First Annual Report

of

Peter Cain,

Mine Inspector for

Allegany and Garrett Counties,

Maryland,

December 30, 1876.

(Photographic copy made from the original report of Inspector Cain, on file in the State Library, Annapolis, Maryland. The origina manuscript report, loaned to the Bureau of Mines, was returned to t State Library on June 26, 1915.)

1876

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Cumberland, Md. Dec. 30. 1876.

To His Excellency
Oden Bowie Carroll
Governor of Maryland,
Annapolis, Md.

As required by Sec. 5 of the Act of the General Assembly of Maryland of 1876, Ch. 173, I respectfully submit to your Excellency this my first annual report as Mine Inspector for the Counties of Allegany and Garrett, in the State of Maryland.

After having qualified by taking the required oath, I entered upon the discharge of my official duties on the first day of March.

Preparatory however to an inspection of the different mines in the Counties above named, I delivered to the several officers in charge of the mines, a copy of the Act of Assembly of 1876,

providing for the appointment of a Mine Inspector and under which I was so appointed — and also blank tabular statements, with a request that the same be filled up as therein required and returned to me within a reasonable time.

My purpose in so doing, was to acquaint all parties with whom I had necessarily to deal, in the discharge of my official duties, with the requirements of the law and the duties imposed upon me thereby.

Naturally enough the appointment of a Mine Inspector for Allegany and Garrett counties, was viewed with some little distrust; as well as to the manner in which the duties of the Mine Inspector might be performed, as also the scope and extent of the authority conferred upon him by the Act of the Legislature creating that office.

In view of this fact, it suggested itself to me that the best explanation that could be given in regard to Hercle, would be a copy of the law itself — and hence I furnished to each mine a copy as above stated.

Heretofore there had been, as far as I can learn, no legislation in Maryland, in regard to the inspection of Coal mines — the regulating the mode of ventilating the same &c. — and no restriction of any kind imposed upon those in charge thereof, further than that prompted by interest of owners themselves and the successful and profitable prosecution of mining Coal.

Of late years however, the great increase in the number of men employed in the Coal region here — the large and rapidly increasing interests growing out of this vast trade, have directed attention to a

more careful and uniform regulation of mining and have suggested the propriety and necessity for the enactment of laws, looking as well to the protection of the health, safety and lives of the miners, as to the real interests represented by the coal trade of these counties.

The enactment of any law however equitable and just, affecting the coal interest and the management of the mines, was not looked upon with favor, and to some extent, was regarded as an encroachment upon the rights of owners and producers of coal, and an improper interference with private rights, and antagonistic to the interests of the trade generally.

The passage therefore of the Act of 1876, Ch. 133, was regarded with but little favor at first, until its wise and humane provisions came

to be discovered and understood and the scope and intent of the whole law more fully comprehended.

The ample powers conferred upon the Mine Inspectors under the Act creating that office, gave rise to some uneasiness also, in the minds of operators in coal; so that, at the close of the session of the Legislature of 1876, it might be truthfully asserted that the act of 1876 chapter 178, had few friends amongst the Coal owners of Allegany and Garrett Counties.

Knowing these facts, and being aware of the then existing dispositions towards the law just passed, it suggested itself to me that it would be judicious and proper to acquaint all parties in interest, with the provisions of the law, in advance of my entering actively upon the discharge of my official duties.

This I did by service of the copies already mentioned.

Immediately thereafter, I entered upon a tour of personal inspection of all the mines in Allegany County commencing with the Mines of the Consolidation Coal Company, at Stoffordan Hollow, and other points and ending with the Stonestreet and Baltimore Companys mines.

I then proceeded to Garrett County, the mines of which I also visited, ending with the Offutt Mine located about four miles west of Oakland.

In visiting the mines, I first called upon the Agents, Mining Boss or other officer in charge of the mines and stated to them my object in visiting them. I then entered the mine, noting the condition of the main opening or heading and cross-headings of the

Mine – whether properly ventilated and free from noxious gases – also observing the character of support to the roofs of the openings and chambers – the drainage and such other matters as go to make up, when properly cared for, a safe and healthy condition of mine, in which men could advantageously work.

During such inspection, wherever it was apparent that a change ought to be made in any particular in the mine, either of placing props – changing water courses or adjusting any apparatus connected with the mine, the officers in charge acted promptly upon my suggestion and set about removing the objectionable matter, or making the correction suggested. These requests so made, more I am pleased to say, with [illegible] cheerfully

complied with.

