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MARITIME MINING RECORD

COAL AND METAL TRADE'S JOURNAL

Dr. R. Bell Geol. survey dept.

Cumberland. ✳ *Pictou.* ✳ *Cape Breton.* ✳ *Inverness*

New Series Vol. 11 No. 15 FEBRUARY 10th. 1909 STELLARTON, N. S

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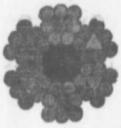

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No 79 Mixed for Trenton	5 55
79 Mixed for Hopewell	6.30
18 Express for Halifax, and St. John	7.00
21 Mixed for Pictou Landing	7.40
62 Mixed for Pictou	7.40
55 Mixed for Mulgrave	7.45
19 Express for Sydn y	8.30
28 Mixed for Pictou	11.10
56 Mixed for Truro	11.15
139 Mixed for New Glasgow	13 55
20 Express for Halifax and Montreal	15.10
140 Mixed for Pictou	15.15
101 Mixed for Pictou Landing	15.30
22 Mixed for Ho ewell	16.45
65 Mixed for New Glasgow	18.10
17 Express for New Glasgow	19.50
66 Express for Pictou	21.50
	21.55

—TRAINS ARRIVE AT STELLARTON

79 Mixed from Hopewell	
79 Mixed from Trenton	6.30
61 Express from Pictou	7.00
18 Express from New Glasgow	7.30
21 Mixed from Hopewell	7.35
55 Mixed from Truro	7.35
28 Mixed from New Glasgow	8.00
27 Mixed from Pictou	10.55
56 Mixed from Mulgrave	10 55
19 Express from Halifax and St John	13.35
139 Mixed from Pictou	11.00
20 Express from Sydney	15.20
22 Mixed from Pictou Landing	15.65
77 Mixed from Hopewell	18.10
65 Mixed from Pictou	18.46
66 Express from New Glasgow	19.35
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CHRISTOPHER CHISHOLM

Commissioner of Public Works and Mines, Halifax, N. S

The....
MARITIME MINING RECORD

Vol. 11, No. 15. Stellarton, N. S., Feb. 10th. 1908. New Series

From the Mining and Metallurgical Report.

CUMBERLAND COAL FIELD.

This is the most westerly of the coal fields in the Province of Nova Scotia. It is situated in Cumberland county, its western extremity being bounded by Chignecto bay, which is the north western arm of the Bay of Fundy. In this field there are two coal producing, areas, known as the Joggins, or Northern area, and the Springhill or Southern area, being seperated by about fifteen miles of intervening country. The total area of this basin is about 350 square miles.

On the northern side, in the Joggins area, the following seams of workable size are known: At Joggins mine, two seams, respectively 4 feet and 6 feet in thickness; at River Hebert, one seam 5 feet in thickness, with two shale partings; at Maccan, two seams, the upper 2½ feet and the lower 4 1-2 feet in thickness; at Chignecto, a seam 9 1-2 feet in thickness, of which 2 1-2 feet are shale partings; at the Styles mine, the eastern extremity of the Joggins area one seam 7 8 inches in thickness. The dip of these seams is 17 degrees southerly at the Joggins mine, but gradually increasing as it goes eastward, to 45 degrees at Maccan.

The Cumberland Railway and Coal Co.

This Company holds under lease from the Crown, 82 sq. miles in Cumberland county, and 10 sq. miles in Cape Breton county. The Cumberland Co, areas are considered the most valuable in the district.

Three seams of coal are mined at Springhill, as follows; north, 11 feet thick; east, 11 feet thick; west, 10ft. 6in. thick. The north is the overlying seam, and is separated from the east seam by 300 feet of intervening strata. The east or middle seam, is separated from the west by 100 feet of intervening strata. These seams have practically the same strike, but the dip varies from 20 to 80 degrees.

Much prospecting work has been carried on here, and it is known that several other good workable seams exist. The coal is specially adapted for steam purposes, and an excellent coke has been made in beehive ovens at Londonderry, Nova Scotia, from a mixture of Springhill and Pictou coals.

The following is given by Dr. Gilpin as a general analysis of Springhill coal :—

Vol. comb. matter.....	28·55%
Fixed carbon.....	62·78
Moisture	3·66
Ash	4·32
Sulphur.....	1·26
Theo. evap. power.....	8·69

Pictou Coal Field.

The Pictou County coal field has an area of about fifty square miles, and although small it is of considerable geological interest. There are sixteen known seams, from 3 feet to 45 feet in thickness. Heavy faults cut up the district, and New Glasgow conglomerate, of a somewhat disputed age, separates it from the upper Carboniferous measures, in which no seam of workable thickness is known. It is one of the oldest mines worked in the Province, being part of the Duke of York's concessions. The nearest water shipments are those at Pictou harbour, about ten or fifteen miles distant from the mines. The coal is very largely used for steam purposes, and the manufacture of iron. It also furnishes an excellent coke, both from by-product and beehive ovens. The following collieries are included in this district; the Vale colliery, Thorburn; the Nova Scotia Steel and Coal Company's areas, Thorburn, the Acadia Coal Company's areas, Stellarton; and the Intercolonial Coal Mining Company, Westville. The Intercolonial railway runs through the areas of the last named companies and connects them with the seaport. The Eastern fields are connected with the Intercolonial railway by the Vale Colliery railway, six miles in length, owned and operated by the Acadia Coal Company. As a matter of historical interest it may be mentioned that the first railway in British North America was built to connect these mines with the seaport, cars being hauled by the old locomotive Sampson, built by Timothy Hackworth in 1832. The Acadia Coal Co. was formed to acquire and work coal areas in Pictou county and elsewhere, in the Province of Nova Scotia. It controls sixteen square miles, held under lease from the Nova Scotia Government, subject to a royalty of ten cents per ton of coal mined.

The Intercolonial Company's property contains 7¾ sq. miles of coal areas, upon which is the Drummond colliery at Westville, in Pictou Co. Nova Scotia.

The main and second seams are worked, the third and forth being intact. The second seam is only in process of being opened up, and the following notes refer to the main seam alone; which is worked by slopes, size 12 ft x 8 ft., having an average dip of 16 degrees, and a length of 7,200 feet. The coal is good for steam, and household parposes, and makes excellent coke,

No. 1 slope is used exclusively for hoisting coal; No. 2 for hoisting second seam coal, lowering and raising men, also for dropping down timbers. materials etc.

Mode of working;—The seam is worked on the longwall system; each lift is 450 feet; the levels are south east and north-west 20 degrees; the dip is 24 degrees on the north and 19 on the south side; counter balance planes are driven every 300 to 400 ft. The main levels of every lift are driven out to the extreme

boundary, and the coal is then worked by longwall retreating. No explosive is used, the coal being worked by maul and wedge.

C. B. COAL FIELD,

Dominion Coal Co., Ltd.

The Company has, under lease from the Province of Nova Scotia, areas of coal lands aggregating about 125 square miles. Of these about 75 square miles were leased to the Company, by a special act, for a term of ninety-nine years, the terms of the lease exacting a royalty of 12 1-2 cents per ton, on all the coal raised, excepting coal used for colliery purposes, or by the Company's employees. The remaining areas of about 50 square miles are held under 20 year leases, the royalty being 10 cents per ton. The mines at present being worked by the Dom. Coal Co., lie within a radius of three or four miles of the town of Glace Bay. Glace Bay, situated on the Sydney and Louisburg railway, is about 15 miles east of International pier at Sydney; and about 25 miles from Louisburg pier at Louisburg

The Sydney and Louisburg railway is exceptionally well constructed, the main line from Sydney to Louisburg being 39·3 miles in length. Branches to each mine, and sidings, add 42 miles, making a total of over 81 miles of road maintained. The gauge is standard 56 1 2 inches—and the maximum grade is 70 feet per mile, in favor of the loaded trains. The rails used weigh 80 pounds to the yard. Twenty-five locomotives, a number of which are of the 120 ton class, 1,200 fifteen ton cars, and 200 thirty-five ton steel cars are used in moving the twelve to fifteen thousand tons of coal, constituting the daily output of the Company.

