

opper - p. 13 - m. S.

MARITIME MINING RECORD.

E. R. Faribault,
Geological Survey

MAY 8, 1918

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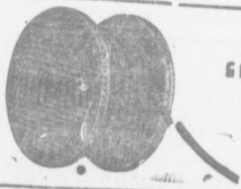
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SOUTHBOUND Superior Div.		STATIONS.	NORTHBOUND Inferior Div.	
436			457	
A. M.			P. M.	
10 40		POINT TUPPER.	3 40	
10 35		INVERNESS JCT.	3 46	
10 30		PORT HAWKESBURY	3 50	
10 15		PORT HASTINGS	4 03	
10 07		TROY	4 08	
9 57		CRAIGMOIR	4 20	
9 44		JUDIQUE	4 32	
9 27		MARYVILLE	4 40	
9 15		PORT HOOD	4 50	
8 55		GLENSCOE	5 13	
8 45		MAHOU	5 28	
8 30		GLENDYBEE	5 45	
7 50		BLACK BAY	6 11	
7 40		STANSTON	6 25	
7 35		INVERNESS	6 42	
7 12			7 05	
6 56			7 15	
A. M.			P. M.	

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9,25 a. m.
4,00 p. m. following day

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Concerning the 'Record'

The first Number of the 'Trades Journal' was issued the first Wednesday of 1880. The 'Journal' while taking a deep interest in the Coal Trade, was more particularly interested in matters affecting the welfare of those employed in the coal mines of the Province. Its aim was to secure for these better working conditions, and to give them the standing in the community to which, it thought, they were entitled. That much good was accomplished along these and kindred lines is acknowledged by all able to make comparison between conditions as they existed in 1880 and as they exist now.

In 1898 the name was changed to the Maritime Mining Record, in order to express more distinctly the place it was intended to occupy. Since then, till now, its pages have been devoted chiefly to coal mining, which is the staple industry in Nova Scotia. With the growth of the trade it has grown in influence, and is now considered the one reliable authority on all matters connected with the coal trade.

MARITIME MINING RECORD

Vol. 20

Stellarton, N. S., May 8th., 1918

No. 21

FIRE CLAYS.

This subject, as in the case of iron ore, is more or less perplexing. There is no denying the fact that there are shales and what are called "fire clays" scattered all over the province. The question then arises:—Why have the deposits not been exploited, except to a very limited and unsatisfactory extent? Is it that the quality of the clay, so far experimented with, failed to give the sought-for results? That is possible, and yet it may be safely declared that the shales and fire clays have not been sufficiently tested. In but rare, if any instances, in any country, has shale or clay been worked which will make fire brick of the necessary heat resisting properties, or, in other words, that is refractory enough to make an acceptable fire brick without the admixture of some other material. Fire clays vary considerably in their chemical composition, but as a rule no clay is considered a "fire clay" which fuses at a point below 1600 degrees C. The best fire clays are held to be those high in Alumina and Silica, and low in oxide of iron, magnesia, lime, potash and other ingredients. The suitability of fire clays for certain purposes depends, it is declared, as much upon their physical character as upon their chemical composition.

Possibly a reason why, as yet, no great success has attended the effort to make a suitable fire brick is that experiments have been made only with fire clays found in the coal measures. The fire clays in this class, as might be expected, often contain nodules of siderite in addition to the carbonate of iron disseminated in fine particles throughout the mass. There are few fire clays that meet all the requirements, as already stated, and it is therefore customary to mix a certain proportion of ground fire brick, ganister, sand or other clay before making up. The proportions of these depend on the nature of the fire clay and the purpose for which the finished article is required. As has been found in the clays and shales of the coal measures, there is a larger or smaller amount of organic matter, and where this is in excess the clay is rendered useless for the making of fire brick.

It will scarcely be right to say that the proper kind of clay for making fire brick of desired quality has not, as yet, been discovered in Nova Scotia, for that might imply that a persistent and systematic search had been made. It will be more correct to say that the proper kind of clay has not been stumbled upon.

So far as the writer knows no attempts have been made to find clay that might be suitable for fire brick outside of the counties producing coal, whereas clay and shales of varying characters may be found in almost every county.

Fire brick which will stand a fairly strong heat has been made for years by the Intercolonial Coal Company from a seam on their areas. This can be

utilized in the lining of ladles, etc., for which it has been found suitable. But the mining of the clay, and the making of bricks was not looked upon as other than an adjunct to the mining of coal, and therefore did not receive first attention. In the late eighties, or say thirty to forty years ago, fire bricks were made in Pictou County from a seam of clay overlying the seam of coal called the "McGregor". Some ten thousand or more were made with varying success. The more successful burns were those where the largest amount of crushed brick had been mixed, or added to the clay. The experiment could not be classed as serious, as the chief reason for the making of the bricks was to lessen the cost of repairing the coke ovens, by using home made instead of imported brick. The demand for coke gradually fell off and experiments were not long continued.

The question may reasonably be asked: If there are proper shales and fireclays in Nova Scotia why have no serious and systematic attempts been made to utilize them? A reason has already been hinted at, namely—that the idea has largely prevailed that the needed clay can only be found in counties possessing the coal measures, and that nearly all the coal lands are held under lease; and further that the coal operators are indifferent to add side lines to their main business—that of coal mining, which demands fullest care and attention. Still, further, the market up to the present time, even with the great advances in recent years, in iron and steel production, is too limited to stimulate the search for, and production of suitable clays, which must of necessity precede the erection of the necessary plant for brick making and burning. It has been demonstrated that under circumstances more favourable than at present, or, in short, prior to the discovery of oil wells in the United States, our oil shales are richer than those being mined in Scotland, where several large oil shale works are in operation, making satisfactory returns, and it may be demonstrated as soon as the need for home made fire brick is imperative that the province possesses the necessary shales and clays.

