

copper was slightly less. This was due to handling a considerable tonnage of ore from which a recovery of only 10 lbs. to the ton was made, which, owing to the high market price of copper, it was possible to handle at a profit and thereby increase the ore reserve of the mine. A lot of this low-grade material was handled by the electric shovel, and the cost of mining and handling was therefore, very low.

The British Columbia Copper Company operated steadily throughout the year and made a larger production than in 1915, although this company was also affected by the coke shortage and for part of the year could only run one furnace.

The Britannia mine had a very successful year, the tonnage of ore mined and milled being about 400,000 tons, containing 18,000,000 lbs. copper, 98,000 ozs. silver, and 800 ozs. gold. The ore reserves at this mine are large—claimed to be about 17,000,000 tons—and it is expected the yearly tonnage treated will increase still further, as the ultimate plans of the company are to have milling capacity to handle 4,000 tons a day.

The copper-mines on Texada Island are expected to have made a larger output than in 1914; the most important producer is again the Marble Bay.

More small shipments of copper ore were made from Vancouver Island and along the coast than in 1915. The high price of copper has stimulated the work of developing copper-showings on the Coast, and while this has not resulted in any great quantity of ore being shipped in 1916, it is likely that a considerable increase of production will take place in 1917.

The only production of copper in the Nelson Division was from the Eureka mine, but the re-opening of the old Silver King mine about the end of the year may assist copper production from this division in 1917.

Copper-mining is now the most important form of mining in the province, and this year the value of the copper mined exceeded the total value of all other metalliferous minerals, and also exceeded the combined value of coal and coke production. It formed 56.3 per cent. of the total value of the metalliferous mines and 42 per cent. of the total mineral production. In the working of the large, low-grade copper-deposits and the subsequent smelting of the ores produced, a great number of men are employed and a large proportion of the money value is retained in the country in the payment of wages and purchase of supplies.

All the copper ores carry small amounts of the precious metals, and therefore, any increase in the copper production also increases the output of gold and silver. The high price of copper during the past year has stimulated prospecting and the development of copper claims, and there is no doubt that the provincial output will steadily grow in future years.

The most important metallurgical development in connection with copper-mining during the year 1916 was the establishment of a copper-refinery at the Trail smelter. Until this year all copper produced in the province was ship-

ped to Eastern points as blister-copper and there refined, but with a start at refining having been made, it may be expected that an increasing amount of the copper-output will be refined in the province.

The plant at Trail has a capacity of 10 tons of refined copper a day, but is being increased to 15 tons a day; it treats blister-copper from the Trail smelter and part of the blister-copper produced at the Greenwood smelter of the British Columbia Copper Company.

The smelting plant at Ladysmith owned by the Tyee Copper Company, which has lain idle since 1911, was sold near the end of the year, but no announcement has yet been made as to who has bought it. It is said that the purchasers intend to enlarge the smelter, equip it with converters, and possibly to erect a copper-refinery to refine the blister-copper produced. It is said that a supply of ore to keep the smelter going steadily has been secured or is controlled, and in addition the smelter will be in the field for custom ore.

The quantity of zinc estimated to have been produced in 1916 amounted to 33,534,829 lbs., having a value of \$3,648,589. These figures are very much higher than those of 1915, which was itself a record year. While the years 1915 and 1916 show great increases in production as compared with previous years, the very high price of zinc in those two years makes the value of the production still higher in comparison with previous years.

It is interesting to note that in 1916 the value of the zinc production was greater by \$461,816 than the value of the lead produced, which latter itself was a record.

An important event during the year was the commencement, in the spring, of the production of refined zinc at the new electrolytic zinc plant at the Trail smelter. This plant, which has a capacity of 25 tons a day of refined zinc, uses a new process which takes in the raw ore and turns out refined zinc. This is the first time that zinc ore has ever been treated in a commercial plant in British Columbia, and therefore adds a new industry to those which centre around mining. The plant was designed and built to treat ore from the Consolidated Company's Sullivan mine, but towards the end of the year some zinc concentrate was bought from the Lucky Jim mine and treated.

Mr. W. L. Watt, agency director of the New York Life Insurance Company, with headquarters at Vancouver, returned during the week from an agency director convention of the company at Augusta, Georgia. He was much impressed with the prosperity of the south and all over the sections of the United States he travelled through. In view of conditions he looked for the largest business ever written this year by his company which in point of view of assets and business in force is the largest old line company in existence.

## Provincial Coal and Coke Tonnage for the Month of December, 1916

Name of Company.	Mine	Coal Tonnage	Coke Tonnage
Canadian Collieries, Ltd.	Comox	27,156	1,373
" " "	Wellington	15,237	nil
Western Fuel Company	Nanaimo	48,497	"
Pacific Coast Coal Mines, Ltd.	South Wellington	8,715	"
Vancr.-Nanaimo Coal Mfg Co.	East Wellington	4,281	"
Crow's Nest Pass Coal Co.	Michel	2,178	6,002
" " "	Coal Creek	18,100	7,205
Corbin Coal & Coke Co.	Corbin	7,535	nil
Middlesboro Collieries, Ltd.	Middlesboro	5,388	"
Inland Coal & Coke Company	Merritt	3,000 (Estimated)	"
Princeton Coal & Land Co.	Princeton	4,750	"