

# Stop Oil Companies from Using California Aquifers as Dumps for Toxic Waste Fluid—Fact Sheet

Oil and gas extraction generates a large volume of toxic wastewater. For every barrel of oil, the oil industry in California generates roughly 18 barrels of chemical-laden waste fluid. This creates a waste disposal problem for oil companies.

Drillers want cheap and fast ways to dispose of this massive volume of toxic waste fluid. Their preferred method is underground injection. They drill a well and dump the waste fluid into aquifers. Drillers also use underground injection in the form of steam flooding, cyclic steam, or water flooding to make oil easier to extract. This is called enhanced oil recovery. These wells are referred to as Class II wells by the U.S. Environmental Protection Agency.

**Oil injection wells threaten to pollute our water.** Some aquifers targeted by injection wells contain potentially usable water. There is also a risk that dangerous oilfield chemicals will migrate underground to other nearby water sources. The oil industry's use of this practice is often based on assumptions about underground rock formations and how waste fluid may behave once it is injected, rather than concrete scientific evidence.

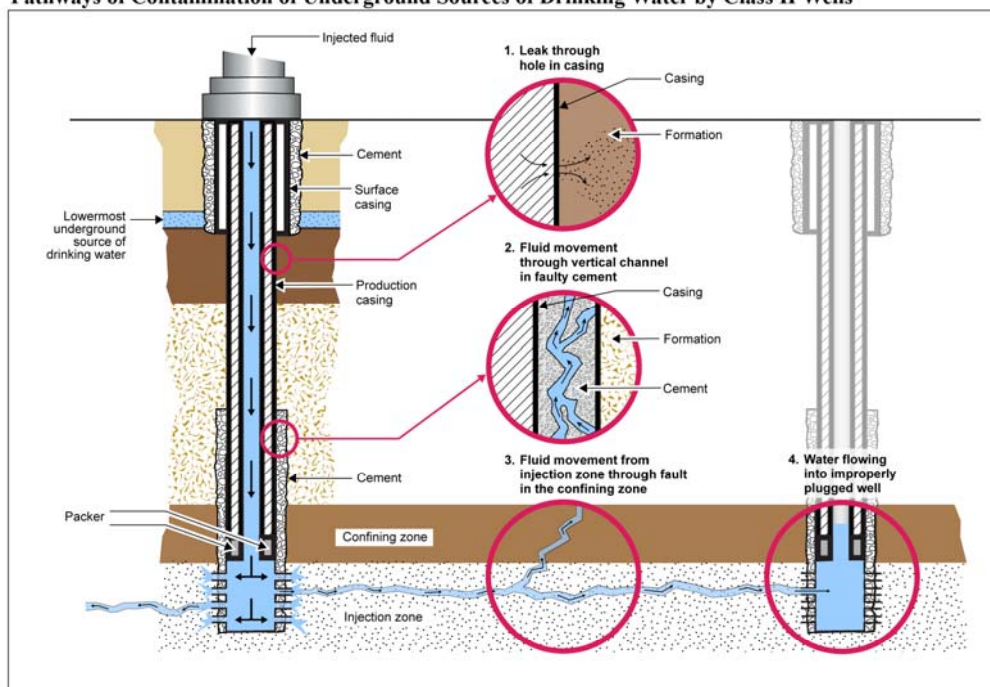
**Wastewater is dangerous.** Oil and gas waste fluid is contaminated with dangerous oilfield chemicals, as well as many substances that cannot be evaluated for hazards because companies have used “trade secret” loopholes to withhold information. Waste fluid can also contain crop-killing salts, carcinogens such as benzene, radioactive matter such as uranium, and heavy metals such as arsenic.

Many serious health impacts (such as increased cancer risk) can result from exposure to this toxic waste fluid.

## Wastewater may not stay put.

Leaks happen, and when they do, they can ruin sources of drinking water. Toxic wastewater and gas leaks occur because of faulty well construction, poor maintenance, operator error, and flawed assumptions about underground rock formations. When considering a permit for a Class II well, agencies rely upon oil companies to provide the data about how secure a dump site might be. There is very little independent fact checking. Plus, there is no adequate system for regularly checking the thousands of Class II wells in the state for leaks.

Pathways of Contamination of Underground Sources of Drinking Water by Class II Wells



Source: GAO analysis of EPA information. | GAO-14-555

Note: Other pathways that are not included in the graphic include fluid movement from one part of a formation to another that contains an underground source of drinking water and fluid injection into a drinking water source.



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Toxic waste injected underground has the potential to migrate and contaminate ground and surface water. There are also concerns about how earthquakes may open pathways for oil waste to contaminate other drinking water sources.

**Wastewater can cause earthquakes.** Oil-industry injections have triggered manmade earthquakes in states including Oklahoma, Ohio, Pennsylvania, and California. Scientists have already linked quakes in two California oilfields—San Ardo and Tejon—to oil-industry activities.

**Isn't groundwater protected?** Underground sources of drinking water are supposed to be protected by the federal Safe Drinking Water Act. But state regulators charged with enforcing this law failed to properly oversee oil operations in California. They negligently allowed oil companies to drill Class II wells in many federally protected aquifers. Once regulators' appalling error was discovered, they did not make oil companies stop dumping. The industry was given special treatment and allowed to keep polluting our groundwater.

Oil and gas companies can lobby the state and EPA to get around protections by asking for an "aquifer exemption." If granted, this allows the injection of waste fluid into an aquifer that would otherwise be protected as a potential source of drinking water. The exemption can be approved if the aquifer is not considered a source of affordable drinking water. For example, an aquifer can be considered an acceptable place to dump oil waste if the aquifer is deemed too deep to access its water cost-effectively or if it would be too expensive to treat the water and make it usable.

The exemption process and criteria were set up in the 1980s and are based on outdated cost estimates, science, and technologies. Aquifers considered too remote, too deep, and too dirty more than 30 years ago might be considered viable sources of drinking water now or in the near future. Modern technology and drought conditions may change what we now consider viable or affordable.

**Who decides?** Governor Brown and DOGGR have the power to protect us. An aquifer exemption application cannot get a green light from the EPA without the approval of DOGGR.

As many as 52 exemptions are currently being sought for aquifers in San Luis Obispo, Santa Barbara, Ventura, Monterey, Alameda-, and Kern counties.

Three aquifer exemptions were approved by Trump's EPA in February. Governor Brown is handing Trump the ability to decide the future of California aquifers.

**Aquifer Exemptions—A Mistake that Cannot be Fixed.** To grant an aquifer exemption to an oil company is to sacrifice a potential drinking water source and put other sources of groundwater at risk for contamination. Aquifer exemptions are the ultimate corporate giveaway—Trump's EPA will get to decide whether oil industry profits are more important than safe drinking water.

**It's not too late to protect many California aquifers!**

We demand that DOGGR:

- deny aquifer exemptions that have not been sent to the EPA yet
- retract applications already sent to the EPA



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