#### Evaluation of proposed move for Water Right No 30113

Proposed: Move water right no. 30113 a distance of 834 ft to the northwest.



Wells within 1 mile: 29545, 22694, 14604, 22692, 27675 ID 1, 27675 ID 4, 27479, 4331, and 6 domestic wells, numbered on the above map.

The saturated thickness at the proposed well location is estimated to be 38 ft, based upon an observation well in section 36-26-26 and the driller's log at the proposed well location. For saturated thickness less than 50 ft, the drawdown allowance is 1.0 ft.

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

S = 0.1946, T = 525.31 ft<sup>2</sup>/day,  $tp_{current} = 86$  days (based upon average use and observed rate),  $Q_{current} = 175$  gpm (based upon 2012 field inspection),  $tp_{proposed} = 44$  days,  $Q_{proposed} = 985$  gpm

Theis drawdowns were calculated as follows:

29545: Drawdown from current location = 3.16 ft

Drawdown from proposed location = 8.35 ft

Net drawdown = 5.2 ft

22694: Drawdown from current location = 3.69 ft

Drawdown from proposed location = 8.88 ft

Net drawdown = 5.2 ft

14604: Drawdown from current location = 1.98 ft

Drawdown from proposed location = 5.83 ft

Net drawdown = 3.8 ft

22692: Drawdown from current location = 2.25 ft

Drawdown from proposed location = 7.38 ft

Net drawdown = 5.1 ft

27675 ID 1: Drawdown from current location = 1.69 ft

Drawdown from proposed location = 5.81 ft

Net drawdown = 4.1 ft

27675 ID 4: Drawdown from current location = 1.97 ft

Drawdown from proposed location = 6.80 ft

Net drawdown = 4.8 ft

27479: Drawdown from current location = 3.50 ft

Drawdown from proposed location = 13.02 ft

Net drawdown = 9.5 ft

4331: Drawdown from current location = 2.51 ft

Drawdown from proposed location = 7.78 ft

Net drawdown = 5.3 ft

Domestic 1: Drawdown from current location = 3.95 ft

Drawdown from proposed location = 14.38 ft

Net drawdown = 10.4 ft

Domestic 2: Drawdown from current location = 3.13 ft

Drawdown from proposed location = 11.28 ft

Net drawdown = 8.1 ft

Domestic 3: Drawdown from current location = 2.73 ft

Drawdown from proposed location = 8.44 ft

Net drawdown = 5.7 ft

Domestic 4:

Drawdown from current location = 3.43 ft

Drawdown from proposed location = 8.21 ft

Net drawdown = 4.8 ft

Domestic 5:

Drawdown from current location = 4.81 ft

Drawdown from proposed location = 10.70 ft

Net drawdown = **5.9** ft

Domestic 6:

Drawdown from current location = 4.04 ft

Drawdown from proposed location = 11.58 ft

Net drawdown = 7.5 ft

Net drawdown exceeds the drawdown allowance of 1.0 ft for any wells within 1 mile of the proposed location. Remaining saturated thickness in the area is less than 60 ft and the GMD3 model predicts that reduction in saturated thickness will exceed 40% over the next 25 years, so all neighboring wells are considered critical.

#### Conclusion:

Based upon information from the GMD3 model, this proposal is likely to cause significant effects on neighboring wells. GMD3 staff recommends limiting the proposed well to a rate of 200 gpm and a quantity of 66.3 AF. The effects on neighboring wells with those limitations would be as follows:

29545:

Net drawdown = -0.3 ft

22694:

Net drawdown = -0.6 ft

14604:

Net drawdown = 0.0 ft

22692:

Net drawdown = 0.3 ft

27675 ID 1:

Net drawdown = 0.3 ft

27675 ID 4:

Net drawdown = **0.4** ft

27479:

Net drawdown = 1.0 ft

4331:

Net drawdown = 0.2 ft

Domestic 1:

Net drawdown = 1.0 ft

Domestic 2:

Net drawdown = 0.8 ft

Domestic 3:

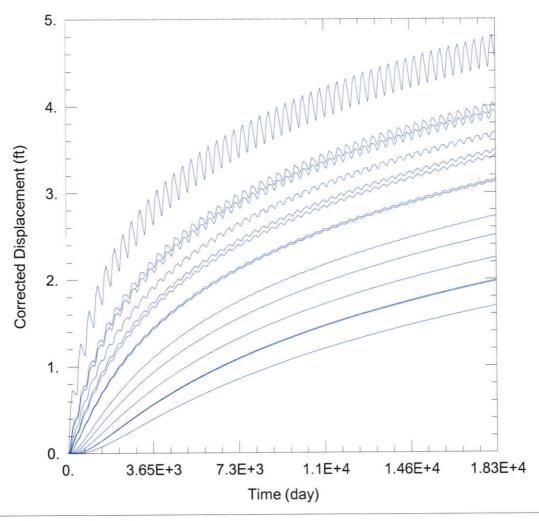
Net drawdown = 0.2 ft

Domestic 4:

