

MARITIME
MINING RECORD
 Dr. R. Bell
 Geol. survey dept.
AND
COAL AND METAL TRADES JOURNAL

*Cumberland. * Pictou. * Cape Breton. * Inverness*
 New Series Vol. 9 No. 3 AUGUST 8th., 1906 STELLARTON, N. S.

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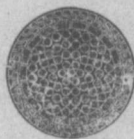
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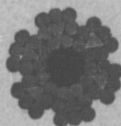
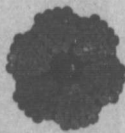
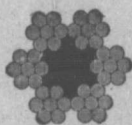
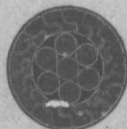
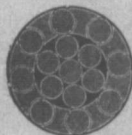
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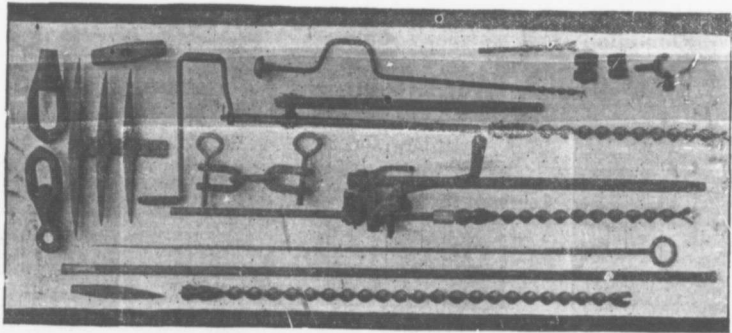
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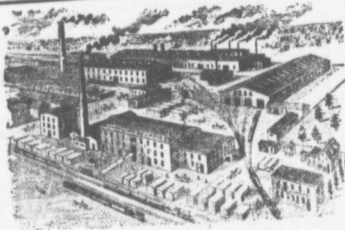
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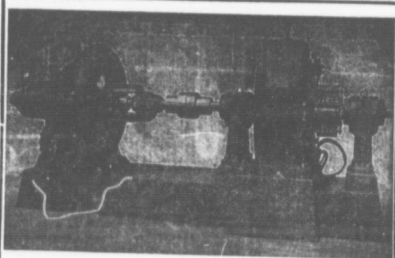
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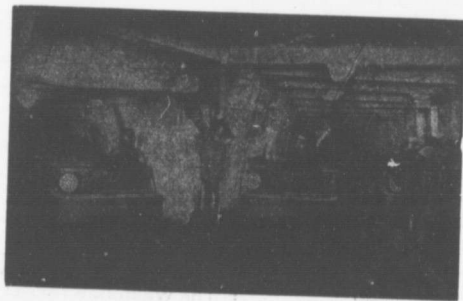
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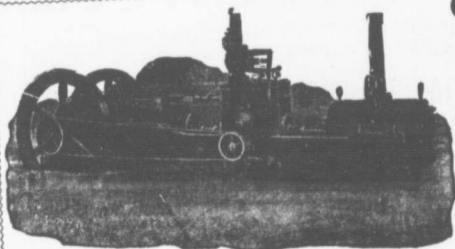


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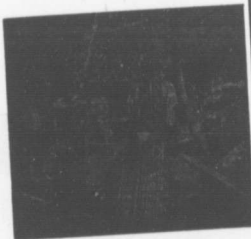
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No....

MARITIME MINING RECORD

Vol. 8, No. 3. Stellarton, N. S., AUGUST 8th, 1906 New Series

COAL DUST, ITS RELATION TO COLLIERY EXPLOSIONS,
AND HOW TO DEAL WITH IT.

For the RECORD by WILLIAM OLIVER, Kings Metallist in Coal and Meta
Mining, New Seaham, England.

As hundreds of tons of coal pass daily down the main roadways of a mine it is obvious that by the shaking the coal receives, large accumulations of coal dust of a very fine nature become scattered over the timber, sides and floor of the roadways. Deep mines should theoretically be more dusty than shallow ones, the temperature of the strata is higher and consequently the intake air is heated more than in a shallow mine, and is really more dry, because it is able to absorb a larger quantity of moisture before becoming saturated. The air current thus dries the dust and blows it about, the lighter and more dangerous particles being carried on to the roof timbers and the remainder to the sides and floor, the latter being the least dangerous.

Pure coal dust is more or less pure Carbon, with volatile matter and ash, its nature varying according to the composition of the coal from which it is formed.

The first mention of coal dust as a dangerous element in connection with mine explosions was made by Mr. Buddle in his report on the explosion at Wallsend Colliery, England exactly 103 years ago. He stated that the mine was dry and dusty and that the survivors who had been further from the seat of the explosion were burnt by red hot sparks of coal dust which had been ignited by the flame of the explosion and carried along by the force of the current.

The next mention of coal dust seems to be in the year 1844 when Messrs Furaday and Lyell gave their report on the Haswell Colliery explosion which occurred in that year. These gentlemen in their decision were certain that the coal dust accumulated in parts of the mine greatly extended the fire damp explosion.

After the year 1844 several persons investigated the matter, but it was not until the year 1876, when Mr. Wm. Galloway read his first paper before the royal society, that general attention was directed to the important part that coal dust plays in aggravating fire damp explosions. Subsequent experiments by Mr. Galloway by several members of the North of England Institute, a committee of the Chesterfield Institute, Sir. F. Able, Mr. Hall, and particularly by the Prussian Fire Damp Commission, demonstrated that, under certain conditions, the presence of coal dust in a fine state of division is a source of great danger in fire mines in which blasting is carried on without special precautions. Upwards of 300 experiments were made by the Prussian Fire Damp Commission at Neunkirchen, near Saarbrucken, and it was considered that the following conclusions were warranted by the results obtained.

1. The presence of coal dust in more or less abundance in the immediate vicinity of the working face, gives rise to more or less elongation of the flame projected by

a blown out shot, whether small amount of fire damp be present or not.

2. In the complete absence of fire damp, the elongation or propagation of the flame is generally of limited extent, however far the deposits of dust may extend in the mine roadways.

There are however certain descriptions of coal dust which, if ignited by a blown out shot, will not only continue to carry on the flame even to distances extending considerably beyond the confines of the dust deposits, but will also give rise to explosive phenomena, or results, in the complete absence of any trace of fire damp, which in character and effects are similar to those produced by some other dusts in air containing 7 per cent of fire damp.

3. All the phenomena produced by the burning of and propagation of flame by coal dust are intensified by the presence in the air of small proportions of fire damp. Certain dusts, which, under favourable conditions, appear to have the power of propagating flame to an indefinite extent in a dust laden area, the air being free from fire damp, will, if only sparsely suspended in air containing fire damp in some proportion below 3 per cent, render such a gas mixture susceptible of explosion by a blown out shot.

