

Fracking:

Fracking is a method of extracting natural gas from underlying shale rock deposits. A vertical shaft is drilled into the shale layers then horizontal shafts radiate from its base. To extract the gas, a solution of water, sand and chemicals are forced, under extreme pressure, into the shale to crack (fracture) the rock releasing the gases.

Facts:

- In 2012, NC Senate Bill 820 passed, overriding NC clean water protection laws and legalizing fracking.
- Horizontal shafts can extend over a mile from the base of a vertical well³ and may run under non-leased property.
- Fissures or cracks created by fracking can extend several hundred feet from the horizontal shafts.³
- It takes over 40,000-1 million gallons of water to drill each well; **3-5 million gal of water** per frack.⁴
- A well can be fracked up to 18 times increasing truck traffic, supplies, and waste disposal per well.⁴
- Thousands of trucks are required for material (chemical, water, sand, gravel, heavy machinery,...) transport per well operating 24/7.²
- Twelve to 18 high-pressure diesel pumps on flatbed trucks surround each well.⁵



- **Up to 1,000 documented chemicals** and unknown (proprietary) chemicals can be injected, including formaldehyde, lead, and hydrochloric acid; many known to cause cancer and other diseases.¹
- Fracking is heavy industry. Operations that are associated with fracking include site build, well drilling, waste water ponds, deep injection wells for waste fluids, pipelines and distribution stations.
- Eminent domain allows industry to use any property, leased or not, for pipelines, compressor stations or other distribution requirement.
- **NC shale is estimated to be at 2,000 feet below the surface⁶** (note: the shale in other states that already have fracking is at the 8-10,000 foot range.)

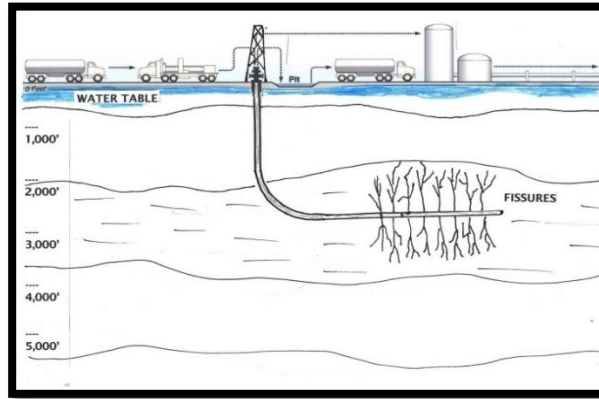
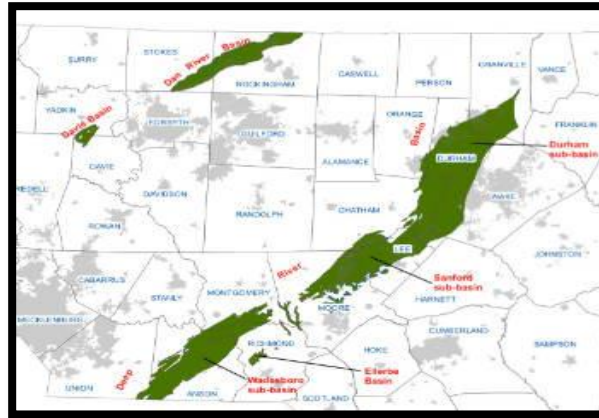


Diagram of a Fracking well in NC. Shale estimated at. 2,000'.



NC Geologic Survey estimated shale in NC

Industry verses Science

Industry: Fracked gas will make America energy independent.

Science: Although initial industry hype of an estimated 100-year supply from the Marcellus shale, the US Energy Information Admin. states the “proven reserves” are only estimated at 11 years at current rate of consumption. “Probable reserves” may add 10 years.⁴

• **USGS current estimate for NC reserves is only 5.6 years.**⁷

• Due to lower US natural gas prices, the industry is pushing to export to more lucrative foreign markets lessening the supply for domestic use.⁵

Industry: Fracking is good for local economy

Science: Fracking creates a boom/bust economy. In the short term (<10 years) fracking increases money into an area, (some jobs, restaurants, housing, etc.) but once operations cease the economy “busts” leaving communities, in many cases, worse off than before.⁸ “Industries likely to be negatively affected include agriculture, tourism, organic farming, wine, hunting, fishing and river recreation.”⁹

• **Very few jobs for locals**, those available are low paying, unskilled labor; The majority of jobs go to out-of-state workers who follow the fracking boom who send their income back to their home state.⁹ Most (98%) of the jobs are dedicated to actual well drilling part of the process and are no longer needed after the well is established.⁸

• **Economy is hurt by money needed** for road repair, decreased tourism, decreased agriculture, increased need for safety and health department staffs. NCDENR states that before fracking is allowed, NC must “invest sufficient resources [money] in compliance and enforcement”.⁶ Texas DOT has estimated a conservative cost of \$2 billion to bring local roads back to standard condition after fracking damage.¹⁰ These impacts decrease revenue and increase tax requirements.

