

Quebec Shale Comparable To Barnett, But Gas Price Higher--Forest

By Pat Roche

Quebec's Utica shale is geologically comparable to Texas' Barnett shale, but natural gas from the Utica will sell for about \$1.50 (U.S.) more per mmBtu, analysts heard Tuesday.

"We're about \$1.05 in excess of (the New York Mercantile Exchange price) right now, which gives us about \$1.50 head start on the Barnett coming out of the chute," said J.C. Ridens, chief operating officer of Forest Oil Corporation.

Over the last three years New York border pricing has exceeded the NYMEX price by about \$1.05 on average, he said. Barnett pricing, according to Ridens' webcast presentation to analysts, is about 50 cents lower than NYMEX.

(All dollar amounts are in U.S. currency and all volumes are net of royalties.)

Forest announced Tuesday it has made a significant gas discovery in the Utica shale in the St. Lawrence Lowlands south of the St. Lawrence River between Montreal and Quebec City ([DOB, April 1, 2008](#)).

The company said two vertical pilot wells were drilled to 4,800 feet last year and tested at up to one mmcf equivalent a day.

One of the wells, Bécancour No. 8, was drilled on lands held by **Junex Inc.**, a Quebec-based junior exploration firm, which confirmed late Tuesday afternoon it is Forest's partner in the Utica shale program.

The other discovery well was drilled on the Yamaska property held by **Gastem Inc.**, another Quebec junior. A third junior, Calgary-based **Questerre Energy Corporation**, issued a press release to say it holds a 7.5% gross overriding royalty convertible into a 20% working interest in the Yamaska licences.

Talisman Energy Inc. has also drilled on the south side of the St. Lawrence River. One well, drilled to 2 529 metres, flowed sweet gas from the deeper Trenton-Black River formation at up to 4.5 mmcf a day, Talisman's partner in the well, Questerre, said last year.

Cautioning that its Utica shale project is still in the early stages, Forest estimated the preliminary net resource potential on its Quebec acreage at 4.1 tcf.

(Utica Shale - Test Well)

"We're within 400 miles of the New York City market," Ridens told Forest's 2008 analyst conference. Existing pipelines would enable Utica shale production to be delivered to the local market or exported to the northeastern U.S.

Ridens said existing infrastructure include a 24-inch pipeline between Montreal and Quebec City, and a 20-inch line that crosses under the Saint Lawrence River at Bécancour, which is near Trois-Rivières, roughly midway between Montreal and Quebec City.

"In addition to that, there are multiple distribution lines on both sides of the river," he said. "This will be a new gas source for the province of Quebec, which currently imports gas from Alberta."

Export capacity to the U.S. on **TransCanada Corporation's** system, which varies seasonally, is 200-400 mmcf a day, Ridens said. "I think this capacity is going to be adequate to accommodate our new volumes."

What those volumes will be has yet to be determined. Yesterday's announcement was based on the results of two vertical wells drilled last year and tested during the past winter amid record snowfall.

Forest executives said the area is blessed with year-round access from gravel roads, but it's cheaper to operate during summer.

To evaluate its discovery, Forest plans to drill three horizontal wells, starting in June, to refine the drilling and completion techniques. First production is expected next year.

The wells will be drilled to the 4,000-4,700-foot depth range and completed with four fracs per well. Ridens said the initial laterals will probably be 2,000 feet long.

"Currently we are in the confirmation-of-the-concept stage," he said. "This is a laboratory stage on a larger scale."

The Utica shale was targeted by Forest's new-frontiers team, which cut its teeth on the Barnett shale. Three years ago, Forest had no Barnett acreage; now it has 34,000 net acres. Forest's Barnett project has been proven commercially and is transitioning from a new venture to a full-fledged business unit.

In the Utica shale, next summer's three horizontal wells -- the second phase of the pilot -- will further refine the play concept. "And if that concept works, we will see full-scale development, starting in 2010," Ridens said.

Meanwhile, the Utica's "excellent" rock properties stack up well against the Barnett, "which we would call the king of shales," he said.

The Utica shale covers roughly the same area as the Barnett. But the Utica is more shallow (2,300-6,000 feet) than the Barnett (4,500-9,000 feet), "which should equate to extremely good drilling costs when we take this thing from pilot to full production," Ridens said.

Forest hopes costs can be reduced to \$2.5 million per well on a full-fledged development, but initial drilling costs are expected to range between \$2.5 million and \$4 million per well.

Costs are expected to be high initially because Quebec doesn't have a lot of exploration and production infrastructure, "but I expect that we will impact that favourably in the years to come," Ridens said.

Displaying a photo of one of the pilot wells being flared, he said the test rates were comparable to the flow rates of vertical Barnett wells during that play's early development.

Ridens' presentation to analysts included a comparison of the rock properties of the two shales. According to Forest, the thicknesses compare favourably -- 500 feet for the Utica and 150-700 feet for the Barnett.

The Utica's gas-filled porosity is in the 3.2-3.7% range compared to the Barnett's three per cent to 4.8%. Clay content is 15-26% in the Utica and 15-30% in the Barnett.

Total organic carbon (TOC) in the Utica ranges between one per cent and 3.1% versus 3.5% to five per cent in the Barnett.

So how did Forest calculate its net resource potential estimate of 4.1 tcf? It assumed only 70% of its acreage would be prospective. "That's about the same sort of percentage that we have used in looking at the Barnett -- because of faulting, karsting or whatever," said Ridens.

Forest has at least two prospective sections within the Utica -- one deep and one shallow. The company averaged the deep and the shallow horizons to come up with a gas-in-place estimate of 93 bcf per section.

Next Forest considered recovery efficiencies of 15%, 20% and 25%. The Barnett play began with recovery of about 15% of the gas in place, but that has risen significantly.

"Some of our competitors are saying the Barnett recovery efficiencies will exceed 50% when you're on 38-acre spacing," Ridens said. "We have not spaced (the Utica) yet and we're assuming 100-acre spacing."

Using a mid-range recovery factor of 20%, Forest calculated that 4.1 tcf of gas in place would work out to about 1.7 bcf per well. "Both of those numbers are extremely realistic, in my opinion," Ridens said.

He said the gas quality from the two vertical well tests was "extremely good" at 88-97% methane, less than one per cent in inert gases and 1,027-1,136 Btu content.

"No H₂S. No CO₂. No nitrogen extraction. This is ready to go down the pipeline," he said.

Unlike the U.S., Canada has had no history of shale gas production, but that's changing. Forest's news was preceded by two other announcements in recent weeks.

Last month, Houston-based **EOG Resources, Inc.** said it may have six tcf of potential reserves in the Muskwa shale in the remote northeast corner British Columbia, just south of the Northwest Territories border ([DOB, Feb. 29, 2008](#)).

And earlier this month Calgary-based **Stealth Ventures Ltd.** said it is developing Alberta's first commercial shale gas play in the Colorado shales on its Wildmere property, which is west of Lloydminster in eastern Alberta ([DOB, March 5, 2008](#)).

Forest began work on the Utica with identification and mapping of the shale in 2005.

Without quoting figures, Forest executives emphasized the large Quebec land position was acquired for a pittance. The company accumulated 269,000 net acres in the St. Lawrence Lowlands through a combination of farm-outs and leasing private lands.

Addressing analysts Tuesday, Forest President **Craig Clark** said one of the company's strengths is that its assets are in North America.

"The major independents (are) coming back to North America. It's certainly further along in the Lower 48 than it is in Canada except for the tar sands," he said.

Unconventional resources, Clark said, are the big attraction. "The prize is so large it explains why even the majors, if they're having some difficulties internationally, are coming back to the U.S."