 23, 1908, plenty of air was found entering the mine for number of persons employed. However, it was not well conducted to the working places, as the doors and brattices leaked badly. Notice served on company to remedy this.

OLD STRAIGHT CREEK MINE.

P. O., Straight Creek, Ky.
Transportation, L. & N.

Operated by Straight Creek Coal & Coke Co., Straight Creek, Kentucky.

This company operates its mines very extensively, working about 250 men, and have an output of eight or nine hundred tons daily. Is located about two miles from Pineville, Ky., on branch road leaving Pineville. They are working the Straight Creek vein, which is noted for its good burning quality.

At inspection, July 8th, the mine was found to be in fairly good condition. Ventilation good, but there was a squeeze on one or two entries. Company was cautioned to keep men off these dangerous entries. Electricity is used for both hauling and mining purposes.

SAGAMORE MINES.

P. O., Logmont, Ky.
Transportation, L. & N.

Operated by Sagamore Coal Co.

Located on the spur leaving L. & N. at Middlesboro, Ky., and is about ten miles from main line.

They have a good mine and are doing a fair amount of business. Coal will average about 4 feet with very little impurities. This mine has no incline, the coal being hauled direct from the mines to tipple. At inspection, October 1st, mine was in very good condition.

STRAIGHT CREEK COLLIERY CO.

Mine Office, Cary, Ky.

Tel. Office, Straight Creek.

New mine owned and operated by Straight Creek Colliery Co., L. W. Farmer, General Manager; Dan H. Williams, President; James Williams, Vice-president.

Just began operation and shipped first car of coal December 7, 1908. Mule haulage with short incline. Work Straight Creek seam of coal, which is about 38 inches thick here, with very little impurities. At inspection, September 30th, they were only putting out slack coal and doing work preparatory to shipping coal. Conditions were satisfactory.

STONY FORK MINES.

Head Office, Middlesboro, Ky.
Transportation, L. & N.

P. O., Ralston, Ky.

Located on branch road leaving Middlesboro, Ky., and about ten miles off the main line.

Coal is about 40 inches and seems to be of good quality.

At inspection, October 1, 1908, there was not sufficient air entering the mine. The furnace and stack were not well arranged and stack leaked at base. They were given lawful notice to either install a fan or improve furnace and stack. Was later informed by letter from them that the improvements were made as required and owing to pressure of work was unable to see them again.

TURNER MINE.

Main Office, Middlesboro, Ky.
Transportation, L. & N.

Operated by Turner Coal Co. Wm. Turner, President and General Manager.

Located about one mile from Middlesboro.

Working a vein of coal about 5 feet with parting ranging from a few inches up to 18 inches in thickness. Only about twenty persons were employed at last inspection. It was also in bad condition at this inspection. Too much water and bad slate. Haulage by mule to knuckle and let down incline.

WINONA MINE.

P. O., Gravity, Ky.
Transportation, L. & N.

Head Office, Middlesboro, Ky.

Operated by Winona Coal & Coke Co. J. L. Manring, President.

Located on spur called Bennett's Fork, leaving L. & N. at Middlesboro, Ky. At inspection, September 26, 1908, was found to be in very good condition. Like most mines near Middlesboro, they let coal down an incline. Have a well-equipped plant and seems to do a good business.

WALLSEND MINE.

Mine Office, Wallsend, Ky. Head Office, Wallsend, Ky.
Transportation, L. & N.

Operated by Wallsend Coal & Coke Co. J. C. Wornock, President; C. B. Sterling, Superintendent and General Manager.

Located about one-half mile north of Pineville, Ky.

Have opening on both sides of the mountain, working what is called No. 1 and No. 3 mines. Inspected July 7th. Ventilation was not as good as it should be and entries were badly gobbed with slate. Are working what is called Straight Creek coal seam and is good coal. They have electric haulage; also have air machines.

Knox County.

BARBOURVILLE BLUE GEM MINE.

Main Office, Barbourville, Ky.
Transportation, L. & N.

Operated by Cottengim and White Coal Co. J. H. Cottengim, owner and General Manager.

Located near the depot at Barbourville.

Inspected October 9th and No. 1 mine was in satisfactory condition. No. 2 mine had natural ventilation, which, of course, not being lawful, was condemned.

BAILY BLUE GEM MINE.

P. O., Bailey's Switch, Ky.
Transportation, L. & N.

Owned and operated by Bailey Coal Co. J. R. Bailey, President.

This company has done very little work this year. Was visited by Inspector Perry V. Cole twice during last half of the year 1908, and both times were idle.

COALPORT MINE.

P. O., Coalport, Ky.
Transportation, L. & N.

Operated by Coalport Coal Co. A. C. Blowers, President and General Manager.

Located near the old mines of East Jellico Coal Company, about one mile from Artemus.

Inspected October 14, 1908. Ventilation sufficient, but the roof was considered very dangerous. Drainage satisfactory.

CHARLTON MINE.

P. O., Gray, Ky.

Transportation, L. & N.

Operated by J. T. Gray, Manager, Gray, Ky.

This mine was not in satisfactory condition when last inspected for 1908. They had no certificated mine foreman, and no one seemed to be in charge. However, an inspection was made, and air was bad on right side opening. Some brattices were down, and men were working more than 60 feet ahead of air on the left side opening. Due notice was served on company.

HUGHES JELICO MINE.

P. O., Ely, Ky.

Transportation, L. & N.

Operated by Hughes Jellico Coal Co. W. R. Hughes, President and General Manager. This mine is on spur road leaving main line of L. & N. at Elys, Ky.

Coal is mined by hand, working about 90 men. Mule haulage to knuckle and let down an incline in monitors.

