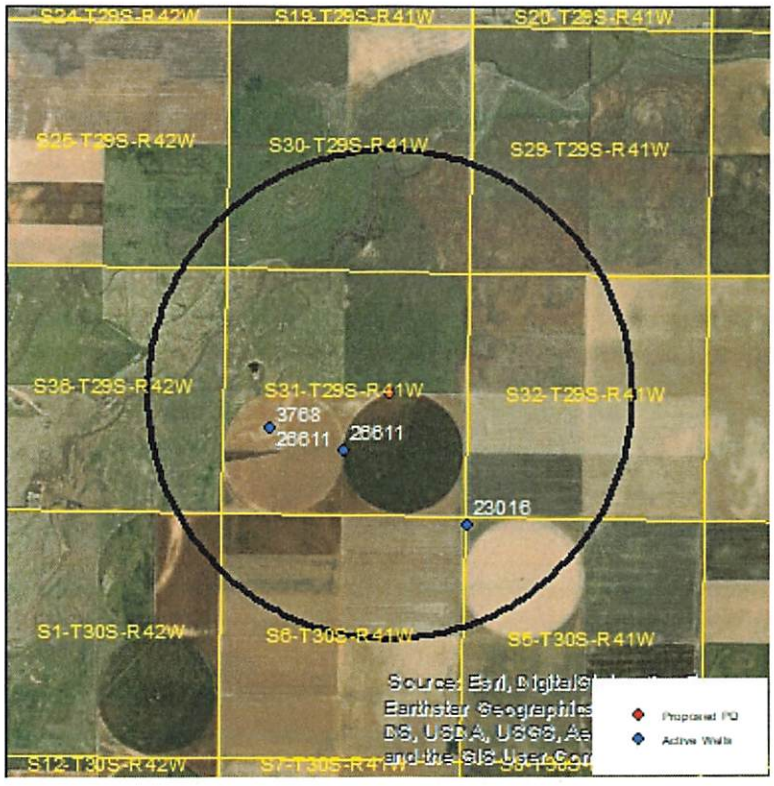
Evaluation of proposed move for Water Right No. 26611

Proposed: Move water right no. 26611 to a new well location, a distance of 1,582 ft to the northeast.



Wells within 1 mile: 3768 & 26611 and 23016.

The saturated thickness at the proposed well location is estimated to be 266 ft, driller's log. Note that there is no remaining aquifer within the Ogallala portion of the High Plains Aquifer. This well is in the Dakota formation. GMD3 does not have model data below the Ogallala Aquifer, so storativity and transmissivity values were estimated from the driller's log. For saturated thickness greater than 200 ft, the drawdown allowance is 4.0 ft.

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

S = 0.18, T = 266 ft^2/day, $tp_{current}$ = 105 days (based on average use and reported rate), $Q_{current}$ = 250 gpm (based on 2012 water use report), $tp_{proposed}$ = 96 days, $Q_{proposed}$ = 755 gpm

Theis drawdowns were calculated as follows:

