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The Washington Times

Shale motherlode brings world of change

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First of two parts



WASHINGTON, Pa. — Earlier this year, Phillip Whalen packed his bags, left his home in Louisiana and set up shop in western Pennsylvania.

The 15-year oil and gas industry veteran said work has dried up around the Gulf of Mexico, in part because of the fallout from the BP PLC oil spill last year. In what has become a kind of reverse national oil rush, Mr. Whalen said, his motivation for heading north to this small community 20 miles south of Pittsburgh was simple.

"I'm doing what I have to do to keep a roof over the head and pay the bills," the grizzled family man said early one morning. He was dressed in a blue jumpsuit and was smoking a last cigarette outside his hotel before heading off to work.

His company, T3 Energy Services, sent him to Washington, the economic epicenter for exploiting what many think is the nation's path away from dangerous dependence on foreign oil.

Big energy companies have set up shop here to tap the Marcellus Shale, a massive chunk of marine sedimentary rock stretching from the Finger Lakes region of New York as far south as Kentucky and Tennessee, holding within its subterranean grip vast deposits of natural gas.

Technology that essentially uses extreme water pressure to crack open the rock and liberate the natural gas within so that it can be pumped to waiting pipelines has given mining and energy companies access to the plentiful supply of shale oil and gas in recent years.

Proponents tout so-called "hydraulic fracturing" or "fracking" as the key to satisfying the nation's booming energy appetite — using reliable, domestic sources — for a century or more. Critics warn that the procedure is dangerous, an untested technology that opens the way for mysterious chemicals to seep into water supplies, while leaving unsuspecting residents of small towns and rural hamlets vulnerable to environmental and economic disruption.

Either way, the industry has and continues to transform small western Pennsylvania outposts such as Washington, Hickory and Canonsburg from sleepy communities to boomtowns and has changed the national conversation about how we heat our homes and power our vehicles.

"All the sudden you've found yourself with an abundant source of energy ... and, by the way, it's made in America," Tom Ridge, former Pennsylvania governor and homeland security secretary, said in an interview. Mr. Ridge now serves as an adviser to the Marcellus Shale Coalition, a fraternity of natural gas drilling outfits.

The new Houston

Analysts estimate that the shale contains between 168 trillion and 516 trillion cubic feet of natural gas, buried as deep as 9,000 feet below ground. Pennsylvania, where the nation's first oil well was drilled in Titusville in 1859, has become the new Houston of the shale business and drilling has skyrocketed in recent years.

In 2007, drillers had 27 wells tapping the Marcellus Shale in the state. The number shot up to 161 in 2008 and to 785 in 2009. Last year, a record 1,445 wells were drilled — a 53-fold increase in four years. This year, 399 have been drilled as of March 31, according to the Pennsylvania Department of Environmental Protection.

The multibillion-dollar energy corporations drilling those wells have moved in as neighbors to residents in and around Washington, Bradford County and other parts of western and central Pennsylvania. Companies such as Fort Worth, Texas-based Range Resources, one of the largest players in the industry, are putting big checks in the pockets of landowners who lease their acreage for wells. The leases typically last as long as the well produces gas, often for 50 years. Many of the landowners are farmers, who get hefty royalty checks each month in exchange for allowing access to their land.

Mark Wolfe, who owns 22 acres in Mount Pleasant Township, said he was approached by Range Resources agents in 2008. He soon signed a lease with the company.

"I said, 'For the good of the farmers, let's roll with it,' " he said. "We carried on life as usual. I slept at night" during the process.

When the wells are completed and pumping gas around the clock, it's back to business for the landowners. Cows graze just outside many of the sites. Farmers tend to the land and mow their pastures. The only difference is that they're usually riding top-of-the-line tractors, financed with gas royalties.

For Mr. Wolfe and many others in these parts, Marcellus Shale is not just a household term; it has become a way of life. Rig operators head to local bars and restaurants after their 12-hour shifts. Hotel rooms are booked weeks or months in advance, with transient workers such as Mr. Whalen making them their temporary home away from home.

Many of those employees work two or three weeks straight without a day off. The grueling schedule allows them to fly home and see their wives and children during the off weeks.

Getting noticed

But for all its prominence in Pennsylvania and elsewhere, the Marcellus Shale region remains an unknown commodity in Washington, D.C.

"Nobody is hardly mentioning natural gas down here. Nobody in this town is talking natural gas," said Mr. Ridge, sounding almost bewildered as he lamented the nation's lack of a comprehensive energy policy.

That is slowly changing.

Congress now has a Natural Gas Caucus dedicated to promoting the fuel's viability. It was co-founded last year by Rep. Tim Murphy, Pennsylvania Republican.

A Marcellus Shale Caucus, co-founded by Rep. Mark S. Critz, a Democrat who represents Washington County, and Rep. Tom Reed, New York Republican, is in the works.

