
State Water Resources Control Board

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DATE: November 20, 2025

SUBJECT: SECOND TECHNICAL REVIEW MEMO, AQUIFER EXEMPTION APPLICATION, PREMIER RESOURCE MANAGEMENT, LLC, NORTH ANTELOPE HILLS OIL FIELD, KERN COUNTY

State Water Board staff (Staff) initially received the “Aquifer Exemption Application - Tulare Formation Aquifer Exemption Justification – North Antelope Hills Oil Field Expansion Kern County, California” prepared by Premier Resource Management, LLC (Operator) dated January 5, 2023. The initial application referenced Code of Federal Regulations (CFR) §146.4(a) and §146.4(b)(1) as the criteria for requesting an Aquifer Exemption for the Tulare Oil Sand. Staff submitted comments and questions intended for the Operator in the First Technical Review memo dated December 14, 2023, and later received a revised application from the Operator, dated October 15, 2024, along with additional data on December 10, 2024. Upon reviewing the revised October 2024 application and the additional data, it was concluded that the evidence provided did not adequately support CFR §146.4(b)(1) as justification for an Aquifer Exemption throughout the entire proposed area.

In response, the Operator resubmitted the application, dated June 16, 2025, referencing CFR §146.4(a) and §146.4(c) as the criteria for requesting an Aquifer Exemption in the Tulare Oil Sand. Staff provided preliminary comments and questions intended for the Operator based on the June 2025 application. These were communicated via email to CalGEM on July 22, 2025, and July 23, 2025, for the Operator to address while the conduit analysis was being reviewed. The comments and questions that were transmitted to CalGEM in July 2025 are compiled below and must be addressed in the next revision of the application.

E. JOAQUIN ESQUIVEL, CHAIR | ERIC OPPENHEIMER, EXECUTIVE DIRECTOR

Technical Review Comments and Questions

1. Section 3, page 11, the second bullet states, “146.4 (c) The TDS [total dissolved solids] content of the groundwater is **more than 10,000 mg/L** and is not reasonably expected to supply a public water system or to have any other beneficial uses.” This bullet needs to be updated to correctly reflect Code of Federal Regulations (CFR) Title 40 §146.4(c), which is “The total dissolved solids content of the ground water is **more than 3,000 and less than 10,000 mg/l** and it is not reasonably expected to supply a public water system.”
2. The application indicates that the criteria outlined in 40 CFR §146.4 (a) and (c) are being used to justify an Aquifer Exemption of the Tulare Oil Sand instead of 40 CFR §146.4 (a) and (b)(1). However, there are inconsistencies throughout the application that need to be addressed. Update the following sections and ensure consistency throughout the application:
 - a. Executive Summary, page 6, fourth paragraph states, “The Operator is requesting designation as AE under the criteria specified in Code of Federal Regulations, Title 40, §146.4 (a) and(b) (1) for the Tulare Formation (while not requested, Title 40, §146.4 (c) is applicable).”
 - b. Section 8, page 23, first paragraph states, “The Operator is requesting designation as AE under the criteria specified in Code of Federal Regulations, Title 40, §146.4(a), (b)(1). Although it is not being applied for under 146.4 (c) exemption criteria, the Tulare Oil Sand interval also meets these criteria.”
3. One water quality sample was provided from a well perforated only in the Tulare Oil Sand, Hankins 6-30, which yielded TDS concentrations between 9,600 to 9,900 mg/L TDS. However, the application includes TDS concentration ranges that exceed 9,900 mg/L to describe TDS concentrations in the Tulare Oil Sand. Please update the following sections to match TDS concentrations of water quality sampled in Hankins 6-30 and ensure consistency throughout the application:
 - a. Executive Summary, page 6, the second paragraph states, “The Tulare Formation - Aquifer Exemption (AE) Justification covers the Tulare Formation, which has a water salinity (TDS) ranging from 9,600-15,561 mg/L (Table A).”
 - b. Section 8, page 23, the table ‘From Table A’ displays a water salinity range of 9,600 to 15,561 mg/L TDS concentration for the Tulare Oil Sand.
4. Provide a water well map that includes the proposed Aquifer Exemption area and arrows pointing to the nearest domestic and municipal water wells. Be sure to clearly label each well and distance from the Aquifer Exemption area.

5. The Application Executive Summary states that "The AE formations contain water not suited for drinking water or any other beneficial purposes near North Antelope Hills because of the high TDS concentrations, presence of hydrocarbons and other constituents harmful to human and plant health (boron, arsenic, and volatile hydrocarbons)." However, the lab reports do not indicate arsenic or volatile hydrocarbons results. Please provide evidence to support this water quality statement.