

Via e-mail attachment

July 11, 2016

Dr. Karl Longley, Chair
Central Valley Regional Water Quality Control Board
11020 Sun Center Drive #200
Rancho Cordova, CA 95670

Re: Comment on Draft General Orders for Oil Field Discharges to Land

Dear Dr. Longley:

E&B Natural Resources is a small oil producer and employs nearly 270 people in California. Our comments reflect our strong desire to maintain the economic viability of the fields we produce and continued financial stability for our employees and their families.

We have a number of produced water ponds at the Antelope Hills oil field which are vital to our business. These ponds were permitted by the Central Valley Water Quality Control Board (Water Board) and have been in use since the 50's and 60's long before we acquired the operation. We are currently developing the new monitoring and reporting plans (MRPs) that were recently requested by the Water Board. If we could not use our ponds, we would cease production of 99 oil wells and about 350 barrels of oil per day. Additionally, any disruption to the operation would certainly impact our future plans to recycle the produced water through enhanced oil recovery injection wells in the oil field.

In regards to the draft orders for waste discharge requirements, our primary concerns were developed and are shared below based on the assumption that we may be required to comply with draft order three at some future date. We have also included an attachment with comments on specific sections of several draft documents.

As written, the cost of complying with proposed order three would have a major impact on our operations in Antelope Hills even though there is no groundwater beneath the impoundments or risk to waters of the State. Current monitoring requirements and the proposed orders require quarterly attempts to sample groundwater by a licensed professional even though a study completed six years ago showed no groundwater present. If we are required to conduct any additional investigation, this would also add consultant, drilling and sampling costs. Another major impact is the chemical analyses of produced water which we estimate to be \$50,000 per year or 40 cents per barrel of oil produced. This cost could be reduced by eliminating requirements for analyzing chemical constituents not generally found in heavy oil (e.g. highly volatile constituents such as volatile organic compounds (VOC's) are associated with refining

operations). Furthermore, there is an analytic requirement to test for radionuclides. These constituents could be present in an oil reservoir but do not generally emerge over the time periods of an oil field's life. Currently, the proposed order indicates a statistical study is required to request exemption or reduction in required analytics. As an alternative, this testing could be required once in a baseline study. If the constituents are not found, they could be exempted from testing. Other added costs:

- Additional operations time and expense to record rain gauges daily when it seldom rains on the west side of the San Joaquin Valley. Requiring automated rain gauges when other methods such as the weather service could suffice.
- Chemical tracking by lease and facility by quarter and reporting ending inventories of chemicals on site. Could this be simplified to allow for annual estimates of chemical use by type of chemical for a field?

Specific prohibitions in the draft regulations intended to disallow pond use for produced water from hydraulically fractured wells would inadvertently prohibit production from up to ten wells in our operation. We understand this issue arises from the interpretation of CCR, title 14, Section 1786 (a)(4). The resulting unintended consequence could result in the abandonment of up to 10 wells representing 10-15 barrels of oil production per day. Abandonment costs could be in the hundreds of thousands or greater than a million dollars. Many of these production wells were hydraulically fractured over ten years ago with the oil that was produced from the reservoir. Chemicals were not utilized. As already noted, there is no groundwater underneath the ponds. We recommend an exemption process for wells that have only been hydraulically fractured with the produced oil from the reservoir. Potentially shutting in these wells or trucking produced water could make these leases uneconomic. Beyond this exemption we believe that fluids in fractured wells would flow back to the well they were injected very quickly particularly once the pump truck is shut down. It is like a balloon once you stop the pumping the air or in this case any fluids are fairly quickly dispelled to the lower pressure of the wellbore as the well is produced again. A study is referenced that says produced water may contain well stimulation chemicals which may only be the case for a day or two when a producer pumps the fluids into tanks and proper disposes of the fluids. We ask for assistance and offer our help to change this requirement. If the proposed regulations go forward, it will shut in our hydraulically fractured wells for containing the same oil that we are producing.

Recent WDRs should be exempt from complying with these orders.

We understood from previous meetings that Dischargers with WDRs newer than 2000 may not need to comply with these orders although we have not been able to locate this language in the draft orders. We would like to recommend that Dischargers with permitted operations and recent renewal applications or Dischargers who have been sent updated monitoring plans be exempt at least until their application is approved or denied. We requested new WDR's in 2013 and very recently received new MRPs. Our application was submitted several years before these proposed orders but after 2000 and we request that new WDRs or our existing WDRs with the new MRPs be accepted for

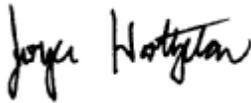
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our continued operation. At present, we will be seeking additional clarity regarding our specific situation.

