

## FIVE COAL FIELDS OF VANCOUVER ISLAND.

### Nanaimo Area is the Most Important—Some Notes of Great Possibilities.

The five coal fields of Vancouver Island, Nanaimo, Comox, Suquamish, Cowichan and Koskeemo, all bituminous fields, are the most valuable on the Pacific Coast of North America. Mr. D. W. Dowling, of the Geological Survey of Canada, considers the Nanaimo field the most important of these, and gives its area as 350 square miles, with an average thickness of six feet of coal, or a content of 1,344,000,000 tons. Comox is given an area of 300 square miles, and a similar thickness of coal to Nanaimo, giving its content as 1,152,000,000 tons.

Suquamish has an area of 10 square miles, with an average thickness of 3 feet of coal, or 19,000,000 tons. Mr. Dowling made this estimate before any development work had been done outside that of the Hudson Bay Company in 1848. Recent development shows this field to have two seams of economic value, hitherto unknown, while diamond drilling shows the coal area to be much more extensive than formerly supposed.

#### Of the Cowichan Field.

The Cowichan field has an area of 9 square miles, averaging 4 feet of coal, or 23,000,000 tons.

The Koskeemo field is placed at five square miles, an average thickness of 3 feet of coal, or 9,000,000 tons. Cowichan and Koskeemo fields are the only two lying dormant. Attention has been paid to Koskeemo, diamond drilling and geological investigation having been employed with a view to ascertaining the prospects of opening it economically, but so far with little success, owing to the disturbed nature of the country tributary to the Sound. The Koskeemo field is a continuation westerly of the Suquamish field, and it is not improbable that the two may be yet found to be continuous. The area is older than either the Comox or Nanaimo fields, and is co-related to the still older formation of Graham Island.

A new field is likely to be added to the above, namely, Alberni. It has been recognized as probable that coal might be found at Alberni, outliers of the Comox formation having been recognized there, and as a result the Alberni Land Company Limited, in disposing of its lands there, reserved the coal rights.

#### Coal Areas of the Island.

When the extension of the railway was under construction last fall, the steam shovel uncovered a seam of coal, and the company recently started development on it, with the result that so far as the slope has been run, about 170 feet, a continuous seam of coal of high quality, and of a width of 4 feet has been proved up.

It seems probable that the coal areas of Vancouver Island are good for about three billion tons of coal, or enough to supply 10,000 tons a day for 800 years, so that the people of to-day have not much need to worry over the possibility of the exhaustion of these great coal fields. The Vancouver Island coal fields have produced to date coal to the value of \$70,000,000.

#### Of the Nanaimo Field.

The Nanaimo field occurs in Upper Cretaceous formation, and has been proved by the developed mines and bore holes to be coal bearing over a length of 55 miles, by an average width of six miles. About a fourth is land area and the remainder submarine. The basin lies north-west and south-east and dips easterly. The average dip is from five to twelve degrees with variations due to several faults. Its continuity is proved from the old Wellington mine north-west of Nanaimo, to Tumbo Island, near the south-eastern boundary of the Gulf of Georgia area of British Columbia. Mr. W. Blakemore, M.E., representing Mr. A. E. Hepburn, M.E., having proved by diamond drilling the extension of the field to the latter point. Over a considerable portion of the area the coal deposits are probably at too great a depth to be economically workable at present, but toward the western portion of the field they gradually rise to the surface, and their outcrops are traceable from the old Wellington mine to Oyster Harbor.

#### Three Seams of Coal.

So far as proved up the Nanaimo field carries three seams of coal of such volume as to be available for economic operation. The lowest seam, known as the Wellington, outcropped at the old Wellington mine, at Nanaimo River and Extension. At Wellington and Extension it was operated by the Dunsmuir interests, since acquired by the Canadian Collieries, Limited, and in the vicinity of Nanaimo it is worked by the New Vancouver-Nanaimo Coal Company, Limited.