Four seams are worked as follows :—

1—The Phalen seam. The coal from this seam is notable for its excellent qualities, containing by comparison with most of the other Nova Scotia coals, less ash and sulphur. A fair analysis of Phalen seam coal would show approximately as follows:—

Fixed carbon	58·5 per cent
Volatile matter	32·2 "
Ash	7·1 "
Sulphur	2·2 "
	100·00

The average thickness of coal, mined from this seam is about 7 1 2 ft., and the bulk of the coal mined at present comes from the Phalen seam, worked through collieries No. 1 to 6 and No. 8.

2—The Harbour Seam. Situated about 450 feet vertically above the Phalen; the coal is found to contain a somewhat greater percentage of volatile matter, so that Harbour seam coal is extensively used in the manufacture of gas for heating and lighting purposes. The thickness of coal mined is about 5 1 2 feet and is worked through colliery No. 9.

3—The Hub Seam—The coal in this seam is very similar to Harbour coal the thickness of coal mined being about 8 feet. Colliery Dominion No. 7 is situated on this seam.

4 The Emery or Ross Seam—In this is found a coal of a character similar to the Phalen, about 4 1·2ft. of which is mined. Dominion No 10 extracts coal from this seam.

All of these seams pitch towards the sea, their outcrops indicating their well defined basin like character. The average dip amounts to about seven feet vertically per hundred horizontally, and an extensive series of soundings shows that there is a great thickness of cover over the sea areas, permitting future mining operations to be carried on in the sea areas, of which the holdings of the company are extensive, without any difficulty. Free from any considerable disturbances, such as faults, etc., and the uniformity of dip and thickness, aids materially in the economical extraction of the coal contained in these seams, of which only a fraction has been developed.

Nova Scotia Steel and Coal Co.

In the year 1900, the Nova Scotia Steel Co., purchased the business and property of the General Mining Association

The General Mining Association was formed by deed of settlement in 1829, and (inter alia) took over the lease of the Duke of York's extensive coal areas in Nova Scotia In or about 1859, by arrangement with the Provincial Government of Nova Scotia, the Association released some of its rights and secured the exclusive right to all coal seams in certain areas. The leases have been renewed, and now held under the general law of Nova Scotia. The Association had, however, disposed of some of these areas before the property was purchased by the Nova Scotia Steel Co., but had retained the Sydney mines and the Point Aconi areas, which contain a large quantity of coal and good facilities for shipments.

The Nova Scotia Steel and Coal Co., Ltd., acquired all the business, property, and assets of the Nova Scotia Steel Co., Ltd.

Property—The properties taken over and owned by the Nova Scotia Steel & Coal Co. are as follows:—1—All the lands, shafts, buildings, plant, and railway used in connection with the coal mines, together with the leases of coal areas which were acquired by the Nova Scotia Steel Co. from the General Mining Association. 2—All the lands, plant, buildings, iron mines, and railway used in connection with the iron mines of Bell island, Newfoundland, and elsewhere, which were acquired by the Nova Scotia Steel Co. 3—All the lands, plant, and machinery used for the manufacture of steel at New Glasgow, in Pictou county, acquired and erected by Nova Scotia Steel Co. 4—A standard guage railway from Bridgeville, in Pictou county, to connect with the Intercolonial Railway at Ferrona junction, 12 1-2 miles, with 3 87 miles of siding, with rolling stock. 5—All the land in fee simple and leases from the Crown, for iron, coal, flux purposes, acquired by the Nova Scotia Steel Co. for the purpose of carrying on the different industries.

The above are as follows: At the mines in Nova Scotia; 72 square miles in Cape Breton and Victoria counties. Eight square miles in Pictou and Guysboro counties. At the quarries ; 250 acres in Cape Breton and Richmond counties. At the works; 800 acres at collieries and at the iron steel works. At the mines in Newfoundland; 18 square miles, 8 square miles of which are submarine, under lease from the Government of Newfoundland.

Things are going on nicely at the Joggins. The output is now over 200 tons per day. The management has accepted Tom Brown's rule, "Each day a little better than the preceding" and therefore the output is increasing satisfactorily.

Pictou Co. Method of Working Longwall.

By J. G. McKENZIE, Westville, N. S.

(Read before the N. S. Society of Mining Eng's., Jan. 14, '09)

When coal is found or the working reach a vertical depth beyond 1500 feet, it generally becomes unprofitable, if not impossible, to work it by a 'bord and pillar' or similar methods, for the enormous weight of the overlying strata will not only break and and crush the timber, but also either crush the pillars or force them into the strata immediately above or below the seam, resulting in a "creep" and the closing up of the roadways. The size of the pillars must increase with the depth, until at about this depth the pillars become so large and the amount of coal that can be safely worked so small, especially if it is of a friable nature, that the operations become unprofitable, and another method must be adopted. This was the position that the management of the coal mines at Westville found themselves in over twelve years ago while working a thick seam of friable, gasey coal, with a very weak roof of carbonaceous shale, the pitch of the seam varying from 18 to 27 degrees, worked by the bord and pillar method. In this method, from the two parallel slopes near the centre of the areas, two levels were driven on the strike of the coal, forming 'lifts' of 500 feet: from these levels self acting inclines called backbalances or balances were driven up on the full pitch of the coal at a distance of from 400 to 500 feet apart. Cages were run on these balances, on which the boxes were run up and down from the bords (also driven on the strike of the coal.) It now became necessary to make a great change in the method of working, to enable the coal to be worked with a profit, and without making any change that would incur a heavy expenditure or make a very great change in the general outline of the system of working, such as ventilation; etc.

Longwall was then practically untried in Nova Scotia, and rarely used in Great Britain in inclined seams. Finally the modified system of Longwall (a cross between the former bord and pillar and Longwall proper) was adopted, and has proved very successful in every way, particularly in the freedom from fatal accidents in the working places, (the great majority occurring in roadways etc,) considering the depth they have now reached—over 2000 feet vertically, with slopes considerably over a mile long.

The slopes are sunk as formerly, diverging slightly to increase the pillar between them, and supported on either side by pillars also increasing in thickness with depth. Each one or both of these slopes are used as the intake airway, while return airways are maintained, one on each side along the slope pillars. Two levels are broken off, which form a lift, with about 400 feet of solid coal between each pair of levels; the upper levels are used as a roadway, and the lower levels or mine bords from the intake airway for each lift, carrying fresh air from the slope, where it is split, to the inner workings first, from there returning and ascending, it passes through each of the working places to the lift above, and thence to the return airway, It is also used for drainage, and generally there is a dam built on it near the slope, which catches all the water from the lift. The levels are driven as near parallel as possible, with from 15 to 20 feet of solid coal between the 'chucks.' This pillar is often removed, and the space filled in with stone from the roof, the result of 'brushing,' which must be done very shortly after the levels have been driven. These levels are driven 8 feet wide and 8 feet high; they are first made about 18 feet wide and 7 feet high; this leaves a 'bench' on the bottom which is only cut in the case of roadways. On this bench chucks are built quite close together on each side and 8 feet apart, with sided timber over them across the road about 3 feet apart, and slabs over that to support the roof. The chucks are built of blocks over five inches in thickness and five feet in length, making them five square. After these are built (similar to logs in a wharf) the bench is cut close along the chucks and lifted to give the 8 feet height; this means a shearing of about one and one half feet on the lower side, and two and one half on the upper side. Off these levels 'jigs' are driven up on the full pitch of the not more 400 feet apart; they are also chucked as well as all other roadways. An airway 5 feet wide is carried up up on the side of this 'jig' farthest from the slope, and the chucks on this side must be made air-tight in order to do so. This is done by filling them with stone and fine coal. Owing to the very heavy pressure required in maintaining ventilation at this depth, canvas doors can only be used as a temporary arrangement. A door is placed in an air-tight frame across the level to direct the air up this airway between the coal and the air tight chucks, passing around the face and returning down the jig which is 8 x 8 feet. This practice is contrary to the theory laid down in some text books, but it is one that has been pryved many times to be the only practical way, as the air will not pass up the large and down the smaller airway, in sufficient quantity to keep the face clear of gas. This method is continued until the jig is driven through to the lower level of the lift above, when the door is removed and the air passes up the jig and out to the airway, and the airway along the chucks is allowed to crush.

