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From: Bolin, David <DBolin@ocwd.com>
Sent: Tuesday, December 06, 2016 3:58 PM
To: WB-USTClosuresComments
Subject: COMMENT LETTER - Chevron #9-1202, Proposed UST Case Closure

In response to the State Water Resources Control Board's Notice of Opportunity for Public Comment dated October 27, 2016, I offer the following comments in opposition to the proposed UST case closure for OCHCA case number 94UT039, also identified as Chevron Station #9-1202, located at 9491 Edinger Avenue in Westminster, California.

TBA is a toxic chemical that poses an unacceptable risk to human health and the environment at elevated concentrations.

The California Office of Environmental Health Hazard Assessment (OEHHA) has established a regulatory level of 12 ug/L as a working safe limit for TBA in groundwater. TBA has been detected at up to 27,000 ug/L, well over 1,000 times the safe limit for TBA in groundwater (well MW-02, 11/15/2002). Concentrations beneath the site have persisted at more than 100 times the safe limit for more than 14 years, the latest detection being 3,000 ug/L (MW-02, 8/5/2016). The volatility (40 to 42 mm Hg), miscibility, toxicity (LD50 = 3,500 mg/kg), and relative mobility of TBA form the basis for such a low safe limit in groundwater and necessary protection against exposure to TBA concentrations that persist at the site.

High concentrations of TBA that persist at the downgradient margin of the site and extend off site have not been delineated laterally or vertically.

A total of four wells have been constructed on the site to investigate groundwater contamination caused by gasoline releases from the on-site gasoline fueling system (leaking USTs, piping, pumps, etc.). The well depths range depth from 19 to 23.1 feet below ground surface (bgs). The elevated TBA concentrations have been detected in one of the site monitoring wells, MW-02 located on the downgradient southeast margin of the site. It is reasonable to infer from the reported data that elevated TBA concentrations extend downgradient from the site margin well in the lateral direction and possibly in the vertical direction.

One well (MW-05) has been installed off site, further south-southeast, approximately 150 feet from well MW-02. The well depth for MW-05 is 25 feet bgs. Groundwater flow beneath the site flows in a southerly direction based on site groundwater elevation data and OCWD's knowledge and understanding of groundwater flow in the Orange County Basin. However, it is not certain that well MW-05 is in a location that provides representative analytical data to show that groundwater petroleum contamination from the Chevron site has not and is not continuing to escape the site.

There is a pervasive downward gradient throughout the Orange County Basin, including in the area of the Chevron site. While there are localized areas where downward and even lateral groundwater flow is inconsistent and erratic, in part owing to seasonal flow, nested and clustered well sets routinely show a downward flow gradient. There is no report of any investigation of the Chevron site, either on site or off site, that is deeper than the zone in which the five wells are screened. Therefore, the question of whether elevated TBA has migrated deeper than 20 to 25 feet bgs remains unaddressed.

Therefore, based on the reported data and the absence of lateral and vertical delineation of the elevation TBA contamination, the TBA groundwater plume is deemed undelineated and poses the threat of continued migration from the site.

Large System Production Well FV-9 is approximately 3,400 feet south of the Chevron site and is at risk from groundwater contamination that has escaped the site.

Drinking water production well FV-9 was drilled in 2009 to about 1,114 feet bgs. FV-9 is a 20-in diameter well that produces water at 4,000 gpm from a perforated zone between 415 and 1070 feet bgs. Groundwater contamination that

has escaped the Chevron site and migrated downward and downgradient to within the FV-9 capture zone will likely contaminate the well. Although other groundwater contaminants have been detected in well FV-9 (namely 1,4-dioxane), TBA has not been detected as yet. Notwithstanding, TBA from the Chevron site remains a threat to well FV-9 until the TBA plume is delineated and it can be shown that Chevron TBA contamination will not impact well FV-9.

Lateral and vertical delineation of the Chevron TBA groundwater plume will address the potential of TBA contamination in well FV-9.

Existing analytical data shows that groundwater contaminants can and have entered the well (see 1,4-dioxane mentioned above). Additional investigation and delineation of the Chevron TBA contamination is necessary to show that TBA will not likely impact the nearest drinking water production well, FV-9. Installing and testing one or more complimentary, deeper cluster wells adjacent to existing shallow wells is needed to determine the vertical gradient beneath the site and off site. Lateral testing within 100 feet south and southeast of MW-02 is needed to determine whether the existing TBA plume has migrated laterally downgradient of the site in the direction of production well FV-9.

Please contact me if you have any questions. Thank you for your consideration.

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