Frac Panel's Recommendations Would Strand Tiny Company's Sole Asset For Years

BY PAT ROCHE – JUNE 6, 2016 – VIEW ISSUE

A tiny company's sole asset will be stranded for several more years if the Newfoundland government accepts the recommendations of its review panel on hydraulic fracturing.

Vancouver-based **Shoal Point Energy Ltd.**'s only asset is the Green Point shale play on the west coast of Newfoundland. The company holds exploration rights to near-shore acreage that would be drilled from shore. The company says the shale is prospective for oil.

The junior's future has been on hold since November 2013 when the Newfoundland government stopped accepting drilling applications for the area until the completion of a review and public consultations on risks associated with hydraulic fracturing.

In a 179-page report released last week (DOB, May 31, 2016), a panel of five government-appointed academics concluded the matter needs "several" more years of study.

"Some of the required baseline studies, for example the assessments of seismicity and coastal change, have to take place for several years prior to a development," the panel's report says. "The results of these studies will be important to consider when deciding whether to permit unconventional oil and gas development."

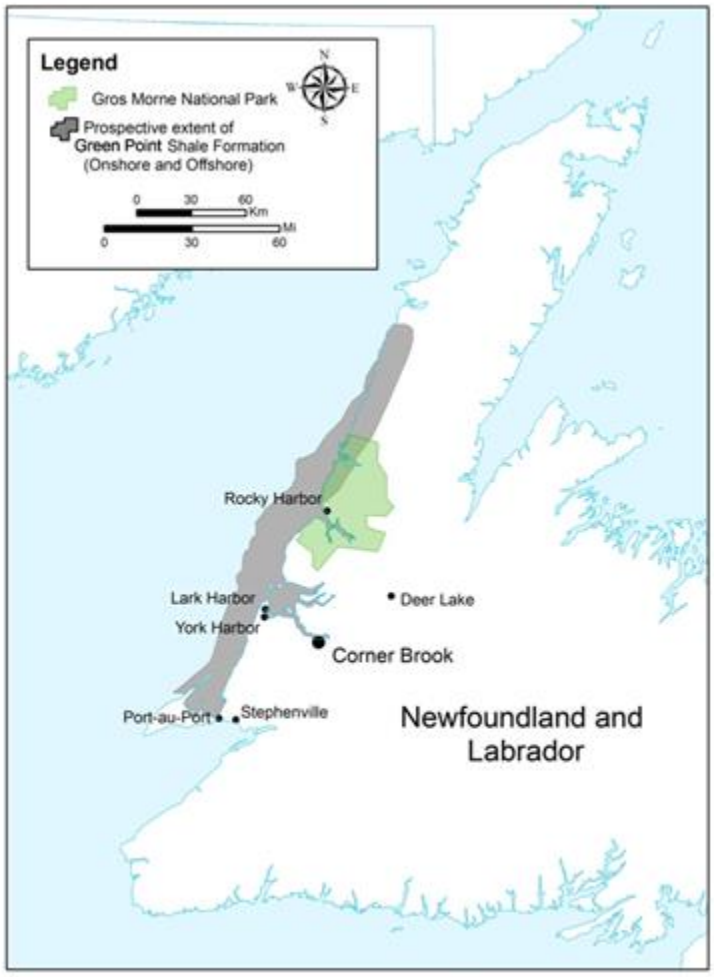
"Coastal change" refers to the panel's recommendation for a "comprehensive" study of coastal erosion at sites around Port au Port Bay and other coastal areas "where temporary and permanent infrastructure associated with unconventional oil and gas development may be located."

"This study would include an analysis of aerial photographs over time and a series of beach/bluff surveys, for example using Real Time Kinematic (RTK) topographic survey technology," the report recommended.

Industrial automation specialist **Ray Gosine**, an engineering professor and associate vice-president of research at **Memorial University**, chaired the panel.

Other members were: **Graham Gagnon**, an engineering professor at **Dalhousie University** and the NSERC Industrial Research Chair in Water Quality and Treatment and the director of the Centre for Water Resources Studies; **Maurice Dusseault**, a professor of engineering geology at the **University of Waterloo** whose research interests include hydraulic fracture mechanics and shale gas and shale oil mechanics; **Wade Locke**, a professor and head of economics at **Memorial University**; and **Kevin Keough**, past-president and chief executive officer of the

Alberta Heritage Foundation for Medical Research, former chief scientist at Health Canada, and former head of biochemistry and vice-president of research at Memorial University.



Data Sources: MorningStar N51-101 Compliant Report prepared for Shoal Point Energy and mapping prepared by Dept of Natural Resources which included the results of well evaluation conducted on Long Point M-16 and Shoal Point K-39 on the Port-au-Port Peninsula and well evaluation conducted on Seamus #1 and Finnegan #1 in the Parson's Pond area.

In its report, the panel said it "remains neutral" on the question of whether hydraulic fracturing should be allowed in western Newfoundland "since more information is required for a full and fair assessment of the development challenges and opportunities."

Therefore, it recommended the province continue refusing to accept applications involving hydraulic fracturing in the area while some of its recommendations are implemented. These include a comprehensive risks-and-benefits evaluation and development of related regulations.

"It's very discouraging," said **Mark Jarvis**, Shoal Point Energy's chief executive. "I'm not a quitter, but ... I'm struggling to find a way forward."

After waiting 2 ½ years to find out whether fracturing will be allowed on his acreage, Jarvis was dismayed by the report's conclusion that "the panel does not believe that a simple yes or no recommendation would be appropriate or responsible."