Beginning at the lower level of the lift above on one of these jigs, walls or bords are broken off with about 40 feet between centers. The roadway in the walls is much the same as the levels already described, except that the chucks are built about two feet apart on each side, and only about six feet wide. When this roadway is driven in about twenty five feet, work is started on the cut or pillar. From it the coal is taken cut to a thickness of seven feet and up to the wall above The cut is then timbered with upright timber props, with cap pieces between them and the roof. Sometimes sides timbers are placed with one end on the high side chuck of the roadway, and props under the centre and the other end. The roadway is kept 15 or 20 feet ahead of the cut. The roof of the cut is allowed to crush or fall in as the face advances, generally when forty feet,—sometimes less; seldom more—from the jig. The roof falls, often causing a great smashing of timber on the road below, the bottom sometimes rising up as well. The face of the road is kept a short distance ahead, for if the face of the road was in line with the face of the cut it would be very apt to fall solid across the face of the road as well, and take a week or more to get it in shape again. Through carelessness of the miners this sometimes, but not often happens. No explosives are used ; for if these places are properly timbered and the weight thrown on to the face, the coal is easily worked with hand picks, but wedges are required in lifting the bench in the roadways. Quite often the cut crushes in solid to

the face, then it is necessary to drive a head up at the face of the cut in the solid coal and start all over again. This is perhaps the greatest difficulty met with in the whole operation, for when a fall like this takes place the ventilation is cut off and generally some gas accumulates, and when the head is started up, it also rising follows the miner and causes trouble before it can be driven 20 to 35 feet to the place above. Generally three of these walls are worked on each side of the jig simultaneously; the upper ones leading and the others following in step like order from 20 to 40 feet behind the preceding one in this way 7 feet of the 19 feet of coal in the seam is taken out in one operation and it is possible that in years to come some of the remainder may also be mined by this or a similar system, as it is the upper part of the seam that is now being worked. Three miners and a loader, work in each wall, as the success of this method requires that the face be kept steadily if slowly advancing. It is necessary to shorten all roadways possible with depth in order that the coal may be got out before they become entirely closed up for on every side may be seen examples of both thrust and creep the pressure being so great that thin layers of fire-clay between the benches of coal, squeeze out as clay out of a brick making machine, the lateral pressure on the coal walls of these inclined seams reduces the space of the openings 30 per cent in a few months, and these two acting together break ordinary booming in about a month and it becomes necessary to truss and retimber again; here places may be seen so closely timbered that neither rock nor coal, nothing but blocks of wood are to be seen for long distances except at the working faces and studies are now made in faults, types, cleat or reed and fire clay partings in working so as to make the pressure relieve masses of coal with the least labor to the miner. In the proper setting of timbers; in estimating the strength of large and small timbers under varied conditions when under side or end pressure; in the breaking away of the ribs and how to avoid it; in how to distinguish the actual sounds of danger, as there is always some cracking of timber to be heard in the working places—so expert do those extracting pillars—working in the cut—become that they work on to the last minute before a fall takes place, amid conditions appalling to the ordinary miner.

At the bottom of the jigs, and at the mouths of the walls—which are opposite each other, three on each side of the jig large metal plates are laid on timbers placed horizontally and made solid in that position; when laid they form a smooth surface from six to eight feet square, on which boxes can be easily turned in in any direction. The road on the jig is either a Jouble track or three rails with a passing turnout, half way—(over the two lower plates on the jig lifting rails about 8 feet long are fitted into clips.) When running coal from the upper walls, and when running from the lower walls these rails are removed and a tail rope the necessary length attached with a safety hook. A drum is placed at the top, and the weight of the full box running down takes the empty box up, the drum is controlled by a brake operated by a boy, the boxes running on their own wheels from bank to face; no cages being used as formerly. The gauge is 2 feet 4 inches and the boxes used will carry an average weight of about 1600 pounds of coal. There is no mechanical haulage on the levels, the work being done by horses. No timber is drawn; the great difficulty being to get enough timber in to keep sufficient room open for the proper working and ventilations of the mine. The amount of wood used here would astonish the ordinary miner and anyone who understands anything about engineering after visiting the workings would wonder how it can pay, yet owing to careful and efficient management part, at least, pays well. An idea of the amount of timber used may be formed when a mine producing about 1250 tons of coal per day requires 2000 five feet blocks and a total average of 54 cars per month each car containing 6000 lineal feet.

ECONOMIC FREEDOM.

In the course of a lecture in Truro Dr. McGill of Halifax referring to the aspect of freedom from an economic standpoint, went back to the times of small enterprizes, factories, etc. many years ago, when all were operated under government laws and inspection. This became a thing of the past, with the larger factories and combinations of the present day, and economic freedom, a time when employer and employee were free to sell their output, their labor, etc., as they pleased. This brought about the replacing of man labor with the cheaper labor of women, and later the replacing of women with the cheaper child labor, and thus the throwing out of employment of man and his degredation to the lowest mires of poverty, morality and crime. He pictured the beginning of organized labor and what he claimed to be a bettering of the position of the laboring man thereby. Now the consumer is between two great organizations, those of organized capital, trusts, etc. and labor unions, being kicked about as a football, and this will continue until there is created some organization for the control of both. The governments are stepping in to regulate the situation, and this must be done in order to maintain economic freedom. There are two propositions for remedying the existing position. One is government oversight throughout, and the other is to kill the unions. Neither, the speaker claimed, is practical or possible. Canada will have nothing to do with Socialism for many generations to come. While labor and capital continue to fight, the consumer has an opportunity to dodge and avoid some of the kicks, an opportunity to plan a remedy for the evil. The remedy is neither religion nor education alone, but both help. The change will be gradual, each generation doing its share.

The Boston Correspondent of the Coal Trade Journal says:—"We have searched the horizon far and wide for a ray of hope for the bituminous shippers, but have failed to find anything encouraging for the near future. The present conditions are particularly severe on the Pennsylvania operators. About the only thing they can do is to shut down or curtail their output to such requirements as may come from line business nearby and all-rail business in western and northern New England. There is very little hope for successful competition with the West Virginia coals under present conditions of water freight and coal prices. The New River and Pocahontas people seem to have no particular price for their coal, and the market is consequently more or less in a demoralized condition."

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STELLARTON. N. S. FEB. 10

THE WABANA ORES OF THE N. S. STEEL & COAL CO'Y.

Mr. W. F. Jennison, Mining Engineer, does not take quite so 'rosy' a view of the N. S. S. & Coal Co's. holdings of iron ore at Wabana as does Mr. Drummond in his article in the Montreal Star, republished in Mining Record. So that Record readers may the more readily grasp the points at issue we will take Mr. Jennison's letter by paragraphs, making answer as we go.

