
State Water Resources Control Board

June 5, 2018

Kenneth A. Harris Jr., State Oil & Gas Supervisor
Department of Conservation
Division of Oil, Gas & Geothermal Resources
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FINAL CONCURRENCE ON THE AQUIFER EXEMPTION PROPOSAL, TULARE FORMATION, CYMRIC OIL FIELD, KERN COUNTY

Dear Mr. Harris:

State Water Resources Control Board (State Water Board) staff, in consultation with Central Valley Regional Water Quality Control Board staff (collectively Water Boards staff), have reviewed the proposal provided by the Division of Oil, Gas and Geothermal Resources (DOGGR) on July 18, 2016 to expand the aquifer exemption for the Tulare Formation in the Cymric Oil Field. Water Boards staff assessed whether the proposal meets the criteria set forth in California Public Resources Code (PRC) section (§) 3131 and § 146.4 of Title 40 of the Code of Federal Regulations (CFR) and considered comments received during the public comment process.

Public Comment Process

On November 9, 2017, State Water Board staff preliminarily concurred with the proposal to expand the exemption of the Tulare Formation, excluding the eastern side of the field as shown in the attached map (concurrence area), pending the State's public comment process. On January 26, 2018, DOGGR published notice of the exemption proposal and opened a public comment period. DOGGR and State Water Board staff held a joint public hearing to receive comments on the exemption proposal on February 27, 2018. The comment period closed on March 14, 2018. DOGGR and State Water Board staff have reviewed and responded in writing to the comments received during the comment period and public hearing.

Concurrence with Limitation on Underground Injection Control (UIC) Projects

State Water Board staff concur with the proposal to expand the exemption of the Tulare Formation, excluding the proposed expansion on the eastern side of the field as shown in the

attached map. State Water Board staff make no decision regarding the proposal to exempt this portion of the Tulare Formation at this time.

In order to ensure that injected fluids do not affect the quality of water that may reasonably be used for any beneficial use and remain in the concurrence area, the following limitation shall be applied to injection activities in the Tulare Formation:

- The volume of fluid injected in the Tulare Formation, including existing exempted areas, may not exceed the volume of fluid extracted as measured over a five-year period. Operators with injection activities in the Tulare Formation will collectively provide an annual report to the Water Boards and DOGGR on fluid balance data (comparing injection and extraction volumes) for the preceding five years. If injection or production wells are screened across the Tulare Formation and another formation(s), operators will specify the volume of fluid injected into and extracted from the Tulare Formation and provide the basis (e.g., data, calculations) for this determination.

In conjunction with the evaluation of current and future Class II UIC projects in the concurrence area, DOGGR and Water Boards staff will consider incorporating conditions, described below, into UIC project approvals.

State and Federal Exemption Criteria

As required by PRC § 3131(a)(1) and 40 CFR § 146.4(a) the concurrence area does not currently serve as a source of drinking water. One idle oilfield-related water supply well has been identified within the concurrence area. No other water supply wells have been identified in the Tulare Formation within one mile of the concurrence area.

Consistent with 40 CFR § 146.4(b)(1), the concurrence area will not in the future serve as a source of drinking water because it is hydrocarbon producing or contains hydrocarbons that are expected to be commercially producible. In addition, as per PRC § 3131(a)(2), the injected fluids are not expected to affect the quality of water that is, or may reasonably be, used for any beneficial use because (1) the groundwater contained in the concurrence area is not expected to be put to beneficial use because it contains petroleum hydrocarbons and also contains constituents such as boron and total dissolved solids at concentrations that limit its suitability for agricultural, domestic, and other beneficial uses, and (2) the injected fluids are expected to remain in the concurrence area.

The requirement of PRC § 3131(a)(3) is also satisfied because the injected fluids are expected to remain in the concurrence area due to a combination of geologic conditions and operational controls. Vertical containment for the Tulare Formation is provided by the basal alluvial clay, where present (e.g., southern portion), operational controls, and the underlying lower permeability siltstones and claystones of the San Joaquin-Etchegoin Formations. Lateral containment in the concurrence area are provided by a production-induced inward hydraulic gradient.

Conditions on UIC Projects

Approval of Class II UIC projects involves a joint review by DOGGR and Water Boards staff. DOGGR and Water Boards staff will consider incorporating conditions into approvals of Class II injection projects. Potential conditions include, but are not limited to, the following:

1. In cases where injection is proposed into the concurrence area where oil production has not been established (e.g., the expansion to the north of the currently exempted area), verifying the presence of commercially producible hydrocarbons and demonstrating an inward hydraulic gradient;
2. Monitoring to demonstrate an inward hydraulic gradient in the Tulare Formation; and
3. Groundwater monitoring to demonstrate that injected fluids remain in the exempted area (e.g., sentinel well monitoring). If a monitoring requirement is incorporated in a project approval, the operator must submit a plan to the Central Valley Regional Water Quality Control Board for consideration.

If you have any questions regarding this matter, please contact Mr. John Borkovich at (916) 341-5779 or john.borkovich@waterboards.ca.gov.

Sincerely,



Jonathan Bishop
Chief Deputy Director

cc: Patrick Pulupa
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Enclosure

