

Mercury was mined mainly at Pinchi Lake, British Columbia, during World War II. These occurrences are now being re-evaluated. Nickel is mined near Hope in British Columbia and tungsten is recovered from a deposit in the Northwest Territories adjacent to the Yukon Territory. High-grade, long-fibre asbestos is extracted from a peridotite body at Cassiar in northern British Columbia.

Coal beds in Lower and Upper Cretaceous and Tertiary sedimentary basins are found in many locations throughout the Cordillera. Past production was much greater than at present but the possibility of increased demand for coal may reactivate several mines. The main producing areas include Comox on Vancouver Island, Crownsnest coalfield in southwest British Columbia and Alberta, and Luscar in the Alberta foothills.

Although most of the oil and gas fields of Alberta and British Columbia are east of the Cordillera in the Interior Plains of Alberta, several large fields are found in the foothills. The important Turner Valley field, which was discovered in 1913 and has produced since 1936, contains large oil and gas reserves in a faulted anticline in Mississippian strata. Oil is found in Devonian reef limestone at Norman Wells in the Northwest Territories. Sulphur is an important by-product of many fields containing natural gas.

**Innuitian Region.**—North of the Arctic Plains and Plateaux, where Palaeozoic limestones rest on Precambrian generally-stable crystalline rocks, deep crustal depressions were initiated in late Proterozoic time and received thick deposits of carbonates and shales (miogeosynclinal type) and, in northern Ellesmere Island, volcanics and greywackes (eugeosynclinal type). In the southern basins, Proterozoic sediments are mainly carbonates and coarse to fine clastic sediments. Overlying these conformably are thick layers of lower Palaeozoic carbonates which are thicker and include more abundant dark shales to the north. Middle Ordovician gypsum beds extend in places across the southern basins. Carbonates are admixed with muds and sands in parts of the Upper Silurian to Middle Devonian beds, and the influx of these clastic materials probably reflects relatively minor orogenies and periodic uplifts such as the Boothia Arch in the region. Folding of the eugeosynclinal volcanics of northern Ellesmere Island produced land areas from which sands were swept southward to form Upper Devonian non-marine sandstones in the miogeosynclinal basins. The total assemblage of sediments is more than 35,000 feet thick in some districts. The dominant folding of the Franklinian geosyncline, called the Ellesmerian orogeny, occurred near the close of Upper Devonian time. With the exception of the Cornwallis fold belt discussed below, the resulting folds of the Innuitian Region trend southwesterly from northern Ellesmere Island and swing westerly through the Parry Islands. The Cornwallis fold belt interrupts this trend at right angles because it lies along a buried north-trending prong of Precambrian rocks, which extend from exposures of the Boothia Peninsula. This elongate Precambrian basement rose periodically at least six times to produce north-trending faults and folds in the overlying Palaeozoic beds of the Cornwallis fold belt, whereas the Franklinian geosyncline was deformed by somewhat younger and more widespread compressional crustal forces.

Following the Ellesmerian orogeny, a vast area including the present Sverdrup Islands and much of western Ellesmere Island was depressed to form the site of deposition of a composite thickness of 60,000 feet of Pennsylvanian to Tertiary volcanics, shales, sandstones, some gypsum and, in the upper part, a thick assemblage of non-marine clastic sediments. The rocks of this Sverdrup Basin were deformed about the end of the Mesozoic Era by the Laramide orogeny. Late Palaeozoic gypsum beds, which tend to flow under high pressure, were forced upward to intrude overlying Mesozoic beds. Gypsum diapiric domes later penetrated Tertiary beds. No salt or potash-bearing minerals are as yet known to be associated with the gypsum, although a few minor occurrences of native sulphur have been found. A zinc-lead deposit being evaluated in limestone or dolomite on Little Cornwallis Island is unique in Canada, because much of the zinc occurs as the carbonate smithsonite, rather than sphalerite, the usual sulphide. Coal is widely distributed in the Innuitian Region, particularly in Upper Devonian beds of the Franklin miogeosyncline and in three formations within the Sverdrup Basin. As in the case of the