

UNDERGROUND INJECTION CONTROL PROGRAM

REGULATORY OVERSIGHT & COORDINATION

- ▶ U.S. EPA
- ▶ DOGGR
- ▶ SWRCB

The United States Environmental Protection Agency (U.S. EPA) is charged with oversight of the Underground Injection Control (UIC) program. In California, the Department of Conservation's Division of Oil, Gas and Geothermal Resources (DOGGR) implements the UIC program and regulates injection wells.

Injection wells have been used for decades in California to assist in oil production – to increase oil recovery and safely dispose of water produced with oil and gas.

The U.S. EPA periodically reviews the state's UIC program under the Safe Drinking Water Act. As a result of an audit and in light of the drought, DOGGR and the State Water Resources Control Board (SWRCB) are conducting a comprehensive review of permitted injection wells in exempt aquifers that may have a potential for future use by a public water system based on salinity, and aquifers for which the state may not have received a written acknowledgement of exemption from the U.S. EPA. A rigorous corrective action plan with measurable milestones has been approved by the U.S. EPA and is currently being implemented by DOGGR.



NOT ALL AQUIFERS ARE CREATED EQUAL

EXEMPT

VS

NON-EXEMPT

- ▶ High in salt and naturally-occurring elements
- ▶ Not a source of public water supplies
- ▶ Often in hydrocarbon zones, where oil formations are found
- ▶ Wells authorized to inject produced water

- ▶ Low in salt and naturally occurring elements
- ▶ Potential for future use by a public water system
- ▶ Wells prohibited from injecting produced water



Through this review process, DOGGR and the SWRCB will submit applications to the U.S. EPA requesting it classify certain aquifers as exempt and authorized for disposal of produced water.

PRIORITIZING WELLS FOR REVIEW

Category 1

- ▶ Highest and high priority
- ▶ Lower salt concentrations
- ▶ Do not border oil formations

Category 2

- ▶ Mid priority
- ▶ Moderate salt concentrations
- ▶ Naturally mixed with oil

Category 3

- ▶ Lower priority
- ▶ Aquifers historically treated as exempt

THE UIC PROGRAM

Protecting California's Water Supplies

COMPREHENSIVE REVIEW UNDERWAY

EVALUATIONS + ACTIONS

The state moved immediately and determined a select group of permitted wells should be evaluated.

Of that subset, a large percentage was ruled out of the study because the state believes they do not have a potential future use by a public water system and expects to confirm their exemption.

THE SWRCB HAS FOUND NO CONTAMINATION IN WATER USED FOR PUBLIC WATER SUPPLY SYSTEMS IN ITS ONGOING ANALYSIS.



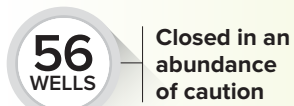
Ruled low priority



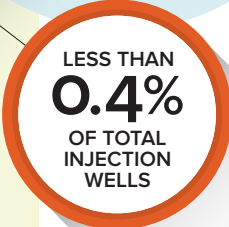
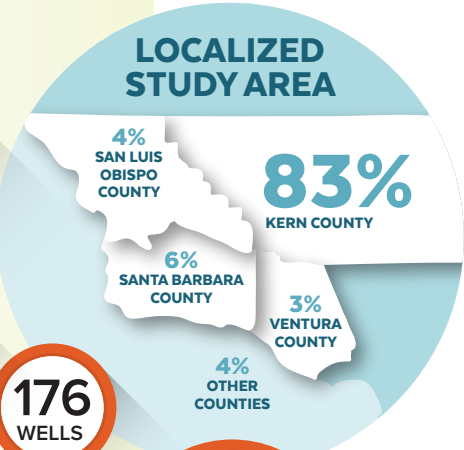
Ruled high priority



Under review



*3,600 cyclic steam wells, which already exist in oil producing zones and are low priority, are also included in this study.



ADDITIONAL GOVERNANCE FOR UIC PROGRAM

- ▶ More detailed regulations being adopted in light of drought
- ▶ Comprehensive inventory and database of all wells
- ▶ Additional staffing and more rigorous training

NEW REGULATIONS + INCREASED GOVERNANCE

- Adopt emergency regulations
- Initiate permanent rulemaking
- Secured state funding for additional staff and modernization of data
- Conducted pre-rulemaking workshops to receive public comment

MILESTONES

INVENTORY, REVIEW + ACTION

- Complete evaluation of Category 1 wells
- File applications for proposed Category 1 exemptions (<3,000 mg/L TDS)
- Complete evaluation of Category 2 wells
- Review and analyze cyclic steam wells
- Cease injection into non-exempt groundwater (<3,000 mg/L TDS)
- File applications for proposed Category 1 exemptions (3,000 – 10,000 mg/L TDS)
- Complete evaluation of Category 3 wells
- File applications for proposed Category 2 aquifer exemptions
- Cease injection into non-exempt groundwater or secure exemption (3,000 – 10,000 mg/L TDS)
- File applications for proposed Category 3 aquifer exemptions
- Launch new data management system
- Finalize permanent regulations