

**Evaluation of proposed move for Water Right No. 16348**

Proposed: Move water right no. 16348 a distance of 1,100 ft to the south.



Wells within 1 mile: 20460, 830 & 1374, 5215, 18108, 30004, and two domestic wells, numbered on the above map.

The saturated thickness at the proposed well location is estimated to be 155 ft, based upon the driller’s log and an observation well located in section 36-27-32. 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:

$S = 0.172$ ,  $T = 8112.2 \text{ ft}^2/\text{day}$ ,  $t_{p\text{current}} = 201 \text{ days}$  (based upon average use and observed rate),  
 $Q_{\text{current}} = 198 \text{ gpm}$  (based upon 2016 field inspection),  $t_{p\text{proposed}} = 56 \text{ days}$ ,  $Q_{\text{proposed}} = 1230 \text{ gpm}$

Theis drawdowns were calculated as follows:

- 20460:
  - Drawdown from current location = 1.08 ft
  - Drawdown from proposed location = 1.94 ft
  - Net drawdown = **0.9 ft**
  
- 830 & 1374:
  - Drawdown from current location = 1.41 ft
  - Drawdown from proposed location = 2.20 ft
  - Net drawdown = **0.8 ft**

5215: Drawdown from current location = 0.96 ft  
Drawdown from proposed location = 1.70 ft  
Net drawdown = **0.7 ft**

18108: Drawdown from current location = 1.03 ft  
Drawdown from proposed location = 1.96 ft  
Net drawdown = **0.9 ft**

30004: Drawdown from current location = 1.04 ft  
Drawdown from proposed location = 2.35 ft  
Net drawdown = **1.3 ft**

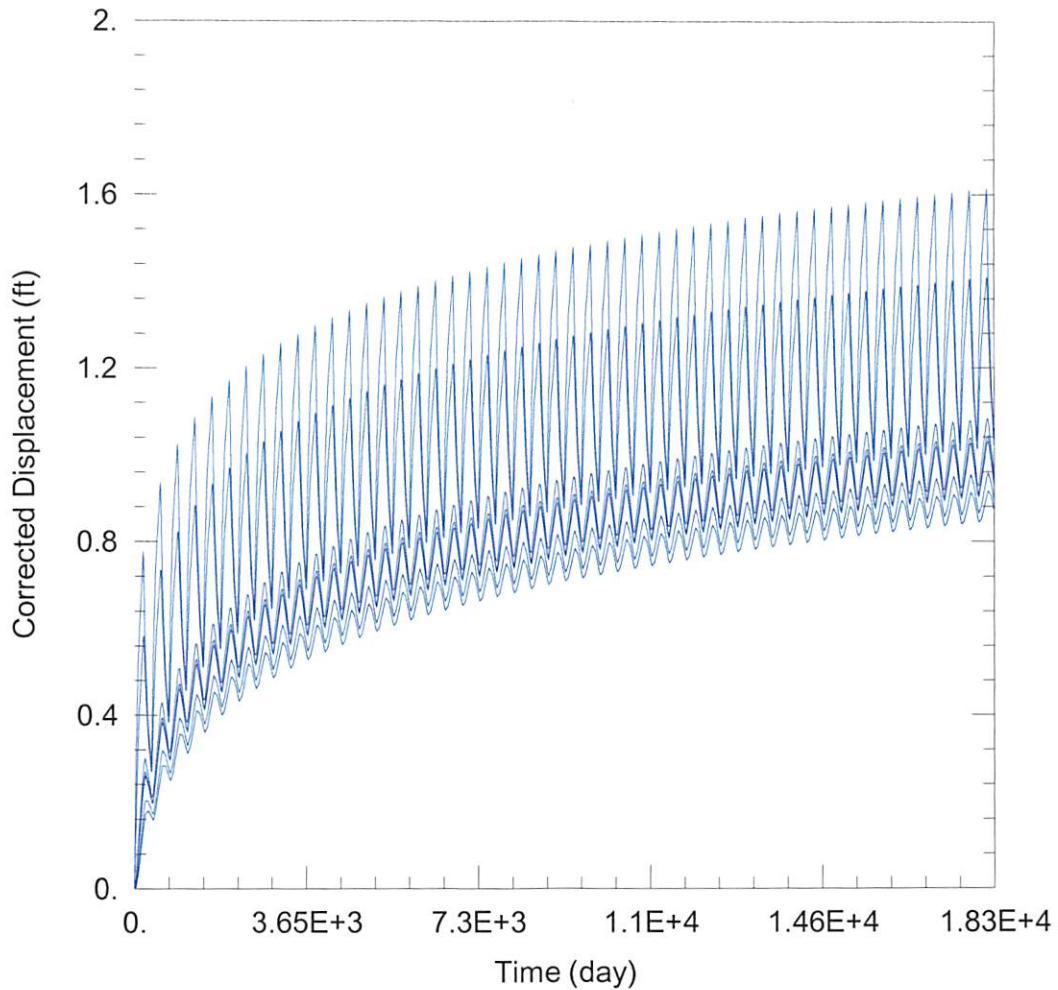
Domestic 1: Drawdown from current location = 0.92 ft  
Drawdown from proposed location = 1.65 ft  
Net drawdown = **0.7 ft**

Domestic 2: Drawdown from current location = 1.61 ft  
Drawdown from proposed location = 2.55 ft  
Net drawdown = **0.9 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 is unlikely to cause impairment. GMD3 staff recommends approval of this proposal.