4. Special experiments in which the branch gallery described as opening into the main gallery near its extremity, was charged with a fire damp mixture, (retained by brattice cloth,) demonstrated that a coal dust ignition or explosion developed in the complete absence of fire-damp, can communicate ignition to an explosive gas mixture existing at a very considerable distance from the point of first ignition.

There is much diversity of opinion on this question of coal dust, and special stress is laid on the fact that the occurrence of a blown out shot is indispensable to the production of any and all the effects of ignition, propagation of flame, or explosion to which coal dust can give rise and many gentlemen emphasize the fact that the part played by coal dust is not nearly so dangerous as it might appear from the superficial examination of the already mentioned Saarbrucken experiments.

When the terrible calamity which occurred at Seaham colliery in September 1880 was officially enquired into, the suggestion was very decidedly put forward by the miners representatives that the coal dust which existed in large quantities in some parts of the mine and especially near the spot where it was supposed that the explosion had originated, might have had much to do with the accident. Indeed the opinion was strongly entertained by some that it was entirely due to the ignition of coal dust, in the absence of gas, by flame from a blown out shot. The Home Secretary consequently requested Sir, F. Abel to make experiments with samples of dust collected in different parts of the mine and the results obtained led them to an extension of experiments with

dusts from other collieries in different parts of the Kingdom.

The experiments were made at Garswod d Half Colliery and in the apparatus special arrangements were made to secure accuracy and uniformity in the velocity of the air currents passing through the gallery, in the proportion of pit gas or fire damp, used with the air, and in the intimacy and consequent uniformity of the mixture. In order to raise the air current in the gallery to a temperature similar to that of the atmosphere in colliery workings, the air supply was drawn through a system of heated pipes, so that, when passing at as high a velocity as 1,000 feet per minute, its temperature could be raised up to 80° or 85° Fahr, even in very severe weather during which the experiments were made.

The samples of coal dust experimented with were examined with respect to fineness, proportions of volatile matter and ash, and one or two other points, all being carefully dried before use.

Experiments were made in the first instance with a view of ascertaining the smallest proportion of fire damp which, when mixed with the air passing through the apparatus, would furnish an atmosphere capable of firing at a naked flame of a particular size placed in the gallery. It was next ascertained what quantity of gas below that proportion was needed to impart to the mixture of air with a large quantity of each particular coal dust the property of exploding throughout the gallery. By these experiments the samples were classed in the order of their sensitiveness to explosion, and it was found that, while those which were very rich in pure coal, and which contained the highest proportion of very fine coal dust, required the lowest proportion of fire damp in air to bring them to explode readily when suspended in a dense cloud, the order of sensitiveness of samples containing higher proportions of non-combustible matter did not necessarily harmonise with their comparative richness in pure coal, nor with their comparative fineness. This was strikingly illustrated by two samples of dust from Seaham Colliery, one of these taken from one of the roads, contained more than half its weight of non-combustible matter, yet ranked third in order of sensitiveness; another, which contained considerably more coal, and a somewhat larger proportion of finer dust, ranked only fifth.

Other experiments were made with Seaham coal dust in the entire absence of fire damp by firing a cannon charged with powder, either while the dust was being carried through the gallery by air currents of different velocities, or with dust being deposited upon the side and floor of the gallery. In this latter description of experiment, two shots were sometimes fired in succession, and in different directions, with and against the air current, so that dust raised by the concussion and rush of gas from the first shot might be exposed to the flame of the second. In these instances the velocity varied from one to three hundred feet per minute with a negative result. By increasing the velocity to 1,000 feet per minute a slight but decided indication was obtained in several experiments that dust particles were inflamed by these shots which were fired in the direction of the air current. In these instances the volume of flame produced on firing the shot was certainly greater than when no dust was suspended in the air, but the duration of the flash was but slightly if at all prolonged. On one single occasion a long reddish flame was produced when a shot was fired which travelled to the forward end of the gallery. Some fire damp had been passed into the latter just previously and it was evident that although the apparatus had subsequently been ventilated, the exception-

al result was due to the presence of some, though certainly a very small, quantity of fire damp, for when the experiment was carefully repeated, all conditions, except the possible presence of gas, being identical with those previously existing, the only effect observed was the slight increase in the volume of the flash of flame produced by the shot, which has been described.

DALHOUSIE EVENING V. GOVERNMENT NIGHT SCHOOLS,

Supplementary to what was said in last issue of Record we have been favoured by a statement which, somewhat condensed, follows:

Dalhousie evening schools were first formed at the request of a number of miners in Cape Breton. The University had added to its course in arts and science, that of engineering and mining. The addition of a mining school seems to have suggested the idea of doing something for those who for various reasons were unable to take advantage of the education given within the walls of the college. The Senate discussed the question, and the best that could be done at that time was to open a summer school.

The first of these schools was opened in Sydney and Glace Bay during the summer of 1903. The next summer the school was held in Glace Bay alone. The subjects specially asked for were Chemistry, Coal Mining and Geology.

During this experimental stage two or three things were made clear: 1. The men wanted to aid the school gave, this was proven by the fact that the attendance on the school during the second summer was double that of the first. 2. That the term, six weeks, was too short for the amount of work that had to be done, besides a number of men were on the night shift which reduced their term by half. 3. Some of those taking the classes found the work a little too advanced, consequently they did not receive the benefit they otherwise might had they been better prepared, say, in mathematics.

Having these difficulties in view, the whole situation was gone over by both men and teachers. Finally it was agreed at the request of the men to reconstruct the course so as to meet their requirements; open evening classes which were to continue from October to May, with summer classes in Surveying etc., practically to continue the work for the greater part of the year instead of six weeks. This of course meant an increase of teachers and a larger outlay, but the Alumni came to the help of the College and promised to see them over the difficulty. Thus the work in 1904 closed with the idea of opening, not during the summer, but in the fall of the following year.

At that stage, a number of things plunged the object of the school into a sort of chaotic state. Other educational institutions began branching out. They had schemes in part resembling that of Dalhousie, and in part differing very materially. It is not necessary to enter on a detailed statement of their plans, suffice to say that many of the men got things somewhat mixed up, and no wonder. What with at least two colleges seemingly competing, the men may be pardoned if they did not know where they were educationally.

It is but right that it should be known that during the agitation of 1904-05, Dalhousie was simply going on with the work they had commenced two years be-

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MARITIME MINING RECORD.

The MARITIME MINING RECORD is published the second and fourth Wednesday in each month.

The RECORD is devoted to the Mining—particularly Coal Mining—Industries of the Maritime Provinces.

Advertising rates, which are moderate, may be had on application.

Subscription \$1.00 a year.

Single Copies 5 cents.

R. DRUMMOND, PUBLISHER.

STELLARTON, N. S.

AUGUST 8th 1906

THE INVERNESS COUNTY COLLIERIES.

INVERNESS MINES.

