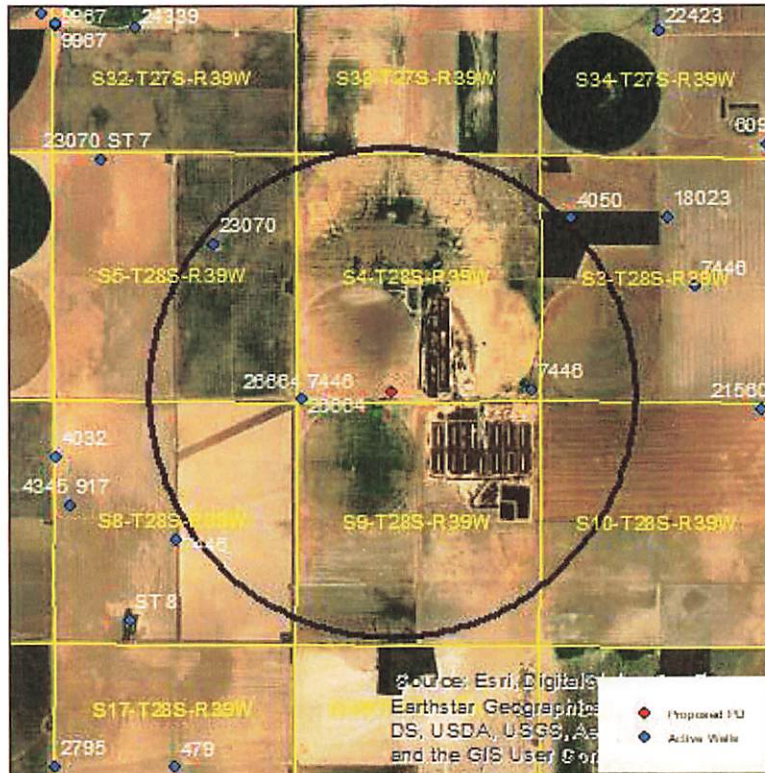


Evaluation of proposed move for Water Right No. 26664

Proposed: Move water right no. 26664 to a new well location, 1,939 ft to the northeast. Water right no. 7446 will be moved to the location currently authorized under 26664, about 150 ft to the east.



Wells within 1 mile: 23070 and 7446.

The saturated thickness at the proposed well location is estimated to be 70 ft, based upon the GMD3 model. For saturated thickness between than 50 ft and 75 ft, the drawdown allowance is 1.5 ft.

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

$S = 0.208$, $T = 1200 \text{ ft}^2/\text{day}$, $t_{p\text{proposed}} = 115 \text{ days}$, $Q_{\text{proposed}} = 770 \text{ gpm}$

Theis drawdowns were calculated as follows:

23070: Net drawdown = **7.1 ft**

7446: Net drawdown = **10.3 ft**

Net drawdown exceeds the drawdown allowance for all wells within 1 mile of the proposed location. Critical well analysis is necessary on those wells.

Critical Well Evaluation:

23070:

Water Column = 85 ft

DP = 7.1 ft (Net drawdown from the proposal indicated above)

DE = 18.0 ft (Water level decline from 2024 through 2049 based upon GMD3 model)

DD = 75.4 ft ($S = 0.1594$, $T = 615.3 \text{ ft}^2/\text{day}$, $Q = 153 \text{ gpm}$, $tp = 120 \text{ days}$, $\text{efficiency} = 70\%$)

DT = 100.5 ft

Total drawdown of is greater than the remaining saturated thickness, so this well is critical.

7446:

Water Column = 70 ft

DP = 10.3 ft (Net drawdown from the proposal indicated above)

DE = 17.2 ft (Water level decline from 2024 through 2049 based upon GMD3 model)

DD = 0 ft (No recent water use history at this well location)