Industry: Fracking is safe and well regulated.

Science: Industry claims that they have safely fracked wells since the 1940s is overstated since current drilling technology that allows for horizontal shafts is new and combined with fracking is even newer.¹¹

• Industry has a very narrow definition of fracking that is only “the high-pressure injection of fluid” and none of the other steps in a fracking operation², thus allowing them to side-step responsibility for environmental or safety issues related to these other steps.

• NC’s shallow shale layers (est. about 2000 ft.) are 6-8,000 feet closer to our aquifers than other states

where fracking and contamination has already occurred making contamination even more likely. Fracking has been proven to cause contamination: - *Pavillion, WY*: EPA states contamination had most likely seeped up from gas wells and contained at least 10 compounds known to be used as frack fluids.¹²

- *Leroy Township, PA*: methane-contaminated water supplies and flammable gas puddles have not only fouled the drinking water but pose serious damage of fire and explosions. PA Dept of Environmental Protection assessed that fracking wells leaked methane.¹³

- *Dish, TX*: Contaminated air from venting toxic chemicals has resulted in serious health issues in whole communities.¹⁴

- According to industries' own reports on performance (Form 10-K) fracking operations are subject to many risks, including blow-outs, cratering, explosions, pipe failures, fires, and uncontrollable flows of natural gas and well fluids.¹

- Although there are numerous cases of damage many are not reported because of non-disclosure agreements in leases or in settlement agreements.¹⁵

- Non-stop, industrial-level truck traffic creates a hazardous environment not only from the volume of truck traffic, but the toxic chemicals many carry and the road damage they cause.

- Up to 18 giant diesel pumps per well, constant truck traffic and heavy machinery creates an unsafe noise level.

- The Clean Energy Act of 2005 exempted the gas industry from compliance with decades-old federal laws governing safe drinking water and clean air. This Act greatly degraded EPA or other government offices from ensuring the safety of these operations. Because the chemical solutions used in fracking are proprietary, individuals and communities have difficulty "proving" damage is a direct result of fracking.¹⁶

Industry: Natural Gas is the cleanest energy.

Science: Although natural gas is the cleanest burning fossil fuel, it is one of the **dirtiest to extract** from shale.

- Cornell research (confirmed by NOAA) demonstrated that nearly 8% of fracked methane can leak into the water and air.⁵

- The amount of pollutants, energy expended, and damage to the environment resulting from fracking far outweigh its "clean" proprieties.

Leasing Pitfalls

- Royalties are based on gas extracted from a well on your site less production and distribution costs.¹⁷ If your land is used for pipelines, distribution stations or waste disposal, you do not receive royalties.
- Industry can place wells, sludge ponds, pipelines etc. where they chose. The landowner has no say in the matter.
- Mortgage companies may not grant mortgages for homeowners with gas leases; At least 8 banks do not mortgage leased property.¹⁸
- Leasing may violate a homeowner's mortgage agreement placing the mortgage in default.¹
- Leasing devalues the appraised value of a property.¹
- Insurance companies will not cover contaminated wells, and may deny writing policies for leased property.^{19,20}
- If fracking causes contamination, the oil company may provide clean water while they have on-going operations but not after they leave. If a neighbor's well is contaminated, they receive no compensation.
- Selling land that is leased will be very difficult especially if financing cannot be obtained. Selling land contaminated by fracking would be difficult at best. *So ask yourself, is my house and land worth the price of the lease?*

Visit NoFrackingInStokes.org to learn more about the effects of fracking on Stokes County & NC and what you can do to help keep NC vibrant, prosperous and frack-free.

1-20 List of references can be found at NoFrackingInStokes.org

Facts about Hydraulic Fracturing (Fracking)



Fracking well site in Dimock, PA¹



Holding Pond²