Inspected March 24th by J. D. Cain, but mine was idle that day and nothing could be determined as to ventilation. Other conditions satisfactory.

Inspected August 15th by Perry V. Cole and conditions were satisfactory.

INTERSTATE COAL MINES.

P. O., Warren, Ky.

Transportation, L. & N.

Operated by Interstate Coal Co. H. N. Witzel, Superintendent and General Manager.

Located about ten miles from Artemus on Brush Creek.

Coal is mined by compressed air machinery. Mule haulage to outside then with steam motor to top of incline. This company has charge of the mine known as the Bennett Mine No. 2.

At the inspection, October 14th, conditions about the mine were generally satisfactory except the stack to furnace, which was leaking at base and was too low. Company was advised to repair furnace and stack or install fan.

INGLES MINE.

P. O., Elys, Ky.

Transportation, L. & N.

Operated by Ingles Jellico Coal Co. H. Ingles, General Manager. Near Elys on spur road of L. & N., above Hughes mine.

Mule haulage to liaway, road to knuckle. Inspected October 15th. Ventilation not sufficient for number of persons employed. Coal oil was being used in mine, so notice was served on company.

J. T. GRAY MINE.

P. O., Gray, Ky.

Transportation, L. & N.

Operated by J. T. Gray.

This is a small mine near the depot at Gray, Ky.

Inspected September 28th and found to be in fairly good condition. Coal is hauled by mule to a shute and run down about 100 feet, emptying into larger cars and hauled to tipple.

MATHEWS MINE.

P. O., Elys, Ky.

Transportation, L. & N.

Operated by Mathews Jellico Coal Co. John J. Mathews, President and General Manager. Located on Ely Creek.

Mined by hand and mule haulage to outside, then let down incline.

Inspected October 16th and found to be in satisfactory condition both as to ventilation and other conditions.

NORTH POINT MINE.

P. O., Gray, Ky.

Transportation, L. & N.

Operated by Mrs. S. M. Gray, Gray, Ky.

Inspected September 22, 1908. Mine was not in satisfactory condition. Men were working more than 60 feet ahead of air. Airways were filled with slate on the old side. The new opening was satisfactory.

ROSSLAND MINE.

P. O., Gray, Ky.

Transportation, L. & N.

Operated by John Howard and Mr. Asher, of Pineville.

This company was not in operation but very little during the year 1908. At time of inspection was in hands of receiver and was later sold at auction. However, sale was not confirmed and the mine went to original land owners, and is now running some coal.

TROSPER MINE.

P. O., Trosper, Ky.

Transportation, L. & N.

Operated by Trosper Coal Co. H. E. Bullock, President and General Manager; Alec Ross, Superintendent and Mine Foreman.

Mule haulage to knuckle, then let down an incline to tipple. Have air machines and work about 80 men, working what is called Dean seam of coal, which is the same vein as that of Bell Jellico. Coal is about 5 feet 7 inches thick with very little impurities.

Inspected October 13th and found to be in good condition.

NORTH JELICO MINES.

P. O., Wilton, Ky.

Head Office, Louisville, Ky.

Transportation, L. & N.

Operated by North Jellico Coal Co. J. B. Speed, President; C. S. Neild, General Manager.

Bertha Mine.—Alex. Frost, Supt. When inspected, September 9th, was in good condition with few exceptions. Air was slightly weak on 7th Left and on Main Entry.

Olive Hill Mine.—Inspected September 10th and air was insufficient on both No. 1 and No. 2 entries. Other conditions satisfactory.

Cannel Ridge Mine.—Inspected September 10th. Air would not register at working faces. Advised one good furnace at either Nos. 3, 4, or 5 mine.

Wilton Mine.—At the inspection of this mine, September 10th, it was in fairly good condition.

These mines work the Jellico coal seam and altogether have an output of about 50 tons per day. The mining is mostly with compressed air.

MAHAN MINE.

Present P. O., Halsey, Ky.

Transportation, L. & N.

Operated by Mahan Jellico Coal Co. F. B. Mahan, President and General Manager.

Located on new railroad known as Pine Mountain Branch, leaving L. & N. at Sevoy, Ky.

This is a new mine and just began shipping coal the 12th day of December, 1908. They are prepared to load about 500 tons daily. Have air compressors for mine machines and other purposes. Coal hauled to knuckle by mules, then let down incline. The coal is almost clear from impurities, and is fine coal, being about 43 inches in thickness.

GATLIFF MINE.

P. O., Gatliff, Ky.

Transportation, L. & N.

Located on Pine Mountain Branch road which leaves L. & N. at Sevoy, Ky.

Operated by Gatliff Coal Co. A. Gatliff, President; Dr. N. A. Archer, General Manager; D. W. Davis, Superintendent.

This is a new mine and is well equipped, having a tippie made solid from one side of the mountain to the other, connecting two operations. They have the best and latest machinery, using compressed air for mining machines and other purposes. Will be prepared to load 1,000 tons daily as soon as entries are far enough advanced to get the coal. The coal is about 43 inches. Mule haulage direct to tippie. Began shipping coal December 28, 1908.

BENNETT MINE.

P. O., Gatliff, Ky.

Transportation, L. & N.

Operated by El Coal Co. Dr. P. E. Bennett, General Manager.

This company, like Mahan and Gatliff, is a new mine and located on Pine Mountain Branch road which leaves Sevoy, Ky.

Coal is about 45 inches thick and clear from parting or impurities. Mule haulage to knuckle and then let down over incline.

Laurel County.

ACME COAL CO.

P. O., Pittsburg, Ky.

Transportation, L. & N.

Operated by J. L. Caldwell, A. Fiechter and Renus Brown.

Located about one mile from Pittsburg on main line L. & N.

