

State Water Resources Control Board

July 13, 2017

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, VEDDER FORMATION, KERN FRONT 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 Kern Front Oil Field aquifer exemption proposal provided by the Division of Oil, Gas and Geothermal Resources (DOGGR) on February 7, 2017 to exempt a portion of the Vedder Formation within the Kern Front 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. Based on this review, State Water Board staff concur with the exemption proposal. 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.

Public Comment Process

On February 23, 2017, State Water Board staff preliminarily concurred with the exemption proposal pending the State's public comment process. On March 20, 2017, DOGGR published notice of the exemption proposal and opened a public comment period. DOGGR and the State Water Board held a joint public hearing to receive comments on the exemption proposal on April 19, 2017. The comment period closed on April 19, 2017. DOGGR and the State Water Board have reviewed and responded in writing to the comments received during the comment period and public hearing.

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. No water supply wells were identified as

being completed within the proposed exempted area. Water supply wells identified in proximity to the proposed exempted area are all completed in shallower formations. Between 2,330 and 6,540 feet of vertical separation exists between the bottom of the identified water supply wells and the top of the Vedder Formation within the proposed exempted area.

Consistent with 40 CFR § 146.4(c), the proposed exempted area contains groundwater with concentrations of total dissolved solids (TDS) between 3,000 and 10,000 milligrams per liter (mg/L) and is not reasonably expected to supply a public water system due to the availability of high quality groundwater in shallower geologic zones and the presence of hydrocarbon production zones above the proposed exempted area. 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 proposed exempted area is not expected to be put to beneficial use (for the reasons described above) and (2) the injected fluids are expected to remain in the proposed exempted area.

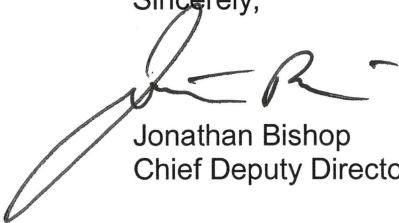
The requirement of PRC § 3131(a)(3) is also satisfied because the injected fluids are expected to remain within the proposed exempted area due to a combination of geologic conditions and operational controls. Vertical containment is provided by the overlying, approximately 1,000 feet thick, Freeman-Jewett Silt that consists of lower permeability siltstone, claystone, and shale and by the approximately 125 feet thick claystone at the base of the Vedder Formation. Lateral containment is provided by implementing operational controls that limit the maximum calculated injection radius of future injection to the region within the proposed exempted area.

Conditions on UIC Projects

Approval of 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 in the proposed exempted area. Water Boards staff will seek the inclusion of a condition to ensure the containment of injected fluids within the proposed exempted area (e.g., regulating injection rates based on an empirical determination of the direction of groundwater flow within the portion(s) of the Vedder Formation proposed for injection).

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: Pamela Creedon
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