by the coal deposits of Upper Cretaceous age that occur in three formations that underlie much of the plains region of Alberta and outcrop along the outer Foothills belt, and the coal deposits of Vancouver Island, British Columbia; they are estimated at about 100,000,000 years old. The three formations in Alberta in which they occur are the Foremost and Oldman formations of the Belly River Series, and the uppermost or Edmonton formation. The youngest coals in Canada are those of Paleocene and later Tertiary ages, estimated at 50,000,000 to 30,000,000 years old. They comprise the lignite deposits of southern Saskatchewan and their extension into southern Manitoba and southeastern Alberta, the Tertiary deposits of the outer Foothills belt of central Alberta, and numerous small isolated basin coal deposits occurring in central British Columbia, Yukon and the Northwest Territories.

The coal deposits of the different geological ages reveal a wide range with respect to continuity, uniformity of thickness of seams and quality of the coal. The Lower Cretaceous coal deposits of western Alberta and eastern British Columbia appear to be much more uniform in quality and thickness of seams and more extensive than are either the carboniferous coal deposits of Nova Scotia and New Brunswick or the Upper Cretaceous coal deposits of Alberta or Vancouver Island. The coal deposits of Tertiary age are generally characterized by wide variations in thickness and quality of coal within short distances. This is, in a large measure, an expression of the environmental conditions that existed when the deposits were being formed, and the relative sizes of the coal-forming bogs.

Classification of Coals of North America

On physical character, chemical composition and heat value, coals of various types or modes of occurrence have been subdivided into different classes or ranks. In that the coals differ as to the original material of which they are composed and as to their manner of deposition, it is to be expected that no hard and fast division lines can be drawn between coals of the adjacent ranks. In fact, up until recent years no uniform classification of coals existed, and coals having the same physical and chemical composition and heat value were designated in Canada and the United States by different names. The need for a uniform and scientific classification of coals of the United States and Canada based on the physical and chemical properties of the coal has long been felt, the divergence in classification being especially noticeable in applying regulations governing the importation and exportation of coals under reciprocity agreement between these two countries. To establish such a uniform classification, an Associate Committee on Coal Classification of the National Research Council was set up in 1928 to work according to the procedure of the American Standards Association, in close association with an earlier formed Sectional Committee on Classification of Coals functioning under the sponsorship of the American Society for Testing Materials. This Committee was concerned with a classification of coals of the whole of North America. After nearly ten years of united effort, a uniform classification of the coals of North America was evolved which has been concurred in by both the American and Canadian Committees. This classification is essentially a chemical classification based on the fixed carbon percentage and the calorific value of the coal calculated on a mineral-matter-free basis, "the higher rank of coals being classified on the dry basis, and the lower rank coals according to B.T.U. per pound on the moist (as mined) basis. Agglomerating properties, that is, weakly caking properties, and slacking indices, the tendency for certain low-rank, high-moisture coals to slack and crumble due to weathering, are used to differentiate between certain adjacent groups". This A.S.T.M. classification by rank arranges the coals into the following four classes and thirteen groups:—