To one who has more or less closely followed the progress of the Inverness, or as they were formerly called the Broad Cove, mines, for the past six or eight years, the most prominent and the most pathetic object to arrest his attention, on a visit to the place is the William Penn Hussey, stranded in the harbor, in the very harbor she was intended to dredge out and make the biggest and the best harbor on all of the northern side of the Island. Her scows are stranded with her and if the boat is not soon put on an even keel she may be engulfed in the shifting sands.

A mighty change has come over the place since Hussey's time. Then there was no railway and Hussey had to ship by water or not at all. He built a tramway two miles long or more from the mines to the harbor, where he had erected a pier with chutes, etc., and many a small schooner he loaded there. But as the mode of working the mine was the most primitive, and as costs all round were high, no profit could be made and the project collapsed, until McKenzie and Mann appeared on the scene, bought the areas adjoining Hussey's, and afterwards these areas also, and built a railway some sixty miles long from Inverness to Point Tupper, and also erected a splendid shipping pier at Port Hastings, seven miles from the terminus.

There are those who say that coal was shipped from the river, about two miles from the village, during the time of the American war. The coal was taken by tramway to the beach and then scowed. The writer has no records at hand of these shipments. In 1865 some fifty tons were shipped by Blanchard and McCully. An effort was made at that time to organize an English Co'y to work the mine and make a harbor at McIssacs' Pond but the project fell through, probably on account of ignorance as to the large field at Inverness. It was at one time thought the field was limited consisting only of a square mile or so, instead of scores of miles landward and seaward. In these days submarine working of coal was not considered.

Since my visit of last autumn the bank head at the collieries has undergone a great change which must be conceded to be a wonderful improvement. A description of the changes in detail would occupy too much space, but it may be noticed that the full rake does not now run over the weigh scales necessitating a shoving back by

hand, as formerly, in many cases, but after being freed from the rope runs down an incline where the boxes in turn are caught by a creeper and carried up to where there is, let me say, an anti-inclinal. Here each box runs down swiftly and up inclines and coming back by gravity runs to the tipples of which there are two. There are ample means for freeing the coal from the slack, but if the output should be increased in the future, another picking table, a third, may be necessary, as no matter how many pickers there may be, they cannot work to the best advantage if 500 tons passes over the table in nine hours or so. There is a noticeable improvement in the coal, but it would be no kindness to say that the 'brass' has entirely disappeared. Great pains are taken to free the coal from this objectionable material and with encouraging success. An item that adds considerably to the cost per ton sold is the considerable quantity of duff that has to be wasted, but it seems there is no present help for it. At the same time there is a bigger demand for the slack than formerly.

The daily output from the mine,—hoisting is all from one slope—is about 950 tons. This is certainly most creditable to the management. In addition fifty tons are hoisted by night. This coal comes from the leading places, as development work is not allowed to fall behind. The rooms in the mine are worked 17 feet wide, the balances and back-heads ten or twelve feet. Fortunately the per centage of slack to round is remarkably low. At some collieries operators complain of having fifty and in some cases sixty per cent of slack, at Inverness twenty-five per cent only of the total product is slack. Conditions in the mine are satisfactory. The slope is down some 3300 feet, and the sinking of an additional lift say 500 feet will soon be commenced. The main level is 3000 feet long. In the mine there are 420 men and on the surface 80—a total of 500 men a comparatively small force for the output. To the concentration of work, and to the reduction in number of men employed may be attributed the decreased cost of production of recent months. The reduction has been material though the cost is not yet down to a dollar,—so far that has only been accomplished in one place, Halifax, and in this respect Halifax can defy competition.—Costs might further be reduced if the men worked with any degree of regularity. The summer picnic is the bane of Inverness as of most of the other mining localities. It is perhaps a reflection on Nova Scotians, and English speaking miners generally, that the Belgians at Inverness head the tonnage, and, of course, the wage list monthly. Picnics do not allure them from work. Nor do picnics allure a native of whom I heard. This man has to walk four long miles over roads innocent of macadam every morning going to work and the same when his days work is done, and he rarely if ever fails to turn up. He is making provision for old age with never a thought of looking beyond his own exertions for a pension. Pensions are for those who would work if they could, not for those, surely, who can work but won't.

The company has three steamers running regularly this summer with coal. A coaster, which carries 300 tons, the Rennick, capacity 900 tons and the Turret Bell 3800. These with the occas-

ionals' are not sufficient to carry all the coal in demand, so a fourth steamer will be employed—if obtainable—for the remainder of the season.

The reorganized staff at the collieries is a strong combination. Mr. M. S. Beaton is the Resident Mine Manager, and has charge of everything in connection with the production of coal, while Mr. McGillivray looks after transportation. The railway and piers are under his supervision. Mr. A. J. Campbell is mechanical foreman. Mr. Robert Gray is Underground Manager. Energy characterises each member of the working staff, and each is zealous to do the best possible in his department and as there are no jealousies, but complete harmony the result is gradually increasing output and gradually lessening cost. In the past the Head Office has scarcely given the officials at the mine a fair show. Supplies have not been equal to necessities. Development has been in a manner handicapped. However, things in this respect are on the mend, and in the near future the mine officials may not be retarded in their efforts at betterments by lack of proper appliances. The colliery as a whole and in its separate parts is at the present time in better condition than at any past time.

MABOU MINES.

Some twenty miles south of Inverness town is situated the picturesque Mabou colliery. The village of Mabou is called fifteen miles from Inverness town by main road, and probably by following the shore and over Cape Mabou the distance between the two mines may not be much over a dozen miles.

Since last fall there has not been a great deal of development work in the mine, that is in the way of driving seaward. After the splendid work was struck last fall work was suspended while a reorganization of the company was being affected. Early in the year some progress in sinking was made after Mr. Deppe, the new General Manager had come down and squared accounts. But sinking had to be suspended when shipping began. Sinking will be again prosecuted as soon as a lodgement can be made and more men secured. Meantime the levels are being driven east and west. The output is 150 tons a day which it is hoped to gradually increase. On the east side the clay between the good and the exceptionally good coal has thinned to about two inches, but thin as it is it is still a perfect nuisance, especially if the place is inclined to be wet. The effect of the small quantity of clay when it mixes with water is to give even the brightest of the coal a dull appearance. It is thought by employing a couple more Radialax machines, in the bords and east levels that the clay could then be mined, and as holings entirely removed before the shot was fired. The coal in the seam now being worked is of excellent quality. The upper coal is bright and glossy, in appearance like anthracite, but not a quick firer like a majority of bituminous coals. It is a lassy coal and remarkably free from ash and on that account economical in use. The bench coal is just a little less bright, but it is a brisk burning coal. In conjunction the coals form an ideal fuel. The Mabou, Diamond, coal as it is called has won its way rapidly into favor. The

Gen'l Manager is nigh at his wits end making excuses for inability to accept orders. These are being turned down every day. It is to be hoped that the directors of the company who lately visited the mine and were exceedingly well pleased with the look of things will furnish sufficient capital to so equip the mine that next year the output will be quadrupled.