R. R.

This is a new mine and have not begun loading coal yet. Equipped with rope haulage. Slope about $91\frac{1}{2}$ degrees from mouth of mine to tipple. This is part of the land of W. T. and T. Moren. Coal is about 36 inches and almost free from impurities, such as black-jack, which is common in Pittsburg coal.

CROSS MOUNTAIN MINES.

P. O., Viva, Ky.

Transportation, L. & N.

Operated by Jones & Dunavent. Wm. Dunavent, General Manager; C. P. Jones, President.

Located on Little Raccoon Creek about one mile south of the mines of Phenix Jellico Coal Co.

This mine was formerly owned and operated by C. W. Curvin. Mule haulage all the way to tipple. Coal is mined by hand. At last inspection the mine was in good condition.

LILY JELICO MINES.

P. O., Lily, Ky.

Transportation, L. & N.

Operated by Lily Jellico Coal Co. O. W. Black, President; F. J. Black, Manager.

Located on a short spur road from Lily.

This mine uses electric haulage. They have in connection with their mine what is termed a "dead-lift." Dirt is removed

and coal is taken up by steam shovel. It is good domestic coal about 40 inches thick.

Inspected November 6th and found to be in good condition with the exception of air being weak on 1st Right in the drift mine.

MAY AND BEATTY.

P. O., Viva, Ky.

Transportation, L. & N.

Operated by C. May and R. Beatty.

This mine is in the property of Phenix Jellico Coal Co. and the output is handled by that company. It is what is called Old Standard Coal Co. Have mule haulage direct to tipple. Their output is about 200 tons daily. In fairly good condition at last inspection.

NEW ALTAMONT MINES.

P. O., Altamont, Ky.

Transportation, L. & N.

Operated by New Altamont Coal Co.

This company was formally known as Flat Top Coal Co. and has changed hands twice within the last year. It has been idle since about November 15th. The last operators of the mine were Gilbert and Robert Root, who made an assignment about November 15th.

Inspected November 4th and found to be in very good condition, excepting water on haulage.

NEW LAUREL MINE.

P. O., Pittsburg, Ky.

Transportation, L. & N.

Operated by New Laurel Coal Co. W. A. Pugh, President; J. W. Bastin, General Manager.

This mine has an output of about 300 tons daily. Coal about 40 inches with parting in center.

Inspected May 18, 1908, by J. D. Cain.

Inspected July 13th and November 19th by Perry V. Cole, and at last inspection company had put down new air shaft, and a decided improvement could be noticed in the ventilation.

NEW VICTORIA COAL CO.

P. O., Pittsburg, Ky.

Transportation, L. & N.

Operated by McNeill Bros.; Robt. McNeill, contractor under W. A. Pugh.

The mine is part of unworked coal of Old Pitman and Victoria coal companies. Coal is about 36 inches, and is hauled to tipple by mules.

Inspected March 18th by J. D. Cain.

Inspected Nov. 7th by P. V. Cole and was in fairly good condition.

NEW STAR MINES.

P. O., East Bernstadt, Ky.

Transportation, L. & N.

Operated by New Star Coal Co. J. McNeill, President; S. L. Bastin, General Manager.

Have what is called a slope mine, the coal being hauled from drift mouth to tipple with rope attached to drum wheel. Mule haulage to lieway. Coal about 40 inches with some parting in the center.

At inspection, July 13th, mine was found to be wet and roadways muddy. Inspected November 20th and considerable improvement could be noticed, both in air currents and other conditions.

PITTSBURG MINE.

P. O., Pittsburg, Ky.

Transportation, L. & N.

Operated by Pittsburg Coal Co. R. M. Jackson, President and General Manager.

This company has a well-equipped mine, using compressed air machines. Mule haulage from lieway; rope from there to tipple, there being a slope of about 9 degrees from mouth of mine to tipple. Output about 300 tons daily.

Inspected by J. D. Cain March 27th and by Perry Cole July 13th, and conditions were satisfactory both times.

This company owns land on which they operate and have about 40-inch coal seam with parting in center of part of it, while some of it is clear.

PHENIX JELICO MINES.

P. O., Altamont, Ky. Main Office, Cincinnati, O.
Transportation, L. & N.

Operated by Phenix Jellico Coal Co. H. Hardy, General Manager.

This company has several different operations under different names, but all owned by same people. This mine is well equipped with both electricity and air. Motors are used for haulage. The tippie is built so as to bring coal from both sides. Coal is hauled from new side with rope while motors pull coal from old side. The seam is about 40 inches and very good coal. (Mr. Cole doubtless here refers to the Nelson mine.—C. J. N.)

When inspected by J. D. Cain March 14th the mine was in bad condition, especially on new side. Lawful notice was served on company and twenty days' time allowed, but owing to Mr. Cain's resignation and delay in appointing his successor, it was not inspected again until July 24, 1908. Some improvements were being made, and the company was having air shaft made in accordance with instruction from Mr. Cain.

Inspected again by Perry V. Cole in November, and No. 1 mine was satisfactory. No. 2 was not up to lawful requirements. They have an output of about 600 tons daily when running at full capacity.

Pulaski County.

BARREN FORK MINE.

P. O., Barren Fork. R. R. Station, Flat Rock.
Transportation, C. S. R. R.

Operated by The Eagle Coal Co. W. L. Carter, General Manager. They have about 36 inches of good domestic coal and employ about 80 men.

Inspected October 30th and found to be in satisfactory condition.

The Cogar Creek Mine, operated by Peters & Souleyret; the New Cumberland Mine, operated by The New Cumberland Coal Co., and The Indian Head Mine, operated by The Indian Head Coal Co., were all shut down when visited by the Inspector, and we were unable to learn when they expect to resume operation.

