

# **Basin-Scale Stratigraphic Architecture and Paleocene Distributary Fluvial Systems of the Cordilleran Foreland Basin, Alberta, Canada**

**Erik M. Quartero<sup>1</sup>, Laurence R. Bentley<sup>1</sup>, and Andrew Leier<sup>2</sup>**

<sup>1</sup>University of Calgary, Calgary, Alberta, Canada ([emquarte@ucalgary.ca](mailto:emquarte@ucalgary.ca))

<sup>2</sup>Department of Earth and Ocean Sciences, University of South Carolina, Columbia, South Carolina, USA ([aleier@geol.sc.edu](mailto:aleier@geol.sc.edu))

## **Abstract**

The Paleocene Paskapoo Formation in Alberta, Canada is composed of several hundred meters of fluvial strata deposited 60 million years ago in the actively subsiding foreland basin of the Canadian Cordillera. The Paskapoo Formation is the major groundwater aquifer system in western Alberta, and covers approximately 65,000 km<sup>2</sup> (Grasby et al., 2008). A large new subsurface data set of this unit has become recently available because of new governmental regulations (ERCB directive 043, 2006). In this study, we utilize gamma ray normalization methodology to generate well logs of the near surface cased interval to reconstruct large-scale stratigraphy and depositional history of this foreland basin fluvial system.

## **References Cited**

Burns E. R., Bentley, L.R., Hayashi, M., Grasby, S.E., Hamblin, A.P., Smith, D.G., and Wozniak, P. R. J. 2010. Hydrogeological implications of Paleo-fluvial architecture for the Paskapoo Formation, SW Alberta, Canada: a stochastic analysis, *Hydrology Journal*, Vol 18, pp.1375-1390.

Demchuk, T.D., and L.V. Hills, 1991, A re-examination of the Paskapoo Formation in the central Alberta Plains: the designation of three new members, *Bulletin of Canadian petroleum Geology*, Vol 39, No. 3, P. 270-282.

ERCB directive 043, 2006, Well Logging Requirements – Surface casing Interval, Energy Research Conservation Board, ERCB/AGS.

Grasby, S.E., C. Zhuoheng, A.P. Hamblin, P.R.J. Wozniak, and A.R. Sweet, 2008, Regional characterization of the Paskapoo bedrock aquifer system, southern Alberta, *Can. J. Earth Sci.* Vol 45. P. 1501-1516.