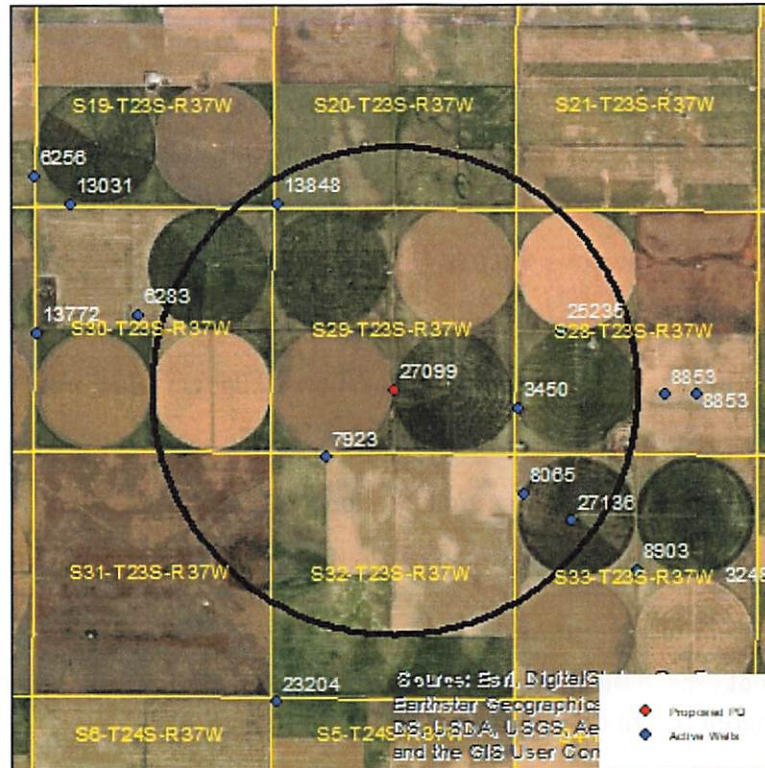


Evaluation of proposed new water right no. 50569

Proposed: Create a new water right no. 50569 and stack it onto the existing well authorized under water right no. 27099. Water right no. 50569 would provide an additional rate of 47 gpm. It will be limited to provide no additional quantity. Authorized rate at the well location will increase from 315 gpm to 362 gpm. Authorized quantity will remain at 240 AF.



Wells within 1 mile: 13848, 25235, 3450, 7923, 8065, and 27136.

The saturated thickness at the proposed well location is estimated to be 38 ft, based upon the GMD3 model. For saturated thickness less than 50 ft, the drawdown allowance is 1.0 ft.

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

$S = 0.2479$, $T = 7988.2 \text{ ft}^2/\text{day}$, $tp_{\text{current}} = 111 \text{ days}$ (based upon average use and authorized rate),
 $Q_{\text{current}} = 315 \text{ gpm}$, $tp_{\text{proposed}} = 97 \text{ days}$, $Q_{\text{proposed}} = 362 \text{ gpm}$

Theis drawdowns were calculated as follows:

13848: Drawdown from current location = 0.78 ft
 Drawdown from proposed location = 0.79 ft
 Net drawdown = 0.0 ft

25235: Drawdown from current location = 0.89 ft
Drawdown from proposed location = 0.89 ft
Net drawdown = **0.0 ft**

3450: Drawdown from current location = 1.11 ft
Drawdown from proposed location = 1.12 ft
Net drawdown = **0.0 ft**

7923: Drawdown from current location = 1.33 ft
Drawdown from proposed location = 1.36 ft
Net drawdown = **0.0 ft**