Some years ago the Mining Society of Nova Scotia took up the subject of "fire clays" with the local Government, which promised to render every assistance. As a start the Government offered to have analyses of ten pound samples of clay made free of charge. Intimation of this was given short publicity. In response one or two samples only were received, and these from parties who had no other end in view than knowing if the clay was valuable in case parties might come along looking for such. Besides free analyses, free practical tests were to be made at the works of the Intercolonial Coal Company at Westville. We in Nova Scotia are free in demanding that the Government assist in the development of minerals and if this be assent-

Continued on page 14-

MARITIME MINING RECORD.

WAGES AND PRICES.

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.

May 8, 1918

HAVE THE MINERS A 'SAY'.

It is scarcely worth while to reply to the account in the Sydney Record as to the clause in the C. M. R. A., referring to company stores. There was no amendment of the nature signified by the Record. The 'Committee', without a vote, recommended certain amendments to the Act. The senior member for C. B. in the House moved non-concurrence. The amendment was lost ten to five. The Eastern Chronicle need not be amazed at the stand taken by Mr. Drummond. About 1895 the company proposed to close the workmen was taken, and the vote went in favor of the continuance of the stores. The company store system is not the track system; there is no compulsion. The complaint of the shop-keepers delegation criminating against them. Mr. Drummond asked the chief spokesman of the delegation if they would be content if the Dominion Coal Company accepted ord-negative. There is a good deal of ignorance in the press as to the Dominion Coal Co's. stores. The men and thereby are taught thrift. The question resolves itself into this: Does the new clause in the C. M. R. A. abolish 'off-sets'. For instance, A is a lumber merchant, B is in his employ and buys from A \$10.00 worth of shingles. On pay day A owes B \$15.00 in wages. Is he bound to pay B all cash, without the offset of \$10.00? A main argument of the chief spokesman of the delegation was the old argument used in 1893 that the Dominion Coal Company would undersell, force the other stores out, and then put up prices. That argument was used twenty-five years ago, and the complaint is that coal is extortionate in price. Perhaps Mr. Drummond is a tory. Is Neil J. Gillis, M. P., a former bitter opponent of the company's stores? He was strongly opposed to Mr. Lavette's statements as to the stores, and Mr. Drummond was strongly opposed to the extravagant remarks in reference to the amount paid out in wages. Will it surprise the Record and E. Chronicle that the suggestion to delay the coming into force for six months was made shortly after the retirement of the delegation from the committee room. The animus of the Record and Eastern Chronicle is visible in the remark that Mr. Drummond made an amendment. Here is the precise happening: Hon. Mr. Chisholm reported the bill to the House with amendments, and with such amendments recommended it to the favorable consideration of the House. Mr. Lavette moved in a long speech that the report of the committee be not agreed to.

In another column Rambler has something to say in reference to the wages paid colliery workers, and the selling price of coal. He only touches one phase of the much discussed question, coal cutters' wages, and the price of coal. The subject has many sides. Let us look at it from another standpoint, namely, the 'under-paid' men, that is, the ordinary colliery laborer, and the price of coal; and it is the laborers who are receiving the whole-hearted—or other wise—sympathy of the press. The Record has much sympathy with the laborers; we don't lose any sleep over the miners for if it is possible for coal cutters to earn eight dollars a day, and it is possible for them to do so when they make up their minds.

Let us see how it has fared with common labor, at the mines, during the last thirty odd years. In 1886 the standard wage of laborers at the collieries was eighty to ninety cents a day. In 1886 the collieries in Pieter County struck for a standard wage of \$1.00 a day. This, after a sharp struggle, was conceded. The wage of unskilled laborers at the mines to-day is \$2.50, or on increase since 1885-86 of say 175 per cent. Getting later down the increase in the wages of labor since 1915-16 is some ninety per cent. Now for 1916, say, 60 per cent. The average wage has increased since \$4.00 per ton. The price of coal in 1916 was price to-day of six dollars and forty cents a ton. At this moment we are of the opinion that the price in 1916 was for the long ton. Accepting that as correct the price per ton—short ton—to-day would be approximately \$5.75. And it must not be forgotten that there never was a rise so rapid in the cost of material reformers would feel if, having put their money in a cent in dividends, we have half a jot yet received editor of the News, who should be in a position to answer, what is the average dividend per annum paid during the past forty-five or forty-six years. A little item that some overlook is the fact that the coal companies in 1916 lost a dollar and ten cents on every ton of coal sold the workers; to-day the loss is five dollars a ton or more.

WHEN THE BLIND

Says the Eastern Chronicle:

"During the last session of the Legislature Mr. Cameron, of Cape Breton, introduced a bill with the intent of making it obligatory on the Dominion Coal Company to pay the miners in cash instead of by orders on the stores."

To which the Record replies:

(1) Mr. Cameron introduced no such bill. The government were the sponsors, and the present government is tory, Murray and his government having been read out of the Liberal party by the E. C., about the time of the last federal election, with the possible exception of Hon. Mr. McGregor, who the E. C. at that time placed between the d. and the d. s. and left there.

(2) The Dominion Coal Company does not pay its workmen by orders on their stores; on the contrary, a large number give the company orders to make certain deductions from their wages.

(3) The bill is surely 'tory' in that it deprives miners of a right conceded to workers generally in our communities

COMMENTS ON C. M. R. A.

On another page we refer to a number of the Amendments to the Coal Mines Regulation Act. There are many other sections in the Act which could well afford amendment, but though the Session of the Assembly was long enough, there was no time left to discuss these. There have still been left in the C. M. R. A. a number of words and phrases, which remind one of the bulbs on some folks heads, harmless so far as the one who carries them goes, but not attractive to the onlookers, and so certain words and phrases which have been left in the Act, while harmless, are nevertheless deformities, which like the bulbs or balls referred to could be removed and add to rather than detract from its effectiveness. The manner of giving the interpretations is borrowed from the British Columbia Act. All the Record has to say is a better model might have been chosen. In an attempt to simplify the Section referring to Boards of Examiners, a much more complicated scheme has been elaborated, but as the mode of procedure is left largely with the Commissioner of Mines, a system may finally be evolved which will not give room for criticism.