In regard
however to obtaining infor-
mation as to needed, abuses
and needed reforms, I found
that the miners were some-
what timid and disposed
to evade giving to the Mine
Inspector, information of
irregularities or defects so
existing, through fear of
being discharged from
employment. I nevertheless
repeatedly requested them
to report to me any matter
occurring or existing in the
mines, affecting their health
their interest and the safe
mining of coal &c.

Nothing
new in the mode of ventilation
heretofore used in the mines
of Allegany and Garrett
counties, has been used or
adopted; — the system at
present in use now and for
years past, is found to answ

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secures proper ventilation.
At the Ocean No 3. mine of the Consolidation Coal Company, to increase ventilation, the Company has added many feet to the length of its air shaft, thereby securing improved ventilation for that mine.

In most of the mines on George's Creek, there are headings that run entirely through the mountains, entering it on one side and coming out, so to speak, to daylight on the other side. In such mines no air shafts are needed — the headings affording an ample current of pure air, sufficient for thorough ventilation.

There are, however, some mines in the region, that require air shafts and furnaces, to secure proper ventilation; but the number is small comparatively.

It affords me pleasure to say here that I was courteously received by the officers

in charge of the various mines, and aided in every way I could desire, in the discharge of what, at first, seemed to me would be an unpleasant and an unwelcome duty. But the alacrity with which the Companies opened their mines and proffered their services and information when applied to by me, satisfied me that, so far from being averse to the inspection provided for in the Act creating the office I fill, - they expressed satisfaction therewith and were ready and willing to remove every obstacle that might, in any way, impede me in the discharge of my official duties. In every instance I was furnished with lamps, guides and such officers as I suggested it would be desirable for me to have with me, in order to a thorough inspection of the working and safe condition of each mine.

The great coal basin of Allegany and Garrett Counties, is traversed by the Cumberland and Pennsylvania Rail Road — the Eckhart Rail Road and the Baltimore and Ohio Rail Road — which roads furnish the transportation for the coal mined throughout the region.

Entering the Coal field at Mt. Savage, nine miles west of Cumberland, the Cumberland and Pennsylvania Rail Road extends through the coal region to Westernport, a point on the North Branch of the Potomac River, a distance of about twenty miles, by way of the George's Creek Valley.

The route of this latter Road, from Mt. Savage to its terminus, is one almost continuous village of comfortable dwellings, occupied by the miners, with many beautiful and substantial residences

Erected for the officers of the various companies and their employees.

The hill sides of this valley are honey-combed with the numerous openings of the different Companies' mines; and the mountain sides girdled with the many Planes, down which the Coal is lowered to the Dump Houses located on the Railroad — where the Coal hoppers or cars are placed to receive their contents.

These Planes are worked by an Endless wire rope that passes over a drum, at the top of the plane; the loaded mine cars descending by their own weight and drawing up as to descend, the empty mine cars to the top of the plane, where they are to pass into the mine — refilled and sent down the plane again to the Dump or Load House, as already stated.

In this teeming valley of Georges Creek and the adjacent mines, there is an air of thrift and industry. The population here partakes of the hardy character of the mountains around them and are a healthy and industrious people. Few willing idlers are to be found and the hive is almost entirely free from the presence of drones.

The comfort of the miners and others has not been lost sight of by the Coal Companies and owners; and, in addition to comfortable homes provided for them, churches and school houses, well filled at the proper times, crown the most eligible sites throughout the length of the Coal fields; and wherever of abundant supplies, at reasonable cost, are to be met with on all sides.

It may not be uninteresting to your Excellency, to give the

this report, a description of the mode, in which the mining of coal is conducted in this region. And for this purpose I have made use of such information as my own experience and practical knowledge afford, availing myself also of the aid of others well skilled in the business of mining.

The headings of the mine, or what are technically called the headings of the mine, are used for three purposes. On one of the headings, there is a train railroad or mine railroad built, on which the coal is drawn out of the mine. The usual way of mining is to drive two headings or openings parallel with each other, and from fifty to sixty feet apart.

The second heading is usually used for drainage and to conduct fresh air into the mine.

The railroad heading

is generally used to conduct the pond water out. The headings are driven as near a level line as it is practicable to drive them and secure good drainage.

The water heading is the one nearest to the centre or lowest point of the basin and is intended to be run as nearly parallel with the longitudinal axis of the basin, as it is practicable to do it and insure good drainage.

The pairs of mesh headings are driven nearly parallel to each other and at such distances apart, as are conceived to be convenient and economical.

