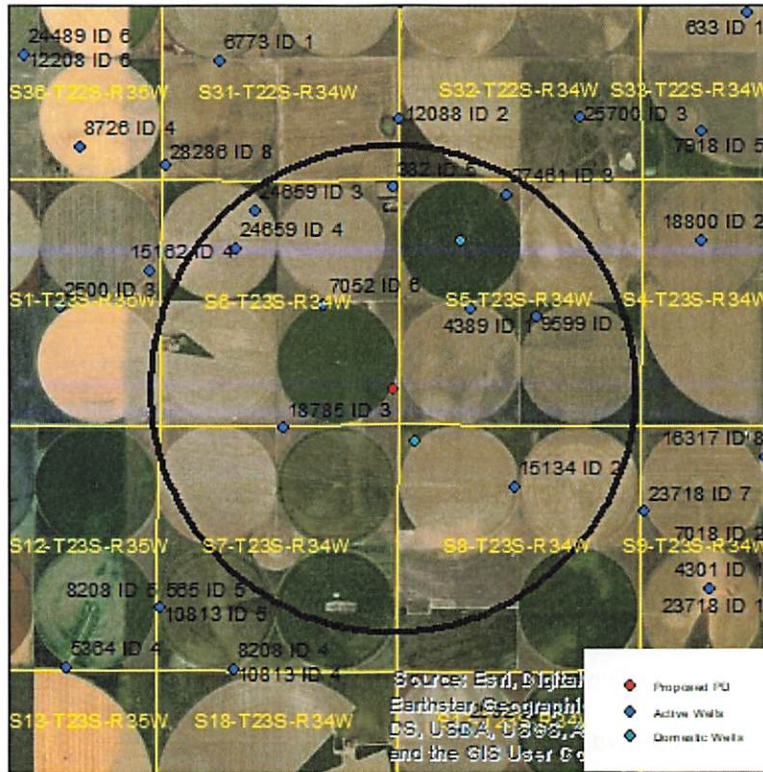


Evaluation of proposed move for Water Right No. 7052

Proposed: Move water right no. 7052 to a new well location, 2,343 ft to the southeast.



Wells within 1 mile: 24659 ID3, 24659 ID4, 382, 27461, 4389, 9599, 18785, 15134, a domestic well in section 5-23-34, and a domestic well in section 8-23-34.

The saturated thickness at the proposed well location is estimated to be 95 ft, based upon the driller’s log and an observation well in section 6-23-34. For saturated thickness between 75 ft and 100 ft, the drawdown allowance is 2.0 ft.

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

$S = 0.1626$, $T = 12,391 \text{ ft}^2/\text{day}$, $tp_{\text{current}} = 165 \text{ days}$, $Q_{\text{current}} = 277 \text{ gpm}$, $tp_{\text{proposed}} = 41.6 \text{ days}$, $Q_{\text{proposed}} = 1740 \text{ gpm}$

Theis drawdowns were calculated as follows:

- 24659 ID3:
 - Drawdown from current location = 1.18 ft
 - Drawdown from proposed location = 1.37 ft
 - Net drawdown = **0.2 ft**

- 24659 ID4:
 - Drawdown from current location = 1.25 ft
 - Drawdown from proposed location = 1.45 ft
 - Net drawdown = **0.2 ft**

382: Drawdown from current location = 1.09 ft
Drawdown from proposed location = 1.51 ft
Net drawdown = **0.4 ft**

27461: Drawdown from current location = 0.85 ft
Drawdown from proposed location = 1.38 ft
Net drawdown = **0.5 ft**

4389: Drawdown from current location = 1.05 ft
Drawdown from proposed location = 2.52 ft
Net drawdown = **1.5 ft**

9599: Drawdown from current location = 0.85 ft
Drawdown from proposed location = 1.77 ft
Net drawdown = **0.9 ft**

18785: Drawdown from current location = 1.13 ft
Drawdown from proposed location = 2.43 ft
Net drawdown = **1.3 ft**

15134: Drawdown from current location = 0.76 ft
Drawdown from proposed location = 1.83 ft
Net drawdown = **1.1 ft**

Domestic 5-23-34: Drawdown from current location = 1.04 ft
Drawdown from proposed location = 1.76 ft
Net drawdown = **0.7 ft**

Domestic 8-23-34: Drawdown from current location = 1.00 ft
Drawdown from proposed location = 4.67 ft
Net drawdown = **3.7 ft**

Net drawdown exceeds the drawdown allowance of 2.0 ft for the domestic well in section 8-23-34. Critical well analysis was conducted for that well.

