

Industry officials say years of pumping water from coal seam yields major gas flows

## **CBM hits record production with fewer wells**

By DUSTIN BLEIZEFFER - Star-Tribune energy reporter

While 2009 was a terrible year for coal-bed methane drilling activity in the Powder River Basin, actual production hit a record high of 558 billion cubic feet of gas for the year, according to the Wyoming State Geological Survey.

That's despite the fact that there were 3,500 fewer producing wells in 2009 compared to 2008.

So how did the industry produce more gas with fewer wells?

Industry officials say several years of pumping water out of the huge "Big George" coal seam has finally eased enough hydrostatic pressure to yield major coal-bed methane gas flows.

"They are bigger producing wells. The seam is real thick, so there's a lot of gas in the seam," said Bruce Hinchey, president of the Petroleum Association of Wyoming.

Another factor in producing more gas with fewer wells is the strong likelihood that many of the wells that were shut in in 2009 were not big producers.

"They probably were not contributors to gas volume, but contributors to water being produced," said Wyoming Oil and Gas Conservation Commission supervisor Tom Doll.

That helps explain another 2009 statistic: On average, the industry produced 1.02 barrels (42-gallon barrels) of water for every 1,000 cubic feet of gas, according to the survey. That's the lowest water-to-gas ratio since the play became commercial.

Water must be pumped from coal seams in order to lower the hydrostatic pressure that holds the methane in place. When enough water is produced in a concentrated area, the flow of methane comes on strong.

To date, the industry has pumped 6,075,517,262 barrels of water from Powder River Basin coal seams, according to the survey. Most of that produced water has been dumped on the surface with no specific beneficial use.

That's 783,092 acre feet of water, according to the survey -- enough to fill Lake DeSmet three times.

Doll said the industry may continue to produce more gas with fewer wells this year, but the phenomenon won't last for long. Drilling almost screeched to a halt in 2009, and it isn't expected to be much better this year.

Doll said without new drilling, production volumes will level out, then drop dramatically.

"The lack of drilling is going to start taking its toll," he said. "There are more Wyoak (coal seam) wells on decline than there are Big George wells coming on."

Doll said he doesn't expect a significant revival in coal-bed methane drilling until 2011.

A grand total of 3.7 trillion cubic feet of coal-bed methane has been produced in the basin since the first wells were drilled in 1987. That's enough gas to serve about 4 million homes for 10 years. And it's less than 15 percent of the estimated reserve.

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On the Web

The Wyoming State Geological Survey recently completed an updated map of coal-bed methane activity in the Powder River Basin. To get a copy, go to [sales.wsgs.uwyo.edu/catalog/index.php](http://sales.wsgs.uwyo.edu/catalog/index.php)