



Medal of Merit 2016 – Formal Citation

As specified in CSPG bylaws the Canadian Society of Petroleum Geologists Medal of Merit is awarded annually for the “best paper related to Canadian petroleum geology” published during the previous publication year, in this case for peer reviewed papers published in 2015. The medal is important recognition of excellence in Canadian petroleum geoscience research and writing and has been awarded since 1952. The paper chosen this year was written by Denis Lavoie, Nicolas Pinet, Jim (James) Dietrich and Zhuoheng Chen and is entitled “The Paleozoic Hudson Bay Basin in northern Canada: New insights into hydrocarbon potential of a frontier intracratonic basin”. The paper was published in the AAPG Bulletin, Vol. 99, No. 5, p. 859-888 (May 2015).

This paper describes a regional re-evaluation of the petroleum systems potential of the Hudson Bay Basin utilizing updated datasets and analysis. The Hudson Bay Basin is the largest intracratonic basin in North America and has been generally under-explored (nine wells) due to a perception of inadequate charge.

The authors provide a detailed and thorough exploration and geologic history of the basin and systematically investigate each element of the petroleum system, with a focus on the potential source rocks and thermal maturity. Numerous observations including hydrocarbon shows from wells, petrophysical anomalies, seafloor pockmarks, oil slicks, Rock-Eval data, vitrinite reflectance and thermal models support an interpretation of a locally active source system. Additionally, the paper provides a discussion of exploration risk associated with each petroleum system element and describes five potential plays – three of which are untested.

This work is an important contribution as it provides an updated interpretation of the petroleum system potential in the largely unexplored Hudson Bay Basin. Specifically, the authors have addressed the main exploration risk with a thorough analysis of potential source intervals and have concluded hydrocarbon potential in the Hudson Bay Basin is greater than previously thought.

Biographies



Denis Lavoie obtained a Ph.D. in sedimentary geology and geochemistry from Laval University in 1988 and Geological Survey of Canada in 1989 as a research scientist. His research focuses on sedimentary environments, organic and inorganic geochemistry as they pertain to conventional hydrocarbon systems in the Canadian North and on resource and environmental aspects of unconventional hydrocarbon systems in southern Canada. He has produced over 150 scientific papers and government reports on the geological understanding and hydrocarbon potential of Canadian Paleozoic sedimentary basins and was Editor-in-Chief of the CSPG Bulletin (2008-2012).



Nicolas Pinet obtained a Ph.D. in geodynamics from Nice-Sophia Antipolis (France) in 1990. After a post-doctoral fellowship in the INRS-ETE (Quebec), he was involved in several mining projects before joining the Geological Survey of Canada in 2005. His main interests are mountain building and basin formation mechanisms.



James Dietrich graduated from the University of Waterloo in 1977 with a BSc in Earth Sciences. His GSC research activities have included studies of seismic data and petroleum resource assessments of sedimentary basins across Canada, including the Beaufort Sea, Pacific Margin, Gulf of St. Lawrence, Hudson Bay and Arctic Canada Basin regions.



Zhuoheng Chen obtained his Ph.D. from the Norwegian University of Science and Technology in 1993 and held a position as an associate professor at China University of Petroleum (Beijing) before joining the Geological Survey of Canada in 1998. His current research interests include petroleum resource assessment for conventional and unconventional reservoirs (methods and applications), petroleum system, hydrocarbon generation kinetics and basin analysis.