

CANADA'S MINERAL WEALTH.

Geological Survey Report—Cobalt Ore Shipments in 1907.

Both to the student and the practical mining man, the report of the geological survey for the twelve months ended November 30th is a valuable publication. The compilers and all who have assisted in its preparation are to be congratulated on the exceptional promptness with which they have fulfilled their task.

The accounts furnished by the field-officers of their season's work embody many new facts of an important character relating to the topography and geology of the country. The field of operations is so vast that the progress of the Survey is necessarily slow. But a comparatively wide area was investigated, revealing, as every year has done, fresh proofs of the wonderful mineral resources of the Dominion. In Canada, as in most other countries, the miner has been the first to exploit the hidden wealth beneath the soil. His knowledge, gained in the rough school of practice, carries him to a certain point. Beyond it, he has need of the expert, trained in the use of the hammer and lens, to direct his energies into the most profitable channels.

Work For the Survey Department.

Exceptionally heavy demands were made upon the Survey Department last year for geological information. This was a result of the increased activity in the mineral districts, particularly in the region about Cobalt and northward along the line of the Grand Trunk Railway. The northern part of the provinces of Ontario and Quebec, and the central portion of British Columbia are now calling for a larger amount of geological attention, while New Brunswick and Nova Scotia are not less clamorous regarding the development of their natural resources. The system inaugurated the previous year of employing as field-assistants chosen students from the scientific schools worked well for all parties concerned. The following is a short synopsis of the work accomplished. As the mineral rather than the topographical and geological results are of interest to the majority of readers, these alone are dealt with here.

Four parties were despatched to British Columbia. One of these was engaged in investigating the geology and economic features of the copper-bearing rocks around Whitehorse, Yukon. A second party explored the southern portion of the Yukon between Whitehorse and Tantalus, where coal and copper are being largely developed. Enormous quantities of available bituminous coal were located. The Tantalus seams alone extend over 60 miles in one direction, and wherever a section has been made one or more seams of good bituminous coal have been found. Copper prospecting is being actively carried on around the coast from Powell River to Kingmore inlet, and the adjacent islands. Vancouver Island forms one of this group. The coast here is said to be as fine an example as exists in the world of a deeply dissected land area which has once been submerged.

Vancouver Island Declares Independence.

Vancouver Island was once connected with the continent. In the intermediate lowland there then existed at least one or two river systems receiving tributaries from the east. The river valleys became submerged, thus accounting for the salt water straits and inlets of to-day, while the many rugged islands represent former inter-stream areas. Free gold was taken from one mine in South Valdez, but only in minute quantity. Granite suitable for building stone and finer grained glacial clay for brick making were found in a number of localities from which immediate shipment could be made by water. In the Bulkley Valley, several new coal seams were discovered, one in particular giving promise of becoming of importance. Work on the coal properties of the Telwa River has practically been stopped until the Grand Trunk Pacific route has been definitely fixed.

In Saskatchewan, beds of bituminous shales were located. Although at present probably of no economic value, it is thought that they may lead to discoveries of greater commercial interest. In Ontario, exploration work was conducted along the National Transcontinental Railway westward from Savanne Lake for 300 miles. That area consists of formations rich in feldspar, muscovite, iron, pyrite, and free gold. The agricultural possibilities of the country in the south are said to be fair, and there is considerable timber. Between L'Amable station and Bancroft, there are unlimited supplies of various marbles, to which the attention of architects is called. Near the same town also is a large deposit of sodalite. The company owning it will soon be in a position to put on the market a beautiful ornamental stone of various shades of blue, which takes a very high polish and is eminently suited for decorative purposes. Investigation at St. Joseph de Pierreville confirmed the existence of natural gas in the

rocks underlying many parts of the St. Lawrence valley region.

Minerals in Quebec.

