Water in fracking

The amount of water needed for fracking is enormous; research sources invariably describe it as millions of gallons per well. People who signed agreements early in the fracking boom, around 2005, did not always realize that the fracking companies were going to use their water, or how much, or what the effects on them would be. After fracking, the water is contaminated and cannot be returned to its source or processed by municipal water treatment plants. Part of the reason for this is that naturally occurring radiation underground sometimes gets into the water. Another reason is that it’s a trade secret what chemicals are in the waste water. The water is typically disposed of by storing it underground in unused mines and wells. This practice, which requires high-force injection of the water, is known to cause earthquakes in eight states that are not normally earthquake-prone, including Texas, Kansas, Ohio and Oklahoma. On April 21, 2015, the state of Oklahoma officially recognized the wastewater injection practice as the cause of its spike in earthquake frequency and strength in recent years. The New York Times noted that this recognition “amounted to a turnabout for a state government that has long played down the connection between earthquakes and an oil and gas industry that is Oklahoma’s economic linchpin.”

After it is used for fracking, but before it is taken away by truck, waste water is stored in open containment ponds. A barrier, which is a plastic sheet, lines the pond, but water can leak into the ground anyway. Sometimes the barriers rip (in one documented case, the barrier melted when the pond “water” caught fire). Birds that land on the water are exposed to the chemicals. Workers that clean and remove the barriers are exposed. One worker, Randy Moyer, became very sick, and his story appears in the publication, “Shalefield Stories,” a collection of firsthand accounts of how it is to live near fracking.

In addition, well contamination sometimes forces people to buy bottled water. Sometimes the fracking companies even pay for the water for a while, but they do not admit responsibility. Contamination can come not only from containment pond seepage, but also from failures of the cement casing around the well bore. Another way that water gets contaminated is by the upward movement of water from the fracking area to the water supply, which is always above it. Although some engineers deny that water travels upward in this way, geologists explain it in the documentary Triple Divide.

It is also worth noting that fracking takes place in many different parts of the U.S. According to a 2014 study, “nearly half [of frack wells] (47%)...are in regions with high or extremely high water stress,” and “more than 55% of all U.S. wells are in areas experiencing drought.”

2 http://www.usgs.gov/newsroom/article.asp?ID=4202&from=rss_home#.VUOhdfIVG0j

4 “Hydraulic Fracturing & Water Stress: Water Demand by the Numbers,” ceres.org

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