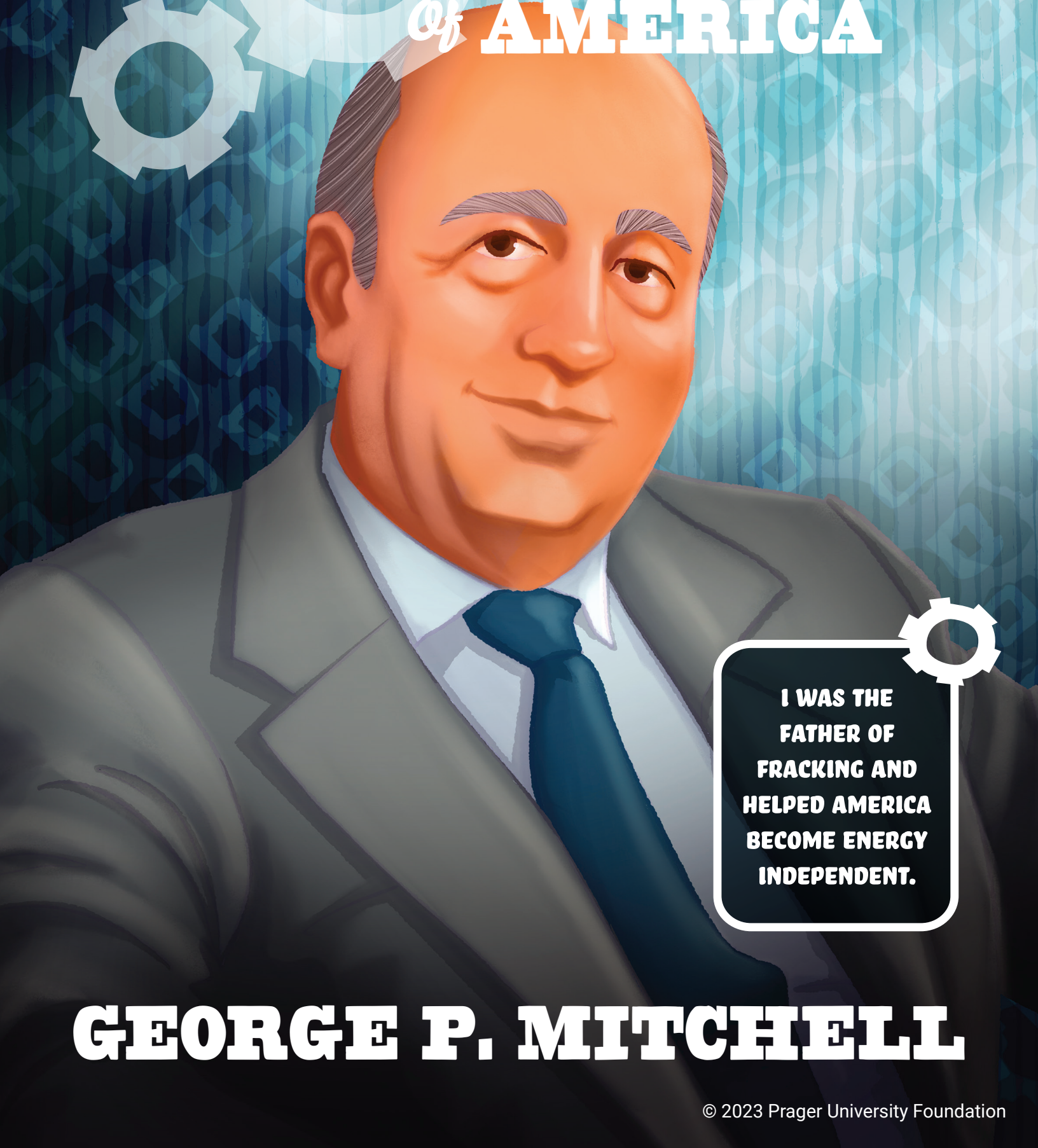


# BUILDERS *Of* AMERICA



I WAS THE  
FATHER OF  
FRACKING AND  
HELPED AMERICA  
BECOME ENERGY  
INDEPENDENT.