The Legislative Council made several amendments to the bill as it came from the House of Assembly. Two of these were agreed to by that body and two were rejected. The Council adhered to its amendments and a conference was the result. The vote in Council was two to one in favor of adherence. One of the amendments of Council to which the Assembly would not agree was that section 39 should be struck out. The section reads:—

39. No wages shall be paid to any workman employed in or about any mine at or within any public house, beer shop or place for the sale of any spirits, beer, wine or other spirituous or fermented liquor, or other house of entertainment, or any office, garden or place belonging or contiguous thereto or occupied therewith.

The member of Council who proposed that the section should be cut out, said to have such a clause in the Act was alike an insult to the employers and employees. He claimed that it was senseless; that there were no beer or wine shops in Nova Scotia; that all but prohibition prevailed in the mining counties, and that people outside the province would say, "They have prohibition in Nova Scotia, and yet they have to interdict the payment of wages in grog shops. It would further leave the impression that our coal miners were, as a rule, small and insignificant. He had in his high fifty years connection with the mines, never known of a case when the payment of wages was attempted in a rum shop. The youthful and immature reformers in the Assembly were against striking out the section. The old fogies, however, had their backs against the wall and the boys in the conference, after a long indulgence in sighs and sobs, gave way.

The other Amendments of Council to which the Assembly would not agree, were those in reference

to deductions of wages. In the Act as drafted and printed the only amendments proposed to the clauses as they stood were transforming the word may into shall. The consolidated bill, as it came to Council, had only two sub-sections instead of three. Here are the sections as printed in the bill:

46. (1) The wages or salary of any employee of any mine shall not be paid otherwise than in money current in the Dominion of Canada.

(2) Any such employee may by order in writing authorize his employer to apply the whole or any part of the wages or salary due to such employee to the payment of any debt due by such employee, but any such order shall be effective only for the weekly period specified therein, and for an amount specified therein.

(3) Every such employer shall without any order retain out of the wages or salary of any such employee any sums due by such employee in respect to powder, coal, oil, rent, check-weigher's fees, doctor's fees, or church or society dues.

As the bill came to the Council sub-section two was struck out. The first sub section was retained, with the addition of words "from which there shall be no abatement," or words to that effect. The Council did not make much objection to the words "without abatement" but they objected to the striking out of sub-section 2 on the ground that it was a serious interference with the liberty of the subject, and that miners should not be banned from doing what all other kinds of employees had the privilege of doing, and they stoutly adhered to the substitution of "may" for shall, thus bringing into conformity with the Act as it stood in 1917. Thus, the result of the conference was a compromise, the honors at the same time going to the Council. As stated, there were two to one in favor of adherence to the amendments made by the Council's Law Amendments Committee. Before the motion to concur was made, a member of the Council went strongly in for the Assembly's amendment on the ground that it would set ten million dollars of money paid as wages into circulation in Cape Breton County. He mentioned sixteen millions at first, but afterwards modified the statement. He was opposed to the Company's stores as a continuation of the truck system. The largely exaggerated statements of the Hon. member from C. B., stirred up resentment when otherwise there might have been none. The member for Pictou said the statement as to the amount of wages paid out by the Dominion Coal Co., was largely poetical. Waving the first statement of the member for C. B., that the amount was \$16,000,000, he was content to take the corrected statement as the first; was made surely on mere impulse. Let \$10,000,000, the corrected figures of the member be looked into. After a statement like that could any hon. member wonder at the high price of coal? Ten million dollars in wages means that the cost to the company of every ton of coal raised was \$2.70 in wages alone. But the company did not sell every ton raised. The Company paid wages on over 45,000 tons of coal used at the mines, coal designated in the Mines Report as "Culinary Consumption coal for workmen, and increase on bank as compared with previous years." This would make the cost of the coal to the Company

over three dollars a ton for wages alone, exclusive of the cost of material, a formidable item, overhead charges and royalty, etc. The member for Pictou might have added that if the company paid out the amount stated in wages and sold coal at the fuel controller's price, the result would be the forcing of the company into bankruptcy. The junior member for C. B. replied to the senior member calmly and clearly, controverting many of the latter's rash statements. Three members only took part in the discussion. All hands are satisfied with the outcome of the conference. The store keepers of Glace Bay wanted the words "without abatement" inserted and they got their wish. The autocrat members—officials rather—of the A. M. W. wanted "shall" restored and they didn't get it. And why didn't they get it? Because it was the most undemocratic request that ever came before the Council. It was an attempt to invade the rights of individuals, whether he was a member of "Society" or not. It was the "check off" with a vengeance. Mr. Cameron's bill for the recognition of a certain union—understood, was thrown out of the House of Assembly, the Atty. General, or his deputy having stated that the bill was unconstitutional. If a bill asking for simple recognition was so declared, what is to be said for a bill asking for an advanced form of recognition in the shape of a compulsory stoppage of dues for m'wages without consent of wage earner.

Why make collection of dues, etc., compulsory when the companies are already voluntarily making collection! It strikes one forcibly that the only reason for the demand for compulsory retention of dues is the desire of the head officials of a certain society to have it ordained by the legislature that they are in very truth and not in seeming "tappit" cocks of the walk.

may if necessary to give effect to such permission cancel or revoke any such license or lease, either in whole or so far as, in the opinion of the Commissioner, may be necessary or proper to carry into effect the provisions of this section: Provided:

(a) Such seam or part of seam has not been effectively worked for ten years;

(b) Such seam or part of seam cannot be effectively worked in connection with any other mine of the licensee or lessee;

(c) The mining of such seam or part of seam will not interfere with or injure any other mine of the licensee or lessee or the reasonably probable future operation of the same;

(d) Such seam or part of seam is so situated, or the remaining area or areas of the licensee or lessee so extensive, that in the opinion of the Commissioner the future operations of the licensee or lessee will not be unreasonably prejudiced or interfered with;

(e) The applicant pays such reasonable compensation by way of royalty or otherwise to such licensee or lessee as the Commissioner may determine;

(f) In the opinion of the Commissioner it is necessary or proper that such seam or part of seam should be worked to supply pressing local or other necessity or demand.

