



DID YOU KNOW? THERE IS NO SUCH THING AS “FRACK GAS”

Did you know that, although many refer to natural gas extracted from shale plays as “frack gas,” there is no such designation?

Technically, nearly all natural gas produced in the United States, and much of the world, is produced from hydraulic fracture technology. Hydraulic fracture is generally the process by which water, sand, and approximately 0.05% of other materials expand the sub-surface pore space with high-pressure water injection (think a fire hose) and keep the pore space open with sand particles.

Did you know that the “recipe” for the 0.05% of other materials is not a secret or hidden from the public?

Although each combination and percentages of other materials may be different for different companies, the ingredients are largely the same, including, i.e.: isopropanol (rubbing alcohol) – surfactant to increase viscosity; Potassium Chloride (used in medicines to treat low potassium) – to create a brine fluid carrier; Guar Gum (food additive made from guar beans) – to thicken the fluid and act as proppant; Citric Acid (found in citrus fruits) – to prevent iron/mineral build-up; and Glutaraldehyde (can be used to sterilize medical equipment) – to eliminate bacteria in the water.

Did you know that fracture technology isn’t new, or even new to the 1900s?

The first documented well that was hydraulically fractured was in the Hugoton Gas Field, Grant County, Kansas, in 1947¹. (see photo below)

¹ Photo and fact credit to <http://www.energyglobalnews.com/1947-the-birth-of-hydraulic-fracturation-in-grant-county-kansas/>



Industry estimates indicate that more than 1 million wells have been hydraulically fractured since that day. Before 1947, drillers used acid during well stimulation (largely during the 1930s). And prior to that, beginning around 1865, technology was introduced, which involved dropping a 15 to 20-pound torpedo down a well and covering with water to increase impact.²

Did you know that other than its newly-discovered potential and abundance, natural gas and strata for shale are not fundamentally different from natural gas from other plays?

There are still only three types of rock – igneous, metamorphic, and sedimentary. Traditional natural gas operations are largely in sandstone plays in the United States. Shale is a fine-grained sandstone that tends to fracture if drilled vertically, as traditional wells have been. As such, drilling for natural gas in a shale formation needs to be done horizontally to better control the fracture. In the very recent decades, scientists have developed the technology to drill more than a mile down, bend a wellbore 90 degrees and keep drilling horizontally for miles. One wellpad for a horizontal drill can replace a dozen (or more) traditional vertical wells. THAT is the new technology, not “fracking,” the technology for which is more than 150 years old.

² Lt. Edward A. L. Roberts, a Civil War soldier for the North invented this blast technology.
<https://www.chicagobooth.edu/magazine/history-of-fracking>