REPORT

OF THE

Mine Inspector for Allegany and Garrett Counties Maryland

Covering Inspections of Coal and Fire Clay Mines from May 1, 1904, to May 1, 1905

THOMAS MURPHY, Mine Inspector

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LETTER OF TRANSMITTAL.

To His Excellency, Edwin Warfield,

Governor of Maryland.

Sir: I have the honor to submit herewith my first annual report as Mine Inspector for Allegany and Garrett counties, in compliance with the requirements of Chapter 124, of the Acts of the General Assembly of 1902, January session.

Very respectfully,

THOMAS MURPHY,

Mine Inspector.

REVIEW

OF

CONDITIONS

WITH

RECOMMENDATIONS.

In 1904 the business of coal mining in this State has not been, perhaps, so prosperous, as during the "boom times" of 1902 and 1903; yet the business has shown a steady and persistent growth, something always more helpful to any industry than that of "mush-room" variety. The production of 1904 is said to have fallen slightly under the output of 1903; as no official records covering 1903 have been available, I cannot state positively. The total amount of coal mined in the two counties—Allegany and Garrett—in 1904, was 4,277,196 tons; of this amount 427,332 tons was mined by the use of machinery. The total number of men engaged in the production of coal was 5,996. There is considerable present activity in development of new coal operations in the Maryland fields, and the output is more likely to increase than diminish in the future. At present this development is more active in Garrett county, along the line of the West Virginia Central and Pittsburg Railroad, and is confined to the lower veins, geologically speaking, all of which are also found in the Georges Creek basin in Allegany county, but mainly undeveloped as yet. The accidents for the period from May 1, 1904, to May 1, 1905, are given in detail during the course of this report; the only recommendation apparent in this matter is, that mine foremen or their assistants be obliged to visit each working place at least once in every two days. It is true that many foremen do now make inspections throughout their mines daily, but many do not; and were the law to compel visits every two days, the number of

accidents from carelessness would be greatly lessened. This would also greatly aid the Inspector in enforcing the law; sometimes miners grow careless in protecting their working-places with timbers, for which they are responsible; if the mine foreman or his assistants find and report careless miners, the Inspector would be enabled to compel greater attention to duty, and thus prevent many distressing accidents, often involving others beside the ones directly responsible for disaster.

I am glad to say that most of the companies are endeavoring to observe the law with reference to ventilation. Commendable efforts are being made to carry out the requirements of the law. In some cases, where the ventilation laws were persistently violated, action was brought against those responsible, under the law; a more detailed account of which will be found in an appropriate section of this report. Every effort was made to adjust these cases amicably before proceeding to the unpleasant task of invoking the aid of the Courts; but the law must be observed at whatever trouble. In some particular instances, full enforcement, however, under existing conditions, can not well be had; certainly not immediately. In such case, if every effort to obey the law to fullest possible extent is made, it would seem that should fairly be considered compliance.

I would recommend a change in the maximum distance permitted between cut-throughs, from 105 feet, as at present, to 70 or 80 feet, for thin veins, especially in rooms, where the ventilating current moves most slowly. Most men are disposed to take the limit allowed by any law; and while most companies operating thin veins are doing so now, it would be well to fix a smaller distance definitely, against the time when the thinner seams will be largely developed in Maryland.

I earnestly request a recommendation to the next session of the General Assembly, of a change in the present section relating to the burning of oil in mines—Sub-section E, Duties of Employees: "No employee shall burn any oil in the mines, composed wholly or in part of petroleum or its products, but such oil must be at least seventy-five per cent. pure lard. Provided, that this Section shall not prevent the use of 'Sunshine,'as an illuminant." At no time has this section been enforced, and it seems impossible to enforce it as it stands. Poor results have followed efforts to

induce employers and employees to use better grades of oil. I have laid the matter before each Grand Jury without accomplishing anything. The constant objection is, that oil of the grade required cannot be procured from store-keepers.

It is necessary to have better oil burned, to keep the supply of air uncontaminated by noxious smoke, ruinous to the health of every man within the poisonous draft. I am satisfied that it is the desire of everyone to burn a better grade of oil, but some different mode of securing observance of this necessary provision is essential. Dealers say that when they furnish a superior grade of oil, they cannot sell it, since they cannot compete with men offering cheaper grades of oil. Various Mine Inspectors throughout other mining States advise me that only in States prohibiting either the manufacture or sale of inferior grades of miners' oil is there anything like success in securing attention to the importance of burning good oil, uniformly, through the mines. The present section, also, sets the standard unnecessarily high. Oils are sold, having less than seventy-five per cent. lard, that give off very little smoke; and with a reasonable standard grade required, and the manufacture, sale by any dealer, or use by anyone connected with the mines, of a grade below the standard, prohibited, under penalties, it is safe to say that a great amount of the dangerous smoke nuisance would be abated.

In view of the fact that one fatal accident during the year resulted from the careless handling of blasting powder, it would be well for the Assembly to consider the question of regulating the amount of powder a miner may take into the mine in any day or shift. Shot-firing should either be regulated by law, or authority given the Inspector to impose regulations for the protection of ventilation in mines, from reckless, indiscriminate blasting, both by coal companies and individual miners. Maryland's mining laws provide as much air ventilation as any State in the Union, excepting only the dangerous, explosive-gas impregnated mines of the anthracite mines, in Pennsylvania; but when shots are fired without regard to the ventilation, the air will not clear off smoke from the workmen as it should be cleared.

I am indebted to the coal companies of both counties for the manner in which they furnished me the statistical matter herein

contained, also to my predecessor for copies of his reports, covering his term of office.

For the supplying of many things necessary to the proper equipment of the Mine Inspector's office, there should be an expense or contingent fund provided the Inspector.

THE COAL AREA OF MARYLAND.

In preparing the statistical information for this Report, I sent to the various coal companies, among other questions, requests for statements of the various veins or seams of coal workable, on their properties; and their estimates of the area unworked. Many of the companies, particularly the larger ones, were unable to furnish this information upon such short notice; but it is evident from the incomplete information obtained that the revenues yet to be expected from Maryland's coal industries are almost limitless. Seven or eight workable seams, beside the "Big Vein," are almost untouched; and very large acreages of each have been defined. Of the "Big Vein," generally reputed about exhausted, I believe that with the present improved methods of mining as much coal will yet be marketed as has been shipped in the history of the region from the first opening until now. One company, popularly supposed to be about "worked out" reports yet unmined, 500 acres of this famous coal, of which only 17,000 to 20,000 acres was supposed to exist in the beginning.

I regret that complete figures upon the extent of coal could not be secured in time for this report, but hope to be able to furnish accurate statistics by next May 1.

TABLE SHOWING INSPECTIONS DURING YEAR.

COMPANY	MINE	NO. VISITS
Cumberland Basin Coal Co.	Barrelsville	2
McMullen Bros.	Barrelsville, No. 1	5
Georges Creek Bald Knob Coal Co.	Nos. 1 and 2 Bald Knob	4
Wachovia Coal Co.	No. 1 Montell	4
Midland Mining Co.	Trimble mine	7
	Enterprise	7
Union Mining Co.	Union No. 2	12
	Union No. 1	8
Consolidation Coal Co.	Ocean No. 1	18
	Ocean No. 3 (Hoffman)	16
	Ocean No. 7 (Klondyke)	19
	Ocean No. 8	7
	Ocean No. 9	7
	Ocean No. 10	2
Piedmont and Georges Creek Coal Co.	Washington No. 1	9
	Washington No. 2	7
	Washington No. 3	7
Georges Creek Coal and Iron Co.	No. 1 (Engineside)	7
	No. 3 (Pine Hill)	7
	No. 9 Columbia)	7
	No. 12	3
	No. 10	5
	Nos. 16 and 17 (Tyson)	5
Barton and Georges Creek Valley Coal Co.	Carlos mine	9
Braddock Coal Co.	Pine City	6
H. & W. A. Hitchins Co.	Borden mine	7
New Central Coal Co.	Big Vein and Tyson	7
Maryland Coal Co.	Appleton	8
	Patton	7
American Coal Co.	Jackson	9
	Caledonia	8
Piedmont Mining Co.	Pekin mine	7
	Moscow mine	5
W. J. Chapman Coal Co.	Swanton mine	8
Potomac Mining Co.	Potomac mine	8
Phoenix and Georges Creek Coal Co.	Phoenix mine	7
Frostburg Coal Co.	Ginseng	3
Cumberland-Georges Creek Coal Co.	Penn Colliery	8
Moscow-Georges Creek Coal Co.	Nos. 1 and 2	6
Piedmont-Cumberland Coal Co.	Hampshire	7
Davis Coal and Coke Co.	Buxton	6
Lonaconing Coal Co.	Shamrock	1
Dateman Mining Co., now Stoyer Run Coal Co.	Stoyer	5
Garrett County Coal Mining Co.	Dodson	5
Upper Potomac Coal Co.	Upper Potomac	5
Blaine Mining Co.	North American mine	7
Monroe Coal Mining Co.	Barnum	6
Davis-Harvey Coal Co.	Blaine mine	2
Nethkin Coal and Coke Co.	Bayard	2
Bloomington Pattison Coal Co.	Black Bear	3
Total visits to coal mines during	year	337
The Union Mining Co.	Fire Clay mines	5
Big Savage Fire Clay Co.	Mine	5
Savage Mountain Fire Brick Co.	Savage Mt. mine	2
Total visits to Fire Clay mines		12
Total visits of inspection during year		349

This includes testing scales, going back to mines where fatal accidents have occurred, and all other visits of inspection. It will be noticed that more visits are recorded than there are working days. In cases where mines are small and close together, two or three may be inspected in one day—at one place four. A tremendous amount of physical labor is required in properly inspecting a mine. The working places—where every miner is at work—should be personally seen, to be informed whether the miners are painstaking and careful, and whether they have the ventilation to which every man engaged in the dangerous and often unremunerative calling of a miner is entitled. In some of the small vein mines, where the visitor must crawl upon hands and knees to reach the miners, or in such mines as Ocean No. 7, of the Consolidation Company, employing 650 miners, this is a slow and arduous task.

Description of the Mines.

McMULLEN BROS.

Mine No. 2. Barrelville.

D. F. McMullen, Gen. Manager. James Barrett, Mining Supt.

Cumberland, Md. Frostburg, Md.

In September of 1904 the McMullen Bros., a new coal concern, shipped their first coal from an opening in the "Blubaugh" or "Brookville" seam of coal. At this point the "Blubaugh" coal seems better than at any other place yet developed. While the mine is not yet driven far enough in to secure the regular height of the coal, yet a high quality of output is being secured. With this, as in all other operations, particularly in the smaller veins, the great difficulty is to keep the coal clean; when some method is evolved for freeing low veins of impurities at less expense, the problem of mining the smaller seams will have been solved.

This company has an inclined plane about 1,900 feet long; a tramway about 2,000 feet long extends to the opening. As yet not enough men are employed to bring this mine under the provisions of the mining law. Shipments are made over the Cumberland & Pennsylvania Railroad.

CUMBERLAND BASIN COAL COMPANY.

The Cumberland Basin Coal Company, whose mines are situated at Barrelville, about eight miles from Cumberland, along the Cumberland & Pennsylvania Railroad, suspended operations June, 1904. The only time their mines were working was upon the occasion of my first visit, May 5, 1904. This company worked

what is known as the "Parker" or "Clarion" seam, situated about thirty feet above the horizon of the "Blubaugh" or "Brookville" coal vein, but unlike that coal, is generally uniform in character. Very few men worked in the mine when I inspected it, and since then it has been idle. A small locomotive owned by the company, operates over a branch line, which serves also to ship the coal from the Georges Creek Bald Knob Coal Company's mine, by a "switchback," over the Cumberland & Pennsylvania Railroad. The Cumberland Basin Company's mine has two openings, known as "Stafford" and "McGlone."

GEORGES CREEK BALD KNOB COAL COMPANY.

Jerry Wiland, Supt. and Mine Foreman.

This operation is situated about two miles north of Mt. Savage, and is what was known as the Brailer property. It is the most northerly outcropping of the "Big Vein" and not as free from impurities as this famous coal further south.

There are three openings here, and the development work is among the best in the region. A tramroad about two miles in length is used to convey the coal in the mine cars to the head of the plane, by means of a locomotive. Thence the cars are lowered down the plane, about half a mile to the dump, which is across the State line in Pennsylvania, and there shipment is made via the "switchback" on the Wellersburg branch, to the Cumberland & Pennsylvania Railroad, back in the State.

Ventilation in this operation, by means of a furnace, gives entire satisfaction at present; the area opened is yet small. On a recent inspection the following ventilation pressure was found:

Where Measured.	Cubic feet air.	Number Employees	Air per man
Intake to "first right,".....	5,280	25	211

All miners and laborers are supplied with this current.

Return to furnace, 6,360 cubic feet per minute.

Scales in good condition.

General conditions of roads and drainage, good.

MIDLAND MINING COMPANY.

W. A. Somerville, Supt.

Enterprise Mine.

John Askey, Mine Foreman.

The Enterprise mine of this company is about one-fourth mile east of Midland, on a branch of the C. & P. Railroad. It is on the east side of the old drift of "Ocean mine," the first of the Consolidation Coal Company's mines of that name. This mine was thought to have been worked out years ago, but the Midland Mining Company secured a lease of the old workings about 1900, their first shipments being made in January of 1901, and they are working at present, with prospects for a good many years. The most of their mining runs down grade " to the dip," making it rather expensive coal to mine. At one opening, however, they have a slope, from which they haul the coal by a stationary engine, with a rope system. The system was installed in September, 1904 —a 75-horse-power Connelsville Mfg. Co. engine and hoist—and has about doubled the output of the mine.

Ventilation of Enterprise mine is generally fair, having to depend on natural means and whatever ventilation works over the old workings from the small fan used at Ocean No. 1, by the Consolidation Coal Company. About fifty men are employed.

Trimble Mine.

J. W. Stevens, Mine Foreman.

This company's Trimble mine is situated between Morantown and Mt. Savage, at the extreme eastern point where the "Big Vein" exists. This mine has been embarrassed by "faults" or disturbances, being on the edge of the coal stratum, where the work of ages seems incomplete. It is the "tail-out" of the Big Vein. Partly on account of this fact, ventilation has been generally very poor. Hardly ever are men enough employed to bring the mine under the provisions of the mining law. At my last visit this mine was much better ventilated, an air shaft having been sunk. Shipments are made over the C. & P. R. R., with an incline plane, and tramroads leading to the three different openings of the mine.

NEW YORK MINING COMPANY.

Henry Shriver, Superintendent. John Sullivan, Mine Foreman.

Union Mine No. 2.

Union Mine No. 2, of the New York Mining Company, is one of the "big mines" of the region, employing about 450 men, miners and laborers. It occupies nearly the extreme eastern outcrop of the Big Vein. The mine is a drift, operated on the double entry system, varied in places where very heavy faults have been encountered, the rock at times cutting out the coal entirely. This rock, which lies in the center of the coal stratum, is peculiar to the upper end or eastern portion of the Georges Creek field, and seems to thicken and the coal become thinner as the outcrop is neared. Mining is frequently highly dangerous, because of the great height—often 12 to 14 feet; and only by the greatest care on the miners' part, and constant attention and watchfulness from the mine foreman, are accidents kept at the low rate generally maintained.

Ventilation is furnished by two fans, to the right and left sides of the mine. This peculiar method deserves particular description. There are two openings, one upon the right and one the left side of the mine. Beside these are two secondary openings, serving as "intakes" from the fans. The right "intake" conducts the ventilating current to the five right headings, of which Nos. 2, 3, 4, 5 and 9 are now being worked. The 9th and 10th being close to the surface, when pillaring began constantly caved clear through to the surface, making plenty of outlets and insuring a good supply of fresh air at all times. Coal of good quality occurs here beneath six feet of covering. The left side of the mine is much the same as the right, there being ten "lefts" off the main heading or haulage road. This haulage road is driven clear through the mountain, and serves as an airshaft in the winter time. "Faults" are more frequent to the left side, coal is harder, and a greater amount of powder is used in blasting. The headings are longer—consequently harder to ventilate; but at no time have I found the air current below the law's requirements, except in one heading, the "fifth." That is a spur, extending much farther than it was thought any of the headings on the left would go.

Miners often think there is not the amount of air required by law, in a heading, because smoke does not clear; but while blasting is done at any hour of the day, and sometimes three and four blasts for one carload of coal, a much greater volume of air current would hardly remove the heavy powder smoke, which is almost the same weight as the air. The excellent condition of the roads and drainage in this mine is highly creditable to the management, considering the unusual quantity of refuse accumulating in mining their coal.

This is an average inspection during the year:

Where Measured.	Cubic feet air.	Number Employees.	Air per man.
Intake from fan, right side	23,435	119	197
Intake to second right, slant and third right	9,000	28	321
Outlet, 4th, Intake 5th, right	6,864	12	327
Intake, 9th right slant	7,280	60	121
Outlet, 10th right	9,310	10	931
Natural ventilation in left side, being winte	r time.	Fan not	running.
Inside cut through, 1st left	5,135	42	122
Inside cut-through, 2nd left	6,175	55	112
Inside cut-through, 3rd left	2,850	25	114
Inside cut-through, 4th left	4,625	17	278
Inside cut-through, 5th left	1,950	27	72
Inside cut-through, 6th left	2,700	4	675
Inside cut-through, 7th left	8,400	7	1,200
Inside cut-through, 8th left	2,925	26	112
Inside cut-through, 9th left	3,690	10	369

Haulage has been one of the difficult problems in this mine. The system now working promises to solve the question. During the year an electric haulage plant has been installed. The generating plant consists of one 150 K. W. 250 volt Goodman generator, belted to a 238 H. P. McEwen engine. Two 125 H. P. return tubular boilers furnish steam. The type of haulage here is known as the "third-rail" system; a rack-rail is placed a little to one side of the center of the track, which the sprocket wheel on the motor engages, giving a positive pulling force to the motor, not dependent upon the tractive force, as do other forms of motor. This permits successful operation upon the steep grades in the mine, where ordinary tractive hauling would fail completely, or not give economical results. The motor at this plant is operated over 1½ miles of track, the maximum grade surmounted being eight feet to the hundred. 45 mine cars weighing 2,040 pounds each have been handled in one trip, the average, however, being

30 cars. The motor easily hauls this load, travelling about 30 miles a day and giving the mine an output capacity of 1,300 to 1,400 tons. The haulage was installed in December, 1904. One motor is used on the left side of the mine, a second being kept in reserve. Another motor has been ordered, and the second motor, on its arrival, will be put in service on the right side of the mine, dispensing with horses in the mine, except for gathering purposes. Eighteen horses were displaced by the motor now working. Sufficient power is generated for lighting by electricity, and to operate the fans by motor. An automatic water purifying device, which has been installed, is new to the region. The water supply is gotten from a deep well; it contains 25 grains of scale-forming matter to the gallon, which would mean 20 to 30 pounds daily deposit in the boilers. By an ingenious device the matter is reduced to 4 grains to the gallon before entering the boilers, and all corrosive action counteracted. I consider the haulage system the safest employed in the region; the rack-rail is nearly covered by wooden railing, leaving only space for the sprocket wheels on the motor to fit in.

Acknowledgements are due Electrician Lieper P. Read, of the company, for information necessary to this description.

UNION MINING COMPANY.

Union Mine No. 1.

Henry Shriver, Superintendent. James Aldon, Mine Foreman.

Union Mine No. 1 is at the bottom of the "Y," on the C. & P. R. R., in the Big Vein, in the workings formerly made by the "New Hope" mine, a short distance from Frostburg.

Scarcely anything is working now, except drawing of "pillars." More abandoned workings surround this mine, perhaps, than any other in the region. On my first and second visits I found "black damp," or carbonic acid gas in large quantities, particularly in what is known as the "Top of the Plane." Many days the miners were forced to go home, and when they did work, it was with great prejudice to their health. The management went to work on the matter, and on my next visit a gratifying improvement appeared in the ventilation. At no time since have I found cause for com-

plaint. At this mine, as in many others, the constant failure of drivers and miners to close check-doors they have passed through, affects the ventilation, while throwing themselves liable to arrest, whenever evidence to convict them is obtainable.

About 241 miners and laborers are employed, part of the men working at night.

This is a report of ventilation in the mine:

Where Measured.	Cubic feet air.	Number Employees.	Air per man.
Intake to straight heading	10,800	27	400
Intake to 1st cross	7,980	18	443
Intake to top of plane	9,350	21	445
Intake from fan	29,160	117	249
Outlet of No. 1 slant	84,200	8	525
Intake to 14th slant	9,840	10	984
No air reading in "short heading;" ventilation good, but not confined enough to measure		18	
No air reading in 1st right; ventilation good, but not confined enough to measure		18	

This mine has been forced to reduce its number of miners during the year, because of a scarcity of working places; but this may be only for a time, until they have more room.

PIEDMONT & GEORGES CREEK COAL COMPANY.

Washington Mine No. 1.

J. S. Brophy, General Manager. Martin Condry, Mine Foreman.

Washington No. 1, formerly called the "old Washington Hollow mine," is located on the Eckhart branch of the C. & P. R. R. There are three openings, all working coal which was abandoned as worked out, years ago, before modern mining methods were applied in Maryland. This coal was thought to be lost in the days when coal companies did not appreciate the economic proposition, that good ventilation is essential to profitable mining. Thousands upon thousands of tons of coal have been lost to this region and to the wealth of the State by careless and indifferent methods of ventilation, and the laws for which the miners have always cried, have resulted in the mining of coal to-day that 20 years ago would have been simply abandoned and some other point

taken, where the inefficient ventilating means would get some measure of output. To this kind of mining Washington No. 1 owes its existence; nothing but abandoned "stumps" and "pillars" being in the mine; and it could not be operated to-day for the deadly "black damp" were not the mine between the Hoffman and Eckhart mines. The fans of these two mines keep the old workings sufficiently free from the "damp" to enable this company to work under generally fair conditions.

The law is not obeyed at this mine, nor in any mine of this character. The company does all in its power, it is true, to aid the measure of ventilation gotten from Hoffman and Eckhart's ventilating systems, but the facts already stated as to the sort of coal they are mining show the impracticability of constructing air courses and conducting the air currents around the working places as the law requires. Any time that I could see anything to improve conditions on my visits, the company has been prompt in applying the suggestions. The grit and enterprise of this concern is to be applauded, since from most adverse conditions they bring the means of support for many miners and their families, with profit to the community and State; to apply to them the strict letter of the law would close them up, and this would be a public calamity, not a public good.

The coal lies mostly to the dip from Mine No. 1, or the middle mine, and the question of haulage is serious. Were the company able to drive their places with any regularity, rope or electric haulage could be used; but it is so "cut up" that this is almost impossible.

About 80 miners and laborers are employed.

Washington Mine No. 2.

J. S. Brophy, General Manager. Philip Brown, Mine Foreman.

What was known as the "Old Aetna Mine" is now "Washington No. 2," of the Piedmont & Georges Creek Coal Company; it is on the Eckhart branch of the C. & P. R. R. The Big Vein is about worked out, and like Washington No. 1, the mine is in coal that was abandoned. Conditions here are generally good. The "Tyson," or upper mine, is at the top of an inclined plane—and is the

largest operation in this coal in the upper end of the region. It averages about 3½ feet in thickness, and is very uniform in height. The ventilation is by a blowing fan, and is good at all times. The greatest difficulty met with is disposal of water. The mine is toward the dip of the coal, and the water met with in mining runs in the way. The company has driven a couple of bore holes down to the big vein, beneath, to take off the water.

This is an average inspection during the year:

Where Measured.	Cubic feet air.	Number Employees.	Air per man.
Intake from fan	21,120	52	406
Inside cut in 1st left, 1st south	5,120	3	1,707
Inside cut for 5, 7 and 8 lefts	5,800	6	967
Inside cut, 1st north, 2nd left	1,875	4	469
Inside cut, 4th left	5,775	8	722
Inside main heading	15,375	12	1,281
Inside straight heading	3,060	7	437
Outlet at mouth of lower mine	10,700		

About 70 miners and laborers are employed here, and conditions are generally good.

Washington Mine No. 3.

M. J. Fahey, Superintendent. John Fahey, Mine Foreman.

This operation is in the six foot, or "Davis" coal, geologically known as the "Lower Kittanning," and is located at Westernport, on the west bank of Georges Creek, shipping on the C. & P. Railroad. Since this company has taken hold, the mine has been prosperous; a demonstration of the benefits following observance of the mining laws; the new owners go even further than the letter of the law, and what was practically a failure under the former holders is now, through up-to-date methods, one of the most profitable and best regulated mines in the region.

The problem of haulage is beginning to make trouble here, as the mine is constantly growing larger and getting farther from the dump; the economic side of putting the coal in the railroad cars must soon be met. I have noticed a little combustible gas in one or two of the headings of this mine, which is, I believe, "marsh gas," or carburetted hydrogen. If it comes off the coal

in sufficient quantities to become dangerous, must be treated with the greatest care and caution. I am not among those who believe a catastrophe is needed before precautions should be taken to secure safety. The mine foreman and miners are taking due care not to run into a "pot" of this gas, which if mixed in certain quantities with air is highly explosive. Wherever this gas generates, too much care cannot be exercised.