First. "Mr. Drummond says 'The extent of the Scotias areas is some 38 miles.' The mine map—dated early in 1907—shows the company's submarine holdings to be 19 areas of one half square mile each"

Mr. Drummond did not affect to be perfectly accurate or else he would not have written 'some' thirty-eight miles. A careful scrutiny of the map, shows Mr. Drummond was out 2½ miles, while Mr. Jennison is out twenty-three square miles. Let Mr. Jennison look at a modern map and he will find Scotia has thirty-two and a half square miles of submarine and three miles of land areas. It is a little surprising that Mr. Jennison would come to conclusions from the inspection of a two year old map. He is not too young to remember what occurred in N. S. in the early nineties. In less than two weeks, not to speak of two years, the whole face of the map in the Mines Department underwent a change, and for miles and miles to seaward, all along the coast from Port Morien via Glace Bay and North Sydney to Mabou, there were lines where before there was a clean sheet. And what happened in Nova Scotia happened at Wabana. What more natural than that the management of Scotia finding success attending operations to the deep should get an enlarged view of things and add to their holdings seaward.

Second. "We are pleased and proud of Mr. Chambers' record breaking feat in driving the slopes but I fail to see how one pair of slopes, driven on one vein just to tap the area of 9½ (?) square miles can tap the extent of the three veins supposed to be contained therein, particularly when two of these veins overlie the one on which the slopes were driven".

Why Mr. Jennison, what is the matter? Have you visited Wabana? The writer has been there and is of opinion that the two seams he referred to in his article do not overlie the exploratory slope. One of them only overlies, the other is an underlying seam. These days of compressed air and quick drilling, when the intervening strata is not unduly thick, it is an easy matter to test either an underlying or overlying seam, and if the Scotia management had not curiousity enough to do this they are open to criticism.

Third. "Again Mr. Drummond says 'the driving of these slopes had an element of risk. Who knew how soon a fault or a clean cut off might be encountered'. Has this element of risk been totally removed. The length of their slopes to tap the sub-marine areas is 5,760 feet. To get through to the outer boundary the distance is something over 6,000 feet. The extension East and West, as given by the Mines map is three miles, yet we would infer from Mr. Drummond that the element of risk has all been removed. I would like to ask in Mr. Drummond's own words, in the further development of these areas, "Who knows how soon a fault or clean cut-off may be encountered". Also who knows how much and what kind of a roof is over the upper veins or if there is sufficient to allow them to be worked with safety."

More breaks on the part of Mr. Jennison. The length of slope necessary to tap the sub marine area of the Scotia Co. is not 5,760 feet but less than 4,000 feet. The extension East and West is not three miles, but nearer seven and a half miles. The element of risk is not nearly so great now as when the slope started. Surely the exploratory work has been a source of information. The cover, when entering below high water mark, was very much thinner than it was as the slope proceeded. As to cover we are surprised that Mr. Jennison imagines the Scotia management could have undertaken so great a work without having satisfied themselves as to the cover. The merest novice in mining would first of all proceed to take the dip of the slope, or seam, and the dip of the bed of the ocean and soon ascertain all he wanted to know about cover.

Fourth. (The remainder of Mr. Jennison's letter we will treat as one paragraph.)

"Another point in Mr. Drummond's letter which is hard to understand; that is how he makes his calculations to get 2,500,000,000 tons of ore he says, "The sinking of the slopes has proven beyond peradventure that there is ore of excellent quality in twenty square miles of the Company's areas, with the probability, amounting to almost a certainty, that the three seams underlie all of the remaining eighteen miles of the territory". Let us assume that the total area is twenty square miles, containing three seams having an aggregate thickness of twenty-five feet. Twenty square miles equals 557,568,000 square feet, or multiplied by the thickness of the ore equals 13,939,200,000 cubic feet. The sp. gravity of Bell Island ore is 4.14 or 258.75 pounds per cubic foot. We therefore have:

$$\frac{13{,}939{,}200{,}000 \times 258.75}{2000} = 1{,}803{,}384{,}000$$

tons as the possible total that could be contained in this area. As it is impossible for the Company to have this area at Wabana let us get down nearer the facts. In 1899 the Nova Scotia Company sold to the Dominion Steel all their holdings at Wabana excepting the upper

(now middle) vein. They afterwards secured 19 submarine areas, of one half mile each, being beyond those sold to the Dominion Steel and the Dominion Steel secured five more areas again beyond and adjoining those taken by the Nova Scotia Company. In 1900 the Nova Scotia Company equipped and began operating the middle or upper vein and have carried on extensive operations ever since. This vein has a total length on out-crop of a little over 7,000 feet and a width considerably less than one half mile. For easy computation, although excessive, let us say the Company has a total area at Wabana of ten square miles. It will be readily seen, that instead of having 1,803,384,000 tons as above we only have 901,692,000 tons, as the quantity of ore at twenty-five feet in thickness, that would be possible for this area to contain. But this quantity cannot be considered available. I think Mr. Drummond will agree with me that if the Company can win seventy-five per cent. of this they will be doing remarkably well. We therefore have as an available ore supply 676,206,000 tons less the amount already taken from the land area and less the difference between the estimated twenty-five feet over the whole areas and the known average thickness (8 feet) of the one vein which the Company own on the land area. Of course this is all providing there are no 'faults, clean cut offs etc. ete' in the sub marine areas and that there is sufficient roof over the two upper veins to work them with safety."

Mr. Jennison being all at sea as to the number of areas held by the Steel company is of course all out in his calculations. We would put it this way

$$\frac{32\frac{1}{2} \times 640 \times 43560 \times 25}{10} = 2,265,120,000 \text{ tons}$$

and at that we are only allowing 2240 lbs. to the cubic foot instead of 2587 as allowed by Mr. Jennison. We will readily admit that all this ore is not available. Instead of 75 per cent. as given by Mr. Jennison we are content to say that 50 per ct. is available. That will give over 1,100,000,000 tons. We are anxious to please Mr. Jennison and will cut the figures again in two and leave them at 550,000,000 tons — equal to an output of ten million tons for fifty years. After that time we are willing that posterity look out for itself. We have a lot of information as to the thicknesses of the seams at various points, on land and under the sea, but it is unnecessary to go into particulars. We have under and not over stated the thickness. The property at Wabana is in our opinion all that we have stated it to be, and if pressed we may show that it is better than stated. After all it is not of so very much importance what Mr. Jennison or Mr. Drummond think of the property. The point is what will it fetch? A owns a property which he values at $10,000. B, a bit of a pessimist, says its value is $6,000 only. The two fall to arguing but neither will give way. C comes along and says to A, 'I will give you $9,000 for your property'. That settles the point so far as B is concerned, he is ruled out. As was stated in Mr. Drummond's article the property at Wabana is worth over ten million dollars, it must be so or parties would not declare they are willing to give that for it. The offer puts the value of the property beyond dispute. There are one or two technical points touched upon by Mr. Jennison over which we might love a discussion, but mindful we are dealing with facts and not with theories, we make sacrifice of our inclinations. The figures we have given may be turned round, twisted about and "stood" on their heads, and after all is done they will still show a quantity of ore at Wabana which might justify Tom Cantley and Bob Chambers—to speak for once irreverently—in dropping their usual placidity and indulging in some optimistic talking. Yes, both could almost be excused if forgetful of their nationality they fell on each others neck and gurgled. Eureka! Eureka! Whatever the sins of Scotia management they cannot be accused of being too free talkers.

WHAT MINERALS HAS NOVA SCOTIA?