The railway from the mine to the shipping pier is some four miles long. There are a number of heavy grades and sharp curves which render heavy loads impossible. Probably forty tons is the maximum that can at present be drawn, the locomotive being unsuitable for so short curves. A locomotive of a particular type is now on its way from Chicago. This locomotive will draw easily a load of 125 tons, or say 250 tons per hour, as a trip either way need not occupy more than ten minutes. One steamer is employed carrying coal to Halifax, St. John, etc. Owing to slack water the steamer cannot as yet be fully loaded, but as the dredge is at Mabou, and as only a few days will be necessary to make another cut giving a depth of water in the channel of 16 to 18 feet at low tide, it is thought the ship will be able to go out fully loaded in a week or two. For this year the management do not look for much if any profit on the coal shipped. This year's shipments are in the way of introductions. Next year when things have been reduced to a system the costs should be considerably lessened. It is said that the present railway from the mine to the shipping pier may be extended to connect with the Inverness Railway. It is doubtful if the work will be immediately proceeded with. With a depth of eighteen feet of water at low tide, it is probable that the pier could handle the product of the mine for another year at least. In the winter months the best policy of the company might be to confine itself to mine development. With ample pit room and a large area of exposed coal there will be courage and justification for surface extensions. On the pier there are pockets sufficient to contain coal to load a steamer. From the pockets the coal runs on to a conveyor, which at the mine would be called a picking table, and which carries the coal along and up and over the vessels hatch where it falls into adjustable chutes. This conveyor was rendered necessary as the pockets had to be constructed on land, being wanted in a hurry, and at a distance from deep water which would not permit of the coal running direct from pockets to the vessel. It serves its purpose admirably while it might not serve for two thousand tons per day shipments. It is the intention to bore from the present workings to the 15 foot seam in order to test it to the deep. Application will be made for the use of a government drill. The new General Manager, Mr. Deppe has thrown himself heartily into the work, and is determined to make of Mabou a success unless something unforeseen happens. He is mastering rapidly the details of the business. Mr. J. W. Johnstone is his assistant. Mr. Johnstone has had long experience and makes an able lieutenant. Mr. James Quigley is Underground Manager, with John McEachren and Alex. McLean overmen. McLean who used to be at the Joggins and was inclined to be restive has developed into a first class mine man and a genuine hustler. The Me-

hanical Superintendent is Mr. McGillivray. In company with this gentleman, Messrs. Johnstone and Quigley the writer went to the face of the slopes and the levels and though the shift had knocked off for the day he was afforded an opportunity to see the Radialax at work. This machine does excellent work and can adapt itself to almost any angle. The bit has four points and makes part of a revolution at every strike. It goes at an invisible speed, and makes a four foot cut in three inches of space, or height of holing. It is run by compressed air. I have no space left to speak of the bankhead arrangements or of many other matters.

PORT HOOD COLLIERY.

Not so much bustle characterises this pleasant little town, as on a former visit, due to the fact that there is less activity at the mine. If, as a rule, noticeable calm is followed by a storm, the present comparative quietness is but a prelude to great activity. They say that Port Hood colliery has turned the corner; in other words got over its financial difficulties and that from this out the mines will be a scene of activity. This, of course, all depends—the management; not so much the management of the mine, as the manner in which the executive exercises its functions, or the matters allotted to it. No matter how cheaply coal may be produced, the profits of a colliery, of limited capacity, will not permit of excessive salaries to Pres. Vice Pres. Sec'y, Managing Director, and the lesser directors that follow after. Profits at coal mines these days, notwithstanding the cry of excessive cost of coal to the consumer, can only be secured by the exercise of rigid, yet reasonable, economy. And this very short, and in passing, sermonette is not by any means confined in its application to Port Hood, nor is it solely written for its benefit.

The mine at the present time has a limited output, say 150 tons per day. Probably in July some 3200 tons were shipped. The cost of production, I should judge, would permit of a reasonable profit, on sales, and it is possible that 30 cts. per ton was netted on 3,000 tons exclusive, of course, of capital charges, which should not figure at the present time for obvious reasons. When the shipments reach 500 tons per day there should be sufficient profit to meet all fixed charges and a little over. But before 500 tons per day can be regularly obtained much dead work will require to be done. The slope will have to be pushed an additional lift, and balances driven. The present length of the slope is only 2,000 feet, so there is room for a large extension. Sinking, it is understood, will begin as soon as the reorganization scheme, and matters incidental thereto, have been adjusted. The probability is that no great effort will be made looking to a largely increased output this fall. Shipments may be increased a little, but efforts will be concentrated in preparation for extensive shipments next year. There is room in the mine for a number more miners should increased sales call for an immediate increased output. Several places are lying idle, which perhaps were better to be worked, as time is sure to tell on the timbering. It is understood that development work will be pushed with vigor the coming fall and winter. Mr. Outram,

of Port Hope, one of the directors will in a few days take up his residence at Port Hood and help to put matters on a sound footing.

At present there are only a hundred men employed, eighty below and twenty above. The coal production taken in connection with the men employed is better than at any previous period. Mr. Bell, the energetic manager realizes that if the colliery is to pay its way, all unnecessary branches must be lopped off. The colliery is run most economically and if luxuries are not again introduced should yield, by and bye, a fair return to the first investors. The mine is in good shape. The new method of running and driving the balances is so far a big success. There is ample opportunity meantime to thoroughly clean the coal before being sent to market, as it is not necessary to rush it over the picking table. The coal as it is conveyed to the cars on the table looks well. In certain quarters there may exist prejudices against the coal on account of alleged liability to clinker, but tests lately made on the P. E. I. Ry. have proven that on long runs a full head of steam can be maintained without other than the usual cleaning of the bars. The trestle leading from the mine to the bank head passes over the main road. It cannot be said that the trestle conveys the impression of strength and solidity, but so far it has well served its purpose. When operations become extensive the bank head may be moved down to the low side of the highway, and the screens made to empty into cars on a road parallel to the shipping pier. This will afford more room for sidings besides yielding other advantages. The cars that receive the coal as it drops from the screens run direct to the pier. Endless haulage is employed. The expense consequently of water shipments is merely nominal. The pier has a large number of pockets, but unfortunately owing to sand accumulating in shore the outside pockets only are available. This impediment however can be removed by dredging when increased shipments demand it. The Underground Manager is Mr. McLellan.

