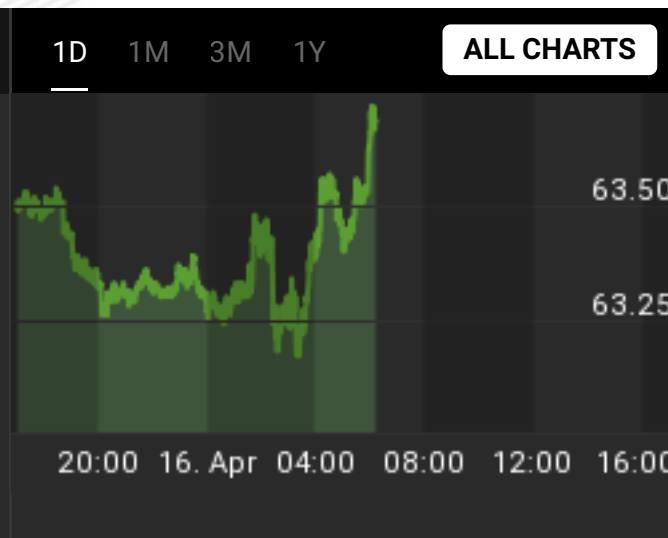


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BRENT CRUDE • 71.33 ▲ +0.15 +0.21%	BONNY LIGHT • 71.71 ▼ -0.70 -0.97%		
NATURAL GAS • 2.588 ▼ -0.002 -0.08%	MEXICAN BASKET • 63.59 ▲ +0.11 +0.17%		
MARS US • 67.50 ▼ -0.54 -0.79%	NATURAL GAS • 2.588 ▼ -0.002 -0.08%		



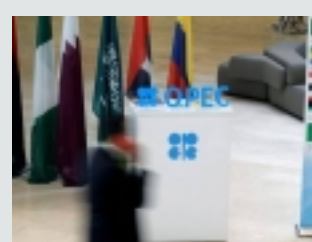
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The Real History Of Fracking

By [John Manfreda](#) - Apr 13, 2015, 4:10 PM CDT



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Over the past decade, the biggest story in the US energy sector has been hydraulic fracturing, also known as fracking. This drilling technique has enabled oil and gas producers to extract oil and natural gas from shale rock, thus increasing oil and gas production inside the US.

Media pundits have claimed that this form of oil and gas extraction is a technological [breakthrough](#), which has enabled the US to become the world's largest oil and gas [producer](#), and will enable the US to become energy independent by the year [2020](#).

While there are a lot of myths that surround this technology (it poisons the [drinking water](#), or it [causes cancer](#)) the biggest one myth, is that, it's new [technology](#).