Critical Well Evaluation:

Domestic 8-23-34:

Water Column = 103 ft

DP = 3.7 ft (Net drawdown from the proposal indicated above)

DE = 35.3 ft (Water level decline from 2022 through 2047 based upon GMD3 model)

DT = 39.0 ft

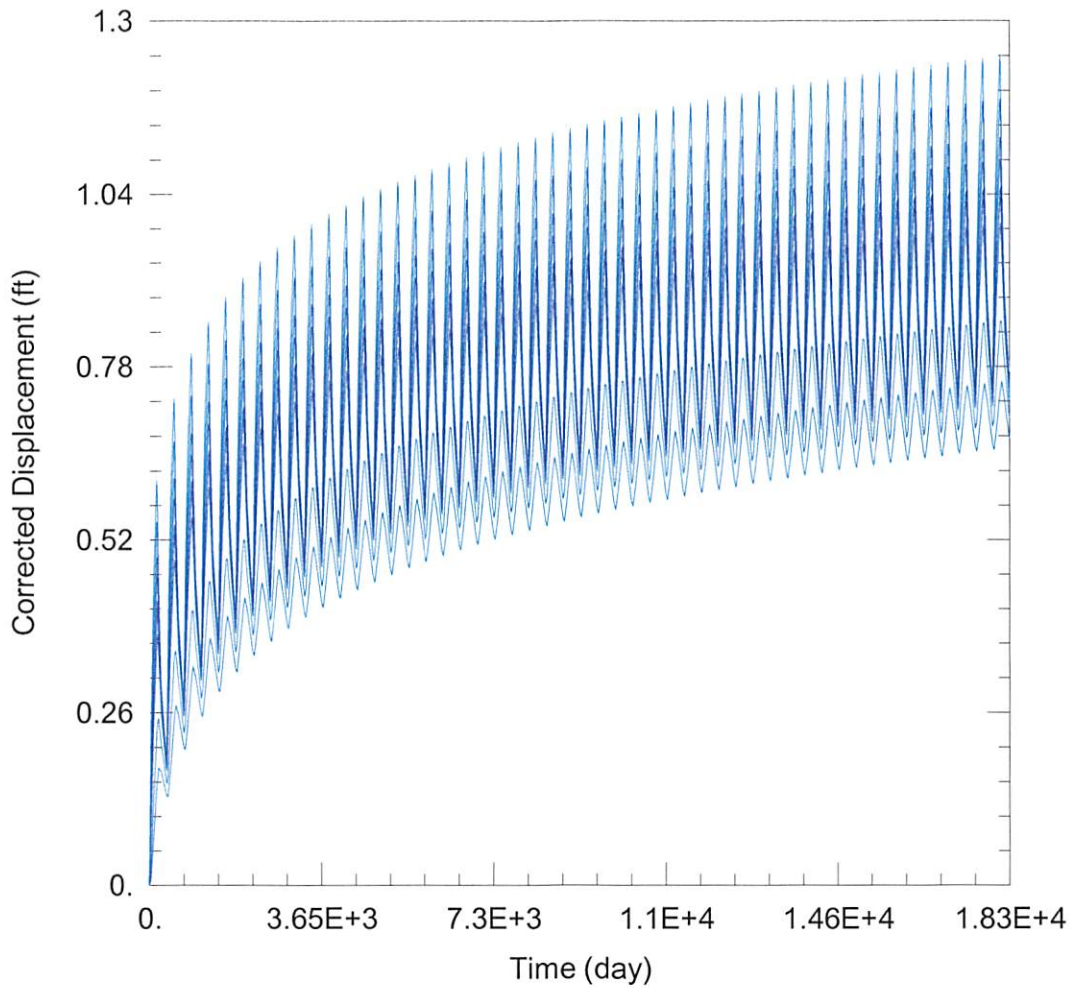
Economic Drawdown Constraint (EDC) = $0.4 * 103 \text{ ft} = 41.2 \text{ ft}$

Physical Drawdown Constraint (PDC) = $103 \text{ ft} - 20 \text{ ft} = 83.0 \text{ ft}$

Total drawdown of 39.0 ft is less than the EDC and PDC, so this well is **not critical**.

Conclusion:

The proposed move is in an area with less than 100 ft of saturated thickness, but based on the GMD3 model, is unlikely to have noticeable effects on neighboring wells. GMD3 staff recommends approval of the application.



