

Unique cost structure and 'low environmental footprint' provides a real rising star for unconventional oil recovery

✘ American Sands Energy Corp. ('AMSE', OTCBB: AMSE), an oil sands exploration and development company, based in Utah, recently presented a new Project Feasibility Study, featuring updated capital and operating costs as well as a new Mine Plan. The revised studies suggest that AMSE's costs are below those of other tar sand or unconventional oil projects. Indeed, AMSE would need about USD\$ 75 million to lead it to production with 'per barrel' production costs expected in the range of USD\$ 15,000/barrel in CAPEX up front. This is half the price of the average Canadian oil sand extraction costs, which range from a low of about USD\$ 30,000/barrel to a high of USD\$ 100,000/barrel. At such costs, AMSE's oil is 'bargain basement' priced. Moreover, AMSE will not have to re-invest in the resource, which is what a drilling operation has to do.

A conventional oil company has to continuously drill new wells to continue to use a deposit, running the risk of coming up with dry holes, which makes AMSE much more convenient and attractive. The costs are very competitive in relation to other unconventional projects while having the distinct advantage of a much lower environmental impact because there are no tailing ponds given the production focus being directed toward reclamation sand. AMSE's low costs and lower environmental risk profile should allow production to begin in 2016. The highlights from the feasibility reports include:

- CAPEX estimates of USD\$ 15,000 per flowing barrel at peak production.
- Operating costs averaging under USD\$40 per barrel of heavy oil (for the first four years of production).
- Up 9,000 barrels per day production capacity.

AMSE's oil sands are of the 'oil wet' variety as opposed to what is more common in Canada: the 'water wet sands', which makes AMSE's oil sands easier to process because the oil impregnated sandstone is free of any water content. This results in a mining process whereby the sandstone is impregnated placed in a solvent solution that washes the bitumen away from the sand. The bitumen, then, is cleaned up from remnants of the solvents in order to be delivered to the market. The sand that is left over in the process is clean and ready to go back into the ground. This explains why AMSE's production timeline is so fast and why production is expected to reach a rate of 5,000 bpd by 2016.

AMSE features a unique cost structure and its low environmental footprint in the context of the oil sands industry. This means that, compared to others in the oil sands space, AMSE is "much cheaper on a per barrel basis, much cheaper on a CAPEX basis and far less risky on an environmental basis because its process does not produce any dirty water. The recent debate over the Keystone XL pipeline reflects the costs and risks faced by AMSE's tar sands competitors in Alberta. The exploitation of new unconventional oil resources in Alberta has brought great wealth to Canada; however, the process is so expensive that the current USD\$ 80/barrel oil price is a threat to the long term viability of the very expensive production from the 'oil sands'. The Canadian province of Alberta has been credited with having the world's third largest oil reserves, 97% of which are trapped in the oil sands: as yet barely exploited but dirty and demanding huge investments for its production. Apart from toxic emissions (apart from CO2), their extraction destroys

the landscape when it pasty liquid is extracted in open-pit mines.

Rising oil prices since the late 1990's and especially since 2008 made their development viable; it also helped to develop new oil extraction technology such as steam injection into the soil to soften and fluidize the bitumen in situ (and not by mining), are in operation. Yet, this process alone accounts for USD\$ 50/barrel. This is a very expensive cost and one that AMSE avoids by virtue of the nature of its much different oil sands resource. Alberta may have the largest unconventional oil deposit in the world (certainly in North America) but the development costs also make it less profitable for companies to exploit. Utah's oil sands are more profitable. The sands are saturated with oil rather than water – as in Alberta. This means that there is simply more oil per granule of sand with far fewer environmental risks than in Alberta or as some might say more 'bang for the buck'.