This is an average inspection report at this mine:

Where Measured.	Cubic feet air.	Number Employees.	Air per man.
Intake at the fan	31,050	119	261
Inside cut, 1st right	2,550	6	425
Outlet of "1½ right"	7,920	13	609
Inside cut in 3rd right	1,800	15	120
Inside cut in 5th right	6,050	12	504
Inside cut in 6th right	5,220	10	522
Outlet of 7th right, and main heading	3,372	22	153
Outlet of 7th left	2,450	8	306
Intake to 5th left	3,142	24	131
Outlets from old and new openings	20,270		

As will be observed, the mine is very well ventilated. This company contemplates extensive improvements in the near future; have now made another opening that will greatly help their haulage, when their dump is placed.

CONSOLIDATION COAL COMPANY.

J. C. Brydon, General Superintendent.

Philip W. McMahon, Mine Foreman.

Ocean Mine No. 1.

Ocean Mine No. 1, located at Ocean, about one-half mile north of Midland, on the C. & P. Railroad, is the second largest operation in the State; its output often reaching as high as 2,500 tons a day. It is entered by a slope, and is worked on the double entry system; but on account of the trouble encountered with water years ago, the mine has been driven somewhat at haphazard. At that time Ocean mine was the lowest in elevation, operated in the "Basin," of the Big Vein, and as consequence the company was

greatly troubled with the water seeping in from all other workings. Then the company drove what is known as the "Tunnel," an excavation at a point where it was thought it would reach the coal levels, about one-half mile south of the slope of the mine. This, by the aid of pumps, has been the means of draining away most of the water, and as the excavations proceeded to the north, and connected with "Hoffman," or "Ocean No. 3," that mine's drainage system was utilized to remove water not readily sent out the tunnel. The slope has been in operation since 1881, and commands a vast expanse both of worked-out and unworked territory.

It is strange that mine officials appear to fail in appreciation of the scope and size of an operation of this character until confronted with a problem in ventilation or drainage entailing such heavy expense that their company frequently hesitates to incur the cost; when if the obvious remedies had been applied properly, and when needed, the actual outlay would neither have been so great nor so annoying. Bratticing should have been properly built, and then kept air-tight; ditches made large enough, and kept properly cleaned out; so would loss of coal and time be avoided.

In some parts of this mine ventilation has not been so good as it should be, and in one part of the works I had not been able to get the legally required amount of air until my last visit. In part, this may be accounted for by the difficulties formerly mentioned; some of these old workings being between the fans and working portions of the mine, and as a deal of bratticing is required, it sometimes is neglected and allowed to become worn out. The company shows a purpose to observe the law to the letter, and furnishes plenty of ventilating power, there being two fans installed. One, of sixteen feet diameter, is at the "Old Lye," and the other, a splendid machine of 25 feet diameter, ventilates the "bottom" of the mine. Both fans were formerly worked by "exhaust," but at my request are now reversed, under the present Superintendent, J. C. Brydon, and the result has been highly gratifying, as has been my observation of practical results wherever attempted; the blowing method operating better than the exhaust, especially where "black damp" is met with, or where the faces working are a great distance from the fan.

This table shows conditions before the change:

Where Measured.	Cubic feet air.	Number Employees.	Air per man.
Return to fan, "Old Lye"	29,520	85	347
Intake to Buffalo heading	3,402	40	85
Outlet of sharp's heading	5,075	38	134
Outlet of "New Lye"	3,190	28	114
Outlet of Creegan, and Puffs hdgs	4,620	26	178
Outlet of Cullen's and T Rail, and Intake to Williams' hdgs	20,160	90	224
Outlet of 3rd right	6,720	50	134
Welch's "Across the Sea," no air reading	.....	40	...
Outlet of Miller's	.....	19	...
Outlet of Carney's	.....	20	...
Outlet of Loar's	.....	45	...
Outlet of Keenan's, dip heading	6,525	6	1,087
Outlet of Gibson's, dip heading	12,420	20	621
Outlet of straight and Hawkins hdgs	9,360	11	851
Straight Slope and 7th right	.....	20	...
Return to large fan	111,150	375	296

One familiar with this mine would understand its condition from a perusal of this inspection, made Oct. 13, 14 and 17, 1904. The failure to get air readings, indicated at several points, does not prove that no air was circulating, but does show that not enough passed to cause the anemometer to register; consequently not enough to meet the requirements of the law.

This table shows conditions since the change:

Where Measured.	Cubic feet air.	Number Employees.	Air per man.
Intake to "Old Lye"	26,380	71	385
Intake to Buffalo	7,600	35	217
Intake to Straight, Sharps and 50 headings, "Old Lye"	5,200	36	144
Intake from large fan	114,000	374	305
Intake to "New Lye"	9,720	18	540
Intake to 3rd right, Williams and Richardson's, "Q. X."	16,910	90	188
Intake to Cullen's	17,910	8	2,238
Intake to Keenan's, in dip headings	4,640	12	386
Intake to Gibson's	3,780	9	420
Intake to Straight and Hawkins	11,560	53	218
Intake to workings "Across the Sea"	19,840	.....	..
Intake to slant in Welch's headings	4,830	24	201
Outlet of Miller's heading	3,640	19	192
Outlet of Carney's	4,717	23	205
Intake to upper end of Loar's	1,040	8	130
Outlet of lower end of Loar's	11,700	39	300
Intake to Pick and Machine headings, straight slope	10,640	41	260
Intake to all inside workings, straight slope	5,400	18	300

At no time during the year, previously, has the condition of this mine been so good as this inspection shows. There are some parts of the "Old Lye" that were always idle in the summer time, because the exhaust fan pulled the "black damp" in on the workmen; the present method keeps the damp back, enabling the miners to work, and the company to get coal that might otherwise be lost. There are at present three compressed air motors at this mine, and the rest of the hauling is done by horses and mules. The mine-cars are gathered to the "slope," and hauled thence to the surface by a stationary engine and rope. Mining machines were first introduced in this mine for this region, and a few are yet in use.

Nearly 600 miners and laborers are employed, and as it is a large operation, probably it will last for years to come. The roads in this mine are in splendid condition, generally speaking; the management deserves credit for its enterprise and care in this regard.

Ocean Mine No. 2.

James Weston, Mine Foreman.

Ocean No. 2 is situated at the "old Consolidation," about one-half mile west of Frostburg. It is in the "Tyson" vein, and is entirely devoted to production of fuel coal for the town of Frostburg and surroundings. I have not visited this mine very often, as conditions were good and whenever I did visit there were not miners enough employed to bring it under the provisions of the mining law. The old "Frost" mine, which had been used to coal the C. & P. R. R. engines, has been suspended for the present, and work has been stopped at the west end, where fuel coal has been mined. Considerable coal remains in the "Frost" mine (Big Vein) but it thought a greater development of the Tyson vein, a large area of which is untouched, is desired.

Ocean Mine No. 3.

Joseph B. Thomas, Mine Foreman.

Ocean Mine No. 3, or "Hoffman Mine," of the Consolidation Coal Company, is another of the group of large mines toward the

upper end of the valley, and is the oldest now shipping coal in the State. It is situated at Hoffman, a small mining town, about two and one-half miles east of Frostburg, and ships its product over the Eckhart branch of the C. & P. Railroad. This is a slope mine, the longest in the State, and probably the longest in the country—over six thousand feet in length. Ventilation is provided by a blowing fan, twenty feet in diameter, at the top of the slope, and discharges the air into the "air course," parallel with the haulage or main slope. The present workings of this mine lie mainly beyond that which already has been worked out, and as in all other old mines some trouble is caused by faulty or leaky brattices; this is especially noticeable here because the power is little more than needed; and any waste is immediately noticed in the ventilation. The fan is always run at high velocity, and for that reason the pressure is greater on the brattices. In some parts of the mine this fan drives the air over three miles, the current never failing at any inspection to be up to standard at these points. In a portion of this mine—the south side—the law is not being observed; in the "3rd cross" some old workings formerly abandoned are now being reopened, and these places are so cut up that air courses cannot be maintained in them. The management is giving the miners employed in these places cars as quickly as they can load them; keeping doors and brattices up wherever apparent that any good can be accomplished; and in general doing all they can to care for the 20 or 25 miners employed at the work of saving this coal. The rest of the mine is now well ventilated, although several times during the year I was obliged to call the attention of the management to the law relating to the driving of cut-throughs. In places the covering of earth above the coal is heavier than elsewhere in the region; and the company did not obey the cut-through law as rigidly as they might. The provisions of the law, however, are now being carried out, and I believe will be obeyed in future. The question of drainage is a serious one at Hoffman mine—the most seriously troubled mine in the region. For years a pumping station has been maintained about two miles south of Frostburg, connecting with this mine, located along the C. & P. R. R. Here is a power-house, furnishing power for compressed air motors, that do nearly all the work in the mine, but few mules or horses being employed. Power is also generated for the massive pumps, with

a capacity of over 8,000 gallons a minute, which raise all the water accumulated in the mine to the surface. The pumps are set at the foot of a shaft 285 feet in depth, at the top of which the power-house is erected. At this point is the "basin," or lowest point reached by the Big Vein coal stratum, in the region. About eighteen months ago a gigantic project was started to solve this problem, and when completed will drain all the mines about the basin. It is a tunnel, starting from a point near Clarysville, far below the level of the Big Vein, and being driven on water level into the bottom of Hoffman mine. It is being worked from four points—at the mouth, near Clarysville; both ways from the foot of a shaft driven in Hoffman slope, and from the bottom of Hoffman slope. Work is being pushed vigorously, and the company expects to have it completed in about two years from the commencement. When finished, it should be an improvement of great economic value to the company.

This is an average inspection of Hoffman mine during the year:

Where Measured.	Cubic feet air.	Number Employees.	Air per man.
Intake from fan	62,580		
Intake to south side	2,010	14	144
Intake to second and third cross	10,645	67	156
Intake to Tippens and 1st cross	8,160	62	131
Intake to Scovie's heading	4,200	21	200
Intake to 1st cross in Klondyke	2,125	21	101
Intake to 2nd cross in Klondyke	1,950	17	115
Intake to 3rd cross in Klondyke	1,680	12	140
Intake to 4th cross in Klondyke	2,720	19	143
Intake to 5th cross in Klondyke	2,080	20	104

This inspection shows just about enough circulation to furnish good ventilation, which is the condition I found at each visit after the first. This winter there has been opened a drift some distance from the slope. About thirty men are in this mine, conditions are generally good, with ventilation at present by natural means, but the management informs me that in the near future they intend putting in a fan.

At the pumping shaft attached to Hoffman mine is a convenience of great comfort to the miners—a modern bathroom, with bathtubs of good quality, hot and cold water, and the room heated by steam. Racks with steam heat are provided, and an attendant sees that the miners' clothes are dried carefully every

day. Each man has a locker for his clothing. There is more wet work in this mine than anywhere else in the region; the change of dry clothing on leaving the mine guards the health of many a tired man.

Ocean Mine No. 3½.

Daniel Krapf and A. W. Luther, Mine Foremen.

The opening at Eckhart, or Ocean No. 3½, in the Tyson coal, has been abandoned, for the present. The coal seams locally to be full of faults, interferences of foreign matter with the coal stratum. This occurs with such frequency that the company has abandoned it temporarily. I made but one visit here, and then found conditions good.

Eckhart mine, or "slope," situated at Eckhart Mines, a flourishing town at the terminus of the Eckhart branch of the C. & P. R. R., is again being put in readiness for shipping coal. No shipments have been made as yet, but a force of men is engaged in timbering and cleaning up, preparatory to doing so. It is said that a large amount of coal yet remains in this mine, and local residents are greatly pleased at the prospect of its again becoming one of the famous group of producing mines. The Big Vein in Eckhart is said to have been the easiest worked in the region. 27 laborers are now employed putting the mine in operating shape.

Ocean Mine No. 7.

Jonathan Jenkins, Mine Foreman.

Ocean Mine No. 7, or Klondyke, as it is locally named, is easily the largest operation in the State, and perhaps the largest in the world. Its daily output ranges about 4,000 tons, from two openings—a drift mine, in which about 100 miners work, and a slope, known locally as the "arch mine." This has but one opening, but in a short distance it branches into the "Old Slope," the

"Midway," and the "New Slope." This slope is a large operation in itself, with five "lefts" and five "rights," or "Lifts," as some call them. Most of these lefts and rights have one or more cross or branch headings, and they employ over 300 miners. In the "Midway" are about 150 miners, and in the "Old Slope" nearly 100. This is an ideal mine and has the most complete and up-to-date system of ventilation in the region, beginning at the fan, which is also a blower, of 25 feet in diameter. The intake is large, and thence into the mine, every brattice of any importance is of brick and cement, air splits are made by means of "overcasts," of the same material, and every effort is made to avoid any mistakes that would shorten the life of the mine. The air system is so arranged by regulators that at any time, should a great influx of "black damp" appear, the entire power of the fan can be turned on that part of the mine, and in a very short time drive out every trace of the poisonous gas. In any part of this mine I can secure air readings more than sufficient for the men working in the section. With big operations like this, an accident is liable to happen at any time to the ventilating system, but I can say that aside from accidents the management is carrying out every provision of the mining law.

The upper or new mine is a drift, and is ventilated by a 16 foot fan, also blowing. More than enough air has been furnished at every inspection.

There are a couple of planes in this mine, the coal being very much inclined, and sometimes the rooms are very steep, the headings crossing the grade and the rooms being driven against the "pitch." Drainage and roads are good. The older operations, lying lower in the coal, give Ocean No. 7 an advantage in drainage. The tunnel below Ocean No. 1 takes most of their water. Two small locomotives are used to haul the empty cars from the dump to the mouth of the "slope," and the bottom of the planes in the new mine.

This is an average inspection of the mine during the year:

Where Measured.	Cubic feet air.	Number Employees.	Air per man.
Intake from large fan	144,846	517	280
Intake to 2nd left, 1st cross new slope	3,860	34	114
Intake to 3rd cross, new slope	2,175	18	121
Intake to 2nd right, 1st cross, new slope	3,782	28	142
Intake to 3rd left, 1st cross, new slope	4,040	41	99
Intake to 3rd left, 3rd cross, new slope	2,100	17	124
Intake 3rd right, 1st cross, new slope	2,525	25	101
Inside cut, third right, straight, new slope	1,856	18	103
Intake to 4th left, 1st cross, new slope	3,560	37	96
Intake to 4th right, 1st cross, new slope	4,480	45	100
Intake to 5th left, 1st cross, new slope	1,515	6	252
Intake to 5th right, straight, new slope	1,415	6	236
Intake to 2nd right, 1st cross, middle slope	4,432	39	114
Intake to 3rd right, 1st cross, middle slope	5,375	54	100
Intake to 3rd right, 2nd cross, middle slope	2,360	3	786
Intake to 3rd straight, middle slope	2,080	17	122
Intake ot 4th right, 1st cross, middle slope	4,275	39	110
Intake to 1st right, old slope	2,000	4	500
Intake to 2nd right, old slope	8,440	19	444
Intake to 3rd right, old slope	3,780	15	252
Intake to 4th right, old slope	9,080	38	239
Intake from small fan, new mine	63,000	133	446
Intake to 1st right heading, new slope	11,200	35	320
Intake to straight heading, new slope	6,710	35	192
Intake to 1st left, new slope	9,540	24	397

In the Tyson seam quite an extensive opening has been made; and in addition to supplying fuel for the boilers at the mine, it is now being shipped. The coal is very good in quality, and some miners are working it about as readily as the Big Vein. This operation is ventilated by a small fan, of "Stine" make, which supplies plenty of air for the present, but will soon need more power to force air enough into the small areas of the thin vein.

With over 800 employees at these mines, it is a large undertaking for one man to supervise, and too much for personal direction. The mine foreman has four or five assistants. More machine coal is mined than from any other mine, and it is remarkable that accidents are so infrequent, with the high coal, the large space of roof left untimbered while cutting, and even sometimes while loading the coal cut and ready in a place. Coal is often blasted here during the day, and often the places left filled with smoke; then it is said that there is not air ventilation up to legal standard; but the fact is that 100 feet per man per minute will not remove powder smoke, where indiscriminate blasting is

done, and if smoke is to be kept out, there must either be less blasting, or it must be at stated times, by both men and companies.

Ocean Mine No. 8.

Charles Latham, Mine Foreman.

At Midland, Ocean Mine No. 8 is located on a side track or back switch, from the C. & P. R. R. The mine was opened to work the coal lying between Ocean Mine No. 1 and the Georges Creek Coal & Iron Company's property, bordering on their "Cutter Mine," or "Engineside." The most of this mine's product is pick mined, and it is beyond doubt one of the best mines in the region from a workman's standpoint. The coal is good, the mine is convenient, not being very extensive, and conditions as to ventilation and drainage are first-class. One machine is used in the mine, and is able to cut all the places where it is practicable to use the "puncher." Drainage and roads are all that could be desired. The mine is ventilated from Ocean No. 1, and this is an average inspection report:

Where Measured.	Cubic feet air.	Number Employees.	Air per man.
Intake at mouth of mine.....	21,420	75	285

The current is carried around the places, and finds its way into Ocean No. 1. The haulage is by a small compressed air motor, on the main heading, and mules on the cross headings to gather the cars.

Ocean Mine No. 9.

Joseph Radcliffe, Mine Foreman.

This operation is located about two miles east of Frostburg, and is on the main line of the C. & P. R. R. It is opened in the "Tyson vein," with two good openings, the ventilation furnished by a large fan, and about the best "Tyson" around that locality. It is claimed to be one of the best places to work in the region, although small vein coal. The coal mined is almost entirely used by the railroad for coaling its engines. Another opening is being made nearer Frostburg, and a side track put in. A dump will

be built here, and the output of one of the present openings, together with the new opening, is to be shipped; one opening being sufficient to supply the locomotives on the railroad with fuel. About thirty men are employed at this mine, and conditions are generally good. The development of the Tyson coal has been larger here than anywhere else in the upper part of the region, and it has established the fact that the Tyson vein is of great commercial value. It lies about 100 feet above the Big Vein, and is sometimes, though not often, affected by the removal of the coal below.

H. & W. A. HITCHINS COAL COMPANY.

John Malloy, Mine Foreman.

This company was formed about six years ago, and is now working some of the abandoned coal, lost on Georges Creek when ventilation was a secondary consideration. The mine is located on the C. & P. R. R., close to the old Frost mines. A long plane extends from the dump up to a tramroad, at the end of which is another plane and a short tramway, to the opening. This opening, called "No. 3," is rapidly being worked out. "No. 2" opening is at the foot of the second plane, and promises to be quite a large operation. At present they are driving across, into old workings, making places for the men as they go along. The coal is the highest quality of Big Vein, but crossing the old workings, cleaning up and timbering the old places makes it very expensive mining at present. The mines employ about 45 men; considering the character of the work, ventilation is all that could be expected.

BARTON & GEORGES CREEK VALLEY COAL COMPANY.

Carlos Mine.

A. Hitchens, Superintendent.

Mine Foremen.

The Barton and Georges Creek Valley Coal Company have their mines at Carlos, on the Carlos branch of the C. & P. R. R. The company has been mining the Big Vein, from three openings.

The lower or "old mine" is worked out. The company is making commendable efforts to observe the mining laws. Cut-throughs are being driven at the required intervals. It may be noted that falls extending 80 to 100 feet have occurred in narrow work—headings—in this mine, yet no trouble has been found with cut-throughs driven between rooms 13 to 15 feet wide. Apparently, falls are from purely local causes, and do not indicate any structural weakness in a mine, such as would render complete compliance with the law as to cut-throughs unsafe.

The ventilation at the slope is furnished by a 16-foot fan, and at no time during the year just ended has there been any cause for complaint. The miners are permitted to blast their coal at this operation, after preparing it, and they blast it at any time of day. For that reason the smoke from blasts is thick at times.

The average inspection of the mine follows:

Where Measured.	Cubic feet air.	Number Employees.	Air per man.
Intake at fan	41,662	143	291
Inside cut-through, 1st left	8,075	58	139
Intake to No. 1 slant, 1st left	8,990	25	360
Inside cut-through, 1st right	11,250	39	299
Outlet of new mine	9,165	21	436
Outlet of slope	12,150		

Roads and drainage are in good condition here, and the output is hauled up the slope by a stationary engine; gathering is done by drivers, with horses, no mules being used. A very good bath-room is provided in the powerhouse for the fan, where miners may change their clothing and take a bath before going home, hot and cold water being provided. All in all, this is one of the best of the good places to work in the region.

BOWERY COAL COMPANY.

Uriah Jones, Superintendent.

This is a company recently organized, to open a part of the old "Bowery Furnace" mine, and the "Johnson" mine. It is, like many other operations here, going after coal once given up for lost. Only a few men are working at present, putting the mine in readiness for shipping. They will ship over what is known

as the Midlothian branch of the C. & P. R. R. The coal is Big Vein.

This company has another operation, in the Tyson coal, close to Frostburg, worked exclusively for fuel, for local trade. Only three or four men are employed, working mostly during the winter. Last year they mined 2,200 tons.

BRADDOCK COAL COMPANY.

F. C. Harwood, Superintendent.

PINE CITY MINE No. 1.

Joseph Cutter, Mine Foreman.

What was the "Rock Vein Coal Company" is now the Braddock Coal Company, the company being re-organized some time ago.

This company has one mine, Pine City, No. 1, located about three miles east of Frostburg, in the extreme eastern section, where the coal crops out. There is some doubt as to what vein of coal is worked; being variously assigned as the Barton four foot, and the Thomas three foot seams. It is a very good grade of coal, and no doubt can be mined with profit. There are two openings, but a short distance from one another. The ventilation has not been good at any time during the year, very little attention having been paid to ventilation since the mine was first opened. On my last visit more had been done toward putting up brattices and making airways, than at any time previous. I have recommended that a fan be put in here, and understand that the company intend making this improvement at once. The coal is conveyed from this plant to the railroad by a novel means—the only one of its kind in the region, and deserving of some notice. The coal is dumped from the miners' cars into a chute or bin, close to the mouth of the mine, and a stationary engine of 33 horsepower furnishes the power to operate a cable, to which is attached 12, and sometimes 14 buckets, with a capacity of 10.00 cwt. each, which are suspended on an aerial cable. There are two cables; one is stationary, and the bucket has a trolley, fitted to the stationary cable; the bucket is attached to the other until it reaches the terminal at the mine, when by an automatic arrangement it is released from the rope, and rests at the chute until loaded.

When the next bucket comes along the loaded bucket is started automatically on its journey to the bins at the railroad, and when the bins are reached, dumped, and settled back on a platform, until the next load arrives and starts it off on the return trip down the "empty" side of the conveyor.

The bin at the mine has a capacity of 100 tons, and that at the railroad 250 tons. The cables are supported by five buttresses between the two bins. For a limited output this means of conveyance has some things to recommend it, but of course the output must necessarily be small and to some extent uncertain, for the crippling of any part of the system will stop the conveyor.

The company ships on the Eckhart branch of the C. & P., and about 20 miners and laborers are employed.

WACHOVIA COAL COMPANY.

Montell Mine.

Wm. H. McClune, Superintendent and Mine Foreman.

Montell tunnel was driven a good many years ago, and abandoned. It is supposed to enter the "Davis" or "Six-foot" seam, The present company was recently organized, and is making preparations for considerable development. They have a large area of coal, very little of which has been mined. Mining machines have been installed, of the puncher variety; during the present year an air-way has been constructed, in one side of the tunnel, which it is hoped may improve their ventilation, giving the air a return. A very fine dump, of the "Phillips Cross Over" make, with pole weights, has been constructed here, and good tracks laid. The mine is located about one mile east of Vale Summit, and ships over the Georges Creek & Cumberland Railroad.

At present about nine men are employed, not enough to bring the mine under the provisions of the mining laws.

GEORGES CREEK COAL AND IRON COMPANY.

R. L. Somerville, Superintendent.

MINES NO. 1 AND CUTTER, TYSON NOS. 16 AND 17.

Richard Spear, Mine Foreman.

Mines No. 1 and Cutter, or "Engineside," as they are familiarly known, are located near Lonaconing, on the C. & P. Railroad, and are among the old mines of the region, especially No. 1. Cutter mine is ventilafed by a large exhaust fan, and at all my visits the air was good. At times I have found places too far ahead of the air—that is, cut-throughs not made every 105 feet, as required by law—but when I called the attention of the mine foreman to it, he promised that there should be no trouble on that score.

The following is an average inspection for the year:

Where Measured.	Cubic feet air.	Number Employees.	Air per man.
Intake at mouth of mine	19,845	70	284
Intake to Cutter heading	4,220	32	132
Intake to "Q. X." heading	7,875	12	656
Outlet of Peeles heading	8,250	19	434
Outlet of Blue heading	4,672	7	667
Return to fan	29,460		

Roads and drainage are generally good.