# GEORGE P. MITCHELL

# Meet George P. Mitchell

Does your family use a refrigerator? Do they use a gas stove, a laundry dryer, or a heater? If they do, they've needed natural gas to power all of these things. And few people have done more to provide Americans with natural gas than George P. Mitchell.

For much of the 20th century, America relied on other countries to obtain energy. George, however, popularized a process called **fracking** – a technique that involves extracting gas from rock. Thanks to the increased supply of natural gas made possible by this process, Americans can access energy more cleanly and cheaply than ever before – something that has helped millions of people, both rich and poor. Although many people doubted that fracking would ever work, George never gave up on trying to perfect the technique.

George lived the American dream. He came from a poor immigrant family and rose to become one of the wealthiest men in the world. He was an entrepreneurial genius, willing to work hard and take big risks to earn big rewards. He married a lovely woman named Cynthia and had a large, beautiful family.

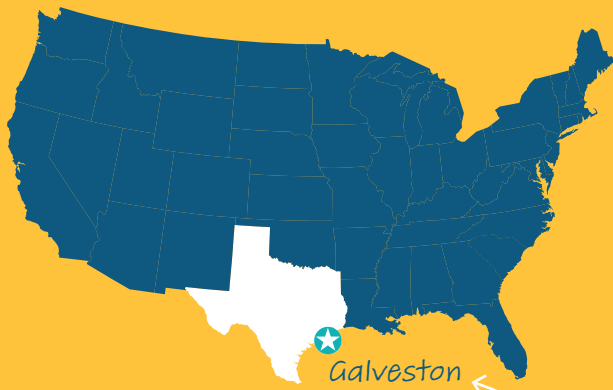
His greatest contribution, however, was revolutionizing the energy industry through fracking. The next time you dry your clothes or grab a snack from your refrigerator, remember to thank George P. Mitchell for helping to make it happen.



## At-a-Glance

- ★ Born on May 21, 1919 in Galveston, Texas.
- ★ Served in the U.S. Army Corps of Engineers during World War II.
- ★ Participated in approximately 10,000 wells and 1,000 wildcat wells.
- ★ Pioneered an efficient method of fracking, helping the United States become more energy independent.
- ★ Attained a net worth of about \$2 billion.
- ★ Donated hundreds of millions of dollars to various causes.
- ★ Died July 26, 2013 in Galveston, Texas at the age of 94.





## Young George

George Phydias Mitchell was born on May 21, 1919 in Galveston, Texas. Although George was destined to become one of the world's wealthiest men, he and his family started out with almost nothing. His father, Savvas Paraskevopoulos, was a **goatherd** from Greece. Savvas wanted a better life, so he walked fifty miles to get on a ship headed for Ellis Island in New York City. When Savvas arrived in the United States, he changed his name to Mike Mitchell because his original name was too hard for many Americans to pronounce. In 1905, he married a woman named Katina Eleftheriou and settled in Galveston.

Mike and Katina had four children, and George was their third child. In the Mitchell household, only Greek was spoken, so George didn't learn English until he went to school. When George was 13, tragedy struck his family: his mother Katina died of a stroke. George was heartbroken, saying, "Words cannot describe the feelings I have in me now."

## College Student

Despite this painful loss, George resolved to succeed in school. He was an excellent student in high school and got into Texas A&M University. Prior to her death, his mother had hoped George would become a doctor. After one summer of working at an oil field in Louisiana, though, he fell in love with the oil industry. He later said, "Making discoveries by looking at maps seemed exciting."

George also had a passion for **entrepreneurship**. He raised money by selling candy to his fellow students. He later said, "It was kinda fun." When students started stealing his candy bars without paying for them, George found another way to raise money: selling fancy stationery. Soon, he was making \$300 a month.

George wasn't just good at making money. He also got good grades and captained A&M's tennis team. He ended up graduating in 1940 as his class's valedictorian with a degree in **petroleum** engineering.

