

# Oil and gas drilling pollutes well water, states confirm



Keith Srakocic / AP file

Marchers concerned about water pollution protest against hydraulic fracturing and gas well drilling in Pennsylvania on Nov. 3, 2010.

By Kevin Begos, The Associated Press

PITTSBURGH — In at least four states that have nurtured the nation's energy boom, hundreds of complaints have been made about well-water contamination from oil or gas drilling, and pollution was confirmed in a number of them, according to a review that casts doubt on industry suggestions that such problems rarely happen.



John Heller / AP

Environmental protection groups participate in a global Frackdown Day to protest hydraulic fracturing in Pittsburgh on Sept. 22, 2012.

The Associated Press requested data on drilling-related complaints in Pennsylvania, Ohio, West Virginia and Texas and found major differences in how the states report such problems. Texas provided the most detail, while the other states provided only general outlines. And while the confirmed problems represent only a tiny portion of the thousands of oil and gas wells drilled each year in the U.S., the lack of detail in some state reports could help fuel public confusion and mistrust.

The AP found that Pennsylvania received 398 complaints in 2013 alleging that oil or natural gas drilling polluted or otherwise affected private water wells, compared with 499 in 2012. The Pennsylvania complaints can include allegations of short-term diminished water flow, as well as pollution from stray gas or other substances. More than 100 cases of pollution were confirmed over the past five years.

Just hearing the total number of complaints shocked Heather McMicken, an eastern Pennsylvania homeowner who complained about water-well contamination that state officials eventually confirmed.

### **'Surprised'**

"Wow, I'm very surprised," said McMicken, recalling that she and her husband never knew how many other people made similar complaints, since the main source of information "was just through the grapevine."

The McMickens were one of three families that eventually reached a \$1.6 million settlement with a drilling company. Heather McMicken said the state should be forthcoming with details.

Over the past 10 years, hydraulic fracturing, or fracking, has led to a boom in oil and natural gas production around the nation. It has reduced imports and led to hundreds of billions of dollars in revenue for companies and landowners, but also created pollution fears.

Extracting fuel from shale formations requires pumping hundreds of thousands of gallons of water, sand and chemicals into the ground to break apart rock and free the gas. Some of that water, along with large quantities of existing underground water, returns to the surface, and it can contain high levels of salt, drilling chemicals, heavy metals and naturally occurring low-level radiation.

But some conventional oil and gas wells are still drilled, so the complaints about water contamination can come from them, too. Experts say the most common type of pollution involves methane, not chemicals from the drilling process.

Some people who rely on well water near drilling operations have complained about pollution, but there's been considerable confusion over how widespread such problems are. For example, starting in 2011, the Pennsylvania Department of Environmental Protection aggressively fought efforts by the AP and other news organizations to obtain information about complaints related to drilling. The department has argued in court filings that it does not count how many contamination "determination letters" it issues or track where they are kept in its files.

Steve Forde, a spokesman for the Marcellus Shale Coalition, the leading industry group in Pennsylvania, said in a statement that "transparency and making data available to the public is critical to getting this historic opportunity right and maintaining the public's trust."

When the state Environmental Department determines natural gas development has caused problems, Forde said, "our member companies work collaboratively with the homeowner and regulators to find a speedy resolution."

### **Findings**

Among the findings in the AP's review:

— Pennsylvania has confirmed at least 106 water-well contamination cases since 2005, out of more than 5,000 new wells. There were five confirmed cases of water-well contamination in the first nine months of 2012, 18 in all of 2011 and 29 in 2010. The Environmental Department said more complete data may be available in several months.

— Ohio had 37 complaints in 2010 and no confirmed contamination of water supplies; 54 complaints in 2011 and two confirmed cases of contamination; 59 complaints in 2012 and two confirmed contaminations; and 40 complaints for the first 11 months of 2013, with two confirmed contaminations and 14 still under investigation, Department of Natural Resources spokesman Mark Bruce said in an email. None of the six confirmed cases of contamination was related to fracking, Bruce said.

— West Virginia has had about 122 complaints that drilling contaminated water wells over the past four years, and in four cases the evidence was strong enough that the driller agreed to take corrective action, officials said.

— A Texas spreadsheet contains more than 2,000 complaints, and 62 of those allege possible well-water contamination from oil and gas activity, said Ramona Nye, a spokeswoman for the Railroad Commission of Texas, which oversees drilling. Texas regulators haven't confirmed a single case of drilling-related water-well contamination in the past 10 years, she said.

In Pennsylvania, the number of confirmed instances of water pollution in the eastern part of the state "dropped quite substantially" in 2013, compared with previous years, Department of Environmental Protection spokeswoman Lisa Kasianowitz wrote in an email. Two instances of drilling affecting water wells were confirmed there last year, she said, and a final decision hasn't been made in three other cases. But she couldn't say how many of the other statewide complaints have been resolved or were found to be from natural causes.

### **Public trust**

Releasing comprehensive information about gas drilling problems is important because the debate is no longer about just science but trust, said Irina Feygina, a social psychologist who studies environmental policy issues. Losing public trust is "a surefire way to harm" the reputation of any business, Feygina said.

Experts and regulators agree that investigating complaints of water-well contamination is particularly difficult, in part because some regions also have natural methane gas pollution or other problems unrelated to drilling. A 2011 Penn State study found that about 40 percent of water wells tested prior to gas drilling failed at least one federal drinking water standard. Pennsylvania is one of only a few states that don't have private water-well construction standards.

But other experts say people who are trying to understand the benefits and harms from the drilling boom need comprehensive details about complaints, even if some cases are from natural causes.

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In Pennsylvania, the raw number of complaints "doesn't tell you anything," said Rob Jackson, a Duke University scientist who has studied gas drilling and water contamination issues. Jackson said he doesn't think providing more details is asking for too much.

"Right or wrong, many people in the public feel like DEP is stonewalling some of these investigations," Jackson said of the situation in Pennsylvania.

In contrast with the limited information provided by Pennsylvania, Texas officials supplied a detailed 94-page spreadsheet almost immediately, listing all types of oil and gas related complaints over much of the past two years. The Texas data include the date of the complaint, the landowner, the drilling company and a brief summary of the alleged problems. Many complaints involve other issues, such as odors or abandoned equipment.

Scott Anderson, an expert on oil and gas drilling with the Environmental Defense Fund, a national nonprofit based in Austin, notes that Texas regulators started keeping more data on complaints in the 1980s. New legislation in 2011 and 2013 led to more detailed reports and provided funds for a new information technology system, he said.

Anderson agreed that a lack of transparency fuels mistrust.

"If the industry has nothing to hide, then they should be willing to let the facts speak for themselves," he said. "The same goes for regulatory agencies

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