

Gas Exploration and Development Strategies in the Western Canada Sedimentary Basin

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The Western Canada Sedimentary Basin (WCSB) is a very important gas supply basin for North America. In 2000, it produced over 16.5 Bcf/d, 23% of Canadian and US consumption. The Canadian Gas Potential Committee (2001) states that the WCSB “will continue to be the main gas supply area in Canada”. However, over 3.3 Bcf/d of new productive capacity must be added each year to replace natural decline. Sustaining basin productivity at competitive F&D costs will challenge operators faced with decreasing initial rate per new well and increasing initial decline rates. What role will exploration and development (E&D) strategies play in converting the WCSB’s remaining potential into future gas supply?

As part of a comprehensive and rigorous study of the 25 Bcf/d in gas supply added over the period 1990 to 1999 in Western Canada, a new fourfold classification of E&D strategies, based on timing of both pool discovery and township connection, was applied to rate additions in over 42,000 gas completions. Rate additions from wells in pools discovered since 1984 have been increasing relative to older pools. The gas producing area of the basin has doubled since 1989. About 200 new townships were connected each year. Although the strategies **Exploration** and **Development** accounted for over 60% of the supply growth, additions from the **Connection** and **Renewal** strategies were large and widespread throughout the basin.

Based on these recent trends, sustainable E&D strategies for future gas supply will be discussed.