For generations it has been asserted that this province of ours is rich in minerals, richer perhaps than any other of the provinces of the Dominion. If the question were asked a student of geology, "Name the minerals of Nova Scotia", he would roll off coal, iron, gold, copper, manganese, antimony, gypsum, and throw in petroleum to the bargain. Some people, no doubt, think it an easy matter to name the minerals of the province, but it is not quite so easy as at first blush may appear. If the question be made more pointed and put in this way, "What minerals of economic value has Nova Scotia", the answer is not easy of answer. We have coal, that is cerrain, and it seems that is the one mineral, beside gypsum, about which there can be no doubt. Of course there is gold, but whether those who have experimented with gold mining would call gold a mineral of economic value is debateable. We have iron too, but so far it has added little to the mineral prestige of the province. Of gypsum there are immense deposits and it is heartening to know that the operation of gypsum mining is being conducted in several parts of the province, and not the mining only but the manufacture of the raw product into refined states. At the present time a brave and honest attempt is being made to determine whether the copper ores of the province are of commercial value, and the prospects so far are most encouraging. Whatever little we know of the minerals of the province is due perhaps more to private enterprise than to the work of the mines department, local or federal. It cannot truthfully be said that the local government has been greatly exercised as to the extent and value of the ores of the province. Our politicians and our statesmen have taken too much for granted. It is about time the local government was placing itself in a position to be able to say what minerals Nova Scotia really possesses. That the government is awakening to the importance, to the province, of her minerals is evidenced perhaps most of all by the appointment, to the position of deputy commissioner of mines, of one who has a good knowledge of the province, and who is enthusiastic in pushing on mineral development. Of course the deputy cannot do all the work that should be eqpected from a mines department. He must have assistants. Why

should not Nova Scotia have a geologist of its own, one who could give some information, when asked, as to the mineral resources of the province. At the present time there are those desirous of knowing whether Nova Scotia has petroleum, or whether there are genuine indications of such. For over fifty years, at longer or shorter intervals, heroic efforts, by private parties, have been made to discover oil, but so far the money spent in boring, has been wasted. Many holes have been put down, some to a depth of 3,000 ft., without results. In Nova Scotia, as in Gaspe and other places, the strata giving indication of oil, are usually much broken up, and inclined at high angles, with well marked faults. Eminent authorities, referring to the Lake Ainslie district, which is the most favorably thought of in Nova Scotia, express the opinion 'that the area of the field is so limited and the strata so high that there is hardly a chance of its being obtained, in large enough quantity to pay for its dedelopment.' There are those who think that any petroleum that might at one time have been at Lake Ainslie has passed off in the line of fracture. And the same may be said of the other regions which have been prospected in Nova Scotia. We may, and we may not, have oil that will flow. If we have not oil in its natural state it is almost certain that we have abundance of shales that will give oil by distillation. It may have been thought, at one time, that it would never pay to distil oil so long as there were highly productive oil wells. That idea is being abandoned. That oil can be profitably distilled from shales has been fully demonstrated in Scotland, where some of the companies are making remarkable profits. Distillation is also being successfully carried out in Germany, France and Australia. It would appear therefore that there is now an excellent opportunity for successfully utilizing the bituminous shales for the manufacture of petroleum. If it can be successfully done in other countries, why not in Nova Scotia where it is believed the shales are much richer in bituminous matter than in the countries named. There are oil shales in many counties of the province, and some of them, which to appearance seem as dry as a bone, on being tested, yield fair quantities of oil. What we think the local government ought to do is to send out a geologist to collect specimens of the several deposits and have their value as oil producers tested. There is high probability that if an official opinion were procurable of the value of the shales and the quantity available, that parties from the older countries would become interested. Indeed we know that enquiries with regard to shales have been frequently made, but there was no one in a position to give extended or reliable information. Even if the government did not directly benefit, by addition to the revenue, from the exploitation of minerals, one would think that it would be anxious to make the resources of the province known, much more solicitous should it be when it directly derives a revenue. But the government cannot be expected to accurately make known the mineral resources of the province so long as it knows no more about these than the average individual.

LESSON FROM MABOU.

The local government, as the RECORD understands the situation, has been in charge at Mabou for the past two months. The government guaranteed the wages of the pumpmen, etc., and looked to the proprietors of the mine for a refund. Were one inclined to be facetious he might ask Dr. Kendall and those who go in for government operation of coal mines, "What about this fiasco at Mabou". The matter, however, is too serious to be joked about. There is more than one question to be asked, and more than one lesson to be drawn from the unfortunate flooding of this, from the start, unfortunate mine. The mine as is known, is submarine. The government last year promised to have a commission to report on submarine mining in Nova Scotia. An expert came out in the early fall, but whether in the interests of the Dominion Coal Company alone, or partly in the interests of the local gov't we cannot say. What did this expert report in reference to the cover, the strata at Mabou? Submarine mining is carried on to a much greater extent in Cape Breton than is generally supposed. There are a half dozen or more submarine mines in Cape Breton. Some, a majority of these, are comparitively new, but at least one—Sydney Mines—may be called old. The in-rush of water at Mabou is the first of the kind to happen in Nova Scotia One lesson to be drawn from the mishap is the great danger following from the temporary suspension of work at a mine, a land mine as well as a submarine one. It is safe to say that had the Mabou mine been at work the past four months drawing coal this accident would not have occurred. The levels and balances were falling in for want of timbering. Had the places been timbered there might still have been falls, but repairs could have been effected so that the results of these would not have been so serious. Had the break been noticed when it occurred there is reason to believe that the water could have been dammed and confined to a limited section of the mine. It is said that a dwelling goes out of repair much quicker when vacant than when occupied, and that is the case with a coal mine. It would have been well that the government besides looking after the pumping of the mine had appointed a couple of shiftmen to look to the security of the places.

Rubs by Rambler.

Desirous of knowing how the one or two gold companies in the province were getting on, especially the new one at Middle River, C. B., we turned to the Industrial Advocates 'Latest Gold Return column,' and find that not a single gold company made any return for over a year. What is the matter in the Mines Department that the gold miners are not brought sharply to time as are, for instance, the coal operators.

The Great Northern Coal Company which operates the little, formerly Ripley, mine near Mac-

can has a three to four page advertisement in the Industrial Advocate. The president of the company is the same as he who some months ago reported that he had sold some five million tons of coal abroad, and was then looking around for parties to fill part of the order as his collieries could not of course supply so big an order. The RECORD is not a little surprised at the appearance of the adv. in a N. S paper. It is stated that the Great Northern Co. is making a profit of fifteen per ceat. That is wonderful. Dr. Van Hagen states that he has spent $100,000 on the Maccan property, and that he is making a profit of fifteen per cent Very good indeed doctor, you did'nt come to this province a bit too soon to show our sleepy operators how the trick is done. The average selling price of coal is say three dollars a ton. The Ripley mine produced in the fiscal year ending Sept. '08 2500 tons. The interest on the $100,000 spent on developments, etc, not to speak of any purchase price is at 6% $6,000. Two thousand five hundred tons at $3,00 is equal to $7500 less interest on expenditure $6000, leaving a balance of $1500, or say sixty cents as the cost of producing each ton of coal. Now anybody that knows the smaller mines in Cumberland Co. knows that they cannot produce coal for double sixty cents Therefore Dr. Van Hagen if he is making a profit of 15 cents a ton is making it in a way unknown to the general run of operators. His loss I fancy last year must have been considerably over fifteen per cent.

