

and sedimentary rocks of Tertiary age. In early Tertiary, the area was again affected by mountain-building movements and the strata along the present eastern edge of the Rocky Mountains were broken by great faults sloping gently westward. Thrusts from the west pushed the rocks eastward and upward several miles along these faults and this action combined with folding and later erosion formed the Rocky Mountains.

During the Pleistocene all of the area except for part of Yukon was covered with ice, which left morainal deposits along the valleys. Since the Pleistocene small volcanoes have built up small cinder cones and small lava fields in several places.

The Cordilleran Region has long been an important producer of economic minerals. Coal mining began a hundred years ago and metal mining began with the gold rush in 1858 to the placer fields of the Fraser River. In 1939 the region produced 14 p.c. of the gold output of Canada, 62 p.c. of the silver, 70 p.c. of the zinc, 14 p.c. of the copper, 99 p.c. of the lead, all of the bismuth and nearly all of the antimony and cadmium. The Region also supplies 26 p.c. of Canada's coal and, including all the Turner Valley oil in the Foothills Belt of the Region, about 97 p.c. of Canada's oil. The Region has many mines and a few, for example the Britannia at Howe Sound and the Sullivan at Kimberley, are very large.

The metallic mineral deposits of the Region are very closely associated with the batholiths of the Coast Mountains. Such ore bodies do not occur in rocks younger than the batholiths. The granite bodies are prominent in the western half of the Cordilleran Region. The deposits within the batholiths and in bordering rocks on the west contain mainly copper and gold, and those in rocks to the east, gold, silver, lead and zinc. The ores in general are of a complex type and a single mine may supply gold, silver, copper, lead and zinc.

Placer gold mining was very important in the early days and reached a high peak in 1900 when the output was worth \$24,000,000. The decline was rapid after 1900 but has risen slightly in the past few years as a result of extensive dredging in Yukon. The main placer fields were Cariboo in British Columbia and Klondike in Yukon. Most of the placer gold was formed by disintegration and erosion of gold-bearing quartz veins in Tertiary time. In some places Pleistocene glaciers removed earlier placers and in others buried them beneath boulder clay. Erosion since the Pleistocene has reconcentrated some placers and uncovered others. The main Yukon placer field was not glaciated and was the most productive field in the Cordilleran Region.

At present the production of lode gold far exceeds the placer. The main gold producing areas are Bridge River, Portland Canal, Cariboo, Kootenay, Hedley and Zeballos. By far the most of the gold comes from quartz veins and vein-like replacements.

Silver has always been important in the metal production of the region. At present the main silver camps are Kootenay, Slocan and Portland Canal, in British Columbia, and Mayo in Yukon. In Portland Canal district the silver is recovered from gold-silver ores but elsewhere it comes mostly from silver-lead or silver-lead-zinc ores. The Sullivan mine at Kimberley, B.C., is by far the largest single producer. A considerable quantity of silver is also recovered from the copper ores at Britannia and Copper Mountain, B.C.

In 1939 a very large proportion of the zinc and lead came from the Sullivan Mine. Some lead was recovered from ore in the Portland Canal, Slocan and other areas and a considerable amount from silver-lead ores of Yukon.