The provisions of this Act respecting revocation of a license or lease shall, so far as the same are in the opinion of the Commissioner applicable, apply to proceedings to be taken under this section.

2. Chapter 26 of the Acts of 1916 is amended by repealing Sections (7) and (8) of said Chapter.

- Rubs by Rambler. -

RESPECTING UNWORKED COAL AREAS.

A short but interesting bill has been introduced in the House of Assembly by Mr. Graham, the junior member for Pictou County. The bill is not a bad bill in its way. It may be, indeed, called moderate, but in one respect it may be criticized. If an applicant, call him A, is granted privilege to work on a lease held by B. What guarantee is there that A. will work the mine continuously, and not cease operations whenever the demand is insufficient. Or he may work the outcrop only and cease operations, previous to the need arising to erect an expensive plant. Some such provision, however, may be required before the Commission grants permission to an applicant to work on a lease already granted.

The following is a copy of the bill:

Be it enacted by the Governor, Council, and Assembly as follows:

1. Chapter 26 of the Acts of 1916 is amended by adding thereto the following section:

"(12) The Commissioner may grant to any applicant permission absolutely or for a limited time to mine coal from any seam or part of a seam of coal notwithstanding the same lies in or under any area or tract of ground held under license or lease, and

In the Towns Incorporation Act there is a section which declares that any one who has committed a crime entitling him to a term in the penitentiary is not eligible for election as Mayor or Councillor in any town. This clause was allowed to remain in the bill to Consolidate and Amend the Towns Incorporation Act in its passage through the House of Assembly. In the Committee of the Legislative Council, it was agreed to strike out the Section, the reason advanced by the member from Pictou for so doing, being that there was not a particle of Christian principle, in its retention. The section should never have been in the Act. The mission of John the Baptist was a call to repentance. He urged upon part of his hearers to "bring forth fruits meet for repentance." Why should they, seeing that they were never in this life to have practical forgiveness, but having sinned once, were always to be accounted and branded as such? A lad of say, twenty, commits an offence, punishable by a couple or so of years in penitentiary. On coming out he strives, and succeeds, in living a new life. He prospers in business, and is well thought of in the community. He is possessed of intelligence and more than ordinary business acumen, and yet he dare not run for Councillor. The law forbids it. Out on

such a heathenish law. When the Psalmist prayed that God would blot out the sins and errors of his youth, he knew that the forgiving included the forgetting to all intents and purposes, of the errors of his youth. Man does not forgive in that fashion. He does not forget; the errors are noted, the law takes notice of them, and ordains, that his former errors are so many counts against him, and he is excluded from filling the position of a town councillor, nor to say that of the dignified position of Mayor. A youthful penitentiarian may become in later years a Senator or an M. P., but he must not dream of being a town councillor. Whereas any other kind of confirmed and unrepentant rascal is allowed to fill the highest office in the gift of the town.

• • • • •

Church Choirs, and singers generally, should take particular pains as to enunciation. It were better, it might be well at times to learn a little staccatowards, than to run the tones or the words of a hymn or a song, into each other; that is, if they wish listeners to know what they are singing about. The choir of one of the more prominent of Halifax city churches were in attendance a week or two ago at the funeral services held in connection with the death of a well known citizen. The reporter of one of the daily papers evidently not well up in hymnology, referring to the part taken by the choir said, "One of the hymns sung was 'O God our helping days are past.'" That was what he really thought the Choir had sung. Owing, presumably, to faulty enunciation, he gave that as a translation of what they sang, while all the time the Choir believed they had sung, "O God our help in ages past." The mistake was a natural one for a reporter unfamiliar with the best of Isaac Watt's hymns to make. Don't blame him, blame the Choir. 'I am wondering if it was the same reporter who gave a new name to a well known song. In an account of a concert, at which one of Halifax's best known sopranos took a part, he related how Miss — had captivated her audience by her beautiful rendering of the thrilling song "Call the Roll." Next day, after reading the paragraph, one could have knocked the lady singer down with a feather. She imagined she had been trying to sing the well known song "Caller-oo" 'oo' a call long drawn out. In this latter instance the songstress' articulation was defective, while the ears of the reporter could not have been attending strictly to business.

In the Evening News some time ago "Mr. Drummond" was asked how much of the last increase in the price of coal did the miners get?" He cannot answer that, as he is not auditor for any coal company. But I will go further than Mr. Drummond would care to go, and tell the News something its editor may be none the worse of knowing. I do not mention the name of the News Editor; it is not good form. Sixty years or so ago the agent of the G. M. A. told a committee of the House of Assembly that a collier's wage was eight shillings a day, and Pictou Coal sold at \$2.50 a ton. The average wage last November of all underground men at a Pictou County Colliery was \$5.00 a day. Some miners made eight dollars a day, but let the

average be taken. To err on the safe side let me take \$2.25 as the average wage sixty years ago. The present wage is 125 per cent better than then. The price of coal was \$2.50 per ton. If the same per centage of increase is taken, the present price would be \$5.62. Add the greater cost of material, within the past three years, and one may not be surprised at the present price. It may, I think, be accepted as a fair statement of fact that the increase in wages has corresponded with the increase in the price of coal—or vice versa, as readers choose—for the past sixty years. I am not downhearted as to the workmen's share of any increase in price. They are not babes and sucklings. They can well look after number one.

THE CONSOLIDATED MINES ACT.

Before it passed its final stages, the Act to consolidate and amend the Coal Mines Regulation-Act was amended so that those responsible for its introduction must have wondered at the ingenuity of man. The amendments were numerous, and there would have been many more had not prorogation excluded further discussion. For instance, take the interpretation of "Mine Examiner." Among his other duties he is to supervise the use of explosives used in "breaking" coal. There is unconscious humor in the word. In order to make a sure shot, some will actually break the coal into minute fragments—Take again, the "interpretation" of the words "working face." Here is the sub-section in full:

(r) "Working face" means any place in any mine from which coal or other mineral to which this Act applies is being cut, removed, sneared, broken or loosened.

What exactly is the meaning of the word "removed" in this Sub-Sec.? May it not be said that in a balance the cage runner is employed in "removing" coal. If so he is never near the "working face."

