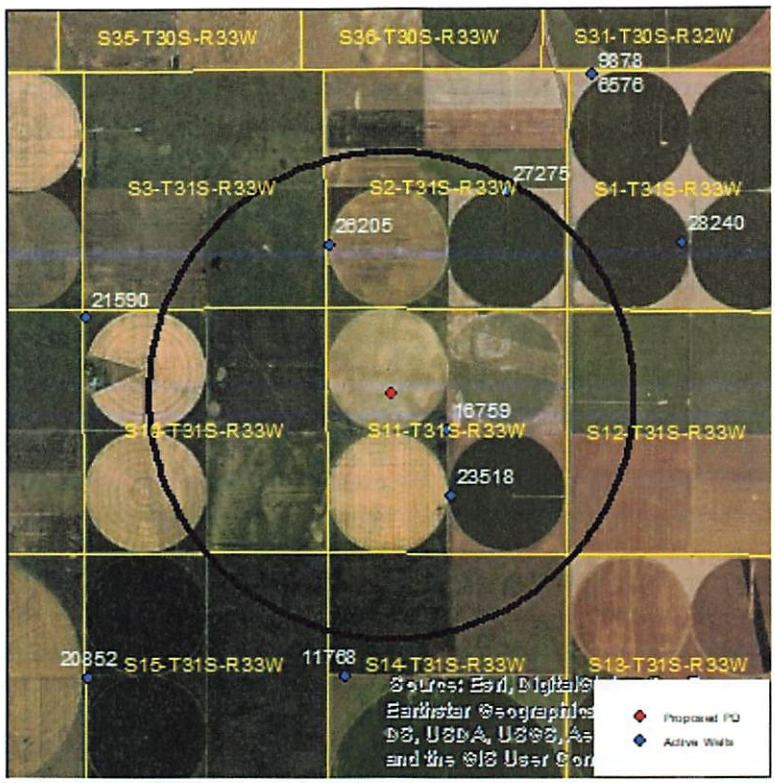
Evaluation of proposed move for Water Right No. 16759

Proposed: Move water right no. 16759 to a new well location, a distance of 1,424 ft to the northwest.



Wells within 1 mile: 26205, 27275, and 23518.

The saturated thickness at the proposed well location is estimated to be 190 ft, based upon the GMD3 model. For saturated thickness between 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 = 0.2287, T = 7186 ft^2/day, $tp_{current}$ = 80 days (based on average use and observed rate), $Q_{current}$ = 1324 gpm (based on 2012 field inspection), $tp_{proposed}$ = 58 days, $Q_{proposed}$ = 2500 gpm

Theis drawdowns were calculated as follows:

26205: Drawdown from current location = 2.64 ft

Drawdown from proposed location = 4.35 ft

Net drawdown = **1.7 ft**

27275: Drawdown from current location = 2.45 ft

Drawdown from proposed location = 3.45 ft

Net drawdown = **1.0 ft**

23518: Drawdown from current location = 6.03 ft

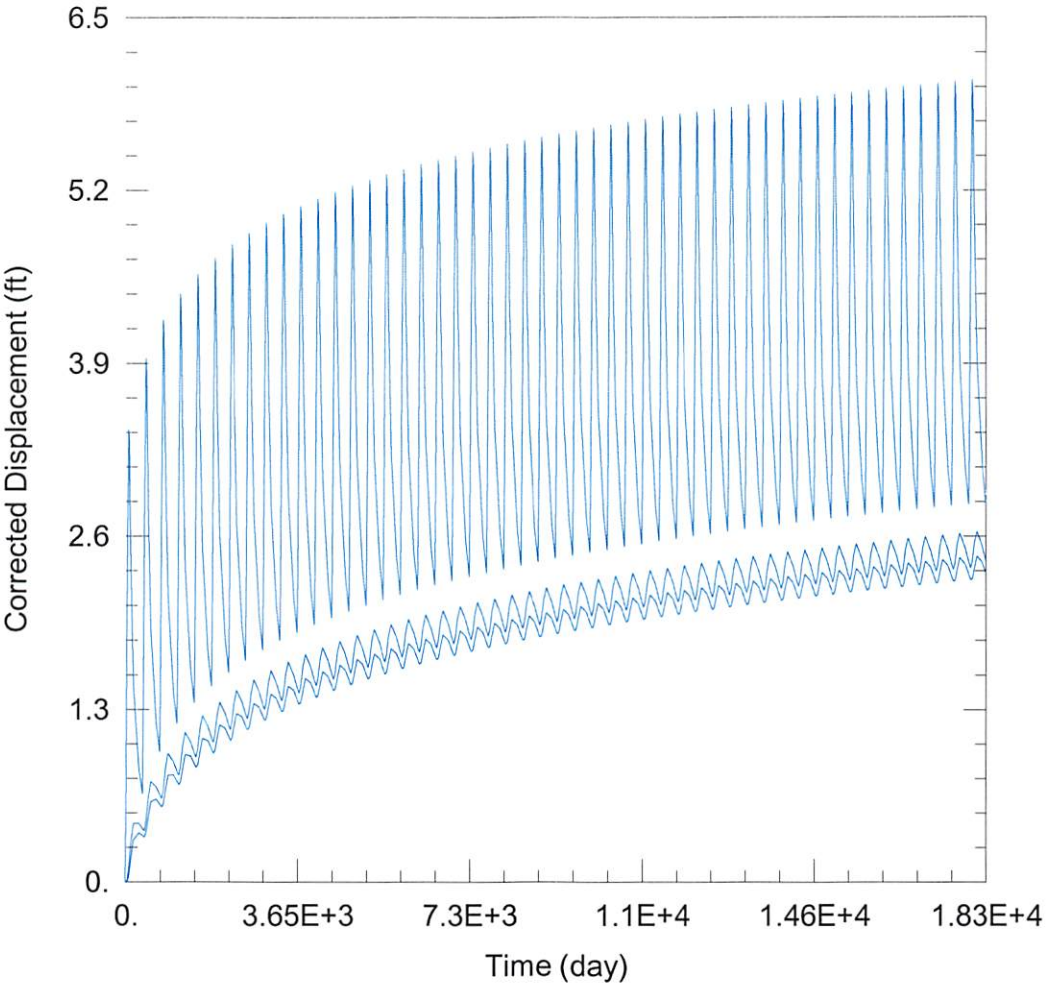
Drawdown from proposed location = 5.51 ft

Net drawdown = **-0.5 ft**

Net drawdown does not exceed the drawdown allowance of 3.5 ft for any well within 1 mile of the proposed location. Therefore, critical well analysis is not necessary.