ALPINE MINE.

P. O., Alpine.

Transportation, C. S. R. R.

Operated by the Alpine Coal Co. J. T. Hill, General Manager.

Mines visited October 31st by Inspector Cole, but were not in operation. There was no one there to show through the mine and did not inspect.

Rockcastle County.

DIAMOND MINE.

P. O., Livingston.

Transportation, L. & N.

This was formerly the New Livingston Mine, but is now operated by The Diamond Coal Co. W. R. Ballou, of Williamsburg, Ky., President and General Manager.

This mine is up the Rockcastle river a short distance from Livingston. The coal is mined by electricity and hauled to the outside by electric motors, where it is let down incline across the river, and is then hauled to tippie by electric motors. At present the mine is not in operation.

Whitley County.

BURKE HOLLOW MINE.

Office, Jellico, Tenn.

Transportation, L. & N.

Operated by Burke Hollow Coal Co.

This company is operating both the Blue Gem and Jellico seams of coal. They have electric haulage and electric machines. Coal is hauled to knuckle by electric motors and let down incline to tippie.

Inspected twice in 1908 by Inspector Cole, and their upper, or Jellico, mine was in first-class condition, but the lower, or Blue Gem, mine was not well ventilated. They had too many openings to surface and air could not be controlled by fan. At last inspection company was notified that conditions would not be tolerated any longer, and that they must at once furnish sufficient ventilation or be called to answer in court for not so doing.

THE CAMPBELL MINES.

P. O., Coalmont.

Main Office, Atlanta, Ga.

Transportation, L. & N.

Operated by Campbell Coal Mining Co. R. O. Campbell, President and General Manager.

Compressed air is used for mining purposes, and coal is hauled by mules to knuckle and let down incline. They are located about three miles north of Williamsburg on the L. & N. R. R., and about one-half mile south of Watts Creek coal mines, and are working the Jellico seam of coal.

Inspected twice in 1908 by P. V. Cole, in September and December. At last inspection all conditions were satisfactory.

COOK JELICO MINE.

P. O., Jellico.

Transportation, L. & N.

Operated by Cook Jellico Coal Co. E. S. Helburn, President; L. S. Helburn, Secretary and General Manager.

Located on what is known as the Bird Eye Road, which leaves the main line at Saxton, Ky. They are working the regular Jellico seam of coal of about the usual thickness and are working about 70 men. Mule haulage to knuckle and let down incline to tipple.

At last inspection, November 25th, some parts of the mine were badly ventilated. Company was given notice that conditions could not be tolerated as they were. Other conditions satisfactory.

THE DOWLAIS MINE.

P. O., Jellico, Tenn.

Transportation, L. & N.

Operated by the East Tennessee Coal Co. W. E. Davis, General Manager.

This company has under their control four different operations—mines Nos. 1 and 2 and two Blue Gem mines. They use electric machines at their old mines. Coal is hauled to knuckle by mules, then let down incline and hauled from there to tipple by steam engine. They work Jellico and Blue Gem seams of coal, and altogether about 200 men are employed.

At last inspection all were in good condition, except what they call the new side. Ventilation was not sufficient at this mine and notice was served accordingly.

ELITE MINE.

P. O., Jellico, Tenn.

Transportation, L. & N.

Operated by Elite Coal Co. L. M. Scott, President; John Stone, General Manager.

Located on Bird Eye Road just east of Jellico Coal Co.'s mine and are working the Jellico seam of coal.

Inspection, August 15th, mine was not in satisfactory condition. At last inspection, November 28th, there was some improvement.

FRENCH MINE.

P. O., Halsey.

Transportation, L. & N.

Operated by French Coal Co. F. French, General Manager.

Located on Bird Eye or Halsey Road, leaving L. & N. at Saxton, Ky. They are about one-half mile east of Wender mines and are working Jellico seam of coal. Mule haulage to knuckle and let down incline to tippie.

Inspected June 30th and November 27th, and conditions fairly good both times with the exception of air being weak on 2d Right Entry. Employ about 30 men.

HALSEY MINE.

P. O., Halsey.

Transportation, L. & N.

Operated by Halsey Red Ash Coal Co., owned by Louisville Property Co.

Have electric haulage and mining machinery. Located about five miles from main line on Halsey or Birdseye road. This company seems unfortunate in business, as they changed management two or three times during the year of 1908 and were idle a great deal of the time and had two men killed by accident, one by electric wire and one by runaway coal car on incline.

Inspected October 27th and November 22d. Ventilation sufficient, but other conditions not satisfactory.

IMPERIAL-JELICO MINE.

P. O., Rockhold.

Transportation, L. & N.

Operated by Imperial-Jellico Coal Co. J. W. Siler, President; John Morgan, General Manager and Superintendent.

Electricity is used for mining and haulage to knuckle where it is let down incline. Located on spur road from Rockhold to mine, and work the Jellico seam of coal.

Inspected September 15th and air was insufficient, and it seemed that airways were either too small or were choked in some places.

Inspected December 31st; conditions fairly good, both as to air and other conditions.

KENSEE MINE.

P. O., Kennsee.

Transportation, L. & N.

Operated by Main Jellico Mountain Coal Co. T. C. DuPont, President; Hywel Davies, Vice-president; J. H. Barker, Superintendent.

This is an old company working a Jellico seam of coal near Jellico, Tenn. Have two mines in operation, the old and the new side, and are working in all about 200 men. Have mule haulage to knuckle and then cars are let down incline to tippie.

Inspected August 26th and November 13th. Mine found in satisfactory condition with exception of a few minor defects. Timbering and drainage very good.

MOUNT MORGAN MINE.

P. O., Williamsburg.

Transportation, L. & N.

