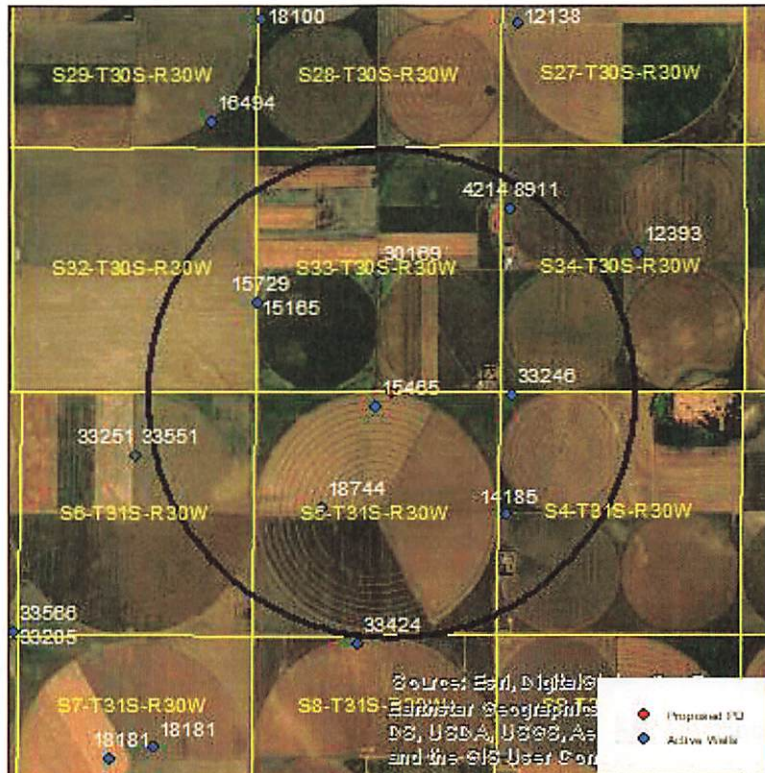


Evaluation of proposed move for Water Right No. 15465

Proposed: Move water right no. 15465 to a new well location, 454 ft to the northeast.



Wells within 1 mile: 15165 & 15729, 30169, 4214 & 8911, 18744, 14185, and 33246.

The saturated thickness at the proposed well location is estimated to be 172 ft, based upon the GMD3 model. For saturated thickness between than 150 ft and 200 ft, the drawdown allowance is 3.5 ft.

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

$S = 0.1798$, $T = 6291 \text{ ft}^2/\text{day}$, $t_{\text{current}} = 128 \text{ days}$, $Q_{\text{current}} = 531 \text{ gpm}$, $t_{\text{proposed}} = 79 \text{ days}$,
 $Q_{\text{proposed}} = 2150 \text{ gpm}$

Theis drawdowns were calculated as follows:

15165 & 15729:	Drawdown from current location = 2.42 ft
	Drawdown from proposed location = 6.02 ft
	Net drawdown = 3.6 ft
30169:	Drawdown from current location = 2.68 ft
	Drawdown from proposed location = 7.44 ft
	Net drawdown = 4.8 ft

4214 & 8911: Drawdown from current location = 1.87 ft
Drawdown from proposed location = 4.95 ft
Net drawdown = **3.1 ft**

18744: Drawdown from current location = 2.96 ft
Drawdown from proposed location = 6.94 ft
Net drawdown = **4.0 ft**

14185: Drawdown from current location = 2.30 ft
Drawdown from proposed location = 5.92 ft
Net drawdown = **3.6 ft**

33246: Drawdown from current location = 2.64 ft
Drawdown from proposed location = 7.45 ft
Net drawdown = **4.8 ft**

Net drawdown exceeds the drawdown allowance for the wells authorized under water right nos. 15165 & 15729, 30169, 18744, 14185, and 33246. Critical well analysis was performed for those wells.

