**Evaluation of proposed move for Water Right No. 16882**

Proposed: Move water right no. 16882 a distance of 1,687 ft to the northeast.



Wells within 1 mile: 1409, 6458 & 12606, 14492, 16955, 22528, 17486, and a domestic well in section 33-27-33.

The saturated thickness at the proposed well location is estimated to be 257 ft, based upon the GMD3 model. 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 = 0.1804, T = 13,452 ft$^2$/day,

$tp_{current}$ = 104 days (based on average use and reported rate), $Q_{current}$ = 150 gpm (last reported rate), $tp_{proposed}$ = 73 days, $Q_{proposed}$ = 1275 gpm

Theis drawdowns were calculated as follows:

| | |
|---|---|
| 1409: | Drawdown from current location = 0.39 ft |
| | Drawdown from proposed location = 1.71 ft |
| | Net drawdown = **1.3 ft** |
| 6458 & 12606: | Drawdown from current location = 0.24 ft |
| | Drawdown from proposed location = 1.83 ft |
| | Net drawdown = **1.6 ft** |

14492:              Drawdown from current location = 0.39 ft

                    Drawdown from proposed location = 2.60 ft

                    Net drawdown = **2.2 ft**

16955:              Drawdown from current location = 0.31 ft

                    Drawdown from proposed location = 2.75 ft

                    Net drawdown = **2.4 ft**

22528:              Drawdown from current location = 0.45 ft

                    Drawdown from proposed location = 2.58 ft

                    Net drawdown = **2.1 ft**

17486:              Drawdown from current location = 0.27 ft

                    Drawdown from proposed location = 1.54 ft

                    Net drawdown = **1.3 ft**

Domestic 33-27-33:  Drawdown from current location = 0.23 ft

                    Drawdown from proposed location = 1.73 ft

                    Net drawdown = **1.5 ft**

Net drawdown does not exceed the drawdown allowance of 4.0 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 is unlikely to cause impairment. GMD3 staff recommends approval of this proposal.
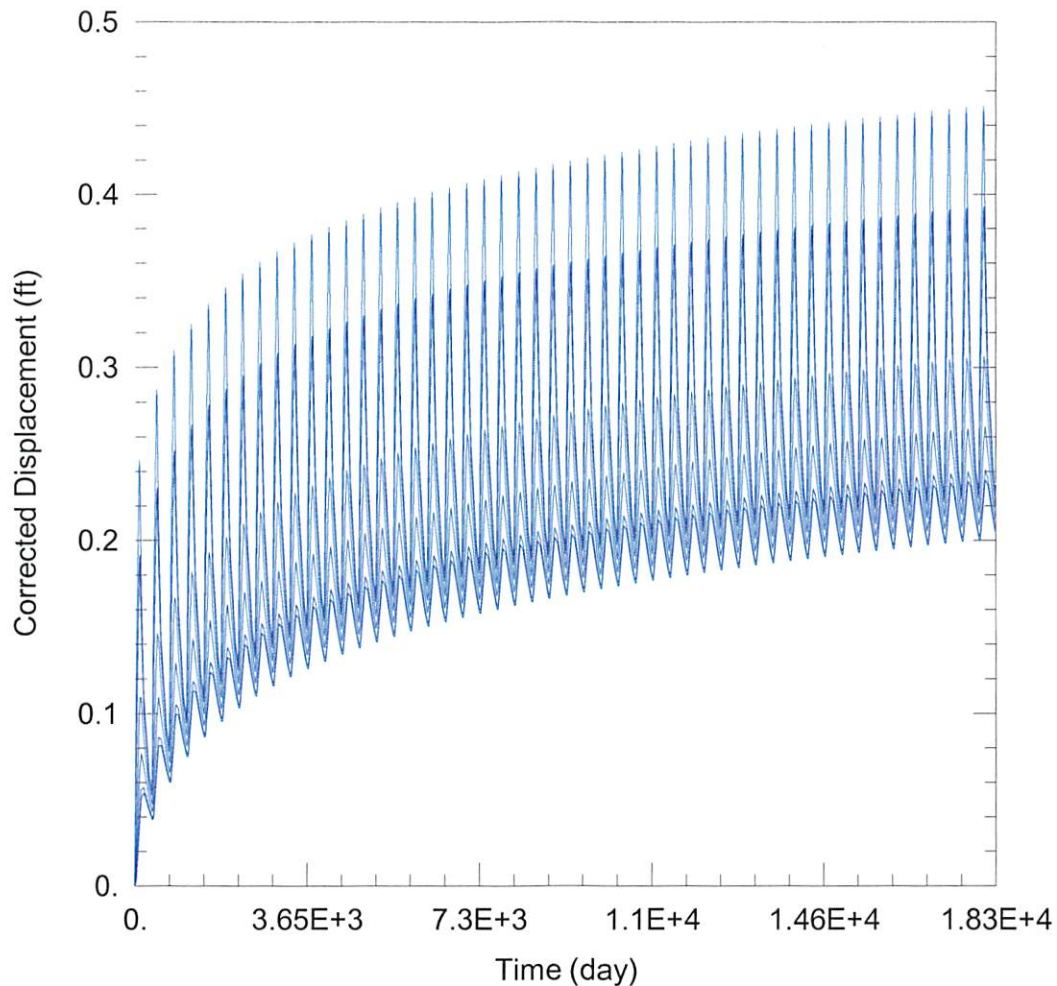
## WELL TEST ANALYSIS

