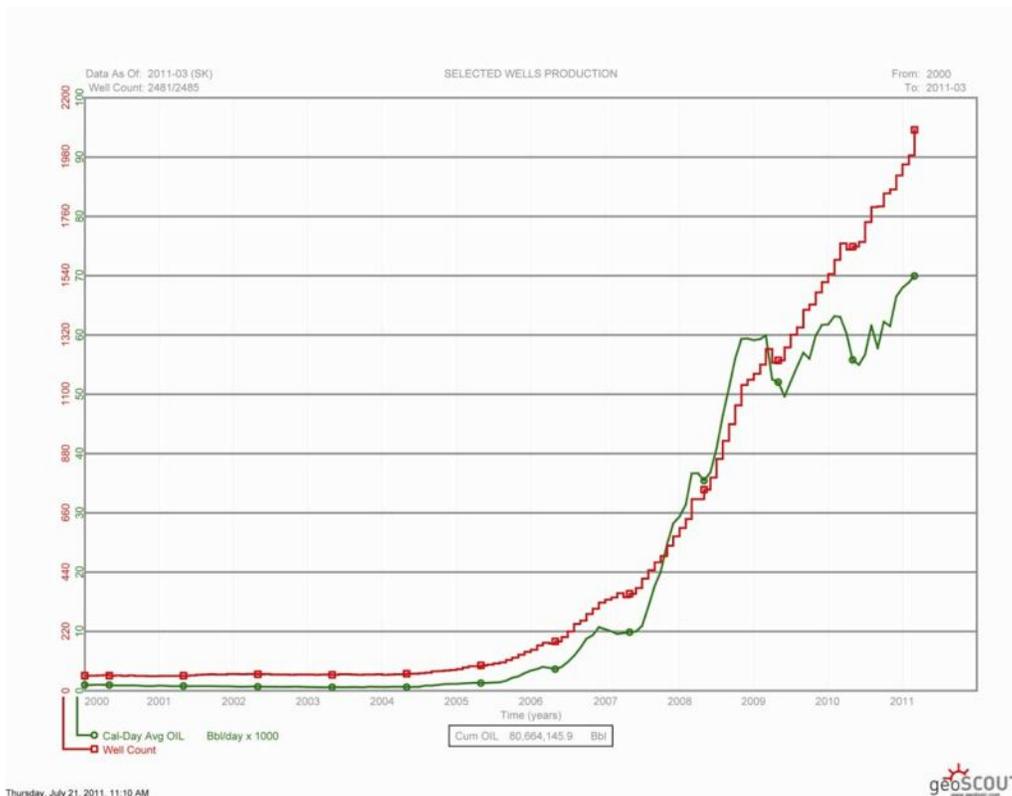


CANADIAN GEOSCIENCE SUCCESS STORIES

SASKATCHEWAN

The Middle Bakken of Southeast Saskatchewan



HEADLINE:

Research completed by geologists at the Saskatchewan Geological Survey (SGS) helped to kick-start, and continues, the development of the Bakken play in southeastern Saskatchewan.

DESCRIPTION OF SUCCESS:

In early 2005, there were approximately 80 Bakken wells in southeast Saskatchewan producing very little oil. In response to Bakken successes in Richland County, Montana, SGS geologist Kim Kreis began work to characterize and report on similar oil shows in the Bakken throughout the southeast of Saskatchewan. Further development of Bakken research came from SGS geologists Erik Nickel and Dan Kohlruss, who have since authored numerous reports, papers, and presentations on the topic. Throughout this time, the expansion of the Bakken play, based in part on the SGS's research, has led to over 2,200 new Bakken wells, producing more than 60,000 barrels (10 000 m³) of oil per day (as of January 2011). The sale of crown mineral rights for these Bakken wells has netted the province more than \$1.3 billion since 2005.

DESCRIPTION OF GEOSCIENCE PROJECT:

In 2005 and 2006, SGS geologist Kim Kreis published two key papers that outlined the basic lithostratigraphy of the productive Middle Bakken member, as well as offering some clues as to the origin of the oil. In addition, he outlined a model for exploration for future Bakken oil, which helped lead the play to new areas not previously considered viable.

In 2008, research on the Bakken was taken over by Erik Nickel and Dan Kohlruss who set about mapping the detailed stratigraphy of the Middle Bakken. The result was a series of maps and a core display presented at the 2009 Williston Basin Petroleum Conference and the 2009 Canadian Society of Petroleum Geologists Conference Core Workshop. Also in 2009, a paper was published by Kohlruss and Nickel outlining detailed mapping and a sequence stratigraphic model for the deposition of the Middle Bakken.

More recently, the SGS has focussed its work on the classification of trap types within the Bakken, as well as targeting new directions for exploration – namely extending west of areas of current production and exploration. Promotion of the play and new play concepts and trap types is ongoing and is being met with enthusiasm from industry.

TESTIMONIAL:

At the numerous presentations and core workshops on the Bakken given by SGS geologists, there has been a lot of interaction with industry professionals and the response to the work has been overwhelmingly positive. The work won an honourable mention for best core display at the 2009 Canadian Society of Petroleum Geologists Conference in Calgary.

“The successful exploration and development of the Bakken Sandstone in Southeast Saskatchewan has been due, in large part, to the detailed research conducted by petroleum geologists at the Saskatchewan Geological Survey. Their regional core and mapping studies of the Bakken, within an underlying surface to basement approach, have helped point the way to different styles of trapping in diverse areas such as Oungre, Roche Percee/Taylorlton and Viewfield.”

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