In Quebec, examination was continued of the region to the east of Lake Temiskaming to Lake Kipawa and Lac des Quinze. Despite the fact that the geological formations of these are almost identical with those of the silver-nickel-cobalt areas of the Ontario side of the lake, no minerals have yet been discovered in sufficient quantities to be of economic importance. Large areas of good agricultural land occur in the district, and already support a numerous and prosperous farming community. Good agricultural land was also noted in the country adjacent to the National Transcontinental Railway, from Bell River eastward to the Susie.

With regard to the Maritime Provinces, it is suggested that further prospecting for tin should be undertaken throughout the granite ranges of Nova Scotia. In the central parts of the Lunenburg country, Nova Scotia, extending along the Atlantic coast between Chester and Bridgewater, extensive beds of gypsum and limestone, hitherto unknown, were uncovered underlying a thick covering of glacial drift.

While the exciting incidents which punctuated the story of mining in Canada during 1906, were not in evidence in the unfolding of the Dominion's 1907 mineral narrative, steady development was the feature of the past year. The total shipments for the twelve months from Cobalt exceeded 14,000 tons. The activity in shipping was not reflected in the stock markets. Throughout the year they remained dull. On top of the Cobalt boom of 1906, came an attempt to create a general impression that Larder Lake was the latest mining El Dorado. But the public wisely concluded that that mining field required unlimited investigation. Cobalt affairs acted as a warning.

The report of the Ontario Bureau of Mines, with the figures for 1907, is yet to be published. That of 1906 values the output of Ontario's mines at \$22,388,383. This sum is computed at the selling prices of the products at the mines or works, and does not take into account the additional values induced by subsequent refining or treatment. Compared with the production of 1905, up to that time considerably the largest on record, the yield for 1906 shows an increase of \$4,534,087, or about 25 per cent. "A period of expansion has set in in the mining industry of the Province, and it may confidently be expected that still higher figures, both as to quantities and values, will be reached in the near future. The larger aggregate of value for 1906, as compared with that for 1905 is partly due to an increase in prices, which is somewhat general throughout the list of products, and in some cases quite marked in character; but for the greater part the excess is due to increased production, especially in the metallic schedule."

Last Year's Figures.

The latest report for 1907, up to September gave the mineral production of the Province as follows:—

Silver	6,919,987 ounces.
Pig iron	189,663 tons.
Iron ore	147,719 "
Steel	120,077 "
Nickel	8,887 "
Copper	5,111 "
Zinc	400 "

Some twenty-five mines shipped ore from Cobalt during 1907, as follows. The amount is given in pounds. La Rose, 5,698,006; Coniagas, 4,797,550; Nipissing, 4,829,949; O'Brien, 2,731,496; Buffalo, 2,344,300; Trethewey, 1,510,138; Silver Queen, 957,148; McKinley-Darragh, 1,369,870; Foster, 691,800; Kerr Lake, 644,898; Temiskaming, 345,111; Townsite, 286,430; Nova Scotia, 493,000; Hudson Bay, 298,670; Green Meehan, 196,790; Cobalt Central, 141,877; Right-of-Way, 258,220; Drummond, 108,920; City of Cobalt, 101,230; Colonial, 74,250; University, 61,385; Silver Leaf, 93,618; Red Rock, 40,000; Imperial, 37,530; King Edward, 62,250; total, 28,164,428 pounds; or, 14,082 tons.

Psychology of a "Boom."

The Deputy-Minister of Mines, Mr. Gibson, gave some good advice in his 1906 report, respecting the probability of a Cobalt boom, and in his latest report, says:—"The prediction was amply verified, but no warning would have sufficed to stem the tide of speculation which was then steadily rising. To follow the progress of a mining boom is to take a course in the study of psychology. News comes of a rich discovery; almost immediately the ground, good, bad, or indifferent, surrounding the find is staked out as mining claims; a languid public is roused to interest by tales of sudden wealth; exaggerated reports of the richness of the district appear in the press; a host of joint stock companies is formed on lands of very doubtful value, but as near as possible to a known mine; shares in these companies are loudly advertised, and

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