



Domestic 23-28-29: Drawdown from current location = 1.14 ft  
Drawdown from proposed location = 5.55 ft  
Net drawdown = 4.4 ft

Domestic 25-28-29: Drawdown from current location = 1.06 ft  
Drawdown from proposed location = 4.61 ft  
Net drawdown = 3.5 ft

The net drawdown exceeds the drawdown allowance for all wells within 1 mile of the proposed well location. Critical well analysis was performed for those wells.

**Critical Well Evaluation:**

**7657:**

Water Column = 62 ft

DP = 4.3 ft (Net drawdown from the proposal indicated above)

DE = 12 ft (Water level decline from 2024 through 2049 based upon GMD3 model)

DD = 3.0 ft (S = 0.2601, T = 3462 ft<sup>2</sup>/day, Q = 91 gpm, tp = 219 days, efficiency = 70%)

DT = 19.3 ft

Economic Drawdown Constraint (EDC) = 0.4 \* 62 ft = 24.8 ft

Physical Drawdown Constraint (PDC) = 62 ft – 60 ft = 2.0 ft

Total drawdown of 19.3 ft is greater than the PDC, so this well is critical.

**10007:**

Water Column = 32 ft

DP = 3.5ft (Net drawdown from the proposal indicated above)

DE = 2.3 ft (Water level decline from 2024 through 2049 based upon GMD3 model)

DD = 0 ft (No use in the last ten years)

DT = 5.8 ft

The water column is less than 60 ft so the well is critical.

**Domestic 23-28-29:**

Water Column = 51 ft

DP = 4.4 ft (Net drawdown from the proposal indicated above)

DE = 11.7 ft (Water level decline from 2024 through 2049 based upon GMD3 model)

DT = 16.1 ft

Economic Drawdown Constraint (EDC) =  $0.4 * 51 \text{ ft} = 20.4 \text{ ft}$

Physical Drawdown Constraint (PDC) =  $51 \text{ ft} - 20 \text{ ft} = 31.0 \text{ ft}$

Total drawdown of 16.1 ft is less than the EDC and the PDC, so this well is **not critical**.

**Domestic 25-28-29:**

Water Column = 34 ft

DP = 3.5 ft (Net drawdown from the proposal indicated above)

DE = 0 ft (Water level decline from 2024 through 2049 based upon GMD3 model)

DT = 3.5 ft

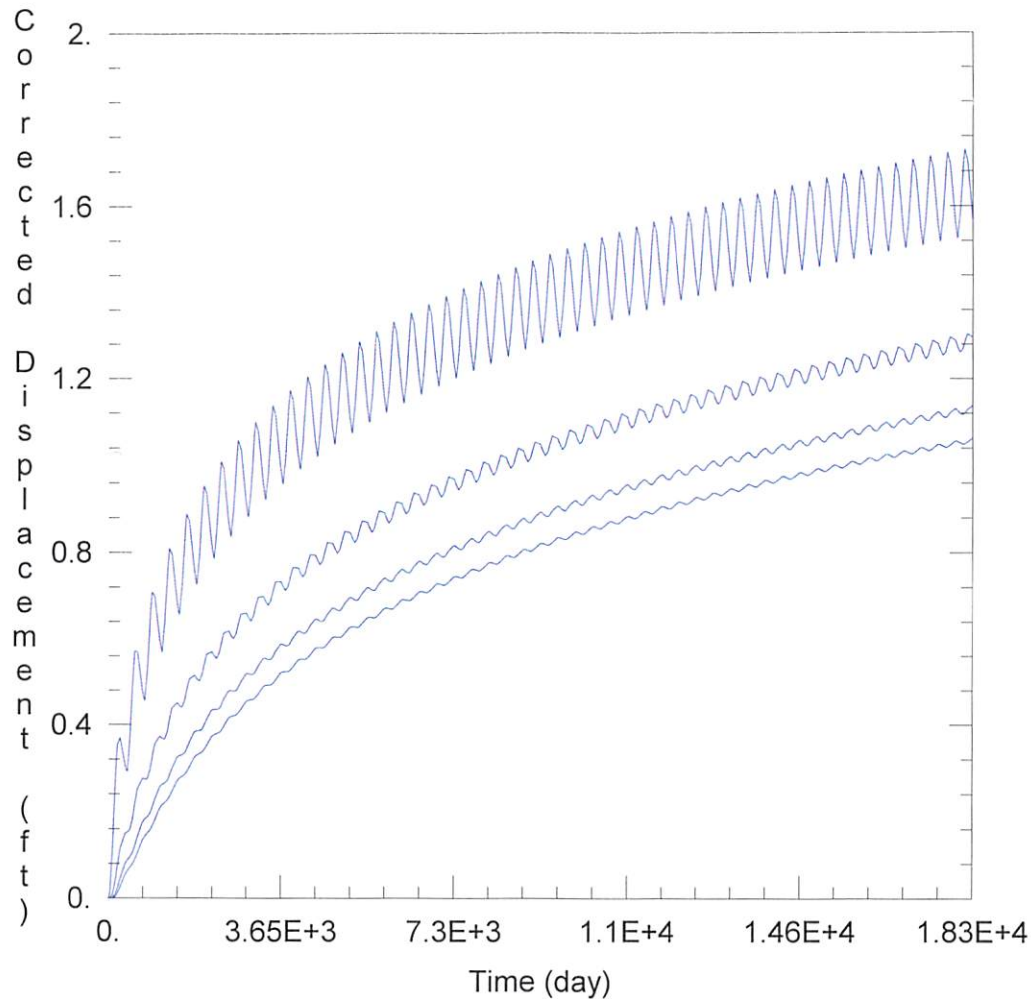
Economic Drawdown Constraint (EDC) =  $0.4 * 34 \text{ ft} = 13.6 \text{ ft}$

Physical Drawdown Constraint (PDC) =  $34 \text{ ft} - 20 \text{ ft} = 14.0 \text{ ft}$

Total drawdown of 3.5 ft is less than the EDC and the PDC, so this well is **not critical**.