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## Early Career

The year after George graduated, the United States entered World War II. He decided to serve his country by enlisting in the U.S. Army Corps of Engineers. George eventually rose to the rank of major and managed various military engineering projects.

He also met a lovely, well-educated woman named Cynthia Woods. They got married in 1943 and eventually had ten children.

## Entering the Gas Industry

After the war, George decided he wanted to have a career in the energy industry. He and his brother Johnny bought a small company named Oil Drilling, Co. They were “**wildcatters**” – traveling across the desert looking for oil and gas **wells**. It was a risky lifestyle because there was no guarantee they’d strike it rich, but George had a knack for spotting productive wells. Soon, they were drilling not just in Texas, but also in Louisiana and New Mexico and attracting many wealthy investors.

At the time, most energy companies were focused on oil fields. They ignored gas, which was a cheaper form of energy. George and his brother, however, decided to focus on gas because there were less competitors. In 1952, a friend of theirs gave them a tip about a 3,000-acre area in Wise County, Texas that potentially had gas buried underneath the ground. George decided to visit and, after drilling, he felt confident about the site. Soon, George and his company **leased** 300,000 acres in the area.



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# George the Boss

Like many businessmen, George was very ambitious and motivated. Sometimes, he could be tough with his staff and had high expectations.

Over the years, however, as his family grew larger and he became wealthier, he became more relaxed. He got to know his employees personally and walked around the office informally in checkered pants and jackets. His workers admired him for being so approachable and hardworking. One of his executives noted that he “avoided all publicity. He was just work, tennis, work, tennis, work, tennis.”



## Gas Tycoon

Running a business isn't easy, especially in the energy sector. It costs a lot of money to buy and maintain equipment, so George needed to convince investors that his company would be profitable.

George also rented out land to people and promised them **royalties** from his company's profits. When the profits remained low, many of those people began complaining. In 1956, George invited about 3,000 of them to a large barbecue where he promised them their profits would come. All they had to do, he said, was to be patient.

George's efforts paid off when he made a deal with the Natural Gas Pipeline Company of America to supply gas to the city of Chicago, Illinois. The gas was transported from Texas through a pipeline all the way to Chicago. The deal earned George's company a lot of money, which made his investors and renters happy. Over the years, the Mitchell brothers would acquire new fields and over a thousand wells.

By 1957, George was CEO of the company. It would eventually be called the Mitchell Energy & Development Corporation. Four years later, the company was Texas's top independent gas producer and one of America's top interstate gas corporations. George was now a very wealthy man.



## George's Dilemma

By the late 1970s, however, Mitchell Energy was in trouble. The Wise County field began to run dry, and experts at the company predicted that they could only count on ten more years at their regular level of production. "You could see it fading," George said of the field. "In a few more years I knew we'd be in trouble." He still had to supply gas to the city of Chicago and he had no idea how he was going to get that supply.

The solution, it turned out, was literally right under his nose. One of George's employees, geologist Jim Henry, told him about a layer of thick rock, called **shale**, underneath the Wise County fields that might have **abundant** levels of gas. The layer in Wise County was called the Barnett Shale formation (named after the nearby Barnett Spring), and it was about a mile below the surface. George also heard about a new technique to extract gas, called fracking, that looked promising.

