

California Moves Forward With Drilling In Protected Aquifers

Samantha Page, ThinkProgress.org, 2-25-16

A California regulator is asking the EPA to officially allow oil drilling and wastewater disposal in a protected aquifer near San Luis Obispo. The request is the first of dozens the state is expected to make, after revelations surfaced that the Division of Oil, Gas, and Geothermal Resources had, for years, improperly issued permits to inject wastewater into underground basins protected by the Clean Water Act.

The California Water Board has signed off on its sister agency's request, saying that the aquifer is separated from local drinking water sources by an "impermeable barrier." But residents and environmentalists are skeptical.

Californians have good reason to be skeptical that the division, known as DOGGR, is protecting their water. In early 2015, DOGGR was found to have issued improper permits for 2,500 injection wells. Some of those wells were immediately shut down following the findings. Others, such as the operations covered in this permit application, were allowed to keep functioning, pending an expedited review and application for exemption.

During the review, technical staff from DOGGR and the California State Water Board found that the local water wells are "geologically separated from the aquifer exemption area," and it is unlikely, if not impossible, for the wastewater to contaminate drinking and irrigation water.

Still, some are concerned that separation won't hold up, allowing chemical-laced wastewater to flow into groundwater supplies. Wastewater from oil and gas drilling can contain heavy metals, radioactive material, and chemicals like arsenic and benzene.

"[The analysis] can be complicated," John Borkovich, groundwater monitoring section chief for the California State Water Board, told ThinkProgress. "But we work very hard on making it clear that those wells are not in the same zone, at that depth. We have pretty solid information to support that."

Drinking wells generally draw water from just under the surface of the ground, whereas oil and gas are pulled from deeper strata.

In fact, there have been oil and gas operations in this area for decades. But new extraction methods raise new questions about sustainability and water safety.

In California, where the oil is thick and sluggish, drilling for oil is often done by a process called enhanced oil recovery. In EOR, steam is injected underground to loosen the oil. Much of California's oil exists in underground water, so the process also releases large amounts of water. In fact, what comes out of the ground is often 80 to 85 percent water, Borkovich said.

What to do with all this wastewater is not the only issue at hand. Taking large amounts of water from the ground can lead to the surface sinking — what is called subsidence. California even has a law in place requiring oil and gas operators to repressurize underground depositories to prevent this. In other words, if you are going to get oil out, you have to put water back in.

But the whole extraction-injection process is disruptive. The liquid that is put back in "is going to behave slightly differently," Borkovich said.

And that's where the concern comes in. Injection wells, where toxic substances are pumped deep underground, have been used for hazardous material disposal for decades, but an investigation by ProPublica in 2012 found that "structural failures inside injection wells are routine" and pose a tremendous health risk. There are 39 active injection wells in the aquifer covered under this exemption application. The exemption would allow unlimited new wells.

"California officials can't even map this aquifer consistently, let alone justify turning this underground water into a garbage dump for oil waste," Maya Golden-Krasner, an attorney for the Center for Biological Diversity, said. "The EPA must protect the water supplies of people living near this oil field. The errors and inconsistencies in this disturbingly shoddy proposal highlight how little effort California regulators put into verifying the oil industry's self-serving claims about this aquifer."

The center sent a letter Thursday to the EPA, asking it to deny the exemption application.