



Oil Sand Dances with Natural Gas

By CK Wong 2005.11.08

<http://www.ck-wong.ca/money%20matters/oil%20sand%20dances%20with%20natural%20gas%2020051108.pdf>

Introduction

In-situ production of oil sand usually relies on the SAGD (Steam Assisted Gravitation Drainage) method. To generate the steam, the source of heat is natural gas. There is a natural synergy between the oil sand and the natural project. This article explores this synergy.

SAGD

The oil in oil sand (or tar sand) can be harvest in two ways. The first is directly mined from the open pit and then use heat to separate the sand from the heavy oil. The second method is to drill horizontal wells which outside wells will heat the sand to reduce the viscosity and collect through a centre by steam. Both methods use steam which usually generated by heating water with natural gas which is easy to manage.

In the Alberta oil sand area, there are a number of gas wells. The gas produced will be exported to Canadian and American market. Some of them are also consumed by the oil sand producer in the SAGD process.

Vertical Supply Chain Management

There is a school of supply management that integrates the supplier of all parts in a product line under a single umbrella. The inter-business unit arrangement can provide a much better supply time and consumption time without stockpile waiting in the warehouse. The profit from the supplying business unit flows back to the bottom line. The supply could also gain priority during the tight situation. As long as the profit margin of the supplying business unit is high this model work well. When the margin is low you would like to divestiture and let others take the blunt. The NG supply in this situation is the first case so the model will benefit the company.

Natural gas production of United States has peaked. Although the Canadian NG production increases, its demand also increases. The net export has decreased. All these points to higher NG gas in the future. The NG price in 2004 was about US\$6 MMCF. In 2005, the peak was close to US\$15. The cost of the energy in most oil sand producer is at 10-15% before. The doubling of the NG price, forces the cost to increase to 20-30%. This cuts into the bottom line of the book. Since the price of the crude has gone from US\$40 to \$60, the profit margin still wide. The issue lies on the availability of NG. If the in-situ could not have enough NG, the production will be jeopardized. The supply security of NG to oil sand producer is a vital success.

Opportunities of Synergies

Some producers have oil sand and gas production enjoy the best situation if they can use their NG in Alberta. It does not only reduce the cost by buying from its subsidiary, the cost is also lower because lower or no transportation/storage cost. In the situation like Western Oil Sand Trust, the future may be best bright because of the NG shortage until it could secure the NG supply.

Other companies like Shell and Husky which have the gas production and oil sand production is a great combination.

However, the oil sand production requires more than NG. Without the upgrader, the heavy oil will be sold a lower price than the upgraded synthetic oil which usually about U\$10 to U\$15 higher.

To push the vertical food chain further, it would be best to have the refinery rather on site to generate the consumer products. Canadian Natural Resources has to send some of their product to the Gulf of Mexico refinery to generate consumer products. The refinery is a limiting factor of the growth.

A Dance Partner

Encana has the largest parcel of oil sand property and the NG supply but it does not have the refinery and the oil sand capability. This is like the rich guy sitting around with bag of money and waiting for a financial advisor to put the money in good use.

Royal Dutch Shell was in the news. Rumor said it might buy Encana. But Encana announces that it is not for sales. It is looking for partners. This bring a very interesting question on who could be the partner?

Shell is a good candidate. It has the refinery and the oil sand project that could extended to cover Encana. But it is too busy on its own project. Imperial and the Syncrude gang have their hands full. Both Murphy Oil and Conoco Phillips are possible. However I would imagine any intention would be shown up on their existing project already.

This leaves a herd of black horses: CNOOC, SNP, Based on the friendly Sino-Canadian relationship, this could happen. This could also certainly fit the China oil hunt strategy.

Last but not least will be Husky. Husky has a strong relationship with China. It has been continuously growing both in Canada and China. Li Ka Shing has announced that it is not for sales. You can assume that Husky will sell the oil to China at a reasonable price should they have the production (not even surplus). China could spend the money somewhere else to secure the oil supply. To become a partner of Encana, the pocket has to be deep in order to fork out that \$5B - \$6B. Don't forget, Li Ka Shing also control the CIBC which has done a lot of investment banking transaction that do not less that stunning.

Afterword

This note's original title was called *Oil Sand and Natural Gas Economics*. But I like the movie *Dance with the wolf*. So I shoe horn the title to *Oil Sand Dances with Natural Gas*.