
State Water Resources Control Board

February 26, 2020

Uduak-Joe Ntuk,
State Oil & Gas Supervisor
Department of Conservation
California Geologic Energy Management Division
801 K Street, MS 18-05
Sacramento, CA 95814-3530
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FINAL CONCURRENCE ON THE AQUIFER EXEMPTION PROPOSAL, TEMBLOR FORMATION, JACALITOS OIL FIELD AND COALINGA OIL FIELD, FRESNO COUNTY

Dear Mr. Ntuk:

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 proposal provided by the California Geologic Energy Management Division (CalGEM) on August 29, 2016 to expand the aquifer exemption for the Temblor Formation in the Jacalitos Oil Field and Coalinga Oil Field.

As described in the attached memorandum, State Water Board staff assessed whether the proposal meets the criteria set forth in California Public Resources Code section (§) 3131 and § 146.4 of Title 40 of the Code of Federal Regulations 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 Temblor Formation.

Public Comment Process

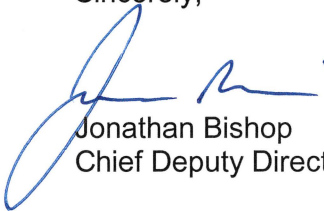
On May 14, 2018, State Water Board staff preliminarily concurred with the exemption proposal pending the State's public comment process. On July 13, 2018, CalGEM published notice of the exemption proposal and opened a public comment period. CalGEM and State Water Board staff held a joint public hearing to receive comments on the exemption proposal on August 15, 2018. The comment period closed on September 24, 2018. CalGEM and State Water Board staff have reviewed and responded in writing to the comments received during the comment period and public hearing.

Conditions on Injection Projects

Approval of Class II underground injection control (UIC) projects involves a joint review by CalGEM and Water Boards staff. CalGEM and Water Boards staff will consider incorporating conditions into approvals of Class II injection projects. 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 monitoring requirement is incorporated in a UIC project approval, the operator must submit a work plan to the Central Valley 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: Patrick Pulupa
Executive Officer
Central Valley Regional Water Quality Control Board
patrick.pulupa@waterboards.ca.gov

Cameron Campbell
Deputy, Inland District
Department of Conservation
Division of Oil, Gas & Geothermal Resources
cameron.campbell@conservation.ca.gov

Attachment

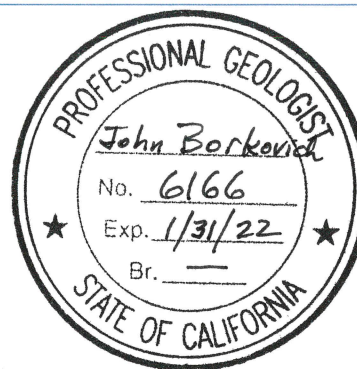
State Water Resources Control Board

TO: Jonathan Bishop
Chief Deputy Director

FROM: John Borkovich
Supervising Engineering Geologist

DATE: February 26, 2020

**SUBJECT: PROPOSED AQUIFER EXEMPTION, TEMBLOR FORMATION,
JACALITOS OIL FIELD AND COALINGA OIL FIELD, FRESNO COUNTY**



On August 29, 2016 the California Geologic Energy Management Division (CalGEM), formerly known as the Division of Oil, Gas and Geothermal Resources (DOGGR), provided the State Water Resources Control Board (State Water Board) with a proposal to expand the aquifer exemption for the Temblor Formation in the Jacalitos Oil Field and Coalinga Oil Field for Class II injection.

State Water Board staff, in consultation with Central Valley Regional Water Quality Control Board staff (collectively Water Boards staff), have reviewed the CalGEM proposal, which was prepared and submitted by a professional geologist, considered comments received during the public comment process, and have determined that it 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 underground injection control (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 (Figure 1) does not currently serve as a source of drinking water. Water analysis from the Jacalitos Oil Field and Coalinga Oil Field indicate groundwater in the Temblor Formation contains concentrations of total dissolved solids between 3,068 and 7,285 milligrams per liter. No water supply wells were identified within the proposed exempted area. Water wells have been identified within the boundaries of the proposed exempted area, however, they are completed in the shallower alluvium (30 to 60 feet below ground surface) and Etchegoin Formation. As described below, these water wells are both geologically and hydraulically separated from the proposed exempted area by a vertical confining feature (Figure 2).