Along the line of the heading containing the railroad, openings are broken off on the uphill side of such heading, every seventy or seventy five feet, which usually run nearly, but not quite at right angles to the line of the heading. After driving this

heading up some fifty feet, it branches off into two openings, which are run parallel with each other and are called "rooms." These rooms are usually fifteen feet wide and are driven up parallel with each other, either near to or quite up to, as circumstances render it advisable, the next water heading above.

A switch is laid in the road on the heading, at the entrance to the room and a single track laid up through the entrance to the commencement to the rooms; at which point, it branches off into two tracks, one of which runs up into each room. These tracks are usually laid upon one side of the room.

The coal as it is mined, is loaded into small mine cars, that carry about two tons each, and are brought down from the rooms to the heading, usually by hand, as in most cases, there

is descent enough for them to run by their own gravity, out of the rooms.

They are then drawn by horses to the main gallery or addit of the mine, where the plane is located, and lowered thereby to the hoppers or cars at the foot thereof, as already spoken of in this report.

In driving the heading, there is a rail-road laid in each heading, but for the sake of ventilation, openings are occasionally made from the water heading to the heading which is used for drawing coal out; and so often as we make one of these openings, we lay a branch through from the main road heading and draw the coal from the water heading up into that and out through that heading.

We then take up the track in the water-

heading, between this new opening and the last one that was made and we will be driving the main heading on towards another opening. Between the line of the roof that we ordinarily mine to and the roof rock, which lies over top the whole vein of coal, is a distance of from six to seven feet; and the material which occupies that space is highly slatified and composed of veins of coal and slate. It has not been found practicable to separate this coal cleanly enough from the slate, to make it a marketable article. The whole mass is so highly slatified that it would not be safe to work in the mine, in a room fifteen feet wide, without having some props to prevent this mass of slate and coal below the roof rock and above the line of the roof that we mine coal to, from falling upon the men

and obstructing the road. We set a line of props running from the foot of the mine to the roof that we may mine to, up through the centre of each room, as the mining progresses. These props are sticks of round timber or logs, from five to seven inches in diameter, about three feet apart, and on top of the props we put a cap between it and the roof— which cap is a piece of split wood about two feet long and five or six inches wide and two or three inches thick, in order that the bearing may be distributed over a larger surface than the top of the props would cover.

The railroad in the room occupies the space between one side of the room and the row of props. Between the row of props and the other side of the room, the impure matter that is taken out in

mining, is depicted. This deposit the miners call "the gob."

Notwithstanding all this propping, we sometimes have large masses of the stratified coal and slate, which lie immediately above the line to which we mine coal, fall from the roof into the rooms.

The headings in which the permanent railroads are laid, are made as narrow as they can be and have room enough to conveniently use the railroad.

Experience has shown that this width should be about eight feet. The object of having it as narrow as we can, is to be as free as possible from the danger of falls of the roof upon the road. These falls occasionally occur in spite of all the care that can be exercised.

When a fall does occur on

a road, the material has either to be run out of the mine or up to the "gob piles" in some of the rooms, before the mine road can be used at that point for bringing out coal.

The process of mining out the Coal, ready to be put on the cars, is as follows:

The miner excavates with his pick a horizontal slot from one side of the room to the other, in that part of the Coal known as "the under mining."

This slot is excavated for a distance of three to four feet in the solid coal, from the face of the heading or room. He usually begins at one side of the room, and after cutting the slot for several feet, if he is at all afraid that a part of the breast may fall before he gets the slot entirely finished

for the middle of the room, he puts some wedges in the slot to hold up the breast coal above it and keeps adding wedges as he goes on with the slot.

This process is called by the miners "undermining." After he has finished his undermining, he drives another vertical slot on the side of the room from the undermining to the roof. This slot is eight to ten inches wide - sometimes a foot. He then drives a similar slot on the other side of the room. These side slots are called by the miners "shearing." After this he knocks out his wedges from the undermining and drives some iron wedges near the line of the roof of the mine and breaks off the mass of coal which he had undermined and

and sheared, and which was held in place only by its adhesion to the roof and to the solid body of coal in front of it.

Sometimes and quite often, there is a seam between the coal that we mine out and the roof of the mine, that renders it very easy to get the mass of coal down; and sometimes it adheres very closely to the roof and requires a great deal of wedging before it can be got down. In falling, the mass of coal is more or less broken. This coal is then loaded into the cars, the larger lumps being broken with a pick into such sized pieces as can be conveniently handled before it is loaded.

