**GAS DRILLERS IN PA REDUCE ENVRIONMENTAL VIOLATIONS**

Natural-gas drillers in Pennsylvania's Marcellus shale reduced the rate of blowouts, spills and water contamination by half since 2008, according to a study based on state-agency actions.

State regulators issued environmental violations at 27 percent of the wells drilled in the first eight months of 2011, 54 percent below the full-year rate in 2008, according to a study from the University at Buffalo's Shale Resources and Society Institute.

Stronger regulations, tougher enforcement and improved industry practices helped trim the violations, researchers found.

"It's pleasing to me, and it should be pleasing to everyone," former state Department of Environmental Protection Secretary John Hanger said responding to the study.

The DEP reports more than 4,000 wells since 2009 were drilled by hydraulic fracturing, a technique that pumps millions of gallons of chemically treated water to crack underground rock and free trapped gas.

Of 845 incidents that caused measurable amounts of pollution from that drilling, 25 involved major impacts to air, water and land resources, according to the report. Of those, environmental impacts weren't corrected in six cases, the study found.

Pennsylvania managed "the brisk pace of unconventional gas development, while preserving the economic opportunity that development has afforded the community," according to the study's authors.

John Martin, who formerly studied environmental issues surrounding shale gas for the New York State Research and Development Authority, is the institute's director and helped write the report. His co-authors were University of Wyoming professor Timothy J. Considine and Pennsylvania State University professor emeritus Robert W. Watson, who have previously written studies commissioned by the Marcellus Shale Coalition, an industry group.

Martin has said this report was funded only by the university, university spokesman Cory Nealon said. Martin could not be reached for comment on Wednesday.

Blowouts, fires and spills have happened periodically across the state. The state levied its record fines during the same time period in 2011 targeted by the study. On the same day in May 2011, Chesapeake Energy Corp. received a $900,000 fine for contaminating private water wells in Bradford County and $188,000 fine for a tank fire in Washington County that injured three subcontractors.

Those actions, combined with four separate packages to update drilling regulations pushed drillers toward better safety practices, Hanger said. Local investments from multinational companies with strong safety cultures and technological advancements from the companies operating here helped, Hanger said.

(By Timothy Puko; Pittsburgh Tribune – Review, 5/17/12)