Net drawdown = -0.6 ft

Domestic 5:

Net drawdown = -1.1 ft



# WELL TEST ANALYSIS

Data Set: C:\...\30113 Current.aqt

Date: 12/16/20

Time: 10:04:50

### PROJECT INFORMATION

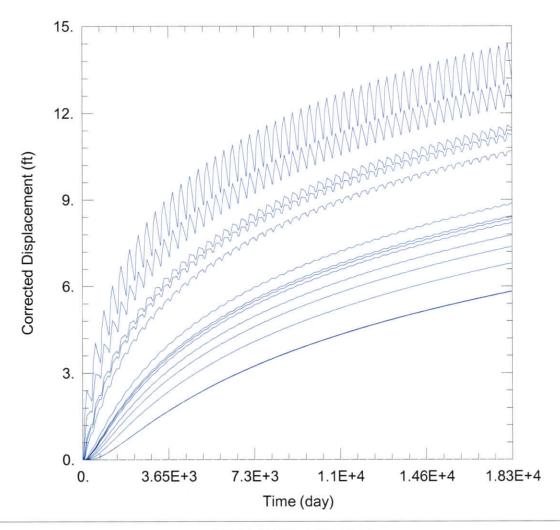
Company: GMD 3 Project: 30113

Location: Ford County Test Well: 30113

### **WELL DATA**

Pumping Wells Y (ft) Well Name X (ft) 308095 196389 30113

Observation Wells			
Well Name	X (ft)	Y (ft)	
	196389	308095	
<b>29545</b>	199297	307883	
<b>22694</b>	195335	306027	
<b>14604</b>	191486	307930	
<b>22692</b>	192799	310531	
□ 27675 ID1	194046	313229	
□ 27675 ID4	196480	313026	
<b>27479</b>	196134	310606	
<b>4331</b>	199339	310574	
Domestic 1	194947	309613	
Domestic 2	195598	310929	
<ul><li>Domestic 3</li></ul>	192992	308936	
<ul><li>Domestic 4</li></ul>	198239	306278	



## WELL TEST ANALYSIS

Data Set: C:\...\30113 Proposed.aqt

Date: 12/16/20 Time: 10:05:07

### PROJECT INFORMATION

Company: GMD 3 Project: 30113

Location: Ford County Test Well: 30113

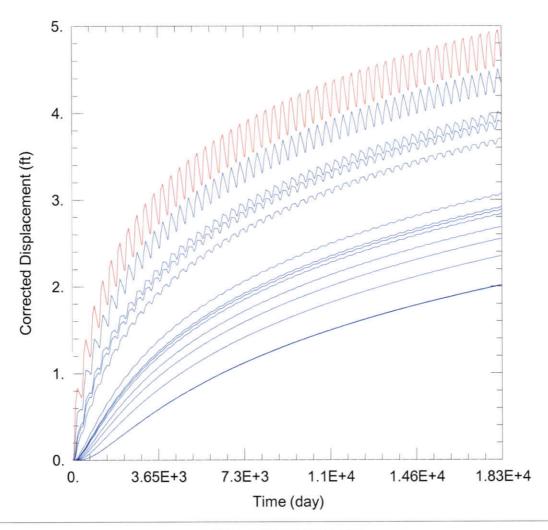
### WELL DATA

 Pumping Wells

 Well Name
 X (ft)
 Y (ft)

 30113
 196205
 308908

Well Name	X (ft)	Y (ft)
	196205	308908
<b>29545</b>	199297	307883
22694	195335	306027
14604	191486	307930
22692	192799	310531
□ 27675 ID1	194046	313229
□ 27675 ID4	196480	313026
27479	196134	310606
· 4331	199339	310574
Domestic 1	194947	309613
Domestic 2	195598	310929
Domestic 3	192992	308936
Domestic 4	198239	306278



# WELL TEST ANALYSIS

Data Set: C:\...\30113 Reduction.aqt

Date: 12/16/20 Time: 10:05:24

### PROJECT INFORMATION

Company: GMD 3
Project: 30113

Location: Ford County Test Well: 30113

# WELL DATA

 Pumping Wells

 Well Name
 X (ft)
 Y (ft)

 30113
 196205
 308908

Well Name	ervation Wells	Y (ft)
vveii Name	X (ft)	
	196205	308908
<b>29545</b>	199297	307883
<b>22694</b>	195335	306027
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<b>27479</b>	196134	310606
<ul><li>4331</li></ul>	199339	310574
Domestic 1	194947	309613
Domestic 2	195598	310929
<ul><li>Domestic 3</li></ul>	192992	308936
□ Domestic 4	198239	306278