The vein of coal between the under seam and the first vein of slate

below it, is then excavated with a pick and loaded into the car. After which the vein of slate rock is excavated and cleaned off from the coal below it. The slate so excavated is deposited in the "gob", then the next vein of coal below it is excavated — then the next vein of slate — and so on to the bottom.

In most cases the slate is readily separated from the coal, in all the veins below the undermining, but sometimes the slate will adhere to the coal lying immediately over it; and in such case, it has to be separated from the coal — piece at a time; or throw the coal, slate and all into the "gob."

When the breast of slate occurs, the breast slate and coal are apt to fall together. Sometimes

you can get down the coal lying immediately under the breast slate, before you take down the breast slate and the coal lying above it; but as a general thing, more or less of the breast slate falls with the mass of the coal, as it comes down, and as a part of the vein of breast slate is very brittle and breaks into small pieces, I have never found it possible to get the miners to separate it entirely from the coal. I have tried the operation of making the undermining in the vein of slate, and in this way, taking out the slate first and throwing it into the "gob," to entirely separate it from the coal, but I found this operation was so expensive, that coal could not be taken out in this way, at a profit.

Where there is

the breast slate, are not the largest lumps of coal from the falls of the breast, and the largest part rather of the coarse coal, where there is no breast slate, comes from the breast fall.

The lumps of coal taken from the breast are much more tenacious and will stand more handling and breaking than those taken from the strata lying under the slate, which is immediately below the undermining.

The lumps of coal which come out from between the veins of slate, below the undermining, are a little stained or discolored, when they come in contact with the slate - and do not present so handsome an appearance, in a pile of coal, as the lumps taken from the breast.

Where the vein of slate in the breast is, the coal is

very much broken up, in getting down the falls and separating it from the slate.

The experience is, that the coarser or more lumpy the coal is when sent to or put into market, the better it satisfies customers and the more valuable it is, especially if it has to be kept on hand any length of time before it is used. A pile of fine coal that has been kept in the pile for some time, does not make as bright or hot a fire as lumps or fine that has been recently mined.

The water headings are usually driven ten feet wide; - the object in driving them wider than the railroad headings is, that we can get the coal mined cheaper in a heading ten feet wide, than in one eight feet wide; and there

is little or no danger of a fall occurring in a heading ten feet wide, that will prevent its usefulness as a drain to the mines, - as the debris which falls, is in lumps and is not a fine or powdered material; and as there is no frost in the mine, the process of decomposition or disintegration goes on very slowly.

After the rooms are cut, they drive galleries from one room to another, through the walls that have been left between them.

A part of these galleries between the rooms are driven while the rooms are being driven, - for the double purpose of getting more coal and of improving the ventilation, while the rooms are being driven. After the rooms are driven as far as it is deemed advisable to drive them, some of these crosscuts are made

through the walls, which are now called "pillars"; and as much of the pillars are taken away as can be done with safety to the mines.

Though this description of the mode of mining here, is much longer than I could wish; yet I trust it will be found instructive and perhaps interesting to those not familiar with this branch of industry.

In regard to the duties imposed upon me by the act of 1876 ch 173. sec. 5. amongst others, is that of suggesting what shall seem to me to be important as to future legislation in regard to the objects sought to be attained by this act. It has been repeatedly represented to me, in my visits to the various mines, that the weighing, at the mouth of the mine, of the coal mined,

before the same is dumped into the Coal trappers — and the procuring of proper scales for that purpose by the Companies, would give very general satisfaction to the miners and remove one of the Chief causes of complaint — besides doing justice as well to the employer as to the employees, in the accuracy of the account of the amount of Coal mined by each individual miner. Whilst I have no intention of here casting any reflection upon the Companies, or any of them, in the matter of having the Coal so weighed, (and I know of no cause for so doing,) — yet it seems to me to be but just and fair dealing that the miner should be satisfied that he is paid for all the coal he mines; and that the Companies and operators should pay for no more than each miner is entitled to receive

payment for.

A satisfactory adjustment of this matter, would remove all cause of complaint and dissatisfaction as to quantity mined by each miner and assure him of the correctness of the credit given him therefor.

And I therefore suggest that the Legislature adopt some fair and satisfactory mode of remedying the evil, if such there be, thus complained of.

I would now ~~I~~ call your attention also to the penalties imposed by this act, for neglect of duty of owners, officers and proprietors of coal mines, as stated in sec. 11 of said Act. I would respectfully suggest that, instead of as now provided for, a penalty for such neglect be imposed for each day that such neglect or refusal continues.

