

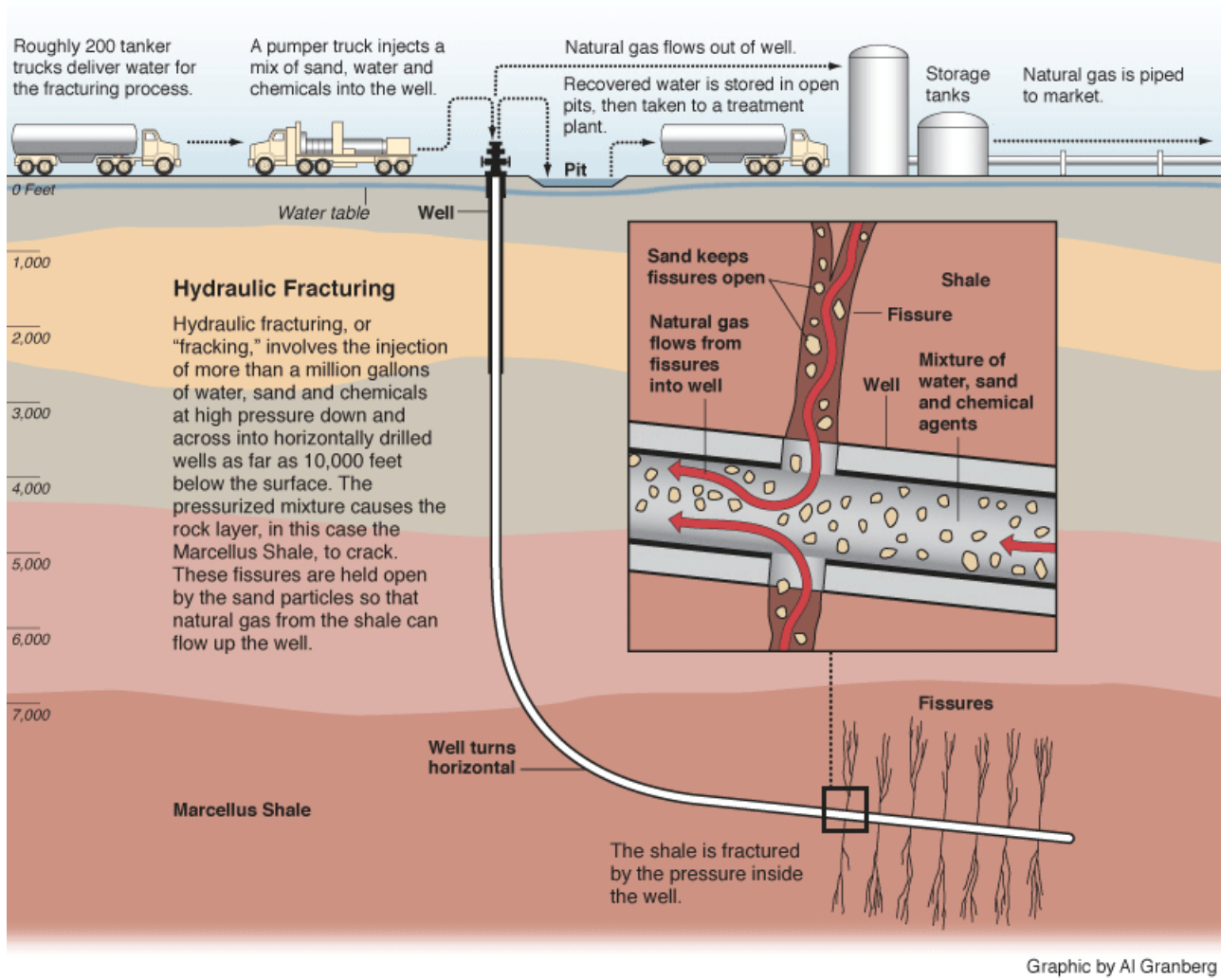
## Hydraulic Fracturing

### What Is Hydraulic Fracturing?

<http://www.propublica.org/special/hydraulic-fracturing-national>

Hydraulic fracturing is a process used in nine out of 10 natural gas wells in the United States, where millions of gallons of water, sand and chemicals are pumped underground to break apart the rock and release the gas.

Scientists are worried that the chemicals used in fracturing may pose a threat either underground or when waste fluids are handled and sometimes spilled on the surface.