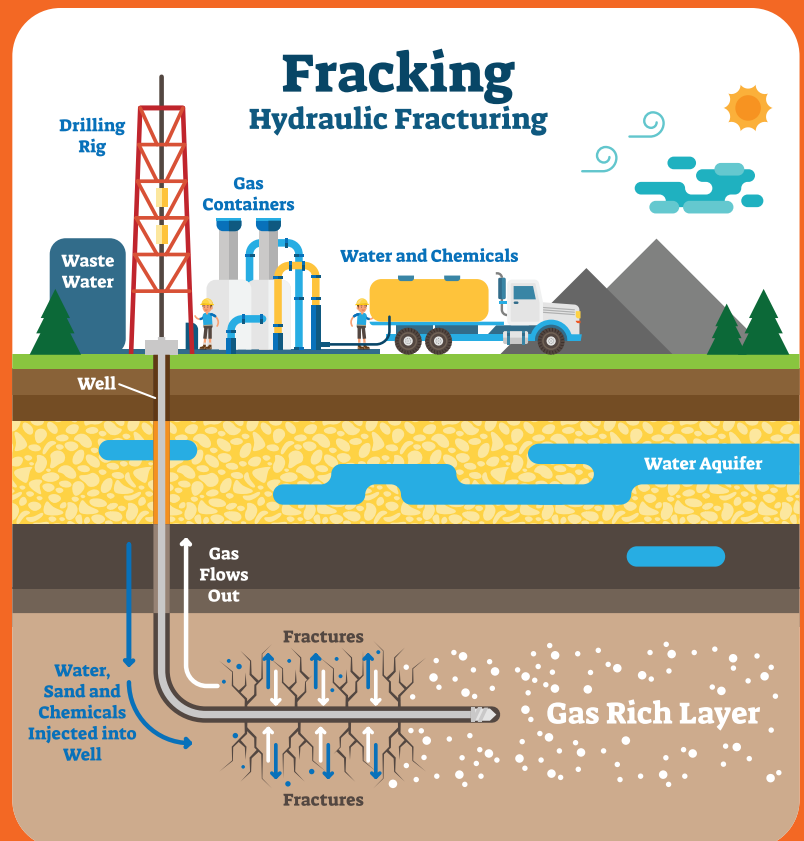


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## Early Fracking

Fracking is a technique used to extract **fossil fuels**, such as oil or gas, from the earth. These fuels are created when organic material in the earth is transformed by heat and pressure. Drilling companies tap into reservoirs of that fuel underground, but a lot of it is trapped in rocks, such as shale. It takes a great deal of force to extract the trapped fuel.

Attempts at extraction began in the 19th century, when drillers would detonate explosives or blast rock with ammunition to access the oil trapped underground. In the 1940s, an oil company in Indiana began blasting high-pressure liquid to break up underground rock formations. Although fracking wasn't being widely used across the energy industry at the time, many knew that, if done effectively, it could revolutionize extraction.



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## George's Solution

George had known about fracking for some time and felt it might be used to tap into all of the gas in the Barnett Shale. Many others in the energy industry, however, felt that drilling so deep into the ground would be too expensive. In addition, the fuel was so **embedded** into the rock that the experts felt it was too hard to get to.

George, however, was determined. No one in the industry had ever successfully extracted a significant amount of fuel through fracking, but he wanted to be the first. Investment banker Dave Pursell later said, "The guy just wouldn't give up... it was dogged determination."

Starting in the 1980s, George's company began drilling into the Barnett Shale layer. His team worked hard to improve the

fracking process. They used a technique that involved pumping thousands of gallons of water and other substances into rock, creating small cracks that released gas.

For the first two decades, the team was able to extract a little bit of gas, but not as much as it had hoped. Mitchell Energy's profits continued to decline. By 1998, the company had spent about \$250 million drilling in shale, with little to show for it. George knew he was in trouble and might have to declare bankruptcy. That same year, however, a Mitchell engineer, Nicholas Steinsberger, developed a mix of water and gel that, when blasted at shale, released an incredible amount of gas. No well in the Barnett area had ever produced one million cubic feet of gas after ninety days, but with this technique, they were producing even more than that. George realized that they had discovered the exact mix that they needed. Soon, they were blasting shale at a rapid rate and extracting untold levels of gas. By 2001, the company's gas production had more than doubled. The profits were rolling in. George's worth skyrocketed to almost \$2 billion.

## FACTS ABOUT FRACKING

- Water and sand are the main materials used in fracking, making up 99% of the materials pumped into a well.
- Fracking allows us to drill up to 10,000 feet into the ground.

- It helps reduce air pollution. It increases the supply of natural gas, which is cleaner than oil and coal.
- It has led to a 47% drop in the price of natural gas, which benefits all Americans.