Mine No. 1 is about worked out, only a few men being mining coal. The Tyson vein, opened at this place some time ago, is being pushed vigorously, and it is proposed to make this the largest producing mine in the region in this vein. The company has built a power house at this plant that is a model. All work is to be done by electricity, and the power-house is amply equipped to supply all power needed for years to come. All haulage is to be done by electric motors. At present an electric motor only 29 inches high is being used to haul the mine cars from the openings to the dump, at the top of the conveyor. This conveyor is a new thing in this region. Instead of the old-time plane, this is a trough or sheet-iron lined chute, passing down the heavy grade from the bin at the mine mouth. Coal is let into this in small quantities from the bins, and pulled through by a constantly travelling endless rope, to which is attached plates, every three feet,

about ten inches in diameter. At the lower terminal of the conveyor is a washery, also something new locally. A chute receives the coal, and it passes over a screen. The lumps go on to the railroad cars, and the slack is run into the washery, thoroughly cleaned of any impurities, and by a belt conveyor transferred into a long chute, whence it is deposited in the railroad cars, absolutely clean. This washed coal is mainly shipped in box cars, for smithing purposes.

The company's enterprise deserves commendation, and it is hoped that they may develop a new market for the Tyson coal. About 100 men are employed at the four mines—No. 1, Cutter, and Tyson Nos. 16 and 17.

No. 3, or Pine Hill Mine.

John Boyd, Mine Foreman.

Pine Hill Mine, or No. 3, is about halfway between Lonaconing and Midland, and ships over the C. & P. Railroad. An inclined plane conveys the coal from the mine down the mountainside to the dump, where it is placed on the railroad cars. The mine is a good one; ventilation is by natural means, but the cut-throughs and brattices are so closely watched that the ventilation is generally good all the year round. Another thing helps to keep the mine well aired—the grade inside is heavy; once the hill is dug through, the heading acts like an air-shaft, pulling to the highest point in the winter time, and to the lowest in the summer.

About thirty-five miners are employed.

Mine No. 12.

Mine No. 12 is a short distance east of Pine Hill Mine, on the neighboring hill. It is a knob of coal, all to itself; and the company is getting it in readiness for making quite large shipments. Only six men were working here on the occasion of my visits, hence not enough to bring it under the law. A long inclined plane brings the coal to the Georges Creek and Cumberland R. R., on which they ship.

Columbia, or Mine No. 9.

John Boyd, Foreman.

Columbia, or Mine No. 9, is located at Gilmore, and ships coal over the G. C. & C. R. R. This mine is opened in the workings of the old Midland mine, of the Hampshire & Baltimore Coal Company. The property was purchased by the Georges Creek Coal & Iron Company to enable them to get at some coal of their own that lies beyond this property. The mine is ventilated by natural means, and like "Pine Hill" brattices are kept well up, and with heavy inside grades, conditions as to ventilation are much the same.

About twenty-five miners are employed, and roads and drainage are always in good condition.

Mine No. 10.

Mine No. 10, located at Midland, is an opening intended to get to the other side of the same hill in which "Columbia Mine" is working, to get some coal that cannot be reached from that mine. Not enough men to bring the mine under the law's provisions.

Conditions generally good.

NEW CENTRAL COAL COMPANY.

Duncan Sinclair, Superintendent.

Koontz Mine—Big Vein and Tyson.

William Thompson, Mine Foreman.

The New Central Coal Company's Koontz mine is about two miles north of Lonaconing, shipping over the G. C. & C. R. R., a branch of which runs up to the mine. An inclined plane leads from the dump to the mine, whence the haulage is done by rope and stationary engine. This operation was very badly handled before the present management took it in charge. A "squeeze" and consequent great loss of coal was allowed to come upon the mine by carelessness. The effect of this is apparent in the mine to-day. The covering is very heavy here, and the coal not being

taken out cleanly permitted the overlying strata to shift its weight always to the places that were being worked. At present they are beginning to be relieved of some of this trouble, the mine being now in the best condition I have seen it. From the causes mentioned there has been some very dangerous work in this mine, and too much credit cannot be given the management for their vigilance, nor to the miners for their skilful and painstaking methods in caring for their working places. Ventilation is furnished at this mine by a twenty-foot fan, and is generally very good. Under the former management little attention was paid to driving air-courses, and old workings surround the mine, the Georges Creek Coal and Iron Company's mines and the Consolidation Coal Company's mine No. 7 being adjoining. The fan is a "blower," and thus fights back the "black damp" from the old workings.

About 49,200 cubic feet of air is furnished at the intake of the large fan, to the ninety miners, making 546 cubic feet of air per man. Of course, not all this reaches the miners, but enough does so to keep the air generally pretty good.

The Tyson vein is one of the best in the region, the coal being very uniform and of good quality. The haulage is upon the "tail-rope" system, by a stationary engine; mules being used to gather the cars to the rope. Ventilation is also by a force fan, and at present is in very good shape. The fan is 12 feet in diameter, capable of supplying plenty of air for a much larger number of men than is employed.

This was the condition of the ventilation upon my last inspection:

Where Measured.	Cubic feet air.	Number Employees.	Air. per man
Intake from fan	16,320	25	653
Intake to first left	4,640	9	516
Inside cut-through in 1st right	7,020	7	1,003
Outlet at mouth of mine	13,440		

MARYLAND COAL COMPANY.

F. E. Brackett, Superintendent.

Appleton Mine.

William Dodds, Mine Foreman.

Appleton Mine, of the Maryland Coal Company, is on the western hill, at Lonaconing, and is one of a group of mines that have long been opened, and some of which are worked out, only the Appleton and Kingsland mines remaining. Appleton mine is is many respects one of the best in the region, its roads and drainage being all that could be desired in a mine. This company merits special commendation for its practice of keeping a "square turn," or equal distribution of cars to the miners. All men, provided they can load them, get an equal number of mine-cars. An unequal turn, or discrimination in the distribution of cars between men in a coal mine, is often the source of great contention, arraying one man against another, because some miner, for some reason or other, and very often for no reason at all, but the carelessness of those having the distribution of the cars in charge, gets cars that properly should go to his neighbor. I should like to see all the companies as scrupulous about this matter as the Maryland Company.

The ventilation at this mine is furnished by an exhaust fan, sixteen feet in diameter, and supplies sufficient air, very often more than the law requires. This ventilation travels entirely over the air courses and headings, none going into rooms by means of cut-throughs as the law provides, because the company refuses to make the cut-throughs. Section 209 H of the mining law says: "It shall be the duty of the mine foreman to see that proper cut-throughs are made in all the rooms and pillars, at such distances apart as the mine inspector may deem requisite, not more than 35 yards in any instance, for the purpose of ventilation, etc." This, the company has not been doing, and when I approached its officers about it, they said their coal would not stand the necessary cut-throughs, being too soft in its nature, and faulty in its roof-coal. I have discussed the matter exhaustively with the Superintendent and other officials of this company, making several special trips to see them, but have failed to secure even a partial

compliance with the law. At my visit in December, 1904, I requested that some effort be made to obey the law, since I had no discretion in the matter, but must under the law see the cut-throughs be made. I asked that cut-throughs be driven in the right side of the mine, which shows no sign of "squeeze," there being some evidence of weight in the left side of the mine. At parting, my understanding was that cut-throughs would be driven in the right side. The Superintendent claims that his understanding was, that one cut-through was to be driven, to show that the coal would not stand cutting. On my next visit, February 16, 1905, I found a cut-through, in room 5, of the 3rd right, 160 feet from the heading, doing no good whatever to the ventilation. The Superintendent sent me word a day or two after this to the effect that they had done all they agreed to do, but would drive another cut-through, closer to the pillaring, to show the effect sooner.

I concluded that only one course was left—to ask the courts to enforce the law; and accordingly swore out, before a Justice of the Peace, a warrant for the arrest of the mine foreman, charging violation of the section of the mining law above quoted. This case is still pending before the court, and I would not like to say anything that would in any way prejudice it; the matter of driving the cut-throughs, however, is of great importance; sufficient air for the miners working cannot be conducted up mining "rooms" 450 to 500 feet long, without being forced by cut-throughs. Nor is the company's contention as to the peculiarly bad quality of their roof good; in Carlos mine the heading fell about 100 feet, the entry being driven eight feet wide; while rooms, driven off this heading, 13 to 15 feet wide, have cut-throughs the same as at any other part of their mine. Perhaps the trouble is that the company does not leave sufficient pillars between their rooms. I have measured pillars 12 to 28 feet in thickness, and for a distance of nearly 500 feet—that is a very slim support for a mountain, with such a pitch as it is at this mine. It is little wonder the company has difficulty in getting some rooms driven up—they practically take out the pillars going up. Under some companies in this region pillars 100 feet in thickness are left between rooms, because of the great amount of cover. These companies drive their cut-throughs in compliance with the law.

There is an inclined plane in this mine, drivers with horses gathering the mine-cars left and right to the plane. At the bottom of the plane the cars are taken in charge by a small locomotive, and pulled to the dump, whence the coal is shipped over the G. C. & C. R. R.

An average inspection of the mine during the year follows:

Where Measured.	Cubic feet air.	Number Employees	Air per man.
Intake from the Manway	39,240		
Intake from the mouth of the mine	18,600		
Intake from the 2nd right	6,800	8	850
Outlet of 4th Intake, 3rd right	7,560	46	164
Outlet of 4th left and air-course	5,496	15	366
Outlet of 3rd left	4,975	27	184
Outlet of 2nd left	3,825	20	191
Return to the fan	59,150		

This report shows plenty of air travelling over the headings and in the air courses, but it is not carried as close to the miners by means of the cut-throughs as is required by the law, and is necessary for the maintenance of a healthful condition in the working places, where the miners are employed.

About 160 miners are employed in this mine.

Patton Mine.

August Ricker, Mine Foreman.

This mine is a short distance west of Lonaconing, the farthest west the company is operating. It is rapidly being worked out, and before another annual report is made it is doubtful if Patton mine will be included as one of the mines shipping the famous Georges Creek coal. About 65 miners are now employed here, and conditions generally are good; there being no longer any lengthy rooms remaining in the mine. Ventilation is furnished by a pressure fan, which must be kept running at a very low rate, because of the contracted operations of the mine. This is the average condition during the year:

Where Measured.	Cubic feet air.	Number Employees.	Air per man.
Intake from fan	17,280	61	283

The air is carried around pretty well, to the 60 to 65 miners who are employed. Around the hill a short distance east of Patton mine is an opening in what is known as "crop coal;" in this

mine are about 20 miners. Ventilation is natural, but when the coal is taken out the places generally fall to daylight, the cover being mostly light, so air is plentiful. Roads and drainage are always in good shape here, and the same system of equal distribution of cars prevails here, as at Appleton mine. An excellent system of haulage, by a stationary engine and rope, is used, shipping being over the G. C. & C. R. R.

LONACONING COAL COMPANY.

Shamrock Mine.

J. J. Dobbie, Superintendent. Thomas Keating, Mine Foreman.

"Shamrock" mine is on the G. C. & C. R. R., a short distance east of Lonaconing. I have made but two visits to this mine, it having been finished on the occasion of my last visit. About seventeen men were working at my first visit, under fair conditions. An inclined plane transported the coal from the mine's mouth to the dump. Some time in July the operation was abandoned, and since that time the company has not been operating in this State.

AMERICAN COAL COMPANY.

Jackson Mines.

Isaac Bradburn, Superintendent. John Peel, Mine Foreman.

A large number of openings distinguish this operation, on the eastern side of Lonaconing, along the mountainside, east and west of the dump. A tramroad extends around to Moscow Mine, of the Piedmont Coal Company, on the west side, and up "Coon Hollow," on the east. The openings from the west side are being rapidly worked out, except No. 5, where the largest opening under the company is located. Here a stationary engine, by means of a rope, hauls the coal outside. A locomotive is used on the tramroad to haul the coal both ways to the dump. It is quite large, for mine work, is both an economic and safe means of conveyance. No. 5 mine has most of the men in it. The mine is ventilated by a force fan, run at present at a very low rate of speed. It is one of the best fans in the region, and at one time the extent of

the mine required its running almost to its capacity. Up "Coon Hollow," or on the eastern side, the company are making developments of coal that was thought to be worked out, and no doubt they will have coal up there for many a year yet. Ventilation at these openings is produced by air-holes, to the surface.

Where Measured.	Cubic feet air.	Number Employees.	Air per man.
Intake at the fan	34,800	40	870
Outlet at the mouth	29,920		

This current is pretty well carried to the men, with, of course, some loss in transit.

Roads and drainage in very good condition.

Koontz, or Waynesburg Coal, and Tyson Mine.

Robert Gunning, Mine Foreman.

The "Koontz" or "Waynesburg" coal seam is located on the hill, above No. 5 mine, and is the only place this vein is worked at present in this county. The Koontz seam caps the Monongahela formation, and is generally found about 120 feet above the "Tyson," or "Sewickley," and about 230 feet above the "Big Vein." The mine is in very good condition generally, and is ventilated by natural means. At no time during my visits have I found any failure to observe the law.

An incline plane conveys the mine cars to the tramroad, whence the coal is hauled to the mine dump by the locomotive.

Above the dump, the Tyson is opened, and quite a number of men are working in it, although not enough to bring it under the provisions of the law. The height of the coal is not normal here, but probably it will become thicker when farther under the hill.

A back-switch of the main tramroad is used to convey the mine-cars to the dump, by means of the tramroad locomotive. Ventilation is by natural means, but if the operation justifies, the company will put in artificial ventilation. The company ships over the G. C. & C. R. R. from their Jackson mines.

About six or eight men are employed in the Tyson coal at present.

The Workshops at Jackson Mine.

Near No. 5 mine, close to the engine-room and power-house, is a workshop, whose many conveniences and labor-saving devices make it easily the best equipped shop in the region. It is a machine shop, a carpenter's shop and blacksmithery, combined, the building being 100 feet long by 25 feet wide. In the machine room is a fifteen horse-power engine, with a line shaft, running to the carpenter shop and blacksmith shop, that supplies the power. In the machine room is a combination saw table, a jig saw, turning lathe, a combination boring and mortising machine, and two small grist mills, where the grain from the company's two large farms is ground, for feeding much of their live stock. In the carpenter shop is a small drum, with a hemp rope, which pulls the broken cars into the shop to be repaired, and every convenience for making the repairs is at hand. The same power is available in the blacksmith shop, to run their forges, drill press, and grindstone, and everything is up to a high standard. In the cellar beneath the shop is a device for sawing angle ties. These ties are not much used outside of this region, and an explanation of them might not be amiss. The tie is used for a wooden rail, and at the proper distance for the guage two saw cuts are made in the tie, on each side, about five inches wide; the rails usually being four inches—leaving an inch, in which to key the rail tight into the tie. At most mines these ties are prepared by a workman with a saw and a sawbuck, the "buck" marked to guage the distances for the saw-cuts. The ties are set in place and slowly and laboriously sawed; the cuts often being irregular and too shallow or too deep. These defects are avoided by the Jackson machine, which has four small circular saws on a single mandrel, making all the cuts at once, and uniformly. One man can readily saw 100 ties with it in an hour.

For much information incident to this description of a model mine repair shop, I am indebted to Isaac Bradburn, Jr., a workman in the shop.

Caledonia Mine, Barton.

David Williamson, Mine Foreman.

Caledonia Mine of the American Coal Company is located at Barton, and comprises operations both in the big vein and Tyson coal. Like many others in this region, the big vein is merely skirting around the hills for miles with a series of openings, by means of a tramroad and locomotive, hauling the coal to the head of the plane, whence it is lowered by means of a cable and wheelhouse, to the dump below. Natural means are employed to ventilate the big vein mine, and the management do all in their power to obey the law, making holes to the surface every 150 to 200 feet, and thus securing a plentiful supply of good fresh air.

The Tyson at this place is one of the best regulated mines in the region. A short plane leads up to it from the top of the main plane, and down this the cars are lowered; thence down the main plane to the bottom. At present four headings are working in this mine, employing about 55 men, and while by natural means, the ventilation is always good.

This shows about the average condition of ventilation:

Where Measured.	Cubic feet air.	Number Employees.	Air per man.
Intake at mouth of mine	7,845	55	143
Outlet at No. 1 heading	6,800		

General condition of roads and drainage first-class. The company ships over the C. & P. Railroad.

PIEDMONT MINING COMPANY.

George P. King, Superintendent.

Pekin Mine.

William Morgan, Mine Foreman.

The Pekin mine of the Piedmont Mining Company is located at Pekin, a mining town on the C. & P. R. R., over which road the company ships their coal. The mine skirts the property of the Maryland Coal Company, finding some very good coal, among workings abandoned years ago, in the "crop coal." When it was

thought the Big Vein was inexhaustible the "crop coal," lying near the surface and sometimes slightly discolored by the atmosphere and dampness, was unsalable—now a very good quality of coal is mined, giving employment to about 50 men, and adding to the general good.

An incline plane leads from the dump to a tramroad, on which a small steam locomotive operates, hauling the mining cars when empty to the couple of openings. Long distances are covered for very little coal, and the question of reaching the railway cars is serious. The method employed by the company seems to me the most economical. Ventilation at this operation is by natural means; places are driven through to the surface at intervals of 150 or 200 feet, and while no air readings can be obtained, because the air is not confined enough to measure, the spirit of the law is being observed and at most times the ventilation is fair. Roads and drainage are generally in fair condition.

Moscow Mine.

Charles Stevens, Mine Foreman.

Moscow mine is situated a short distance east of Barton, on the C. & P. R. R. It is in the "big vein," working what was the "Shaw" coal before acquired by the company. With the American Coal Company's No. 13 on one side worked out, and the abandoned Potomac Big Vein mine on the other, the mine works under difficulties. About 20 to 25 men find employment. Ventilation, by means of air holes in the hillside, is generally good. Roads and general condition of the mine as to drainage and safety, very good. A tramroad, or outside haulage road, is made around the hill, and the coal hauled from this opening to the top of an incline plane, down which the cars are lowered by a cable and drum to the dump, at railroad switch.

MOSCOW-GEORGES CREEK COAL COMPANY.

W. A. Somerville, Superintendent.

Moscow Mines, Nos. 2 and 3.

William Askey, Mine Foreman.

Moscow mines Nos. 2 and 3 are on the west bank of Georges Creek, near Barton, and ship on the C. & P. R. R. The mine works the "Barton four foot" coal, which is of very good quality, although it seems to be more refractory than elsewhere. The mine is a drift, ventilated by a small "basket" furnace." Of course, this is inadequate; and when the required number of men are working, it will not meet the requirements of the law. The "big vein" or No. 2 is in the old Pekill property, dumping its product over the same dump used by No. 3. An incline plane of considerable length leads to the first opening, which is about worked out. Within the past year this company has spent a large sum of money in laying up another plane and opening up the old Pekill property, where it is hoped that they will find much big vein. I believe they will; it looked promising on my last visit there—in April. Ventilation is by natural means, and is very good; plenty of air-holes being through to the surface.

Roads and drainage are in good condition in the "big vein," not so good in the "Barton four foot."

Moscow Mine No. 1.

W. A. Somerville, Superintendent

This operation in the "Barton four foot" is located near Barton, on the C. & P. R. R. It is ventilated by a small fan, and the air is fairly good. Usually not enough men are working to bring the mine under the law's provisions, although sometimes I have found over ten men employed. Like many others, the mine is not in as good condition as it might be, owing largely to the fact that it has been mismanaged at the start. Drainage is bad, much of the work being toward the dip. The openings are drifts—three in number, and all in the "Barton four foot," or "Bakerstown" coal—an excellent coal.

At present the mine is being worked by Henry Myers—said to be under a lease.

POTOMAC COAL COMPANY.

Henry Shriver, General Superintendent.

P. H. Gallagher, Mine Foreman.

The Potomac Coal Company has its operation at Barton, shipping over the C. & P. R. R. All their big vein is worked out, and the company is working two of the veins below the big vein. The first is the "Dirty nine-foot" or "Little Clarksburg" coal; two openings have been made. A plane of about 1,000 feet is used to convey the coal down to a tramroad, whence a small locomotive takes it to the dump. This mine has natural ventilation, and in unfavorable weather not what it should be. In small seams, such as this, the ventilation must be very strong to meet the purposes of the law; which is no more than is necessary for the health of miners and the proper mining and cleaning of the coal. The Superintendent visited the mine with me, to consider the best way of properly ventilating it; no water is to be had on the hill where the mine is located, and the question of power is a difficult one. The Superintendent thought at one time of piping steam from the Barton four foot mine, a distance of about 9,000 feet; but this was found impracticable; and the company decided to work only a couple of men until they could get through the mountain, and thus create a natural suction at all times of the year. A couple of air shafts have been sunk at the left side of the mine, which while they improved the case somewhat, did not increase the force sufficiently to bring the mine up to standard requirements.

The openings in the "Barton four foot" are three in number, and among the best in the region. This is the best, in my opinion, of any of the lower veins, except perhaps the six foot. A large blowing fan, 20 feet in diameter, ventilates the mines, and keeps them generally in good condition. For some time before February last this operation has not been working. The drainage has not been the best here, but the coal lies low, and many local "dips" make it a hard matter to keep the mine anything like well drained.

About 48 or 50 miners and mine laborers are employed here.

W. J. CHAPMAN COAL COMPANY.

W. J. Barnard, Superintendent and Foreman. (Resigned and succeeded by Edward Clark.)

The W. J. Chapman Coal Company is working two different veins at Barton—the "Barton four foot" or "Bakerstown" about 400 feet below the big vein, and the Tyson, a vein about 100 feet above the big vein. The "Barton four foot" is in pretty fair condition as to ventilation, a heading being driven through the hill, and the opening being much higher than the mine-mouth, creates a draft, either up or down, at every season of the year. I consider this vein of great commercial value, and enough importance has hardly been attached to its development. The drainage is not of the best—not enough attention has been paid to it in the beginning, and the local "dips" also complicate matters.

About twenty men are employed.

The Tyson, or upper mine, is reached by two incline planes and a tramroad about six hundred feet long, between the planes. The Tyson vein here and at all mines further south, is much thicker than up the region, toward the north-east. It ranges from five to seven feet thick here, a good workable coal. Ventilation has been nothing like it should be, and previous to Feb. 17th last no effort was made to obey the law. On that date I appeared before a Justice of the Peace at Barton, every effort to secure obedience to the law by inspection and discussion having failed, and swore out a warrant for the arrest of the Superintendent and foreman, charging violation of Section 209 G of the mining act—"The operator or superintendent of every coal mine, whether shaft, slope or drift, shall provide and hereafter maintain ample means of ventilation," etc. This mine is in a solid piece of coal, though of not very large extent. Upon my first inspection I saw ventilation was a serious matter. As the operation is small, I agreed with the Superintendent not to insist upon a fan being placed at the mine, provided he would drive air-holes to the surface. It was a question of results, more than of means. This was in June, 1904. The mine was getting larger, more men were being employed, but no means of ventilation being provided. In August I found conditions worse, and asked that they be remedied. In

October I found conditions no better; could get no air readings. Superintendent claimed expense was too great to drive an airhole to the hill-side. In December I found the conditions becoming intolerable, and asked the Superintendent if the company prevented him from making the improvements I asked; he frankly said they were not, that the matter was entirely in his own hands, and the only reason he did not drive the air-course was the great expense involved. I again asked him to carry out the compromise course first agreed upon, and left. On February 17th I again inspected the mine, and finding nothing done toward obeying the law, resorted to the only means remaining to secure obedience to the laws.

On April 4th I visited the operation, and found conditions very much improved. An air-shaft had been sunk at a considerable distance from the mine-mouth, and the mine is now in very good condition as to ventilation.

Much annoyance and unpleasantness would be avoided if every mine official would note fully the requirements of the laws, which the Inspector must enforce, regardless of any considerations, reasonably and fairly.

About thirty-five miners work in this mine.

FROSTBURG COAL COMPANY.

William Thomas, Superintendent and Mine Foreman.

The mines of the Frostburg Coal Company are at Reynolds, a new town on the Westernport and Lonaconing Electric Railway, and ship by the C. & P. R. R. Operations have been suspended for some time, but were resumed in January of the present year. The veins worked are the "Thomas" or three-foot, and directly above, with an incline plane leading up to it, the "Barton four foot," although at present not being worked. The Thomas coal at this point is very hard—almost as refractory as anthracite. Puncher mining machines of "Ingersoll-Sargent" type are used in undercutting the coal, the power being supplied by an air-compressor in their engine room. All coal is mined by machine, no pick mining being done at present. The mine is ventilated by a blowing fan, situated some distance from the mine-mouth, which furnishes plenty of air for the mine, but on account of the ex-

ceptionally careless manner in which the mine was formerly worked, air courses had fallen in, headings run into each other, brattices either never put up or indifferently built, all coal mined from the nearest points, regardless to the future of the mine, either as to safety or ventilation, conditions are not good. The present management has made considerable improvement, and while much yet remains to be done, it is encouraging to see something accomplished. The fan is 12 feet in diameter, and steam is piped quite a distance to run it.

This is an inspection report:

Where Measured	Cubic feet air.	Number Employees.	Air per man.
Intake from the fan	21,260	20	10,63
Outlet of 2nd right, and intake to 3rd right.	2,160	7	308
Inside cut in 5th right	945	4	271
Outlet at the mouth of the mine	16,100		

Roads and drainage only in fair condition, but the general demoralization of the property is the cause of this.

PHOENIX AND GEORGES CREEK COAL COMPANY.