WELL TEST ANALYSIS

Data Set: C:\Users\trevora\Documents\2022_moves\7052\7052 Current.aqt

Date: 03/24/22

Time: 15:26:39

PROJECT INFORMATION

Company: GMD 3

Project: 7052

Location: Finney County

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
7052	-83692	439983

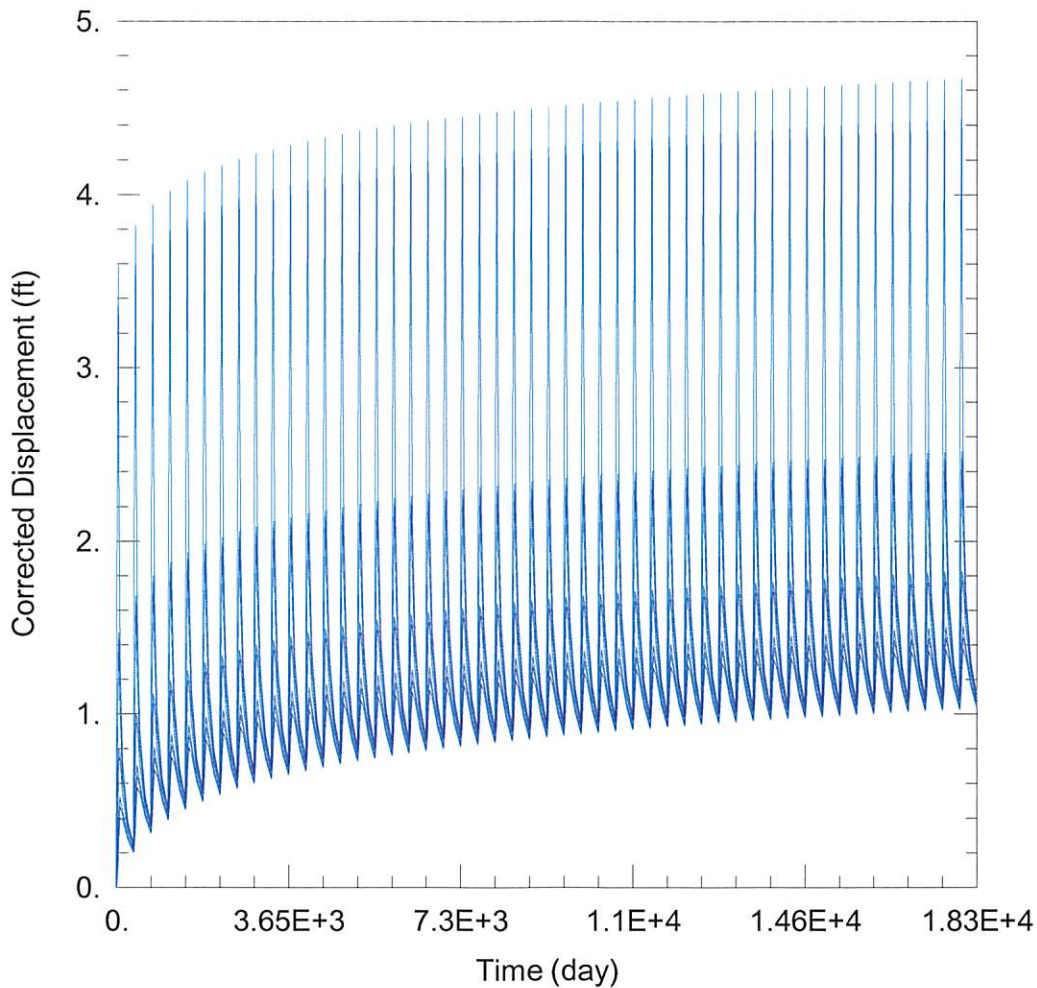
Observation Wells

Well Name	X (ft)	Y (ft)
□	-83692	439983
□ 24659 ID3	-85184	442045
□ 24659 ID4	-85631	441212
□ 382	-82187	442528
□ 27461	-79713	442378
□ 4389	-80497	439901
□ 9599	-79058	439707
□ 18785	-84564	437331
□ 15134	-79559	436053
□ Domestic 5-23-34	-80715	441368
□ Domestic 8-23-34	-81716	437054

SOLUTION

Acquifer Model: Unconfined

Solution Method: Theis



WELL TEST ANALYSIS

Data Set: C:\Users\trevora\Documents\2022_moves\7052\7052 Proposed.aqt

Date: 03/24/22

Time: 15:26:32

PROJECT INFORMATION

Company: GMD 3

Project: 7052

Location: Finney County

WELL DATA

Pumping Wells

Observation Wells

Well Name	X (ft)	Y (ft)
7052	-82192	438183

Well Name	X (ft)	Y (ft)
□	-82192	438183
□ 24659 ID3	-85184	442045
□ 24659 ID4	-85631	441212
□ 382	-82187	442528
□ 27461	-79713	442378
□ 4389	-80497	439901
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SOLUTION

Aquifer Model: Unconfined

Solution Method: Theis