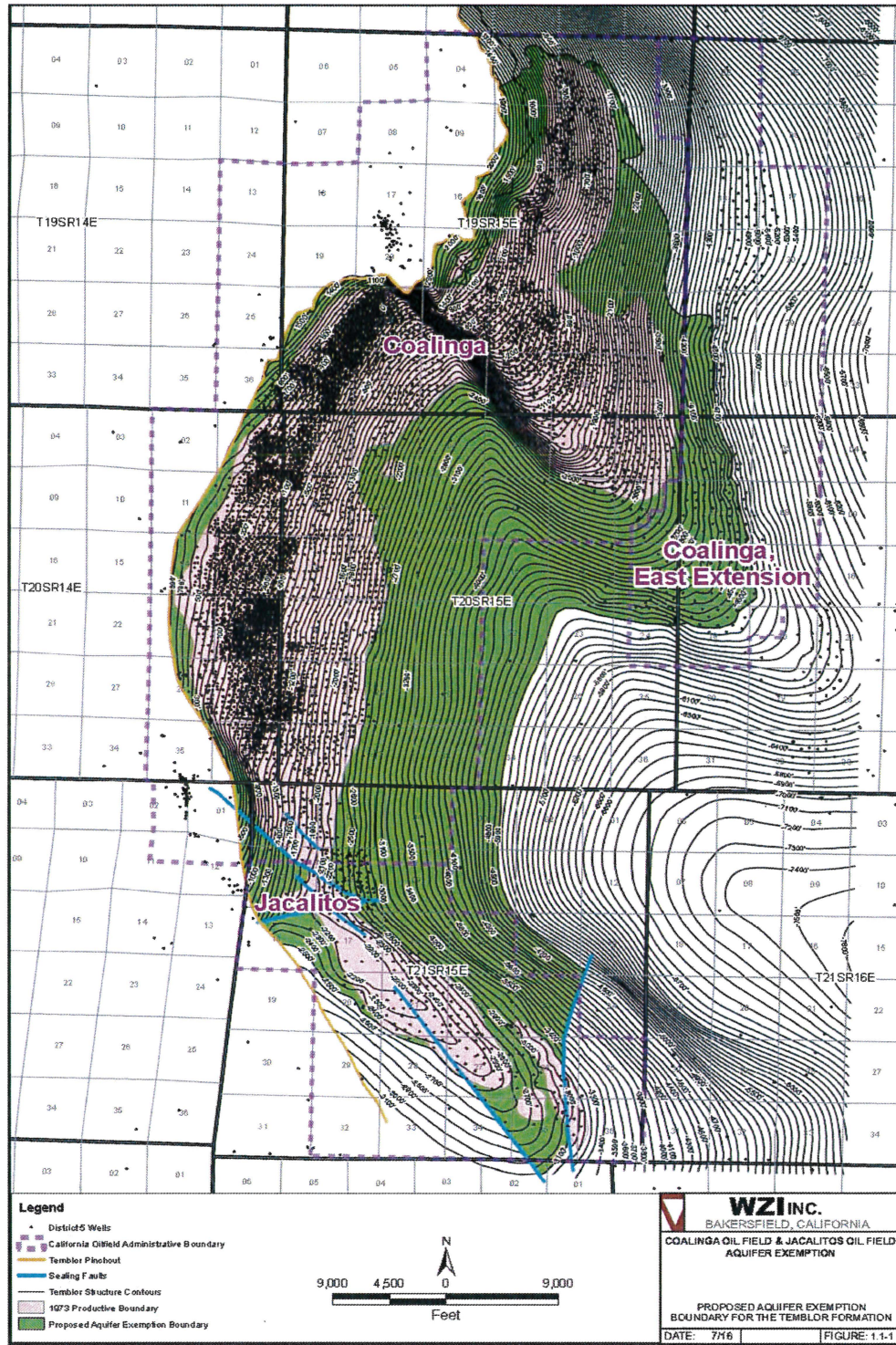
Consistent with 40 CFR § 146.4(b)(1), the proposed exempted area will not in the future serve as a source of drinking water because it is hydrocarbon producing. In addition, as per PRC

§ 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 in the proposed exempted area is not expected to be put to beneficial use because it 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.

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. All injectate fluids are derived from the proposed exemption area. Vertical containment is provided by the overlying low permeability Reef Ridge/McLure Shale and Etchegoin Formation and the underlying low permeability shale of the Kreyenhagen Formation (Figure 2). Lateral containment is provided by a production-induced inward hydraulic gradient. In addition, the western portion of the proposed exemption area includes a geologic pinchout and facies change.