Data Set: C:\Users\trevora\Documents\2021_Moves\16882\16882 Current.aqt

Date: 09/01/21                                   Time: 14:35:41

## PROJECT INFORMATION

Company: GMD 3
Project: 16882
Location: Haskell County

## WELL DATA

| Pumping Wells | | | | Observation Wells | | |
|---|---|---|---|---|---|---|
| Well Name | X (ft) | Y (ft) | | Well Name | X (ft) | Y (ft) |
| 16882 | -38560 | 276562 | □ | | -38560 | 276562 |
| | | | □ | 14091 | -39316 | 273905 |
| | | | □ | 6458 & 12606 | -38233 | 282227 |
| | | | □ | 14492 | -40700 | 278222 |
| | | | □ | 16955 | -36615 | 279964 |
| | | | □ | 22528 | -36388 | 276322 |
| | | | □ | 17486 | -33812 | 275405 |
| | | | □ | Domestic 33-27-33 | -39486 | 282370 |

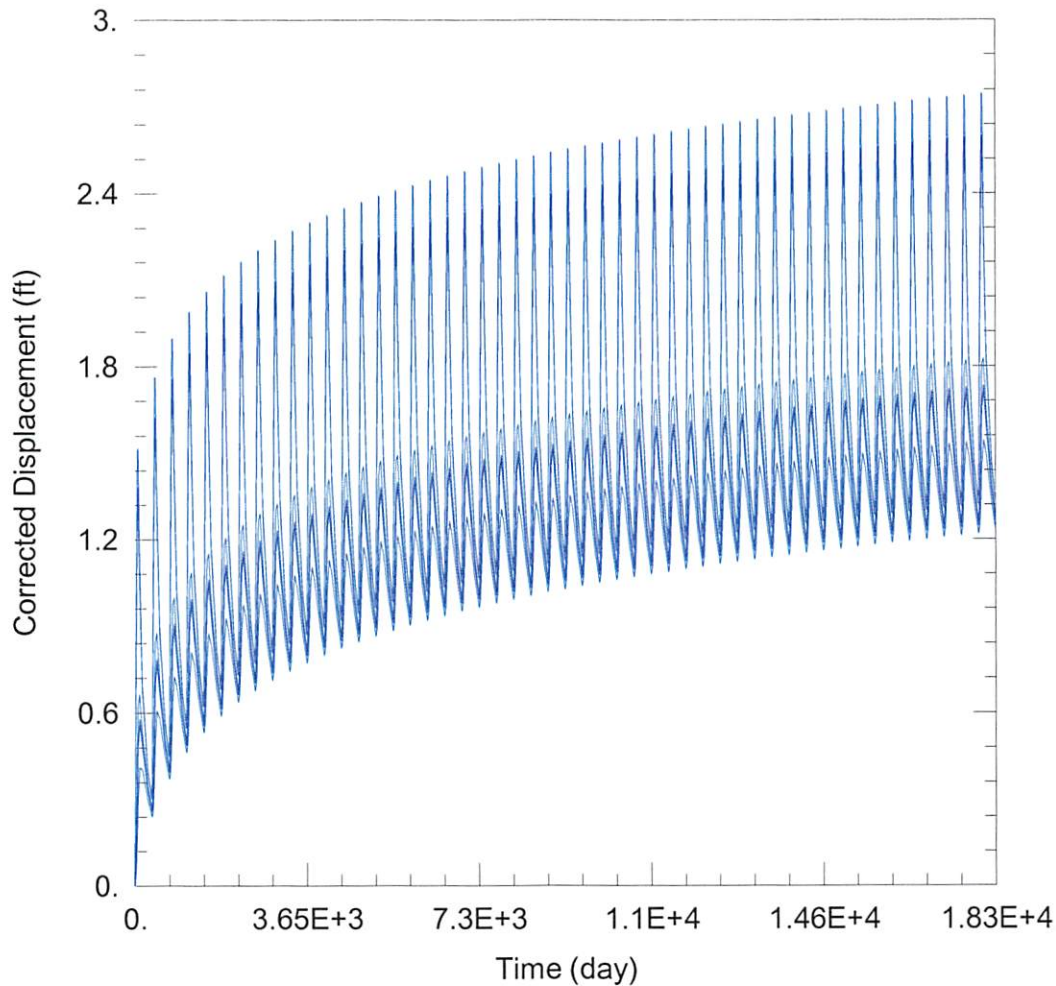## SOLUTION

Aquifer Model: Unconfined                    Solution Method: Theis

T    = 1.345E+4 ft$^2$/day                   S    = 0.1804
Kz/Kr = 1.                                   b    = 257. ft

## WELL TEST ANALYSIS

Data Set: C:\Users\trevora\Documents\2021_Moves\16882\16882 Proposed.aqt
Date: 09/01/21                                        Time: 14:35:35

### PROJECT INFORMATION

Company: GMD 3
Project: 16882
Location: Haskell County

### WELL DATA

| Pumping Wells | | | | Observation Wells | | |
|---|---|---|---|---|---|---|
| Well Name | X (ft) | Y (ft) | | Well Name | X (ft) | Y (ft) |
| 16882 | -38151 | 278199 | | ▫ | -38151 | 278199 |
| | | | | ▫ 14091 | -39316 | 273905 |
| | | | | ▫ 6458 & 12606 | -38233 | 282227 |
| | | | | ▫ 14492 | -40700 | 278222 |
| | | | | ▫ 16955 | -36615 | 279964 |
| | | | | ▫ 22528 | -36388 | 276322 |
| | | | | ▫ 17486 | -33812 | 275405 |
| | | | | ▫ Domestic 33-27-33 | -39486 | 282370 |

### SOLUTION

Aquifer Model: Unconfined                    Solution Method: Theis

T    = 1.345E+4 ft$^2$/day                    S    = 0.1804
Kz/Kr = 1.                                    b    = 257. ft