

## AN INTERVIEW WITH DON MOSHER, with Wavefront Technology Solutions



Here we are today with Don Mosher who is a capital markets consultant guy, but he has had some interesting projects over the last few years. His last one was both as a VP of Capital Markets and Director of Hempco, and I guess you know what kind of business that was in?

**Dave:** So Don, were you being paid with the good stuff or did you have to settle for cash?

**Don:** I had to settle for cash.

Dave: Now you have taken on

quite a job with a company that over the years has had a chart that been way up and then barely alive. You are sensing that there's hope here as you have now undertaken a consulting role with Wavefront. Please give us a little bit of a summary of what might be changing for a company that is barely alive in pretty bad oil market?

**Don:** What has changed is the jurisdiction they are operating in and the focus for sales of Wavefront's proprietary technology marketed as, Powerwave. The work they are now undertaking, well stimulation, has a shorter sales cycle compared to the previous focus, improved oil recovery, that had long sales cycle anywhere from 18-24 months. In 2014, Wavefront decided to focus its sales and marketing efforts in the Middle East, spending two years to have Powerwave certified by the state owned oil companies in Kuwait and Saudi Arabia for well stimulations. And as you know, every oil well and every gas well gets restimulated approximately 18-24 months through the life of the well, so it's a repeat business. The sales cycle for well stimulation is only about 30 days.

So Wavefront can do a lot of business in a short period of time and they don't even need boots on the ground in the Middle East to do it because the work is carried out through distributors. In Edmonton a proprietary software computational model is used to model the entire program.



**Dave:** Okay now what is this technology and what does it do?

**Don:** Wavefront works in cooperation with any service company in the world that is servicing oil, gas, water injectors, and water disposal wells: a lot of wells globally. The client (producer) goes to Wavefront and gives them data on a particular well they want to stimulate. Wavefront then models and programs the well in Edmonton and

sends back the well model and program to the client. The client then schedules when they want the well stimulated and they pick out the service provider that is going to do the well stimulation. The crew of the coiled tubing truck is shown how to operate the tool that goes on the end of the coil tubing, just like a garden hose. They put the tool into the ground, they operate the tool based on the model and program that Wavefront has supplied and over a period of one to five days the stimulation is carried out. Wavefront receives anywhere from US \$12,000 to US \$30,000 for the job with a margin of about 80%. They simply invoice the service company and they get paid in 30 days. The performance on the well is what really stands out. Wavefront has the only computational modeling software for dynamic fluid flow in the world like this. The client can save up to \$140,000 just in chemical costs on the job. They also get 100% - 250% better performance out of the well stimulation and the post stimulation result lasts longer on that well. It is just a win/win/win for the client.

**Dave:** Now the obvious question is, if this Company and technology is based in Edmonton and the technology is so good, how come it is not used at all in Canada and barely in the United States?

**Don:** When oil prices drop in North America, pretty much everything shuts down. When oil prices drop in the Middle East, the countries are so dependent on the oil if the price of oil drops to say \$40.00 work slows down but never stops. You live in Alberta, you must have a pretty good idea how many wells are being drilled and how slow it has gotten there.

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Look at Calgary, the labour force in the industry decimated. That is all directly applicable to the oil prices.

Dave: They are saving any penny they can so obviously...

**Don:** Any penny they can. Whereas in the Middle East the state-owned oil companies are trying to maintain production. Another thing that they do in the Middle East that we don't do here is when they drill a well in the Middle East, they get initial production and they immediately start injecting water to maintain pressure in the reservoir. In North America, we allow the pressure to drop off and the decline in the well may get to a point where the water flood doesn't provide a significant benefit. So there's some differences in the Middle East. The other thing is doing the same job in North American as the wells are smaller, you may get CDN \$6,000 for the same job compared to US \$12,000 to US \$30,000 in the Middle East. So where are you going spend your time?

Dave: Now that makes sense. Now what's got you excited or should I say hopeful, is that you are expecting/hoping for some rather large contracts out of the Middle East, India and elsewhere.

