

Canadian Williston Basin: Drilling Trends, 2003 to Present

Tracey Jungwirth¹

In this review, Canadian Discovery Ltd. (CDL) has analyzed oil industry activity, including recent discoveries and drilling activity in the Canadian Williston Basin, from 2003 through the third quarter of 2006. The purpose was to assess current trends and highlight areas for possible future discoveries. This time period was chosen because there are sufficient public data available that are recent enough to be relevant, the dataset is a reasonable size and there have been some notable increases in drilling activity. Statistical analysis graphs, maps and supporting material were generated using CDL's EDGE software tool and other products.

In the time frame, approximately 4,400 wells were drilled in the Canadian Williston Basin. Of these wells, 20% were exploration wells (NFW, NPW, DPT, Outpost) and 80% were development wells. Of the total number of wells drilled, 73% percent are classified as oil producers, with only a small number of those being exploration wells. Mississippian formations are the dominant objectives for exploration drilling, though other targets such as the Ordovician and Cretaceous provide outstanding production results.

CDL has created a top 25 exploration and development wells list ranked by initial production (IP), which is defined as production for the first three months on-stream. Within the top 25 exploration wells, IP rates range from 90 to 900 bopd. Cumulative recovery also varies widely, from 18 to 1500 barrels of oil, although the on-production date contributes to the differences in this category. A variety of operators drilled these top exploration wells.

The Mississippian dominates the top 25 IP development wells. Unlike the top exploration wells, a small number of operators is responsible for successful development drilling, and most of the top 25 wells are the result of technology-driven capital intensive programs.

Over half of the wells drilled since 2003 were categorized as horizontal wells. The horizontal wells dominate the top IP wells.

Canadian Discovery (unfortunately) cannot predict the future, but statistical analysis and geologic interpretation of data from 2003-2006 can delineate hotspots and trends that can point to future concepts and direction. This paper will provide a statistical review of the recent drilling activity, identify the top IP wells and indicate the active formations.

¹Canadian Discovery Ltd., Calgary, AB

Tracey Jungwirth, P Geol., M.Sc., is the Geotechnical Director at Canadian Discovery Ltd. She received her Bachelor of Science degree in Geology from the University of Saskatchewan in 1992 and Master of Science degree in Geology from the University of Calgary in 1995. Tracey is a professional geologist with 12 years of exploitation and evaluation experience across the Western Canada Sedimentary Basin. Email: tjungwirth@canadiandiscovery.com