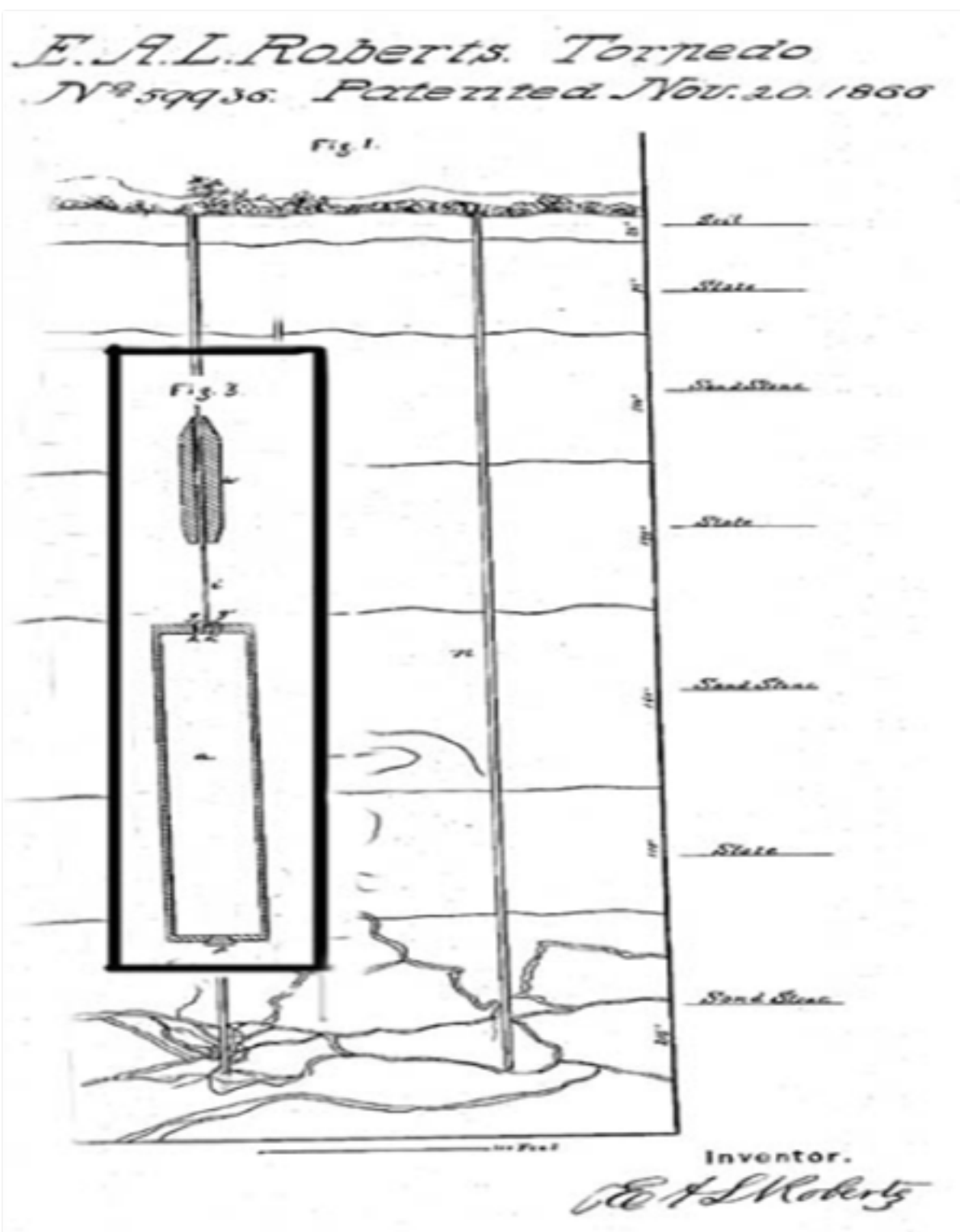
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The Civil War and its Fracking discovery

The History of Fracking can be traced back to 1862. It was during the battle of Fredericksburg VA., where civil war veteran Col. Edward A.L. Roberts saw what could be accomplished when firing explosive artillery into a narrow canal that obstructed the battlefield. This was described as superincumbent fluid [tamping](#).

On April 26th, 1865, Edward Roberts received his first patent, for an "Improvement" in exploding torpedoes

In artesian wells. In November of 1866, Edward Roberts was awarded patent number 59,936, known as the "Exploding Torpedo."



This extraction method was implemented by packing a torpedo in an iron case that contained 15-20 pounds of powder. The case was then lowered into the oil well, at a spot closest to the oil. From there, they would explode the torpedo by connecting the top of the shell with wire to the surface, and then filling the borehole with [water](#).

This invention increased oil production by 1200 [percent](#) from certain wells within a week of being implemented. This also led to the founding of Roberts Petroleum Torpedo Company, which charged \$100-\$200 dollars per rocket, plus a royalty of 1/15 of the profits generated from the product.

[Related: Why The Oil Price Collapse Is U.S. Shale's Fault](#)

The Birth of Commercial Hydraulic Fracking

The first form of fracking innovation didn't take place until the [1930s](#), when drillers used a non-explosive liquid substitute called acid, instead of [nitroglycerin](#). This made wells more resistant to closing, thus increasing productivity.

Even though the birth of fracking began in the 1860s, the birth of modern day hydraulic fracturing began in

the 1940s. In 1947, Floyd Farris of Stanolind Oil and Gas began a study on the relationship between oil and gas production output, and the amount of pressurized treatment being used on each well.

This study led to the first experiment of hydraulic fracturing, which occurred at the Hugoton gas field, located in Grant county, Kansas in 1947. In this experiment, 1,000 gallons of gelled gasoline and sand were injected into a gas producing limestone formation with a depth of 2,400 feet. This was then followed by an injection of a gel [breaker](#). While this experiment failed to produce a significant [production](#) increase, it did mark the beginning of hydraulic fracturing.

