

# Viewpoint: Fracking debate marked by unfounded concerns

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The Eagle Ford Shale is a booming shale play. It might not be the next Spindletop, but it is, without a doubt, thriving.

With its mix of oil and rich natural gas, the Eagle Ford shale is a prime candidate for current development. As the industry has seen with the Barnett Shale and the more recent development of the Marcellus Shale, with new development opportunities come new environmental concerns. The area of concern voiced most often surrounds supposed contamination from hydraulic fracture stimulation.

Surface owners in oil and gas producing areas are making claims that oil and gas activities, usually hydraulic fracture stimulation, have contaminated their water supplies. The impetus behind these cases is mistrust between producers and surface owners, some of whom do not own the royalty rights associated with their property or others who feel the producer has underpaid them. This mistrust, coupled with misconceptions and fear about environmental effects, are causing emerging claims of groundwater contamination against oil and gas companies. These claims, however, are unfounded and unsupportable.

The hydraulic fracturing process allows oil and/or gas to flow through the fractures more freely to the wellbore. By creating these new pathways, hydraulic fracturing exponentially increases oil and gas flow to the well. This is a critical component of well development because, without it, there is likely to be insufficient flow pathways for oil or gas to get to the well bore. It should go without saying that if gas does not enter the wellbore, the well becomes uneconomical.

The only true alternative to hydraulic fracturing in low permeability reservoirs, like the Eagle Ford, would be to drill more wells. Not only would this be cost-prohibitive, but it would be physically and aesthetically undesirable. Accordingly, hydraulic fracture stimulation is indispensable to producing in shales and tight sand formations.

Current hydraulic fracturing techniques are designed to limit fracturing into adjoining vertical formations and to increase the horizontal lengths of fractures within the oil and gas bearing shale formation. Minimizing vertical fractures minimizes the potential for natural gas to escape into adjoining formations, and limits the potential inflow of water from adjoining formations which have the potential to "kill" the well.

Furthermore, and perhaps more importantly, it is physically insurmountable, from a practical standpoint, for hydraulic fracturing to create vertical pathways from the Eagle Ford Shale to the aquifers. There is simply too much vertical separation between the two. The casing used in the oil and gas industry for wells is not of sufficient diameter to allow enough fluid and pressure to flow down into the well and then upward through the fractures created to support the opening of all the necessary vertical fractures to reach the aquifers (thousands of feet above).

Even if enough pressure and fluid were initially introduced into the relatively impermeable Eagle Ford Shale and excessive vertical fracturing were to begin moving upwards into overlying geologic formations, the fractures would eventually encounter a more permeable formation. This more permeable formation would readily accept the injection fluids. The fluids would flow laterally in the permeable formation. Further vertical migration of pressure would cease and, therefore, further fracturing could not be possible. These geological and physical factors mitigate against the fear that hydraulic fracturing contaminates ground water.

Studies conducted by governmental agencies and respected authorities have concluded that hydraulic fracturing is safe, i.e. non-threatening to the environment and public health. More than 30 state and federal regulatory agencies have studied this technology and found it safe and well-regulated. In fact, the EPA's own 2004 survey of hydraulic fracturing practices and its effect on drinking water found that hydraulic fracturing does not create pathways for fluids to travel between rock formations to affect the water supply.

This EPA finding has since been tested and confirmed to be correct through extensive mapping of hydraulic fracture

geometry in both the Barnett Shale in the Fort Worth Basin and the Marcellus Shale in the Appalachian Basin. These fracture mappings conclusively demonstrate that hydraulic fractures are not growing into groundwater supplies and, therefore, are not and cannot contaminate them.

Results to date indicate there will be development activity in the Eagle Ford Shale for a long time to come. During this development, the industry must continue to keep open the dialogue with citizens regarding the steps being taken to ensure safe operations. And, perhaps more importantly, all must stay vigilant against the manufactured stories, misstatements and inaccuracies that are loudly stated by those simply opposed to any and all oil and natural gas development.

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