**Don:** I think if you take a look at Saudi Arabia, and I hate using the one example because these guys are not totally dependent on that single client - they are working in Kuwait, they are in Oman, they are in Algeria, they just got a ten well contract in India and they have hired a distributor into Europe to deal with ConocoPhillips and Total, etc., but it took them from 2014 to the end of 2016 to get certified in Saudi Arabia and Kuwait. In Saudi Arabia the client gave them four jobs in Wavefront fiscal 2017 having an August 31 year end. In Wavefront fiscal 2018 and more precisely December 2017 the client gave Wavefront seven jobs, in January 2018 they gave them Wavefront 13 more jobs and in February 2018 they gave Wavefront a further 50 jobs. Those jobs were just from one production asset and another six assets are starting to uptake Powerwave. I don't know about you, but I see a growth trend.

**Dave:** Oh yes and some of those numbers are quite good. Now as far as the single technology and tool itself, Wavefront has one tool and it is easily replaceable? Is there new technology that could put it at risk?

**Don:** Let's differentiate between the tools and the software. They have 40 patents on tools and processes, but it is just dumb steel. It literally is like a garden hose nozzle. It opens and closes under specific pressures with by moving a magnetic valve.



To see their well stimulation video, Just click on the following link:

http://www.onthewavefront.com/technologies/powerwave/videos/ index.php

If you know anyone who would like to receive any of our four newsletters, just email Debbie at <u>debbie.lewis@plant4seeds.com</u>

The tool has side ports and an end port on it and they determine the frequency that this tool pulses at. I think given there are a lot of smart people in the world the tool could be reversed engineered. In fact, the crews that are running that tool are shown how to rebuild that tool at the end of the job so they can use it on the next well.

However the software package sitting in Edmonton is proprietary and confidential property. And they've been building that model for 20 years. They have collected massive amounts of well data over the years and it's got incredibly sophisticated physics. The guy that came up with the physics is Dr. Tim Spanos out of the University of Alberta, he is a specialist in the theory of relativity and what he noticed was when earthquakes occur in California, oil production increases.

So it was cause and effect and he went to work on it, came up with the physics of why this happens and then he teamed up with Brett Davidson and another professor from the University of Waterloo and together they started to put the technology into practical use. Wavefront went public in 2004 Dave. It has taken them that long to find the business that is really going to make them money using that computational modeling software. Well stimulation in the Middle East appears to be answer to how do we make money?

**Dave:** You are expected to have to raise a little money in the coming months and that is because you are going to have to produce a lot more tools to meet the demand that you hope is there.

Don: The money is going to (if you want to put it this way) to put some guys out of work

because the computational package with an engineer takes about a day and a half to 2 1/2days to model the well, send that data back to the client, but if they can incorporate or implement artificial intelligence or machine learning into that software package, they may be able to model multiple wells per day. It will get more accurate with the more data that you feed it and so you could have two or three software packages all turning out multiple models a day, overseeing by maybe one or



two engineers. All of a sudden, you are doing 12 models a day and you could run it seven days a week without hiring any additional personnel. So your revenue is going to go straight up and you are not going to have that G&A buildup. Wavefront had 40 people working for them in 2013, right now there are 14 people working for them. They feel like they can hire a couple of engineers/salesmen in the Middle East to stay in front of the producers and keep selling the technology, open an office in the Middle East for inventory tools and parts and basically run this thing with ramped up business coming in.

**Dave:** This has to be considered a high risk situation, correct?

**Don:** Correct. Very high risk with a lot of upside.

**Dave:** But with the higher risk, one obviously has hopes. Now at this point we always ask people, okay, if you were to recommend a stock that you currently are not involved with, a director of, or in any way have a relationship with, what would it be?

**Don:** I am going to give you one called Immunovaccine, TSX- IMV. It's trading at \$8.04 on the TSE. It was rolled-back 3.2 on May 10 and is now trading on NASDQ under the IMMVD symbol. They have a delivery platform for delivering vaccines for infectious diseases or cancers. They are working with Incyte and have two studies going on with Merck right now. The interesting one is they did a safety test with an inhibitor that Incyte has. The Incyte drug by itself (100mg) did absolutely nothing. They tested it for safety on that delivery platform with ten terminally ill women suffering from ovarian cancer. Three women experienced tumour reductions and five of them experienced basically a stop in the growth of the tumours. No other drugs have ever done this.

Thanks so much Don, and remember folks, this has to be called high risk.

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