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CFROG Statement Regarding Gas USGS Found in Oxnard Water Wells

CFROG was one of the first to break the news that the USGS Regional Monitoring Program held a public meeting on February 25, 2019, to release preliminary findings of a study of groundwater deriving from California Senate Bill 4 which passed in 2014. The purpose of the investigation, as required by that law, is to study the quality of groundwater near oil and gas production facilities in California. This law was passed in response to public outcry about potential dangers to underground water supplies from well stimulation activities.

The first such study in Ventura County was conducted in water wells in the Oxnard Plain due to the large volume of oil production activity. Ms. Rosencrans, the lead analyst for the study explained, "Historically, up to 2017, 10 million barrels of oil have been produced there. The Oxnard field is a high priority for the study based on the vertical proximity of aquifers and hydrocarbon reserves, as well as the high volume of injection for water disposal."

In other words, the aquifers in Oxnard are very close in depth to where oil, in the form of tar sands, occurs and oil production activity is taking place.

To date, three water wells in the Oxnard agricultural land have been found to contain thermogenic gas. Two of those three groundwater wells contain the highest signals of thermogenic gases, originating with oil at depths greater than 3000 meters. Ms. Rosecrans defined thermogenic gases this way: "Thermogenic gases come from oil. Thermogenic gases include methane, propane, butane and pentane."

According to Ms. Rosecrans, "The three wells with the strongest signals lie above the cyclic steam activity and they are associated with that and not with the deep injection wells with high volumes at the deeper depths."

As to the sources of the gases, Ms. Rosecrans explained, "We hypothesize that the source of these geogenic gases are coming from wells or well bores migrating up in areas of high density oil and gas or that it's just thermogenic gases that are migrating up from the Vaca Tar Sand."

Finally, her report concluded that "further sampling of groundwater wells and oil well casing gas within the area of high-density oil development in the Vaca Tar sands is needed to determine sources or pathways of thermogenic gases."

The concentrations of methane found in the two Oxnard water wells were between 0.25 and 9.1 mg/L, just below the range where removal and concern regarding proximity to possible ignition sources is indicated.

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