Petroleum news

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Providing coverage of Alaska and northern Canada's oil and gas industry
May 2007

Vol. 12, No. 18 **Week of May 06, 2007**

New approach to Mat-Su Valley CBM

Fowler Oil & Gas plans horizontal drilling and patented separation technology to avoid environmental problems

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Petroleum News

It's been three years since an attempt to develop coalbed methane resources in Alaska's Matanuska-Susitna Borough collapsed amid an acrimonious argument involving the would-be developer, the local residents, the borough and the state. But a new company, Fowler Oil & Gas Corp., believes that it has the answer to developing coalbed methane without the concerns about land access and possible pollution that plagued the previous effort.

Fowler Oil and Gas CEO Bob Fowler, a graduate of Palmer High School and longtime Alaskan, told Petroleum News May 2 that he fully understands the concerns of the residents of the Matanuska and Susitna valleys.

"Our family has been in the Valley for over 50 years and so I'm very familiar with the issues up in the Valley and how people would like to see economic development but also coupled with environmental protection," Fowler said.

Fowler Oil & Gas is a publicly traded company founded in 2005 to pursue oil and gas opportunities in Alaska. Sister company, Native American Energy Group, is engaged in the development of oil and other minerals in Montana. Fowler Oil & Gas shares technical staff, including geologists and operations managers, with Native American Energy Group.

On private land

Fowler Oil & Gas is pursuing 11 separate coalbed methane sites, all on private land, in Southcentral Alaska, Fowler said.

"We're working with private landowners who own their own mineral rights,"

Fowler said (part of the 2003-04 controversy stemmed from required access to privately owned surface land to drill into state-owned subsurface).

The first of these sites, the Kircher unit in 840 acres of forest and farmland at the corner of Bogard Road and Trunk Road between Wasilla and Palmer, has reached the permitting stage. Negotiations with landowners are still in progress at the other sites. Fowler Oil & Gas has applied for permits from both the Matanuska Borough and the Alaska Oil and Gas Conservation Commission for drilling and development at Kircher.

“We’d like to be drilling in mid-summer to late summer,” Fowler said.

Production from Kircher would hook into an Enstar Natural Gas Co. pipeline, Fowler said.

Horizontal drilling

One key element in Fowler Oil and Gas’s approach to coalbed methane development is the use of horizontal drilling technology. The drilling contractor will drill a single vertical well to a depth of about 4,000 feet from a central location in a coalbed methane unit. Perforated horizontal wells sidetracked from that central well will then thread out perhaps 2,500 feet through each coal seam penetrated by the vertical well.

“With that one vertical well bore we might have eventually 100,000 feet of perforated pipe in the coal,” Fowler said. And the huge length of perforated pipe will eliminate the need to frac the coal to sustain adequate gas flows, he said.

The drilling technique effectively eliminates the need for a profusion of surface wellheads. It will also eliminate the need to drill additional wells from the surface when earlier wells run short of gas.

“We’re draining 600 to 1,000 acres off of one well bore,” Fowler said.

Not only that. The specially designed coalbed methane drill rig has a mast just 60 feet high, but a capability of drilling laterally out to about a mile, Fowler said. And once a coalbed methane site goes into production, the wellhead production facilities will be hidden inside a single 20-foot barn-like enclosure.

“They won’t even see that it’s a well,” Fowler said. “… We’re in and out on the drilling in about one month.”

Fowler Oil & Gas plans to deliver gas to the Enstar transmission pipeline without any compression, thus eliminating any possible compressor noise.

No surface water

Patented technology will eliminate the water disposal problems that have often plagued coalbed methane production in the past, Fowler said. This technology will entail using the bottom part of the vertical well, below the level of the coal seams, to dispose the water into relatively deep sandstone formations. Thus, no produced water will reach the surface or enter the water table.

"We have a downhole separator which separates the gas from the water," Fowler said. "The gas flows up (the well). The water flows down into some special pumps that pump it into lower sandstone formations below the coal."

Downhole monitoring equipment will ensure that the disposed water meets state standards, Fowler said.

To prevent contamination of any water wells in the region around the production site, no coal beds less than 1,000 feet below the surface will be tapped. That will ensure that all production occurs below the depth of the water table, Fowler said. And sealed well casing, cemented to prevent water migration around the pipe, will also protect the water table.

EPA approved

Fowler said that the U.S. Environmental Protection Agency has approved the downhole separation of gas and water and that the technique has already been permitted in Texas and Kansas. And he said the drilling contractor, Scientific Drilling, has experience of drilling more than 3,000 coalbed methane wells, including horizontal wells.

Great Northern Engineering is designing the production facility, Fowler said.

But what are the chances of finding economic quantities of coalbed methane in the Kircher unit?

"The Cook Inlet basin is a river of coal that comes all the way down from Talkeetna and up around Chickaloon, all the way down to Homer, onshore and offshore," Fowler said. The coal is very thick; the seams are abundant and continuous throughout the area; and the coal contains large quantities of gas, he said.

And who might purchase the gas?

"We're talking to a number of buyers," Fowler said, adding that he would prefer to see use of the gas in the Cook Inlet area rather than supplying the gas for export.