

An Integrated Basin-wide Study into Petroleum Generation and Migration

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The Petroleum Technology Research Centre and the Universities of Regina and Alberta have embarked on an integrated study to improve understanding regarding hydrocarbon generation and migration in the Saskatchewan subsurface. This work will provide data for more accurate resource assessments for government and industry and also will assist exploration and development strategies for industry. This will be a broad-scoped program involving stratigraphy, hydrogeology, geothermics and petroleum geochemistry.

The study will produce an integrated and complete suite of hydrogeological data and maps consistent with regional geological maps produced by the Petroleum Geology Branch, Saskatchewan Ministry of Energy and Resources, which serve as the foundation for this study. New organic geochemical and petrographic data will be generated to fill in identified gaps in existing data type and distribution. These data will be used to refine the characterization and delineation of source-rock potential, source-rock 'kitchens', and migration 'fairways'. Geothermic research will produce a detailed thermal field of the Saskatchewan subsurface. State-of-the-art simulations will generate 1-D, 2-D and, ultimately, 3-D models describing the maturation, generation and migration of petroleum into, and within, Saskatchewan.

This study promises to have great impact for markedly improving our understanding the petroleum system in Saskatchewan, and also in North Dakota, Montana, Alberta and Manitoba. It is expected that industry interest in this project will be considerable and that the results will be highly anticipated.

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