Operated by Mt. Morgan Coal Co. W. H. Mauri, Manager.

They are working the Jellico seam of coal. Mining is done by compressed air; mule haulage to outside, steam motor to knuckle and mine cars are then run over incline to tippie.

This mine inspected three times this year, once by Cain and twice by Cole, and was generally satisfactory with the exception of No. 12 Cross Entry. The air was cut off by slate fall in air-

way September 4th and at last inspection company was ordered to stop work on this entry until it was cleaned up and ventilated.

Output about 500 tons daily when in full operation.

MOUNTAIN ASH MINE.

P. O., Mt. Ash.

Transportation, L. & N.

Operated by Jellico Coal Mining Co. Arthur Groves, President; W. T. Lewis, General Manager. Use electricity for haulage and other purposes; also use compressed air for mining. Work some mules inside for gathering purposes and motors are used both inside and out to haul coal to knuckle where it is let down incline to tipple.

Inspected September 2d; conditions satisfactory. Inspected December 2d; air was not sufficient, as the company had too many breaks to outside and could not control the air currents. They are preparing to make a change, which, in the opinion of the writer, will be successful. They work about 200 men and load near 500 tons daily when in full operation.

PLEASANT VIEW MINE.

P. O., Pleasant View,

Transportation, L. & N.

Operated by Pleasant View Coal Co.

Has mule haulage and incline.

Inspected September 8th and December 9th, but mines were idle both times. At first inspection mines being idle, inspected as best we could. With proper diligence, should be aired with the furnace and stack which they now have. However, as there was no fire in furnace, we could not say what the velocity of air would be. They have only a small output.

STEARNS MINE.

P. O., Stearns.

Transportation, C. S. R. R.

Operated by Stearns Coal Co. J. S. Stearns, President; J. E. Butler, Superintendent and General Manager.

This company does a large business when in full operation, shipping about eight or nine hundred tons daily.

Inspected October 29th. In a general way their mine was in good condition. There were some entries where air was not as strong as it should have been, but their intake air was sufficient for all their different operations and fairly well conducted. Other conditions satisfactory. They use electricity for haulage and other purposes and have their own railroad running about 15 miles from Stearns to the mines and operate it by carrying passengers as well as hauling coal. (The Stearns Coal Co. operates five mines. Just which one of the mines Mr. Cole refers to is not apparent.—C. J. N.)

SUNBEAM MINE.

P. O., Jellico.

Transportation, L. & N.

Operated by Chas. Vermillion, near Jellico, Tenn.

This is a Blue Gem mine working about twenty men and use mule haulage and incline.

At last inspection, November 12th, all conditions were satisfactory.

RED ASH MINES.

P. O., Red Ash.

Head Office, Williamsburg, Ky.

Transportation, L. & N.

Operated by Proctor Coal Co. Located on spur road which leaves the main line at Jellico. They work about 200 men and are working the Jellico seam of coal. Have mule haulage direct to tippie.

Inspected September 1st. Air was not as good as it should have been at face of working places. Most of the work was drawing stumps and pillars. However, we had no serious complaint to make, as the company seemed anxious to make any change that was suggested for the better. All things considered, the mine was in fairly good condition and is well managed by Mr. Philip Frances, of Jellico, Tenn.

WATTS CREEK MINE.

P. O., Wofford, Ky.

Transportation, L. & N.

Operated by Watts Creek Jellico Coal Co. Isaac L. March, President; C. J. Tobias, General Manager.

Located about two miles north of Williamsburg and about

one-half mile south of Campbell Coal Co.'s mines at Coalmont. Work Jellico seam of coal. Mule haulage to lieaway, rope from here to knuckle and down incline to tippie.

Inspection September 9th; air and other conditions satisfactory. Inspection December 12th; mine in fairly good shape, but could not get complete information as to air, as they were not in full operation.

WENDER BLUE GEM MINE.

P. O., Jellico, Tenn.

Transportation, L. & N.

Operated by Wender Blue Gem Coal Co., located on the spur road which leaves the L. & N. at Saxton. They are working two seams of coal, one called the Blue Gem and one the Jellico seam. They have only a small output.

Inspected twice during the year and found to be in satisfactory condition both times.

PERRY V. COLE,

Assistant Inspector of Mines.

NORTHEASTERN DISTRICT.

REPORT OF A. G. SPILLMAN.

FOR JANUARY.

HENRY CLAY COAL & COKE CO.

P. O. Lookout, Ky.

Upper Elkhorn Mine.—Inspected January 24th, and all conditions were found to be satisfactory. See Inspection Notice No. 139.

PIKE CONSOLIDATED COAL & COKE CO.

P. O., Hellier, Ky.

Lower Elkhorn Mine.—Inspected January 24th, and all conditions were found to be satisfactory. See Inspection Notice No. 140.

MEEK COAL CO.

P. O., Meek, Ky.

Meek Mine.—I examined this mine January 25th. Upon my preceding inspection I directed that the door on the Main be repaired, and also the door leading to the furnace. These instructions were not complied with. Written instructions were given the company to make these improvements at once. See Inspection Notice No. 141.

THACKER COAL MINING CO.

P. O., Thacker, W. Va.

No. 1 Mine.—I inspected this mine January 27th. There were three (3) open break-throughs between the main entry and air course. Conditions elsewhere in the mine were satisfactory. See Inspection Notice No. 142.

THACKER COAL MINING CO.

P. O., Thacker, W. Va.

No. 2 Mine.—Inspected January 27th, and ventilation, drainage and timbering were satisfactory. See Inspection Notice No. 143.

FREEBURN COAL & COKE CO.

P. O., Edgerton, W. Va.

No. 2 Mine.—I examined this mine January 28th. On the main entry air course the faces of the rooms were more than 60 feet ahead of the air. Conditions elsewhere in the mine were satisfactory. See Inspection Notice No. 144.

