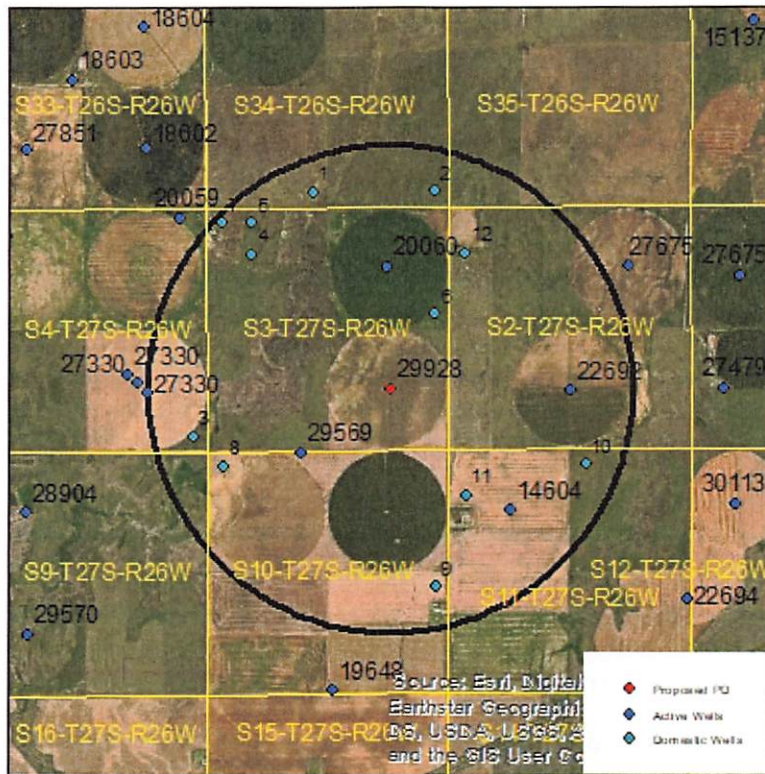


Evaluation of proposed move for Water Right No 29569

Proposed: Move water right no. 29569 to the well currently authorized under water right no. 29928.



Wells within 1 mile: 20060, 22692, 14604, and 12 domestic wells, numbered on the above map.

The saturated thickness at the proposed well location is estimated to be 38 ft, based upon a weighted average between observation wells in sections 4-27-26 and 36-26-26 and drillers' logs near the proposed location. For saturated thicknesses less than 50 ft, the maximum allowable 50 year Theis drawdown to neighboring critical wells is 1.0 ft.

50 year Theis Analysis: The following values were used to run the analysis:

$$S = 0.279, T = 2442 \text{ ft}^2/\text{day},$$

29569: This well has not operated since 2010, when it pumped just 5 AF. This well was considered to not be currently in use and will not be used under the proposal.

$$29928: t_{p_{\text{current}}} = 71 \text{ days}, Q_{\text{current}} = 679 \text{ gpm}, t_{p_{\text{proposed}}} = 82 \text{ days}, Q_{\text{proposed}} = 1300 \text{ gpm}$$

Theis drawdowns were calculated as follows:

$$\begin{aligned} 20060: \quad & \text{Drawdown from current location} = 3.42 \text{ ft} \\ & \text{Drawdown from proposed location} = 7.56 \text{ ft} \\ & \text{Net drawdown} = 4.1 \text{ ft} \end{aligned}$$

22692: Drawdown from current location = 2.65 ft
Drawdown from proposed location = 5.86 ft
Net drawdown = **3.2 ft**

14604: Drawdown from current location = 2.75 ft
Drawdown from proposed location = 6.08 ft
Net drawdown = **3.3 ft**

Domestic 1: Drawdown from current location = 2.40 ft
Drawdown from proposed location = 5.32 ft
Net drawdown = **2.9 ft**

Domestic 2: Drawdown from current location = 2.48 ft
Drawdown from proposed location = 5.48 ft
Net drawdown = **3.0 ft**

Domestic 3: Drawdown from current location = 2.46 ft
Drawdown from proposed location = 5.43 ft
Net drawdown = **3.0 ft**

Domestic 4: Drawdown from current location = 2.55 ft
Drawdown from proposed location = 5.65 ft
Net drawdown = **3.1 ft**

Domestic 5: Drawdown from current location = 2.37 ft
Drawdown from proposed location = 5.24 ft
Net drawdown = **2.9 ft**

Domestic 6: Drawdown from current location = 4.18 ft
Drawdown from proposed location = 9.25 ft
Net drawdown = **5.1 ft**

Domestic 7: Drawdown from current location = 2.22 ft
Drawdown from proposed location = 4.90 ft
Net drawdown = **2.7 ft**

Domestic 8: Drawdown from current location = 2.62 ft
Drawdown from proposed location = 5.80 ft
Net drawdown = **3.2 ft**

Domestic 9: Drawdown from current location = 2.46 ft
Drawdown from proposed location = 5.44 ft
Net drawdown = **3.0 ft**

Domestic 10: Drawdown from current location = 2.40 ft
Drawdown from proposed location = 5.31 ft
Net drawdown = **2.9 ft**

Domestic 11: Drawdown from current location = 3.24 ft
Drawdown from proposed location = 7.17 ft
Net drawdown = **3.9 ft**

Domestic 12: Drawdown from current location = 2.93 ft
Drawdown from proposed location = 6.46 ft
Net drawdown = **3.5 ft**

Net drawdown exceeds the drawdown allowance on all neighboring wells. Saturated thickness in the area is only 38 ft and the GMD3 model predicts another 12 ft of decline over the next 25 years. This makes all neighboring wells critical.

Conclusion:

Given the current saturated thickness, this proposed change is likely to create noticeable effects on all neighboring critical wells. If rate and quantity are limited to 400 gpm and 265 AF, 50 year These effects are reduced so that no effect on neighboring wells exceeds 1.0 ft. GMD3 staff recommends limiting the applicant to a rate of 400 gpm and a quantity of 265 AF to limit impairment of neighboring wells.