

A Stealth Ventures drilling location probing the Colorado shale in Saskatchewan.



PHOTO: STEALTH VENTURES

## Colorado high

Prairie juniors are eager to pursue the cheaper shale opportunities of the Colorado formation

by Jim Bentein

**Calgary-based junior Stealth Ventures thinks it has begun to** unlock the potential of what its President and Chief Executive Officer thinks could eventually be the largest shale gas play in Canada—it's just that nobody has noticed.

Given the enormous potential of the Montney and Horn River basins in British Columbia, that's a pretty bold statement indeed, but Derek Krivak is willing to bet that he's working the ground floor of what could ultimately develop into a play at least the equal of the deeper B.C. shale developments.

"Other than us and a couple of private companies, nobody is looking at the Colorado Group of shales in Alberta," Krivak says. Stealth's work in the Colorado is focused in the Wildmere region of east-central Alberta (near Vermilion), and production is currently averaging about 2.4 million cubic feet per day. Its original wells have been producing for two years now, and it's drilled more than 120.

"We have a very compelling economic case, on an economic rate of return, and we're just getting started," Krivak says, and his enthusiasm seems to be spreading.

In early April, Stealth and privately owned MOI Resources announced a partnership aimed at expanding Colorado shale gas developments, and while no financial details were released, Krivak makes it clear that the deal will

lead to a significant expansion of Stealth's ability to expand its shale gas developments.

"They [MOI] have very deep pockets," he says. "They've been producing oil in southern Saskatchewan for decades. They've been looking at moving into gas and they've decided they're going to get into the shallow gas business with us."

Krivak says MOI was interested in partnering with Stealth because of its technological expertise and its land position.

Kerwin Mondor, MOI's Chief Executive Officer, says the Saskatchewan-based company believes this is a good time to be expanding into the shale-based natural gas sector.

"We're excited to be entering into a partnership with Stealth and see a lot of potential in the Colorado," he said. "It's a good time to be entering into the gas markets, as we probably wouldn't have had this chance if gas was \$10 per Mcf."

The existence of the Colorado shale formation, which extends from Manitoba across the Saskatchewan and Alberta Prairies to the foothills, has been known about for decades, but it's always been considered to be uneconomic.

But new fracturing technologies, similar to but more refined, in certain ways, than those being employed elsewhere in North America, seem poised to finally unlock the potential, Krivak says. >

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Stealth is chasing a shallow (300 to 700 metres) and tight deposition of biogenic gas, produced by bacteria in the groundwater feeding on organic matter in the shale. Because of the shallow depths, drilling costs are much lower than in the vastly deeper Horn River and Montney plays, and in that respect, Colorado shale pursuits are a step ahead of those targeting deeper reserves, Krivak says.

"Our costs are \$250,000 per well, as opposed to the \$10 million and up companies spend looking for deeper shale gas deposits."

The shales are so well known because the Colorado underlies some of the most prolific conventional oil and gas producing areas of western Canada.

"There have been more than 250,000 wells drilled in the Colorado and companies have known about the shale gas potential for years," Krivak says. "However, it has never been viewed as a large-scale commercial resource. All other aspects of the play are ideal. It's shallow, the gas-bearing formations are rock that is usually quite thick, and the play type itself is vast."

Still, a few unique properties of the Colorado make the play a little more complex than whacking down a few shallow horizontal wells and opening up the taps.

"In the shallow Colorado, you don't want to use water in faceng," says Mike Dawson, President of the Canadian Society for Unconventional Gas. "If you stimulate the formation with water it will affect production. So you have to use nitrogen [and other liquids]."

Dawson says it's a mistake to view the Colorado as a monolith, with one type of shale that has potential.

"The Colorado would be highly variable across the provinces," he says, highlighting what has always been a major barrier to its widespread development.

But Krivak thinks the prize is huge in the shallower shale area of the formation, which constitutes the vast majority of the Colorado. And he's not alone.

Four years ago, the Geological Survey of Canada, in a study called *The Shale Gas Concept in Canada: A Preliminary Inventory of Possibilities*, singled out the Colorado Group of shale formations as presenting "perhaps the best" prospects for multiple shale gas plays across western Canada.

Herve Collet, Chief Operating Officer of Calgary-based PanTerra Resource, which was partnered with Stealth in a 1.1-million-acre land position in Saskatchewan (it bought

back its rights from Stealth about two years ago), says the potential is huge indeed.

The problem is, however, that low natural gas prices are preventing juniors like PanTerra from developing that potential.

"We're small operators," he says. "We had to retrench in 2008 and 2009 [after spending \$13 million to drill 36 wells in the Moose Jaw area of southwestern Saskatchewan]. We picked up some oil-producing properties and we're now producing about 85 barrels a day. But we have stopped working on our shale gas assets."

For PanTerra to reignite those assets, Collett says gas prices consistently higher than \$4 per thousand cubic feet will be needed to induce investment. Barring that, if prices get and stay that high, "maybe somebody will come along and want to partner with us."

Like Krivak, Collet says the Colorado sweet spot lies at less than 500 metres, making it an ideal prospect for juniors to chase, even given the need for expensive fracs to release the gas.

"The potential is enormous," he says. "The challenge is to produce it efficiently and economically."

That means, he says, that many wells have to be drilled on fairly tight spacing.

"They're not highly producing wells, so they have to be in close proximity to one another," Collett says. "That way you get economies of scale."

Most wells into the Colorado will likely produce about 100,000 cubic feet a day—well shy of the three million a day that deeper Horn River and Montney wells might flow—but they're not as expensive to drill because they're not as deep. "And they'll still be producing in 20 years."

Krivak says Stealth is recovering about three to five per cent of the gas in place at its Wildmere shale project in the Alberta portion of the Colorado, but he believes that can be boosted to at least 10 per cent.

"We're looking at other technologies now to increase that," he says, noting that since the shale rock is "very water-sensitive," fracturing requires a certain amount of finesse.

Still, he believes "many trillions of cubic feet" of gas can be developed from the Colorado formation.

"This is an emerging shale gas play. Just because it isn't at a depth of 3,000 feet doesn't mean it isn't a formation with huge potential." ■