3768 & 26611: Drawdown from current location = 14.27 ft

Drawdown from proposed location = 27.33 ft

Net drawdown = **13.1 ft**

23016: Drawdown from current location = 8.58 ft

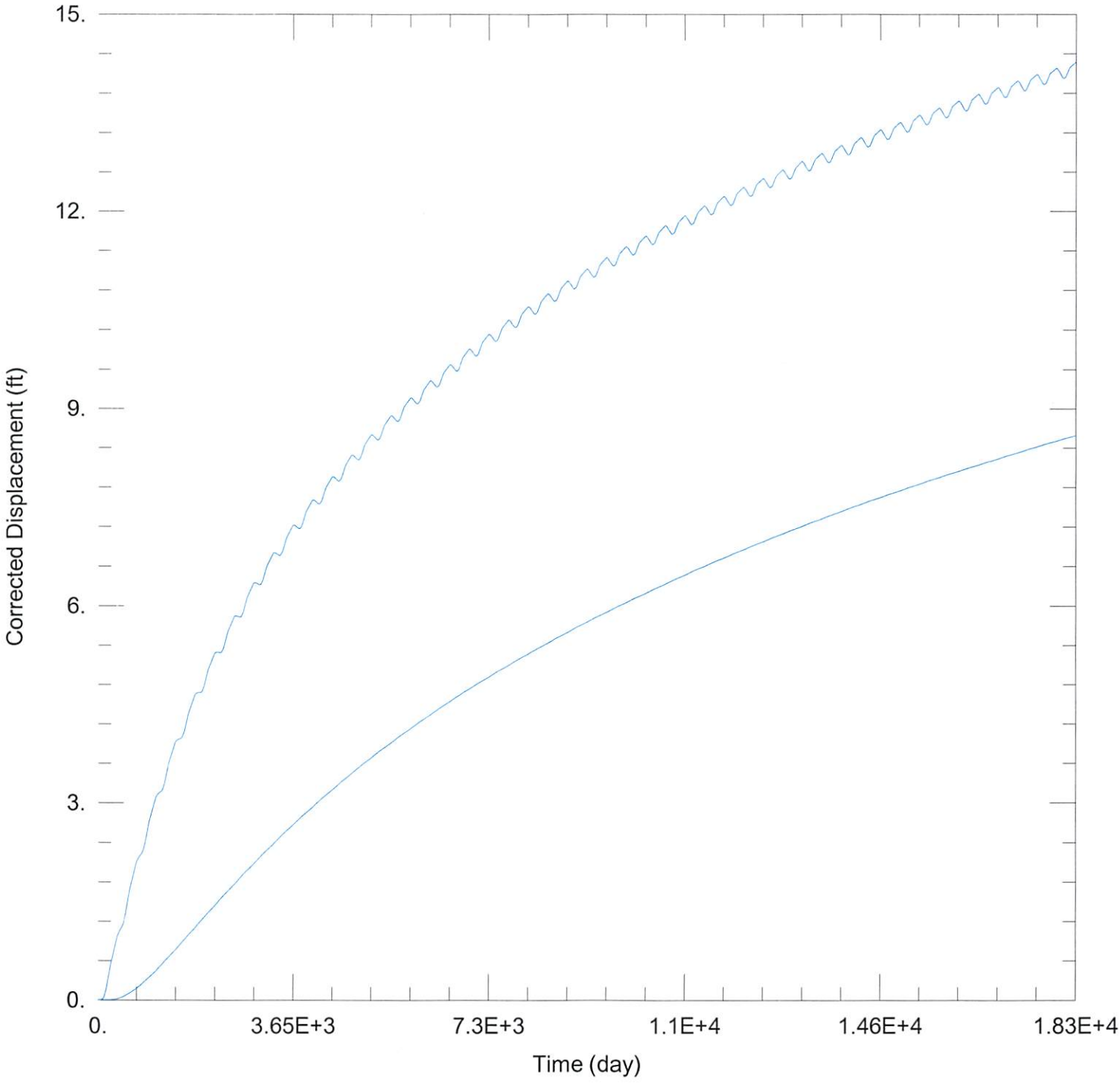
Drawdown from proposed location = 22.33 ft

Net drawdown = **13.8 ft**

Net drawdown exceeds the drawdown allowance of 4.0 ft for any well within 1 mile of the proposed location. Normally, further analysis would be conducted to determine whether or not these wells are critical, but GMD3 was not able to perform this analysis due to lack of modeled data in the Dakota Aquifer.

Conclusion:

If the proposed well is operated at its fully authorized rate and quantity, it will cause large effects on neighboring wells. This is due to the local aquifer being composed mostly of sandstone, which typically has low transmissivity. Any 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\2023_moves\26611\26611 Current.aqt
Date: 02/10/23 Time: 15:14:02