Despite the failure in the Hugoton gas field experiment, research continued. On March 17, 1949, Halliburton conducted two commercial experiments; one in Stephens county Oklahoma, and another in Archer County, Texas. These results were much more successful.

After achieving experimental success in 1949, fracking quickly became commercialized. In the 1960s Pan American Petroleum began using this drilling technique in Stephens county Oklahoma. In the 1970s, this extraction method was being used in the Piceance Basin, the San Juan Basin, the Denver Basin, and the Green River [Basin](#).

This widespread use even garnered the attention of President Gerald Ford. In his 1975 state of the union address, President Ford promoted the development of shale oil resources, as part of his overall energy plan, as a means of reducing foreign oil imports (Power Plays, Robert Rapier, P. 222).

[Related: North American LNG Export Dream Evaporating](#)

Modern Day Fracking

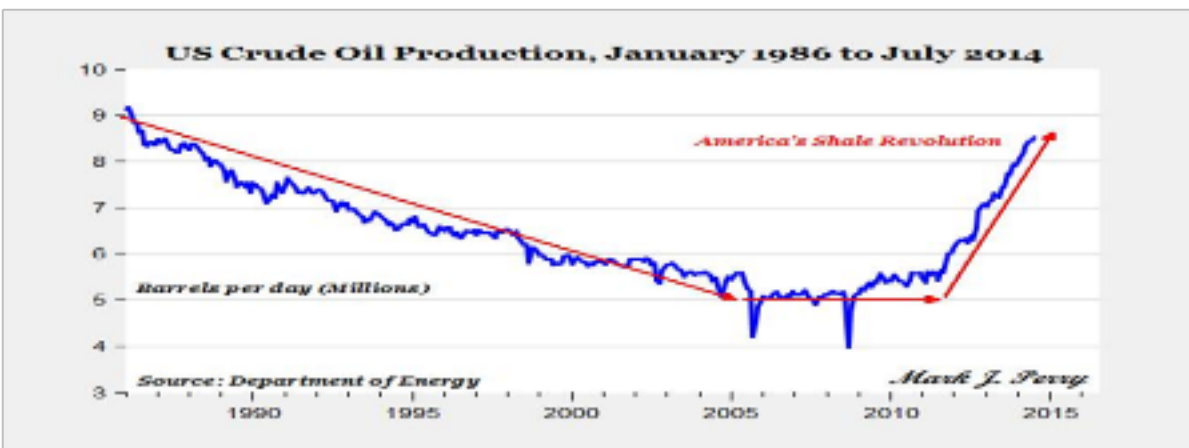
Modern day fracking didn't begin until the 1990s. This originated when George P. Mitchell created a new technique, which took hydraulic fracturing, and combined it with horizontal drilling.

The Shale Oil Boom

The technology known as hydraulic fracturing isn't new, and has been around for 100 plus years. Like the cell phone, computer, and automobile, it's been innovated, and renovated over long periods of time. The question remains: why did this shale oil production boom occur so long after the technology was created?

The correlation of these two charts, which show production trends dating back to the 1990s and price trends dating back to 2000, will help explain why.





In conclusion, what enabled the oil and gas industry to extract oil from shale rock over the past 7 years was higher prices. If it weren't for higher oil prices, the capital investment needed in the oil and gas sector, wouldn't have occurred, and US oil production would have continued to [decline](#).

By John Manfreda of Oilprice.com

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The image is a promotional graphic for Oil Price Intelligence. At the top left is the logo, which consists of a red oil drop icon followed by the text "OILPRICE" in red and "INTELLIGENCE" in smaller black text. Below the logo, there are several items: a smartphone displaying a website, a tablet, and several books. One book cover is titled "Rising Energy Tech Stars In 2016: Special Issue" and another is "INVESTOR EDUCATION". A large, black, starburst-shaped badge with a yellow border is positioned in the upper right, containing the text "\$567 VALUE FREE" in white and green. At the bottom of the graphic, the text "Get \$567 in Actionable Energy Market Intelligence" is written in bold black font, with "FOR FREE!" in large, bold red font below it.



David Kaplan on April 13 2015 said:

The technological breakthrough was horizontal drilling.



