

Subject: : Conservation

Topic: : Duke Univ. Marcellus Study

Re: Duke Univ. Marcellus Study

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I'm surprised people think this some revolutionary finding. Exploration geologist have known about methane in well water for half a century or more.

One of our exercises in petroleum geochemistry involved plotting gas composition of well water on a structure map. Groups were tasked with proposing a wildcat well location and explaining why. The solution was to drill up-dip from water with high concentration, because they indicated a leak-point in the underlying reservoir. Bonus points for identifying structural closure and distinguishing the oil vs gas prone prospects. Cool thing about the exercise, its exactly how one of the largest oil fields in the Permian basin was discovered: by testing rancher's well water for dissolved gasses.

PA has different geology then W. TX of course but its generally agreed among geochemists that the source of most if not all the oil and gas in the state is from Devonian shales, Marcellus being just one of a half dozen or so. Highest gas concentrations roughly follow the natural fracture trends, which are, coincidentally, favored areas for hydraulic fracturing.

Its a fair question though. Does this new technology make things worse, about the same or better?