

Geological Atlas Of The Northern Canadian Mainland Sedimentary Basin

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ABSTRACT

An atlas compilation for this region of northern Canada was begun in the mid-1990s but suspended shortly thereafter. Reappraisal of priorities has led to a renewed interest in an atlas as a focal point for Geological Survey of Canada activities within the Mackenzie Corridor as part of the Northern Resource Development (NRD) Program of the Earth Sciences Sector (ESS). The Mackenzie Corridor and the proposed Mackenzie gas pipeline route falls within an area that is not included in any published geological atlas compilations. The Beaufort-Mackenzie region to the north and the western provinces to the south are both covered by the well-known atlas compilations (Geological Atlas of the Beaufort-Mackenzie Area and the Geological Atlas of the Western Canada Sedimentary Basin (WCBS)).

Like the WCBS atlas, all chapters of the northern mainland atlas will have in common a standard base map. This map is same scale (1:5,000,000) and projection (Lambert Conic) as that for the CSPG Geological Atlas of the Western Canada Sedimentary Basin with a common junction along the 60th parallel. Also, like the WCBS Atlas, the northern mainland atlas will contain a series of time-slice chapters, as well as theme chapters. Chapters initially are being published separately as Geological Survey of Canada Open File reports. Chapters will then be gathered together after editing to form the complete atlas. "Time Slice" chapters that have been completed for Open File publication include the Jurassic-Lower Cretaceous and the Lower Cretaceous-Tertiary intervals. Theme Chapters available as Open File publications include Heat Flow (GSC Open File 3626) and Paleomagnetism (Open File 3672). This will be a "next generation"-type of digital atlas with database and GIS functionality as well as digital illustrations. The intent of this atlas is to provide a common, or "one stop" reference for geoscience information available to territorial and aboriginal groups and to resource exploration and pipeline companies engaged in resource development activities, as well as to the general public. In addition to providing a great deal of basic geological information, the atlas will serve as a "window" with reference to more detailed information on subjects of specific interest.

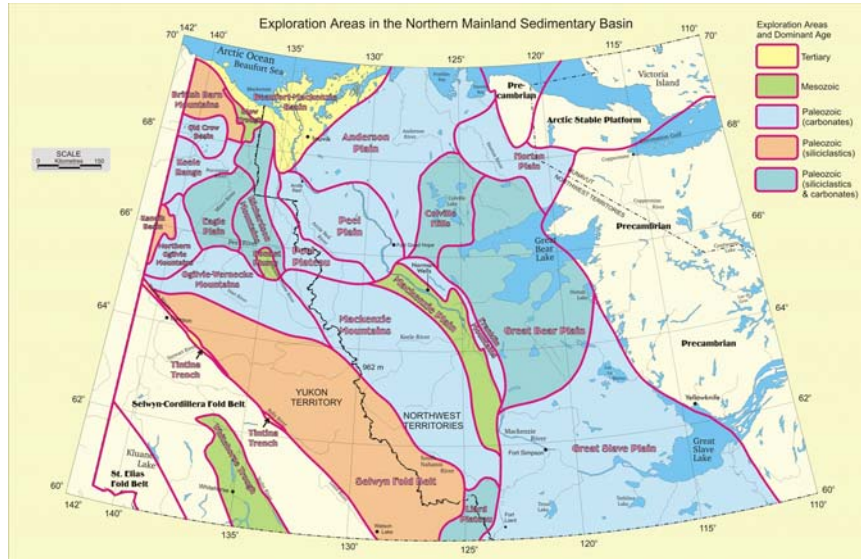


Figure 1. Map of petroleum exploration areas across the northern mainland sedimentary basin. Individual areas are colour-coded by principal age or lithology of petroleum-bearing strata.

Figure 1 is an introductory map illustration using the standard map base for a chapter outlining the transportation and utility infrastructure, and the existing resource endowment. This chapter will include correlation charts, maps and illustrations concerning the stratigraphic, geographic and geological setting of oil and gas resources and of organic-rich source rocks. This is but one example of the types of geological information that will permit northern communities and private industry to make informed decisions concerning land usage questions related to issues such as pipeline development and resource exploration and exploitation.