

## Geologist calls for water controls

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In December, State Engineer Pat Tyrrell asked for an explanation of how coal-bed methane operations are putting groundwater to "beneficial use" when little to no gas is being collected from some of their wells.

This week, the Wyoming State Geological Survey recommended a moratorium on coal-bed methane development in the same Crazy Woman and Clear Creek drainages, noting that analysis of projected development forecasts the dumping an abundance of groundwater on the surface compared to the amount of gas produced.

"In the contentious environment permeating (coal-bed methane) development in the Powder River Basin, managing produced water is essential to healing the rift between industry and residents, and moving forward sustainably," the Geological Survey stated in an executive summary of its analysis.

More than 4 billion barrels of groundwater have been pumped through coal-bed methane wells and dumped on the surface in the Powder River Basin, according to the Wyoming Oil and Gas Conservation Commission. Pumping water from the coal aquifer reduces the hydrostatic pressure that keeps the gas in place, and allows the gas to flow to production wells.

But over the past several years, engineers and geologists came to realize the industry sometimes drills more wells and pumps more water than it has to. It's estimated that more than 39,000 acre feet of water has been produced from wells that have not produced any gas.

In December, Tyrrell asked producers to justify water production from some 296 wells in the Clear Creek and Crazy Woman Creek drainages of the Powder River Basin. Those wells produced water for at least five years, according to the state engineer.

"We ought to be getting this water in a pipeline and getting it to where it can be used. It doesn't take rocket science to figure out, it takes leadership," said Jill Morrison, organizer of the Powder River Basin Resource Council, a critic of the industry.

Industry leaders said they support the state engineer's recent decision that the wells should meet a water-to-gas ratio threshold of 10 barrels per thousand cubic feet of gas within the first two to three years of water production.

"We think it's early in the game to call for a moratorium. If the state engineer reviews them and believes they are not necessary, he has authority to shut in those wells," said John Robitaille, vice president of the Petroleum Association of Wyoming.

Bob LeResche is a landowner in the Clear Creek drainage and chairman of the Powder River Basin Resource Council. He said the state geologist's analysis "is very professional and presents some astonishing facts that should impel major changes in water management by the state engineer and the governor."

LeResche noted that the analysis suggests that over the next 13 years, wells planned for the Clear Creek and Crazy Woman Creek drainages can be expected to produce 0.15 percent of methane while dumping more than 20 percent of the associated groundwater on the surface with no specific beneficial use.

The proposed moratorium would save more than 130 billion gallons of water.

"We see water as an incredibly valuable resource, and we have to stop wasting it anywhere, but especially in these drainages," LeResche said in a prepared statement. " We believe that the state engineer cannot rationally continue to permit disposal of this water as a 'beneficial' use."

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