A. T. Althouse, President.

John Rankin, Superintendent and Mine Foreman..

The Phoenix and Georges Creek Coal Company has three openings in the big vein coal, one in the "dirty nine-foot," or "Little Clarksburg," and two in the "Barton four foot." The openings in the big vein are in the abandoned Phoenix mine mainly, and out of it they have gotten and yet will get a good deal of coal. The mines are all drifts. Natural ventilation in the big vein, and generally all right, air-holes being driven to the surface for ventilation. In the "Barton four foot" are employed about 25 men, and conditions there are very good. The coal at this point seems to be better than most places farther up the valley. Ventilation is by a furnace, and gives satisfaction, the mine being not yet very extensive. The management agrees to put in a fan as soon as it is required. The "dirty nine-foot" is just being opened up. The company has a large area of this coal, as well as of the Barton four foot, which they intend to develop. An incline plane

reaches from the dump to the "Barton four foot," the first mine working; another plane leads to the big vein, and about half-way up this plane the "dirty nine-foot" is reached.

This is a report of the ventilation of the "Barton four foot" mine:

Where Measured.	Cubic feet air.	Number Employees.	Air per man.
Intake at the mouth of mine	5,390	....	...
Inside cut-through in main heading	4,160	25	167
Return to furnace	7,425		

This operation is about two miles east of Westernport.

CUMBERLAND AND GEORGES CREEK COAL COMPANY.

Penn Colliery.

J. L. Conrad, Superintendent.

A short distance from the Phoenix Company's mine is this company's mine, the adjoining property. There are three openings at the plant, all in the "Barton four foot," vein. The coal here, like that of the Phoenix Company, is extra good quality, and the mine should be in much better condition. The mine is another of those in the hands of the law. The Grand Jury of Allegany county indicted the Superintendent at the January term of court, 1905; the case is still pending.

On my first visit in June, 1904, I saw the mine was very poorly ventilated. A small furnace, with a wooden stack about four feet square, is the ventilating apparatus. This is all right when a mine is small, but when the excavations proceed any distance, as is the case now at this mine, it becomes totally inadequate. Upon my second visit I again asked the Superintendent to put in a fan. The Superintendent said he would cheerfully do so, but that his company would not let him. I wrote his officials, telling them the condition of their mine, and received an answer to the effect that they had been in the coal business for twenty-five years in Pennsylvania, and that furnace ventilation had always given them satisfaction there; and they could see no reason why it would not do here. I wrote them again, that furnace ventilation might do in mines of larger coal-veins, and with properly constructed furnaces, but at their operation the furnace was almost worthless. The first indictment was found at the January term of Circuit Court,

and the States Attorney continued the case to the April term, on the company's promise to "fix things up," as he told me. Twice since January I have visited the mine—once in February and once in April. Mine No. 3 has been opened since; this the company claimed would solve the ventilation problem. The first left heading in No. 2 opening is connected with No. 3 opening, giving an inlet for No. 2 first left heading. As soon as the first left heading is passed the ventilation will be as bad as ever. Their ventilation arrangements are in no way equal to their needs, and anything they are doing is but temporary makeshifts, in no manner calculated to put their mine in a safe and healthful condition.

The mine ships over the C. & P. R. R., on which is a fine dump, with a long incline plane to the mine. Some time ago the company prospected extensively for the "Davis Six Foot" or lower Kittaning coal. About 25 or 30 miners generally work here, sometimes reaching over 40 and at times down to about 15.

PIEDMONT AND CUMBERLAND COAL COMPANY.

Hampshire Mine.

James McDonald, Superintendent and Mine Foreman.

This mine is in the "Davis Six Foot" or Lower Kitanning coal, and is situated near Westernport, where the Hampshire mine of the Hampshire and Baltimore Coal Company once was. It is still called the Hampshire mine. The mine was opened up, and like many others the company proceeded to work out the close coal, the result being that the operation becomes a "go as you please" method of working, disastrous both for employer and employee. Ventilations is supplied by a force fan, and except where the air is lost through the before-mentioned "hogging" methods of mining, it is carried in fairly good quantity to the working places.

In the second left heading of this mine there was some "Marsh Gas," or carburetted hydrogen. The heading was being driven toward the point where the coal goes under Georges Creek, and the outcrop is lost, on the left side of the mine. The gas would gather in a short time, a sufficient quantity to severely burn a person, did they come upon it unexpectedly. The company stopped operations upon the heading where the gas was noticed in such quantities, and have not since worked it. I have advised

the mine foreman to take every precaution possible against accident, as this heading showed more gas than anywhere else in the region. In fact, only in two mines—Washington No. 3 and Hampshire mine, are these dangerous and treacherous gases generated. It may be that these places will "blow out" and exhaust themselves as sometimes happens; I trust so; but so many catastrophes occur in mines never known to have gas before the wreck occurs, that I feel it my duty to urge upon everyone connected with the mines, that they double their vigilance, believing in the old maxim that an "ounce of prevention is worth a pound of cure."

A large amount of powder is used here for the coal produced, and at times the working places are filled with smoke.

This is an average inspection during the year:

Where Measured.	Cubic feet air.	Number Employees.	Air per man.
Intake from fan	26,910	47	573
Inside cut-through in 2nd left	5,470	6	912
Inside cut-through in 2nd right	5,950	30	198
Outlet at mouth of the mine	9,900		
Working in other parts of the mine, drivers, etc.,	.....	11	...

Roads and drainage in fair condition.

DAVIS COAL & COKE COMPANY.

Buxton Mine.

O. Tibbitts, Superintendent. Robert Grant, Mine Foreman.

This is another operation in the "Davis six foot," or Lower Kitanning, and while a large part of the excavations are in Garrett county, the opening is in Allegany county, and has been so described by my predecessor. It is at present the largest operation in the "Davis" seam in the State. The coal is shipped over the West Virginia Central and Pittsburg Railroad, an incline plane leading up to the mine, whence an endless rope haulage conveys the cars to and from the various headings. This haulage system makes a complete circuit of the mine, from right to left, and the mine cars are brought to the haulage roads by drivers, with small mules. This company had a large amount of trouble the past winter, with the breaking of various parts of the machinery in

their power-house. This power-house furnishes power to let the loaded cars down the plane, and when empty bring them up again; hauls the rope and cars around the haulage circuit; and supplies power to drive the two fans that are used, one for the right and one for the left side of the miner. In the 5th right heading the company has also met serious trouble, having for some time been driving through solid rock. It is to be hoped they will get through this "fault," since a large number of people depend upon the operation for a livelihood.

The mine is ventilated by two force fans, one of the best equipments in the State. The ventilation has never fallen below the requirements of the law during the past year.

The following presents an average inspection during the year:

Where Measured.	Cubic feet air.	Number Employees.	Air per man.
Intake from fan, right side	27,280	115	237
Intake to 1st cross, 1st right	5,280	12	440
Intake to 1st right	6,510	32	203
Intake to 2nd right	9,450	51	185
Intake to 3rd right	3,423	10	342
Intake to 4th right	5,100	10	510
Intake from fan, left side	41,800	39	1,072
Outlet of 2nd left	12,150	9	1,350
Outlet of 3rd left	9,460	11	860
Outlet to 4th left and intake to main heading	8,225	15	548
Intake to 5th right	5,700	4	1,425
(This last reading was taken some distance from the working place, and not all reaches the men.)			
Outlet of both sides	60,200		

This shows a large volume of air travelling in all the headings, and yet, with the great amount of powder used, there is often plenty of smoke. The drainage at this plant is quite a problem, as nearly all the mine slopes toward the dip. Every effort is made to keep the water out of the places, but frequently I have seen men working where it was wet, and consequently very disagreeable. Possibly the company may be able later to let off the surplus water through the Piedmont and Georges Creek Company's Washington Mine No. 3, on the other side of the mountain, as work advances.

About one-third of the employees in this mine work at night, there not being places enough for them all to work in day-time.

MORRISON'S LAND COMPANY.

De Warren H. Reynolds, President. Roderic Clary, Secretary-Treas.

J. H. Cofrode, Jr., Superintendent.

This mine is located at Reynolds, on the line of the Westernport & Lonaconing Electric Railway. It is worked exclusively for the use of the railway company, to generate power for one of the nicest and cleanest trolley lines in the county. The coal worked is the "Thomas three foot," or Upper Freeport, and is of very good quality. Preparations are on foot to ventilate the mine with a fan. The output last year was 2,239 tons, two men and a boy being employed.

Garrett County Mines.

PATTISON COAL COMPANY.

G. C. Pattison, Superintendent.

This is the only mine in the State shipping direct over the Baltimore & Ohio Railroad, and is situated about one mile west of Bloomington. There are two openings—one in the "six foot" or Davis vein, the other reached by an incline plane, in the "Barton four foot" coal. About thirty men and boys are employed in both mines at present, although no work was done for the first five months of my term. The fan in the "six foot" mine is not kept running at all times, as it should be; although that is explained by claiming that they have no water at dry seasons of the year. As ventilation is most essential to the health and safety of the miners, the company should make strenuous efforts to keep their fan going. The Barton four foot coal, higher up the hill, is a very good mine, but at times the management does not drive cut-throughs as close as the small seam requires. The coal in the "four foot" mine is of good quality, and mostly free from any faults. It is the most persistent and uniform of all the smaller veins.

The six foot coal is troubled at this point with many faults or clay seams.

MONROE COAL MINING COMPANY.

G. C. McFarlane, Superintendent.

H. B. Kight, Foreman, Six Foot Mine.

L. R. Kight, Foreman, Four Foot Mine.

This Company's Barnum Mines, Nos. 1 and 2, are located at Barnum, West Va., (on the Maryland side of the Potomac) and ship over the W. Va. C. & P. R. R. The No. 1 mine or "split six" as it is called, is ventilated by a fan; it is in fairly good condition as to ventilation, but could be much better. The present company did not open the mine, and the previous owners worked it very carelessly. In part this accounts for a great loss of air before it reaches the place intended for; leaky brattices and old

workings being responsible for about half of the air that the fan throws. Machines are used in this mine, of the puncher type. The roof is very dangerous, being a soft fire clay, at places very hard to keep up. The following is an average inspection of the mine:

Where Measured.	Cubic feet air.	Number Employees.	Air per man.
Intake from fan	29,110	.....	.....
Inside cut-through in 5th right	1,150	6	192
Inside cut-through in 6th right	910	4	227
No air reading on main heading	.....	.....	.....
Outlet on 6th left	1,960	3	653
Inside cut in 5th left	1,380	3	460
Outlet, near the mouth	9,240	.....	.....

This shows plenty of air for the miners employed, but it also shows a great loss from the work of the fan. The outlet, I measured inside of some leaky brattices on main road, and have nearly 20,000 cubic feet air per minute less than the intake from the fan.

The "Barton four foot" coal is reached by an incline plane, about 450 feet above mine No. 1. A considerable area is worked in this mine, ventilation being altogether by natural means. The company had a fan about completed on the occasion of my last visit, April 14th, 1905, and no doubt is furnishing plenty of good air ere now. It was badly needed at this operation, as ventilation at times, particularly during spring and fall, when the temperature was about the same outside as inside, was very bad. The coal of the upper mine is very good, and with improved conditions good ventilation will bring, will no doubt prove very profitable.

DAVIS-HARVEY COAL COMPANY.

J. H. Davis, Superintendent.

The Davis-Harvey Coal Company has opened a mine about one mile north of Blaine, W. Va., in Garrett County. It is in the "Upper Freeport," or "Thomas" vein, and promises to become quite important. First shipments began early in February of the present year, but at no time yet have enough men been employed to come under the law. When first started no scale was used, but the owner paid the miners on a basis of one ton, five hundred weight assumed weight for each car loaded, until he could com-

municate with myself. At the superintendent's request I went to the mine February 8th, and in the presence of all the miners and the mine owners measured the cubical contents of a couple of cars, which all parties agreed were loaded about the usual way; and found that not more than one ton load. However, as measuring coal is not absolute, some cars out of the same places weighing more than others, and as this "Thomas" coal is a refractory grade, a semi-anthracite coal in nature, both sides agreed to make the rate one ton, two and one-half hundred-weight, until the company put in a mine scale, which they are anxious to do as soon as possible.

Shipment is made over the W. Va. C. & P. Railroad.

BLAINE MINING COMPANY.

S. B. Brydon, Superintendent. Wm. Draimer, Mine Foreman.

This is an ideal coal mine. The Lower Kittanning, or "Davis six foot" coal is worked, and at no time during the year has there been any violation of the ventilation laws. I have always been able to get a great deal more air current than the law requires, in each of my six visits of inspection. There has been some dissatisfaction at this mine, about the weight. I have made a test of the scales, and found them absolutely correct, and after a most thorough investigation can say that I have discovered nothing indicating that the Company is doing wrong in this direction.

The following is an average inspection of the mine:

Where Measured.	Cubic feet air.	Number Employees.	Air per man.
Intake from fan	42,120	64	658
Inside cut-through, 1st right	14,200	7	2,028
Inside cut-through, 2nd right	11,486	5	2,297
Inside cut-through, 3rd right	10,780	4	2,695
Inside cut-through, 4th right	10,102	6	1,683
Inside cut-through, 5th right	9,555	5	1,911
Inside cut-through, 6th right	8,120	7	1,160
Inside cut-through, 7th right	7,280	5	1,456
Inside cut-through, 8th right	5,120	10	512
Inside cut-through, 8th left	5,635	6	939
Inside cut-through, 7th left	4,410	5	882
Inside of all working places, 5th left	8,505	4	2,126

The local dips in this vein everywhere make it difficult to drain at times, therefore the drainage is not always of the best. The mine is about a half-mile south of Blaine, West Va., at Dill, and ships over the West Va. C. & P. R. R.

GARRETT COUNTY COAL MINING COMPANY.

H. B. Douglas, Superintendent.

Thomas Malloy and William Jones, Mine Foremen.

The mines of this Company at Dodson, Nos. 1 and 3, were in pretty bad shape as to ventilation the first three visits I made. It was not that the Company did not want to ventilate, but because they were undecided as to the kind of fan they wanted to put in. In September, 1904, they completed one of the best fans in the State, at their No. 1 mine—one of the Crawford-McCrimmon make. They are putting in overcasts, thus avoiding the necessity of trap-doors and consequent interruption of the air-current, also saving the expense of an attendant. The seam worked here is the Lower Kittanning, or Davis six foot, in which about 80 men and boys are employed, and the Upper Kittanning in Mine No. 2, employing about 15 men and boys. This is the only place in the two counties where this seam is worked, and some claim that the coal does not exist in Allegany County. It is a very good coal, about four feet high, and comparatively free from impurities. Furnace ventilation is used, but furnace ventilation has its limitation, and in a short while a fan will be required. The company has built a very pretty town at this place, with superintendent's residence and a complete water system, water piped into every house. Coal is shipped over the W. Va. C. & P. Railroad, from a point close to Harrison, where the Elk Garden branch of that road meets the main line.

The following inspection report was taken after installation of the fan:

Where Measured.	Cubic feet air.	Number Employees.	Air per man.
Intake from fan	52,650	80	658
Inside cut, 1st right	7,560	17	445
Inside cut-through, 2nd right	7,175	12	598
Inside cut-through, 3rd right	4,600	12	383
Inside cut-through, 3rd left	1,815	12	151
Inside cut-through, 2nd left	6,510	13	500
Inside cut-through, 1st left	8,100	14	578
Outlet at mouth of mine	51,650	.....	.....

These readings were somewhat back from the face of the headings, air courses being behind. Miners prefer to work headings, and because of that the air courses in some cases were hard to keep going.

DATESMAN MINING COMPANY.

Now, Stoyer Run Coal Company.

H. E. Gray, Superintendent.

This mine is located at Stoyer, a small village, located about two miles north of Gorman, on the West Va. C. & P. Railroad. There are two openings, rather close to each other for good results in ventilating. A furnace is built with a wooden upcast, some distance from the openings. On the occasion of my first couple of visits to this operation, I found conditions very bad; no air, places wet and mine in a generally dangerous condition. About the middle of August the Datesman Coal Company went into the hands of receivers. Some time later the property was sold at public sale, and bought by the present owners. In February of this year operations were resumed. Early in that month I visited the mine and found conditions little better. Told the superintendent I would be forced to take action against him if he did not improve ventilation. The new company promised to better the air, and under the present mine foreman, Thomas Robinson, I find much improvement.

This is the last report:

Where Measured.	Cubic feet air.	Number Employees.	Air per man.
Intake at mouth of both openings...	4,500	18	250
Return to the furnace.....	4,320	.....	.....

This is much better than any of my former visits. The company contemplate some very extensive improvements during the present year.

NETHKIN COAL COMPANY.

John Jose, Superintendent.

This mine is located close to Bayard, West, Va., but the opening is made in Maryland. No shipments have been made as yet. Some coal is being mined for local use, and it is expected that quite a large operation will eventually be established. I visited the mine on two occasions, but did not find men enough to bring the operation under the law. When shipping begins, it will be over the W. Va. C. & P. R. R.

UPPER POTOMAC COAL COMPANY.

F. L. G. Grammer, Supt. (Resigned Sept., 1904).

R. Y. Williams, Superintendent. Robert Brown, Mine Foreman.

Upper Potomac Mine was in very bad condition when I first visited it, especially as to ventilation. The seam they are working is not very high, excavations are of considerable extent, and the means of ventilation was a furnace, poorly constructed, and aircourses, totally inadequate, being too low, and the power of the furnace spent before it reached the miners. The company made two new openings, about a half-mile around the hill from the old ones, and abandoned the former workings. Under the present superintendent and mine foreman this mine has been made a desirable place to work, because of the improvement in ventilation. Where before only 10 to 20 men could be employed, now from 40 to 50 find work, showing that as an economic proposition it pays to observe the laws; and what appears a hardship when enforced, proves a blessing in the end.

The following will show the present condition of the mine:

Where Measured.	Cubic feet air.	Number Employees.	Air per man.
Intake at mouth of mine.....	5,376	30	179
Inside cut-through, 1st right.....	2,660	18	146
Inside cut-through, main heading....	2,460	9	273
Return to furnace.....	5,655	3	.....

Overcasts, or air-bridges, are being put in at this mine, to give each heading its separate split of pure air.

Some of the mines in Garrett County have not worked so much as was expected, from the large development and the impetus given the coal trade in 1902. Franklin Mine, one of the largest mines reported in Garrett County, operated by the Davis Coal and Coke Company, was abandoned during the past year, being worked out. During the last year the mines of Garrett County produced

184,942 tons of coal, employing 283 miners and 116 mine laborers, in and outside the mines. The following table shows the output of the Garrett County mines in detail.

Company.	Name of Mine.	Days worked.	Employees.			Pick Mines, tons.	Machine Mines tons.	Total Mined, tons.
			Mines.	Laborers	Total.			
Pattison Coal Co.	Pattison 1 & 2	180	25	13	38	15,125	.....	15,125
Monroe Co. Mining Co	Barnum 1 & 2	195	35	39	114	28,056	20,000	48,056
Davis - Harvey Coal Co	Blaine No. 1	...	49	4	13	.....	.....	.....
Blaine Mining Co.	North American	246	45	10	55	55,656	.....	55,656
Garrett Co. Mining Co	Dodson 1, 2 & 3	170	81	27	108	47,002	.....	47,002
Upper Potomac Coal Co	Upper Pto. No. 3	300	30	13	43	12,000	.....	12,000
Stoyer Run Coal Co	Alice	60	18	10	28	7,134	.....	7,134
Totals		...	283	116	399	164,942	20,000	184,942

Ventilation, Haulage, Improvements, Etc., in Allegany County.

Company.	Name of Mine.	No. of Openings.	Character of Openings.	Mode of Ventilation.	Kind of Haulage.	Improvements During Year.	Worked out or Abandoned.
McMullen Bros.	Barrelville No. 1.	2	Drifts.	Natural.	Mules.	Dump, plane, wheelhouse, tramroad, 1 new opening.	
Georges Creek Bald Knob Coal Co.	Bald Knob Nos. 1 and 2.	2	Drifts.	Furnace.	Mules.	Dump, plane, wheelhouse, tramroad, 2 openings.	
Cumberland Basin Coal Co.	Barrelville.	2	Drift and slope.	Natural.	Mules.		Suspended.
Midland Mining Co.	Trimble.	3	Drifts.	Natural.	Mules.	Tramroad extended, 1 new opening.	
Midland Mining Co.	Enterprise.	2	Drift and slope.	Natural.	Horses.	Stationary engine, rope haulage, on slope, tramroad extended 700 feet.	One opening worked out
New York Mining Co.	Union No. 2.	4	Drift.	2 fans.	Horses.	Electric haulage, third rail.	
Union Mining Co.	Union No. 1.	2	Drift.	2 fans.	Horses.		
Piedmont Georges Creek Coal Co.	Washington No. 1.	3	Drift.	Natural.	Horses.		
Piedmont Georges Creek Coal Co.	Washington No. 2.	3	Drift.	Big vein, natural, Tyson, fan.	Mules.		
Piedmont Georges Creek Coal Co.	Washington No. 3.	2	Drift.	Fan.	Mules.		
Consolidation Coal Co.	Ocean No. 1.	2	Slope.	2 fans.	Compressed air motors mules, and rope and stationary engine.	Dump for local trade.	
Consolidation Coal Co.	Ocean No. 2.	2	Drifts.	Natural.	Mules.		Suspended.
Consolidation Coal Co.	Ocean No. 3.	4	2 slopes. 1 drift. 1 shaft.	Fan.	Compressed air motors; mules; stationary engine and rope.		
Consolidation Coal Co.	Ocean No. 7.	5	2 slopes. 3 drifts.	3 fans.	Stationary engine; mules.	Fairbanks Automatic scale; manway repaired.	
Consolidation Coal Co.	Ocean No. 8.	1	Drift.	From Ocean No. 1. fan.	Motor and horses.		
Consolidation Coal Co.	Ocean No. 9.	2	Drift.	Fan.	Mules.	16 foot fan installed.	
H. & W. A. Hitchins Coal Co.	Borden.	2	Drift.	Natural.	Horses.	New scale.	
Barton and Georges Creek Valley Coal Co.	Carlos.	4	1 slope. 3 drifts.	Fan.	Stationary engine and rope; horses.		
Bowery Coal Co.	Bowery.	2	Drifts.	Natural.	Horses and mules.	New opening, tramroad being laid.	
Braddock Coal Co.	Pine City.	2	Drifts.	Natural.	Mules.		
Wachovia Coal Co.	Montell.	1	Drifts.	Natural.	Horses.	Tramroad, dump, and other outside buildings.	
Georges Creek Coal and Iron Co.	No. 1 Cutter and Tyson No. 16 and 17.	5	Drifts.	No. 1, 7 and Cutter, fan; 16, furnace.	Tyson, mules and motor; No. 1, engine and rope.	Tramroad, conveyor and washery.	
Georges Creek Coal and Iron Co.	No. 3, 9, 10 and 12.	4	Drifts.	Natural.	Horses.		
New Central Coal Co.	Koontz, big vein and Tyson	4	Drifts.	2 fans.	Horses and mules 2 stationary engines tail rope.		
Maryland Coal Co.	Appleton and Kingsland.	3	Drifts.	Fan.	Horses inside plane; wheelhouse; locomotive on tramroad.		
Maryland Coal Co.	Patton and New Detmold.	2	Drifts.	Fan.	Horses.		Abandoned.
American Coal Co.	Big Vein and Tyson Jackson mines.	8	Drifts.	Tyson natural; No. 5, fan.	Mules; stationary engine; rope.	Extending tramroad.	No. 10 worked out
American Coal Co.	Caledonia Big Vein and Tyson.	7	Drifts.	Natural.	Horses; locomotive on tramroad.	Extending tramroad.	
Piedmont Mining Co.	Moscow and Pekin.	5	Drafts.	Natural.	Moscow, horses; Pekin, locomotive and horses.	1 New house, 1500 feet tramroad, 1 new opening.	
Moscow—Georges Creek Mining Co.	Moscow No. 1, 2, 3.	5	Drifts.	No. 1 fan; others natural.	Horses and mules.	Plane, wheelhouse, tramroad, 1 new opening.	
Potomac Coal Co.	Potomac.	5	Drifts.	"Dirty nine," natural Barton four foot, fan	Mules.		
W. J. Chapman Coal Co.	Swanton.	3	Drifts.	Natural.	Horses.		
Frostburg Coal Co.	Ginseng.	2	Drifts.	Fan.	Mules.		
Phoenix and Georges Creek Coal Co.	Phoenix.	4	Drifts.	Big vein natural Barton 4 foot furnace.	Horses and Mules.	2 new openings, Barton 4 foot.	
Cumberland Georges Creek Coal Co.	Penn Colliery.	3	Drifts.	Furnace.	Mules.	1 new opening, Barton 4 foot.	
Piedmont—Cumberland Coal Co.	Hampshire.	2	Drifts.	Fan.	Mules.		
Davis Coal and Coke Co.	Buxton.	2	Drifts.	2 fans.	Mules; endless rope haulage stationary engine.		
Davis Coal and Coke Co.	Franklin.						Abandoned.

Ventilation, Haulage, Improvements, Etc., in Garrett County.