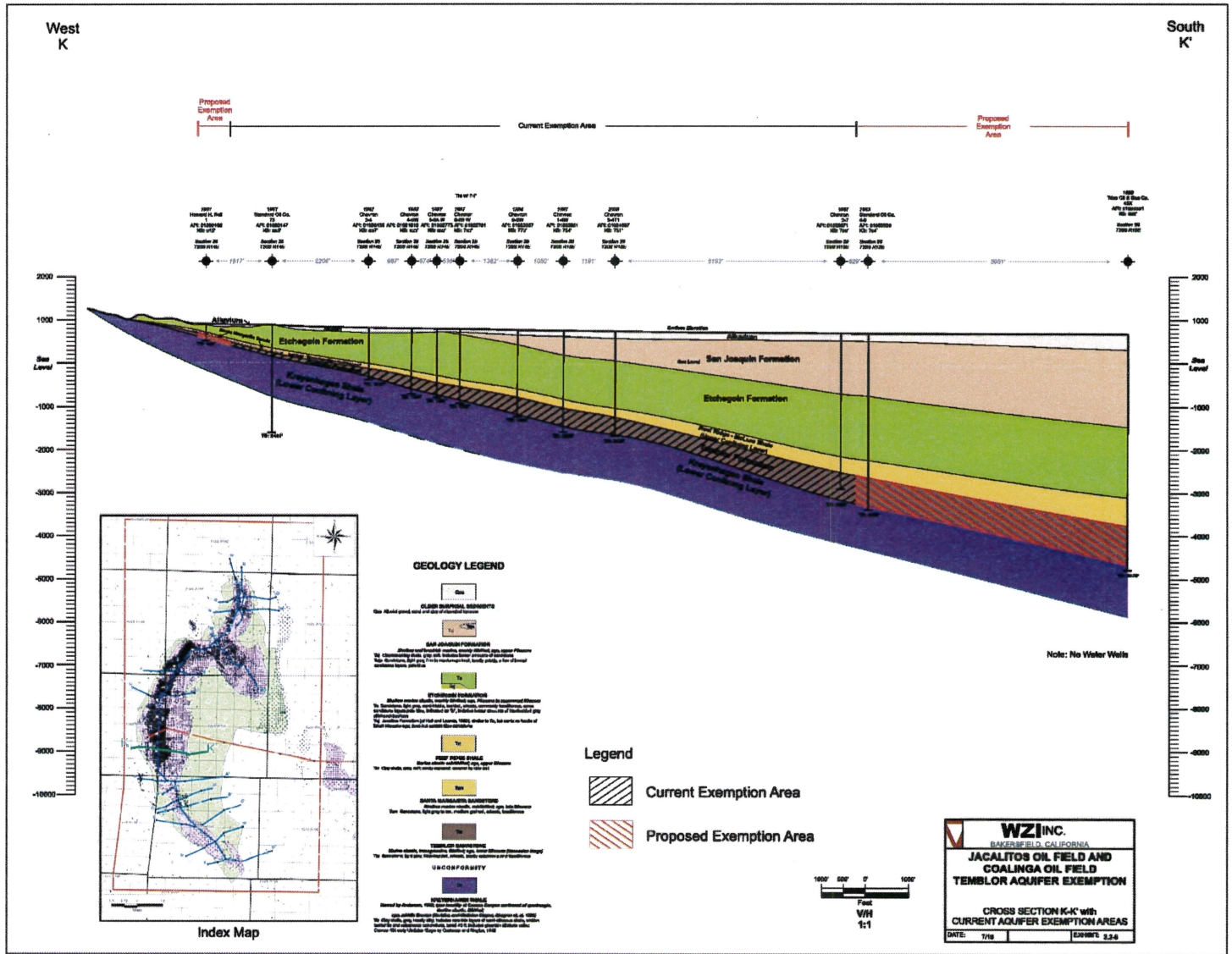
Enclosure

Figure 1



Proposed and Current Temblor Formation Aquifer Exemption Boundaries, Figure 1.1-1, Aquifer Exemption Application, Jacalitos Oil Field and Coalinga Oil Field, Kern County, California, August 26, 2016

Figure 2



Cross-section K-K', Figure 5.1-10, Aquifer Exemption Application, Jacalitos Oil Field and Coalinga Oil Field, Kern County, California, August 26, 2016