Proposed order three also requires that operators (where groundwater exists) obtain an amendment to the basin plan. We respectfully would like to request the Water Board provide a guidance document for how a company would obtain an amendment.

Please consider our company's comments and include them in the record. If you have any questions, please contact me at (661) 679-1700.

Sincerely,



Joyce Holtzclaw
Senior Vice President, Western Division

cc: Pamela Creedon, PE, Executive Officer
Clay Rodgers, Assistant Executive Officer

Attachment

Specific Comments by Section Number

The following presents E&B's comments and recommended changes on each specific section of the draft regulations for the Water Board's consideration. Proposed language inserts are underlined and proposed deletions are shown with strike-through.

Waste Discharge Requirements General Order Three

Application Process No. 9. – The last sentence should have added: In these cases, the Executive Officer will notify the Discharger in writing of such a determination and will be exempt from this order.

Rationale: This adds clarity that the Discharger is exempt if this determination is made that the Discharger is better regulated by an alternative means.

Basin Plan and Beneficial Uses No 25. b. and d - ~~The water source does~~ Local, existing groundwater wells do not provide sufficient water to supply a single well capable of producing an average, sustained yield of 200 gallons per day, or

Rationale: It is unclear how this will be proven if wells do not exist. Will the operator be required to drill wells to prove this yield limit? This change allows for a producer to survey local land owners to determine if this threshold is met.

Basin Plan and Beneficial Uses No. 25. – Add item: f: Discharger has an updated WDR or a recent application for a WDR that has not been reviewed.

Rationale: This adds clarity that the Discharger is not required to follow this order if they have an updated WDR and an application is pending.

Basin Plan and Beneficial Uses No. 42. – Comment: Hydraulically fractured fluid designation should be a consideration in this prohibition. Some of our producing wells have been hydraulically fractured over 10 years ago with oil from the same reservoir and no chemicals were used.

B. Discharge Specifications No 9. – Comment: unclear definition of objectionable odor.

B. Discharge Specifications No 11. – Add language to last sentence: As a means of management and to discern compliance with this requirement, the Discharger shall install and maintain in each pond a permanent staff gauge or equivalent with calibration marks that clearly show the water level...

Rationale: There are other methods to meet this measurement requirement.

B. Discharge Specifications No 19. Comment: There could be a variance process from this requirement if a Discharger has shown there have historically been no overflows of the pond.

Rationale: Requesting that ponds meet a different standard than when they were put in place could require extensive investments. If it could be shown that overall the production has declined over the past decades, and the ponds have not overflowed, then they could receive a grandfathering exemption to this requirement.

B. Discharge Specifications No 19. Change 5% to 10%: Specifically, if the estimated volume of solids in any units exceeds five ten percent of the permitted capacity, the Discharger shall complete solids cleanout within 12 months...

Rationale: Solid deposition can assist in creating an evaporative pond rather than a percolating pond.

D. Solids Disposal Specifications No 5. Comment: Roads built with an oil base are less likely to erode with rain and create less dust than driving on a dirt road. Without the use of base we are often unable to drive to many wells to monitor them. Without a base, employees can slide off roads as the uncovered ground turns to slippery mud.

E. Provisions No. 6f Comment: The term demonstration is ambiguous.

E. Provisions No. 6. Bottom paragraph change: The management plan must be submitted to the Executive Officer at least ~~90~~ 45 days prior to the anticipated discharge.

Rationale: A 90 day period is unlikely to be workable in many operation circumstances. The outcome of this time delay could result in more freshwater use to continue dependable operations.

E. Provisions No 7. Comment: same as above except 180 days is a long window to plan and maintain operation continuity.

E. Provisions No 9. Comment: This paragraph should not apply to reductions in volume or size of ponds.

Monitoring and Reporting Program – General Order Three

Facility Monitoring third paragraph – Comment: measuring run off for one hour appears to be subjective and not currently measured in our facility during storm events. We recommend utilizing an established definition of a major storm event or establishing a rain event as a certain amount rain fall per hour.

Groundwater Monitoring First paragraph add language – If the Discharger demonstrates that the wastes discharged to the ponds cannot affect the quality of the underlying groundwater or there is no groundwater present beneath the impoundments, the Executive Officer may rescind by signed letter...