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Dominion Fertilizer Co., Limited
ST. STEPHEN, N. B.

Mineral Resources of New Brunswick Gas, Oil, Bituminous Shales — Their History, Development, Value And Future Prospects

(Continued from previous page)

We may here remark that Dr. Chas. Baskerville, above referred to, is a very eminent scientific authority, and from a scientific standpoint he has many times investigated the New Brunswick deposits. His opinion coincides with other authorities as to the quantity and value of the New Brunswick shales.

Before closing, we would like to give a few extracts, supporting the above statements, from engineers of note. William Griffiths, Mining Engineer and Geologist of Sorrento, Penna., makes the following statement:

"The approximate tonnage mineable, above water level, on four miles in length, (Baltimore District) is 86,714,000 tons; approximately tons mineable below water level to depth of 1000 feet (same area), 64,594,000 tons, or a total of 151,308,000 tons. Deducting on account of uncertainties, 80%, there is still a total tonnage available of 35,664,000 tons on four miles of the territory. There is ample quantity of shale to warrant the installation of two mining plants capable of producing 800,000 tons per year each."

Mr. James A. Robertson, Mining Engineer, of Williamston, Miller and Robertson, of Edinburgh, Scotland, states in his report:

"It will be noted therefrom that the stratigraphical position of the shale beds is identical with the position of the shale seams of Scotland; I am satisfied that the supply of shale is practically unlimited; and estimates that there are 30,000,000 tons of shale, sufficient to give an output of 1,000 tons per day for 100 years in a small portion of the leasehold alone, readily accessible by mining or open-cast working."

You will note that both the above reports are made on the Baltimore or Rosevale section of the shale deposit, and cover only a small portion of the thirty-five miles in length included in the shale area of the Province.

We do not propose, however, to intimate that the whole deposit in New Brunswick is of equal magnitude and quality with the district above mentioned. It has, however, been unquestionably established that many sections of this great area are equally rich.

Someone may ask what products of value are obtained from this shale. We will here quote from the estimate made by Dr. C. S. Lomas of New York, which reads as follows:

"Plant capacity, 1,800 long tons (2,340 lbs) per day, equal to 647,500 tons per annum, 365 days, retorts being continuously operated day and night.
"Production of crude oil 32.7 Imperial gallons per ton of shale, equals to 18,000,000 Imperial gallons per annum.
"Production of sulphate of ammonia, 65 pounds per ton of shale, equals to 13,957 tons (2,000 lbs) per annum.
"The 18,000,000 Imperial gallons of crude oil when refined produces the following:
" 2,137,500 Imperial Gallons Gasoline.
" 7,961,500 " Illuminating Oil.
" 2,666,000 " Lubricating Oil.
" 1,710,000 " Fuel Oil.
" 6,120,000 Pounds of Paraffin Wax.
" 1,530 tons of Coles.
" 13,687 tons Sulphate of Ammonia.

The quantity of crude oil and sulphate of ammonia in the above is based on the lowest estimate in Sir Boverton Redwood's analysis of the same.

In addition to the above mentioned gasoline, further gasoline is obtained by extracting the same from the gas which is carried over in the distillation of the shale.

This extraction is done by scrubbing the gas with heavy oil, by what is known as the "Absorption Process." The resultant production in gasoline being about 3 gallons per ton of shale retorted, which would amount to 1,600,000 gallons. These are not our figures but those of disinterested experts who have given years of study to this subject.

SULPHATE OF AMMONIA.

In speaking of this great by-product, a few figures will be helpful. In 1906 the world's production was 649,300 metric tons of 2204.6 lbs to the ton. In 1913 it was 1,439,203 tons.

England produced in 1905, 273,500 tons; in 1913 her production had increased to 426,745 tons.

Germany in 1905 produced 150,000 tons; in 1913, 548, 538 tons.

In 1905 the United States produced 59,250 tons, and in 1913, 176,900 tons.