Conclusion:

The proposed move is likely to create minimal effects on neighboring wells and appears unlikely to cause impairment. 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\2022_moves\16759\16759 Current.aqt
Date: 06/21/22 Time: 15:06:34

PROJECT INFORMATION

Company: GMD 3
Project: 16759
Location: Seward County

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
16759	-22909	178941

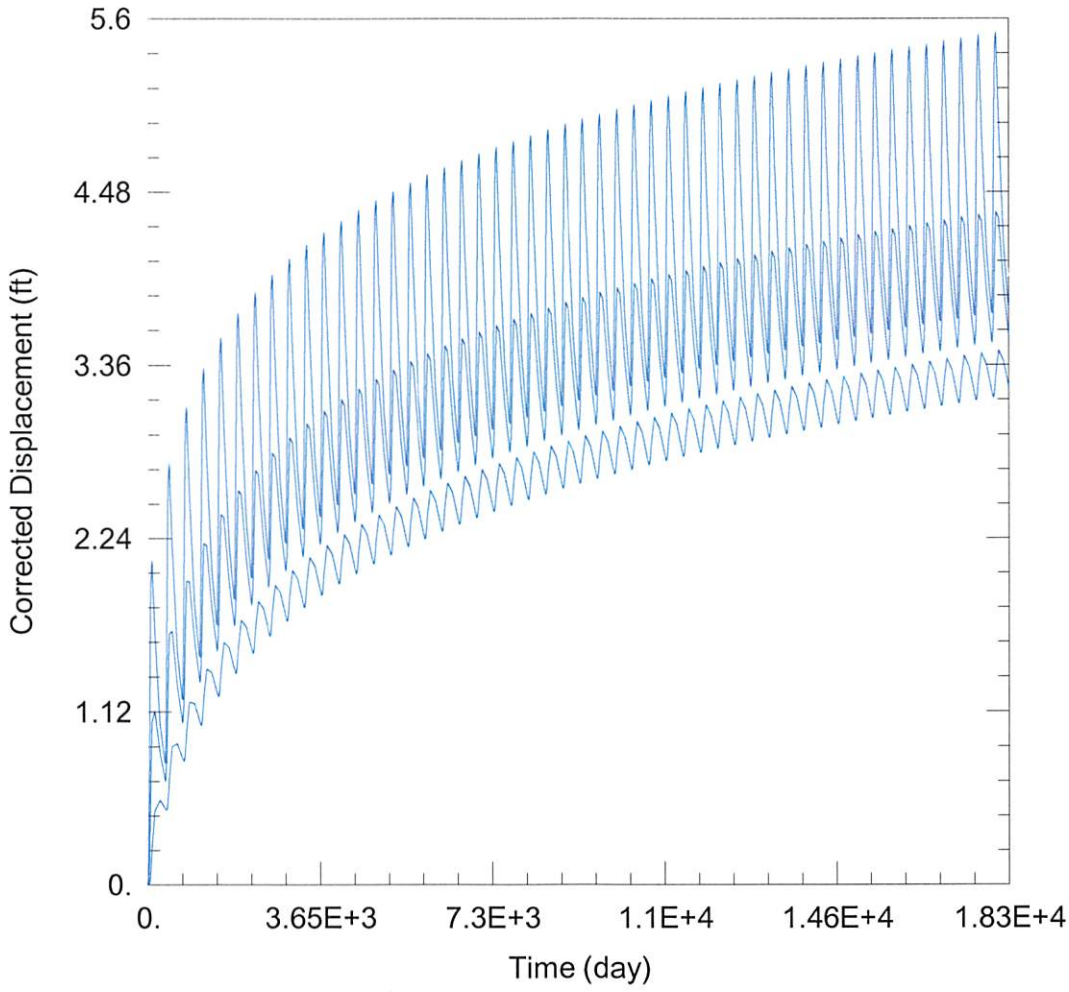
Observation Wells

Well Name	X (ft)	Y (ft)
▫	-22909	178941
▫ 26205	-25471	182913
▫ 27275	-21605	184074
▫ 23518	-22831	177510

SOLUTION

Aquifer Model: Unconfined
Solution Method: Theis

T = 7186. ft^2/day
S = 0.2287
Kz/Kr = 1.
b = 190. ft



WELL TEST ANALYSIS

Data Set: C:\Users\trevora\Documents\2022_moves\16759\16759 Proposed.aqt
Date: 06/21/22 Time: 15:06:24

PROJECT INFORMATION

Company: GMD 3
Project: 16759
Location: Seward County

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
16759	-24123	179685

Observation Wells

Well Name	X (ft)	Y (ft)
▫	-24123	179685
▫ 26205	-25471	182913
▫ 27275	-21605	184074
▫ 23518	-22831	177510

SOLUTION

Aquifer Model: Unconfined
Solution Method: Theis

T = 7186. ft^2/day
S = 0.2287
Kz/Kr = 1.
b = 190. ft