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The only reason, given prominence to, at the present time, for a desire on the part of some of the miners to join the U. M. W. is that being members of so large a body they could demand their rights. That is, if they did not get what they wanted from the operators they could strike, and have the pecuniary support of the big foreign society. Of course there are those who know that though "pecuniary assistance' is the apparent reason for the revolt, it is not the real or the only one. There are in several of the mining districts men with swelled heads who aspire to be leaders. The area of the P. W. A. was too circumscribed to permit of their talents being properly appreciated; and another reason is that there are a number of unthinking and selfish men who first objected to the three years contract and afterwards to the two years contract with the Dominion Coal Co. In the case of Springhill the revolt was due to the fact that the Grand Council would not sanction the lodge in a ridiculous position into which it had placed itself. In C. B. I think the 'contract' caused perhaps the strongest desire for a change. That is singular seeing the tendency of the times is towards agreements for a longer or shorter period, between employers and employees. It is without doubt, a wise and a common sense policy. The men engaged in the British ship building trades, belong to societies strong financially. It seems, however, that they are not going longer to depend on strike and defence funds. Rather are they going to try and make agreements for longer or shorter periods with their employers. The following from a British paper I commend to the Trade Unionists of Nova Scotia :—

"The greatest achievement yet accomplished in furtherance of industrial peace is the agreement just ratified between masters and men in the shipbuilding trades. It is the outcome of a prolonged series of meetings and discussions of a committee representing the Shipbuilding Employers' Federation and twenty six trade unions engaged in shi yard work. The agreement carries the principle of the peaceful decision of trade disputes even further than the engineering agreement of 1898 which has worked so beneficially. The foundation of the agreement is that work is not to be stopped by a strike or lock-out until any matter ot dispute has been fully threshed out in conferences representing both sides. No small trade union, for example, can create a strike. The agreement first deals with general 'fluctuations in wages' i. e., changes due to the general conditions of the shipbuilding industry. Such changes must apply to all the trades concerned and to every federated shipyard alike, so that no one trade or no one locality can get any advantage over the others. Further, a change in wages is not to be made oftener than once in six months. There must be a preliminary conference between the federation and the unions to discuss the situation; then either side may apply to the other for a change, but no alteration is to take place for six weeks. Meanwhile. within fourteen days of the application the parties must meet in conference. Any change is to be of a fixed amount—5 per cent in the case of piecework rates, and 1s. a week or ½d. an hour in the case of time rates. There are caretul provisions for adjusting piece-work wages. When any question arises, apart from general fluctuation in wages, there must first be a meeting between a deputation of workmen and the employers. If they do not settle the matter, the official of the federation and the official delegate of the trade union shall discuss it, and if no agreement is reached the matter is to be submitted to a committee of three employers and three trade union representatives, none of them connected with the yard in which the dispute has arisen. After further steps the matter ultimately is left to the decision of the executive of the federation and representatives of the union or unions. Finally, provision is made for submitting the matter to a grand conference between the federation and all the unions parties to the agreement. It is only after all these steps have been gone through that work can be stopped. The agreement is to have force for three years, and after that to be subject to six months' notice on either side."

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Those who were cajoled into joining the U. M. W's as a haven of rest, may, after reading of the proceedings at the convention of that body lasting over three weeks, now be asking themselves the question, "What was the good of rushing from Scylla to fall into Charybdis"? The authoror of the wonderful manifesto emanating from the disappointed, disgruntled members of the lodge at New Aberdeen gave as a reason for the revolt of some against the P. W. A that there was unrest, disagreement, and dissatisfaction in the society. Let it be granted that the statement is true. How are matters mended by going over to the U. M. W. For three weeks there has been no business done at the U. M. W's convention. The whole time, it may be said has been occupied in washing soiled linen. The Walkerites, Mitchellites and Lewisonians have been at it tooth and nail, biteing and scratching each other. 'A haven of rest' in the U. M. W? Why, it has been an "inferno", and no imitation either, since the

convention opened in Indianapolis in the middle of Jany. To show the delegates have no great business capacity, or act merely on nervous impulse, let me quote the following from the Montreal Star of 5th. inst :—

"President Lewis charged Peter Quinn, of Illinois, with having practically called him a liar. The stenographic record of the debate was read, but the incident did not develop further. The convention adopted a resolution to the effect that the national executive board had exceeded its authority in suspending the officers of the Indiana district for having disobeyed an order that the miners should return to work in the Hudson mine pending the adjustment of the strike there. This was practically a reversal of the convention's action of a few days ago approving President Lewis action in the matter, and indicates that the delegates will pass some measure giving a new interpretation to the sections of the organization's constitution defining the authority of the national body in its relation to district body."

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I do not say that the cases are amalagous or that they are precisely on all four. Yet I incline to the opinion that the one has a considerable bearing on the other. In a certain district in the United States the U. M. W's have increased the initiation fee of foreigners, or as it is adroitly put of 'unskilled miners' to fifty dollars. The rate is equivalent to prohibition or exclusion. If the U. M. W. is justified, even admit it, on the ground that foreign labor is a menace to safety, in excluding them from the order and probably from the mine, are not the Nova Scotia operators justified in saying that they can have no dealings with members of a foreign organization. May they not claim that a foreign order is inimical to the successful operating of their mines.

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A Truro contractor, giving evidence before the eight hour day commission, said he was of the opinion "that the shorter hours would mean a greater purchasing community. Work-a-day people having more time at their disposal for leisure would spend more" Well, now, if that is not one of the funniest arguments in favor of an eight hour day I ever heard advanced. An eight hour day would certainly not give the workmen more wages, however it might tend in the opposite direction. At the present time a large majority of the workingmen, I fear, spend all they earn, and with the same wages and eight or even six hours a day they could not spend more for the simple reason that they had not it to spend. If an eight hour day will have the remotest tendency to make work-a-day people less thrifty then the community should up and oppose it. What we want is a class of workmen who will spend less and not more. If the workingmen under a shorter day will spend more, then the shorter day will be conferring a benefit on the trading or catering class, and not on the workers, those whom it is intended to benefit.

Mr. McNaughton, who ousted friend Milner from the generalship of the Jubilee Mine, is predicting great things for his colliery. He says he is about ready to produce coal.

Coal Shipments Jan., 1909

—DOMINION COAL COMPANY. LTD,—

—Output and Shipments for Jan, 1909—

	—Output—	—Shipments—
Dominion No. 1	36 473	
Dominion No. 2	36 178	
Dominion No. 3	15 417	
Dominion No. 4	20 644	
Dominion No. 5	38 670	120 130
Dominion No. 6	3 838	
Dominion No. 7	9 255	
Dominion No. 8	12 892	
Dominion No. 9	22 604	
	195 971	120 130
Shipments Jan. 1908		202 063
Decrease " 1909		81 933

INVERNESS RAILWAY & COAL CO.

Shipments	Jan.	1909	9 918
"	"	1908	20 422
Decrease	"	1909	10 504

CUMBERLAND RAILWAY AND COAL CO.

Shipments	Jan.	1909	27 294
"	"	1908	27 015
Increase	"	1909	279

NOVA SCOTIA STEEL & COAL CO.

Shipments	Jan.	1909	47 750
"	"	1908	38 845
Decrease	"	1909	8 905

ACADIA COAL CO.

Shipments	Jan.	1909	24 852
"	"	1908	29 433
Decrease	"	1909	4 581

INTERCOLONIAL COAL CO.

Shipments	Jan.	1909	19 767
"	"	1908	24 948
Decrease	"	1909	5 181

Under the heading "Pittsburgh News" the Coal Trade Journal says :—"There is considerable interest shown among miners here as to the outcome of the wranglings that are occurring in the national convention of the U. M. W, at Indianapolis. The consensus of opinion is that Lewis will win out. There is disappointment over the financial showing. Last year the cash balance was just short of one million dollars ; this year it is just over $500,000, with a possibility of strife in the Anthracite field ahead."

FIRST AID TO THE INJURED.