The report recommended that "a number of gaps and deficiencies must be addressed before the necessary conditions could exist that would allow for hydraulic fracturing ... to proceed reasonably and responsibly in western Newfoundland."

The panel believes the government needs to address "provincial and regional policy and planning shortcomings related to energy and climate change policies, regional economic development plans, social wellbeing, health status and protection, environmental protection, and the regulatory environment." As well, the report said a geoscience and technical "information gap" needs to be filled.

"Unlike other jurisdictions where unconventional oil and gas development has taken place, the geology of the Green Point formation is complicated and does not offer the well-defined layer-cake structure that is often portrayed for other developments," the report said.

"We feel that the complicated geology of the Green Point shale, coupled with a limited understanding [of] the geology, underlies public concerns about health risks and damage to the environment that could result from the migration of chemicals and hydrocarbons through geological structures that are not well understood."

According to statistics the province's Department of Natural Resources provided to the *Bulletin*, about a dozen wells drilled since 1965 and about 40 wells drilled since 1867 have penetrated "some version of" the Green Point shale. It said the shale may be as thick as 900 metres, but the average is probably in the 50-200-metre range.

In a phone interview with the *Bulletin* from his office in Vancouver, Jarvis argued that the panel's recommendations aren't supported by panellists' technical comments, which he described as "balanced."

He is unmoved by the possibility of having a well drilled and completed in the Green Point shale. Although wells targeting other formations have passed through the Green Point, the shale has never been fracture stimulated.

The panel recommended geoscience research, including "experiments and field testing," followed by a "minimal-risk, pilot-scale well stimulation program, in co-operation with **Nalcor Energy**, to understand how the Green Point shale responds to stimulation and to further understand the associated risks."

Nalcor is the province's oil and gas company and electric utility. The Crown corporation, which holds a small stake in several offshore oil projects, has funded large offshore seismic surveys and has operated the drilling of two conventional onshore wells, which were dry.

But Jarvis is doubtful the recommended pilot will ever materialize. Drilling and completing such a well would cost millions of dollars, including the high cost of bringing in equipment from Western Canada or the United States.

"Who's going to pay for it?" he asked, adding: "The government's broke."

Newfoundland, an oil-dependent province with about half a million residents, has projected a 2016-17 budget deficit of $1.83 billion.

Jarvis added: “No one in industry is going to pay for one well. I mean, would you? Here’s your upside: you can drill a well. One well. And then you can wait for years to find out if you’re allowed to drill any more.”

For its part, Nalcor referred *Bulletin* questions to the province’s Department of Natural Resources, where a spokeswoman emailed that “a fixed timeline has not been set” for responding to the recommendations and deciding whether to allow fracturing.

Onshore production — of oil or gas — also remains elusive. Although several wells have been drilled in western Newfoundland over the decades, none has yielded a commercial discovery. All were drilled before the technology improvements that produced the current oil and gas shale boom in the United States.

For its part, Shoal Point Energy believes the Green Point shale could be one of the biggest undeveloped oil resources in North America. A report by **Morning Star Consultants, LLC** of Austin, Texas estimated Shoal Point Energy’s undiscovered prospective oil resource in the Green Point shale at 428 million bbls, based on limited data in the public domain.

“I think this is a real monster,” said Jarvis. “But what’s it worth if you can’t do anything with it?”

However, the geology of the Green Point shale of western Newfoundland differs from other shale plays being developed in North America, according to a geological review of the Green Point shale of western Newfoundland.

“Nowhere does the structure of the Green Point shale follow the predictably simple, layer-cake style found in many other foreland basins of North America,” says the report prepared for the province’s Department of Natural Resources.

Drilling in well-known shales such as the Marcellus, the Bakken and the Barnett targets “extensive, essentially flat-lying rock formations in which deformation is very slight and relatively simple,” according to the 128-page review.

It says the Green Point shale is part of an allochthon, a mass of rock that has been moved far from where it was formed, commonly by tectonic processes such as overthrusting. “The Green Point shale has been folded, locally thrust over itself, thickened or pinched out, and cut by many large and small faults due to multiple tectonic events that deformed the rocks.”

The review says the understanding of the distribution, detailed internal layering, and structure of the shale in the Port au Port region is incomplete.

“Although some outcrops are visible onshore, currently few details are known about the Green Point shale where it occurs below the surface. This is because of limited onshore mapping in the region, the scarcity of well data, and the structural complexity of the shale, which make seismic data resolution and interpretation difficult.”

The Green Point's geological complexity may be associated with increased uncertainty and risk when evaluating its potential as a target for hydrocarbon production using hydraulic fracturing, the review says, adding that the increased complexity increases the need for data.

While acknowledging public concerns, the Green Point shale review points out that more than 200,000 wells have been hydraulically fractured in Canada.

"The available data suggest that the hydraulic fracturing process itself does not pose a significant environmental risk," the geological review says. "However, there are potential risks to groundwater from poor well design or construction, as well as from handling and storage of waste water from hydraulic fracturing operations."

While attracting capital to an unproven play is always hard, Jarvis fears it could go from hard to impossible if the fracturing moratorium remains in effect for several more years.

"So you can imagine when they put a freeze on hydraulic fracturing almost three years ago, it made it very hard to raise money," he said.

Shoal Point Energy didn't have the resources to hire experts to bolster its pro-fracturing argument to the panel. "All we had was me and I'm not an expert," he added. "I'm a businessman."