DT = 27.5 ft

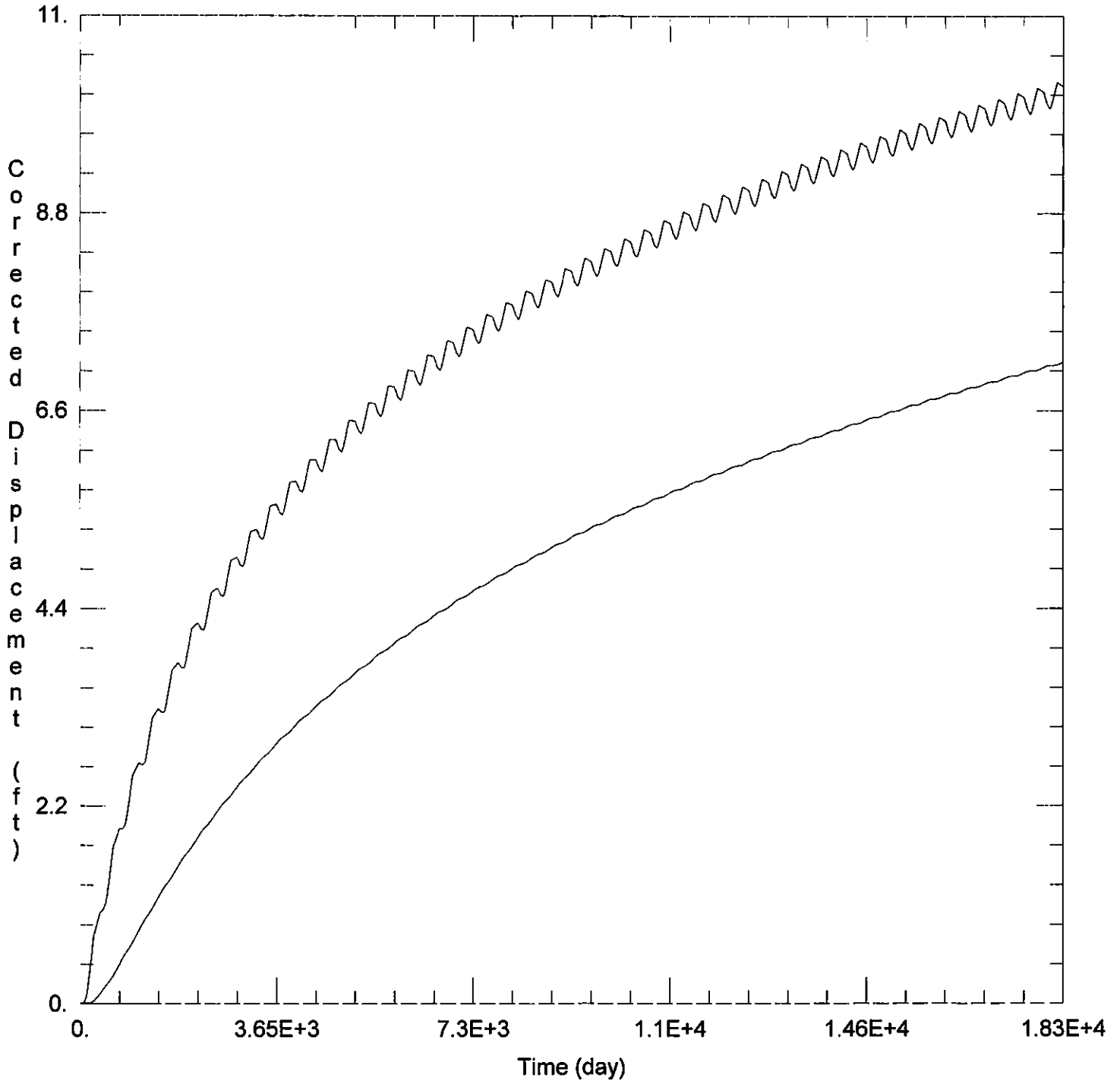
Economic Drawdown Constraint (EDC) = $0.4 * 70 \text{ ft} = 28.0 \text{ ft}$

Physical Drawdown Constraint (PDC) = $70 \text{ ft} - 60 \text{ ft} = 10.0 \text{ ft}$

Total drawdown of 27.5 ft exceeds the PDC, so this well is critical.

Conclusion:

The proposed move is in a depleted aquifer area with little saturated thickness remaining. The analysis shows that net well-to-well effects are likely to be noticeable, due to the limited amount of remaining aquifer. 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\trevora\Documents\2024_moves\26664\26664 proposed.aqt
 Date: 01/19/24 Time: 11:36:30

PROJECT INFORMATION

Company: GMD 3
 Project: 26664
 Location: Stanton County

WELL DATA

Pumping Wells

Observation Wells

Well Name	X (ft)	Y (ft)
26664	-229523	277871

Well Name	X (ft)	Y (ft)
□	-229523	277871
□ 23070	-223387	281080