

from the gold-copper ores of the Rossland camp, the copper ores of the Coast and Boundary districts. Now that the Grand Trunk Pacific is in operation, silver-lead ores of the Skeena are beginning to be marketed.

Lead and zinc are produced with silver from the above-mentioned silver-lead ores.

The large copper output is the product of the Boundary district mines, the Coast mines on Howe Sound, Observatory Inlet and Texada Island, although some comes from the gold ores of Rossland, and a little from the Nelson district.

The Vancouver Island collieries are the heaviest coal producers, but are closely followed by those of the Crow's Nest Pass, to which is to be credited the coke production. Some coal is also mined in the southern interior of the Province, in the Nicola and Similkameen districts.

Structural materials include Portland cement (manufactured on Vancouver Island, near Victoria), building stones, lime, brick, fire-brick, pipe, tile, etc., marble and similar materials whose production is conditioned upon and has expanded with the general development of the Province.

The Trail smelter of the Consolidated Mining and Smelting Company treats practically all of the gold, copper, silver and lead ores mined in the Kootenays, the value of metals produced annually being over \$6,000,000.00. The refinery in connection with the smelter turns out gold, silver and lead, 995,999 and 999 points fine, respectively.

The Granby Company's smelter at Grand Forks is said to be the largest copper reduction works in the British Empire and among the biggest in the world. It has a treatment capacity of 4,000 to 4,500 tons per diem, reducing the product to blister copper.

The British Columbia Copper Company's smelter at Greenwood has a capacity of 2,600 tons per diem.

The Granby Company is enlarging its smelter at Anyox, Observatory Inlet, to 4,000 tons per diem.

The Tyee Copper, Company, Limited, has a smelter at Ladysmith.

A few British Columbia ores go to Tacoma for treatment, and the zinc ores have still to be exported, though it seems probable that the zinc production will soon warrant a local zinc plant.

More interesting than past production or present development are the latent possibilities of the mineral industry in the Province. Large areas of British Columbia have still to be explored. Probably not one-fifth of the Province has been prospected at all; not one-twentieth prospected in detail, and not a section, however small, completely tested. Drift and vegetation conceal the outcrops in many places, so that discoveries will continue, even in the developed camps.

There are sound grounds for believing that British Columbia is mineralized throughout. The whole Cordillera belt from Alaska to Mexico forms a single great geological province. The nature and mode of occurrence of the minerals are in general similar throughout. Its great wealth of mineral has been demonstrated in Mexico, the Western States, and, where prospected, in Alaska and British Columbia as well.

Vegetation and difficulties in transportation have prevented a more rapid discovery and development in Alaska and British Columbia, but these difficulties are being gradually overcome. They have preserved for the present and succeeding generations, opportunities for mineral discovery and mining in the last great west.

Colors of gold may be found in practically all streams west of the Rocky Mountain Range, from one end of the Province to the other. Some areas have proved to be exceedingly profitable, even when worked by hand. It is extremely probable that other placer fields suited to individual mining will be found.

The present production is largely from large scale hydraulic operations. The new railways in the central interior of the Province will stimulate such operations. It seems probable that at many points dredging might be suc-

cessful if the ground is carefully selected and the local conditions receive proper consideration in designing the dredge.

Lode ores occur in all the ranges west of the Rocky Range proper. In the interior plateau some areas of Cretaceous and Tertiary rocks (often coal-bearing) occur, that are not metal bearing, but the older rocks, when exposed, are worthy of prospecting. At various points, great masses of intrusive rocks are found, near whose contacts mineral is apt to occur. The greatest of these is the Coast Range batholith that extends throughout the whole length of the Province. While in places on the Coast side of this batholith the older rocks now exposed were too deeply buried at the time of intrusion to be mineralized, in general it may be said that these invaded older rocks should be prospected. Recent work on the Britannia Mine on Howe Sound has warranted preparation for an output of 2,000 tons per day. Little prospecting has been done along the eastern edge of the batholith, on account of its inaccessibility, but near the head of Observatory Inlet, which dissects the batholith, the Granby Mine will soon be producing 4,000 tons per day. These results will arouse increased interest in mining on the Coast, which so far has received very little attention.

The railways just completed or now under construction afford new opportunities for prospecting and developing in the Interior.

Even in the more or less developed districts in the southern interior there are opportunities, as instanced by the success of the recently developed Standard Mine in the Slocan, which, during the past three years, has averaged over \$500,000 annually in dividends.

The mineral wealth of the Cordilleras is not confined to gold, silver, lead, zinc and copper. Most of the minerals useful in the arts are known to occur.

In a number of places, conditions are favorable for the occurrence of tin, and at several points it has been recognized. Some mercury ore has been produced in the Kamloops district and it has been reported from several other points.

Molybdenite is likely to be found in commercial quantity and possibly some of the wolfram ores.

Platinum has been produced from the Similkameen placers and has been found in place at several points.

Mica occurs at Tete Jaune Cache, and now that transportation is available, is likely to receive some development.

Iron has been found in considerable quantity at the Coast, and there is no question but that when there is a demand for such ores a supply can be found.

Indications of oil are found in the Flathead Valley and on Queen Charlotte Islands, and possibly may be met with in the central and northern interior.

Clays suitable for fire-brick, pipe, tile and pottery are being utilized.

Materials suitable for lime and Portland cement are not uncommon.

Of no present commercial significance but of interest are occurrences of microscopic diamonds at several points.

The extent to which natural raw materials may be developed and utilized, the number and magnitude of the industries that may be created, and consequently the density of population that can be supported, depend upon the availability of power. All the centres of population and industry of the world are found to be grouped at, or convenient to, the coal fields. In the future, as in the past, coal will be the determining factor in the location of these centres. It is true that water power can to a certain extent replace coal and that oil is at present able to compete with it at certain points, but oil is limited in quantity and can last only a comparatively short time. Long before it is exhausted, it will be conserved for uses for which there is no good substitute. Furthermore, improvements in the methods of using coal, whereby there will be saved and utilized the large store of energy lost under present processes, will enable coal to at least hold its own with other sources of power.