

THE ULTIMATE ENTREPRENEUR

HEAVY OIL PATH PROVES A SLIPPERY SLOPE TO SUCCESS FOR RESERVOIR MONITORING SPECIALIST

By Lynda Harrison



Despite having worked very hard to achieve his success, **GERALD CHALIFOUX** considers himself just plain lucky.

For one thing, unlike some of us who bounce off the walls during our youth without a decided career path, aside from a short period when he entertained the thought of becoming a lawyer, the entrepreneur/inventor always knew he wanted to pursue engineering.

"I was one of the lucky guys. Right from when I was young, in high school, that was always my plan," says Chalifoux, president, chief executive officer, founder and senior engineer at Edmonton-based Petrospec Engineering Ltd.

Established in 1997, the private company is a leading provider of turnkey reservoir monitoring solutions to in situ oilsands and emerging, unconventional resources.

Its 120 employees not only manufacture and install downhole pressure, temperature and flow monitoring equipment, specializing in thermal heavy oil applications, they also provide engineering and field services to oil production companies around the world.

After graduating from the University of Alberta with a B.Sc. in petroleum engineering, Chalifoux worked for Amoco Corporation, at the time the largest gas producer and second-largest liquids producer in Canada.

"I was a petroleum engineer and worked most of my time in heavy oil, which worked out well because 20 years later that became

the most active segment of the oil and gas industry in Canada, so I was fortunate," he says.

He was fortunate, he says, because the recovery of heavy oil requires a great deal of know-how.

"I was just exposed to a lot of the technologies that are used today for oil recovery. A lot of that stuff was tested back in those days. I call it the piloting days. That was the late '80s and early '90s when the industry didn't have the benefit of the knowledge we have today, so we—the operators active at the time: Amoco, Imperial [Oil Limited], [Royal Dutch] Shell [plc], Husky [Energy Inc.]—were piloting a number of different recovery technologies."

But the prospects for a long career with Amoco were dim unless one wanted to move to Calgary or the United States, and both he and his wife wanted to stay in Edmonton where they grew up and still had family.

So Chalifoux resigned, worked briefly for an engineering firm as marketing manager and interim president, and founded Petrospec in 1997.

Initially involved mainly in gas-well optimization, the company later gravitated toward heavy oil. "That's where our real expertise is, and it became clear that for business reasons it was the better choice," he says.

Once Petrospec was up and running, in 1999 Chalifoux founded Canadian Advanced ESP Inc., the only Canadian manufacturer of electrical submersible pumps (ESPs) used by the oil industry. He hired a few people

who took over its management and sold Advanced to an overseas investor in 2003.

Now, Petrospec is vertically integrated. The company manufactures its own technologies, brings them to the wellsite, and installs and retrieves them, so field service is a big part of its business, bringing in about 45 per cent of revenues. Another roughly 50 per cent of revenue is from the sale of equipment it has designed and built. The last five per cent is pure engineering for small operators—some of them overseas—on five continents in the past 10 years.

But right from its roots, Petrospec branded itself around its technology.

"A lot of the things that other companies in our space do today is employment of technologies that we brought to market in the first place. That's okay; that's normal; that's natural," says Chalifoux. "That's why you can't stop. If technology is key to the business, you have to continuously improve it, continuously develop new technology."

He now has seven patents with his name on them. Three have been issued while four are pending. The three issued patents are in use by Petrospec, involving downhole instrumentation, methods of constructing the instrument strings and reservoir monitoring.

One of the pending patents, issued in the United Kingdom, is in regard to the installing and retrieving of ESPs from wells that have positive wellhead pressures. Another patent is aimed at reservoirs not qualified for SAGD,

either because they are too shallow, have an inadequate caprock to contain the steam or may be too close to outcrops or channels where glaciers have eroded the caprock.

In those cases, a much gentler approach is needed, so Chalifoux has created a process that uses electric heat in combination with other forces. It operates at a considerably lower pressure, doesn't use any water and produces very little emissions.

In 2012, Petrospec acquired QOREX, LLC, a fibre optic technology company. He and his team are working on applying fibre optics to improve monitoring caprock integrity and, in the next few years, hope to commercialize new ways of condensing, modularizing and lowering the cost of surface instruments.

Chalifoux was a finalist in Ernst & Young LLP's Entrepreneur of the Year, in the Prairies, energy, privately held category, in 2012. (The winner was Lance Torgerson of Noralta Lodge Ltd., based out of Nisku, Alta.)

"He's extremely knowledgeable about the industry as a whole and continuously driving innovation in his business," says Paul Rowe, the man who nominated him.

"In my opinion, Gerry is the ultimate entrepreneur," says Rowe, a partner in Vancouver-based Fulcrum Capital Partners Inc., a Petrospec investor. "He's highly dedicated to his profession, and has been for the past, probably, 25 years.

"He just eats, sleeps and breathes his company, day in and day out." ■