The beneficent provisions of this act could be set at

naught and frustrated by any company or operator that thought proper to disregard, for at least a whole season, the law as it now stands; - and when indicted and convicted of such neglect, might deem it economy to incur the payment of a single fine therein provided for, rather than the trouble and expense of complying with the requirements of the act; - whilst the miner, for whose benefit, protection and health this act was mainly passed, would fail to reap the advantage of its humane provisions; and many valuable lives perhaps, be thus sacrificed by the neglect to supply props and other timbers necessary for securing the roofs or top coal of the different mines.

I have found it incumbent on me, in the discharge

of my duty as Mine Inspector to report to the States Attorney for said Allegany County, where they occurred, the infractions of this Law, by two of our Coal Companies, in order that he too might discharge his duty in the premises.

In closing this, my first annual report, I beg leave to say that the duties imposed on me by this act, have occupied me constantly during the year; and that I have endeavored, to the best of my ability to discharge these duties, with an eye single to the welfare of the large and industrious class of men for whose protection it was intended. It has been my constant care to ascertain by personal inspection, the condition of each mine — as to its safety, its mode of being worked and

ils thorough and proper ventelation. To do this, required all my time and the closest attention that I was capable of giving to it.

And I also here record with pleasure, the fact that no serious accidents have happened during the year; and that the mines of this region, with the exceptions already noted, are in a most satisfactory condition.

Very Respectfully,

Mine Inspector
for Allegany and
Garrett Counties.

Appendix

A printed circular in the following form was sent to each Coal Company in Allegany and Garrett counties.

Office of the Inspector of Mines for Allegany and Garrett Counties, Md.

Frostburg Md. May 1st 1876.

To

Superintendent of Co.

Dear Sir, Please furnish me for publication in my annual Report, a statement of the Coal mined — number of men employed &c. at your mines, for the year beginning May 1st and ending Dec 31. 1875. The following blank is provided to facilitate matters your report.

Respectfully

Your Obt

Mine Inspector.

Name of Mine
County where located
Name of Coal firm
Post Office address
Average number of men & boys employed outside
" " " " " " inside
Nationality of men & boys employed
Number of horses employed
" " Mules "
Annual production of coal
List of serious accidents
List of fatal accidents

All the companies, except those noted, filled up and returned reports as required by the Circulars so delivered to them. If all these returns so made, the following statements have been compiled.

Allegany County.

Names of Coal Companies & Mines		Men & boys employed	Horses & Mules employed	Tons of Coal produced.
American Coal Co.	Caledonia Mines	88		8 207.000
" " "	Jackson Mines	165	16	107.000
Atlantic & Georges Creek Coal Co.	Atlantic Mines	202	11	149.519
Blaen Avon Coal Co.	Blaen Avon Mines	107	8	112.000
Borden Mining Co.		No report		
Barton Coal Co.		No report		
Consolidation Coal Co.	Hoffman & Osler Mines & New Hope	1112	23	228.500
" " "	Ocean Mines	163	16	52.514
" " "	Ocean Mines No 4	237	12	70.514
Cumberland Coal & Iron Co.		No report		
Coal, Iron & Oil Co. of Allegany Co.		No report		
Darden Coal and Iron Co.		No report		
Franklin Coal Co.	Franklin Mines	115	11	100.000
Fawn Ash Coal Co.		No report		
Grant Coal Co.		No report		
Georges Creek Mining Co.	Midlothian Mines	152	5	80.000
Georges Creek Coal & Iron Co.	Old Lonaconing Mines	No report		
" " " " "	New Lonaconing Mines	" "		
Hampshire & Baltimore Coal Co	Hampshire Mines	135	8	75.000
" "	Midland & National Mines	112	13	123.059
" "	Miller Mines	No report		
Maryland Coal Co.	Old Detmold Mines	" "		
" "	New Detmold Mines	" "		

New Central Coal Co.	Midlothian Mine
" "	Johnson Mine
" "	Monty & Big Vein Mine
New York Mining Co.	
National Coal Co.	
North Branch Coal Co.	
New Reading Coal Co.	
Piedmont Coal & Iron Co.	Piedmont Mines
Potomac Coal Co.	Potomac Mines
Swanton Coal Co.	Swanton Mines
Spruce Hill Coal Co.	
Union Mining Co.	
Withers Mining Co.	
Davis Mines	
Kelley & Brother	Georges Creek Valley Mine
	Swanton Mines

Garrett

Hangelton Mining Co
Offutt Mining Co