Critical Well Evaluation:

15165 & 15729:

Water Column = 178 ft

DP = 3.6 ft (Net drawdown from the proposal indicated above)

DE = 55.4 ft (Water level decline from 2024 through 2049 based upon GMD3 model)

DD = 14.8 ft (S = 0.2807, T = 14,398 ft²/day, Q = 607 gpm, tp = 85 days, efficiency = 70%)

DT = 73.8 ft

Economic Drawdown Constraint (EDC) = 0.4 * 178 ft = 71.2 ft

Physical Drawdown Constraint (PDC) = 178 ft – 60 ft = 118.0 ft

Total drawdown of 73.8 ft is greater than the EDC, so this well is **critical**.

30169:

Water Column = 178 ft

DP = 4.8 ft (Net drawdown from the proposal indicated above)

DE = 55.4 ft (Water level decline from 2024 through 2049 based upon GMD3 model)

DD = 14.5 ft (S = 0.2807, T = 14,398 ft²/day, Q = 600 gpm, tp = 71 days, efficiency = 70%)

DT = 74.7 ft

Economic Drawdown Constraint (EDC) = 0.4 * 178 ft = 71.2 ft

Physical Drawdown Constraint (PDC) = 178 ft – 60 ft = 118.0 ft

Total drawdown of 74.7 ft exceeds the EDC, so this well is critical.

18744:

Water Column = 172 ft

DP = 4.0 ft (Net drawdown from the proposal indicated above)

DE = 54.6 ft (Water level decline from 2024 through 2049 based upon GMD3 model)

DD = 35.9 ft (S = 0.1798, T = 6291 ft²/day, Q = 372 gpm, tp = 125 days, efficiency = 70%)

DT = 79.4 ft

Economic Drawdown Constraint (EDC) = 0.4 * 172 ft = 68.8 ft

Physical Drawdown Constraint (PDC) = 172 ft – 60 ft = 112.0 ft

Total drawdown of 79.4 ft exceeds the EDC, so this well is critical.

14185:

Water Column = 176 ft

DP = 3.6 ft (Net drawdown from the proposal indicated above)

DE = 49.8 ft (Water level decline from 2024 through 2049 based upon GMD3 model)

DD = 35.9 ft (S = 0.177, T = 4292 ft²/day, Q = 452 gpm, tp = 106 days, efficiency = 70%)

DT = 89.3 ft

Economic Drawdown Constraint (EDC) = 0.4 * 176 ft = 70.4 ft

Physical Drawdown Constraint (PDC) = 176 ft – 60 ft = 116.0 ft

Total drawdown of 89.3 ft is greater than the EDC, so this well is critical.

33246:

Water Column = 176 ft

DP = 4.8 ft (Net drawdown from the proposal indicated above)

DE = 49.8 ft (Water level decline from 2024 through 2049 based upon GMD3 model)

DD = 33.7 ft (S = 0.177, T = 4292 ft²/day, Q = 421 gpm, tp = 120 days, efficiency = 70%)