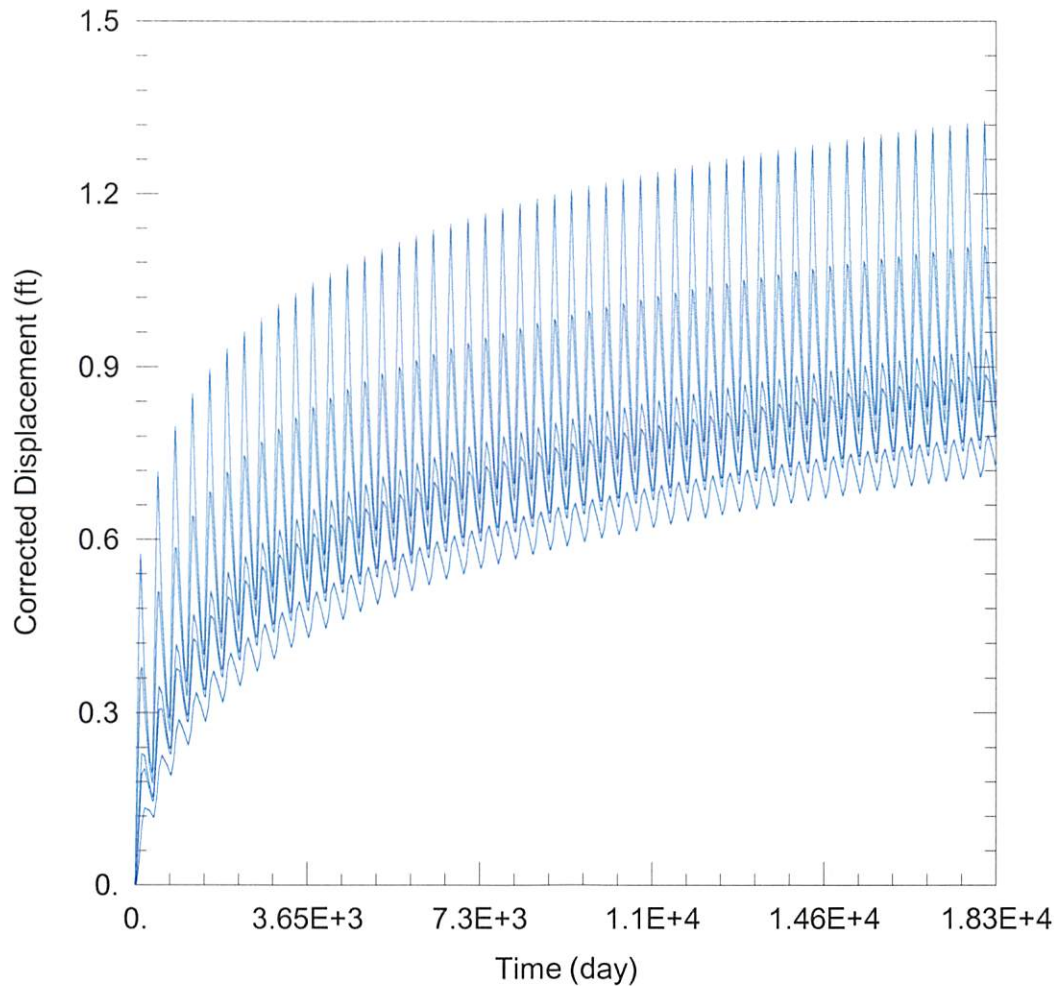
8065: Drawdown from current location = 0.93 ft
Drawdown from proposed location = 0.94 ft
Net drawdown = **0.0 ft**

27136: Drawdown from current location = 0.78 ft
Drawdown from proposed location = 0.79 ft
Net drawdown = **0.0 ft**

Net drawdown does not exceed the drawdown allowance of 1.0 ft for any well within 1 mile of the proposed location. Therefore, critical well analysis is not necessary.

Conclusion:

The proposed new authority is located within an area with a depleted water table. However, analysis shows effects of running the well at an additional 30 gpm to be negligible. GMD3 staff recommends waiver of rules and approval of the application.



WELL TEST ANALYSIS

Data Set: C:\Users\trevora\Documents\2021_Moves\50569\50569 Current.aqt

Date: 06/28/21

Time: 10:32:47

PROJECT INFORMATION

Company: GMD 3

Project: 50569

Location: Kearny County

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
27099	-174306	417765

Observation Wells

Well Name	X (ft)	Y (ft)
□	-174306	417765
□ <u>13848</u>	-176844	421802
□ <u>25235</u>	-170668	419060
□ <u>3450</u>	-171629	417369
□ <u>7923</u>	-175814	416311
□ <u>8065</u>	-171497	415522
□ <u>27136</u>	-170464	414929