No. 4 Mine.—I examined this mine January 28th. The face of the 1st South was 100 feet ahead of the air, and the face of the Main was 90 feet ahead of the air. All conditions elsewhere were satisfactory. See Inspection Notice No. 145.

C. W. CAMPBELL, SPECIAL RECEIVER, PIKE COLLIERIES CO.

P. O., McCarr, Ky.

No. 1 Mine.—I examined this mine January 28th. The mine was very defective with respect to ventilation. The furnace power is inadequate to properly ventilate this mine, and proper

provision is not made for sending what current there is to the working places. Props are too far from the faces of the rooms. Drainage satisfactory. See Inspection Notice No. 146.

No. 2 Mine.—Inspected January 28th. Sufficient air is entering the mine and traveling the entries, but there are no curtains or doors in the mine, and consequently the current does not travel the working places as required by law. See Inspection Notice No. 147.

VULCAN COAL CO.

P. O., Vulcan, W. Va.

Vulcan Mine.—Inspected January 29th. The mine was in an excellent condition in all respects.

Very respectfully,

A. G. SPILLMAN,

Assistant Inspector of Mines.

REPORTS OF WILLIAM BURKE.

REPORT FOR SEPTEMBER.

ELKHORN CONSOLIDATED COAL & COKE CO.

Local Office, Hellier, Ky. Principal Office, Hellier, Ky.

Transportation, Big Sandy Division of the C. & O. Railroad.

Operated by the Elkhorn Consolidated Coal & Coke Co. For Rogers, President, Pikeville, Ky.; J. L. Morgan, General Manager, Pikeville, Ky.; M. L. Goodson, Mine Foreman, Hellier, Ky.

The mine is equipped with four Class L Harrison machines and two Post machines No. 762 and No. 763, one 159 H. P. Atlas tubular boiler and one Norwalk compressor.

Inspected September 11th. There were 24 men and 2 mules in this mine. A furnace was depended on for ventilation. Drainage, timbering and ventilation satisfactory.

PIKE COAL & COKE CO.

Local Office, Hellier, Ky. Principal Office, Boston, Mass.

Transportation, Big Sandy Division of the C. & O. Railroad.

Operated by the Pike Coal & Coke Company. Charles E. Hel-

lier, President, Boston, Mass.; R. W. Hayes, General Manager, Hellier, Ky.; Frank Jones, Mine Foreman, Hellier, Ky.

The mine is equipped with two M. Harrison machines and four L. Sullivan machines, one 150 H. P. Atlas tubular boiler and one Norwalk compressor; coal handled by Jeffrey conveyor; aired by 12-foot Crawford-McCrimmon fan.

Inspected September 11th. There were 40 men and 4 mules in this mine. Timbering, drainage and ventilation satisfactory.

HENRY CLAY COAL & COKE CO.

Mine Office, Henry Clay, Ky.

P. O., Lookout, Ky.

Transportation, Big Sandy Division of the C. & O. Railroad.

Operated by the Henry Clay Coal & Coke Co. E. G. Foust, President, Pottsville, Pa.; C. W. Evans, General Manager, Lookout, Ky.

A furnace is depended on for ventilation; coal is mined from the solid.

Inspected September 14th. There were 34 men and 4 mules in this mine. Timbering, drainage and ventilation satisfactory.

BIG BRANCH COAL & COKE CO.

Mine Office, Big Branch.

P. O., Lookout, Ky.

Transportation, Big Sandy Division of the C. & O. Railroad.

Operated by the Big Branch Coal & Coke Co. Harry Bery, President, Philadelphia, Pa.; J. W. Cockill, General Manager, Lookout, Ky.

Mine No. 0.—The mine is equipped with 4 M. Harrison machines and 1 hammer drill, one 150 H. P. Atlas tubular boiler and one Norwalk compressor.

Inspected September 14th. There were 18 men and 1 mule in this mine; aired by 9-foot S. B. Stine fan. Timbering, drainage and ventilation very good.

MARROWBONE COAL & COKE CO.

Mine Office, Lookout, Ky.

P. O., Lookout, Ky.

Transportation, Big Sandy Division of the C. & O. Railroad.

Operated by the Marrowbone Coal & Coke Co. J. F. McCrackin, President, Edenbarn, Pa.; J. P. Mumaw, General Manager, Lookout, Ky.

A furnace is depended on for ventilation. Coal is mined from the solid.

Inspected September 15th. There were 12 men and 1 mule in this mine. Timbering, drainage and ventilation satisfactory.

GREENOUGH COAL & COKE CO.

Mine Office, Hellier, Ky.

P. O., Hellier, Ky.

Transportation Big Sandy Division of the C. & O. Railroad.

Operated by the Greenough Coal & Coke Co. Edward Brenam, President, Shamakin Penn; W. P. Caldwell, Secretary and Treasurer, Shamakin Penn; Leander Castle, General Manager, Hellier, Ky. The mine is equipped with Six Class, L, Harrison Pick Machines and Six Whitcomb Post Machines one 150 Horse Power Atlas Tubulor Boiler and one Norwalk Compressor.

A furnace depended on for Ventilation.

Inspected September the 15th. There were fourteen men and four mules in this mine. Timbering and drainage very good. Ventilation badly deranged on account of break throughs leaking and airways not properly cleaned up.

SHELBYANA COAL & COKE CO.

Mine Office, Shelbyana, Ky.

P. O., Shelbyana, Ky.

Transportation, Big Sandy Division of the C. & O. Railroad.

Operated by the Shelbyana Coal & Coke Co. C. W. J. Walker, President and General Manager, Crumpler, W. Va.