G. C. Pattison Coal Co.	Pattison.	2	Drifts.	Fan, 6 foot natural, 4 foot.	Mules.		
Monroe Coal Mining Co.	Barnum.	4	Drifts.	4 feet, natural, split 6 fan.	Mules.	Fan being installed, Barton 4 foot.	
Blaine Mining Co.	North American.	2	Drifts.	Fan.	Horses.	Rebuilt plane and stables, installed steam pump.	
Garrett County Coal and Mining Co.	Dodson No. 1, 2, 3.	4	Drifts.	Furnace in 4 foot. Fan in 6 foot.	Mules.	15 foot fan, stable enlarged, No. 3 opening made, 10 double houses, Supt's. residence, waterworks.	
Garrett County Coal and Mining Co.	Dill No. 1.	1	Drifts.	Natural.	Mules.		Temporarily shut down.
Upper Potomac Mining Co.	Upper Potomac.	3	Drifts.	Furnace.	Mules.	Building tramroad ½ mile; No. 3 opening.	No. 2. abandoned.
Stoyer Run Coal Co.	Alice.	2	Drifts.	Furnace.	Mules.		
Nethkin Coal Co.	Bayard.	1	Drifts.	Natural.	Mules.	No. 1 mine opened.	

Fire Clay Mines.

Union Mining Co.	Mt. Savage and Dry Mines.	4	Drifts.	Fan.	Mules.	One new opening.	Two openings worked out.
Big Savage Firebrick Co.	Allegany.	1	Drifts.	Natural.	Mules.		
Savage Mt. Firebrick Co.	Frostburg.	2	Drifts.	Natural.	Mules.	One new opening.	

The tables show about 117 openings in Allegany County, 20 in Garrett, and seven in the fire-clay mines of the State, during 1904. A large proportion of these openings are drifts, only six being slopes and one a shaft mine—all of these in Allegany county. The means of ventilation is largely by fan, the furnace being practically abandoned in this region as a means of ventilation, except where the operations have not yet advanced to a point where the expense of a fan is justified. Where natural ventilation is indicated, the mines generally work but few men, and the openings lie along tramroads, extending but a short distance underground. The number of miners working in natural ventilation is not more than ten per cent. of the whole number employed. In most mines horses and mules are employed for hauling, especially in gathering the cars from the working places; delivery to railroad in larger mines is usually accomplished by rope haulage, steam, electric or compressed air motors.

The policy of the operating companies has been one of steady improvement of their properties during the past year, and to-day the region is capable of a greater and steadier output than at any previous time, whenever the coal trade warrants the production. Only four mines were worked out, and three suspended operations, during the year.

Table of Fatal Accidents in 1904-5.

Date.	Name.	Occupation.	Age	Married or Single.	No. in Family	Residence.	Cause of Accident.	Mine.	Employer.
1904									
May 16	Albert Harris	Miner....	28	Single	.....	Eckhart	Fall of breast slate.....	Union No. 2	New York Mining Co.
May 16	John Malooly	Miner....	32	Married	3	Morantown ...	Fall of breast slate	Union No. 2	New York Mining Co.
May 25	Allan Spier, Sr	Miner....	48	Married	7	Midlothian	Fall of roof coal.....	Carlos ...	Btn. & G. I. Valley C. Co.
May 30	Thomas Watkins....	Miner....	26	Married	2	Mt. Savage....	Fall of fire clay, coal and slate	Fire Clay ..	Union Mining Co.
July 8	John M. Thomas	Miner....	56	Married	Large..	Frostburg	Fall of roof coal.....	Carlos ...	B. & G. C. V. Coal Co.
Aug. 10	Robert McMillan....	Miner....	18	Single	.....	Lonaconing ...	Dragged by mule	Jackson	American Coal Co.
Nov 15	James Wilson.....	Miner....	34	Single	.....	Allegany	Fall of slate and roof coal	Union No. 2	New York Mining Co.
Dec. 22	James Wells	Miner....	20	Single	.....	Lonaconing ...	Fall of roof coal.....	Ocean No. 7	Consolidation Coal Co.
Dec. 28	Harmon Crowe	Miner....	23	Single	.....	Borden	Trip runaway inside plane...	Union No. 1	Union Mining Co.
1905									
Jan. 11	David Hudspith ...	Miner....	26	Married	.....	Savage, W. Va.	Fall draw slate	Buxton ...	Davis Coal & Coke Co.
Jan. 13	Harry McMannis....	Miner....	16	Single	.....	Franklin ..	Burned by blasting powder..	Penn ...	Cumb. G. C. Coal Co.
Jan. 17	Daniel Timiney	Miner....	32	Married	2	Moscow	Buried under cave-in	Jacks'n No.9	American Coal Co.
Jan. 27	Hiram Porter	Motorman	26	Single	.....	Borden	Run over by motor.....	Union No. 2	New York Mining Co.
Feb. 7	Joseph Williamson	Miner....	35	Single	.....	Franklin ..	Fall of bone coal	Penn ...	Cumb. G. C. Coal Co.
Feb. 8	Charles Miller.....	Miner....	45	Married	.....	Barton	Fall of roof coal.....	Caledonia ..	American Coal Co.
Mar. 16	William Trappe	Miner....	50	Married	Large..	Midlothian	Fall of roof coal.....	Carlos ...	Btn. & G. C. V. Coal Co.

The Co-Operative Insurance Law.

(Chapter 412, of the Acts of 1902).

AN ACT to create a Co-operative Insurance Fund, to be maintained by Coal and Clay Miners and their Employer in Allegany and Garrett Counties, and to add four new Sections to Article No. 1 of the Code of Public Local Laws, title "Allegany County," under the sub-title Coal and Clay Miners and Employers' Co-operative Insurance and Liability, and, in like manner, to add four new Sections to Article No. 12, of the Code of Public Local Laws, title "Garrett County," under the sub-title Coal and Clay Miners and Employers' Co-operative Insurance and Liability.

WHEREAS, Experience has shown that in certain perilous occupations followed in Allegany and Garrett Counties, in the State of Maryland, by its workmen and artisans a great number of fatal accidents annually occur, so that the frequency thereof may be estimated from year to year, in which perilous occupations as has been found by uniform experience that the unavoidable or trade risk is responsible for at least ninety-five per cent. of such fatal accidents; and

WHEREAS, The persons who suffer such fatalities are usually poor, working from day to day to sustain themselves and their families, and unable to accumulate any estate for the sustenance of their widows and infant children in case of their untimely death; and

WHEREAS, It is unjust and against public policy that in such perilous occupations the burdens of the trade risk should be entirely borne by the widows and orphans of such workmen; and

WHEREAS, It is of grave necessity and importance that some method of partial indemnification, at least, should be available to the dependants of such persons as are inevitably killed in such perilous employment, lest they come to undeserved suffering, and the State be required to undertake their support; therefore, in

consideration of the premises, and other considerations, the following Act.

SECTION 1. Be It Enacted by the General Assembly of Maryland, That four new sections be, and the same are hereby enacted and added to Article No. 1 of the Code of Public Local Laws, title "Allegany County," said sections to follow after Section 195, of said Article No. 1, under the caption, "Coal and Clay Miners and Employers' Co-operative Insurance and Liability," and to be designated as Sections 195a, 195b, 195c and 195d, respectively; and be it further enacted, That four new sections be, and the same are hereby added to Article 12 of the Code of Public Local Laws, title "Garrett County," said sections to follow after Section 149 of said Article No. 12, under the caption "Coal and Clay Miners and Employers' Co-operative Insurance and Liability," and to be designated as Sections 149a, 149b, 149c, and 149d, respectively; said sections, as to both Allegany and Garrett Counties, to read as follows:

Section 195a of Article 1, and Section 149a of Article 12. Any corporation, partnership, association, individual, individuals, engaged in the business of owning or conducting any coal mines, clay mines in Allegany or Garrett Counties, whether such owner or owners, operator or operators, be residents of the State of Maryland or not, employing persons in the operation of mining coal or clay, shall be liable in law to any employee engaged in such occupation or to his legal representatives, in case of death, for the damage arising and flowing from any injury received by said employee through the negligence of said owner, or operator, or from the negligence of any agent or agents, employe or employes, and if the negligence causing such injury be found to consist of the joint or collective negligence of both the employer, his agent or agents, employe or employes, on the one hand, and of the negligence of the injured employe on the other hand, then it shall be the duty of the jury, or of the Court sitting as a jury, to determine and ascertain as near as may be the proportion of such negligence of which each has been guilty, and having ascertained and determined such proportion of negligence causing the injury, it shall be the duty of the jury, or of the Court sitting as a jury, to apportion the damages arising from said injury in like proportion or degree and award to the plaintiff or plaintiffs

the proportion of damages suffered which it shall have been determined was the proportion of the defendant or defendants' negligence contributing to the injury complained of.

Section 195b of Article 1 and 149b or Article 12. Provided, That no employer, owner or operator shall be liable under the aforegoing section of this Act if the said employer, owner or operator shall pay annually in advance in monthly installments, to the Insurance Commissioner of the State of Maryland, on the first Monday in each month, the following sums of money, respectively, one-half of which may be deducted by such owner, employer or operator from the wages of their employes, and the employer shall inform their employes of the provisions of this section, and make the same a condition of their employment, to wit, as follows: Any coal mine or clay mine employer or employers shall pay said Insurance Commissioner the annual sum of one dollar and eighty cents for each and every person employed on its pay roll in the State of Maryland; provided, however, that no employer liable under the preceding section of this Act shall be entitled to take advantage of this Act and its provisions, unless the said party shall on the first Monday of each month make a report under oath to the Insurance Commissioner aforesaid, stating the number of persons actually employed in Maryland, and on its payroll during the preceding month, and the estimated number to be employed during the month of the report, and shall pay the monthly installment above required.

Section 195c of Article 1, and Section 149c of Article 12. It is hereby made the duty of the Insurance Commissioner of Maryland to receive and safe custody keep of all such sums of money or insurance premium as may be paid to him under the provisions of this Act, and to keep such moneys in a distinct fund, free from all other moneys which may come to him. And the bond if said Insurance Commissioner shall be liable for all moneys which come into his hands, under the provisions of this Act, and to keep accurate account of such moneys and the number of accidents in each occupation giving rise to any claims against the same, and in the event of the death of any employe insured under the second section of this Act, who shall have come to his or her death in the course of his or her employment and from causes arising out of such employment covered by this Act; provided, that such

death shall not have occurred at a period longer than one year from the date of the injury, then the State Insurance Commissioner upon being satisfied by adequate evidence of such death, shall pay to the legal representative or unto the widow or children or husband of the deceased as the said Insurance Commissioner shall deem wisest for the defendants, if there be any, the full sum of one thousand dollars, and shall pay such indemnification for no other reason or cause whatever.

Section 195d of Article 1, and Section 149d of Article 12. The said Insurance Commissioner shall report in January of each year to the Governor the experience of this function of this department and keep proper statistics of the operation of the same, and shall have power to regulate from year to year the amount per capita required from each employer for each employe engaged in the occupations above prescribed, and said Insurance Commissioner shall have plenary powers to prescribe the notice of accident, the character of proof thereof and the proof of death, and the character and specific requirements of the monthly report herein provided for and to make full regulations for the government of this function of this department, and shall receive from the annual receipts of such insurance premiums one per centum for the payment of such extra services as may be required in the administration of the duties imposed by this Act. The word employe as used in this Act shall be construed to mean every person employed by the employer in such employment working in the State of Maryland.

Section 2. And be it enacted, That this Act shall take effect from the first day of July, in the year 1902.

Approved April 8, 1902.

Accidents During the Year.

The total number of accidents during the year, from May 1st, 1904, to May 1st, 1905, was 54, a decrease of 25, as compared with the corresponding period of the year preceding. Of this number, 16 were fatal, 38 non-fatal. There were 15 fatal accidents incident to the production of coal, and one in the fire-clay mines of the State. Of the non-fatal accidents, 37 were in the mining of coal, and one in the fire-clay mines. Sixteen of the non-fatal accidents were serious, and 21 were slight in nature. The one accident in the fire-clay mines was slight. The number of fatal accidents is extraordinary for the year just ended. Twelve of these fatal accidents resulted from falls of roof coal and slate; two on haulage systems; one a driver, the other an electric motor driver; one by the careless use of blasting powder; and one by a run-away mule, outside the mine. It will thus be seen that the great destroyer of human life in our coal mines is roof-coal, this alone being the direct cause of eight fatal accidents, beside two from places caving in altogether, one in fire-clay and one in a coal mine; one from draw-slate falling, and one by "bone coal" —12 in all, three-fourths of all the fatal accidents. The top coal that forms the roof above the big vein is usually from two feet to two and one-half feet in thickness. It is full of "slips," frequently running very irregularly, and again will extend hundreds of feet in one direction. This is one of the most dangerous roofs in mining anywhere, and it is solely by the superior intelligence and skill of the miners and the vigilance of the foremen in the region that the death rate is kept as low as it is. At present about 75 or 80 per cent. of the coal mined is pillar coal, consequently more accidents from roof coal falls are to be expected. Mine foremen and their assistants should insist at all times upon the miners properly timbering their places, for nearly all accidents occur in working places that are considered safe; miners taking risks there that they would not take in a place visibly dangerous. The only safe method of mining the "big vein" is to put up a prop whenever there is room for it, regardless whether the roof sounds hard or soft, and whether there is a car to finish or not. Prompt attention to this would reduce the loss of life greatly. I also wish to call attention to the reckless handling of explosives. I have seen miners making cartridges with their lamps

blazing on their caps, and when their attention was called to the risk would offer some flimsy excuse. Some men in mines need parental attention and watching to preserve their lives.

This watching can best be done by the mine foreman and his assistants, and they generally are competent men. They should not hesitate to call any miner's attention to any risk he may be running, whether the miner be experienced or not. Sometimes the experienced miner takes risks.

In every fatal accident, as soon as I could reach him, I notified the county coroner; but after investigation but one case seemed to require an inquest—that of Thomas Watkins, killed in the fire-clay mine. There were, as before stated, 38 non-fatal accidents during the inspection year. Mine foremen are not so prompt as they should be in sending in their monthly reports of accidents. Some did not report monthly at all, and I had to go to their company for them when the year was ended. Sub-section A of the mining law says: "The mine foreman shall report monthly to the Mine Inspector, on blanks furnished by said Inspector, all accidents resulting in personal injury." This would make the work of compiling the annual report much easier. Quite a number of minor accidents, resulting from miners riding on planes where riding is prohibited, and from being on haulage roads, when there are other means of egress and ingress, are reported. But three accidents were reported from Garrett County, none of them fatal. I have included these in the general list of accidents, tables of which appear in this report.

FATAL ACCIDENTS.

1904.

May 16. Albert Harris, miner, employed in Union Mine No. 2, aged, 28, single, residence Eckhart, was instantly killed by a fall of breast slate. This slate is between the bottom and top coal, and sometimes very thick. It would seem an unavoidable accident.

May 16. At the same mine, and on the same day, John Malooley, a miner, aged 32, with wife and two children, living at Morantown, was internally injured by a fall of breast slate, and died 15 days afterwards. The only wonder is that he was not killed outright. The accident looked to me like a case of gross carelessness. The putting up of a prop might have prevented it.

May 25. Allen Spier, a miner in Carlos slope, of the Barton and Georges Creek Valley Coal Company, aged 48, married, with family of six children, resided at Midlothian; was internally injured by a fall of roof coal, from which he died about 12 hours later. This was an accident none could foresee; his place was well timbered, and he was a prudent, careful miner.

May 30. Thomas Watkins, a miner working in the fire clay mines of the Union Mining Company, at Mt. Savage, age 26, married, had wife and one child. His residence was Mt. Savage. This was a case where it would seem as if the unfortunate man walked into his death. The day was a holiday—Memorial Day—and the fire clay miners were not at work. Those who came to work were told they could have all the cars they could load. Watkins and his "partners," the men who worked with him, went into a place that had been abandoned, it is supposed to get some softer, easy clay, when in some way the roof caved in, letting down tons of coal, slate and fire clay. The others got out, but Watkins was buried beneath the debris, from which he was not extricated until 4.30 next morning. The mine foreman had visited that part of the mine at 8.30 that morning, and found Watkins and his comrades in their proper place. Why he was there, however, could not clearly be determined. Coroner O'Neill, of Cumberland, empaneled a jury, and an inquest was held. It was shown that the company was not responsible for Watkins' being in the abandoned place, and that their regular place was in good condition, and they were exonerated from blame.

July 8. John M. Thomas, a miner residing at Frostburg, aged 56, married, with grown-up family, was hurt by a fall of roof coal, from which he died a few hours later, in the "old mine" at Carlos. operated by the Barton & Georges Creek Valley Coal Company. He was a most prudent, careful and experienced miner, and when I visited the place in which he was killed, I found it in good condition. No man would think it possible for a serious accident to occur.

August 10. Robert McMillan, miner, single, aged 18. This was a most distressing accident. Young McMillan worked in the "Koontz" or "Waynesburg" mine, about two miles from the company's stables. The regular driver in the mine lived directly below the mine, at Pekin, and McMillan had been in the habit of taking the mule to the stable, as he lived in Lonaconing, thus saving the driver much time and trouble. It is not known positively how the accident occurred, but probably in attempting to mount, the mule became frightened and ran away, and the lad, becoming entangled in the traces of the mule, before any one could get near him, was dragged to a horrible and untimely death. The mule ran three miles with the body before being stopped.

November 15. James Wilson, a miner, employed at Union Mine No. 2 of the New York Mining Company, aged 34, and unmarried; living at Allegany. The cause of the accident was a fall of slate and roof coal from a "horse-back." He had just fired a blast, and without waiting to examine the overhanging top, went up to find what the blast had accomplished—as many miners foolishly

do; when it gave way and injured him internally, from the effects of which he died in three days.

December 22. James Wells, a miner working in Ocean Mine No. 7, or "Klondyke," of the Consolidation Coal Company, aged 20, single, residing in Lonaconing. As in all such cases I examined the working place just as it was when the accident occurred, and I regret to say that I believe the accident could have been prevented by the setting up of a couple of props and cross-bar. The same thing that has lost the lives of many other miners in this region was there apparent—a car almost loaded, and perhaps a wait to finish the loading before setting the props that would have prevented the fatal accident. The man died a few minutes after being removed from beneath the top coal.

December 28. Harmon Crowe, a miner and extra driver, aged 23, unmarried; residing at Borden mine. Was almost instantly killed by being run over by a trip of cars in the inside plane in Union Mine No. 1, of the Union Mining Company. I was on the scene a couple of hours after the accident; found that he was killed 150 or 200 feet past where his duties as a driver called him; no one seemed to know why he was at this point, so far from his proper place.

1905.

January 11. David Hudspith, miner, aged 26, married, residing at Savage, West Va., employed in the "Buxton" mine of the Davis Coal & Coke Company; was fatally injured by a fall of slate, dying about three hours later. This "draw-slate" generally falls without any warning; as it did in this case.

January 13. Harry McMannis, a miner aged 15 or 16 years, single, residing at Franklin, employed in Penn Colliery, of the Cumberland and Georges Creek Coal Company, was fatally burned by an explosion of powder. Whether he was making a cartridge or fooling with the powder no one seemed to know; although I had information that he had been in the habit of doing this. He was terribly burned about the head, arms and body. Was taken to the Western Maryland Hospital, in Cumberland, some days after the accident, and died there Jan. 24th, eleven days after.

January 17. Daniel Timiney, aged 32, miner, married, with wife and one child, working in No. 9, one of the mines of the American Coal Company, was buried beneath a fall that extended to the surface. About seven or eight miners were working with Timiney at the time, and all had very narrow escapes in getting out, one or two being slightly injured. I arrived at the scene that evening, about 8.30, and found the company doing all in their power in the work of rescue. The body was not recovered until 6.30 the morning after the accident. The exact conditions before the fall could not be seen, as in most other accidents. I

telephoned the coroner, asking him to make an investigation, which he did, bringing all the men who were working with Timiney before him. Their testimony agreed that the place did not appear at all dangerous; they were all standing close by when the fall came. The other men escaped, and Timiney was caught—that was about the testimony. The coroner decided that an inquest was unnecessary. This was the last work done in this opening, as the fall closed the mine.

January 27. Hiram Porter, motorman, aged 26, unmarried, residence Borden, was run over and instantly killed in Union Mine No. 2 of the New York Mining Company. He had just come out of the second left, or Carlos heading, with 11 loaded cars, leaving the rest of his train to be run down by hand, as was the custom. With the 11 loaded cars he had two brakesmen, and was moving very slowly, when the front brakesman saw his light raise up, then disappear, and instantly felt the jar of the cars leaving the track, and the trip stopped. They found young Porter under the second loaded car, the motor and first car having passed over him.

February 7. Joseph Williamson, colored, miner, aged 35, single, residing at Franklin and employed in Penn Colliery of the Cumberland-Georges Creek Coal Company. He was making a cut-through from heading to air-course, and under a large amount of "bone coal," which is very thick at this point, nearly two feet, and had no post, nor prop of any kind, under it; when it fell, inflicting internal injuries upon the man from which in a few hours he died.

Questioning the superintendent as to permitting miners to be so careless, he said that his men would quit if he insisted upon their propping their places. Being told that the man died of shock, I telephoned Dr. Parsons, the attending physician, and he sent me this statement:

PIEDMONT, W. VA., Feb., 18, 1905.

Thos. Murphy, Mine Inspector, Midland, Md.

Dear Sir:—

On or about the 7th of February I was called to see Joseph Williams, colored, who had been accidentally injured in Cumberland and Georges Creek Coal Company's mines. I saw him about nine to ten in the morning, and found him suffering from severe shock, greater than I could detect the cause for. He seemed to rally some before I left him, but died in some 8 or 10 hours. Next morning, while the undertaker was preparing him for burial, I had him to open his abdomen. I did not make a thorough investigation of the injuries, but saw the muscles of

the abdomen severely bruised and contused. The lower part of the bowels and all the abdominal viscera that I saw were in the same condition, with extravasation of patches of blood into the cavity, and among the bowels. I thought there was sufficient cause for death, and made no further examination.

Respectfully yours,

E. H. PARSONS, M. D.

February 8. Charles Miller, a miner, aged 45, married, and residing at Barton, was fatally hurt by fall of roof coal at Caledonia mine of the American Coal Company. He was bent over, making a hole to set a prop down with which to hold up a bar against the roof, when the top coal gave way, almost killing him outright. He lived but a few hours. This could hardly have been foreseen; the men working were good miners, careful and painstaking timbermen, and no one would have thought for a moment that he was in the least danger.

March 16. William Trappe, miner, aged about 50, married and having a large family, was fatally injured in Carlos mine, of the Barton & Georges Creek Valley Coal Company, "on the hill." He was engaged in what the miners call "scutching" when he "faced" a V-shaped "slip." The cross-bar the men had set up had but one timber prop; the other end resting in a hole dug in the coal at the side of the excavation. When the weight of the loosened coal, a ton or a ton and a half, fell to the bar, the sunken end tore out of the coal, swung out, and dropped the mass on Trappe. The practice of putting cross-bars in holes in the coal cannot be too strongly condemned. It is not often that this coal will hold solid for any length of time, and it is hardly ever safe if weight comes upon it.

NON-FATAL ACCIDENTS.

1904.

May 4. Roy Johnson, miner, 18 years old, single, lived at Lonaconing. Hurt toe with pick. Off work three weeks. Injured in Jackson mine, American Coal Company.

May 9. Joseph Sleeman, miner, age 22, single, residence Vale Summit, working in Consolidation Coal Company's "Hoffman" mine. Leg and arm hurt by fall of breast coal, not seriously.

May 13. John McGeady, Sr., aged 60, married, residing at Ocean. Working in Ocean mine, Consolidation Coal Company. Slightly hurt by fall of breast coal.

May 16. Harmon Arnold, driver, aged 21, single, residence Barton, worked at Phoenix mine, of the Phoenix & Georges Creek

Mining Company. Hit on head and breast by prop, knocked out of place by a lump of coal. Not serious.

May 16. Percy Sesny, miner, aged 25, married, residence Mt. Savage, worked at Union No. 2, the New York Mining Company. Foot injured by falling piece of breast coal; slightly.

May 17. Erwin Blank, driver, aged 21, single, residing at Mt. Savage, working in Union Mine No. 2, New York Mining Company. Collar bone injured from falling before cars, outside mine. Slight.

May 17. Jerome Taylor, driver, aged 25, married, residence Frostburg, employed by Consolidation Coal Company at Ocean Mine No. 7. Kicked by mule. Leg broken.

May 20. Patrick McGovern, driver, aged 20, single, residence Frostburg, employed by Consolidation Coal Company at Ocean Mine No. 7. Foot caught in loaded car; slightly hurt.

June 21. David Mann, miner, aged 55, married, residing at Lonaconing, employed by American Coal Company at Jackson mine. Slightly hurt by sticking pick in his right foot.

July 1. John Young, miner, aged 29, widower, residence Lonaconing, employed by Georges Creek Coal and Iron Company at Pine Hill mine, hurt by fall of breast coal. Thigh fractured, pelvic bone fractured, rib fractured. Also internal injuries; a serious case.