A further change has been made in the section referring to the Board of Examiners. The Board is to consist of "the Inspector of Mines, one Mechanical Engineer of recognized fitness, and two Mining Engineers of recognized fitness." In the clause as it was introduced there were two Coal Miners and two Engineers. The two miners have been omitted and rightly. It was somewhat of an anomaly to have two men, who had, perhaps, no higher certificate than that of Coal Miner, examine candidates for the position of, say, Manager.

When from death, resignation, or otherwise, a mine is deprived of a Manager, the mine may be worked for ninety, not fourteen days, until a successor has been appointed.

Section 4 and 5 of Section 9 are struck out. These had reference to the writing of answers to questions. A new system of sub boards is to be established.

Amendments have been made to the qualifications of candidates for the higher certificates, for instance, the following has been added to sub section b. c. of section 10, in order to recognize students

(Continued on page 12)

AROUND THE COLLIERIES

The rope haulage system which displaced the air locomotives in Dominion No. 2, is giving splendid results and is more flexible than the air motor system now that the deeps are being extended, and other leading work being done.

Development work in Caledonia and Dominion No. 6 is well ahead and these collieries are giving fairly good outputs. If the output suffers it is not from lack of places, but rather from labor, no matter what the wise men say.

The rope haulage of Dominion No. 11 has been extended and two new landings have been added to swell the output of this colliery. This with the addition of three new headways will make No. 11 a fairly good producer for the summer.

Work on the new shaft which is to form an exit for Dominion No. 2 men and to shorten the long walk of the Dominion No. 1 men, has begun and the shaft is now down over thirty feet. It has been found difficult to get labor of the kind necessary for shaft sinking without taking some of the older and experienced men from the collieries.

While the President of the A. M. W. of N. S., is in Newfoundland getting men for the mines there are many of his countrymen slipping quietly out of the colliery districts for their homes. The call of the sea no doubt appeals strongly to them at this season.

The coal of the Barrasois seam has now been uncovered and work on opening up the seam is fast proceeding. This is one of the coal seams that could scarcely be worked except through some other mine and tapping the seam through a tunnel from another colliery seems almost an absolute necessity.

Birch Grove mines benefitted much by the adding of the new electric turbines to the power plant of Dominion No. 2. Sleet storms sometimes interfere, but even these in time will be taken care of, and wires may be placed where they will be immune from the frosts and storms of this wild island.

The writer had a peep at the 'Pottery mine' when in operation, and hopes that New Glasgow folks will purchase or secure a controlling interest. If they do there may be wisdom coming to them. And the people of Westville may get wisdom too if they have a 'try' at the 'Black Diamond'. What the late Harvey Graham and associates left in that mine is, possibly, not worth going after, or, as one said, who was interested in the last operations conducted at that colliery, "They are welcome to all the unworked coal they will get in that old mine". But why should anyone say anything likely to damp the ardor of those in either town desirous of qualifying for 'Coal Barons'.

The reformers, bidders purely for votes, say that the wages being paid the workers are insufficient to keep body and soul together; the 'movies' say, night in and night out, S. R. O.

There are those who wonder if anything has been effected by the addition, to the clause in the C. M. R. Act, referring to payment of, wages, of the words "without any abatement". They are wondering if candor characterized the counsel when advising his constituents.

Dominion No. 15, in keeping with other collieries of the Dominion Coal Company, is adding to its output by the addition of a new landing. The deeps are being pushed down and other development work being done. The long wall work of this mine has been narrowed down to a very few places.

In the new wage agreement the Inverness miners will get their track put in for them by the Coal Company. Recently the men made strong complaint against having to do the swork, as it entailed much loss of time and therefore a loss of output to the mine. It is to be hoped that the change may have a good effect and an increased output may follow.

Under the proficient management of the imper-turbable Jim Connors, Dominion No. 16 is holding its own. This is saying much when we remember that Jim is surrounded by many capable and able men. With considerable hustling the mine is in fairly good condition to add to the coal output of the year.

The deeps of Dominion No. 12 are being put down for another lift and other new work opened up. Number 12, is the oldest of the Waterford collieries and travelled ahead very rapidly during the first years. Many of the upper pillars have been drawn, but "twelve" will continue to be a good producer for many years.

When will the representatives of Cape Breton cease knocking their own industries. To be a Knocker before the war was the popular role. But surely that phase of public life has passed. To boost the things that are and the industries established is more meritorious than to holler oneself hoarse over the industries that might be.

Mr. Douglas submitted a number of practical suggestions to the government, to increase the efficiency of mining operations and enlarge the output of coal in Nova Scotia. One was an immediate investigation of the overhead charges, including the cost of maintaining the official staffs of the operating companies, with a view to lessening, wherever possible, the expense of production. Another was

that underpaid employees should at once be given good living wages. With war-time living costs, there must be war time wages for workers.

A third was that the coal companies should be obliged, at least during war-time, to spend their excess profits in improving conditions at the mines, with a view to economy of operations, safety and comfort of employees, and larger output. Finally he urged the immediate appointment of a government official, with proper qualifications, to push a "patriotism and production" campaign in the coal mining areas of this province.

The above is from the Sydney Post. The Coal Companies are doing all asked for in the first sentence of the second paragraph, and for this very thing they have been denounced by certain officials of a certain "Society."

Coal Shipments, March, 1918.

—DOMINION COAL CO., LTD.—

Output and Shipments for March, 1918

	—Output—	—Shipments—
Dominion No. 1	31 591	
Dominion No. 2	52 989	
Dominion No. 4	26 547	
Dominion No. 5	10 060	
Dominion No. 6	20 327	
Dominion No. 7	5 549	
Dominion No. 9	22 865	205 138
Dominion No. 10	8 148	
Dominion No. 11	9 848	
Dominion No. 12	15 312	
Dominion No. 14	16 908	
Dominion No. 15	11 604	
Dominion No. 16	12 465	
Dominion No. 21	13 167	
Dominion No. 22	12 283	
	273 929	

Shipments March 1918	205 138
" " 1917	225 092
Decrease " 1918	19 954
Shipments 3 mos. 1918	641 455
" " 1917	719 555
Decrease 3 " 1918	78 100

(Continued from page 10.)

of the Technical school—"Or has had such practical experience in N. S., or partly in N. S., and partly elsewhere as may be required by such regulations, for a period of not less than three years, and is the holder of a degree as a Mining Engineer from the N. S. Technical College, or any other College or University approved by the Commissioner, the course of study in which involved training in and knowledge of scientific and mining subjects."