See more images of hydraulic fracturing here:

[https://www.google.co.uk/search?q=hydraulic+fracturing&rlz=1C1DSGQ\\_enGB466&tbm=isch&tbo=u&source=univ&sa=X&ei=DplrUcjVNsulOFHNqf&ved=0CFIQsAQ&biw=1524&bih=651#imgrc=](https://www.google.co.uk/search?q=hydraulic+fracturing&rlz=1C1DSGQ_enGB466&tbm=isch&tbo=u&source=univ&sa=X&ei=DplrUcjVNsulOFHNqf&ved=0CFIQsAQ&biw=1524&bih=651#imgrc=)

Another good article on hydraulic fracturing

## Hydraulic Fracturing FAQs

**“How does hydraulic fracturing work?”**

Hydraulic fracturing or fracking is a means of natural gas extraction employed in deep natural gas well drilling. Once a well is drilled, millions of gallons of water, sand and proprietary chemicals are injected, under high pressure, into a well. The pressure fractures the shale and props open fissures that enable natural gas to flow more freely out of the well.

### What is horizontal hydraulic fracturing?

Horizontal hydrofracking is a means of tapping shale deposits containing natural gas that were previously inaccessible by conventional drilling. Vertical hydrofracking is used to extend the life of an existing well once its productivity starts to run out, sort of a last resort. Horizontal fracking differs in that it uses a mixture of 596 chemicals, many of them proprietary, and millions of gallons of water per frack. This water then becomes contaminated and must be cleaned and disposed of.

### What is the Halliburton Loophole?

In 2005, the Bush/ Cheney Energy Bill exempted natural gas drilling from the Safe Drinking Water Act. It exempts companies from disclosing the chemicals used during hydraulic fracturing. Essentially, the provision took the Environmental Protection Agency (EPA) off the job. It is now commonly referred to as the Halliburton Loophole.

### What is the Safe Drinking Water Act?

In 1974, the Safe Drinking Water Act (SDWA) was passed by Congress to ensure clean drinking water free from both natural and man-made contaminants.

### What is the FRAC Act?

The FRAC Act (Fracturing Responsibility and Awareness to Chemical Act) is a House bill intended to repeal the Halliburton Loophole and to require the natural gas industry to disclose the chemicals they use.

### How deep do natural gas wells go?

The average well is up to 8,000 feet deep. The depth of drinking water aquifers is about 1,000 feet. The problems typically stem from poor cement well casings that leak natural gas as well as fracking fluid into water wells.

### How much water is used during the fracking process?

Generally 1-8 million gallons of water may be used to frack a well. A well may be fracked up to 18 times.

### What fluids are used in the fracking process?

For each frack, 80-300 tons of chemicals may be used. Presently, the natural gas industry does not have to disclose the chemicals used, but scientists have identified volatile organic compounds (VOCs) such as benzene, toluene, ethylbenzene and xylene.

### In what form does the natural gas come out of the well?

The gas comes up wet in produced water and has to be separated from the wastewater on the surface. Only 30-50% of the water is typically recovered from a well. This wastewater can be highly toxic.

### What is done with the wastewater?

Evaporators evaporate off VOCs and condensate tanks steam off VOCs, 24 hours a day, seven days a week. The wastewater is then trucked to water treatment facilities.

### What is a well's potential to cause air pollution?

As the VOCs are evaporated and come into contact with diesel exhaust from trucks and generators at the well site, ground level ozone is produced. Ozone plumes can travel up to 250 miles.”

“The Fracturing Responsibility and Awareness of Chemicals Act (H.R. 1084), (S. 587)—was introduced to both houses of the the United States Congress on June 9, 2009, and aims to repeal the exemption for hydraulic fracturing in the Safe Drinking Water Act. It would require the energy industry to disclose the chemicals it mixes with the water and sand it pumps underground in the hydraulic fracturing process (also known as fracking), information that has largely been protected as trade secrets. Controversy surrounds the practice of hydraulic fracturing as a threat to drinking water supplies.[1] The gas industry opposes the legislation.[2]

The House bill was introduced by representatives Diana DeGette, D-Colo., Maurice Hinchey D-N.Y., and Jared Polis, D-Colo. The Senate version was introduced by senators Bob Casey, D-Pa., and Chuck Schumer, D-N.Y.”

<http://www.gaslandthemovie.com/whats-fracking>

Silica in the air a danger

## **The Other Hazard of Hydraulic Fracturing -- Silica in the Air**

Posted: 03/31/2013 11:45 am Bob Cavnar

Bob Cavnar is a 30 plus year energy industry veteran based in Houston, a regular commentator on national network television, and is active in local and national politics. He brings a pragmatic business perspective to his commentary, often going contrary to traditional industry political positions in expressing his opinions on energy, healthcare, media, and politics.

In 2011, Mr. Cavnar founded this-small-planet, focused on environment, energy policy, climate change, diversity, equality, and social justice. He is also founder and editor of The Daily Hurricane, a collaborative blog, that covers politics, science, education, and current affairs. You can find his blogs at <http://this-small-planet.com> and <http://dailyhurricane.com>

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