July 19. John Sloan, miner and extra driver, aged 35, married, residence Lonaconing, employed by Consolidation Coal Company at Ocean No. 7. Foot caught in loaded car. Slight injuries.

July 20. Robert Nesbitt, miner, aged 20, single, residence Woodland, employed by Consolidation Coal Company ot Ocean Mine No. 7. Caught by falling piece of breast coal; not seriously hurt.

July 26. Reese Harris, timberman, aged 36, married, residence Frostburg, employed by Consolidation Coal Company, at Ocean Mine No. 7. Caught by hoisting rope and leg broken. Serious.

August 2. Wm. G. McMillan, miner, aged 16, single, residence Frostburg, employed by Rockvein Coal Company, now Braddock Coal Company, at "Pine City" mine. Hand injured; run over by empty car.

August 10. Reese Bevans, miner, aged —, single, residence Frostburg, employed by Consolidation Company, at Ocean Mine No. 1. Foot slightly hurt by fall of breast coal.

August 30. Henry Spencer, driver on tramroad, aged 14, single, residence Dill, W. Va., employed by Blaine Mining Company at North American Mine. While crossing bridge across Potomac river with trip of empty cars, the front car jumped the track, throwing him over the bridge to the river bed below, breaking his left leg in two places, above and below the knee, and fracturing his left wrist.

TABLE OF NON-FATAL ACCIDENTS.

No.	Date.	Name.	Occupation.	Age.	Married or Single.	Residence.	Nature of Injury.	Cause of Accident.	Name of Mine.	Name of Company.
	1904									
1	May 4	Roy Johnson	Miner	18	Single	Lonaconing, Md.	Foot Hurt	Stuck pick in toe	Jackson	American Coal Co.
2	May 9	Jos. Stevenson	Miner	22	Single	Vale Summit, Md.	Leg and arm cut	Fall of breast coal	Hoffman	Consolidation Coal Co.
3	May 13	Jno. McGeady, Sr.	Miner	60	Married	Ocean, Md.	Slightly hurt	Fall of breast coal	Ocean No. 1	Consolidation Coal Co.
4	May 16	Harrison Arnold	Miner	21	Single	Barton, Md.	Head and breast hurt	Prop knocked out	Phoenix	Phoenix & Georges Creek Mining Co.
5	May 16	Percy Serney	Miner	25	Married	Mt. Savage, Md.	Foot hurt	By breast coal	Union No. 2	New York Mining Co.
6	May 17	Ervin Blank	Driver	21	Single	Mt. Savage, Md.	Collar bone hurt	Fell in front cars	Union No. 2	New York Mining Co.
7	May 17	Jerome Taylor	Driver	25	Married	Frostburg, Md.	Leg broken	Kicked by mule	Ocean No. 7	Consolidation Coal Co.
8	May 20	Patrick McGovern	Driver	20	Single	Frostburg, Md.	Foot hurt	Caught by loaded car	Ocean No. 7	Consolidation Coal Co.
9	June 21	Daniel Mann	Miner	55	Married	Lonaconing, Md.	Foot hurt	Stuck pick in foot	Jackson	American Coal Co.
10	July 1	John Young	Miner	29	Widower	Lonaconing, Md.	Thigh broken	Fall of breast coal	Pine Hill	Georges Creek Coal & Iron Co.
11	July 11	John Sloan	Miner	35	Married	Lonaconing, Md.	Foot hurt	Caught by loaded car	Ocean No. 7	Consolidation Coal Co.
12	July 20	Robt. Nesbit	Miner	20	Single	Woodland, Md.	Slightly hurt	Breast coal	Ocean No. 7	Consolidation Coal Co.
13	Aug. 2	W. J. McMillan	Miner	16	Single	Frostburg, Md.	Hand hurt	Caught by empty car	Pine City	Braddock Coal Co.
14	July 26	Reese Harris	Timberman	36	Married	Frostburg, Md.	Leg broken	Caught by hoisting rope	Ocean No. 7	Consolidation Coal Co.
15	Aug. 10	Reese Berans	Miner	..	Single	Frostburg, Md.	Foot hurt	Fall of breast coal	Ocean No. 1	Consolidation Coal Co.
16	Aug. 30	Henry Spencer	Driver	14	Single	Dill, W. Va.	Wrist and leg broken in two places	Thrown over bridge	North American	Blaine Mining Co., Garrett County.
17	Sept. 18	Jno. Bond	Miner	35	Married	Lonaconing, Md.	Hand injured	Prop fell out	Jackson	American Coal Co.
18	Sept. 28	Robt. Gibson	Miner	32	Married	Gilmore, Md.	Arm hurt	Fall breast coal	Ocean No. 1	Consolidation Coal Co.
19	Sept. 29	Harry Probert	Timberman	49	Married	Lonaconing, Md.	Leg broken	Fall of top coal	Mine No. 10	Georges Creek Coal & Iron Co.
20	Sept. 30	Jos. Stewart	Laborer	26	Married	Lonaconing, Md.	Leg crushed	Struck by hoisting rope	Ocean No. 1	Consolidation Coal Co.
21	Oct. 13	Geo. Tippen	Miner	17	Single	Frostburg, Md.	Both feet hurt	Fall of breast coal	Hoffman	Consolidation Coal Co.
22	Oct. 17	David Brooks	Roadsman	36	Single	Barton, Md.	Foot hurt	Run over by empty car	Moscow	Piedmont Mining Co.
23	Oct. 22	Thos. Connelly	Miner	40	Married	Bloomington, Md.	Dislocated spine	Draw slate	Burton	Davis Coal & Coke Co.
24	Oct. 22	Jno. Graham	Driver	26	Married	Frostburg, Md.	Hand slightly hurt	Fall of slate	Union No. 2	New York Mining Co.
25	Nov. 11	Paul Chauft	Miner	25	Married	Frostburg, Md.	Slight	Fall of top coal	Union No. 1	Union Mining Co.
26	Dec. 12	Dennis Eagern	Miner	20	Single	Savage, W. Va.	Leg broken	Caught by haulage rope	Buxton	Davis Coal & Coke Co.
27	Dec. 12	John L. Wienall	Miner	58	Married	Savage, W. Va.	Arm broken	Caught by haulage rope	Buxton	Davis Coal & Coke Co.
	1905									
28	Jan. 6	Jno. D. Warnick	Miner	39	Single	Barton, Md.	Arm hurt	Fall of roof coal	Jackson	American Coal Co.
29	Jan. 26	Jethro Jeffrey	Driver	22	Single	Frostburg, Md.	Squeezed	Between car and rib	Union No. 2	New York Mining Co.
30	Jan. 21	Owen Wilson	Driver	26	Married	Gilmore, Md.	Leg broken	Fall of roof coal	Ocean No. 1	Consolidation Coal Co.
31	Jan. 27	George Downs	Miner	18	Single	Finzel, Md.	Lost one eye	Premature explosion	Fire Clay	Union Mining Co.
32	Feb. 00	Frank Olack	Miner	..	.....	Stoyer, Md.	Leg broken	Fall of slate	Alice	Stoyer Run Coal Co., Garrett County.
33	Feb. 22	Jas. Grindle	Miner	60	Married	Lonaconing, Md.	Leg broken	Fall of breast coal	Washington No. 3	Piedmont & Georges Creek Coal Co.
34	Feb. 23	Robt. Eglen	Laborer	60	Married	Allegany, Md.	Hand hurt	Caught by wheel	Union No. 2	New York Mining Co.
35	Feb. 25	Edward White	Driver	41	Married	Ocean, Md.	Leg broken	Fall of breast coal	Ocean No. 1	Consolidation Coal Co.
36	Mar. 16	Sam. Patterson	Miner	45	Married	Moscow, Md.	Leg broken	Caught by rope on plane	Caledonia	American Coal Co.
37	April 6	Warden Smith	Miner	25	Single	Deer Park, Md.	Shoulder hurt	Fall of breast coal	North American	Blaine Mining Co.
38	April 13	Louis H. Biddle	Miner	23	Married	Westernport, Md.	Leg broken	Run away on plane	Penn Colliery	Cumberland & Georges Creek Coal Co.

September 18. John Bond, miner, aged 35, married, residence Lonaconing, employed at Jackson mine by American Coal Company. Slight injuries to hand by falling prop.

September 28. Robert Gibson, miner, aged —, married, residence Gilmore, employed at Ocean Mine No. 1 by Consolidation Coal Company. Arm slightly hurt by fall of breast coal.

September 29. Harry Probert, timberman, aged 49, married, residence Lonaconing, employed by Georges Creek Coal and Iron Company at Mine No. 10. Leg broken by fall of top coal.

September 30. Joseph Stewart, coupler at bottom of slope, aged —, married, residence Midland, employed at Ocean No. 1 by Consolidation Coal Company. Leg crushed by being struck by rope.

October 13. George Tippen, miner, aged 17, single, residence Frostburg, employed by Consolidation Coal Company at Hoffman mine. Both feet hurt by fall of breast coal; not serious.

October 17. David Brooks, roadsman, aged 36, single, residing at Barton, employed at Moscow mine by Piedmont Mining Company. Run over by empty mine car. Not seriously hurt.

October 22. Thomas Connolly, miner, aged 40, married, residence Bloomington, employed by Davis Coal and Coke Company at Buxton mine. Hurt by fall of draw-slate, dislocated spine; was at first thought could not recover, but at present is said to be doing well.

October 22. John Graham, driver, aged 26, married, residence Frostburg, employed by New York Mining Company at Union Mine No. 2. An empty car knocked out a prop, a little slate falling bruised his hand slightly.

November 11. Paul Chauft, miner, aged 25, married, residence Frostburg, employed at Union Mine No. 1 by Union Mining Company. Fall of top coal, with slight injuries.

December 12. Dennis Eagan, miner, aged 20, single, residence Savage, West Va., employed at Buxton mine by Davis Coal and Coke Company. Leg broken—hurt by rope.

December 12. John L. Weimer, miner, aged 58, married. Residence Savage, W. Va., employed at Buxton mine by Davis Coal and Coke Company. Arm broken in accident with haulage rope.

1905.

January 6. John D. Warnick, miner, aged 39, single, residence Barton, employed by American Coal Company at Jackson mine. Fall of roof coal disabled his right arm.

January 21. Ewen Wilson, driver, aged —, married, residence Gilmore, employed by Consolidation Coal Company at Ocean Mine No. 1. Leg broken by fall of roof coal.

January 26. Jethro Jeffries, driver, aged 22, single, residence Frostburg, employed at Union Mine No. 2 by New York Mining Company. Coat caught on brake hanger and dragged him to a close place in the "rib." Not seriously hurt.

January 27. George Douns, miner, aged 18, single, residence Finzel, Md., employed at Mt. Savage Fire Clay Mine by Union Mining Company. Loss of one eye by premature explosion.

February —. Frank Olack, miner, aged —, married, residence Stoyer, Md., employed at Alice mine by Stoyer Run Coal Company. Injured by piece of slate falling; leg broken.

February 22. James Grindle, miner, aged 60, married, residence Lonaconing, employed by Piedmont-Georges Creek Coal Company at Washington Mine No. 3. Seriously injured by fall of breast coal; leg broken and otherwise hurt.

February 23. Robert Egler, car checker, aged 60, married, residence Allegany, employed at Union Mine No. 2 by New York Mining Company. Hand caught by wheel; not seriously hurt.

February —. Edward White, driver, aged 41, married, residence Ocean, employed at Ocean Mine No. 1 by Consolidation Coal Company. Leg broken by fall of breast coal.

March 16. Samuel Patterson, miner, aged 45, married, residence Moscow, employed at Caledonia mine by American Coal Company. Caught by rope on plane; leg broken.

April 6. Wardon Smith, miner, aged 25, single, residence Deer Park, Md., employed at North American mine by Blaine Mining Company. Left shoulder dislocated, face and right arm bruised seriously, by fall of coal.

April 13. Louis H. Biddle, miner, aged 23, married, residence Westernport, employed by Cumberland-Georges Creek Coal Company at Penn Colliery. Leg broken above knee, getting off runaway trip of mine-cars.

Weights and Weighing.

Before taking up the work of giving a history of my efforts to establish the fact whether the coal mined is being accurately and honestly weighed, it may be of interest to the industry to quote some little historical matter, from a work called "Facts and Factors in Accurate Weighing," compiled by H. A. Foss, weighmaster of the Chicago Board of Trade, for a copy of which I am indebted to the United States Bureau of Weights and Measures. In this work the author says: "There is no use trying to travel back to the origin of scales; they were a necessary factor of the earliest civilization, and in their simpler forms were as universal as pottery. In the Egyptian Book of the Dead, traced back over six thousand years, the soul of the departed is taught to justify itself before the Gods by a 'Negative Confession,' in which it remarks under oath, 'I have not diminished the measure of grain,' 'I have not added to the weights in the balance,' 'I have not nullified the plummet of the scales.'"

If any of our weighmasters should happen to land before the High Egyptian Court, it is to be hoped he may justify. However ancient the balance and the practices that called for such justification or such perjury, we can claim a tremendous advance in accurate methods of weighing within the last few years.

The first platform scale was invented in England in 1774, by James Edgel. The first American patent for machines to weigh heavy loads was granted in 1831. This patent was closely followed by others covering wagon track and hopper scales. These have been continually improved, until at present we have scales that with anything like proper construction, and ordinary care after being set up, with weighmasters careful and painstaking in the weighing of the coal as they should be, the chance for inaccuracies is greatly lessened, and the feeling of doubt that has always existed may in large part be eliminated.

In August, 1904, three months after I entered upon my duties as Mine Inspector, I visited the United States Bureau of Weights and Measures, in Washington, to gather what information I could, relative to weights and weighing. The information I received was of great value to me, and helped me to perform my duties on this subject. I then visited the Bureau of Weights and Measures in Baltimore, there procuring information of value, and also visited the Fairbanks Scale Company's offices, and from its representatives secured a knowledge of how to test the accuracy of scales. My next move was to procure the necessary test-weights, to test the scales. The law provides that these shall be furnished by the State, but no provision is made for payment therefor. An Act of the Assembly of 1872 established a Bureau of Weights and Measures for Allegany county, and under this law I made application to the Commissioners for Allegany county, to procure 1,000 pounds of standard test weights, which were supplied to me. During November, 1904, with horse and wagon, I hauled these test weights to every scale in Allegany county, and the result of that investigation is appended. This test was made entirely public, as it was always my wish to see as many of the men interested, as possible, both employers and miners, present.

Report of Scales Tested.

DATE.	COMPANY.	MINE.	CONDITION.
Nov. 1904	McMullen Bros.	No. 1.	Correct.
April 1905	Georges Creek Bald Knob Co.	No. 1.	Correct.
Nov. 1904	Midland Mining Co.	Trimble.	Correct.
" "	Consolidation Coal Co.	Tyson.	Incorrect, 2 lbs. in Co's. favor, in 2½ tons.
" "	Consolidation Coal Co.	Hoffman.	Correct.
" "	Consolidation Coal Co.	No. 7.	Correct.
" "	Consolidation Coal Co.	No. B.	Correct.
" "	Consolidation Coal Co.	No. 8.	Correct.
" "	Union Mining Co.	Union No. 2.	Correct.
" "	Union Mining Co.	Union No. 1.	Correct.
" "	H. &. W. A. Hitchins.	Borden.	Correct.
" "	Barton & Georges Creek Valley Coal Co.	Carlos.	Correct (2 scales).
" "	Midland Mining Co.	Enterprise.	Correct.
" "	Piedmont & Georges Creek Coal Co.	Washington No. 1.	Correct.
" "	Piedmont & Georges Creek Coal Co.	Washington No. 2.	Correct.
" "	Piedmont & Georges Creek Coal Co 6.	Washington No. 3.	Incorrect, 25 lbs. in 4 tons, in favor of company.
" "	Georges Creek Coal & Iron Co.	Columbia.	Correct.
" "	Georges Creek Coal & Iron Co.	Pine Hill.	Correct.
" "	Georges Creek Coal & Iron Co.	Engineside	Correct at 500 lbs., but showed 20 lbs. in favor of company at 3½ tons.
" "	American Coal Co.	Jackson.	Both correct (2 scales).
" "	New Central Coal Co.	Koontz.	Correct.
" "	Maryland Coal Co.	Appleton.	Correct.
" "	Maryland Coal Co.	Patton.	Correct.
" "	Piedmont Mining Co.	Pekin.	Correct.
" "	Piedmont Mining Co.	Moscow.	Incorrect, about 8 lbs., in favor of company, in over 3 tons.
" "	Moscow–Georges Creek Coal Co.	Moscow No. 2.	Incorrect 4 lbs., in favor of miners in about 2 tons.
" "	W. J. Chapman Coal Co.	Swanton.	Correct.
" "	American Coal Co.	Caledonia.	Correct.
" "	Potomac Coal Co.	Potomac.	Incorrect 3 lbs., in favor of company in over 2tons.
" "	Phoenix Coal Co.	Phoenix Nos. 1 and 2.	Correct.
" "	Cumberland & Georges Creek Coal Co.	Penn Colliery.	Correct.
" "	Frostburg Coal Co.	Ginseng.	Correct.
" "	Piedmont Cumberland Coal Co.	Hampshire.	Incorrect 4 lbs., in 3 tons, in favor of men.

Tested Blaine Mining Cos. scale at Blaine, Garrett Co. Correct.

Measured cars of Davis-Harvey Coal Co., at Blaine, W. Va., found that Superintendent had agreed to give the miners one ton 5 cwt. on cars, which would not hold the weight. Compromised at one ton 2½ cwt.

Visited Washington No. 1, Piedmont & Georges Creek Coal Co., whose scale had been broken. Tested it and found it correct.

With regard to the instances of inaccuracies shown above, I have the assurances of the respective companies that they have since been corrected by experts, the only persons capable of this work.

There is no evidence of any purpose to defraud, for but few of the scales are incorrect, and those but slightly; not enough to make any difference. No company knew at any time when I would appear to test their scales, nor did they in any way obstruct me in the work of testing, but on the contrary showed me every consideration, and every facility for accomplishing my work.

In July, 1904, a notice was posted by the Consolidation Coal Company at its several mines, instructing their weighmasters to test their scales every morning. I believe this notice is without a parallel in mining in this country, and is especially notable because there is no check-weighman at any mine in this State, all the weighing being done by the companies. I append the notice.

CONSOLIDATION COAL COMPANY.

Instructions to Weighmasters.

"Weighmasters operating small scales on which the miners' weight is determined, are expected to test their scales regularly every morning, before beginning work. The test will be made in the following manner, using two 56 pound weights, which should be constantly kept in each weigh-office. These two 56-lb. weights will be placed on the scale alone, and weighed. They will then be removed, and a loaded car run on the scale. After this car is weighed the two weights will again be placed on the scale with the loaded car, and should show a difference of exactly 112 pounds. Should the scale fail to show the correct weight of these 56-lb. weights in either instance, the weighmaster will report at once to the Mining Superintendent's office, at Frostburg, by telephone, stating the amount of error in the scale. Weighmasters will be held responsible for any errors in the weight which may occur except in cases where they have duly notified the Mining Superintendent's office and the scales have not been placed in proper order.

"B. S. Randolph, Mining Superintendent."

This system of testing could be followed by all the other companies at very small expense, and would help to allay the ofttimes honest suspicion of the miners. There is scarcely a miner, who does not at times feel that he is not getting credit for all the coal he puts on his car; there is not a scale in the State that is not liable to get out of trim at any time; nor a weighmaster who is perfect, or free from mistakes in weighing of cars; so too many safeguards cannot be thrown about the weighing of the miners' coal. The weight represents the miner's only capital: the product of his skill and muscle; and he should have his full measure of justice, neither more nor less.

At Ocean No. 7, the Consolidation Coal Company has installed a Fairbanks self-registering scale. The weighmaster only copies what the scale shows, so in that mine at least, the saying, "It's not in the scale, but in the pencil," hardly obtains. The output at this mine is very large, reaching about 4,000 tons a day, and this scale greatly facilitates the weighing. The present Superintendent, J. C. Brydon, installed this scale.

While I have received complaints here and there about the weight, generally I have found it a mere matter of opinion—the most vexatious of all the problems in mining to-day. At one mine in the region the few miners employed (it is a small operation) quit work, on account of the weight. The next morning I went to the mine, bringing my test weights, and found the scale correct. The only inaccuracy I discovered was, the company was taking too much weight for the empty cars. This I corrected, the miners going to work next morning.

Miners have no right to embarass a company by stopping a mine upon suspicion. Had they made complaint to me and kept on working, I would have seen that they were justly dealt with, so far as I was able to do.

I have devoted a great deal of time to the weight question, believing a better understanding necessary, and being anxious to work for the time when complaints will be rare, because there will be little cause for them. Owing to human fallibility, however, I fear the time will never come when miner, shipper, carrier and consumer will lie down in continuing amity; but with all interests working together, co-operating to avoid mistaken weights, faulty and leaky cars, both in mines and on railroads, there is hope for happier times in the coal trade.

FIRE CLAY MINES.

BIG SAVAGE FIRE BRICK COMPANY.

John N. Benson, Superintendent. Joseph Maury, Foreman.

This company has a fire-clay mine in that famous clay known as the "Mt. Savage Fire Clay," located on the C. & P. R. R., a short distance east of Frostburg, at Allegany. This promises to make one of the thriftiest and best towns in Allegany county. A tramway, or plane, operated by an engine that is stationed at the mine, conveys the clay to the brickyard, at Allegany. This tramroad is over two miles in length. The most of the coal used at the brick plant is brought down this road. During my visits there only a few men were working, barely enough to bring it within the scope of the law. The ventilation is by natural means, and is none of the best, but the company intends improving this in the near future. A number of comfortable houses have been built by the company at Allegany, greatly adding to the appearance and value of the place.

SAVAGE MOUNTAIN FIRE BRICK COMPANY.

C. H. Shuckhart, Superintendent.

The mines of this company are about three miles west of Frostburg, on the National Pike. From the mines there is a tramroad about a half-mile in length, where the coal is dumped into wagons, and hauled thence down the Pike to the brick plant, on Bowery street, in Frostburg. A new tunnel has been driven to get at more fireclay, and also to do away with the old tunnel. The new opening will have better drainage, a very important matter in mining fireclay. This plant has been operated since 1863, for forty-two years, and is now working the fifth opening. A matter worthy of note is the fact that in all that time not one man has been killed, and only one injured, losing an eye by going into a delayed blast.

The mine is in Garrett county, and the clay is the same as the Mt. Savage fireclay. About ten men work here, and conditions are generally good.

UNION MINING COMPANY'S FIRECLAY MINE.

Henry Shriver, Superintendent. James Yantz, Mine Foreman.

There are but four openings here at present, numbers 1 and 3 being worked out at present. The general condition of a fireclay mine is in no wise like a coal mine. The hard clay is generally between soft clay layers, below and above, although sometimes changing position. In this region, these clays are generally wet, and with the action of the water and air, disintegrate, and make a very soft and muddy bottom, and very dangerous top. Number 5 mine here is the worst, it being the largest, and having been very carelessly worked years ago. It is now highly dangerous, and very expensive to operate. Despite this fact, there have been very few accidents, and but one that proved fatal; which is more fully described under the head of "Fatal Accidents." About as many laborers are employed renewing timbers and cleaning up roads in these mines, as miners. Ventilation is generally good. It is from these mines that the fireclay is mined that has made famous the "Mt. Savage Fire Brick," the standard of brick excellence throughout this country. A fact worth mentioning is that the longest inclined plane in this country, and perhaps in the world, leads from the mines down to the tramroad—about one and one-half miles in length. The small locomotive used on the tramroad takes the clay to the brick yard, a distance of about two and one-half miles. 120 miners and laborers are employed in this operation.

There are but three fireclay mines in the State at present, one at Mt. Savage, operated by the Union Mining Company; one at Allegany, operated by the "Big Savage Fire Brick Company," and the third at Frostburg, the Savage Mountain Fire Brick Company's plant. All work the famous Mt. Savage fireclay.

STATISTICS OF FIRE-CLAY MINING.

Operating Company.	Miners	Laborers	Total	Output Tons	Accidents		Days' Work
					Fatal	Non-ft.	
Union Mining Co.....	45	105	150	48,000	1	1	285
Big Savage Fire Brick Co.	17	8	25	10,455	0	0	205
Savage Mt. Fire Brick Co.	7	5	12	10,000	0	0	275

It will thus be seen that 68,000 tons of fireclay were mined by 69 miners and 118 laborers. 187 were employed, with one fatal

accident, a proportion of 5.35 per cent. to the thousand, or much higher than the mortality in coal mining in our State. This report is exclusive of those employed in the manufacture of brick. The mines work almost every day, having worked an average of 283 days in 1904. The employes and companies get along very harmoniously. There is a coal seam lying just above the fireclay, about three feet in thickness called by some the Mt. Savage coal, and is mined for local purposes at the mines, such as furnishing steam, keeping up fires in winter, etc.

All these mines are in Garrett county, at the northeastern end, and is one of the many resources of Allegany and Garrett counties that yet is practically undeveloped. The clay is from 8 to 14 feet thick, averaging about ten feet; although sometimes it disappears entirely.

