



DEPARTMENT OF CONSERVATION FACT SHEET

Division of Oil, Gas, and Geothermal Resources

San Ardo & McCool Ranch Aquifer Exemption Meeting, Feb. 9, 2017

Background

The California Division of Oil, Gas, and Geothermal Resources (Division) has a joint plan with the U.S. Environmental Protection Agency and the State Water Resources Control Board to ensure that California's oil operations are in compliance with the federal Safe Drinking Water Act (SDWA), which protects groundwater suitable for drinking or other human use. This aquifer exemption proposal is part of that larger process.

Things to know

- ◆ This proposal is not about the use of "fracking" and will not endanger municipal drinking water supplies.
- ◆ The state's possible submission to the U.S. EPA for aquifer exemptions in Monterey County does not violate the County's Measure Z ordinance.
- ◆ Neither the approval of an aquifer exemption nor the Division's issuance of permits will excuse operators from complying with Measure Z or otherwise undermine the county's enforcement of the measure or its ability to make and enforce local land-use decisions.
- ◆ An aquifer exemption doesn't permit an oil company to do anything; it simply ensures compliance with the federal Safe Drinking Water Act.
- ◆ Because Measure Z allows wastewater injection to continue for up to 15 years, the aquifer exemption review process is important to ensure that injection only occurs in aquifers that are determined not to be underground sources of drinking water.
- ◆ Water and steam are injected into the San Ardo and McCool Ranch fields for enhanced oil recovery, a practice that is not covered by Measure Z. Without the establishment of aquifer

exemptions, this safe and otherwise allowed practice would be out of compliance with the SDWA.

- ◆ Although this is a meeting about a proposed aquifer exemption, it's important to understand that not all aquifers are sources of drinking water.

- ◆ The aquifers in which injection occurs in the San Ardo and McCool Ranch oil fields contain naturally oily, undrinkable water. These aquifers are not currently a source of drinking water, nor are they expected to be a source of drinking water in the future.

- ◆ These aquifers are separated vertically from other aquifers that supply drinking water by impermeable geologic units.”

- ◆ Thus, the drinking water supply will not be at risk if the U.S. EPA ultimately determines to expand existing aquifer exemptions.

- ◆ In California, almost all oil is produced along with a larger amount of briny groundwater -- in the San Ardo field, approximately 14 barrels of water are produced for every barrel of oil. The water to oil ratio is even higher in the McCool Ranch field. The water and oil are naturally comingled.

- ◆ That “produced water” is typically injected back underground where it came from after it is separated from the oil. A large portion of the produced water is treated through water softeners to remove the hardness before being turned into steam for injection.

- ◆ This proposal must go through three levels of government review. Both the Division and the State Water Resources Control Board must concur that an application is appropriate, based on scientific evidence. Ultimately, the U.S. EPA has the final say about whether an exemption is granted.

- ◆ The borders of the original aquifer exemption were drawn around the known extent of the oil field in the 1980s. In the 40-plus years since that was done, we have learned that the geologic formations in the vicinity of these oil fields are larger than previously thought. The proposed expanded borders of the aquifer exemption reflect that understanding.

- ◆ If the expansion is approved, all that will happen is that the water produced along with oil will go back into the geological formation it came from, which has never been a source of drinking water and is never expected to be a source of drinking water.

- ◆ The proposed exemption zones contain oil and have a natural average measurement over 6,800 milligrams/liter of total dissolved solids (TDS) – nearly 7 times higher than the California standard for drinking water.

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