Inspected September 17th. The company was engaged in construction work and driving entries.

KEWANEE COAL CO.

Mine Office, Kewanee, Ky.

P. O., Pikeville, Ky.

Transportation, Big Sandy Division of the C. & O. Railroad.

Operated by the Kewanee Coal Company.

Visited September 17th. The company was engaged in construction work and driving entry, and no inspection was made.

LOWE COAL CO.

Successors to Hamlak Coal Co.

Mine Office, Hamlak, Ky.

P. O., Mossy Bottom.

Transportation, Big Sandy Division of the C. & O. Railroad.

Operated by the Lowe Coal Company. John Lowe, General Manager, Mossy Bottom, Ky.

Inspected September 21st. This mine is not running; are engaged in construction work and re-opening of the same seam of coal.

THE WAGNER COAL CO.

Mine Office, Mossy Bottom, Ky. P. O., Mossy Bottom, Ky.

Transportation, Big Sandy Division of the C. & O. Railroad. Operated by The Wagner Coal Company. Thomas Gent, General Manager and Mine Foreman, Mossy Bottom, Ky.

Inspected September 21st. A furnace is depended on for ventilation; ventilation good. Timbering and drainage not satisfactory.

PRESTON COAL CO.

Mine Office, Woods, Ky. Principal Office, Paintsville, Ky.

Transportation, Big Sandy Division of the C. & O. Railroad. Operated by the Preston Coal Company. Warren L. Preston, President, Paintsville, Ky.; F. B. Preston, General Manager, Woods, Ky.

Inspected September 22d. There were 35 men and 3 mules in this mine. Drainage very good. Ventilation deranged on account of stack burning down. Timbering not satisfactory.

JEWELL COAL CO.

Mine Office, Emma, Ky. P. O., Emma, Ky.

Transportation, Big Sandy Division of the C. & O. Railroad. Operated by the Jewell Coal Company. Nathan Barrett, Kilgore, Ky.; J. D. Barney, Mine Foreman.

Visited September 22. The company was engaged in construction work and driving entry, and no inspection was made.

BETSY LAYNE COAL COMPANY.

Mine Office, Betsy Layne, Ky. P. O., Betsy Layne, Ky.

Transportation, Big Sandy Division of the C. & O. Railroad. Operated by the Betsy Layne Coal Co. E. S. Hitchenson, Pres-

ident, Olive Hill, Ky.; C. S. Hitchenson, Superintendent, Betsy Layne, Ky.

Inspected September 22. Furnace is depended upon for ventilation. Ventilation satisfactory. Timbering and drainage very unsatisfactory.

NORTHEAST COAL CO.

Local Office, Paintsville, Ky. Principal Office, Wilksbarre, Pa.

Transportation, Big Sandy Division of the C. & O. Railroad.

Operated by the Northeast Coal Co. A. D. W. Smith, President and Treasurer, Wilkesbarre, Pa.; Richard Williams, Vice-president, Philadelphia, Pa.; H. Loviers, Superintendent, Paintsville, Ky.

Inspected 24th.

Mine No. 1.—Consists of two separate openings, known as Right and Left; aired by two 12-foot fans. Equipped with two 150 H. P. tublar boilers of Atlas make and one H. P. Engine 150 Kw. Jeffrey generator and six 27 A. Jeffrey mining machines. There were about 60 men in these two openings. Ventilation, drainage and timbering very good.

Mine No. 2.—Equipped with one 72 X. 18 Erie tubular boiler of 150 H. P., one McEwin 200 H. P. engine, one 100 Kw. Goodman generator 4, large type Goodman machine, one 27 A. Jeffrey machine and one 5-tone and one 10-tone Goodman motor. There are about 67 men in this mine. Ventilation, drainage and timbering satisfactory.

Mine No. 3.—Consists of two openings, and are designated as Right and Left. Natural means are depended upon for ventilation. Timbering and drainage very good. Ventilation not so good; however, enough for the present number of men.

REPORT FOR OCTOBER.

LOUISA MINE.

Inspection Notice No. 16B.

Local Office, Torchlight, Ky. General Office, Mt. Vernon, O.

Transportation, Big Sandy Division of the C. & O. Railroad, the coal being carried from the mines to the tipple at the railroad by aerial ropeway.

Operated by the Louisa Coal Company. F. S. McConnell, President, Mt. Vernon, Ohio; M. G. Watson, Vice-president, Louisa, Ky.; Dwight E. Sapp, Secretary, Louisa, Ky.; J. S. McConnell, Treasurer, Louisa, Ky.; C. V. Bartels, Superintendent, Torchlight, Ky.

Inspected October 22d. This is a new mine; only been working a short while. Consists in the working of two seams of coal with seven openings, and the general conditions are satisfactory.

The mine is equipped with two 150 H. P. tubular boilers and two 150 H. P. engine, and one 150 Kw. generator. The coal is cut by four Morgan-Gardener machines and is hauled to the inside lieaways by ponies, and carried from there by motors to the end of the aerial ropeway.

PEACH ORCHARD MINE.

Inspection Notice No. 17B.

P. O., Peach Orchard, Ky.

Transportation, Big Sandy Division of the C. & O. Railroad, the coal being hauled from the mine to the tippie by mules.

Operated by the Peach Orchard Coal Co. John C. Welty, President, Canton, Ohio; H. B. Scott, Secretary, ———; O. P. Chatfield, Manager, Peach Orchard, Ky.

Inspected October 26th. There were 40 men and 4 mules in this mine. Natural means were depended on for ventilation, and the air was not properly conducted to the workings. Advised roads cleaned up, doors and brattices in a number of places, and on account of men working in two different sections with old workings between, advised two furnaces to be put in operation at once.