The production of France, Belgium, Holland, Spain, Italy, and other countries in 1905 was 127,000 tons, in 1913, 287,000 tons.

The price of sulphate of ammonia in 1905 was \$61.00 per ton, and in 1913 it was \$66.00 per ton. Owing to the war the price at the present time is enormously advanced over these figures. We may say that the price of sulphate of ammonia has not gone below \$55.00 per ton in the last thirteen years. So that, while it has increased enormously in quantity, it has not tended to lower the price.

The reason for this is that the great increase in the use of artificial fertilizers has made the demand more than keep pace with the supply.

Intensive Farming as now carried on in many parts of the world simply means that artificial fertilizers are indispensable to the future farming industry of the world; and sulphate of ammonia is practically the base of all artificial fertilizers. Shale is not wholly responsible for the great production above shown. The larger amount is produced from coal, coke ovens, gas works, etc.

If New Brunswick is to attain the proud position in the agricultural world that is expected of her, she must employ the best agencies at her command to place her in that position; and we have in our shale deposits a fruitful source of nitrogen for her farms.

MARKETS.

There has been much written about fuel oil for the Navy. The subject has been much more discussed in England and America than here. In England, however, in 1914, the situation became so acute, and the Admiralty being of the opinion that too high a price was being charged them for their fuel oil by the big controlling companies, the mother of Parliaments decided that they must control a supply of fuel oil for their Navy. They, therefore, purchased a controlling interest in the Anglo-Persian Oil Company. At that time there was much adverse criticism of their action, but events have proven the wisdom of their course.

New Brunswick, with its possible great deposits of natural oil, with its immense bituminous shale hills, being one thousand miles nearer the Mother Land than any other oil source on the American continent should, in the near future, be another source of supply for the British Navy. Would this not be a proud position for New Brunswick to occupy?

Canada is today importing the greater part of her gasoline, kerosene and lubricating oils. We are also large importers of fertilizers. We have these products in abundance in this Province by the sea, and we should be exporting.

It is expected that the capital for the development of the minerals discussed in this article will be forthcoming in the near future, and one more dream will be realized, and New Brunswick placed on the oil map.

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FOOD PRICES UP 68 PER CENT. IN BRITAIN.

Average Increase During the Past Year Was 29 Per Cent.

The statistics of the course of retail prices of food given in the British Board of Trade "Labor Gazette" show

that on May 1 prices as compared with July, 1914, had increased by 98 per cent. If eggs were omitted from the dietary, margarine substituted for butter and the consumption of sugar and fish reduced to one-half of that prevailing before the war, the general percentage since July, 1914, instead of being 98, would be 66.

From March 31 to May 1 retail prices of the principal articles of food showed an average increase of between 1 and 3 per cent. The most marked increases during the period were in the prices of potatoes, averaging 11 per cent, or 1-14 per pound, margarine (8 per cent, or 1-4 per

pound) and tea (6 per cent, or over 1d, per pound). The only net decrease recorded was in the price of butter which declined by nearly 4 per cent, or 1d per pound, on the average.

As compared with a year ago retail prices showed an average increase of 29 per cent. The prices of potatoes advanced about 65 per cent, over the twelve months and those of cheese and eggs nearly 50 per cent. With the other articles included in the returns the increases ranged from about 20 to 30 per cent, except tea and granulated sugar, for which the advances were 13 per cent, and 8 per

cent, respectively. The prices recorded for butchers' meat at May 1 showed increases over those for July, 1914, ranging from 74 per cent, for British legs of mutton to 163 for frozen breasts of mutton, the rise in average prices ranging from 6-1/2 to 7-1/2 per pound, according to cut. The prices of sugar, fish,

potatoes and cheese were considerably more than twice as high as in July, 1914, and those of flour and bread were at roughly double the pre-war level. Advances of about 76 to 80 per cent, since July, 1914, were recorded for bacon, butter, eggs and tea and of about 60 and 55 per cent, respectively, for milk and margarine.