John Manfreda on April 13 2015 said:

Horizontal drilling was created around the 1980's.

http://www.eia.gov/pub/oil_gas/natural_gas/analysis_publications/drilling_sideways_well_technology/pdf/tr0565.pdf



macrol on April 14 2015 said:

Equating civ war fracking with modern Horizontal fracking technology is like equating a 22 with an AK47. New fracking operations are massive, environmentally destructive and require millions of gallons of water and thousands of gallons of dangerous chemicals. The resulting concoction mixes with naturally occurring brine from deep under the ground to produce a truly deadly cocktail that finds its way into drinking water and rivers and streams. That's why the states of Vt and NY have banned the process and why the state of MD legislature has recently voted to ban the process.



Ace814 on April 14 2015 said:

macrol,

They didn't equate fracking then to fracking now, they are simply explaining the history of hydraulic fracturing. Hydraulic fracturing is NOT causing the problems, it's the disposing of waste water in deep disposal wells that has recently been seen as a possible issue. The funny thing is, the environ"mental" folks love to complain and try to halt progress but the United States is the cleanest and safest place on the planet. If they truly hated what they perceive to be destruction of the planet, why not go to places overseas where there is no EPA or regulations of any kind and protest there? It's because they can drive to protest in their gas powered cars or email their representatives from the comfort of their heated and air conditioned homes that use electricity provided by natural gas powered stations. The only thing banning fracking will do is increase the price of oil and gas, which will benefit the oil & gas companies who will then pass the extra cost of finding oil and gas on to the consumer. Talk about the ultimate backfire!



John Manfreda on April 14 2015 said:

There's no proof that fracking is dangerous or environmentally damaging. If you clicked here

<http://finance.yahoo.com/news/landmark-fracking-study-finds-no-160237470.html>

<http://energyindepth.org/national/new-federal-study-fracking-did-not-pollute-groundwater/>

<http://theenergycollective.com/ecs/jessica/214971/facts-fracking-three-things-you-need-know>

You would see those things aren't necessarily true



Gary on April 14 2015 said:

Good background material. A few of comments:

1) Please leave the "k" out of "fracing". While the "k" version may have become popular (especially in the know-nothing media), the origin of "frack" came from the TV series Battlestar Galactica and is a slang phrase for sexual activity and all of the popular variations, adjectives and adverbs. Picky, I know, but let's be as correct as possible. If you don't believe me, check the Urban Dictionary website.

2) Give George Mitchell's COMPANY credit, but give the real credit to engineers like Nick Steinsberger that actually developed the techniques. Nick is like a fracing demigod in the industry.

3) Fracing is safer than most industrial activities, and the states that have banned it have done so without legitimate science and under the influence of environmental wackos. "macrol" and his buddies can ride horses to work, at least until we're up to our armpits in horse manure.



macrol on April 15 2015 said:

My point stands. There have been thousands of serious chemical and waste water spills associated with the frack process. YES, many spills have ended up in drinking water sources. The process is accompanied by 24/7 truck traffic,

high levels of noise, air pollution and frequent water pollution. The process can also expose workers and citizens to radon and other occurring radiation. The Frack process does not take place in a controlled environment. In the real world of fracking, serious environmental accidents can and do occur quite frequently.

Again, the states of MD, VT, NY and many other countries have voted to ban the process for good reason. Also, frack pipelines have frequently ruptured, exploded and caught fire. Fracking significantly degrades the surface environment in and around frack sites.

Try living near a site. You will sing a different tune. And oh yea, good luck selling or insuring your home. Insurance companies have done their research and want nothing to do with this profoundly dangerous process.



Erick on April 17 2015 said:

Macrol

you are a truly ignorant human. Also, you dont like fracing? Try living your life without using anything related to petroleum. You probably enjoy driving your car, turning on your heat and A\C. Unless you live "off" the grid and ride a bicycle, you should never open your mouth and spew out your ignorance



David in Dakota on April 18 2015 said:

For all the scary stories to be revealed for just plain goofy...

How about if someone who has worked in frac would personally inform that the safety and environmental precautions on site are quite thorough.

No actually, we didn't have terrible spills of rampant toxicity.

Ha...the practical concern is that no one wants to irritate the company man!

A little gel, maybe some salt, but you don't make money by wasting chemical on the ground. It has already been documented many times that everything which goes into the frac is also found in your tummy, under your kitchen sink, on your laundry shelf, in your car, on your lawn as fertilizer, or in your ice cream and cake frosting. Shall we freak out because unsupervised children theoretically have access to Drano? Surely! Do you know how dastardly Bleach is?

