

Geometry of an Edmonton Channel in West-Central Alberta

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ABSTRACT

Industry activity in the Edmonton Group in west-central Alberta has escalated over the past few years almost exponentially.

Commercial gas rates in the Edmonton range from less than 20 mcf/d to daily rates exceeding 1.5 MMCFD. Estimating ultimate production is a challenge with little production history from most of the producing wells. At this time, the best indicator of cumulative production may be the average of the 'first three months' daily rate.

At the end of February, 2004, over 1200 wells were designated as producing from the Edmonton, with a total daily rate of approximately 136 MMCFD, and an average of about 110 mcf/d per well. The first three month average daily rate is just over 200 mcf/d per well. Cumulative production has already exceeded 150 Bcf from Edmonton and co-mingled Edmonton wells, and approximately 50 new wells are designated as having Edmonton production every month.

With almost every company drilling through these sands, exploration departments are starting to take notice.

Analogue work can help identify and evaluate existing wells for twinning or recompletion opportunities, and knowing the geometry of an existing channel system will help when evaluating opportunities in areas of lesser well density (away from more active areas).

A new project is currently underway in the Pembina area. High drilling density in this area will aid in providing a detailed look at the geometry of a productive Edmonton channel system.

The resulting channel map is then compared to a producing Belly River channel, with a view to helping the explorationist develop this exciting bypassed pay opportunity in an area where shallow gas was uneconomic until relatively recently.