PROJECT INFORMATION

Company: GMD 3
Project: 26611
Location: Stanton County

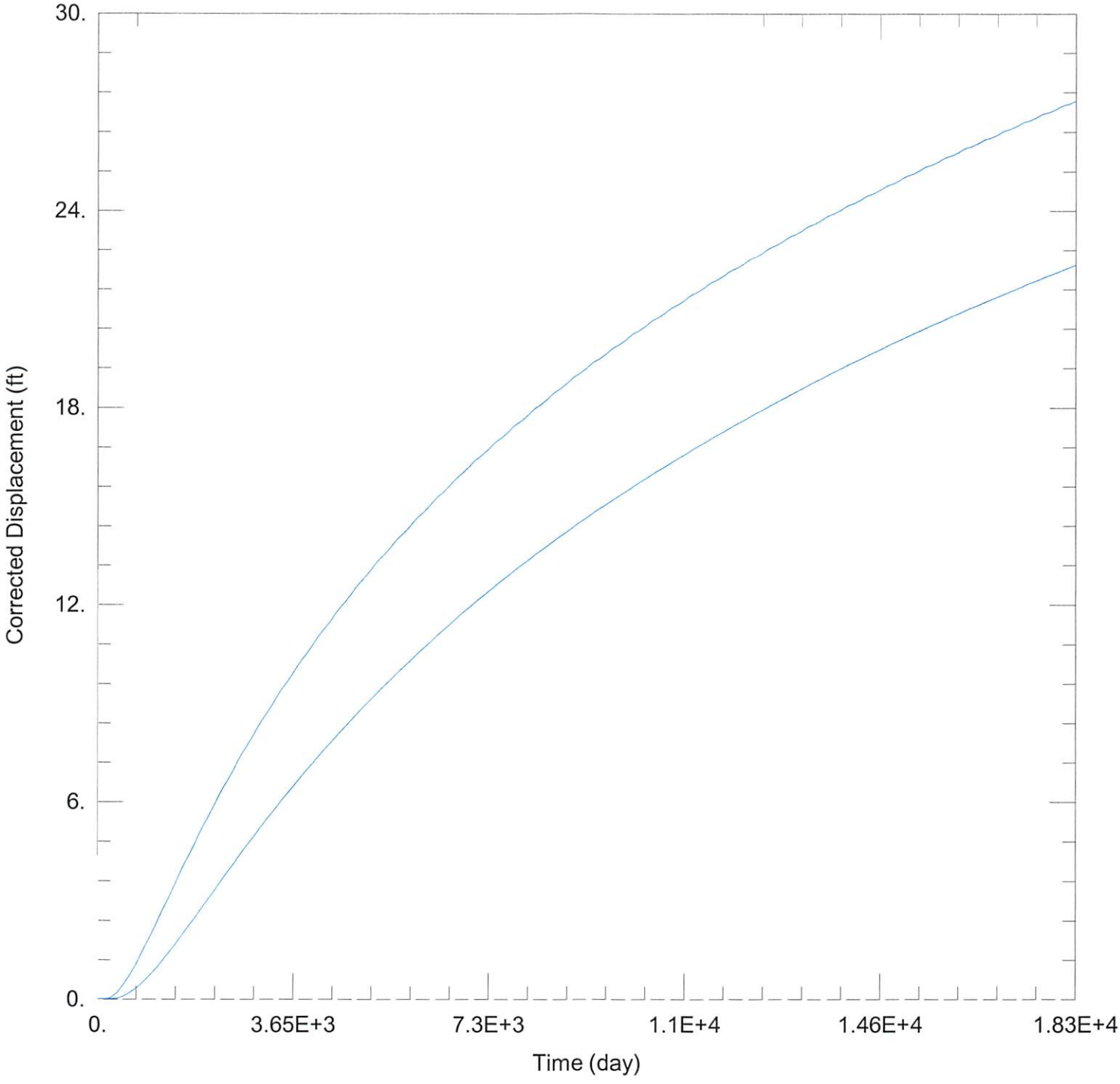
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
26611	-303040	221950

Observation Wells

Well Name	X (ft)	Y (ft)
□	-303040	221950



WELL TEST ANALYSIS

Data Set: C:\Users\trevora\Documents\2023_moves\26611\26611 Proposed.aqt
Date: 02/10/23 Time: 15:13:53

PROJECT INFORMATION

Company: GMD 3
Project: 26611
Location: Stanton County

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
26611	-302051	223185

Observation Wells

Well Name	X (ft)	Y (ft)
□	-302051	223185