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Wavefront going worldwide; Local firm setting up its own network of distributors for its oilfield injector devices

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Page: D1 / FRONT
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Illustrations: Colour Photo: Larry Wong, The Journal, File / Wavefront CEO Brett Davidson holds a pulsating water-injection device.

A local firm that developed an innovative way to push more oil from reservoirs, and clean up toxic chemicals in groundwater, is going global.

Wavefront Technology Solutions, which has been working with a U.S.-based oilfield services company since late last year getting its Powerwave injector devices onto the North American market, is now close to signing accredited distributors in several countries.

Just back from a round-the-world tour, company president Brett Davidson found plenty of interest in Australia -- and not just from the oilpatch. "I was meeting with oilfield firms, and we started getting requests to meet environmental firms to discuss our Primawave groundwater remediation system," he said.

"The environmental sector is Australia is growing. They are spending over $1 billion on groundwater remediation, more than Canada. And there is movement there to spend more, so it is nice for Wavefront to be at the upstart of that."

Instead of dealing with a large multinational firm with offices in many countries, Wavefront has decided to set up its own network of accredited distributors and deal with smaller companies.

"Firms that understand the nuances of the market they are in are beneficial to us. We will provide the training and tools, and share in the benefits. Our goal is to have a very broad distributorship of our technology with well-established service companies.

"In Australia for instance, we met with one firm in Perth who also have offices in New Delhi, Scotland and Indonesia, so they know those areas."

Wavefront expects to sign with companies based in Europe and other areas of the Pacific Rim, plus Mexico and Brazil. The firm has 90 committed orders for its oilfield devices, which lease for $36,000 a year. In a test that finished last year, three Wavefront injectors provided 14,500 additional barrels of oil from a depleting Alberta field.

Despite the recent sharp drop in oil prices, Davidson said companies still have to produce.

"There have been production declines in many fields, and it is difficult to resurrect production (if it drops too low). In Mexico, Brazil and Indonesia there is a lot of oil production, but a lot of water injection goes to sustain that production, so the market is very big."

With requests for proposals from several Australian companies, Wavefront is also close to signing a firm in the Pacific Rim region and Mexico, with an Indonesian firm also in final talks.

There has also been a flood of interest from Japan.

Because the injector looks simple, Davidson is aware there may be people who would like to copy his device.

"But even if they have the tool, there is a lot to know on how it operates, what response there will be in the reservoir or aquifer. But having distributors on the ground is also important to protecting the device and the science behind it, our intellectual property," he said.

"We won't market in a country that does not have our interests at heart. We've been asked to export our technology to China, and we were skeptical, and have decided not to move into that territory."

Wavefront's 10-year goal is to grab at least 10 per cent of the global injector well market. There are 200,000 injector wells in North America alone. "We expect to be shipping thousands of units out of Edmonton each year. And we intend to keep our company and the manufacturing component here," said Davidson.

"These are exciting times at Wavefront."

The device sits on the injection tubing and is the first thing in the well. It pulses water through the ground at speeds of one-tenth to one-hundredth of a second to flush oil from older reserves, and chemicals from groundwater. The pulsing action resembles the way the heart moves blood through the body.

The device responds to the porosity of the reservoir -- the more porous the rock and closer to the surface it is, the slower the pulses. Starting at a tenth of a second, the injector can pulse at a hundredth of a second for deep, tight formations.

With typical oilfield water flooding, much of the water flows to areas of least resistance rather than evenly through the formation. Perhaps 35 per cent of the oil can be recovered, compared with up to 90 per cent with Wavefront.

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