Table of Accidents for each Thousand Employees in Bituminous Coal Mining in Maryland for the Past 15 Years and of other States for the Ten Years from 1890 to 1899.

	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904
Colorado	2.27	4.40	4.49	6.31	3.06	3.05	10.07	4.99	3.23	5.60	.....	.....	.....	.....	.....
Illinois	1.85	1.82	1.69	1.95	2.21	2.35	2.33	2.04	2.14	2.27	.....	.....	.....	.....	.....
Indiana	.76	.72	2.50	2.96	....	2.92	3.94	2.00	2.63	2.07	.....	.....	.....	.....	.....
Iowa	1.31	2.08	2.58	2.77	1.85	1.82	2.62	2.45	3.38	2.48	.....	.....	.....	.....	.....
Kansas	.77	2.08	.....	1.52	2.58	1.11	1.36	.71	1.95	1.57	.....	.....	.....	.....	.....
Kentucky	1.50	2.49	1.04	6.41	1.25	1.02	.79	1.55	.67	.83	.....	.....	.....	.....	.....
Maryland	2.08	1.54	1.52	1.23	1.69	2.30	1.58	1.17	.89	1.08	1.33	2.05	1.98	2.20	1.67
Missouri	1.67	2.62	2.48	2.70	2.49	1.84	2.41	1.22	1.22	1.80	.....	.....	.....	.....	.....
Ohio	1.89	1.83	1.56	1.11	1.43	1.79	1.44	1.39	1.77	2.03	.....	.....	.....	.....	.....
Pennsylvania	2.18	3.21	1.69	1.60	1.44	1.83	2.14	1.72	2.38	2.82	.....	.....	.....	.....	.....
Tennessee	.....	4.32	2.84	2.21	2.53	7.81	3.07	1.58	2.43	2.60	.....	.....	.....	.....	.....
West Virginia	.....	3.16	2.76	4.20	2.98	3.97	2.68	2.89	3.86	3.55	.....	.....	.....	.....	.....
Great Britain	1.89	1.05	1.49	1.55	1.60	1.49	1.48	1.34	1.28	1.25	.....	.....	.....	.....	.....
Germany	2.07	2.32	1.95	2.18	1.86	2.12	2.18	2.06	2.54	.....	.....	.....	.....	.....	.....

In compiling this death rate, I take the accidents from Jan. 1st of each year, while the Inspector under the present law reports all accidents up to the 1st of May each year. In order to get the death rate accurately, to make a comparison with other years, you must base it on the amount of coal mined, and number of employees, from Jan. 1st to Dec. 31st of each year. In 1904 three of the fatal accidents occurring were in the Fire Clay Mines.

List of Mining Officials in Allegany Connty.

Company.	Principal Office	President's Name and Address.	Superintendent's Name and Address.
McMullen Bros.	Cumberland, Md.	H. A. McMullen, Cumberland, Md.	D. F. McMullen, Mgr., Cumberland, Md.
Georges Creek Bald Knob Coal Co	Baltimore, Md.	Chas. Mackall, Baltimore, Md.	James Barrett, Supt., Frostburg, Md.
Midland Mining Co	Cumberland, Md.	W. A. Somerville, Cumberland, Md.	Jerry Wiland, Mt. Savage, Md.
New York Mining Co	Baltimore, Md.	H. Crawford Black, Baltimore, Md.	W. A. Somerville, Cumberland, Md.
Union Mining Co	Baltimore, Md.	H. Crawford Black, Baltimore, Md.	Harry Shriver, Mt. Savage, Md.
Consolidation Coal Co	Baltimore Md.	C. W. Watson, Baltimore, Md.	Harry Shriver, Mt. Savage, Md.
Piedmont & Georges Creek Coal Co.	Frostburg, Md.	M. P. Fahey, Westernport, Md	J. C. Brydon, Frostburg, Md.
H. & W. A. Hitchins Coal Co.	Frostburg, Md.	J. S. Brophy, Frostburg, Md.	J. S. Brophy, Frostburg, Md.
Barton & Georges Creek Valley Coal Co.	Baltimore, Md.	H. Crawford Black, Baltimore, Md.	John Malloy, Frostburg, Md.
Bowery Coal Co	Frostburg, Md.	Uriah Jones, Frostburg, Md	Adams Hitchins, Frostburg, Md.
Braddock Coal Co	Cumberland, Md.	A. L. House, New York, N. Y.	Uriah Jones, Frostburg, Md.
Wachovia Coal Co	Baltimore, Md.	W. J. Young, Greensboro, N. C.	F. C. Harwood, Cumberland, Md.
Georges Creek Coal & Iron Co.	Baltimore, Md.	J. J. Alexander, Baltimore, Md.	W. H. McClure, Cumberland, Md.
New Central Co	New York, N. Y.	M. Baxter, Jr., New York, N. Y.	R. L. Somerville, Lonaconing, Md.
Maryland Coal Co	New York, N. Y.	T. E. Knapp, New York, N. Y.	Duncan Sinclair, Midlothian, Md.
American Coal Co	New York, N. Y.	W. de L. Walbridge, New York, N. Y.	Frank E. Brackett, Lonaconing, Md.
Piedmont Mining Co	Baltimore, Md.	W. H. Gorman, Baltimore, Md.	Isaac Bradburn, Lonaconing, Md.
Moscow—Georges Creek Coal Co.	Cumberland, Md.	W. A. Somerville, Cumberland, Md.	Geo. P. King, Piedmont, W. Va.
Potomac Coal Co	Baltimore, Md.	H. Crawford Black, Baltimore, Md.	W. A. Somerville, Cumberland, Md.
W. J. Chapman Coal Co	Baltimore, Md.	W. J. Chapman, Baltimore, Md.	Henry Shriver, Mt. Savage, Md.
Frostburg Coal Co	Philadelphia, Pa.	T. Lewis Thomas, Philadelphia, Pa.	Edward Clark, Barton, Md.
Phoenix & Georges Creek Coal Mining Co	Cumberland, Md.	A. D. Althouse, Philadelphia, Pa.	W. E. Thomas, Piedmont, W. Va.
Cumberland Georges Creek Coal Co.	Camden, N. J.	F. A. Von Boyneburgh, Avelon, N. J.	Jno. Rankin, Piedmont, W. Va.
Piedmont Cumberland Coal Co	Philadelphia, Pa.	Chas. H. Scull, Philadelphia, Pa.	J. L. Conrad, Piedmont, W. Va.
Davis Coal & Coke Co	Baltimore, Md.	F. S. Landstreet, N. Broadway, N. Y.	Jas. McDonald, Barton, Md.
			O. Tibbetts, Savage, W. Va.

List of Mining Officials in Garrett County.

Name of Company.	Principal Office.	Name and Address of President.	Name and Address of Superintendents.
J. C. Pattison, Coal Co	Bloomington, Md.	G. C. Pattison, Bloomington, Md.	Carroll Pattison, Bloomington, Md.
Monroe Coal Mining Co	Bethlehem, Pa.	Chas. M. Dodson, Bethlehem, Pa.	G. C. McFarlane, Barnum, W. Va.
Davis Harvey Coal Co	Blaine, W. Va.	J. W. Davis, Blaine, W. Va.	J. W. Davis, Blaine, W. Va.
Garrett County Coal & Mining Co	Bethlehem, Pa.	E. L. Bullock, Audenried, Pa.	N. B. Douglas, Dodson, Md.
Upper Potomac Coal Co	Philadelphia, Pa.	R. S. Hubbard, Philadelphia, Pa.	R. Y. Williams, Upper Potomac, W.Va.
Stoyer Run Coal Co	Stoyer, Md.	W. S. Thomas, Harrisburg, Pa.	Thomas, Robinson, Stoyer, Md.
Nethkins Coal Co	Piedmont, W. Va.	Nethkins, Elk Garden, W. Va.	John Jose, Piedmont, W. Va.

List of Mining Officials of Fire Clay Mines.

Union Mining Co	Baltimore, Md.	H. Crawford Black, Baltimore, Md.	Henry Shriver, Mt. Savage, Md.
Big Savage Fire Brick Co	Frostburg, Md.	Davidson Armstrong, Frostburg, Md.	J. H. Benson, Gen. Mgr., Frostburg, Md.
Savage Mountain Fire Brick Co	Frostburg, Md.	Chas. C. Gorsuch, Westminster, Md.	C. H. Shuckhart, Supt., Frostburg, Md.

ALLEGANY COUNTY.

Names of Mine Foremen with Mine under their Charge.

Name of Foreman.	Name of Mine.	No. of Openings.	What Veins.	Located.	Name of Company.
Jas. Barrett	Barrelsville No. 1	.....	Parker Seam	Barrelsville	McMullen Bros.
Wm. Gray	Bald Knob No. 1	2	Big Vein	Mt. Savage	Georges Creek Bald Knob Coal Co.
J. W. Stevens	Trimble No. 1	3	Big Vein	Morantown	Midland Mining Co.
J. S. Askery	Enterprise No. 2	.....	Big Vein	Midland	Midland Mining Co.
Jno. Sullivan	Union No. 2	2	Big Vein	Above Allegany	New York Mining Co.
Jas. Oldam	Union No. 1	2	Big Vein	Borden	Union Mining Co.
Phillip McMahon	Ocean No. 1	2	Big Vein	Ocean	Consolidation Coal Co.
Jas. Weston	Ocean No. 2	2	Tyson	Consolidation	Consolidation Coal Co.
J. B. Thomas	Ocean No. 3	3	Big Vein	Hoffman	Consolidation Coal Co.
Daniel Krapf	Ocean No. 3½	2	Big Vein	Eckhart	Consolidation Coal Co.
Jonathan Jenkins	Ocean No. 7	4	Big Vein and Tyson	Lord	Consolidation Coal Co.
Charles Latham	Ocean No. 8	1	Big Vein and Tyson	Midland	Consolidation Coal Co.
Joseph Radcliffe	Ocean No. 9	2	Tyson	Above Allegany	Consolidation Coal Co.
Martin Condrey	Washington No. 1	3	Tyson	Washington Hollow	Piedmont & Georges Creek Coal Co.
Phillip Brown	Washington No. 2	2	Big Vein and Tyson	Eckhart	Piedmont & Georges Creek Coal Co.
Jno. Fahey	Washington No. 3	2	Lower Kittanning or Davis 6 ft	Westernport	Piedmont & Georges Creek Coal Co.
Jno. Malloy	Borden No. 2	.....	Big Vein	Borden	H. & W. A. Hitchens Coal Co.
Robt. Duncan and H. C. Hitchens	Carlos	4	Big Vein	Borden	H. & W. A. Hitchens Coal Co.
Jos. Cutter	Pine City	2	Big Vein	Short Gap	Braddock Coal Co.
W. H. McClune	Montells	1	Bluebaugh	Vale Summit	Wachevia Coal Co.
R. T. Spears	Mine No. 1	2	Big Vein	Lonaconing	Georges Creek Coal & Iron Co.
J. M. Boyd	Mine Nos. 3, 9, 12	3	Big Vein	1 Conway, 1 Gilmore, 1 Midland	Georges Creek Coal & Iron Co.
Doug. Somerville	Mine Nos. 16, 17	4	Tyson	Lonaconing	Georges Creek Coal & Iron Co.
Wm. Thompson	Koontz, Nos. 1, 2	4	Tyson and Big Vein	Lonaconing	New Central Coal Co.
Wm. Dodds	Kingsland Appleton	3	Big Vein	Lonaconing	Maryland Coal Co.
August Ricker	New Detwold & Patten	2	Big Vein	Lonaconing	Maryland Coal Co.
John Peel	Jackson	6	Big Vein	Lonaconing	American Coal Co.
Robt. Gunning	Jackson	2	Waynesburg or Koontz	Lonaconing	American Coal Co.
David Williamson	Caledonia	7	2 in Tyson, 5 in Big Vein	Barton	American Coal Co.
Wm. Morgan	Pekin	2	Big Vein	Pekin	Piedmont Mining Co.
Chas. Stevens	Moscow	3	.....	.....	Moscow Mining Co.
Wm. Askey	Moscow Nos. 1, 2, and 3	5	1 in Big Vein, 4 in Barton 4 ft., Moscow	Moscow	Georges Creek Coal Co.
P. W. Gallagher	Potomac	5	1 Big Vein, 4 in Barton 4 ft., Moscow	Moscow	Georges Creek Coal Co.
W. E. Thomas	Ginseng	2	1, 3 ft. or Thomas, 1 in Barton 4 ft	Reynolds	Frostburg Coal Mining Co.
J. Rankin	Phoenix	4	3 in Big Vein, 1 in Barton 4 ft	Phoenix	Phoenix & Georges Creek Mining Co.
J. L. Conrad	Penn Colliery	3	3 in Barton 4 ft	Franklin	Cumberland & Georges Creek Coal Co.
Jas. McDonald	Hampshire	2	2 in Davis 6 ft	Westernport	Piedmont & Cumberland Coal Co.
Robt. Grant	Buxton	2	2 in Davis 6 ft	Savage	Davis Coal & Coke Co.
W. J. Barnard	Swanton	3	2 in Tyson, 1 Barton 4 ft	Barton	W. J. Chapman, Coal Mining Co.

GARRETT COUNTY.

Names of Mine Foremen with Mine under their Charge.

Carroll Pattison	Pattison	2	Davis 6 ft, Barton 4 ft	Bloomington	Pattison Coal Co.
H. B. Kight	Barnum No. 1, 2	6	Split 6 ft	Barnum	Monroe Coal Mining Co.
L. R. Kight	Barnum No. 2	3	Barton 4 ft	Barnum	Monroe Coal Mining Co.
J. W. Davis	Blaine No. 1	1	3 ft. in Thomas	Blaine	Davis Harvey Coal Co.
W. M. Drainer	North American	2	Lower Kittanning or Davis 6 ft	Blaine	Blaine Mining Co.
Wm. Jones	Dodson 1, 2 and 3	4	3 in Davis, 3 ft. in Upper Kittanning	Dodson	Garrett County Coal Mining Co.
Bailey Burns	Dill No. 1	1	Davis 6 ft	Dill	Garrett County Coal Mining Co.
Robert Brown	Upper Potomac	2	Davis 6 ft	Upper Potomac	Upper Potomac Mining Co.
Thomas Robinson	Alice	1	Davis 6 ft	Stoyer	Stoyer Run Coal Co.
John Jose	Bayard	1	Davis 6 ft	Bayard	Nethkins Coal Co.

The Mine Inspection Law.

CHAPTER 124.

An Act to repeal and re-enact with amendments Sections 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 209A, 209B, 209C and 209D of Article No. One of the Code of Public Local Laws, entitled "Allegany County," sub-title "Mine Inspector," as the same were enacted by Chapter thirty-four of the Acts of 1898, and to re-enact the same under the title "Mining and Mine Inspector," said Sections as hereby re-enacted and amended to be known as Sections 196, 197, 198, 199, 200, 201, 202, 203 ,204, 205, 206, 207, 208, 209, 209A, 209B, 209C, 209D, 209E, 209F, 209G, 209H, 209I, 209J, 209K, 209L, 209M, 209N, 209O, 209P, 209Q, and to repeal and re-enact with amendments Sections 150 to 164 C, all inclusive, of Article number twleve of the Public Local Laws, title "Garrett County," sub-title "Manufactures and Mines," as the same were enacted by Chapter thirty-four of the Acts of 1898, and to add new sections to to re-enact and amend the same by enacting the following Sections, in lieu thereof, to wit, Sections 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 164A, 164B, 164C, 164D, 164E, 164F, 164G, 164H, 164I, 164J, 164K, 164L, 164M, 164N, 164O and 164P.

Section 1. Be it enacted by the General Assembly of Maryland, That Sections 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 209A, 209B, 209C, 209D, of Article No. One of the Public Local Laws entitled "Allegany County," sub-title "Mine Inspector," as the same were enacted by Chapter 34 of the Acts of 1898, be and the same are hereby repealed, and that Sections 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 164A, 164B, and 164C of Article Twelve of the Public Local Laws entitled "Garrett County," sub-title "Manufactures and Mines," as the same were enacted by Chapter 34 of the Acts of 1898, be and the same are hereby repealed, and that Sections 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 209A, 209B, 209C, 209D, 209E, 209F, 209G, 209H, 209I, 209J, 209K, 209L, 209M, 209N. 209O, 209P and 209Q

are hereby enacted and added to Article Number One of the Code of Public Local Laws, title Allegany County," sub-title "Mine Inspector," to read as hereinafter set forth respectively, and that Sections 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 164A 164B, 164C, 164D, 164E, 164F, 164G, 164H, 164I, 164J, 164K, 164L, 164M, 164N, 164O and 164P be and they are hereby enacted and added to Article Number Twelve of the Public Local Laws, title "Garrett County," sub-title "Manufactures and Mines," to read as hereinafter set forth, respectively, to wit:

APPOINTMENT OF MINE INSPECTOR.

Section 196 of Article 1 and Section 150 of Article 12. That the Governor shall, by and with the advice and consent of the Senate, appoint one Mine Inspector for the counties of Alleany and Garrett, who shall hold his office for two years from the date of his appointment. No person shall be eligible to the office of Mine Inspector until he shall have attained the age of thirty years. He shall possess a competent and practical knowledge of the different systems of mining and properly ventilating coal mines in said counties, and the nature and constituent parts of the various gases found in coal mines, and of the various ways of expelling the same from said mines, and shall have had five years' practical experience as a miner in one or both counties combined next immediately preceding his appointment, and shall receive an annual salary of fifteen hundred dollars, payable quarterly by warrant of the Comptroller upon the State Treasury for the same. Before entering upon the discharge of the duties of his office the said Mine Inspector shall take the oath provided in the Constitution of the State, and shall give bond in the sum of two thousand dollars, with sureties to be approved by the Chief Judge of the Fourth Judicial Circuit of Maryland. Said Mine Inspector while in office shall not be interested in the operation of any mine, or act as land agent, superintendent or manager of any mine, and it shall be his duty to make a report to the Governor of his proceedings in office and to set forth in such reports all such information that may be proper or beneficial, and also to make such recommendations and suggestions as he may consider important as to legislation on the subject of mining.

DUTIES OF MINE INSPECTOR.

Section 197 of Article 1 and Section 151 of Article 12. Said Mine Inspector shall devote the whole of his time to the duties of his office. It shall be his duty to examine each mine in said counties as often as possible, but a longer period of time than

two months shall not elapse between said examinations to see that all the provisions of this Act are observed and strictly carried out, and he shall make a record of all examinations of mines, showing the condition in which he finds them, especially with reference to ventilation and drainage, the number of persons employed in each mine, the extent to which the law is obeyed and progress made in the improvement of mines, the number of serious accidents and the nature thereof, the number of deaths resulting from injuries received in or about the mines, with the cause of such accident or death, which record completed to the first day of May of each and every year shall be filed with the Governor of the State; and one thousand copies of said report shall be printed for distribution at once by the Inspector, and the cost thereof shall be paid by the Treasurer upon the warrant of the Comptroller.

Section 198 of Article 1 and Section 152 of Article 12. It shall be the duty of the Mine Inspector, on examination of any mine, to make out a written or partly written and partly printed report of the condition in which he finds such mine and post the same at the mouth of the mine properly protected from the weather. The said report shall give the date of the visit, the number of cubic feet of air in circulation and where measured, and that he has measured the air at the cut-through of one or more rooms in each heading or entry, and such other information as he shall deem necessary, and the said report shall remain posted in the office or conspicuous place, and may be examined by any person employed in or about the mine.

Section 199 of Article 1 and Section 153 of Article 12. In case the Inspector becomes incapacitated to perform the duties of his office or receives a leave of absence from the Governor, it shall be the duty of the Governor to appoint, upon said Mine Inspector's application or that of five miners or five operators, some competent person to fill the office of Inspector until the said Inspector shall be able to resume the duties of his office, and the person so appointed shall be paid in the same manner as is hereinbefore provided for the Inspector of Mines.

Section 200 of Article 1 and Section 154 of Article 12. That the Mine Inspector may be enabled to perform the duties herein imposed upon him he shall have the right at all times to enter any coal mine to make examination or obtain information, and upon the discovery of any violation of this Act, it shall be the duty of said Mine Inspector to report the same to the Grand Jury for the proper county, and the Grand Juries for each of the said counties are hereby directed to summon said Mine Inspector before them at each term of Court, and the respective Courts of Allegany and Garrett counties shall call this section to the attention of each Grand Jury.

Section 201 of Article 1 and Section 155 of Article 12. Whenever loss of life or serious personal injury shall occur by reason of any accident whatever, in or connected with any coal mine, it shall be the duty of the person having charge of said mine to report the fact without delay, to the Inspector, and the said Inspector shall, if he deem necessary from the facts reported, and in all cases of loss of life, immediately go to the scene of said accident and render every possible assistance to those in need.

Section 202 of Article 1 and Section 156 of Article 12. That the Mine Inspector shall also be an inspector of weights and measures at all mines now or hereafter opened in said counties, and shall weigh several cars of coal mined therein once every two months, on the scales of the different mines, or when requested to do so especially by any miner or operator, in order to test the accuracy of said scales, and the State shall supply said Mine Inspector with the required weights and apparatus for testing scales, and to do any other act he may deem necessary to ascertain whether the coal be justly weighed at said mine, and it shall be the duty of every person acting as weighmaster for the owner, lessee or agent of said mines, before entering upon the performance of his duty as weighmaster or check-weighman, or before making any report, to make oath before some justice of the peace, in the proper county, that he will perform the duty of weighmaster or check-weighman as prescribed by this Act, at such mines, with honesty and fidelity, and will keep a true and accurate account of all the coal so weighed by him, and will credit and allow the full weight, and no more, of coal in each mining car, to the party or parties who mined the same at the rate of two thousand two hundred and forty pounds per ton, and all fractions thereof be counted in hundred weights, a copy of which said oath shall be posted up in said weigh-office, where such coal is weighed. But the said oath of weigh-master or check-weighman shall be understood and construed as only requiring said weighmaster or check-weighman to allow and credit said fractions of tons in whole hundred weights (cwts.) in manner following, namely: Where the odd pounds in any mining cars in excess of the whole hundred weight therein, shall equal or exceed fifty-six pounds, the said weighmaster or check-weighman shall credit such miner with a whole hundred weight, for such odd pounds, but where such odd pounds, less than a whole hundred weight (cwt.) shall be less than fifty-six pounds, then such weighmaster or check-weighman shall give such miner no credit whatever for such odd pounds; and it shall be the duty of said weighmaster and of any check-weighman to perform the several acts and matters prescribed in said affidavit. Provided that every car when weighed shall be uncoupled and stopped on

the scales; but the Mine Inspector may make special regulations as to the stopping of cars when necessary.

Section 203 of Article 1 and Section 157 of Article 12. The Mine Inspector shall have power to examine the weighing sheets on which the weight of the miner's cars are registered, and the monthly aggregate of coal weighed on such scales, and shall compare such aggregate monthly weighings with the manifest or shipping reports of the operators, and thus determine from time to time whether the coal is accurately weighed.

WEIGHING OF COAL.

Section 204 of Article 1 and Section 158 of Article 12. That it shall be lawful, however, notwithstanding the provisions of this Act, in relation to weighmaster and the weighing of coal, for any lessee, owner, individual or agent of any mine in said counties of Allegany and Garrett to contract with the miners to mine coal therein or therefrom by measurement; and it shall also be lawful for any owner, lessee or agent of any mine in said counties, at or in which not more than ten miners are employed at one time, in contract with the miner or miners employed therein by the day, week or month instead of by weight, and in all such cases when the compensation of the miners by their contract or agreement fixed by the day, week or month, be ascertained by the cubic yard or other measurement, as hereinbefore provided, it shall not be obligatory upon such owner, lessee or agent of such mine to provide any weighmaster or weigh the coal mined in such shaft or mine, or taken therefrom; but the mine cars used in any such mine worked by shaft shall be measured by a sworn measurer, and said owner, lessee or agent, shall cause the capacity of each of said mining cars to be plainly stamped or branded thereon.

Section 205 of Article 1 and Section 159 of Article 12. That at any time upon the request of a majority of the miners then employed in any coal mine in said counties of Allegany and Garrett, the agent, lessee or operator of said coal mine shall permit said miners (but at their own expense) to provide and keep in the said weigh house at said mine, at the scales kept thereat, for such length of time as such miners may require, a check-weighmaster, who shall have the right at all times to be present when the coal mined at each mine is being weighed by the weighmaster of said mine, and to examine the scales thereof, and to take and keep a full statement of the weight of each mining car load of coal, as shown by the said scales when the coal is being weighed thereon, by said weighmaster, and upon the discovery of such check-weighmaster of any wilful violation of any of the provisions of this Act by the weigh-

master employed at such mine, it shall be the duty of such check-weighmaster to immediately lay all such information before the State's Attorney of the county in which such weigh house is situated, or the Mine Inspector, for their action upon the same.