DT = 88.3 ft

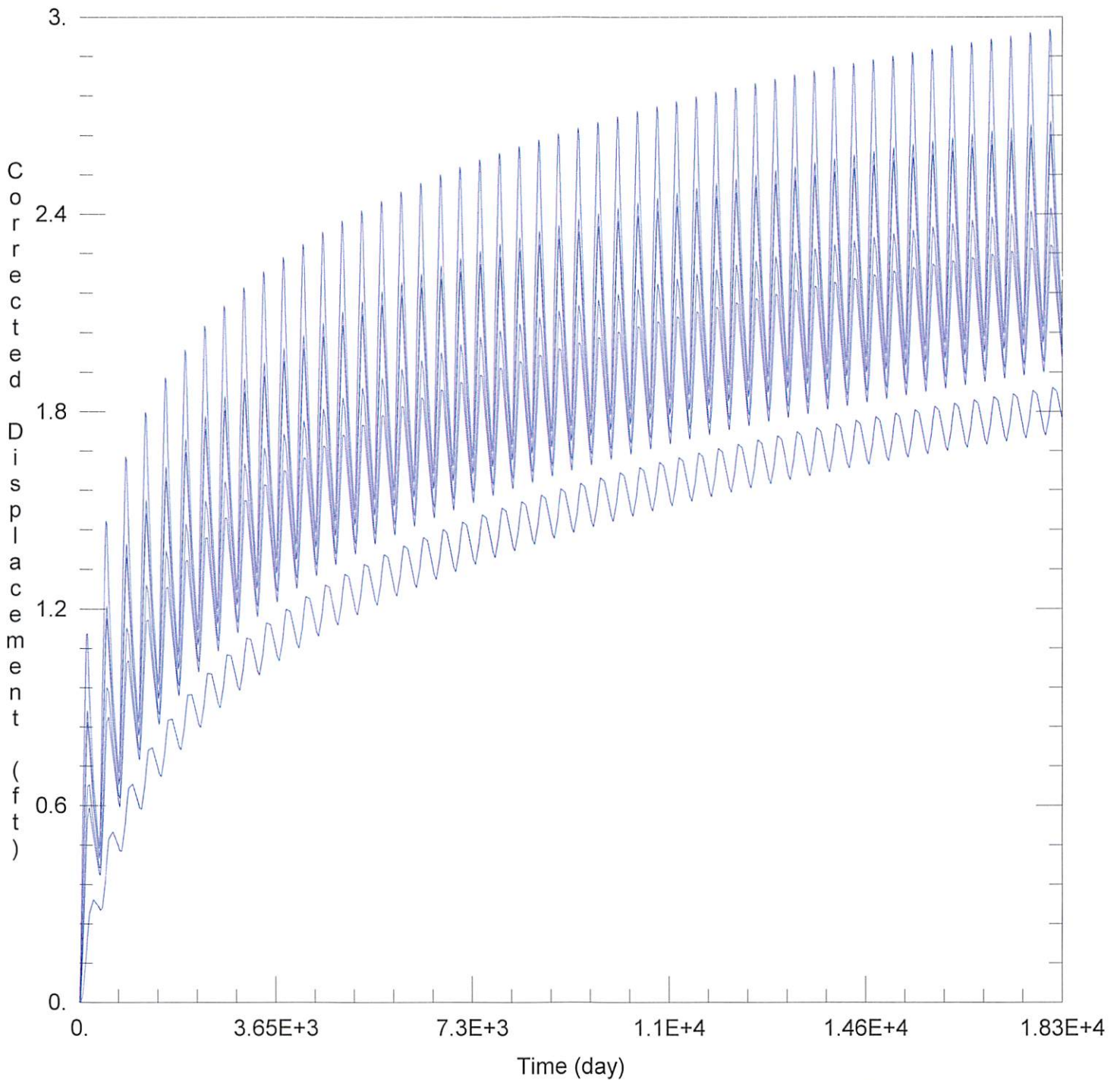
Economic Drawdown Constraint (EDC) = 0.4 * 176 ft = 70.4 ft

Physical Drawdown Constraint (PDC) = 176 ft – 60 ft = 116.0 ft

Total drawdown of 88.3 ft is greater than the EDC, so this well is **critical**.

Conclusion:

The proposed move is in an area with more than 170 ft of remaining saturated thickness, but projected aquifer declines exceed 2 ft/year. The analysis shows that net well-to-well effects created by this proposal are likely to be small but noticeable. Nearby wells were flagged as critical because projected aquifer declines over the next 25 years amount to more than 40% of the remaining saturated thickness after accounting for the well drawdown necessary to provide for current water use. 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\15465\15465 Current.aqt
 Date: 03/07/24 Time: 11:44:01

