

rocks of Nova Scotia, New Brunswick, and Newfoundland; gypsum and barite in the Windsor series; and gold, copper, zinc, lead, fluorite, and other deposits most of which at least are genetically related to the Devonian granitic intrusions. The Buchans mine near Red Indian Lake, Newfoundland, is an important producer of zinc, lead and copper.

The Interior Plains.—*Western Canada.*—The Interior Plains of the Prairie Provinces slope gently eastward from an elevation of about 4,000 feet in western Alberta to about 500 feet in southern Manitoba. They show a flat surface interrupted by deep-incised valleys and by many flat-topped hills or mesas. The area of the Plains is divided into three steppes by two eastward facing escarpments, the Manitoba escarpment forming the western border of the Manitoba Lowland, the lowest and most easterly of the three steppes, and the Missouri Couteau marking the eastern boundary of the Wood Mountain Plateau, the third and highest steppe.

The Plains are underlain by sedimentary rocks of Palæozoic, Mesozoic and Tertiary age. Where the Palæozoic rocks outcrop at the western border of the Canadian Shield the oldest sediments are of Ordovician age. Farther west, in Saskatchewan, drilling has shown Cambrian beds to be present. For example, in the bordering part of the Cordilleran Region, the eastern mountains of southern Alberta, and the Mackenzie and Franklin Mountains in Northwest Territories, are thick successions of Cambrian shales, dolomites and limestones.

The Ordovician strata resting on the Precambrian in Manitoba thin westward beneath the Plains and, so far as is known, do not underlie the northern plains of Alberta. In the eastern Rocky Mountains, however, both early and late Ordovician beds are present. Middle Silurian beds less than 450 feet thick are known in Manitoba. Drilling has shown the presence of similar strata in Saskatchewan, and limestones and dolomites of supposedly Silurian age underlie most if not all of the Mackenzie Lowlands. Devonian strata are present under all the Interior Plains; they consist of limestone and dolomite of Middle and Upper Devonian age. Mississippian beds overlie the Devonian in southern Saskatchewan and Alberta and a fringe of unknown width skirts the east edge of the Foothills.

Mesozoic rocks stretch westward from the Manitoba escarpment. They range in age from Triassic to Cretaceous. Marine siltstones, calcareous shales and arenaceous limestone of Triassic age are known to underlie at depth the northwestern part of the central Plains. Jurassic beds overlie the Triassic, where present, or rest on Palæozoic formations in southern Manitoba, southern Saskatchewan, and in southern and western Alberta along the western edge of the Interior Plains. In the west these strata are marine, but towards the east, in Saskatchewan and Manitoba, they grade into a mixture of marine and non-marine beds.

The Cretaceous period saw widespread deposition on the site of the Interior Plains and Rocky Mountains. Lower Cretaceous history included deposition of sandstone, shale and coal beds in a narrow trough along the western border, followed by the spread of such deposits far to the east, and closed with marine invasions from the north. Upper Cretaceous history included a marine invasion of vast extent followed by recurrent advances of delta plains from the west, and closed with widespread non-marine deposition and the complete expulsion of the sea.

Non-marine deposition continued throughout Paleocene time. In the early Eocene, uplift and erosion was followed by deposition of late Eocene, Oligocene and Miocene gravels derived from the newly uplifted Rocky Mountains and to-day preserved mostly on the Cypress Hills and Wood Mountain, residual uplands on an