When at Port Hood the writer embraced the opportunity, in company with Mr. Bell to have a look at the work being done on the sea wall which is to close up the northern entrance to the harbor, and thereby it is thought, prevent the sand being carried in. We were joined while on the wall by Capt. Macdonald who superintends the work of construction. Capt. Macdonald kindly placed the tug boat at our disposal, and thereby we were given opportunity to see how the work was being carried out. About 600 feet of the wall is completed and four hundred feet more ready for the superstructure. This portion or a part of it as we passed was as follows: Alder bushes and brush in large quantities are hauled to the beach. Here the brush and the bushes are woven into what are called mattresses, having a length of sixty feet and say a foot in diameter. Running at right angles with the shore rafts are constructed consisting of skids and cross-pieces—the skids resting on launch ways. The mattresses are then placed on the raft longitudinally and built one on the top of the other to a height of four feet, and bound together with rope. A rope with an end of three or four yards is fastened to the end of each cross piece on which the mattress-

es rest, and a rope is also fastened to each skid or runner on which the cross pieces lie. The raft when loaded is launched and floated out to the end of the wall. By means of the rope attached to each, the cross ties are removed permitting the mattresses to fall between the parallel stringers. Then the stringers are removed. When in exact line the mattresses are sunk by stones being placed upon them. Great stones are gathered along the coast and conveyed by scows, fitted with cranes, to the wall. Of course the work could be more expeditiously done if there was a steam derrick or two, but the annual amount granted toward construction will not permit the contractors going to the expense. This is the third year in which work has been in progress. The writer may have had doubts as to the feasibility of the undertaking. He may be now willing to admit that the undertaking is practicable, but has not altered his opinion that it will not soon be done after the present fashion. Too much money has already been expended to permit of the government drawing back. If then the work must be proceeded with pottering should be done away with. A dole of fifteen thousand a year will scarcely suffice to have the work finished in a score of years. Let the grant be made fifty thousand dollars a year and four years will see the work finished. A proper plant could then be obtained and the work thereby hastened. The distance between the mainland and Port Hood Island is 5,000 feet—not quite a mile—and at no point on the course across is the water of a depth to retard steady progress. There should on the part of the people of Port Hood be a unanimous insistence for a larger yearly grant, if not for a grant sufficient, for the completion of the undertaking—in one slump sum.

Rubs by Rambler.

'Roundsmen' in the Halifax Herald referring to an article in a previous Record re the price of coal opens a criticism by remarking "The wage excuse for the increased price of coal to consumers is not a new one" Why should Roundsmen use the word excuse. The Record has never sought to make excuses on behalf of the operators for increased price of coal, it has had reasons sufficient to present justification. The trouble with those who are losing avordupois, through exciting themselves over the increased cost of coal is that they never chance to see the figures produced in print showing cause for the increase. Even in the Herald figures have been printed which should satisfy the ordinary reasonable mortal. Roundsmen in no seeming, carping spirit asks that the Record answers certain questions though, at the same time, he makes it clear that the request is of a formal nature, as he, while asking for information, gives it as his strong opinion that if the real facts were known it would be found that the lion's share of the increase in prices went into the coffers, to put it shortly, of the coal operators. That is scarcely fair on the part of Roundsmen. He admits he does not know the facts and yet he forms an opinion which will

scarcely be removed no matter how strong the adverse evidence. Roundsmen must surely have guessed he was putting a question impossible of definite answer, when he asks "Will the Record please state what proportion of the colliery workers of Nova Scotia are making twice the wages they did four or five years ago?" Before I could answer so big a question I would require to have access to all the pay rolls of all the coal operators in the province, and though I have always found the operators willing to comply with reasonable requests I would scarcely dare to proffer so comprehensive a one. However, so that Roundsmen may not go away wholly empty handed I will make answer in part. The average wage of the total of the miners employed by the Cumberland Railway & Coal Co. in 1899 was \$1.90 per day. For 1905 the average of all the miners was \$2.97 per day, or an increase of 56% not taking into account any addition to wages made by steeper work in 1905. Roundsmen must admit that is a genuine increase. Taking one of the large collieries on the I. and I find that twelve fairly representative miners worked in the year 1898 a total of 2959 days, earning for the year \$5,001.70 or an average per day of \$1.69 5-6. These same men in 1905 worked only 2902 days and yet made \$7,502.96, or an average of \$2.58 1/2 per day or an increase of 52%. So much for the miners at points in two of the mining counties. Now for the mechanics. At Springhill the increase, in wages, is 54% over 1899. In one of the large collieries in C. B. the increase in wages 1905 over 1898 is no less than 70% taking the wages of the same six men in these years as a basis. In other words while the average wage of mechanics was in 1898 \$1.22 1/2 per day it was in 1905 \$2.10. In the case of five representative blacksmiths the increase is from an average of \$1.10 to \$1.85 and a fraction or say 70% increase. The increase in unskilled labor has not been so great in all cases, but still the increase is from 20 to 30 per cent. I hope Roundsmen is not wearing a mask only of fairness. I am led to doubt his entire sincerity from the fact that he states:—"There are those who claim that coal has increased 100 per cent since 1899 and they have produced some stubborn figures in support of that contention." Will the Herald writer be good enough to reproduce the figures. Whether he be a married man or a single, there is no excuse for him swallowing such a statement. If he is a householder and has lived in, say, Truro he will know that coal has not advanced so much in price; if he be a boarder he might have asked his landlady. To the people generally, to householders, the price at the mine has been increased a trifle over fifty per cent. In the last dozen years I have not bought Acadia coal under \$2.25, the present price is \$3.50, an increase of say 55 per cent, and what applies to the Acadia applies with equal force to nearly all the collieries on the Mainland and Island. If the middlemen are raiding the pockets of the consumers, how should the operators be held accountable.

Before I could reply to all the peoples, persons, and things who call upon me to prove this thing or disprove that other, I would need a newspaper all to myself. Until trade in this line grows slacker I will have to deny myself what I greatly delight in,—a few friendly 'tiffs'. Just a word acknowledging the attentions of a miner, writing in Monday's Herald from Sydney Mines. The Herald's headlines would lead one to believe that a fiery Scotsman was mercilessly scalping me. On the contrary there is nothing acrimonious in his letter. If this Scottish miner hits hard, he hits clean, and that's the sort of chappie I like. He seemingly knows more of

the amenities of journalism than the Herald headline designer for he replies to what the Record and not to what a supposed person said. I did not say there was not now a miners organization. III said the Lanarkshire union was a poor one I meant as to time chiefly, and to effectiveness. I have watched carefully the organization since the Smillie Robertson et al row. If this Association spent \$250,000 on strikes it is proof that it is not as effective as the P. W. A. If besides it has \$300,000 on hand, and assuming that the management cost \$50,000, the total is \$600,000 equal to \$6.00 per head per year, for a 20,000 membership, exactly twice what it costs the P. W. A. The larger the membership the less proportionately the expenses. The P. W. A. has secured without the expense of paying representatives all the legislation it has asked for. It has secured great concessions without strikes. The P. W. A. elects its grand officers after the same fashion as the Masons, the Odd-fellows, the Forersters, the L. O. L. the C. M. B. A. the S. of T., etc., etc. Each lodge can instruct its representatives to Council. A union like everything else is known by its fruits. Here is what a Scottish paper friendly to the miners says, "It is rather disappointing to find that though trade shows signs of improvement, labor troubles in the country are still numerous." I am not going to compare the Nova Scotian and the Scottish Societies. But what does miner mean when he says "They forced the coal owners meet the miners representatives around the same table and open their books and determine the wages, and the wage so determined was paid to all." Listen to this:

Heavy reductions at Whiterigg Colliery, developed into a stoppage.