PROJECT INFORMATION

Company: GMD 3
 Project: 15465
 Location: Meade County

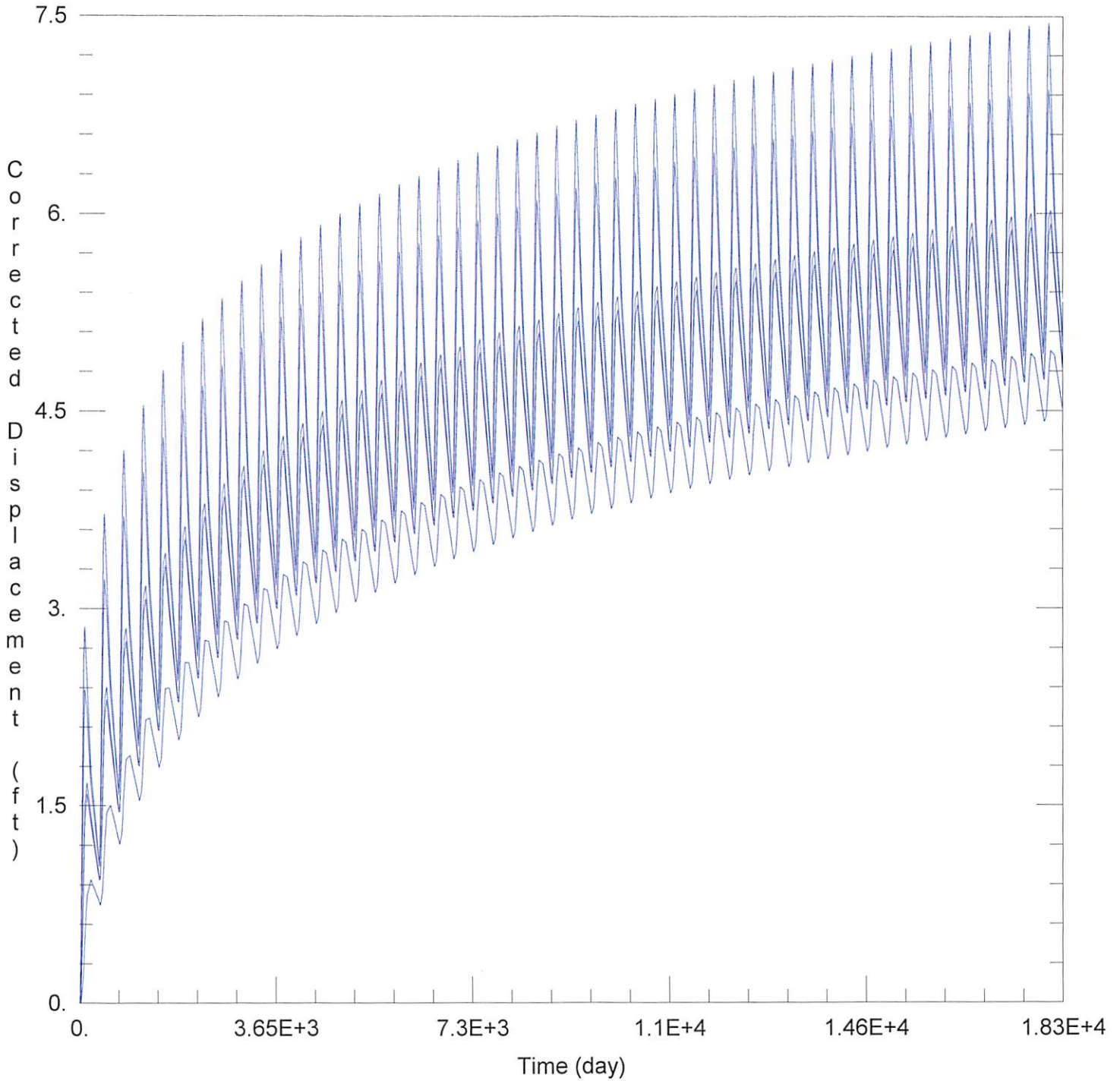
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
15465	55798	186341

Observation Wells

Well Name	X (ft)	Y (ft)
□	55798	186341
□ 15165 & 15720	53236	188503



WELL TEST ANALYSIS

Data Set: C:\Users\trevora\Documents\2024_moves\15465\15465 Proposed.aqt
 Date: 03/07/24 Time: 11:43:56

PROJECT INFORMATION

Company: GMD 3
 Project: 15465
 Location: Meade County

WELL DATA

Pumping Wells

Observation Wells

Well Name	X (ft)	Y (ft)
15465	56146	186633

Well Name	X (ft)	Y (ft)
□	56146	186633
□ 15165 & 15720	53236	188503