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Peel Petroleum Project, Northwest Territories and Yukon: Final Results and Deliverables

Leanne J. Pyle
Geological Survey of Canada – Pacific, Sidney, BC
lpyle@nrcan.gc.ca
and
Adrienne L. Jones
Northwest Territories Geoscience Office, Yellowknife, NT

The project *Regional Geoscience Studies and Petroleum Potential, Peel Plateau and Plain* (Peel Petroleum Project) has been a four-year (2005-2009), collaborative study among the Northwest Territories Geoscience Office (NTGO), Yukon Geological Survey (YGS), Geological Survey of Canada, universities, and industry. The objective was to advance knowledge of hydrocarbon potential and regional geology in the Peel Plateau and Plain, a prospective area in the northwestern NWT/northeastern Yukon in the vicinity of the proposed Mackenzie Gas Project (MGP) natural gas pipeline route. Although no major discoveries have been reported from the area, some encouraging shows are known from existing wells (74 wells total). Following reconnaissance in 2005, two field seasons on outcrops in the Peel area and proximal mountain ranges (northern Mackenzie Mountains, Richardson Mountains, and Franklin Mountains) were conducted to examine sedimentology, stratigraphic and structural relationships, and improve regional correlation.

The project has resulted in several interim publications in the past four years and the final results are presented in a project volume (joint NTGO/YGS Open File). The volume includes a chapter on regional structure and seismic interpretation, followed by a series of chapters that describe Cambrian to Cretaceous stratigraphic assemblages of Peel Plateau and Plain and their respective conceptual petroleum plays: Basal Cambrian clastics; Cambro-Ordovician platform; Upper Devonian clastics; Arnica/Landry platform; Kee Scarp; Tuttle Formation; and Cretaceous clastics. Petroleum systems elements for the Peel area are also discussed.

The final report will be accompanied by a digital geodatabase (or atlas) which contains all of the spatial data associated with the research. The atlas is a demonstrative product complete with GIS-ready files, field and core photographs, seismic profiles, core and measured section descriptions, geochemical analyses, isopach and structural maps, and other pertinent data linked to a spatial database of wells, field-based location data, cross-section traces, and seismic tracklines.

Visit *www.nwtgeoscience.ca/petroleum/PeelPlateau.html* for further information on this project and its deliverables.