SOLUTION

Aquifer Model: Unconfined

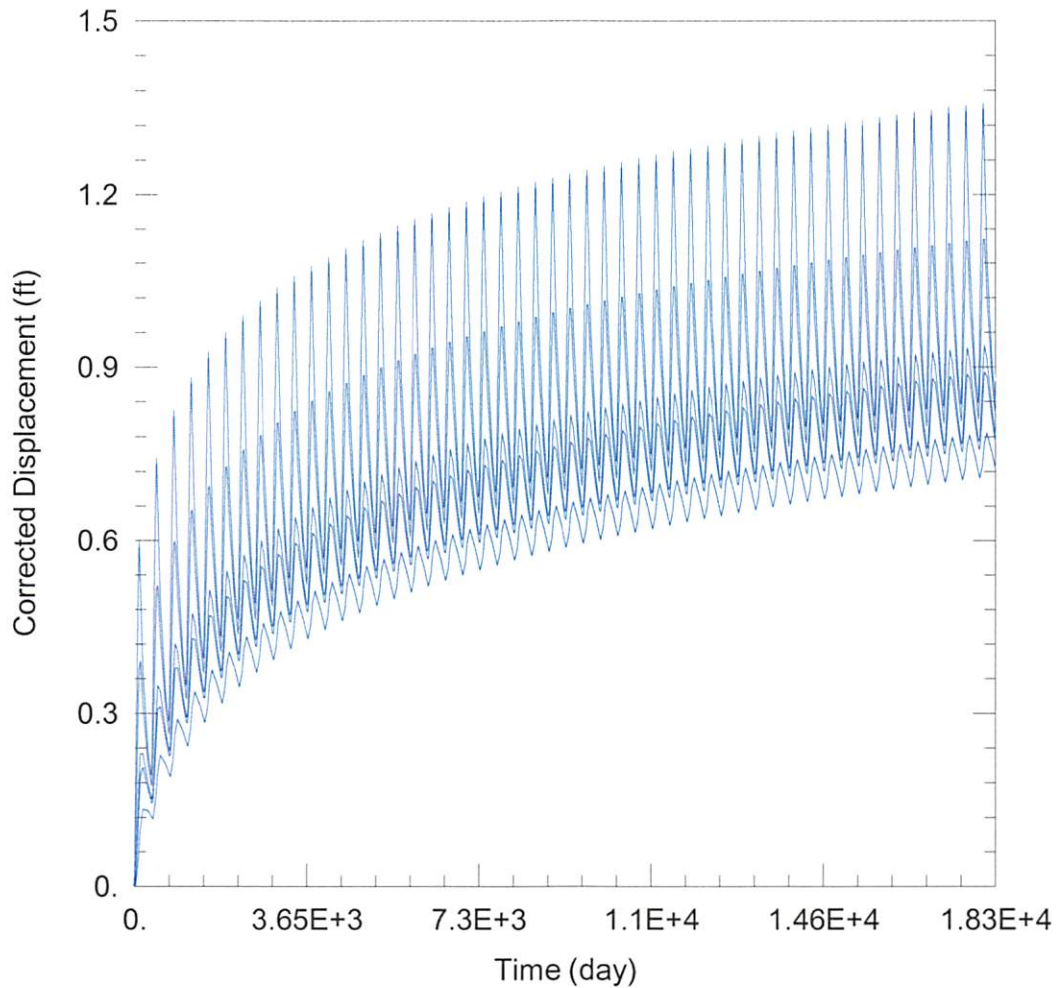
Solution Method: Theis

T = 7988.2 ft²/day

S = 0.2479

Kz/Kr = 1.

b = 38. ft



WELL TEST ANALYSIS

Data Set: C:\Users\trevora\Documents\2021_Moves\50569\50569 Proposed.aqt

Date: 06/28/21

Time: 10:32:41

PROJECT INFORMATION

Company: GMD 3

Project: 50569

Location: Kearny County

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
27099	-174306	417765

Observation Wells

Well Name	X (ft)	Y (ft)
□	-174306	417765
□ <u>13848</u>	-176844	421802
□ <u>25235</u>	-170668	419060
□ <u>3450</u>	-171629	417369
□ <u>7923</u>	-175814	416311
□ <u>8065</u>	-171497	415522
□ <u>27136</u>	-170464	414929

SOLUTION

Aquifer Model: Unconfined

Solution Method: Theis

T = 7988.2 ft²/day

S = 0.2479

Kz/Kr = 1.

b = 38. ft