Texas oilman T. Boone Pickens and other energy moguls have launched public relations campaigns on behalf of natural gas, pushing for vehicle retrofitting and service station upgrades to take advantage of the Marcellus Shale. Some major companies, such as Waste Management Inc., have invested in natural gas fleets. Mr. Ridge said many others will follow suit, especially facing skyrocketing prices at the gas pump.

Many still have reservations, and protests are common outside gas company offices. When drilling is on its way, township meetings are often contentious.

The local resistance is driven by a lack of knowledge, industry backers say. Insiders also acknowledge that they haven't done enough to address some local concerns.

"We suffer from some self-inflicted wounds," said Range Resources spokesman Matt Pitzarella. "We've not been proactive enough as an industry to provide the answers. We used to fly below the radar. That doesn't work anymore. If people have questions and you don't address those questions, you're viewed as having something to hide. And, at that point, anybody can fill that vacuum" with misinformation or politically motivated attacks.

Demystifying the process

One way companies are trying to win over the public is by talking more openly about the processes they use to extract natural gas and to deconstruct the mysteries of fracking.

Using the procedure, companies pump huge volumes of a water, sand and chemical mixture into the ground at tremendous pressure, shattering the rock that traps the gas. They work with subcontractors to set up water lines to and from the sites, a cheaper alternative to running thousands of tanker trucks back and forth to supply the millions of gallons needed for a single well.

Throughout the operation, layers of piping and concrete line the well, which is meant to keep the fracking fluid from contaminating vital water supplies.

The frack job, as insiders call it, is a round-the-clock operation, with 35 to 50 employees at the site day and night. Workers eat on site, with catered meals provided by their employer. They leave only to sleep.

At the heart of the entire operation is the frack van, filled with millions of dollars of technical equipment measuring pressure, depth and a multitude of other factors. Inside, Shawn Hodges and other employees keep an eye on everything.

"It's a very small surface area [we're drilling], but a lot of gas," said Mr. Hodges, a completions-operations manager who has been in the industry for 25 years and has worked on more than 4,000 wells.

In the old days, drilling was purely vertical. While still profitable and effective, the vertical shafts could tap only a tiny portion of the field, requiring large numbers of rigs and huge swaths of land to exploit a find. With each rig, the risk of an accident increased.

Now, companies are able to incorporate horizontal drilling. After drilling the vertical well — typically about 6,500 feet down — operators can branch out horizontally, usually at a distance of about 3,000 feet but sometimes much farther. This allows companies to extract gas from a much larger area from a single well site, decreasing land needs and maximizing efficiency.

Range officials concede that the initial process is "noisy and dirty" but stress that it's only temporary. A year after first putting the drill into the ground, land is nearly back to normal. Mr. Wolfe's land, for example, has been restored, with the exception of the well pad, the leftovers from the drilling process that pump gas from the ground and into pipelines.

From those pipelines, the gas heads to market and is sold to homes and businesses in Ohio, Kentucky and many other states. Marcellus Shale companies say they will have one advantage over other fracking centers because of lower transportation costs to the densely populated Northeast and mid-Atlantic markets.

Manning the pumps

To run a safe, effective operation, companies such as Range need competent employees. Increasingly, the talent

is homegrown.

At the Western Area Career and Technology Center in Canonsburg, not far from Washington, director Joseph Iannetti has instituted programs geared toward the natural gas industry.

Like Mr. Whalen, some adult students come from across the country to learn the skills needed for jobs that pay, on average, about \$75,000 a year.

"From my research, we'll walk out of here and have a job," said Pat Champ, a quiet, out-of-work carpenter from Wisconsin who left the Badger State to find work in the natural gas industry. He sat inside the small classroom with two other students. The class is expected to grow along with the process.

Mr. Champ's optimism is not misplaced. Mr. Iannetti said companies recruit students before they finish the programs, which include a vocational technology offering for high school students and an adult course for Mr. Champ and others.

"When we first heard about this, we thought it was science fiction," Mr. Iannetti said of the Marcellus Shale and the fracking process. "There's excitement [in western Pennsylvania] again. This is not a flash-in-the-pan industry."

He said his school has a 92 percent placement rate. Many graduates head to well sites, working for Range or one of its many competitors. But, Mr. Iannetti said, companies need more than well drillers.

There is high demand for electricians, welders, truck drivers, excavators and even accountants.

It isn't for the faint of heart. It's hard work, exactly the kind western Pennsylvanians are used to after the mighty rise and sudden fall of iron and steel operations, Mr. Iannetti said.

For the nation, it's an opportunity to revolutionize energy policy. For workers, it means a good paycheck in an exciting field, accompanied by backbreaking work and weeks at a time away from home.

"It's a rough lifestyle, staying away from your family," Mr. Whalen said, growing angry when asked about those who demonize the industry and argue that it cares only about money.

"You just have to protect the environment. That's my job," he said.

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