The Wellington seam is irregular in thickness, having been laid on a floor with numerous depressions and eroded channels, the coal-forming matter accumulating in the basins, accounting for swells in the seam, causing it to vary in thickness from two feet to 28 feet. The average width of the seam is probably nine feet.

The middle seam is the Lower Douglas, and lies on a horizon about 800 feet above the Wellington seam. It is narrower than the other seams, but very uniform in width, running from two and a half to three and a half feet in thickness. It is particularly well adapted to longwall mining. It outcrops at Nanaimo and South Wellington.

#### Notes of Seams.

The Upper Douglas seam occupies a horizon varying considerably in its relation to the Lower Douglas, the two being found at depths apart varying from 22 feet to 120 feet. This seam also outcrops at Nanaimo and South Wellington. In characteristics it is almost a perfect counterpart of the Wellington seam, being laid on an uneven, wavy floor, and varying in thickness from two feet to 26 feet. The roof of the Upper Douglas seam is mainly shale, while that of the Lower Douglas is sandstone. The tonnage mined in the Nanaimo field last year was 1,615,160 tons.

## STATISTICS OF THE UNITED STATES.

### Area Greatly Increased Within a Century—Progress of the Country in its Material Resources.

"Statistical Record of the Progress of the United States, 1800-1911," is the title of a small document just issued by the Bureau of Statistics, Department of Commerce and Labor. It pictures in statistical form conditions in the commercial, financial, industrial and transportation systems of the United States at brief intervals since the year 1800, down to, and in many instances including the year 1911. In those cases in which the subjects considered are measured by Governmental fiscal year periods, the figures for the fiscal year 1911 are included; in those in which calendar year periods are used, statements can only terminate with the calendar year 1910.

Among the interesting facts shown are that the area of continental United States was 843,255 square miles in 1800, advancing to 1,734,630 square miles in 1810; to 2,995,536 square miles in 1850; and 3,026,789 square miles in 1893, since which date no change in area is shown. The population, which was 5½ million in 1800, was 93¼ million in 1911. Public debt, which was 83 million dollars in 1800, reached 2,675 million dollars less cash in Treasury in 1865, the figures of 1911 being 1,015 million dollars.

#### Per Capita Debt.

The per capita debt, which was \$15.63 in 1800, and in 1865 \$76.98, is in 1911 \$10.83. The interest charge per capita, which amounted to 64c. in 1800, and \$4.12 in 1866, was in 1911 23c., and the total annual interest charge, which was in 1866, 146 million dollars, was in 1911, 21½ million dollars. Money in circulation, stated as 26½ million dollars in 1800, was in 1911, \$3,228,627,002, and the per capita circulation, which was in 1800 \$4.99, was in 1911, \$34.35. Deposits in all the banks in the country cannot be shown earlier than in 1875, at which date they are set down as a little over 2 billion dollars, and in 1910, over 15 billion dollars. The number of depositors in savings banks in 1820, the earliest year for which the figures can be shown, was a little less than 9 thousand; and in 1910, over 9 million. Government receipts, which amounted to \$2.04 per capita in 1800, were in 1866, \$14.65, and in 1911, \$7.45, or about one-half what they were in 1866. Exports of domestic merchandise which amounted to 32 million dollars in value in 1800, were over 2 billion dollars in 1911; and imports, which amounted to 91 million dollars in 1800, were 1½ billion in 1911.

#### Imports and Exports.

Many other subjects of this character stated by the document in question, include details of imports and exports by great groups and grand divisions, and principal ports through which shipped; the production of principal articles, such as wheat, corn, cotton, coal, sugar, copper, etc., from 1800 to 1910; the attendance in public schools, and sums expended for that work; postal receipts and expenditures; and a few pages devoted to monetary and commercial conditions in the principal countries of the world.

Copies of the publication in question can be obtained by applying to the Bureau of Statistics, Department of Commerce and Labor.