

Mats help oil and gas producers tame muskeg: Roadways allow companies to move rigs over muck

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Illustration: Black & White Photo: Todd Korol for National Post / Lee Cottreau of International Mat, shown with samples in his Calgary office, has his eye on the proposed Mackenzie Valley project.

Black & White Photo: Todd Korol for National Post / The number of oilpatch rigs operating in June and July this year was at record levels.

CALGARY - Rain swamped the border between northern Alberta and B.C. in June, but thanks to a maze of roadways made from plastic and wooden mats, natural gas giant EnCana Corp. was able to move its 1,000-tonne rigs over the sponge-like muskeg in what has turned into an unprecedented summer drilling season.

The wooden and high-density polyethylene mats, eight feet wide and 14 feet long, are the product of Calgary-based International Mat of Canada, and are helping change the way Western Canada's energy industry operates when temperatures climb and frozen land turns into waste-deep muck.

"We started four years ago doing test runs with the mats in the muskeg," said Tyson Pylypiw, EnCana's head of construction, from Fort Nelson in northeastern B.C. "Having 40,000 mats in our back pocket, we can keep the rigs going year-round, which in turn keeps a lot of these northern communities going in the summer months when typically they would have shut down."

The mats, which are laid out to make temporary roads that allow the heavy equipment to move over soft ground, are selling like giant hotcakes in a world of US\$62 oil and natural gas at \$8 per thousand cubic foot.

But from behind his desk in a downtown Calgary office tower, Ron Houghton, vice-president of International Mat, which introduced the product to the country in 1999, gets a little riled discussing the challenges of satisfying the growing demand.

"EnCana aside, pre-planning just isn't a word that has existed in the vocabularies of some of these companies," Mr. Houghton said. "If orders had been made last fall for the spring and summer drilling seasons, demand could be satisfied. [With prices for natural gas and oil so unpredictable] the industry, historically, moves quickly and planning ahead has always been difficult. But it's changing."

International Mat, the Canadian arm of Lafayette,

La.-based Composite Mat Solutions, is the dominant distributor in Canada, and it feeds companies in the service sector that rent to the big oil and natural gas producers. The company's plastic mats are manufactured in Louisiana and its oak mats are built in Beaumont, Tex.

Several start-up manufacturers of made-in-Canada softwood mats died off after International introduced the idea because the wood broke apart too quickly.

International Mat's first set of imported oak mats, which the company rented out before it became a distributor, consisted of 20,000 units from Composite Mat.

Today, Lee Cottreau, head of operations for the company's Canadian arm, estimated there are 110,000 mats, the vast majority from International Mat, in use in Canada, mostly in Alberta, B.C. and the Northwest Territories.

Mr. Houghton, meanwhile, holds up a snapshot he took inside a museum during a vacation last year to southern Ontario.

The Polaroid is proof the mat system has Canadian roots.

It shows a description and drawing of a typical plank road, first built in Canada out of hemlock wood 300 years ago so horses could haul heavier loads. But the companies that built the roads and charged tolls died off because the wood deteriorated faster than expected, driving maintenance costs through the roof.

The concept, according to Mr. Houghton's photo, found its way south during the U.S. Civil War as the respective sides sought easier ways to haul heavy artillery.

More than 100 years later, U.S. oil companies began using wooden mats made to move equipment across the Louisiana bayous. Lighter, plastic mats that last between 15 and 20 years are becoming popular in Canada, in part because softwood breaks up more

quickly and metal nails and fasteners are sometimes accidentally left behind, Mr. Houghton said.

In Canada until recently, drilling activity spiked once the ground froze in winter, a trend that meant less-appealing seasonal work for rig crews and losses for companies because million-dollar machinery sat idle after spring breakup.

To enable some summer access, roads are carved into muck and built up with gravel, which is time-consuming work and leaves a lasting footprint in the bush.

The seasonality of drilling in Western Canada and the Northwest Territories is changing, however, and matting is playing an important role.

Data from the Petroleum Services Association of Canada show the number of rigs operating in June and July this year was at record levels. Last week, 554 rigs were operating out of the 736 that make up Canada's current fleet.

"We're at winter drilling levels," said Roger Soucy, the president of the energy service industry's main lobby group. "In fact, we had the most number of rigs working in Canada in July ever."

PSAC has been pushing for big producers to "load-level," or adopt a more balanced drilling season as labour supplies grow tighter and tighter.

The use of matting in B.C. was spurred by a royalty break implemented three years ago by the B.C. government, which offers an incentive for companies to spread their drilling into the summer.

"[Companies] have invested that incentive in things like matting and in heliporting," said Mr. Soucy. "But it's a bit difficult to determine [whether] it's worked out so well the last two seasons because of things like our efforts, the incentive and matting, or simply because companies are trying harder to take advantage of these high prices."

EnCana uses matting more than any other Canadian producer. It has bought 15,000 units and is renting another 25,000 from International Mat, with most being used at Cutbank Ridge near Dawson Creek, B.C., and at the Greater Sierra find near Fort Nelson, B.C., a play with natural gas reserves estimated at five trillion cubic feet.

"The economics of trucking the mats into an area is fairly substantial, so it's better if you've got a large drilling program," EnCana's Mr. Pylypiw said. "We're drilling 100 wells a year at Greater Sierra so the economics are there. If we had to move 5,000 mats 300 kilometres, that cost of trucking would hurt the economics of the play."

Mr. Cottreau said International Mat has had discussions with the backers of the proposed

Mackenzie Valley project, a \$7-billion natural gas pipeline connecting northern gas to southern markets after running the length of the Mackenzie River in the Northwest Territories.

The project, on hold until the producers backing it secure access and benefits agreements from Aboriginal regions along the pipeline path, could count heavily on matting prior to construction.

Equipment and materials, transported by barge, will be dropped off along the Mackenzie River during summer so work crews can go back and build the pipeline in winter. "We think they'll need matting to move all that heavy equipment across the shore once it's off the barge," Mr. Cottreau said.