

Ground Water Consultants, LLC

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April 24, 2019

Mr. Alan Day
General Manager
Brazos Valley Groundwater Conservation District
P.O. Box 528
Hearne, Texas 77859
aday@brazosvalleygcd.org

Re: Review of Aquifer Impact Assessment for Circle X Ranch Permit For a Total of 9,678 ac-ft/yr from the Simsboro Aquifer Using the Updated GAM for the Central Portion of the Sparta, Queen City, and Carrizo-Wilcox Aquifers

Dear Mr. Day:

Our firm has performed groundwater model simulations using the updated GAM, released in about November 2018, to evaluate whether the proposed change in the location of one of the three wells covered by the above referenced permit would result in any significant difference in the artesian head decline resulting from pumping the wells.

The permit application for the three wells is for an overall withdrawal amount of 9,678 ac-ft/yr, which is equivalent to an average pumping rate of 6,000 gallons per minute (gpm) continuously for one year. The proposed locations for the wells as given in the original permit application are shown on Figures 1 and 2 and the proposed amended location of Well 2 along with the locations of Wells 1 and 3 are shown on Figures 3 and 4.

The updated GAM was used to estimate the artesian head declines or drawdowns with the pumping occurring at the original locations of the wells and with the pumping located at the amended location of Well 2 and the original locations of Wells 1 and 3. The pumping amount from each well was the same or about 3,226 ac-ft/yr per well. The simulations were performed for one and ten years of continuous pumping.

Results of Simulations

The results of the simulations show that the change in location of Well 2 has only a very small effect on the artesian head decline or drawdown that occurs with either one or ten years of

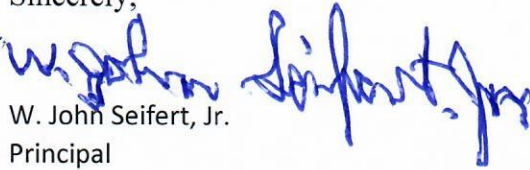
pumping and that the small differences in pumping effects occur in close proximity to the three wells. This is shown by comparing the artesian head decline or drawdown contours on Figure 1 with those on Figure 3 and declines on Figure 2 with those on Figure 4. As shown on Figures 3 and 4 the revised location of Well 2 results in a small decrease in the artesian head decline or drawdown, ten feet or less, in the affected area near the wells.

The artesian head decline contours at distance from the wells are almost identical with either configuration of the locations of the three wells.

In summary, the proposed new location of Well 2 has no significant effect on the overall artesian head declines or drawdowns caused by pumping the three wells.

If you have questions concerning our GAM simulations or need other information that we can provide, please do not hesitate to contact us.

Sincerely,

A handwritten signature in blue ink, appearing to read "W. John Seifert, Jr.", written in a cursive style.

W. John Seifert, Jr.
Principal

Enclosures