Have you heard that brick masons clean their finished work with Muriatic Acid?

Oh me oh my...that's what your stomach uses to digest your meal!

I'm laughing of course...the lying fright is so stupid as to be bizarre.

There is a waste fluid vessel called "flat tank" or "pit" on every site, and a vacuum truck can be ordered in quickly to suck up any spill.

The HSE (Health, Safety and Environmental) Nazi is so stern out there that no one bothers to not be healthy, safe and tidy.

We had a man fired for peeing behind a truck tire...and getting caught!

We did not even leave a water bottle behind on the site...every site was cleaner than when we arrived...even every last piece of paper was picked up.

The sheer scale of horsepower is awe inspiring.

We push 30 barrel/minute down a 3.5 inch pipe as far as 4 miles away at a typical pressure of 7,000 psi.

Yep, the ground rumbles when four 2,000 hp pump engines run full bore, but when it's all over the well site is totally still again.

We open a zone at around 4,500 psi with the popoff set at 9,000 psi, with most of the zone going along flat lined at 7,000

It is amazing to say the least...but the scare factor is simply stupid.

All you need to do in order to be an informed talker is hire on with a frac company.

Halliburton, Schlumberger, CalFrac, Sanjel or a host of small operators.

I spent Winter 2012 as what I count an adventure now. Not real eager to go back, but it's kind of bragging rights to say, Yep...I was out there in the freezing dark.

As for the terrible things that supposedly happen at a salt water disposal well, you can't even hear the pump running from twenty feet outside the shed. Just walked through one this week. The water with all those horribly dangerous chemicals is pumped 5,000 ft below the surface, while fresh water is generally defined as above 3,000 ft.

It's simply not possible for frac fluid at 10,000 ft to ever influence ground water, nor is it possible from a disposal well at even 5,000 ft.

I repeat...IMPOSSIBLE!

Odd thing is...I'd have no big problem drinking a glass of frac fluid, although it's going to be gritty with all that sand.

The amount and the nature of the chemicals are quite harmless to the body in those concentrations. So how exactly is it supposed to be a problem even if it was pumped directly into ground water?

The State of North Dakota spent \$400,000 on a study comparing the various methods of settling dust on dirt roads.

Guess what the right answer was?

Production Water! The deadly terrible wretched stuff that is pumped down disposal wells. Yep...even though it is high in salt content, everyone commence to shudder the thought of Sodium Chloride killing a little grass on the road shoulder...it was the most effective method. Other materials that cost a lot of money were not as effective as plain old Production Water.

Care to guess how states bordering North Dakota melt ice off their roads?

Yes Sir...Sodium Chloride poisoning grass on the roadside of thousands of miles...horrors!

Ha...Dakota folk assume you need to know how to drive on frozen highways...it's a hazard of Winter, so get used to it, Don't ya know.



Smitty on February 19 2016 said:

Fracking took the air out of Isis! Enough said.



david french on March 03 2016 said:

Actually a lot of the advances in modern EOR (enhanced oil recovery) and fracking chemicals occurred in the 1970's, including the use of friction reducing Polyacrylamides. If you want a detailed study on it...give a yell. 125 page confidential report. Sept 1975 James C. French MA-Chem, MBA, American Cyanamid.



Rand on April 21 2016 said:

Actually there has been many problems that involve fracking and I add that the Fracking company adds more than 7

million gallons of FRESH water each fracture, into the pipe to Frack the water out of the ground and suck it up, what a waste of water that we could use. Scientific research says that the fracking fluid actually DOES get into neighboring houses, and cities and pollute there well water, i mean you can actually set your faucet water on fire! There is proof, because I don't know anyone who would want to on purpose but gas into there well to show that they can light there water on fire, but that there is videos that show that they can literally set there water on fire because of the oil that is getting into the wells. I have been researching this problem for a while and there is 50%-70% of fracking fluid still left in the ground, and of that fracking fluid that is contaminating peoples water, there is 600 chemicals,many carcinogens and toxins that are in the water, and to continue my claim, there is about 40,000 chemicals during the fracture that are in the frack water.so I would say 40,000 chemicals that are polluting wells and cities



Bruce pazooter Clark on [September 09 2018](#) said:

Fracking was prevalent in north-central Ohio state in 1977. I was there with the big Haliburton fracking trucks.