

# FRACKING FIGHT

The pros and cons of a new drilling technique

“You can’t get water out of a stone,” goes the old saying, and maybe you can’t. But it turns out that you can get oil and **natural gas** out of stone. The United States now imports about 45 percent of its oil from other countries. In the search for more domestic energy sources, U.S. energy companies are looking to extract oil and gas trapped thousands of feet below Earth’s surface in shale, a type of rock.

The U.S. lies over more than a dozen large shale formations. The largest is the Marcellus Shale, a massive deposit 600 miles wide that sits 7,000 feet below parts of New York, Pennsylvania, Ohio, West Virginia, Virginia, Maryland, and Tennessee. It is thought to contain an estimated 500 trillion cubic

A rig drills for natural gas in Mansfield, Texas. Inset: a fracking protest

feet of natural gas, most of which is untapped. Natural gas ( $\text{CH}_4$ ) is a colorless, odorless gas that can be burned to generate electricity or heat buildings. Underneath the Marcellus Shale is the Utica Shale, which is thought to contain about 940 million barrels of oil.

To get natural gas and oil from shale, however, energy companies must use a controversial technique called “hydraulic fracturing,” or fracking, for short.

How does fracking work? First, workers drill a shaft straight

down into the shale formation (see diagram). Then they drill horizontally into the shale and inject millions of gallons of water, chemicals, and sand into the stone. This causes the shale to fracture and break apart, freeing the trapped oil and gas inside to escape up the well. The process also creates millions of gallons of wastewater. Sometimes the water is collected and trucked away to be purified. In other cases, workers inject the wastewater back underground.



## WORDS TO KNOW

- **aquifer** (*n*): an underground body of rock that contains water
- **lobbyist** (*n*): a person seeking to influence public officials on particular issues
- **natural gas** (*n*): a type of fossil fuel formed millions of years ago from the remains of living organisms



## A Chorus of Criticism

Today fracking takes place across the U.S., and energy companies hope to greatly expand the practice. But their plans have run into a growing chorus of criticism. Environmentalists say fracking should be banned because it can contaminate groundwater with chemicals. Groundwater provides drinking water for millions of Americans. According to ProPublica, an investigative-journalism service, more than 1,000 cases of water contamination linked to fracking were documented by U.S. courts and state and local governments in 2008 alone.

“Fracking threatens the air we breathe, the water we drink, the communities we love, and the climate on which we all depend,” Wenonah Hauter, president of Food and Water Watch, tells *JS*. “We can’t expect future generations to clean up our messes, which is why we need to ban fracking now.” Hauter thinks that the U.S. should focus more on developing renewable energy sources such as solar and wind power instead of fracking to obtain fossil fuels.

## In Defense of Fracking

Fracking also has strong defenders. “What do we stand to [lose] if fracking is outlawed?” asks Gerry Calhoun a geologist in *The Tennessean*. “About 29 percent of our electricity comes from natural gas supplies. If we cut off those resources, we will have to import increasing amounts of gas and oil at much higher prices.”

Steve Herz, of New York’s Joint Landowners Coalition, maintains that fracking is safe. “Having visited hundreds of well sites . . . and interviewed officials in all 28 states

developing natural gas, . . . we believe fracking can be done safely and responsibly,” he tells *JS*.

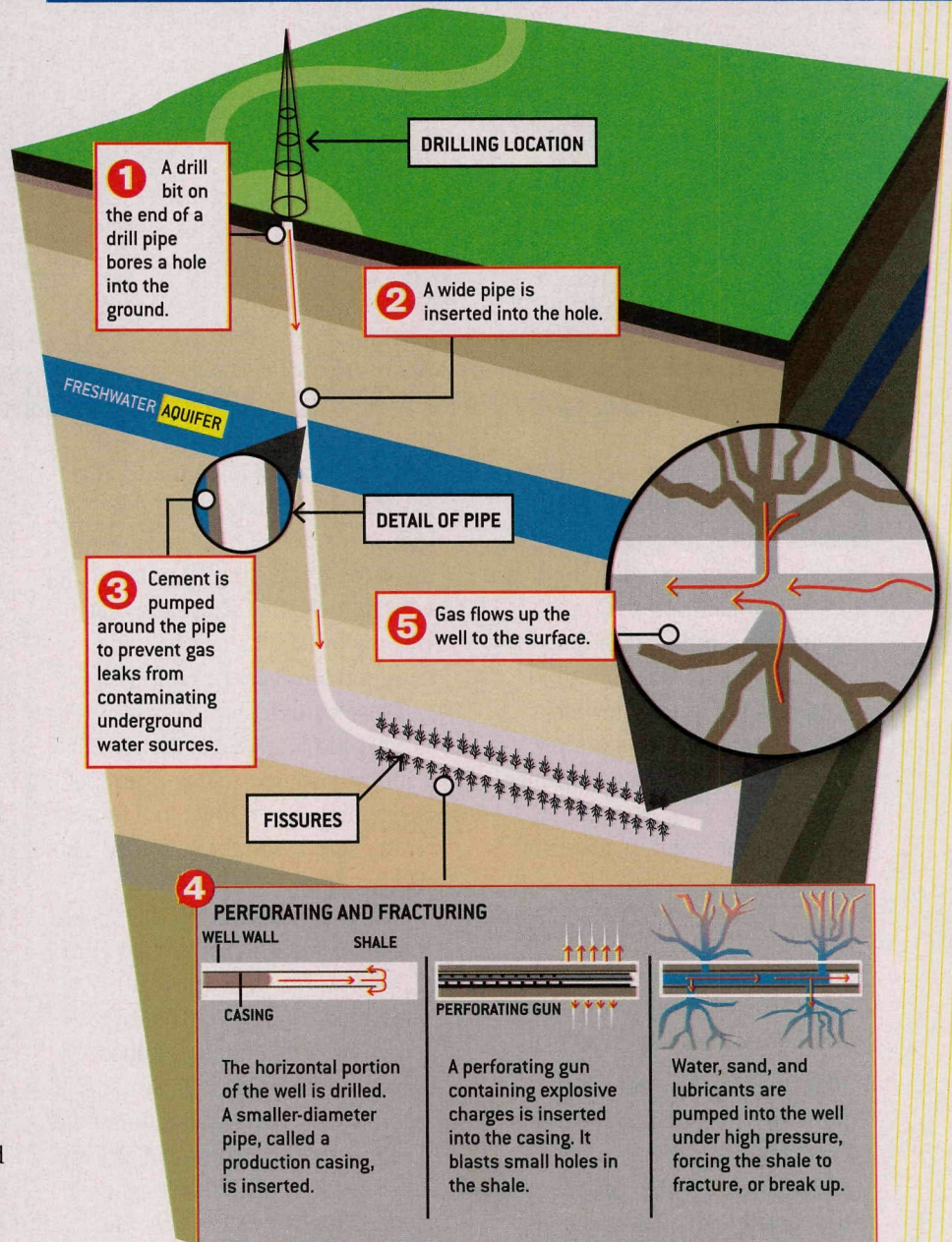
President Barack Obama expressed his support of fracking in a speech in Las Vegas. “We have a supply of natural gas that can last America nearly a hundred years,” he said. “It could power our cars, our homes and our factories. . . .

Experts believe it could support more than 600,000 jobs.”

However, it is up to state officials to approve the use of fracking, not the president. **Lobbyists** for both sides are busy trying to influence officials to pass laws for or against fracking. Which side prevails could shape America’s energy future.

—Charles Pidcock

## HOW HYDRAULIC FRACTURING WORKS



\*DIAGRAM IS SCHEMATIC, NOT TO SCALE.

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