

old Tertiary watershed. The Plains, except for the top of the Cypress Hills and a small area near Rockglen in southern Saskatchewan, were covered by Pleistocene ice-sheets.

The mineral deposits of the western plains are for the most part non-metallic varieties. Coal occurs in Upper Cretaceous beds in Alberta and in Paleocene strata in Saskatchewan. Natural gas is produced in large quantities principally from various horizons of the Cretaceous in Alberta and in smaller amounts from beds of similar age in Saskatchewan. Petroleum is obtained from Devonian, Mississippian and Cretaceous rocks. In the new important fields of central Alberta, the major production is from strata of Upper Devonian age and at Norman Wells in the Mackenzie Valley the oil is also in Devonian beds. Bituminous sands occur along the Athabaska River in the basal member of the Lower Cretaceous. Gypsum and salt are obtained from Palæozoic strata in Manitoba and occur also in Alberta. Deposits of zinc and lead are known in Devonian limestone at localities south of Great Slave Lake; clay, sodium sulphate, and building stone are other mineral products.

*St. Lawrence Lowlands.*—The St. Lawrence Lowlands stretching from Lake Huron northeasterly to Anticosti Island falls into three subdivisions. The first and most westerly includes Manitoulin Island and the part of Ontario facing on Lakes Erie and Ontario. It is made up of two parts separated by a prominent topographic feature, the Niagara Escarpment, an abrupt eastward-facing rise, 250 to 300 feet high, extending northwesterly from Niagara River to Bruce Peninsula. The Escarpment is due to differential erosion, the softer Ordovician strata having been more easily removed than the harder overlying Silurian dolomite. The eastern border of this subdivision is the Frontenac Axis, a southward projection of the Canadian Shield that crosses the St. Lawrence between Kingston and Brockville. The second subdivision extends from the east side of the Frontenac Axis to Quebec city and has for its eastern border the Logan Fault. The third subdivision, separated from the second by about 360 miles of the St. Lawrence River, comprises Anticosti Island and the Mingan Islands.

The strata of the entire belt are of Palæozoic age, for the most part lying flat or with low dips. They are almost wholly of marine origin and were deposited in seas that swept over a large part of the continent. Differential vertical movements caused these seas to advance and retreat so that the sediments deposited in them vary considerably. There are also local gaps in the sedimentary sequence caused by these movements, which were apparently so gentle that there are no angular unconformities.

In the western subdivision the rocks range in age from possibly late Cambrian to late Devonian. East of the Niagara Escarpment the beds are of Ordovician age. Along the Escarpment these rocks are succeeded by Silurian measures. The lowest of these are the Medina sandstones and shales, which are succeeded by the Clinton dolomite. This is followed by the Rochester shale and Lockport dolomite and these in turn by the Guelph dolomite, the Salina formation of dolomite, shale gypsum and salt and the Bertie-Akron dolomite. The total thickness of the Silurian measures is over 2,500 feet. The overlying Devonian beds consisting of the Oriskany sandstone, the Sylvania and Detroit River dolomite, limestone and chert, the Onondaga and Delaware limestone, the Hamilton grey shale, and the Kettle Point black shale have a thickness of more than 1,500 feet.