WELL TEST ANALYSIS

Data Set: C:\Users\trevora\Documents\2021\_Moves\16348\16348 Current.aqt

Date: 04/20/21

Time: 14:53:10

PROJECT INFORMATION

Company: GMD 3

Project: 16348

Location: Haskell County

Test Well: 16348

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
16348	5540	293897

Observation Wells

Well Name	X (ft)	Y (ft)
□	5540	293897
□ <u>20460</u>	1720	293849
□ <u>830 &amp; 1374</u>	5887	296141
□ <u>5215</u>	10345	293513
□ <u>18108</u>	1691	292214
□ <u>30004</u>	6670	289954
□ <u>Domestic 1</u>	10640	292846
□ <u>Domestic 2</u>	6054	295515

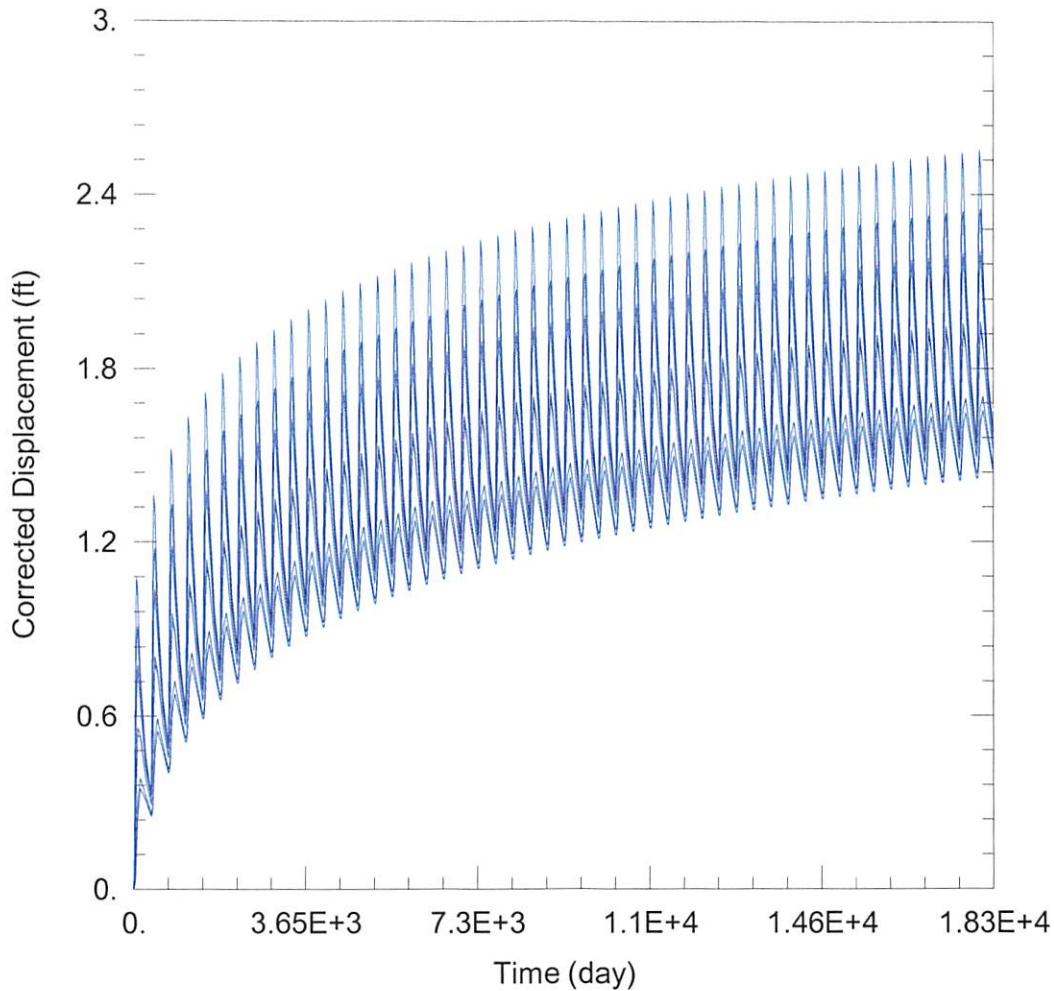
SOLUTION

Aquifer Model: Unconfined

Solution Method: Theis

T = 8112.2 ft<sup>2</sup>/day

S = 0.172



WELL TEST ANALYSIS

Data Set: C:\Users\trevora\Documents\2021\_Moves\16348\16348 Proposed.aqt

Date: 04/20/21

Time: 14:53:04

PROJECT INFORMATION

Company: GMD 3

Project: 16348

Location: Haskell County

Test Well: 16348

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
16348	5572	292798

Observation Wells

Well Name	X (ft)	Y (ft)
□	5572	292798
□ 20460	1720	293849
□ 830 & 1374	5887	296141
□ 5215	10345	293513
□ 18108	1691	292214
□ 30004	6670	289954
□ Domestic 1	10640	292846
□ Domestic 2	6054	295515

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