Mr. A. Haywood of Inverness writes the Record as follows in reference to 'first aid'. The subject is highly important:

"There are two Associations, one in London, Eng., and the other in Glasgow, Scotland, which go by the names of St. John and St. Andrews Ambulance Associations. The aims of these associations appeal so powerfully to our best feelings, and are, from whatever aspect we regard them, of such supreme and vital importance, that the enthusiasm with which they have been supported by the people of the United Kingdom, and the eagerness with which they have been imitated by the inhabitants of foreign countries since the establishment of the associations in the year of our Lord 1878 can scarcely be wondered at During the few years the association has existed, as many as 1,000,000 people have received its certificates of successful instruction. And the movement has extended to Gibraltar, Malta, Australia, New Zealand, Canada, China, South Africa, and the East and West Indies. The great German surgeon by name of Esenarch was so impressed, when staying in England, by the good work done by the Ambulance classes of the Association, that on his return to Germany he instituted similar classes under the title of Samaritan Schools. In the same way the system of these associations is imitiated in Russia. Dr. Karl Reyher of St. Petersburg delivers courses of five ambulance lectures to classes of from twenty to twenty-five men, and has had the 'Aide Memoire' and the hand book, written by Surgeon Major Shepherd translatedi nto the Russian language tor purposes of instruct on. I trust, however, that we may not look upon certificates and medallions—honorable distinctions though tuey be—as the chief objects of our work But that we should try to push and pursue the great need and aid of ambulance work so that when an emergency arises we may be able, instead of standing aghast and palsied, to try and relieve the sufferings, perhaps save the lives, of our stricken comrades. Another point which I desire earnestly to impress upon the people is this, that with whatever zeal and promptitude, devotion and success we may act on the occasion of accidents, however terrible, still in point of numbers people will continue hopelessly and fatally deficient, until it is fully recognized and understood by the owners, managers and men of all collieries, mines, manufactories, railways and other fields of labor, in fact until it is acknowledged by the public, by the nation at large, that ambulance instruction should be universal. Since the commencement of ambulance work I know for a fact, that from Royalty down to the humblest workman are amongst its pupils, and when I say Royalty I mean this that Princess Christian holds certificates both for first aid and nursing. Let me deal a little with fractures What I mean by fractures is broken bones, of which there are four kinds, but I will just deal with two, viz. simple and compound. A simple fcacture is when the bone is just broken and there is not much broken skin. Now people who are unskilled or uninformed or careless in handling that tracture can very soon make it into a compound fracture, that is for the broken ends of the bone to come through the flesh and by so doing rendering it liable to sever an artery or a nerve. The probable consequence is that the person may either lose his limb or life and he may be a married man with a wife and family depending upon him for support, or he may be his mothers only son and support. The same applies in case of fractured ribs, the broken ends of the bones are liable to pierce either the lungs or some very important blood vessels, and that would most probably prove fatal, Allow me to say this that when a person gets a main artery cut that it gives off blood at the pressure of four pounds to the square inch, whereas in a vein a quarter of a pound to the square inch. Now let me say in my closing remarks, to all those who are willing to arcept of its teachings, learning how to lessen the pains of others, how to help each other in case of ac idents and unexpected illness, how to lift and carry their stricken comrades without disturbing the broken limb or jarring the bruised body, that they will go to their occupations, however toilsome or dangerous, with greater confidence, will show themselves more manly, braver, more humane, more charitable and neighbourly, and altogether prove themselves better and more useful citizens."

The P. W. A. lodge at Dom. No. 6 has been reorganized. After this there will be no difficulty in ascertaining what the prospects are for work at the colliery.—Since writing the foregoing we clip the following from the Glace Bay Gazette:—"This morning a committee from the P. W. A. lodge composed of Mr. John Boutilier, Dan. Patterson, Charles Howie, Thos. Hart, and John P. Boutilier accompanied by Grand Master, Stephen B. McNeil and Grand Secretary John Moffatt interviewed General Manager Duggan on the prospect of getting more work at No. 6.

It is understood that the interview was of a fairly satisfactory nature. During the conference, it is learned, Mr. Duggan pointed out the difficulty of securing a market for the coal mined by the company, owing to the American competition which is still increasing in the territory in which the company's coal has heretofore found its market. The company was also handicapped by the knowledge that a labor difficulty existed, owing to the U. M W.—P. W. A. agitation that might cause trouble and prevent them fulfilling their contracts. This all militated against furnishing steady work and made it necessary for the company to keep the output from the collieries within an amount that they could reasonably depend on selling.

In regard to No. 6 the Gazette is informed that Mr. Duggan said that while he could not promise steady work the mine would be started on Monday and as far as possible it would be kept working. The men at No. 6 would be given a fair share of work as far as circumstances would allow. During the past few days a large number of men have been laid off from work by the Dominion Coal Co. Since Thursday 150 altogether have been laid off at No. 3 and up to to-day 100 have been dropped at Caledonia.

The reason given for taking this step is that there is no sale for small pillar coal. The men laid off at No. 3 included 40 pairs of cutters, and at Caledonia 30 pairs of cutters are among the number."

The Montreal Star says that the Dominion Coal Co. has made contracts with the C. P. R. and G. T. R for the delivery of some 600,000 tons of coal at Montreal this season, and that a contract for 40,000 tons has been concluded with the Laurentide Paper & Pulp Co. This is a fairly good start and augurs well for a moderately busy season.

AROUND THE COLLIERIES.

The Joggins has abandoned open for closed lights.

The Eastern Coal Co. have taken on some men recently at Maccan, and are to continue explorations.

The Glace Bay Gazette having found its feet is now doing excellent service in the best interests of the miners of C. B.

There were no fewer than five agents of American bituminous coal operators in Montreal at one time lately trying to secure business.

Two gateways have been started on No. 2 landing, east side, Joggins, and fifteen on No. 1 landing; also 4 rooms in No. 1 landing, west, in the submarine section.

The Strathcona Mine being in the hands of a receiver, is being kept free of water, it is said, by the Mines Department. The government, by and bye, should become expert in pumping problems.

There are three kinds of socialists at three of the C. B. colliery towns. At Sydney Mines we have the revolutionary type, at Glace Bay the evolutionary and at Inverness the 'harf and harfers.'

The eight hour day commission held meetings in Truro and New Glasgow last week. There is evidently not a great deal of interest taken in the proceedings as the local papers are silent as to progress.

Dr. McGill, the eminent sociologist, says it will be generations before socialism has any solid footing in Canada. If that is so the Sydney Mines and Glace Bay socialists better employ their talents in something practical.

The Cape Breton miners—the loyal P. W. A. men, now speak of the U. M. W. as a scab-union. The term is not an elegant one, but there is a world of truth in it. Of all "scabs' the most miserable are those who do evil under the guise of doing good and of such are the U. M. W's

The 'Land without strikes' has had a nice little strike at a coal mine. The name of the company operating the mine is the Tampari Coal Co., near Wellington, N. Z. It is not said how the strike was settled. The main point is that there was a strike in the boasted home of peace and good will.

It is reported around the mines outside of Springhill, that the U. M. W's are going to try their hand at forcing all men to join them. In that event there will surely be trouble. There are applications coming in from Springhill to the outlying mines on this account. If a stoppage of work does occur the miners in all the districts will want to see the cheque for $10,000 which sum will be necessary to cover the first weeks allowance of $8 a week a member. After the U. M. W's have sent a hundred thousand dollars for a ten weeks stoppage, the whole of the miners in Cumberland county may prefer to stop work and put in a claim for the allowance.

The Eight Hour Day Commission meets in Sydney to-morrow, and will likely visit the colliery districts next week.

The presidents and vice presidents of the Dominion Coal Co. and the Nova Scotia Coal Co. had a conference in Montreal lately in reference to the exchange of certain sub marine coal areas. Nothing definite was arrived at. Negotiations will be resumed after the result of the big suit is ascertained.