CRYSTAL BLOCK COAL CO.

Inspection Notice No. 18B.

P. O., Peach Orchard, Ky.

Transportation, Big Sandy Division of the C. & O. Railroad, the coal being hauled from the mines by mules to the tippie.

Operated by the Crystal Block Coal Co. F. L. Stewart, President, Louisa, Ky.; Wm. Roof, Secretary, Louisa, Ky.; H. C. Sullivan, Treasurer, Louisa, Ky.; J. H. Daniels, Foreman, Peach Orchard, Ky.

Inspected October 26th. This is a new mine. There were only 10 men in, and the general conditions were satisfactory.

MIDDLE CREEK MINE.

Inspection Notice No. 19B. P. O., Prestonsburg, Ky.

Transportation, Big Sandy Division of the C. & O. Railroad, the coal being carried in the mine cars to the tippie.

Operated by the Middle Creek Coal Co. David Holly, President, Ironton, Ohio.; R. A. Patrick, Vice-president, Paintsville, Ky.; R. E. Stanley, Secretary, Prestonburg, Ky.; Howard S. Estill, Treasurer and General Manager, Prestonsburg, Ky.

This mine is equipped with one 150 H. P. boiler, one 160 H. P. engine, one 140 M. G. generator and three Morgan-Gardener machines.

Inspected October 27th. There were 20 men and 2 mules in this mine. Aired by a 12-foot Marrow fan. Timbering, drainage and ventilation satisfactory.

PRESTONSBURG MINE.

Inspection Notice No. 20B. P. O., Prestonsburg, Ky.

Transportation, Big Sandy Division of the C. & O. Railroad.

Operated by the Prestonsburg Coal Co. J. S. Gillespie, President, Tazwell, Va.; S. D. May, Vice-president, Tazwell, Va.; Barnes Gillespie, Secretary and Treasurer, Tazwell, Va.; J. W. Alley, Superintendent, Prestonsburg, Ky.

Visited October 27th. This company is engaged in construction work and will be ready to ship coal about December 1st.

SANDY RIVER MINE.

Inspection Notice No. 21B.. P. O., Lower Greasy, Ky.

Transportation, Big Sandy Division of the C. & O. Railroad, the coal being carried about three miles on narrow gauge road to the tippie.

Operated by the Sandy River Coal Co. F. A. Stacy, President, Chillicothe, Ohio; J. P. Dieter, Secretary and Treasurer, Chicago, Ill.; H. S. Bowling, Superintendent and General Manager, Lower Greasy, Ky.

Inspected October 28th. There were about 40 men and 4 mules in this mine. Ventilation, drainage and timbering satisfactory, all except on an entry known as Captain Butcher entry rooms. Drove more than 100 feet without brakes; advised breaks every 60 feet.

MEEK MINE.

Inspection Notice No. 22B. P. O., Meeks, Ky.

Transportation, Big Sandy Division of the C. & O. Railroad.

Operated by the Meek Coal Co. J. N. Meek, General Manager, Meeks, Ky.; Bert Price, Mine Foreman, Meeks, Ky.

Inspected October 28th. There were about 17 men in this mine. A furnace was depended on for air. Timbering satisfactory. Ventilation not good on account of open breaks; were advised to be closed.

TIBBALS MINES.

Inspection Notice No. 23B. P. O., Lower Greasy, Ky.

Transportation, Big Sandy Division of the C. & O. Railroad.

Operated by the Tibbals Coal Company. Wallace Tibbals, President, Lebon, Ohio.; David Armstrong, Vice-president, Jackson, Ohio; C. E. Tibbals, Secretary-Treasurer and General Manager, Lower Greasy, Ky.

Inspected October 28th. All conditions satisfactory.

REPORT FOR NOVEMBER.

VULCAN MINE.

Inspection Notice No. 24B.

Local Office, Vulcan, W. Va. Tel. Office, Vulcan, W. Va.

Transportation, Norfolk & Western Railroad, the coal being carried from the mines to the railroad by an aerial ropeway.

Operated by the Vulcan Coal Company, Vulcan, W. Va. W. C. Stevenson, President; A. Stone, Vice-president; Roger Martin, Secretary and Manager, Vulcan, W. Va.

Inspected November 10th. There were 50 men and 4 mules in the mine. It being idle on day of inspection, made it impossible to get a close inspection of the mine. All conditions looked to be satisfactory.

FREEBURN MINE.

Inspection Notice No. 26B.

Local Office, Edgarton, W. Va. General Office, Lynchburg, Va.

Transportation, Norfolk & Western Railroad, the coal being carried from the mines to the incline by small locomotives.

Operated by the Freeburn Coal Company, Edgerton, W. Va.; Frank P. Harmon, President; James R. Gilliam, Treasurer; W. A. Young, Secretary; C. O. Smith, General Manager, Edgerton, W. Va.

Inspected November 11th. This mine consists of two seams of four openings, each opening aired by furnace. There were 82 men and 12 mules employed in these openings and general conditions were satisfactory.

MAJESTIC COLLIERIES CO.

Inspection Notice No. 26B.

Local Office, Cedar, W. Va.

General Office, Cedar, W. Va.

Transportation, Norfolk & Western Railroad. W. A. Phillips, President and General Manager, Ashland, W. Va.; S. W. Patterson, Vice-president, Vivian, W. Va.; Morris Watts, Secretary, Eckman, W. Va.; George C. Graeber, Treasurer, Shomakin, Pa.; A. B. Rawn, Superintendent, Cedar, W. Va.; Chas. A. Warden, Foreman, Cedar, W. Va.

Visited November 11th. This company was engaged in construction work and driving entries, and no inspection was made. Will be shipping coal about January, 1909.