The Great Plains.—The Great Plains region may be divided geologically into three zones. A narrow plain on the east, known as the Manitoba lowland, is developed on flat-lying Palæozoic strata ranging in age from Ordovician to Devonian. These rocks lap over the Canadian Shield and commonly present a low escarpment at their border. In the north this zone broadens to form the great Mackenzie lowland. The second division is a wide belt underlain by Cretaceous rocks. Its eastern border, where these rocks overlap the Palæozoic sediments, is rather an abrupt rise known as the Manitoba escarpment. From elevations of 1,000 to 2,000 feet on this flank the surface rises gradually westward until, at the border of the mountains, the elevations are between 4,000 and 5,000 feet. The third division consists of plateaux of flat-lying Tertiary rocks at Wood mountain and Cypress hills, rising to elevations up to 1,000 feet above the level of the surrounding region.

The whole region is a flat to rolling country dissected by river valleys. The southern part is a treeless prairie. North of latitude 53 degrees the country is wooded densely to approximately latitude 60 and more sparsely from there to the delta of the Mackenzie. The drainage, except for a small portion in the south, is northward to the Mackenzie or northeastward to Hudson bay. In places in the southwest evaporation equals precipitation, giving rise to an interior drainage basin type.

The chief mineral wealth consists of coal and lignite which form extensive deposits in the Cretaceous and Eocene rocks of Saskatchewan and Alberta. Natural gas has also been produced in great quantities from various horizons of the Cretaceous in Alberta. Petroleum has been found in the Devonian beds of the lower Mackenzie valley, in Cretaceous strata at several localities in Alberta, and in Palæozoic rocks in Turner valley. Along Athabaska river the basal member of the Lower Cretaceous, known as the McMurray or the Tar sands, is heavily impregnated with bitumen, in places to as much as 20 p.c. The only metalliferous deposits of the region consist of galena and sphalerite in Devonian limestones at certain points south of Great Slave lake.

5.—Economic Geology of the Great Plains Region.

Geological Formation.	Mineral Deposits.	
	Minerals Present.	Geological Habit.
RECENT AND PLEISTOCENE	Sodium sulphate, magnesium sulphate	In beds.
TERTIARY—		
Oligocene	—	
Eocene	Coal (Turtle mountain, Manitoba)	In beds.
	Building stone (Paskapoo formation, Alberta)	In beds.
MESOZOIC—		
Upper Cretaceous	Coal (Ravenscrag formation, Alberta)	In beds.
Montana	*Refractory clay* (Ravenscrag and Whitemud formations, S. Sask.).	In beds.
	Coal (Belly River and Edmonton formations, Alberta).	In beds.
	Gas (Milk River sandstone, SE. Alberta).	
	Volcanic ash (Belly River formation, S. Sask.)	In beds.
Colorado	Oil and gas (Colorado shale, Alberta).	
Lower Cretaceous	Bituminous sand (McMurray formations, Alberta).	In beds.
	Coal (Grand Rapids and Kootenay formations, Alberta).	In beds.
	Quartz sand, semi-refractory clay ("Dakota", Man.).	In beds.
Jurassic	Oil and gas (Fernie and Ellis formations, Alberta).	
PALÆOZOIC—		
Carboniferous	Oil and gas (Alberta).	
Devonian	Oil (Mackenzie River region).	
	Lead and zinc (Great Slave lake)	Gash veins, etc.
Silurian	Gypsum, salt	In beds.
Ordovician	Building stone	In beds.