In section 23, the word "deputy" is struck out. Exemption from appointing an examiner is now properly in the hands of the Inspector, the responsible officer of the Mines Department.

The same section says that the part of a mine assigned to an examiner "shall not be of such a size as to prevent him in thorough manner carrying out the duties assigned to him."

This new duty has been imposed on Deputy Inspectors: "Immediately after each visit the Dep. Ins. shall cause to be posted in some conspicuous place, at or near the mine conveniently accessible to the workmen in such mine a statement showing what part of said mine he had visited and the conditions found to prevail therein." The deputy is now the one to say where lighting stations will be placed in a mine.

Every mine to be visited "once" during a shift, instead of twice as in the Act as introduced. This means an additional examination from the past method.

There are many other Amendments, a thorough understanding of which could not be arrived at, unless almost an unabridged copy of the Act were presented, and that is impossible.

Reference is made elsewhere in these columns to amendments which provoked extended discussion.

—SPRINGHILL—

Shipments March 1918	27 087
" " 1917	26 686
Increase " 1918	401
Shipments 3 mos. 1918	78 969
" " 1917	75 141
Increase 3 " 1918	3 828

—NOVA SCOTIA STEEL & COAL CO.—

Shipments March 1918	88 552
" " 1917	44 112
Decrease " 1918	5 660
Shipments 3 mos. 1918	127 867
" " 1917	133 290
Decrease 3 " 1918	5 393

—ACADIA COAL CO.—

Shipments March 1918	11 563
" " 1917	23 156
Decrease " 1918	12 163
Shipments 3 mos. 1918	44 679
" " 1917	73 761
Decrease 3 " 1918	29 082

—INTERCOLONIAL COAL CO.—

Shipments March 1918	14 860
" " 1917	13 803
Increase " 1918	857
Shipments 3 mos. 1918	42 766
" " 1917	35 877
Increase 3 " 1918	6 889

DRASTIC AMENDMENTS TO THE MINES ACT.

The following is the copy of a bill, now an Act—which will make possible the Towns of New Glasgow, Westville and other towns, and also individuals, to engage in coal mining, possibly under certain—drawbacks:—

Be it enacted by the Governor, Council, and Assembly, as follows:

(1) Notwithstanding any of the provisions of Chapter 10 of the Acts of 1911, "The Mines Act," or of any of the amendments thereto, and notwithstanding any lease or license issued thereunder, the Lieutenant-Governor-in-Council shall have power to do and authorize such acts and things, and to make from time to time such orders and regulations as he may deem necessary or advisable for the purpose of security or assisting in securing an increased output of coal in the Province, and for greater certainty but not so as to restrict the generality of the foregoing terms, it is hereby declared that the powers of the Lieutenant-Governor-in-Council shall extend to all matters coming within the classes of subjects hereinafter enumerated, that is to say:—

(a) Revocation or cancellation of any lease or license heretofore issued or granted, of any areas or parts of areas, or tract of ground containing coal that is unworked;

(b) Permitting any person or persons, upon such terms and conditions as may be determined, to mine coal from any seam or part of seam not being then worked, notwithstanding the said seam lies in or under any area or tract of ground held under license or lease by any other person or persons.

(c) Revocation, cancellation or suspension of any license or lease of coal areas heretofore or hereafter issued either in whole or in part upon such terms and conditions as will lead to the working of said areas.

(d) Assisting and co-operating with the Canadian Fuel Controller in carrying out any regulations of the Governor-General-in-Council made to secure an increased output of coal in the Province, and the economical and necessary distribution of coal from the mines of the Province.

(e) Co-operating with the Government of Canada in aiding and assisting, where deemed desirable and necessary, and upon such terms and conditions as may be determined, any person or persons who can increase the production of coal, by loans or advances of money to such person or persons, or by becoming on behalf of the Province, Guarantors to any Bank or Trust Company that may make any such loans or advances to such person or persons.

(f) Operation of any coal mine for the purpose of increasing the production.

(h) Borrowing on the credit of the Province such sums of money as may be necessary for carrying out the provisions of this Act, upon such terms and conditions as are deemed necessary.

(2) All orders and regulations made under this section shall have the force of law, and shall be enforced in such manner and by such Courts, Officers, and authorities as the Lieutenant-Governor-in-Council, may prescribe, and may be varied,

extended or revoked by any, subsequent order or regulation; but if any order or regulation is varied, extended or revoked, neither the previous operation thereof nor until duly done thereunder shall be affected thereby nor shall any right, privilege, obligation or liability acquired, accrued, accruing or incurred thereunder be affected by such variation, extension or revocation.

2. Whenever any coal lease or license or part thereof, or the use thereof has been appropriated by the Lieutenant-Governor-in-Council under the provisions of this Act, or any Order-in-Council, order or regulation made thereunder, and compensation is to be made therefor, and the amount thereof has not been agreed upon, the claim shall be referred by the Commissioner to the Chief Justice of the Supreme Court of Nova Scotia. Such Chief Justice shall have the power to make rules governing the procedure upon any reference made to or proceedings taken before him under this Act.

3. The provisions of this Act shall only be in force during the present war, and until by the issue of a proclamation by the Lieutenant-Governor-in-Council it is declared to be longer in force.

COPPER.

Copper is one of the best conductors of heat and electricity. Symbol Cu. Atomic weight 63.57, Specific Gravity 8.79—8.93; Weight of a cubic foot 557 pounds. It is the only metal that occurs in its native state in large masses. It occurs in various ores; the most important are Chalcopyrite, Chalcocite, Cuprite and Malachite. Pure copper melts at 949 Fahrenheit.

