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### **The Ladyfern Gas Field—Canada is Still Hiding Mammoths**

A Slave Point gas field discovery made by Apache Canada in winter 2000 at Ladyfern, British Columbia (Block H-94H1) is the largest onshore North American gas accumulation found in 15 years. The discovery underlies established pipeline fairways and individual wells are capable of production rates in excess of 100 MMcfpd. By the close of March 2002, 40 wells were producing 785 Mmcfpd, 5% of Canada's natural gas stream. The Ladyfern Slave Point gas field is areally extensive, up to 100 square kilometres, with gas column greater than 100 metres, and recoverable reserves of 700 Bcf to 1 Tcfof gas. Discovery of this most recent onshore "elephant" highlights Canada's tremendous untapped energy potential.

The Upper Devonian Slave Point Formation in north-central Alberta and British Columbia, Canada is an intermediate depth (2000-3500 m) bioclastic carbonate. A basement strike-slip structural regime associated with the Hay River Fault Zone has controlled areal distribution patterns of reservoir facies in the Slave Point formation and directly influenced internal stratigraphy and cyclicity. At Ladyfern, episodic burial reactivation of these faults has resulted in extensive fracturing and created active conduits for hydrothermal fluids which have variably leached, dolomitized and cemented the rock. In areas of maximum extension near fault intersections, intense dissolution, brecciation and hydrothermal dolomitization have resulted in collapse synclines with optimal reservoir development that are seismically resolvable.

The Ladyfern discovery confirms the viability of using wrench fault based hydro-thermal dolomite exploration models for prospecting in carbonate units worldwide.