Section 206 of Article 1 and Section 160 of Article 12. That it shall be the duty of every person acting as weighmaster in any of the said mines, to keep in ink or indelible pencil a list or statement of the number of mning cars, and the weight of coal in cars mined each day, and the person mining the same and place and keep said list at the weigh house, where said coal is weighed, where the parties interested therein may inspect it; which lists shall be kept for reference and inspection by all persons interested therein for at least thirty days time. And it shall be the duty of every operator to provide correct and accurate scales, upon which all coal mined in said mine shall be weighed in the state in which it is mined, before the same shall be dumped or taken from the mining cars, in which the miners have loaded the same; and no operator shall dock any miner in excess of five hundred pounds (cwts.) on any one car, and it shall be the duty of the operator to cause the average weight of each empty car used at any such mine to be plainly stamped on the outside of each car.

PROPPING AND CARE REQUIRED.

Section 207 of Article 1 and Section 161 of Article 12. That the owner, lessee or agent of every mine in operation in the counties of Allegany and Garrett, shall furnish at their own expense, all props and all requisite timber required to be used in the working of said mines, and as the miners employed to work therein proceed with the working of their excavations it shall be the duty of the owner, lessee or agent of said mine, to furnish a sufficient quantity of props and timber of suitable character at the place in the heading, room, cross-cut or other excavation in the mine, where the miners are at work, and the owners, lessee or agent operating any such mine shall, at their own expense, properly timber any headings, rooms, pillars, or other excavations, not recently worked, and lay up roads by contract or otherwise to or in the same, previous to the miners starting new or further work of excavations therein; and said owner, lessee or agent shall construct each heading hereinafter driven in every mine of sufficient width and height, with at least two feet and a half of room on the brake side of such heading, or if no brakes be used, then upon some given side of such heading, so as to admit of the passage of the drivers who may be engaged in driving along said heading. And it shall be

the duty of every agent, lessee, owner, operator, weighmaster, or mining boss, overseer, roadman, driver, miner or any other person working or engaged in any employment whatever in or about the said mines in said Allegany and Garrett counties, or tram road or incline planes leading therefrom, to observe all practical care, caution and prudence in the work in which they may be engaged so that all lives, health and safety of themselves and their co-laborers, and the property of the owners in and about said mines, may be protected so far as practicable, consistent with the dangerous character of the work, from loss or injury, and it shall be the duty of all miners engaged in any of the said mines to carefully prop and timber all rooms, headings and other excavations wherein they may be working, as close up to their work as may be reasonably practicable, so as to guard, as far as practicable, against all accidents from fall of roof, side or breast coal or slate, earth or other surrounding matter, and any miner or other person employed or working in or about said mines, who shall be guilty of any wilful negligence in respect of any of the matters specified in this section, whereby the lives, health or safety of any co-laborers in and about any of said mines or any of the property of the owners in or about said mines may be lost, destroyed or injured, or unnecessarily jeopardized, shall be liable to indictment, and upon conviction to be fined as hereinafter provided, and whenever in any case it shall be brought to the notice of the Mine Inspector that any person is violating any of the provisions of this section, he shall at once order such person to take immediate steps to secure the safety of the persons or property so jeopardized, and in case the refusal of any person to comply with such order, it shall be the duty of said Inspector to proceed at once to have such offender arrested and punished in accordance with the provisions of this Act.

MAP OF MINE.

Section 208 of Article 1 and Section 162 of Article 12. The operator or superintendent of every coal mine shall make, or cause to be made by a competent engineer or surveyor, an accurate map or plan of such coal mine, not smaller than a scale of two hundred feet to an inch, which map shall show as follows: First, all measurements of said mine in feet, or decimal parts thereof. Second, all the openings, excavations, shafts, tunnels, slopes, planes, main entries, cross entries, and rooms in said mines. Third, by darts or arrows made thereon by a pen or pencil, the direction of air currents in the said mine. Fourth, an accurate delineation of the boundary lines so far as possible between said coal mine and all adjoining

mines or coal lands, whether owned or operated by the same operator or other operator, and the relation and proximity of the workings of said mine to every other adjoining mine or coal land. Fifth, the bearings and length of each tunnel or entry and boundary or property lines. The said map or plan, or a true copy thereof, shall be kept in the general mine office by the said operator or superintendent for use of the mine inspector, and for the inspection of any person or persons working in said mine whenever said person or persons shall have cause to fear that any working place is becoming dangerous by reason of its proximity to other workings that may contain water or dangerous gas.

Section 209 of Article 1 and Section 163 of Article 12. At least once in every six months, or oftener if necessary, the operator or superintendent of each mine shall cause to be shown accurately on the map or plan of said coal mine, all the excavations made therein during the time elapsing since such excavations were last shown upon said map or plan; and all parts of said mine which were worked out or abandoned during said elapsed period of time shall be clearly indicated by colorings on said map or plan; and whenever any of the workings or excavations of said coal mine have been driven to their destination, a correct measurement of all such workings or excavations shall be made promptly and recorded in a survey book prior to the removal of the pillars or any part of the same from such workings or excavations.

MUST BE TWO OPENINGS.

Section 209A of Article 1 and Section 164 of Article 12. It shall not be lawful for the operator, superintendent or mine foreman of any coal mine to employ more than twenty persons within said coal mine, or permit more than twenty persons to be employed therein at any one time, unless they are in communication with at least two available openings to the surface from each seam or stratum of coal worked in such mine exclusive of the furnace upcast. But provided, that in any mine operated by a shaft or slope and ventilated by fan, if the air shaft shall be divided into two compartments, one of them may be used for an airway and the other for the purpose of egress and ingress from and into said mine by the persons therein employed, and the same shall be considered a compliance with the provisions of this section hereinbefore set forth. And there shall be cut out or around the side of every hoisting shaft, or driven through the solid strata at the bottom thereof, a traveling way not less than five feet high and three feet wide, to enable persons to pass the shaft in going from one side of it

to the other without passing over or under the cage or other hoisting apparatus. The Mine Inspector may upon application, if he deem it necessary, grant a period of time not exceeding eighteen months in which the operator shall provide the second opening, under such terms as the Inspector shall prescribe, and the second opening required may be through an adjoining mine if the way thereto and the opening itself be kept and maintained in proper condition.

Section 209B of Article 1 and Section 164A of Article 12. The shaft or out-let, other than the main shaft or out-let, shall be separated from the main outlet and from the furnace shaft by a natural strata at all points by a distance of not less than one hundred and fifty feet (except in all mines opened prior to June 30th, 1901, where such distances may be less, if, in the judgment of the Inspector one hundred and fifty feet is impracticable). If the mine be worked by drift two openings, exclusive of the furnace upcast shaft, and not less than thirty feet apart shall be required. Where the two openings shall not have been provided as required hereinbefore by this Act, the Mine Inspector shall cause the second to be made without delay; and in no case shall furnace ventilation be used where there is only one opening into the mine.

PASSAGES REQUIRED.

Section 209C of Article 1 and Section 164B of Article 12. Unless the Mine Inspector shall deem it impracticable, all mines shall have at least two entries or other passage-ways, one of which shall lead from the main entrance and the other from the other opening into the body of the mine, and said two passageways shall be kept well drained and in a safe condition for persons to travel therein throughout their whole length, so as to obtain in case of emergency, a second way for egress from the workings. No part of said workings shall at any time be driven more than three hundred feet in advance of the aforesaid passageways, except entries, airways or other narrow work, but should an opening to the surface be provided from the interior of the mine, the passageways aforesaid may be made and maintained therefrom into the working part of the mine, and this shall be deemed sufficient compliance with the provisions of this Act relative thereto; said two passageways shall be separated by pillars of coal or other strata of sufficient strength and width.

Section 209D of Article 1 and Section 164C of Article 12. Where necessary to secure access to the two passageways required in any slope mine where the coal seam inclines and has workings on both sides of said slope, there shall be provided

an overcast for the use of persons working therein, the dimensions of which shall not be less than four feet wide and five feet high. Said overcast shall connect the workings on both sides of said slope, and the intervening strata between the slope and overcast shall be of sufficient strength and thickness at all points for its purpose; provided, that if said overcast be substantially constructed it shall be deemed sufficient.

Section 209E of Article 1 and Section 164D of Article 12. The machinery used for lowering or raising the employes into and out of the mines and the stairs used for ingress and egress shall be kept in safe condition, and inspected once in each twenty-four hours by a competent person employed for the purpose; and such machinery and the method of its inspection shall be approved by the Mine Inspector.

Section 209F of Article 1 and Section 164E of Article 12. No greater number of persons shall be lowered or hoisted at any one time than may be permitted by the Mine Inspector, and notice of the number so allowed to be lowered or hoisted at any one time shall be kept posted up by the operator or superintendent in conspicuous places at the top and bottom of the shaft, and the aforesaid notice shall be signed by the Mine Inspector.

VENTILATION.

Section 209G of Article 1 and Section 164 F of Article 12. The operator or superintendent of every coal mine, whether shaft, slope or drift, shall provide and hereafter maintain ample means of ventilation for the circulation of air through the main entries, cross entries and all other working places to an extent that will dilute, carry off and render harmless all noxious or dangerous gases generated in the mine, affording not less than one hundred cubic feet per minute for each and every person employed therein; provided that in the case of old workings when the Mine Inspector shall deem it impracticable to secure 100 cubic feet or air per minute for each man, then he may reduce it to 80 feet per man per minute, for such old workings.

Section 209H of Article 1 and Section 164G of Article 12. It shall be the duty of the mine foreman to see that proper cut-throughs are made in all the rooms, and pillars, at such distance apart as the Mine Inspector may deem requisite, not more than thirty-five yards in any instance, for the purpose of ventilation, and the ventilation shall be conducted through said cut-throughs into the rooms by means of check doors made of canvas or other suitable material, placed on the entries or in other suitable places, and he shall not permit any room to be opened in advance of the ventilation current. Should the

Mine Inspector discover any room, entry, or other working places being driven in advance of the air current, or shall discover any crosscut or cut-through not properly closed or bratticed contrary to the requirements of this Section, he shall order the workingmen working in such places to cease work at once until the law is complied with.

Section 209I of Article 1 and Section 164H of Article 12. One year after the passage of this Act, every mine employing more than seventy-five persons must be divided into two or more districts, and each district shall be provided with a separate split of pure air and the ventilation shall be so arranged that not more than seventy-five persons shall be employed at the same time in any one current or split of air; provided that a larger number, not exceeding one hundred and thirty may be allowed by the Mine Inspector when in his judgment it is impracticable to comply with the foregoing requirements.

Section 209J of Article 1 and Section 164I of Article 12. In all mines the doors used in guiding and directing the ventilation of the mine shall be so hung and adjusted that they will close themselves, or be supplied with springs and pulleys, so that they cannot be left standing open, and an attendant shall be employed at all the principal doors through which cars are hauled, for the purpose of opening and closing said doors when trips of cars are passing to and from the workings, unless an approved self-acting door is used, which principal doors shall be determined by the Mine Inspector or mine foreman. A hole for shelter shall be provided at each door, so as to protect said attendant from being run over by the cars while attending to his duties, and persons employed for this purpose shall at all times remain at their post of duty during working hours; on every incline plane or road in any mine where hauling is done by machinery, and where a door is used, an extra door shall be provided, to be used in case of necessity.

Section 209K of Article 1 and Section 164 J of Article 12. The mine foreman shall measure the air current at least once a week and the Mine Inspector at each visit at the inlet and outlet and at or near the faces of the entries, and shall keep a record of such measurements. An anemometor shall be provided for this purpose by the operator of the mine to the foreman, and the same shall be supplied to the Mine Inspector by the State.

Section 209L of Article 1 and Section 164K of Article 12. All ventilating fans used at the mines shall be provided with recording instruments, by which the number of revolutions of the effective ventilating pressure of the fan shall be registered and the registration with its date for each and every day shall be kept in the office of the mine for future reference for one year from its date.

BORE HOLES.

Section 209M of Article 1 and Section 164L of Article 12. In any place that is being driven toward or in dangerous proximity to an abandoned mine or part of a mine suspected of or containing gases, or which may be inundated with water, bore holes shall be kept not less than twenty feet in advance of the face, and on the sides of such working places, said holes to be drilled diagonally not more than eight feet apart, and any place driven to tap water or gas shall not be more than ten feet wide, and no water or gas from an abandoned mine, or part of mine, and no bore holes from the surface shall be tapped until the employes, except those engaged at such work, are out of the mine, and such work to be done under the immediate instructions of the mine foreman.

GENERAL RULES.

Section 209N of Article 1 and Section 164M of Article 12. For any injury to person or property occasioned by any violation of this Act, or any failure to comply with its provisions by any owner, operator or superintendent of any coal mine or colliery, a right of action shall accrue to the party injured against said owner or operator for any direct damages he may have sustained thereby, and in case of loss of life by reason of such neglect or failure aforesaid a right of action shall accrue to the widow and lineal heirs of the person whose life shall be lost, for like recovery of damages for the injury they shall have sustained.

Sub-section A. If any person shall receive any injury in or about the mine, and the same shall come within the knowledge of the mine foreman, and if he shall be of the opinion that the injured person requires medical or surgical treatment, he shall see that said injured person receives the same. The mine foreman shall report monthly to the Mine Inspector on blanks furnished by said Inspector for that purpose all accidents resulting in personal injury.

Sub-section B. No unauthorized person shall enter the mine without permission from the superintendent or mine foreman.

Sub-section C. No person in a state of intoxication shall be allowed to go into or loiter about the mine.

Sub-section D. All employes shall inform the mine foreman, or his assistant of the unsafe condition of any working place, hauling roads or traveling ways, or of damages to doors, brattices or stoppings or of obstructions in the air passages when known to them.

COAL PRODUCTION OF MARYLAND IN 1904.

ALLEGANY COUNTY.

Operator.	Mine.	Operatives and Time Employed.					Output.			
		No of Miners.	Inside Laborers.	Outside Laborers.	Total Employees	Number Days Worked.	Pick Mining.	Machine Mining.	Total Output.	Mining Machines.
McMullen Bros.	Barrelville No. 1	9	1	3	13	40	359	.....	359	.....
Cumberland Basin Coal Co.	Stafford and McGlone, 1 and 2	8	1	2	11	..	6,244	.....	6,244	.....
Midland Mining Co	Trimble	15	3	2	20	85	5,102	.....	5,102	.....
Midland Mining Co	Enterprise	36	7	7	50	264	38,070	.....	38,070	.....
New York Mining Co	Union No. 2	325	70	52	447	243	243,947	.....	243,947	.....
Union Mining Co	Union No. 1	190	35	16	241	195	209,861	.....	209,861	.....
Consolidation Coal Co	Ocean No. 1	460	123	59	642	232	475,969	.....	475,969	.....
Consolidation Coal Co	Ocean No. 2	8	1	2	11	154	5,478	.....	5,478	.....
Consolidation Coal Co	Ocean No. 3	380	110	29	5,191	267	389,509	.....	389,509	.....
Consolidation Coal Co	Pumping Shaft	6	3	18	27	309	10,496	.....	10,496	Mining machines used are of the Puncher type.
Consolidation Coal Co	Ocean No. 6, Frost	12	2	1	15	62	3,015	.....	3,015	.....
Consolidation Coal Co	Ocean No. 7	713	113	89	915	235	821,940	.....	821,940	23 Ingersoll.
Consolidation Coal Co	Ocean No. 8	70	10	9	89	256	94,309	.....	94,309	4 Harrison.
Consolidation Coal Co	Tyson No. 2	Tyson 2	and 3½ Em	ployee mov	ed.....	309	3,044	.....	3,044	4 Sullivan.
Consolidation Coal Co	Tyson No. 3½	About fi	rst in place	of other....	.....	123	8,342	.....	8,342	Total 31 Machines.
Consolidation Coal Co	Tyson No. 7	13	3	3	19	228	5,133	.....	5,133	Of the 1,833,372 tons mined by the Consolida-
Consolidation Coal Co	Tyson No. 9	26	12	6	44	309	16,137	.....	16,137	tion Coal Co., 401,321 tons was mined by
	Addition employed Machine	Dept., S	upt. Office,	etc.....	.....	.....	.....	.....	.....	machines and 1,432,051 tons by pick mining.
Piedmont & Georges Creek Coal Co	Washington No. 1	60	20	12	92	186	46,917	.....	46,917	.....
Piedmont & Georges Creek Coal Co	Washington No. 2	67	27	15	109	11	53,875	.....	53,875	.....
Piedmont & Georges Creek Coal Co	Washington No. 3	98	18	14	130	11	82,689	.....	82,689	.....
H. & W. A. Hitchens Coal Co	Borden	40	8	6	54	193	25,000	.....	25,000	.....
Bowery Coal Co	Tyson	4	1	.....	5	.....	2,200	.....	2,200	.....
Barton & Georges Creek Valley Coal Co	Carlos	250	25	25	300	235	232,352	.....	232,382	.....
Braddock Coal Co., was Rock Vein Co.	Pine City	20	2	5	27	110	4,289	.....	4,289	.....
Georges Creek Coal & Iron Co	1, 3, 9, and 12, Big Vein 16 and 17 Tyson	170	35	32	240	255	222,053	.....	222,053	.....
W. J. Chapman Coal Mining Co	Swanton	37	.....	.....	37	.....	25,676	.....	25,676	.....
New Central Coal Co	Koontz Big Vein, Appleton, Tyson	93	14	17	124	275	122,253	.....	122,253	.....
Maryland Coal Co	New Detmold & Patton	256	34	31	321	225	322,580	.....	322,580	.....
Lonaconing Coal Co	Shamrock	17	2	3	22	93	11,123	.....	11,123	.....
American Coal Co	Jackson	143	23	24	190	229	160,686	.....	160,686	.....
American Coal Co	Caledonia	79	9	15	103	162	77,052	.....	77,052	.....
Piedmont Mining Co	Pekin	30	4	11	45	260	44,302	.....	44,302	.....
Piedmont Mining Co	Moscow	25	5	9	39	114	12,030	.....	12,030	.....
Moscow & Georges Creek Coal Co	Moscow No, 1, 2, 3	18	3	3	24	83	6,009	.....	6,009	.....
Potomac Coal Co	Potomac	35	8	5	48	231	24,297	.....	24,297	.....
Morrison Land Co	Thomas 3 feet	3	.....	.....	3	300	2,239	.....	2,239	.....
Frostburg Coal Co	Ginsing	21	11	6	38	89	.....	6,011	6,011	This company has 3 machines Ingersoll type.
Phoenix & Georges Creek Coal Mining Co.	Phoenix 1, 2	60	7	9	76	200	43,841	.....	43,841	.....
Cumberland & Georges Creek Coal Co	Penn Colliery 1, 2	32	2	6	40	200	11,146	.....	11,146	.....
Piedmont & Cumberland Coal Co	Hampshire	60	7	6	73	.....	16,494	.....	16,494	.....
Davis Coal & Coke Co	Buxton	250	20	17	287	252	190,235	.....	190,235	.....
Davis Coal & Coke Co	Franklin	54	.....	.....	54	.....	9,889	.....	9,889	.....
Totals Allegany County		4,193	779	572	5,595	.....	4,086,212	.....	4,092,223	.....

GARRETT COUNTY.

G. C. Pattison Coal Co	Pattison	25	7	6	38	180	15,125	.....	15,125	.....
Monroe Coal Mining Co	Barnum 1, 2	75	22	17	114	195	28,056	20,000	48,056	1 Ingersoll Puncher. 3 Harrison.
Blaine Mining Co	North American	55	8	7	70	246	55,656	.....	55,656	.....
Garrett County Coal Mining Co	Dodson	81	14	13	108	170	47,002	.....	47,002	.....
Upper Potomac Mining Co	Upper Potomac	30	2	11	43	300	12,000	.....	12,000	.....
Stoyer Run Coal Co	Alice	18	4	6	28	.....	7,134	.....	7,134	.....
Recapitulation:										
Totals Garrett County		284	57	60	401	.....	164,973	20,000	184,973	Total Mining machines 4.
Totals Allegany County		4,193	779	572	5,595	.....	4,086,212	6,011	4,092,223	.....
Grand totals, both Counties		4,477	836	632	5,996	.....	4,251,185	26,011	4,277,196	.....

The coal production during 1904 shows a slight falling of from 1903, though it is hard to get authentic figures on the output for 1903. The number of men has increased during the year. At no time in the history of coal mining has there been so many engaged in its production as at the present time.

There are 4,477 miners in both counties, 4,193 in Allegany and 284 in Garrett county. Inside and outside laborers 5,996. It will thus be seen that the coal industry is on the increase in the State, and will be for many years to come.

The mineral resources of the Western part of the State are almost limitless, there being about eight workable coal seams, practically untouched, all of them being as good ,and many of them better than are being worked in adjoining States.

Sub-section E. No person shall be allowed to travel on foot to or from his work on any incline plane, dilly or locomotive roads, when other good roads are provided for that purpose.

Sub-section F. It shall be the duty of operators or superintendents to keep at the mouth of the drift, shaft or slope, or at such other place about the mine as shall be designated by the Mine Inspector, a stretcher, properly constructed, and a woolen and a water-proof blanket in good condition for use in carrying away any person who may be injured at the mine. Provided, that when more than two hundred are employed, two stretchers and two woolen blankets and two water-proof blankets shall be kept.

Sub-section G. No person shall ride upon or against any loaded car or cage in any shaft or slope in or about any coal mine; no person other than the trip runner shall be permitted to ride on empty trips on any slope or incline plane, when the speed of the cars exceed six miles per hour. The transportation of tools in and out of the mine shall be under the direction of the mine foreman.

Sub-section H. No person under the age of twelve years or female of any age, shall be permitted to enter any mine to work therein; nor shall any boy under the age of fourteen years, unless he can read and write, be allowed to work in any mine; and the mine boss shall see that this requirement is fully met.

DUTIES OF EMPLOYES.

Section 209O of Article 1 and Section 164N of Article 12. He shall examine his working place before beginning work and see that it is made safe before commencing to dig or load coal.

Sub-section A. It shall be the duty of every miner to mine his coal properly, and after each blast he shall exercise great care in examining the roof and coal, and shall secure them safely before beginning work.

Sub-section B. When a driver has occasion to leave his trip he must be careful to see that it is left, when possible, in a safe place secure from cars and other danger, or from endangering drivers of trips following.

Sub-section C. The driver must take great care while taking his trips down grades to have the brakes or sprags so adjusted that he can keep the cars under control and prevent them running on to himself or others.

Sub-section D. He shall not leave any cars standing where they may materially obstruct the ventilation current, except in case of accident to the trip.

Sub-section E. No employe shall burn any oil in the mines, composed wholly or in part of petroleum or its products, but

such oil must be at least seventy-five per cent. pure lard, provided, this Section shall not prevent the use of "Sunshine" as an illuminant.

Sub-section F. Any person or persons whomsoever, who shall intentionally or carelessly injure any shaft, instruments, air course or brattice, or obstruct or throw open air ways, or injure any part of the machinery or open any door in the mine and not close it again immediately, or open any door which opening is forbidden, or disobey any order given in carrying out the provisions of this Act, or do any other act whatsoever whereby the lives or health of persons or the security of the miners or the machinery is endangered, shall be deemed guilty of a misdemeanor, and may be punished in a manner provided for in this Act.

Section 209P of Article 1 and Section 164 O of Article 12. The neglect or refusal to perform the duties required to be performed by any Section of this Act by parties therein required to perform them, or the violation of any of the provisions or requirements hereof, shall be deemed a misdemeanor and shall, upon conviction thereof in the Circuit Court of the County wherein the misdemeanor was committed, or before a Justice of the Peace for such County, be punished by a fine not exceeding five hundred dollars, or imprisonment in the county jail for a period not exceeding six months, or both, in the discretion of the Justice of the Peace, or of the Court. (This Section as amended by Chapter 243, of the Acts of 1904.)

RULES OF INTERPRETATION.

Section 209Q of Article 1 and Section 164P of Article 12. In this Act the term "Coal mine" includes the shafts, slopes, adits, drifts or inclined planes, connected with excavations penetrating coal stratum or strata, which excavations are ventilated by one general system of mine railroads over which coal may be delivered to one or more common points outside the mine when such is operated by one operator.

Sub-section A. The term "excavations and workings" includes all the excavated parts of a mine, those abandoned as well as the places actually being worked, also all underground workings and shafts, tunnels and other ways and openings, all such shafts, slopes, tunnels and other openings in the course of being sunk or driven, together with all roads, appliances, machinery and material connected with the same below the surface.

Sub-section B. The term "shaft" means a vertical opening through the strata, and which is or may be used for the pur-

pose of ventilation or drainage, or for hoisting men or material, or both, in connection with the mining of coal.

Sub-sectin C. The term "slope" means an incline way or opening used for the same purpose as a shaft.

Sub-section D. The term "operator" means any firm, corporation or individual operating any coal mine or part thereof.

Sub-section E. The term "Superintendent" means the person who shall have, on behalf of the operator, immediate supervision of one or more mines.

Sub-section F. The provisions of this Act shall not apply to any mine employing less than ten persons in any one period of twenty-four hours.

MINE INSPECTOR'S DUTIES EXTENDED TO FIRE-CLAY MINES.

Sub-section G. It shall be the duty of the Mine Inspector to make as to the Clay or Fire Clay Mines in Allegany or Garrett Counties, the examination and reports required as to coal mines under Section 197 of Article 1, and Section 151 of Article 12 of this Act, and to make recommendations to the Governor as to the legislation requisite to protect life and health in such clay mines.