
State Water Resources Control Board

November 7, 2016

Kenneth A. Harris Jr., State Oil & Gas Supervisor
Department of Conservation
Division of Oil, Gas & Geothermal Resources
801 K Street, MS 18-05
Sacramento, CA 95814-3530
ken.harris@conservation.ca.gov

FINAL CONCURRENCE ON THE EXPANSION OF THE EXISTING AQUIFER EXEMPTION, SANTA MARGARITA FORMATION, FRUITVALE OIL FIELD, KERN COUNTY

Dear Mr. Harris:

State Water Resources Control Board staff, in consultation with Central Valley Regional Water Quality Control Board staff (collectively Water Boards staff), reviewed the aquifer exemption proposal provided by the Division of Oil, Gas and Geothermal Resources (DOGGR) on March 17, 2016 for the expansion of the aquifer exemption for the Santa Margarita Formation in the Fruitvale Oil Field. Pursuant to California Public Resources Code (PRC) section (§) 3131, Water Boards staff assessed whether the proposal conforms to the criteria set forth in § 146.4 of Title 40 of the Code of Federal Regulations (CFR) and other criteria set forth in PRC § 3131. Based on this review, State Water Board staff concur with the exemption proposal. In conjunction with the evaluation of current and future underground injection control (UIC) projects in the proposed exempted area, DOGGR and Water Boards staff will consider incorporating conditions, described below, into project approvals.

On June 28, 2016, State Water Board staff preliminarily concurred with the exemption proposal pending the State's public comment process. On July 15, 2016, 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 public comments on the exemption proposal on August 15, 2016. The comment period closed on August 29, 2016. DOGGR and the State Water Board have reviewed and responded in writing to the comments received during the comment period and public hearing.

As required by PRC § 3131(a)(1) and 40 CFR §146.4(a), the portion of the Santa Margarita Formation proposed for exemption does not currently serve as a source of drinking water. 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. 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.

The requirement of PRC § 3131(a)(3) is also satisfied because a detailed technical demonstration has been made that the injected fluids are expected to remain in the proposed exempted area due to geologic conditions. The proposed boundaries are based on the presence of geologic features that either (1) have historically prevented the migration of fluids based on oil-saturated lithology separated from non-saturated lithology across the fault (i.e., oil traps), or (2) are unlikely to allow fluid migration from the Santa Margarita Formation into geologic units with significantly lower permeability. The geologic features that represent the lateral containment boundaries include unnamed faults along the northern, southern, and southeastern boundaries, the Santa Margarita Fault along the eastern boundary, and a facies change from the Santa Margarita Formation to the McLure Shale along the western boundary. The geologic features that overlie and underlie the proposed exempted area include a laterally continuous unnamed shale and the Fruitvale Shale, respectively.

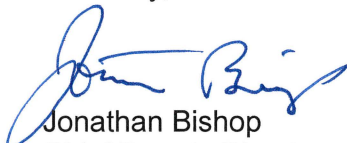
No water supply wells were identified within the proposed exempted area as being completed within the Santa Margarita Formation. Water supply wells identified in proximity to the proposed area were all completed in the shallower alluvium and Kern River formation. An approximate 1,800 to 4,000 feet of vertical separation exists between the bottom of the identified water supply wells and the top of the Santa Margarita Formation within the proposed exempted area.

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 injection projects in the proposed exempted area. Potential conditions include, but are not limited to, the following:

- 1) Collecting groundwater sample(s) from proposed injection project well(s) that are completed in the portion of the exempted formation proposed for injection to establish baseline groundwater quality prior to fluid injection;
- 2) Requiring that injected fluids be of equal or better water quality than the baseline groundwater quality established from the analysis of groundwater samples collected in the portion of the exempted formation proposed for injection; and
- 3) Monitoring the portion of the exempted formation receiving injected fluids to validate that the fluids will remain in the portion of the aquifer that is exempted.

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
Executive Officer
Central Valley Regional Water Quality Control Board
pamela.creedon@waterboards.ca.gov

Bill Bartling
Deputy, Inland District
Department of Conservation
Division of Oil, Gas & Geothermal Resources
bill.bartling@conservation.ca.gov