## West Athabasca Grand Rapids Formation – A New SAGD Play

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## **Summary**

This presentation provides a description of Laricina Energy Ltd.'s proposed thermal project in the Grand Rapids Formation in the Wabasca area of northeastern Alberta in and around Township 84-22W4M.

The majority of SAGD development to date has been concentrated in the McMurray Formation in the Eastern Athabasca fairway. More recently operators have identified projects with considerable resource located in shoreface sands of the Grand Rapids Formation in the Wabasca area.

The Grand Rapids Formation comprises the upper part of the regressive Upper Mannville Group and consists of multiple thick sandstones hosting 54.5 billion barrels of bitumen in place. The uppermost Grand Rapids sand is the largest of the three identified deposits with 33.2 billion barrels in place. This sand is a regional marine deposit occurring at 200 metres average depth. Its unique features – broad deposition, clean sand with homogeneous and continuous reservoir pay – increase the predictability and consistency of the reservoir. Much of the bitumen resource is underlain by a thin bottom water leg of varying thickness.

The uppermost Grand Rapids sand has been the focus of recent drilling and seismic acquisition by Laricina Energy Ltd. in the Germain area (T84 R 22W4). A type well from the Germain lease is shown in Figure 1. Unlike typical McMurray reservoirs, the upper Grand Rapids sand is very homogenous with very rare muddy interbeds. However, the reservoir parameters are similar to the McMurray with bitumen thicknesses ranging from 10 to 25 meters, average porosity of 34%, bitumen saturations ranging between 65 and 75% and permeability ranging between 1 and 5 Darcy. With comparable geological properties, comparable SAGD performance is expected.

With approximately 2.5 billion barrels of bitumen in place within the Germain lease, Laricina is moving forward with its SAGD project



Figure 1: Germain Upper Grand Rapids Type Well - 1AA/06-3-085-22W4

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## References

Cant, D.J. and Abrahamson, B. 1997, Regional stratigraphy, sedimentology, and petroleum geology of the Grand Rapids Formation, Mannville Group Northeastern Alberta. Bulletin of Canadian Petroleum Geology v.45, p.141-154.

EUB Report ST96-38, Crude Bitumen Reserves Atlas, May 1996

ERCB Report ST98-2009, Alberta's Energy Reserves 2008 and Supply/Demand Outlook 2009-2018

Peterson, J.A., Connelly, M.E. and Edmunds, N.R., 2008, Bitumen Production Potential from the Wabasca Grand Rapids Formation Deposit, World Heavy Oil Congress, March 10-12, 2008, Paper 2008-453, 10pp.

Peterson, J.A., Riva, D.T., Connelly, M.E., Solanki, S.C. and Edmunds, N.R., 2009, Conducting SAGD in Shoreface Oil Sands with Associated Basal Water, Canadian International Petroleum Conference, June 16 – 18, 2009, Paper 2009-128, 12pp.