
State Water Resources Control Board

October 11, 2018

Kenneth A. Harris Jr., State Oil & Gas Supervisor
Department of Conservation
Division of Oil, Gas & Geothermal Resources
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PRELIMINARY CONCURRENCE ON THE AQUIFER EXEMPTION PROPOSAL, SISQUOC AND MONTEREY FORMATIONS, CAT CANYON OIL FIELD, SANTA BARBARA COUNTY

Dear Mr. Harris:

State Water Resources Control Board (State Water Board) staff, in consultation with Central Coast 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 December 27, 2017 to expand the aquifer exemption for the Sisquoc Formation below the Upper Confining Layer (Sisquoc Formation) and the Monterey Formation in the Cat Canyon 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).

Pending the public comment process, State Water Board staff preliminarily concur with the proposal to expand the exemption of the Sisquoc and Monterey Formations. In conjunction with the evaluation of current and future Class II underground injection control (UIC) projects in the proposed exempted 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 proposed exempted area does not currently serve as a source of drinking water. While there are a number of water supply wells within the boundaries of the oil field, they are completed at shallower depths into the surface alluvium, the Paso Robles Formation, and/or Careaga Formation. There are no water supply wells completed into Sisquoc or Monterey Formations in the proposed exempted area. As described below, the water supply wells completed in the shallower formations are separated from the proposed exempted area by hundreds of feet of confining features.

Consistent with 40 CFR § 146.4(b)(1), the proposed exempted area will not in the future serve as a source of drinking water because it is, or is expected to be, capable of commercial hydrocarbon production. 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 (1) because the groundwater within the proposed exempted area contains petroleum hydrocarbons and constituents such as boron and total dissolved solids at concentrations that limit its suitability for agricultural, domestic, and other beneficial uses, (2) because of the availability of higher quality groundwater in shallower geologic zones, and (3) because the injected fluids are expected to remain in the proposed exempted area. Water analyses from the Cat Canyon Oil Field indicate groundwater in the Sisquoc and Monterey Formations contains concentrations of total dissolved solids between 6,333 and 22,007 milligrams per liter.

The requirement of PRC § 3131(a)(3) is also satisfied because the injected fluids are expected to remain in the proposed exempted area due to both geologic and operational controls. Vertical containment of the proposed exempted area is provided by the overlying low permeability Upper Confining Layer of the Sisquoc Formation, the underlying low permeability shale of the Point Sal Formation, and a production-induced inward hydraulic gradient. Lateral containment in the proposed exempted area is provided by a geologic pinchout (on the north and south), faults sealed to fluid flow that create isolated fault blocks, and a production-induced inward hydraulic gradient within those blocks.

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:

- Providing data to demonstrate an inward hydraulic gradient and to demonstrate that injected fluids will remain in the exempted area; and
- Monitoring to demonstrate that injected fluids remain in the exempted area.

If a monitoring requirement is incorporated in a project approval, the operator must submit a plan to the Central Coast 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: John M. Robertson
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