**Conclusion:**

The proposed move is in a depleted aquifer area with about 50 ft of remaining saturated thickness. The analysis shows that net well-to-well effects created by this proposal are likely to be small but noticeable, due to the limited amount of remaining aquifer. The proposed well is being drilled much deeper than where the GMD3 model indicates the bottom of the aquifer to be. This greatly increases the amount of saturated thickness that is available but the shallowest 50 ft of aquifer is much more productive than what is deeper. Two nearby wells were flagged as critical due to low saturated thickness. Concerned neighbors should contact GMD3 at (620) 275-7147 or the Division of Water Resources at (620) 276-2901.



WELL TEST ANALYSIS

Data Set: C:\Users\scanstation\Documents\move requests\7609\7609 current.aqt

Date: 05/14/24

Time: 16:14:17

PROJECT INFORMATION

Project: 7609

Location: Gray County

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
7609	95699	258004

Observation Wells

Well Name	X (ft)	Y (ft)
□	95699	258004
□ 7657	92733	260921
□ 10007	93119	258286
□ Domestic 23-28-29	99672	261323
□ Domestic 25-28-29	100928	260332

SOLUTION

Aquifer Model: Unconfined

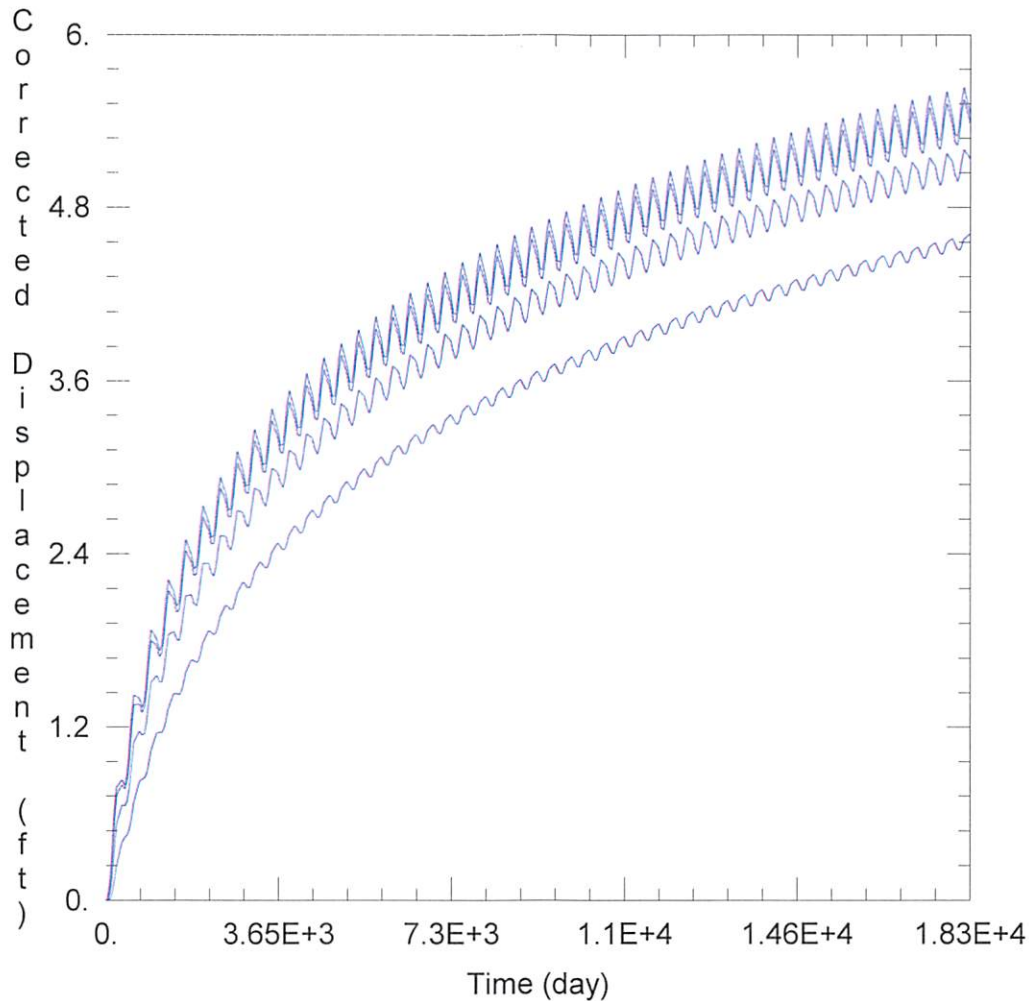
Solution Method: Theis

T = 3462. ft<sup>2</sup>/day

S = 0.2601

Kz/Kr = 1.

b = 50.7 ft



WELL TEST ANALYSIS

Data Set: C:\Users\scanstation\Documents\move requests\7609\7609 proposed.aqt

Date: 05/14/24

Time: 16:13:46

PROJECT INFORMATION

Project: 7609

Location: Gray County

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
7609	96181	260742

Observation Wells

Well Name	X (ft)	Y (ft)
□	96181	260742
□ <u>7657</u>	92733	260921
□ <u>10007</u>	93119	258286
□ <u>Domestic 23-28-29</u>	99672	261323
□ <u>Domestic 25-28-29</u>	100928	260332

SOLUTION

Aquifer Model: Unconfined

Solution Method: Theis

T = 3462. ft<sup>2</sup>/day

S = 0.2601

Kz/Kr = 1.

b = 50.7 ft