



State Water Resources Control Board

December 1, 2022

Uduak-Joe Ntuk, State Oil & Gas Supervisor
Department of Conservation
California Geologic Energy Management Division
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FINAL CONCURRENCE ON THE AQUIFER EXEMPTION PROPOSAL, HOLSER-NUEVO ZONE OF THE MODELO FORMATION, HOLSER OIL FIELD, VENTURA COUNTY

Dear Mr. Ntuk:

State Water Resources Control Board (State Water Board) staff, in consultation with Los Angeles Regional Water Quality Control Board staff (collectively Water Boards staff), reviewed the aquifer exemption proposal provided by the California Geologic Energy Management Division (CalGEM) on April 20, 2018, to expand the aquifer exemption for the Holser-Nuevo Zone of the Modelo Formation in the Holser Oil Field for Class II injection.

As described in the attached memorandum, 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 proposal to expand the exemption for the Holser-Nuevo Zone of the Modelo Formation.

Public Comment Process

On December 7, 2018, State Water Board staff preliminarily concurred with the exemption proposal pending the State's public comment process. CalGEM published notice of the exemption proposal and opened a public comment period from February 28 to April 13, 2022, and CalGEM and State Water Board staff held a joint public hearing to receive comments on the exemption proposal on March 29, 2022. CalGEM and State Water Board staff have reviewed and responded in writing to the comments received during the comment period and public hearing.

E. JOAQUIN ESQUIVEL, CHAIR | EILEEN SOBECK, EXECUTIVE DIRECTOR

Conditions on Injection Projects

Approval of Class II Underground Injection Control (UIC) projects involves a joint review by CalGEM and Water Boards staff where they consider incorporating conditions into the approval. Potential conditions include, but are not limited to, requiring monitoring, such as pressure or fluid level monitoring, to confirm that injected fluids remain in the proposed exempted area. If a groundwater monitoring requirement is incorporated in a UIC project approval, the operator must submit a work plan to the Los Angeles Regional Water Quality Control Board for review.

If you have any questions regarding this matter, please contact Ms. Janice Zinky at janice.zinky@waterboards.ca.gov.

Sincerely,



Jonathan Bishop
Chief Deputy Director

cc: Renee Purdy
Executive Officer
Los Angeles Regional Water Quality Control Board
renee.purdy@waterboards.ca.gov

Baldev Gil
District Deputy, Southern District
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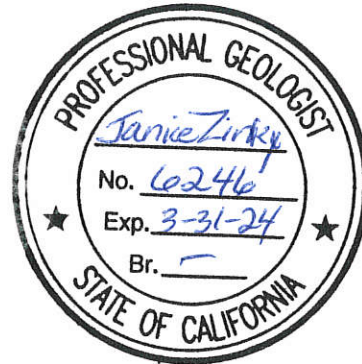
Attachment

State Water Resources Control Board

TO: Jonathan Bishop
Chief Deputy Director

FROM: Janice Zinky
Supervising Engineering Geologist

DATE: November 8, 2022



SUBJECT: **FINAL CONCURRENCE ON THE AQUIFER EXEMPTION PROPOSAL,
HOLSER-NUEVO ZONE OF THE MODELO FORMATION, HOLSER OIL
FIELD, VENTURA COUNTY**

On April 20, 2018, the California Geologic Energy Management Division (CalGEM) provided the State Water Resources Control Board (State Water Board) with a proposal to expand the aquifer exemption for the Holser-Nuevo Zone of the Modelo Formation in the Holser Oil Field for Class II injection.

State Water Board staff, in consultation with Los Angeles Regional Water Quality Control Board staff, reviewed the revised proposal, which was signed and stamped by a California-licensed professional geologist, and considered comments received during the public comment process. Based on this review, State Water Board staff determined that the revised 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).

To confirm that injected fluids remain in the proposed exempted area, staff recommend considering incorporating monitoring requirements, such as pressure or fluid level monitoring, in 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. No water supply wells were identified as being completed within the proposed exempted area (Figure 1). While water supply wells have been identified within one mile of the proposed exempted area, these wells are completed in the alluvium (perforated intervals range from 10 to 300 feet

below ground surface) and are separated from the proposed exempted area by over a thousand feet of confining geologic units (Figure 2).

Consistent with 40 CFR § 146.4(b)(1), the proposed exempted area cannot now and 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 because (1) the groundwater contained in the proposed exempted area contains petroleum hydrocarbons and constituents such as radionuclides and total dissolved solids at concentrations that limit its suitability for agricultural, domestic, and other beneficial uses, (2) higher quality groundwater is available in shallower geologic zones, and (3) injected fluids are expected to remain in the proposed exempted area. Water analyses from the Holser Oil Field indicate that groundwater in the Holser-Nuevo Zone contains concentrations of total dissolved solids between 8,530 and 8,970 milligrams per liter (mg/L).

