

## **Oil and Gas Pools of Western Canada – A New Reference for the Digital Age**

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### **A New Reference for the Digital Age**

Geologists, Engineers, and other exploration or evaluation professionals often need to assess the potential of a pool quickly. In the years prior to the common availability of digital data, explorers were reliant on their hard-won knowledge of the subsurface geology of a region, and on the existence of a variety of reference works such as the Gas Fields of Alberta 1969. Over time, these references were abandoned in favour of the more readily available digital data. The problem, of course, is that data is no substitute for knowledge.

In 1994, the Alberta Geological Survey, in conjunction with the CSPG and the Alberta Research Council, attempted to address this lack of reference with the release of the “Geologic Atlas of the Western Canada Sedimentary Basin”. As with previous reference works, this volume is now out of print.

In Western Canada, exploration and exploitation has benefitted from the growth of digital data availability over the past 3 decades. Recognizing the value of a reference work of this nature, and tying that reference to the larger volume of data now available, geoLOGIC systems ltd. began work on creating a new digital reference work. There were several design goals for this new digital reference.

## Design Goals

It must provide a tool that would allow anyone beginning work in a new (to them) region a way to understand the geology of that region. This includes an ability to:

- Easily visualize reservoir parameters and pay zones in every producing pool
- Quickly compare new prospects with the most informative wells in the area
- Provide a tool to allow anyone to examine pools in an area and use those pools as a basis for determining if exploratory plays were “analogs”.
- Correlate with other key wells to refine and determine the most relevant tops
- Provide the best selection of reference wells for correlation and cross-sections

To this end, the reference must adhere to known standards for nomenclature in the regions and must be constantly maintained and updated.

## Implementation

Work on this project began in 1999. In consultation with industry professionals, geoLOGIC systems established key well criteria that would best characterize a pool and then began the mammoth task of reviewing almost 600,000 wells and over 45,000 pools in the Western Canada Sedimentary Basin before choosing the most representative wells. They identified top of pay, picked all critical adjacent tops, and extracted the logs that support these findings.

## References

Glass, D.J. 1990 Lexicon of Canadian Stratigraphy Volume 4 Western Canada, Including Eastern British Columbia, Alberta, Saskatchewan and Southern Manitoba: Canadian Society of Petroleum Geologists

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Mossop, G.D.; Shetsen, I, 1994. Geological Atlas of the Western Canada Sedimentary Basin: Canadian Society of Petroleum Geologists and Alberta Research Council