About three-fourths of the world's output of Copper is derived from Chalcopyrite. It occurs in veins, in masses, and is diffused through gangue material of various kinds, often quartz. Other sulphides are usually found associated with it; sometimes silver and gold occur; mostly nickel and cobalt. Chalcopyrite is a sulphide of copper and iron—sulphur 35.0, copper 34.5, iron 30.5. Analysis often show variations from this formulae. When it becomes tarnished it is known as peacock ore. It has a metallic lustre, an uneven fracture, brass-yellow colour and green-black when powdered. It is distinguished from pyrites by its colour and hardness. Copper ores are those carrying more than 21.2 per cent. copper. Ores of copper are found at Cape d'Or, Cumberland County, and many outcrops are seen between Springhill and Pictou; some of which have been tested. They are found at Polson's Lake and Lochaber, Antigonish County; at Coxheath, near Sydney; at Cheticamp, Inverness County and in Victoria County, near Oregon. Native Copper was found in the Colonial Copper Company's mine at Cape d'Or, but never in quantities to be commercially valuable.

There are no Copper Mines in operation at present in Nova Scotia. Some prospecting was done in 1917 at Caribou, Pictou County and at Osegen, Victoria County. The total production of Copper in the province has been small. There are only

three or four places, where Copper has been found in sufficient quantities to warrant investigation. There being at present no assured ore supply, the establishment of a smelting industry is hardly a practical question.

Chalcoite treated at the Crown Mining Co's smelter, some years ago, produced, it was declared, 60 per cent. Copper matte. Chalcopyrite carrying gold and silver, is found in the L'Abime district, Cheticamp, Inverness Cour. The claim, which is said to be extensive, attracted much attention about 20 years ago. Samples taken across the entire face of the deposit have run from 2.4 to 5 per cent. metallic copper, while samples from lenses have run from 5 to 8 per cent. copper. The ore carried as high as \$8.50 a ton in gold and silver. The lowest estimate of the copper contents of the rock, has been placed at 2.5 per cent.

The tabulated statement made below was made some 20 years ago when copper was selling at 12 1/2 cents a pound. With Copper now selling at 45 cents a pound, the results should show proportionately larger.

Sample	Gold	Silver	Copper
From weathered outcrop	\$.132	1.03	2.40 p.c.
From quartz gash veins	6.60	4.40	7.81 p.c.

One test gave the following values:—

Gold	13 dwt. to the ton
Silver	7.83 oz. to the ton
Copper	7.81 per cent.

With copper at its present price, a ton of the above should give a value of about \$80; of course about 25 or 30 per cent. of this value should be deducted for smelting and marketing.

From 1880 to 1892 Copper was mined at Coxheath.

Mr. Harry Piers of the Provincial Museum who in an official capacity visited the much talked of property a few years ago says of the deposits at Coxheath, the property of the Boston Holdings Co.: "This well known deposit has been extensively developed and is one of the most promising ones in the province. The Company was formerly known as the Eastern Development Company and until a couple of years ago (1901-2) as the Cape Breton Copper Co. The mining areas cover two square miles and the land and water areas, held in fee, 1094 acres. Four shafts are on the property and the areas have been also well prospected by test pits, and trenches. The first shaft was sunk in 1880 and the last one in 1892. The plant is an excellent one and includes steam hoists, ramblers, slingers, drills, large ore tables, trams, saw mills, etc. A large amount of ore is on the surface, and a sample taken right across the pile, gave an average of 7 per cent. of copper. The mine has been closed since 1892."

Again the question is asked, "If the ore yields the results given, why is the property idle?" In 1917 reports were current that stimulated by the high price of copper the mine was to be reopened and work proceeded with. But so far nothing has been heard of work having been begun again. At the present time the Coxheath deposit labours under a disadvantage. It is at a distance from transportation. The product of the mine would meantime have to be carried by teams to connect with the Canadian Government Railway at one of two routes, or else a short branch railway would require

to be built.

The Colonial Copper Co., began operations in 1900 on a somewhat pretentious scale. The work the Company accomplished up to 1903 may be summarized as follows:—

Continued from page 6.

ed to on the condition that the requisitionists do some preliminary work, such as dig a sample of clay, we look sour and think they should do the digging also.

Referring to fire clays encountered in the Inverness Coal Field, a Geological Report, among other things, says:—

"Little attention has been given to the shales of this area, the coal alone having been regarded as worthy of consideration."

Along the South Shore of Inverness, there are a number of good exposures in the cliffs. About an eighth of a mile south of Melsaac Pond, a 21-2 foot coal seam outcrops, and this is underlain by a bed of smooth, plastic, moulded clay shale, not less than eight feet thick. The following tests give its properties:—

This smooth plastic shale when ground up ready for moulding had 63 per cent. of grains that would pass a 200 mesh sieve. It was worked up with 21.2 per cent. of water, had an air shrinkage of 5.7 per cent and an average tensile strength of 145 pounds per square inch.

The burning tests of the wet-moulded bricks are given below:—

Cone	Fire Shrinkage	Absorption	Color
.010	0.8	12.13	Buff
.05	2.6	9.61	Red
.03	6.6	3.18	Red-brown
1	6.6	1.80	Red-brown
3	5	.00	Brown

The bricks burnt at cone 010 had a good ring, and were steel hard at cone 05. At cone 1 numerous blisters began to appear. It is badly blistered and past vitrification at cone 3.

Nord of Melsaac Pond are a number of low cliffs along the shore showing southerly dipping beds of shales and sandstone.

More sandy shale outcrops a little farther along the shore to the north. Tests show that the shale, although sandy, works up to a very plastic mass with 19.4 per cent. water, and 4.4 per cent. air shrinkage. At cone 010 the fire shrinkage is 0 per cent., absorption 16.01 per cent., and color reddish buff. At cone 03 the fire shrinkage is 3 per cent., absorption 8.88 per cent., and color red. It gives a good hard bricklet at the latter cone.

The most important deposit in the district is the clay overlying the 13 foot or Hussey seam.

