

deposits of gold and a few of copper, nickel and platinum have been found, including the deposit mined for those metals at Rankin Inlet. Belts of strata of Archæan type contain important copper-zinc deposits near Flin Flon, copper-nickel and nickel deposits near Lynn Lake and Thompson, and gold deposits at several locations.

In the northern part of the Slave province a series of altered sedimentary and volcanic strata of late Proterozoic type contains copper deposits which have attracted attention but which have not been developed. More deformed and altered rocks of early Proterozoic type east of Great Bear Lake contained the Eldorado uranium-radium orebodies that have been recently exhausted. North of Great Slave Lake northeasterly-trending bodies of greywacke, slate, and volcanic rocks called the Yellowknife group contain important gold ores. North and south of the East Arm of Great Slave Lake and in its islands, occurrences of various metals have been found and a few of gold and tungsten have been mined.

A large part of the Shield, extending from Georgian Bay to the Strait of Belle Isle, has long been recognized as forming a distinct segment called the 'Grenville'. It was named after the Grenville series, characterized by crystalline limestone, impure limy strata, and large areas of sedimentary gneisses in various stages of alteration to granite. The eastern part of the province contains large igneous intrusions of anorthosite. The age relations between Grenville strata and those of the neighbouring Superior province are puzzling. Recent work has indicated that near Sudbury, as well as at the south end of the Labrador Trough, beds can be traced across the boundary into more metamorphosed rocks of Grenville type. It is believed, therefore, that the distinctive features of the Grenville may be related more to the time and degree of metamorphism than to distinctions in the original age of deposition of strata. The Grenville province contains an unusually large variety of mineral occurrences but has not been as important a producer as the Superior. Several fairly large deposits are mined, including those of nepheline syenite near Peterborough, uranium near Bancroft, iron of the magnetite variety at Bristol and Marmora, zinc and lead in the Ottawa valley and at Tetreault west of Quebec City, and iron and titanium near Havre St. Pierre. Large iron deposits are being prepared for production at the south end of the Labrador Trough.

The Plains and Lowlands.—Sedimentary strata of Palæozoic and younger ages overlap the Shield to form the principal Plains and Lowlands. These strata once covered much more of the Shield before being removed by erosion. The Shield continues under the Plains, as is proved by numerous wells drilled for oil or gas in the Great Plains and in southern Ontario having been bottomed in typical Shield rocks, but it is customary to regard the Canadian Shield Region as the part that is exposed or covered by glacial deposits. The overlying strata are undisturbed or gently tilted or flexed, the Shield and the Plains and Lowlands together forming a central continental region that has been relatively stable since Precambrian time, while orogenies were active in the flanking geosynclinal belts now indicated by the Appalachian, Cordilleran and Inuitian mountains.

The Shield slopes at a rate of 15 feet per mile under the Great Plains, in the western part of which the overlying strata reach a thickness of 10,000 feet. The older overlying beds have been bevelled by erosion along the border of the Shield, exposing in central Manitoba sea-deposited beds of limestone, sandstone and shale of Ordovician, Silurian and Devonian ages. Farther north the exposed Palæozoic strata are mainly Devonian. The Palæozoic formations are overlain by early Mesozoic strata of marine origin and these by both marine and freshwater Cretaceous formations which are the uppermost strata in much of Saskatchewan and Alberta. In places, however, as at Turtle Mountain in Manitoba and the Cypress Hills in Saskatchewan, these are overlain by remnants of early Tertiary formations.

The rich soils of the Great Plains, particularly in the Manitoba Plain, were derived from the weathering of the underlying strata and the unconsolidated deposits resulting from glaciation. Most of Canada's oil and gas is produced from Palæozoic and Mesozoic strata underlying the Great Plains, mainly in Alberta but also in Saskatchewan, Manitoba, northeastern British Columbia and at Norman Wells in the Northwest Territories. The productive beds range from Devonian to Cretaceous in age, the reservoir rocks being largely