The Cumberland Raitway & Coal Co. carried off the blue ribbon for January, being the only one of the larger companies which does not show a decrease in shipments for January as compared with January 1908. The decreases in some instances are rather formidable. The total decrease for the month as compared with January 1908 is over 110,000 tons.

First aid to the injured classes have been started at some of the C. B. collieries, and not a day too soon. It is to be hoped that all the collieries will fall into line. It is probable that after this year, a knowledge of first aid will be required of all those applying, by examination for certificates of competency. The procuring of Draeger or other apparatus for entering into dirty mines may be peculiarly the work of the companies; the formation of classes for rendering aid to the injured is perhaps the share the workmen have to contribute. The strange thing to many is that the movement was not inaugurated years ago, but better late than never.

Some twelve days ago a meeting of the people of Dom No. 6 was held to talk over the matter of the idle time at the colliery, which it was stated has worked only thirteen days since December 1st.. A committee consisting of two clergymen, a doctor, a merchant and a miner were appointed to wait upon General Manager Duggan in an effort to get information as to the prospects for resumption of work. Mr. Duggan intimated that he would confer with the clergymen, but not with the others As a rule when the workmen at a colliery wish to gain information as to work, etc. they send a committee of the P. W. A. to interview the manager. If that course had been followed in this instance the committee would probably have been accorded a welcome and given the necessary information. Probably the lodge of the P. W. A. at Dom. No. 6 has been replaced by the U. M. W. and that may account for the unusual deputation. The committee of citizens could not demand an interview as their right; whether they would be received or not was wholly a matter of courtesy—or of policy—as the General Manager saw fit. The committee did wrong in standing on their dignity. What they wanted was information and what matter if that was communicated to two of their number only and not to the whole five. The committee should have pocketed their pride [in view of the end to be obtained. Whoever would help workingmen must be ready to do this. The former and the present secretary of the P. W. A. were on many occasions content to have the starch taken out of them in order to advance the interests of the members.

LABOR PROBLEM FOR OUR FARMS.

Some one hundred delegates have been in attendance at the Farmers' Association in Digby. One problem discussed was the hours of labor of men who work on our farms.

This problem was also discussed this week in Truro before Royal Commissioner Magill, when Messrs. C. A. Archibald and Hector Cutten, two of our most intelligent farmers, put the matter of farm labor and the hours of farm labor, pertinently before the Commission. Farmers themselves, to make the two ends meet, from the shortness of the season for farm work, and the nature of their avocation, have to work oftentimes, twice eight hours per day; and they could not run their farms successfully one season with helpers who would work but eight hours a day; and those in other employments, who feel that eight hours per day is a good and reasonable day's work, should take a lesson from our agriculturists, who to keep the whole machinery of the country agoing, have to toil many many hours more than eight per day.

The points made by these farmers were right up to the mark and probably the most practical put before the Commissioner during his two days visit in Truro.—(Truro News.)

Voluntary contributions it will readily be admitted are not a reliable source of income. Suppose there are 100,000 anthracite miners in the U. M. W. and that these come out on strike next April, how long will the 'National' funds of the order support the strikers, assuming as stated to the U. M. W's dupes in C. B. that the strike allowance is eight dollars per week or $1,14 2/7 a day. The fund taken at $500,000 would support the strikers—counting eight hours as a days length, four days three hours, with a few seconds to the good. If there should be a strike in April the C B members will gladly of course contribute an assessment of $5,00 a day and that would'nt go far.

Synopsis of Canadian North-West.

Homestead Regulations.

ANY even numbered section of Dominion Lands in Manitoba or the North-west Provinces, excepting 8 and 26, not reserved, may be homesteaded by any person the sole head of a family, or male over 18 years of age, to the extent of one-quarter section, of 160 acres, more or less.

Application for entry must be made in person by the applicant at a Dominion Lands Agency or Sub-agency for the district in which the land is situate. Entry by proxy may, however, be made at an Agency on certain conditions by the father, mother, son, daughter, brother or sister of an intending homesteader.

An application for entry or cancellation made personally at any Sub-agent's office may be wired to the Agent by the Sub-agent, at the expense of the applicant, and if the land applied for is vacant on receipt of the telegram, such application is to have priority and the land will be held until the necessary papers to complete the transaction are received by mail.

In case of "personation" or fraud the applicant will forfeit all priority of claim or if entry has been granted it will be summarily cancelled.

An application for cancellation must be made in person. The applicant must be eligible for homestead entry, and only one application for cancellation will be received from an individual until that application has been disposed of.

When an entry is cancelled subsequent to institution of cancellation proceedings, the applicant for cancellation will be entitled to prior right of entry.

Applicant for cancellation must state in what particulars the homestead is in default.

A homesteader whose entry is not the subject of cancellation proceedings may, subject to the approval of Department, relinquish it in favor of father, mother, son, daughter, brother or sister, if eligible, but to no one else, on filing declaration of abandonment.

The homesteader is required to perform thehomestead duties under one of the following plans:—

(1) At least six months' residence upon and cultivation of the land in each year during the term of three years.

(2) A homesteader may, if he so desires, perform the required residence duties by living on farming land owned solely by him, not less than eighty (80) acres in extent, in the vicinity of his homestead. Joint ownership in land will not meet this requirement.

(3) If the father (or mother, if the father is deceased) of a homesteader has permanent residence on farming land owned solely by him, not less than eighty (80) acres in extent, in the vicinity of the homestead or upon a homestead entered for by him in the vicinity, such homesteader may perform his own resident duties by living with the father (or mother).

(4) The term "vicinity" in the two preceding paragraphs is defined as meaning not more than nine miles in a direct line, exclusive of the width of road allowances crossed in the measurement.

(5) A homesteader intending to perform his resident duties in accordance with the above while living with parents or on farming land owned by himself must notify the Agent for the district of such intention.

Six months' notice in writing must be given to the Commissioner of Dominion Lands at Ottawa, of intention to apply for Patent.

Before making application for patent the settler must give six months' notice in writing to the Commissioner of Dominion Lands at Ottawa, of his intention to do so.

W. W. CORY,

SYNOPSIS OF CANADIAN NORTH-WEST MINING REGULATIONS.

COAL. Coal lands may be purchased at $10 per acre for soft coal and $20 for anthracite. Not more than 320 acres can be acquired by one individual or company. Royalty at the rate of ten cents per ton of 2000 pounds shall be collected on the gross output.

QUARTZ. A free miner's certificate is granted upon payment in advance of $5 per annum for an individual, and from $50 to $100 per annum for a company according to capital.

A free miner, having discovered mineral in place, may locate a claim 1500 x 1500 feet.

The fee for recording a claim is $5

At least $100 must be expended on the claim each year or paid to the mining recorder in lieu thereof. When $500 has been expended or paid, the locator may, upon having a survey made, and upon complying with other requirements, purchase the land at $1 per acre.

The patent provides for the payment of a royalty of 2½ per cent on the sales.

Placer mining claims generally are 100 feet square; entry fee $5 renewable yearly.

A free miner may obtain two leases to dredge for gold of five miles each for a term of twenty years, renewable at the discretion of the Minister of the Interior.

The lessee shall have a dredge in operation within one season from the date of the lease for each five miles. Rental $10 per annum for each mile of river leased. Royalty at the rate of 2½ per cent collected on the output after it exceeds $10,00.

W. W. CORY,
Deputy of the Minister of the Interior.

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FRESH MINED SPRINGHILL COAL

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	NO 1	NO 2	NO 3
Moisture	2.02 %	1.41 %	2.71 %
Volatile combustible matter	18.94 %	27.93 %	28.41 %
Fixed Carbon	75.29 %	67.47 %	64.69 %
Ash	3.75 %	3.19 %	4.19 %
	100.00	100.00	100.00
Sulphur	1.15 %	58 %	.79 %

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