
State Water Resources Control Board

January 17, 2018

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 AQUIFER EXEMPTION PROPOSAL, LANIGAN SANDS, LYNCH CANYON OIL FIELD, MONTEREY COUNTY

Dear Mr. Harris:

State Water Resources Control Board staff, in consultation with Central Coast Regional Water Quality Control Board staff (collectively Water Boards staff), have reviewed the proposal provided on August 16, 2016 by the Division of Oil, Gas and Geothermal Resources (DOGGR) for the expansion of the existing aquifer exemption for the Lanigan Sands of the Lynch 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) 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 project approvals.

Public Comment Process

On February 3, 2017, State Water Board staff preliminarily concurred with the exemption proposal pending the State's public comment process. On August 7, 2017, 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 September 6, 2017. The comment period closed on September 23, 2017. DOGGR and State Water Board staff 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 portion of the Lanigan Sands proposed for exemption does not currently serve as a source of drinking water. The well survey submitted as part of the exemption proposal application did not identify any water supply wells

that are completed within the proposed exempted area of the Lanigan Sands. Water supply wells identified within the footprint of the proposed exemption area are all completed in shallower formations. At least 1,400 feet of vertical separation exists between the bottom of the identified water supply wells and the top of the Lanigan Sands within the proposed exempted area.

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 hydrocarbon producing and also because high quality groundwater is available in shallower geologic zones. 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 because it contains petroleum hydrocarbons and because of the availability of high quality groundwater in shallower geologic zones, 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 a detailed technical review has demonstrated that the injected fluids are expected to remain in the proposed exempted area due to a combination of geologic conditions and operational controls. Lateral containment is provided by the Lynch Canyon Fault along the northern and eastern boundary and an inward hydraulic pressure gradient to the south and west. The fault is sealing, as demonstrated by the presence of hydrocarbons on only one side of the fault, structural mapping, and seismic data. Overlying groundwater is separated from the proposed exemption area by multiple confining layers consisting of lower permeability siltstone and shale in the surrounding Monterey Formation and siltstone and claystone in the overlying Pancho Rico Formation. The Lanigan Sands is one of several sand zones occurring in the Monterey Formation, which consists of alternating layers of marine shale, siltstone, and sand. Where underlying layers are absent, the proposed exempted area lies directly on crystalline basement rock. The Lanigan Sands pinches out to the west within the adjacent San Ardo and McCool Ranch oil fields.

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 UIC projects in the proposed exemption area. Potential conditions include, but are not limited to, requiring the implementation of a water quality and/or pressure monitoring program within and/or in proximity to the proposed exempted area. If a monitoring requirement is incorporated in a UIC project approval, the operator must submit a work 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
Executive Officer
Central Coast Regional Water Quality Control Board
john.robertson@waterboards.ca.gov

Pat Abel
Deputy, Coastal District
Department of Conservation
Division of Oil, Gas & Geothermal Resources
pat.abel@conservation.ca.gov