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Wavefront ready to flow revenue; Unique oilpatch technology promises to recover crude from older wells

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Illustrations: Colour Photo: Rick MacWilliam, The Journal / Brett Davidson, CEO of Edmonton-based Wavefront Energy and Environmental Services

EDMONTON - For a junior technology outfit based in the nondescript industrial 'burbs of west Edmonton, Wavefront Energy & Environmental Services has attracted some impressive financial backers.

The heavyweights include Sprott Asset Management -- led by hot shot Bay Street money manager Eric Sprott -- as well as Boston-based Wellington Asset Management and San Francisco's Passport Capital, among others.

Given Wavefront's modest market cap -- \$190 million, as of Wednesday's close on the TSX Venture Exchange -- and its steady operating losses, one might wonder why the Big Boys have piled into such a tiny, obscure sandbox.

The answer? Wavefront's patented Powerwave technology, which is finally being rolled out on a limited commercial basis after years of field trials. If it's successful, it promises to enable energy producers to boost oil flows from mature reservoirs, where billions of barrels of crude lie stranded.

With oil prices at \$135 US a barrel and Peak Oil theorists insisting that a new era of chronic energy shortages is upon us, the potential payoff for producers -- and Wavefront -- is obvious.

Not only might Wavefront's technology yield upfront gains in output, cash flow and profits, thus justifying the upfront capital cost, but it could significantly extend the life of thousands of aging fields, enhancing their value.

"Wavefront's technology sounded quite plausible to us, and their preliminary work suggested it did in fact increase (well) productivity," says Sprott, an iconic Bay Street player who has gained fame and fortune in recent years by astutely riding the boom in commodity prices.

"That's so valuable today, at \$135 a barrel, that you'd think their technology could be taken up quite quickly by the industry. Now, it's a bit of a bet, because there's really no financial metric that says their stock is cheap," he notes, with Wavefront continuing to pile up losses.

"But anybody who can develop technology to extract more hydrocarbons is going to have a very valuable technology. We won't know for sure until they start getting some contracts that really produce earnings, but it looks like the technology is beginning to be

accepted."

Indeed, Powerwave has already been used in the field by EnCana, Penn West, Pengrowth, BP, Chevron and Apache, among others. It's also being marketed in the U.S. by Halliburton, the energy services giant.

But the number of firm commercial orders for Powerwave is still small, at just 85. Of that, only 24 systems have been installed to date.

Still, Wavefront CEO and co-founder Brett Davidson, who has spent the past decade developing Powerwave -- and its counterpart in the environmental services sector, Primawave -- says that's about to change.

"I think we're right at the cusp of that transition to being a fully commercial company. Our target this year is to have 100 tools licensed. Next year, we're trying to push that to 500. And in 2010, our goal is 1,000," he says.

"Now, it may seem like a large leap to go from 100 to 1,000, but if I look back to last October, we had only eight in the ground. Today we have 24 in the ground, and there's another 61 waiting to go in.

"So we've taken a large leap already."

Wavefront's existing 18 customers currently operate roughly 4,600 water injection wells, notes company director Walter Stelmaschuk, who previously served as chairman of Nisku-based NQL Drilling.

"So we'd expect to see a pretty quick jump once they place additional orders to network their fields," he says.

Powerwave is used in so-called injection wells, where water or carbon dioxide is forced downhole, creating pressure that frees up trapped crude. The patented system uses an intermittent fluid pressure pulse that allows for a more uniform injection of fluids throughout the reservoir.

This in turn yields higher production rates, extending the life of a field, and enhancing its value. In Texas, one recent field trial raised production rates from eight wells by 26 per cent. A similar project in Alberta initially raised output by 18 per cent. It then ramped up to 100 per cent, says Davidson.

Still, the installations to date have been small. To really wow the energy industry, and the investment

community, Powerwave would have to be deployed on a far wider basis. And that's exactly what Davidson intends to do.

"If you look at the market opportunity Wavefront has, you're looking at essentially over 200,000 wells to inject fluid in North America. Roughly 167,000 are in the U.S., and 55,000 of those are in Texas alone," he says.

"And as reservoirs get more mature, they add more injection wells to bring up the pressure to push more oil. So the market actually grows, it doesn't contract," he notes.

"And what's unique about Wavefront is that outside of our product licencees, there's no one else in the world that does what we do. So it's a very good market opportunity for us."

The company expects to turn the financial corner in 2009, when it hopes to generate roughly \$4 million in revenues. After that, after 10 long years of toil, Davidson sees paydirt.

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