This is well seen in the outcrop along Big River, north of Inverness, where a drift was run in, known as the Hussey drift. The coal seam at this point is overlain by a clean looking plastic grey clay, which ranges in thickness from 18 inches to

nearly 3 feet. This is in turn overlain by a 18 inch seam of coal, and over this again there is a dark shale, which could not be properly sampled owing to the wash from the upper part of the bank.

The clay is very plastic in its character, and appears to be free from coarse sand, but occasional pyrite nodules were noticed. If this clay seam is worked it would have to be in connection with the 13 foot coal, and as the latter contains good coal in its upper bench, this is not an impracticable proposition.

The following tests give the properties of the clay from the Hussey drift:

It is a very smooth, sticky clay, which, however, contains so much fine sand that only 58.4 per cent passes through a 200 mesh sieve. It took considerable water (30.8 per cent.) to work it up and had an air shrinkage of 8.5 per cent. The average tensile strength was 206 pounds per square inch. The burning tests on the wet-moulded bricks are as follows:—

Cone	Fire Shrinkage Per Cent.	Absorption Per Cent.	Colour
010	0.3	15.74	Pink Buff
05	4.3	9.79	Buff
03	..	2.25	Dark Buff
1	6.6	..	Buff
3	7.3	0	Drab
5	10	0	Drab
9	5	0	Grey

The clay behaves like a stoneware clay, and its fusing point lies about cone 25. It makes a good dry-press body at cone 1.

A chemical analysis of this clay made by M. F. Connor, of the laboratory of the Mines Branch, gave:—

Silica	55.52
Alumina	26.80
Ferric oxide	2.58
Titanic oxide	1.50
Magnesia	1.05
Lime	0.25
Soda	0.73
Potash	3.43
Water	8.39

100.25

This is one of the best clays found in Nova Scotia, and several possible uses suggest themselves. It could no doubt be used for pressed brick. If mixed with some burned clay it could also be used for fire brick. The high plasticity and dense burning qualities also make it available for stoneware manufacture. Lastly, it represents a type of clay used for mixing with short fibre asbestos for making asbestic."

For several years there has been in operation in Pictou County a company by the name of the Standard Clay Products Company engaged in the manufacture of drain pipe and tile. The business has, apparently, been very successful. In 1916 the company made 1,355,000 feet of drain pipe and tile. The output in 1917 fell off to a trifle less than a million feet, due to conditions brought about by the war. Additions are continually being made to the plant affording proof that the "fire" clay is suitable for the purposes of the company. The clay seam is

on the east side of the East River and on the right hand of the eastern highway leading from Stellarton to New Glasgow. In the vicinity of the plant there are other seams of clay or a continuation of the seam now being worked. As with shale, so with fire clay. In some of the localities in which these are found they have been reserved to the Government, while in other instances they belong to the owners of the soil—a most awkward circumstance. The Government should adopt an heroic course and make arrangements whereby all minerals become invested in the crown. The expediency or necessity for such a step is apparent, when it is stated that between Stellarton and New Glasgow, the minerals, with the exception of coal and gold, belong, in nearly the whole territory named, to the soil. There is a solitary area in which all the minerals, including fire clay, are reserved to the crown, or the local government. Further reference may be made to this anomaly in the article on oil shales.

Some forty years ago, a couple of miners, from one of the Pottery districts in Staffordshire, who located at Springhill, stumbled upon a seam of clay on the outskirts of the town, which they considered resembled closely the clay used in the famous English Pottery district, and suitable for crockeryware. To put this belief to practical test they built a small primitive plant for experimental purposes. The result was the production of various pieces of crockeryware, which considering the primitive appliances at their disposal, including the crudeness of the machinery, were deemed to be of very fair quality. After a time, owing to limited market, and more possibly to lack of capital necessary to extend the plant, before attempts could be made to cater to outside and larger markets, the work was discontinued.

The writer is of opinion that the exploiters had no serious intention of going into the pottery business, but rather entered into the production of certain wares as byplay or pastime. However that may be, the work done demonstrated that there are clays in Cumberland county that can be utilized in the production of, if not the finer, then, of the commoner and more generally used kinds of crockeryware.

By and by when there is the expected large increase to the population of the province and thereby a near market provided, and when railway facilities are further enlarged, there can be little doubt that more attention will be paid, to the numerous varieties of shales and clays which the province possesses.

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HALIFAX, N. S.



Synopsis of Coal Mines Regulations.

COAL mining rights of the Dominion, in Manitoba, Saskatchewan and Alberta, the Yukon Territory, the North-West Territories and in a portion of the province of British Columbia, may be leased for a term of twenty-one years renewable for a further term of 21 years at an annual rental of \$1 an acre. Not more than 2560 acres will be leased to one applicant.

Application for a lease must be made by the applicant in person to the Agent or Sub-Agent of the district in which the rights applied for are situated.

In surveyed territory the land must be described by sections, or legal sub-divisions of sections, and in unsurveyed territory, the tract applied for shall be staked out by the applicant himself.

Each application must be accompanied by a fee of \$5 which will be refunded if the rights applied for are not available, but not otherwise. A royalty shall be paid on the merchantable output of the mine at the rate of five cents per ton.

The person operating the mine shall furnish the Agent with sworn returns accounting for the full quantity of merchantable coal mined and pay the royalty thereon. If the coal mining rights are not being operated, such returns should be furnished at least once a year.

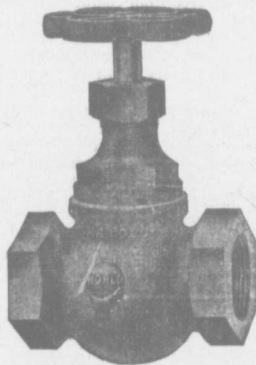
The lease will include the coal mining rights only, rescinded by Chap. 27 of 4-5 George V. assented to 12th June, 1914.

For full information application should be made to the Secretary of the Department of the Interior, Ottawa, or to any Agent or Sub-Agent of Dominion Lands.

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

N. B.—Unauthorized publication of this advertisement will not be paid for.—88575.

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