## A World Transformed

The fracking revolution had begun, and it would affect more than George's own company. Energy firms across the country began adopting the process. The United States experienced a boom in natural gas production, which accelerated in 2010. This created hundreds of thousands more jobs and helped the country recover from the devastating 2008 recession. Thanks in part to fracking, by 2015, half of all U.S. natural gas production came from shale.

Fracking has benefited every American. The increased availability of oil and gas has reduced the cost of energy, which means Americans have more money to save or spend on other things they need. It has helped America become more independent when it comes to its energy supply, instead of relying on other countries. In fact, by 2018, the United States had exceeded oil giants Russia and Saudi Arabia in production for the first time in decades. America is now the largest global oil and gas producer in the world.

Also, fracking has reduced pollution. Natural gas burns more cleanly than coal. As America replaced much of its coal production with gas, it became the world leader in reducing carbon pollution.

## The Mitchells Give Back

Throughout their lives, George and Cynthia Mitchell used their wealth to help communities and the less fortunate. Throughout the 1960s, Cynthia volunteered for the United Fund (now called United Way). She and her children wrapped hundreds of gifts during the Christmas season and delivered them to nearby neighborhoods.

In 1978, the Mitchells established the Cynthia and George Mitchell Foundation, which has provided more than \$400 million in grants to various charities. A few years later, George launched the Houston Advanced Research Center, which eventually raised \$20 million a year to help keep our air and water clean. The Mitchells have also given tens of millions of dollars to help victims of natural disasters and to advance the arts and sciences.





# Word Scramble

1. TANUNDBA
2. SLOSIF SLUFE
3. FIKARGNC
4. ELES A
5. HMLTCEIL
6. ERLTMPOEU
7. ILYRTOEAS
8. ASELH
9. LLWE
10. RWLDTCTAEI

Answer key on page 10

## Retirement

By the early 2000s, George was a respected figure in the energy industry. He spoke out on ways to provide clean forms of energy. Cynthia was diagnosed with Alzheimer's disease in 2002 and died in December of 2009 at the age of 87. George died a few years later, in July 2013, at the age of 94. The President of Texas A&M, Rear Admiral Robert Smith, said of George, "To say he was a great man with foresight and generosity isn't enough... He will be deeply missed, but his spirit shall go on forever..."

## Fascinating Facts

- George's father was a goatherd from Greece who came to the United States to live the American dream.
- George built a planned community near Texas called the Woodlands which now has 75,000 residents.
- He and Cynthia had ten children, 23 grandchildren, and five great-grandchildren.
- In his free time, he was an avid tennis player, fisherman, and amateur astronomer.

# Glossary

- **Abundant:** Available in large quantities.
- **Embedded:** Fixed or snugly enclosed within something or under a surface.
- **Entrepreneurship:** The activity or process of creating a business and taking on financial risks in the hope of generating profit.
- **Fossil fuels:** A natural fuel, such as oil or gas, formed in the Earth from the remains of living organisms.
- **Fracking:** The process of injecting liquid at high pressure into rocks to extract oil or gas.
- **Goatherd:** A person who tends goats.
- **Lease:** To allow someone else to rent something, such as land, a house, or an apartment.
- **Petroleum:** A naturally occurring liquid composed of hydrocarbons. It is a fossil fuel and is extracted from the Earth and refined to produce oil products and gasoline.
- **Royalties:** Payments made to an individual or a company for the ongoing use of their assets.
- **Shale:** A sedimentary rock that breaks easily into thin layers. It is often used to extract fossil fuels through fracking.
- **Well:** A hole drilled into the ground that is used to access oil.
- **Wildcatter:** An individual who drills for oil in areas not known for having oil.

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WORD SCRAMBLE KEY: 1-ABUNDANT, 2-FOSSIL FUELS, 3-FRACKING, 4-LEASE, 5-MITCHELL, 6-PETROLEUM, 7-ROYALTIES, 8-SHALE, 9-WELL, 10-WILDCATTER.