The requirement of PRC § 3131(a)(3) is also satisfied because the injected fluids are expected to remain in the proposed exempted area. This is due to both geologic and operational controls. Vertical containment of injected fluids in the proposed exempted area is provided by the overlying and underlying low permeability siliceous shales of the Modelo Formation. Lateral containment of injected fluids in the proposed exempted area is provided by a lower permeability zone on the western margin of the proposed exempted area and a production-induced inward hydraulic gradient.

An analysis of potential well bore conduits from the proposed aquifer exemption area to overlying beneficial use aquifers (conduit analysis) was not conducted since the majority of the proposed aquifer exemption area is not overlain by beneficial use aquifers (Figure 3). The area that is overlain by beneficial use aquifers did not contain idle or abandoned wells for review.

Figure 1. Water Well Survey Map

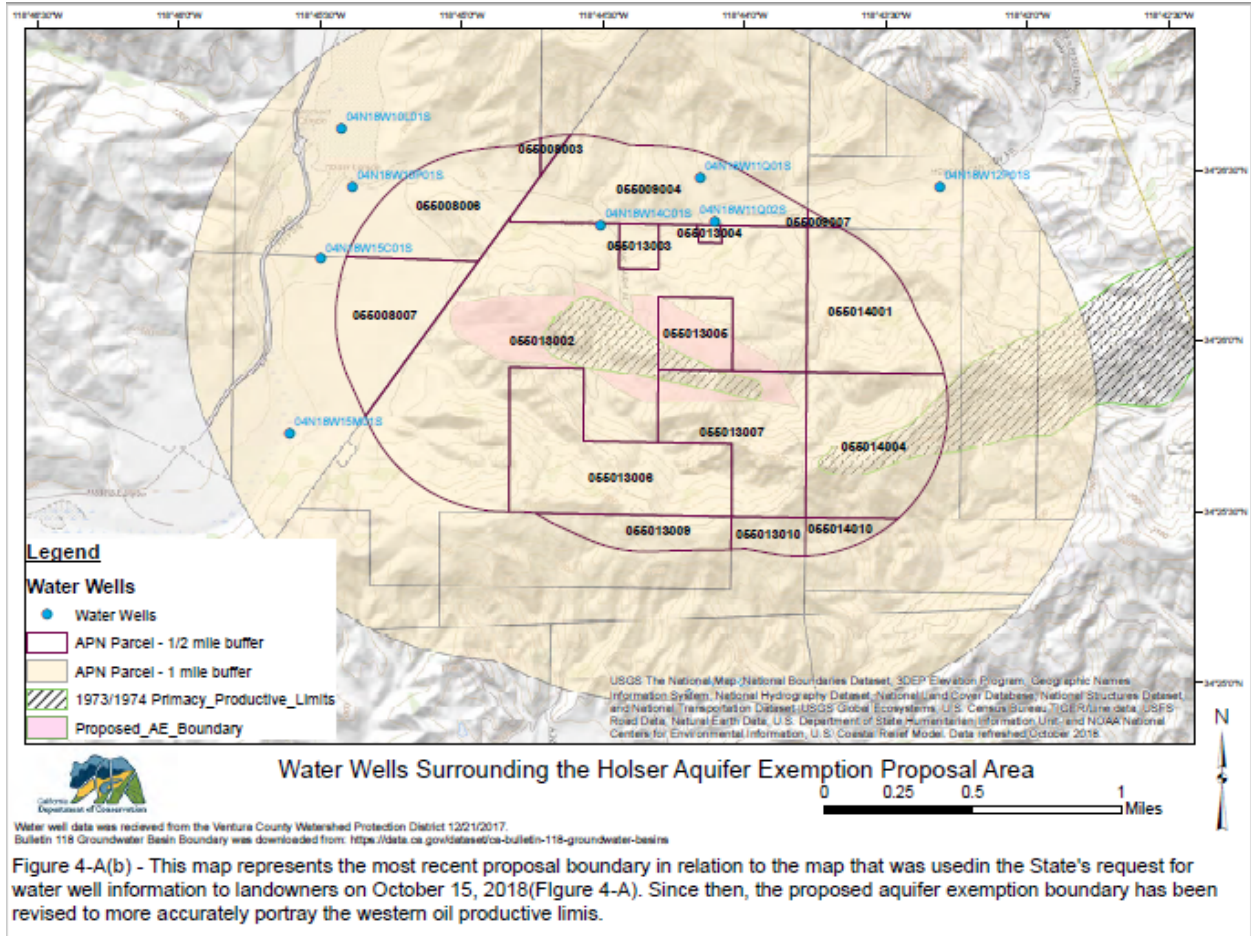


Figure 3. Piru Sub-basin of the Santa Clara River Groundwater Basin