Shotts collieries, Carluke district, dispute, strike.

Ellismuir Colliery,—strike.

Turner's pits at Shotts, considered as locked out.

Kepplehill pit—strike.

Stane pit—contemplated stoppage.

Chapel colliery,—reduction of rates.

Glesper colliery—Reduction imposed.

If things are settled around the table how so many disputes?

(Continued from Page 12.)

fore. They were making preparations along the lines the experience of the past suggested. In doing this they kept before them two things, not to duplicate what was already being done, and supply those subjects which, at least up to then, had not been included in other courses.

They kept before them the excellent work done by the Government mining schools, and aimed at, not infringing, but supplementing, adding such subjects, as were in advance of work previously done, rounding out and perfecting a scheme of education that had already done much good.

The intention was to co-operate with the Government mining schools, and it was expected that they would co-operate with us so that by the union of both the miner would have the benefit of the best that could be given him by the school and university.

The subjects decided on were given in the last Calendar as follows—Mathematics I. II. III. Mechanical Drawing, Junior and advanced. Mechanics, Coal Mining I. II. Chemistry, Geology, Surveying, Class and field work, Ambulance, or first aid to the injured.

That such work as the school proposed to do was, and is called for, is evidenced by the fact that the men

suggested the subjects, and hundreds throughout the country have taken up similar studies by means of correspondence schools. But a correspondence school can never do as good work as a regular school; And just here is a point well worth considering.

Assuming that the teachers in a correspondence school are equal to the teachers in our schools, there are a score of things which might be named as setting forth the advantages of the regular technical school, and the disadvantages of the correspondence school.

1. The C. S. does not pretend to equal the work of the schools conducted in regular form. They only profess to help the man who has neither the time nor the opportunity to attend classes such as are provided for in regular schools, and in this, it is to their credit, that they have helped many a man.

2. A teacher a thousand miles away, cannot profess to do for his scholar what the man can do in the midst of his class, and do it at the moment it is required. The scholar in the regular school does not require to wait for a week or more to have an answer, correction, or direction returned. It is done there and then, and at the time when the question is a live one with the student.

3. The C. S. lacks a factor which is highly valued the world over viz., the enthusiasm of a class. Every one knows the difference between plodding away in solitude and doing the same work in class, specially when the teacher is there ready at any moment to assist the student over the difficulty.

4. However good a text-book with suggestions may be, it cannot compare with a text-book, plus the teacher, nor illustrations, with the same work wrought before the eye on the blackboard.

5. The C. S. is largely a business venture, not properly an educational scheme. The students have to pay for the support of a large clerical staff, teachers, agents, and besides contributing to a dividend on the money invested, consequently the fees are high, running up to and over a hundred dollars for a course. With the evening school the reverse is the case. The Dalhousie evening schools exist for the benefit of the students hence the fees are small, viz:

Any single class	\$ 5 00
Any two classes when taken in same session	9 00
Any three classes taken the same session	12 00
Any four classes taken the same session	15 00
Ambulance work	1 50

Can anyone doubt, even the C. S. deny the superiority of the regular over the correspondence school. Then when you consider the fees in the one and compare them with the other, when you contrast five dollars with fifty, it would seem foolish to pay the higher figure for what only professes to take the place for the time of a regular school.

But it may be said that it all lies in the teaching. In answer to this let it be said that colleges to-day bid for the best, and Dalhousie college is not at this moment one whit behind what it once was, when its professors were called to the leading institutions in the United States and Great Britain.

The young men engaged in all our industries may rest assured that the Dalhousie evening schools will do whatever lies in their power to fit them and make them proficient in such departments as they may elect to study. At least that is the aim and to accomplish it the college will furnish the best staff of instructors that it is possible to engage.

AROUND THE COLLIERIES.

The Port Hood Coal Co. are negotiating for a tow boat.

There is talk of substituting in Inverness colliery the double for the single balance. Mr. Beaton may be trusted to adopt whichever is best.

To reduce the quantity of slack is at present the aim of mine superintendents. At Port Hood the per centage of slack has been reduced to thirty.

There are certain who say there are not two workable seams of coal at Port Hood. Others say there are two, notwithstanding the fact that in the boreholes that were put down water only was struck. It is claimed the boreholes were wrongly located.

There is at least one colliery village in which there is no scarcity of workmen's houses. In Port Hood there are 39 cottages, or say 37, which are tenantless, and they are well situated too. When the work again resumes actively these houses will not long remain empty.

The Sullivan Machinery Co's No. 57 Catalogue is an exhaustive treatise on modern methods of producing coal, with special reference of course, to the machines made by the Company. It is claimed for the Sullivan pick machine that it has many points of excellence. The Catalogue treats of all phases of coal mining and shows wherein mining machines have advantages over hand picks. The catalogue may be had on application.

The writer lately visited the slope being sunk on the coal seam at Greenwood, the lessees of which are Messrs Rood, Grant and Dr. McKay. The slope is down a distance of a hundred feet and a cross cut is also being driven. The sinking of a furnace shaft was also under way. The seam is by actual measurement 4 feet 4 inches clear coal. The coal is of good quality for general purposes. The analysis shows it to be almost free from sulphur, though a trifle high in ash. As the sample analysed came from near the outcrop the per centage of ash may be less in the coal to the deep. There is a considerable quantity of coal on the bank. After the slope has been driven far enough for a back balance the coal will likely be put on the market. Mr. Muirhead of Westville, is in charge of operations. The angle is about twenty three or about the same as the Drummond. Possibly the seam may be worked longwall. The seam is on what is known as the Barton area. What seam it is has not been definitely decided upon. Some express the opinion that it is a continuation of the six foot seam at the Vale; others that it is independent of that seam. At first blush the writer would incline to the latter opinion.

The system of working balances at Port Hood is declared to be a success. The balances are driven only seven feet wide, and they are double balances at that. The strong point in the system is that the ballast or balance box does not run in the same balance as the cage, but on an outer worked out balance. By lengthening the rope it should not be impossible to work out several balances without shifting the "drum."

Springhill has several unsettled questions—Water works and schools in the number. The mayor, a good, honest, level headed fellow—in general—seems to have fallen into the hands of or under the thumb of a clique, who look upon the only industry of the town, and those engaged in it, with a certain affectation of contempt, holding apparently the opinion that the mine workers have no right to air their opinions on civic matters, and if they do express an opinion it should not be considered. This idea has prevailed for long, and as a consequence, civic business is in a chaotic state,—just at present. But some think there are brains and business ability enough in the council of workmen to straighten matters out.

We have received a lot of literature, of the most flowery kind, descriptive of mines of all sorts in certain of the states. We have no space for such even as paid matter, having doubts as to the honesty of the statements made, and not wishing Nova Scotia to go into the exploitation of foreign minerals, so long as there is so much to do in that line at home.

