

LINDBERG GEOLOGIC CONSULTING

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July 15, 2023

0455.00

Mr. Steven Luu, PE
SL Consulting Services, Inc
973 Dowler Drive
Eureka, CA 95501

Subject: Hydrologic Isolation of Existing Well from Surface Waters
Big River Farm, 9320 Wilder Ridge Road, Ettersburg, California
APN: 108-023-008, WCR2018-009856



Dear Mr. Luu:

In June of 2022, Lindberg Geologic Consulting (LGC) prepared a hydrologic well connectivity assessment of a well located on the above-noted parcel. A site visit to observe the well and obtain the latitude and longitude coordinates (by GPS) was performed on June 3, 2023. When we arrived on-site, we were directed to an existing well and informed that it was the subject well. We photographed the well and collected the GPS coordinates and subsequently prepared our report based on the drillers report provided by the client's representative at the time. Photographs are available on request; coordinates of the well we observed were determined to be 40.15051° N and 124.05488° W ($\pm 9'$).

Recently, it has been determined that we had been directed to, and prepared our report, based on the location of the wrong well. According to the owner's current consultant, the actual location of the subject well is 40.1515941° N and 124.0573061° W, (S. Luu, pers. comm., 7/13/2023). In the driller's report of well completion, the geographic coordinates were reported to be 40.1511° N and 124.0579° W. The actual location of the subject well (WCR2018-009856) is approximately 785 feet west-northwest of the well site location described in our report, and 240 feet northeast of the well site location as reported in the driller's report of well completion.

At the actual location of the subject well, the elevation, soil type, and underlying geologic formation are essentially identical. There is only one well (WCR2017-003775) in the DWR database within 1,000 feet of the subject well. Well WCR2017-003775 is approximately 500 feet northwest of the subject well on parcel 108-023-011 (9225 Wilder Ridge Road). As reported, well WCR2017-003775 is a domestic well 210 feet in depth, with static water at 115 feet and an estimated yield of 10 gallons per minute. Well WCR2017-003775 was drilled in a different soil type and a different geologic formation (co2 vs co4). The subject well elevation at the correct location is approximately 1,940 feet above sea level; well WCR2017-003775 is located at 1,770 feet above sea level.

The subject well is therefore 170 feet higher than, and 500 feet distant from, the nearest well. Driller's descriptions of the lithostratigraphy encountered suggest the wells encountered different geologic materials. Depth to first water is also dissimilar in the two wells; correcting for their

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elevation differences, first water was encountered approximately 42 feet lower in well WCR2017-003775. The difference in the logged borehole geology of the two wells suggests that they were completed in different rock units: blue gray shale in the subject well, versus blue sandstone with quartz in well WCR2017-003775 (according to the drillers).

The distance between the two wells, the differences in soils and rock types, the difference in the depth to water (corrected for elevation), the elevation differences between the well heads, and the different rock types in which the wells are completed, suggest that it is unlikely that the subject well is in a position to have a significant impact on the production capacity of the domestic well on parcel 108-023-011, at 9225 Wilder Ridge Road. Thus the conclusions in our June 2022 report, which used the location of the (apparently) unpermitted well on the subject parcel remain valid. We find a low likelihood of well WCR2018-009856 on the subject property having any significant connection to surface waters (streams, springs, lakes, or ponds, etc.) within 1,000 feet.

Please contact our office if you have any questions or concerns.

Sincerely,



David N. Lindberg, CEG 1895
Lindberg Geologic Consulting



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