

**Regional Water Quality Control Board  
Central Valley Region  
Board Meeting – 30/31 July 2015**

**Response to Written Comments for E&B Natural Resources Management  
Gov't Lease  
Kern County  
Tentative Cleanup and Abatement Order**

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At a public hearing scheduled for 4/5 June 2015, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) will consider adopting a cleanup and abatement order that requires E&B Natural Resources Management to determine whether the discharge of petroleum production wastewater at the Gov't Lease can comply with applicable laws, policies, and regulations by conducting a complete waste characterization, a hydrogeological site characterization, and, if necessary, corrective action.

This document contains responses to substantive comments received from interested parties regarding the proposed Order circulated on 3 April 2015. Written comments from interested parties were required by public notice to be submitted to the Central Valley Water Board by 5:00 pm on 27 April 2015 to receive full consideration. Comments were received by the due date from:

1. Baker Manock and Jensen representing E&B Natural Resources Management

The substantive comments are summarized below, followed by Central Valley Water Board staff responses.

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**BAKER MANOCK AND JENSEN**

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The commenter contends that a Cleanup and Abatement Order requiring monitoring and waste characterization at the Gov't Lease is not necessary. The commenter's stated reasons are presented below as comments followed by Central Valley Water Board staff responses.

**COMMENT:** Extensive monitoring and waste characterization for the Gov't Lease has been submitted to the Central Valley Regional Water Quality Control Board (CVWB) pursuant to waste discharge orders.

**RESPONSE:** Waste discharge requirements and NPDES permits had been issued for this area in the past. The wastewater was characterized and monitored using five water quality values: pH, electrical conductivity, chlorides, boron, and oil and grease. Data does not exist for the many constituents that may be found in the wastewater that could impair beneficial uses of waters of the State, such as: volatile organic compounds, semi-volatile organic compounds, heavy metals, and radionuclides. The last of these permits was Waste Discharge Requirements Order 94-213, NPDES Permit No. CA0078336. A letter from Bellaire Oil Company to the CVWB, dated 16 August 1996 (commenter's Exhibit L), indicated that, if Bellaire wanted to continue to discharge under that permit, "significant changes in the water treatment facility would need to

be undertaken.” This suggests that the discharge was not meeting the requirements of the permit.

**COMMENT:** The ponds are not used in the day to day waste water treatment operations. The discharge of wastewater to the ponds that was observed by CVWB staff during the 11 December 2014 inspection occurred because pumpers who were dewatering the stock tanks drained them into the ponds rather than circulating the water back into the wash tanks for later disposal by injection.

**RESPONSE:** We were informed by E&B staff that they had not discharged to these ponds for the previous two years and that the water in the ponds was from a truck that mistakenly discharged produced water to the ponds while taking on oil from the shipping tank. When the inspector arrived at the facility, there appeared to be a significant volume of fluid in the two ponds. The amount of fluid present appeared to be more than would be expected from one truck. In addition, aerial photographs dated Summer 2012 and 15 April 2014 each show fluid present in the ponds indicating that this is not an isolated event. The changing explanations for the presence of wastewater in the ponds suggests that E&B does not have control over what is discharged to them. The water in the ponds could come from sources that are unknown to E&B and, therefore, of unknown quality.

**COMMENT:** The quality of the wastewater generated during oil field operations meets Basin Plan Objectives and effluent limitations set by the CVWB.

**RESPONSE:** There are Basin Plan Objectives for groundwater for chemical constituents and radioactivity that can be present in oil field wastewater discharges. The presence of these contaminants in the wastewater discharged to the ponds at the Gov't Lease is unknown. Therefore, due to the limited available data, it is unknown whether discharges to this site have met Water Quality Objectives.

**COMMENT:** There appears to be limited use of the groundwater in the vicinity of the Gov't Lease. The nearest agricultural fields are located approximately three miles from the ponds. In addition, there do not appear to be any wells used for domestic purposes. There are three wells located within a mile of the ponds. Two of the wells are used oil field operations and one is used for cattle ranching.

**RESPONSE:** Beneficial uses exist whether or not the water is currently being used for a particular benefit. The use of the groundwater for cattle ranching constitutes an agricultural supply beneficial use. The quality of the underlying groundwater, based on data provided by E&B, indicates it is potentially suitable as a domestic supply.