GREAT ENTRY LIST FOR DOMINION EXHIBITION

With the applications exceeding by a large amount the space available for exhibits in the manufacturers' building and machinery hall the success of those departments of the Dominion Exhibition at Halifax is assured. It will now be a matter for the management to do the best it can in arranging exhibits and cutting down the space asked for, to make the best possible showing for exhibitors and for the great exhibition as a whole. The date of the closing of entries in Live Stock, Poultry and Dairy Departments is Wednesday August 15th. It behooves our Live Stock men to leave no steps untaken to ensure a creditable display in this department, one that will reflect credit on this part of the Dominion in view of the competition that will ensue with the progressive cattlemen of the rest of Canada. A similar remark applies to the Agricultural Department, the entries for which close on Monday August 27th.

The transportation lines all over the country are arranging for low rates to Halifax from all Canadian Points.

AROUND THE COLLIERIES.

Springhill had a hot time of it the last week in July—Many were glad to go below to get cooled off.

Owing to lack of space some further editorial notes bearing on coal mining etc. in Inverness are held over till next issue; also other matter.

A new carpenters and machine shop has been added to the other additions of the surface plant at Reserve. The compressor lately erected is running along very smoothly.

The Emery shaft struck coal at Reserve at the depth of 165 feet. When completed the Emery coal will have a separate outlet, which will be more direct than at present.

Mr. Jos. Broad, a young English miner, was struck by the trip and severely injured while on his way home from work in the No. 2 mine, Springhill. Amputation of an arm may be necessary.

That is rather a big order for men which the Inverness Ry. and Coal Co. calls for in another column. Inverness must be going to do some big shunts soon. It was thought Inverness was doing well, it seemingly means to do a great deal better.

The last large iron smoke stack at No. 2 mine, Springhill, has been pulled down. A large brick one is being built and is going up rapidly. The brick chimneys are really the more substantial looking. Springhill ought to have the best, and it generally gets it.

Every wardrobe in the new wash house at Reserve colliery was taken up in one evening. The wash house is 60 x 30 having 164 lockers with hot and cold water taps. The building is certainly up to date, but with a few shower baths it would be still more modern.

There was a much better showing at Springhill the last half of July than for the first half. That little unpleasantness with the boys is responsible. Their pretensions and attitude would have been ludicrous, had it not been that the loss of work to the majority was a serious matter, and the boys seemed to realize this at the end.

The corporation of Fredericton, N. B., has awarded to Allis-Chalmers-Bullock, Limited, Montreal, the contract for the municipal pumping engine. It will consist of an "Allis" high duty, horizontal, double acting, crank and flywheel plunger pump, driven by a cross-compound "Reynolds"-Corliss Engine. The pump will have a capacity of 1,500,000 gallons for ordinary service and of 4,000, for fire service. Both pump and Engine will be built at the works of Allis-Chalmers-Bullock, Limited, in Montreal.

The lower lift of No. 5 slope, Springhill, as it is now proved, is apparently below all faults in the seam, as the levels have been run for long distances to the west, through faultless coal as to quality; faultless ground as to grade, a uniform pitch of 24 degrees being maintained, and faultless as to roof and pavement, both being of a hard clayey slate.

The No. 2 sinking, Springhill, which was partly submerged for a few weeks is now pumped out, and the work of development will go rapidly on. Connection between No. 5 and No. 2 slopes will be made in the near future. Some grading will be necessary toward the lower lift in No. 2 before hoisting begins in the regular way, but considerable coal will be taken out while grading is being done.

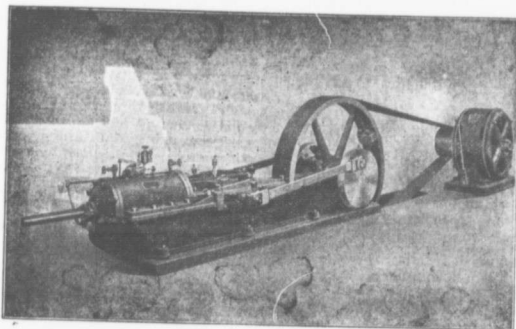
When new shafts are being sunk; compressors of a large type erected, with boiler power added for their use; new buildings for sundry purposes built; bankheads enlarged and modernized, such as has been done at Reserve colliery, one can readily conclude that a new policy is being carried out, and the policy that of working out all the workable seams underlying the Phenix. There are many seams, so the future will have a great story to tell.

Great preparations are being made in Springhill to celebrate the natal day of the P. W. A. There is an enthusiasm not common of late years. The many late years of great prosperity have given some life to the society. A sign of the times is that the officials of the various departments have been invited to participate. This is indication that a better feeling exists between the men and the management than of yore. Long may it continue.

Instructors and pupils of the Springhill Mining School are very well pleased with the result of the late examinations for mine officials. It is realized that there is no royal road to learning, and that only by hard, persistent, study is it possible to obtain an education. Whoever the kicker is that was referred to in last issue of the Record he should as others have done before him, bow to the inevitable, and "go for it again" He will eventually win out.

The Cumberland Railway & Coal Co. is about to build a trestle and culm bins of several thousand tons capacity, with the necessary quick loading chutes. It is situated north of No. 3 mine and is well located for its purpose. It will be equipped with the best machinery adapted for the purpose, in the shape of conveyors etc. It promises to be quite an addition to the surface plant of the works.

Allis-Chalmers-Bullock, L't'd.



One of our 12 $\frac{1}{2}$ x 18 Air Compressors driven by a 50 h. p. Induction Motor, and supplying power for a Manitoba quarry. For different uses of compressed air see Catalogue 75 F.

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AUSTEN BROS.—HALIFAX AGENTS.

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Wanted immediately, at Inverness, C. B.

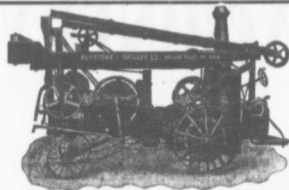
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In operation a hole is sunk to the coal with the ordinary Rock Bit. The Bit and Stem are then removed and the Coring Attachment put on in their place. It takes a 4 ft. core out of the Softest as well as the Hardest part of the vein. Avoids all delay and expense of "rods" water wash, diamonds, shot, and heavy operating mechanism.

Price of Complete Attachment
\$200.00

Catalog No. 2 B. is a book on the subject.
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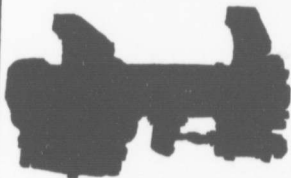
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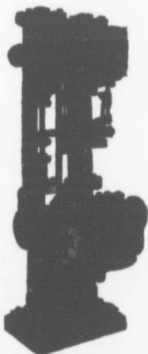
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**Steam Pumps,
Power Pumps,
Fire Pumps.**



Fairbanks Morse,
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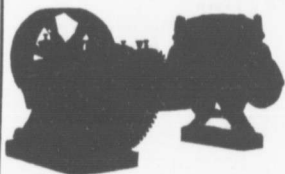
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**The Material and Workmanship en-
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Send for our Catalog 48c, or have our representative
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The Canadian Fairbanks Company, Limited.

