

## **The Marcellus Shale Play in Pennsylvania - What's All the Fuss??**

J.A. Harper, Pennsylvania Geological Survey

While exploring for Oriskany gas in New York and Pennsylvania in the 1930s, drillers found almost every well had a strong flow of gas in the Marcellus black shales that shut down drilling for several days. The Marcellus looked favorable until it became clear that the gas occurred in "pockets" (fractures) and that flows could not be sustained. Drillers learned to ignore these gas flows and soon stopped reporting them. During the 1970s/80s Eastern Gas Shales Project, the Pennsylvania Geological Survey correlated and mapped the Middle and Upper Devonian, generating technical reports, cross sections, and maps showing formation thicknesses and net feet of organic-rich shale throughout western and north-central PA. The Marcellus underlies most of Pennsylvania, but the organic-rich portion reaches its maximum development in the northeast. While Upper Devonian shales were thought to have excellent potential with expected development of better fracturing technology, the Marcellus was not considered promising until gas prices increased and technology advanced even further. Despite 70 years of high Marcellus gas flows, it took until recently for its potential as a commercial gas target to attract attention. Between 2003 and April, 2008, PA permitted more than 600 prospective Marcellus wells across the state. The actual value of the Marcellus as a gas reservoir has yet to be determined. Based on two years worth of available data from vertical wells, Marcellus production averaged only 43.7 Mcfgpd. Data from horizontal wells are not yet available. Only time will determine just how productive and lucrative the Marcellus play truly is.