**COMMENT:** The closest water well to the ponds is owned by E&B and is located 475 feet west of the two largest Gov't Lease ponds. The well is assumed to be downgradient of the ponds based on regional groundwater flow. Chemical analysis of a water sample from the well shows relatively low concentrations of specific conductance, total dissolved solids, chloride and boron. Petroleum hydrocarbons, volatile organic compounds, and semi-volatile organic compounds were not detected in the sample. These results indicate that water in the well has not been impacted by oil field operations including wastewater treatment operations.

**RESPONSE:** The site-specific groundwater flow direction may be different than the regional groundwater flow direction, so the assumption that E&B's water supply well is downgradient from the ponds may not be valid. The hydrogeologic conditions beneath the site have not been characterized.

It is not clear how the water supply well was sampled but, if the water was sampled from the tank rather than from the well directly, the sample may not represent the actual character of the groundwater. The detection limits used for the volatile organic compound (VOC) analysis and the semi-volatile organic compound (SVOC) analysis are greater than the California Environmental Protection Agency's Maximum Contaminant Levels (MCLs) for certain constituents that would be detected by those analyses. For example, the MCL for benzene, a VOC, is one microgram per liter (ug/L). The detection limit for the VOC analyses was five ug/L. The MCL for benzo(a)pyrene, a SVOC, is 0.2 ug/L. The detection limit for the SVOC analyses was 10 ug/L. It is possible that the water sample obtained from E&B's well contained concentrations of benzene and benzo(a)pyrene greater than their respective MCLs that were not detected.

**COMMENT:** Groundwater occurs at a depth of approximately 500 feet. Based on data from the driller's log of E&B's well, there is a substantial amount of clay in the formation. The occurrence of clay layers beneath the ponds has likely limited the downward migration of water discharged at the site surface. The deep depth of the groundwater and the occurrence of clay layers between the bottom of the ponds and groundwater suggests that the potential for migration of waste constituents is extremely low.

**RESPONSE:** The groundwater occurrence in E&B's well may not be the first encountered groundwater beneath the lease. As mentioned in the above response, the hydrogeologic conditions have not been characterized. The driller's log does not mention the depth at which first groundwater was encountered, so groundwater that would be impacted by wastewater discharged to the ponds may be shallower than presumed.

The presence of clay in a soil column does not necessarily prevent migration of waste constituents. The physical properties, including hydraulic conductivity, and the lateral extent of the clay called out in the driller's log are unknown. There is no indication that the driller was qualified to make the determination that the soil that was being drilled through was, in fact, clay. However, even if it was clay and the clay had very low hydraulic conductivity, it wouldn't be zero. Waste constituents would still migrate, just not very quickly. The statement that the potential for migration of waste constituents is extremely low is a very broad, unsupported assumption.

**COMMENT:** The burden of the reports including the costs does not bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports.

**RESPONSE:** E&B has discharged a waste that may affect waters of the State. It is subject to a Cleanup and Abatement Order under California Water Code Section 13304. Cleanup and abatement orders are designed to protect, remediate, and even offer prospective relief ("threatens to cause or permit" and "threatens to create a condition of pollution or nuisance" ... "shall upon order of the regional board ...")(emphasis added). The Section 13267 investigation Order directed toward E&B is designed to evaluate the extent of contamination caused by oil field operations on the property since the late 1920s. E&B's Brief (pg. 3) describes former operations and operators, while not claiming that any contamination has occurred or that other parties should be named to the CAO. As the current owner, E&B is a properly named party to the CAO.

The Section 13267 investigation Order directed to E&B is limited in scope and does bear a relationship to the need for the report and the benefits to be obtained from the reports. The requested work requires E&B to determine the lateral and vertical extent of its discharges; this information is based on (a) the hydrogeology of the area and (b) E&B's discharges, neither of which are in the control of the Regional Water Board. The benefit to be obtained from the reports is to adequately respond to and ultimately address any human health threat caused by E&B's activities. The Order specifically states that the Regional Board is willing to give reasonable accommodations for responses and investigation activities. Finally, the Regional Board cannot specify manner and method of compliance. So for E&B to say that the only method of compliance is to install a number of costly monitoring wells is not a directive of the Regional Board to spend that amount.

As stated above, E&B has discharged a waste that may affect waters of the State. Section 13260 of the California Water Code requires the submission of a Report of Waste Discharge containing information required by the Regional

Board in enough detail to characterize the discharge and evaluate its potential threat to water quality. Regardless of whether the CAO is issued, the Section 13267 investigative order would require E&B to collect this information to prepare a Report of Waste Discharge for the waste discharge that has taken place.