Montreal, Toronto, Winnipeg, Vancouver.



**Synopsis of Canadian North-West.
Homestead Regulations.**

ANY even numbered section of Dominion Lands in Manitoba or the North-West Provinces, excepting 5 and 20, 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 homestead entry or inspection must be made in person by the applicant at the office of the local Agent or sub-agent.

An application for entry or inspection made personally at any Sub-agents office may be wired to the local 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 papers to complete the transaction are received by mail.

In case of "peremption" the entry will be summarily cancelled and the applicant will forfeit all priority of claim.

An applicant for inspection must be eligible for homestead entry, and only one application for inspection will be accepted from an individual until that application has been disposed of.

A homesteader whose entry is in good standing and not liable to cancellation, may, subject to approval of Department, relinquish it in favor of another person, his wife, mother, son, daughter, brother or sister, if eligible, but to no one else, on filing declaration of abandonment.

Where an entry is summarily cancelled, or voluntarily abandoned, subsequent to institution of cancellation proceedings, the applicant for inspection will be entitled to prior right of entry.

Applicants for inspection must state in what particulars the homesteader material particulars, the applicant will lose any prior right of re-entry, should the land become vacant, or if entry has been granted it may be summarily cancelled.

DUTIES.—A settler is required to perform the conditions 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) If the father or mother, if the father is deceased, of a homesteader resides upon a farm in the vicinity of the land entered for by such homesteader, or the requirement as to residence may be satisfied by such person residing with the father or mother.
- (3) If the settler has his permanent residence upon farming land owned by him in the vicinity of his homestead, the requirement may be satisfied by residence upon such land.

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.

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 250 acres can be acquired by one individual or company. Royalty at the rate of ten cents per ton of 2000 pounds shall be levied on the gross output.

QUARTZ. A free miner's certificate is granted upon payment in advance of \$5 per annum for an ind vidual, 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 locators 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 2 1/2 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 2 1/2 per cent collected on the output, after it exceeds \$10,000.

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

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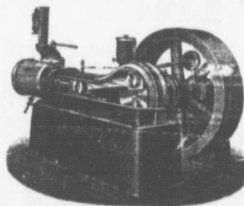
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EASTBOUND		STATIONS.	WESTBOUND	
Read Down	No. 44		Read Up	No. 36
No. 44	P. M.			P. M.
L 11 10	L 3 50	P. TUPPER JUNCTION	A 10 58	A 7 35
R 11 16	A 4 00	PORT HAWKESBURY	A 10 28	A 7 27
A 11 23	A 4 18	PORT HASTING	L 10 20	A 7 20
	F 4 36	"BOY	A 10 50	
	F 4 55	ORIGNISH	A 9 58	
	F 5 10		F 9 52	
	F 5 28	CATHERINES FOND	F 9 22	
	A 5 38	FOOT HOOD	L 9 06	
	L 5 43		A 9 03	
	F 5 50	GLENCOR	P 8 44	
	A 6 21	MABOU	R 8 15	
	F 6 23	GLENDYRE	P 8 03	
	F 6 25	BLACK RIVER	P 7 58	
	R 7 01	STRATHLOUNE	R 7 37	
	A 7 20	INVERNESS	L 7 20	
	P. M.		A 7 16	

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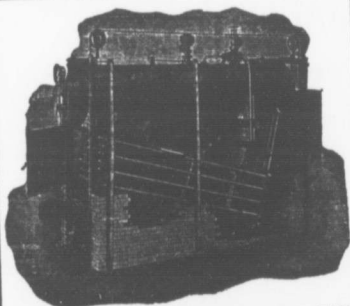
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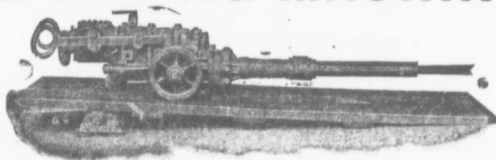
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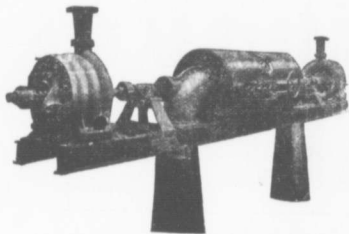
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Doble Water Wheels for high heads.

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Etc. Etc.

Two Worthington 3 stage Turbines and McCormick Water Wheels, built for Port Arthur, Ontario, Water Works. Combined capacity 1440 gallons per minute against 350 head.

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COAL COMPANY.

OPERATING THREE
THICK SEAMS
NOS 1, 2 AND 3.

—Miners and Shippers of the Well Known—

FRESH MINED SPRINGHILL COAL

... ANALYSIS ...

	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%

BEST COAL FOR

LOCOMOTIVE USE.

Delivered By Rail or Water

BEST COAL FOR
GENERAL STEAM PURPOSES.

The year Round

BEST COAL FOR
DOMESTIC CONSUMPTION.

IN Lots To Suit Purchasers.

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Mined in the Province.

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Dominion Coal Company, Ltd.

Miners of

Bituminous Coals, the celebrated "Reserve" coal for household use, "International" Gas coal, and the best Steam coal from its collieries on the Phalen seam.

—Yearly output 3,500,000 tons.—

ANALYSES.

ANALYSES OF GAS AND STEAM COAL MADE BY J. & H. S. PATTINSON, CHEMISTS,
—NEWCASTLE, ENGLAND.—

	STEAM COAL.	GAS COAL!
CARBON.....	80 18 per. cent.	77 51 per. cent)
HYDROGEN.....	5 11 " "	5 22 " "
OXYGEN.....	7 34 " "	6 72 " "
NITROGEN.....	1 16 " "	1 27 " "
SULPHUR.....	0 56 " "	3 07 " "
ASH.....	2 30 " "	4 10 " "
WATER.....	3 35 " "	2 11 " "
	100 00	100 00

Caloric Power of Steam Coal :—Pounds of Water evaporated from 212 per cent Fah, by one pound of the coal as determined in Thompson's Calorimeter,—14.8 lbs.

Shipping facilities at Sydney, and Louisburg, G. B., of most modern type. Steamers carrying
—6000 tons loaded in 24 hours.—

Special attention given to quick loading of sailing vessels. Small vessels loaded with
quickest despatch.

:: BUNKER COAL ::

The Dominion Coal Co. has provided unsurpassed facilities for Bunkering Ocean going Steamers with Dispatch. Special attention given to Prompt loading. Steamers of any Size are bunkered without detention.

But Improved screening appliances lump coal for Domestic trade is supplied of superior quality.

Prices. Terms, etc. may be obtained at the Offices of the Company.

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112 St. James St., Montreal, Que.
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