Evaluation of proposed move for Water Right No. 16776

Proposed: Move water right no. 27620 ID1 a distance of 2,490 ft east to a new location.

Wells within 1 mile: 28302, 8846, 3353, 17132, 9440, and two domestic wells labeled above.

The saturated thickness at the proposed well location is estimated to be 131.5 ft, based upon the GMD3 model. For saturated thickness between 125 ft and 150 ft, the drawdown allowance is 3.0 ft.

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

$S = 0.081$, $T = 84{,}107.4$ ft^2/day, $tp_{current} = 183$ days (based on average use and observed rate),

$Q_{current} = 631$ gpm (based on 2022 field inspection), $tp_{proposed} = 72$ days, $Q_{proposed} = 2000$ gpm

Theis drawdowns were calculated as follows:

28302:	Drawdown from current location = 0.68 ft
	Drawdown from proposed location = 1.08 ft
	Net drawdown = **0.4 ft**
8846:	Drawdown from current location = 0.54 ft
	Drawdown from proposed location = 1.04 ft
	Net drawdown = **0.5 ft**

3353:   Drawdown from current location = 0.53 ft

Drawdown from proposed location = 1.19 ft

Net drawdown = 0.7

17132:   Drawdown from current location = 0.57 ft

Drawdown from proposed location = 1.43 ft

Net drawdown = 0.9

9440:   Drawdown from current location = 0.70 ft

Drawdown from proposed location = 1.10 ft

Net drawdown = 0.4

Domestic 1:   Drawdown from current location = 1.10 ft

Drawdown from proposed location = 1.60 ft

Net drawdown = 0.5 ft

Domestic 2:   Drawdown from current location = 0.6 ft

Drawdown from proposed location = 1.44 ft

Net drawdown = 0.9 ft

Net drawdown does not exceed the drawdown allowance of 3.0 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 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.

Time (day)
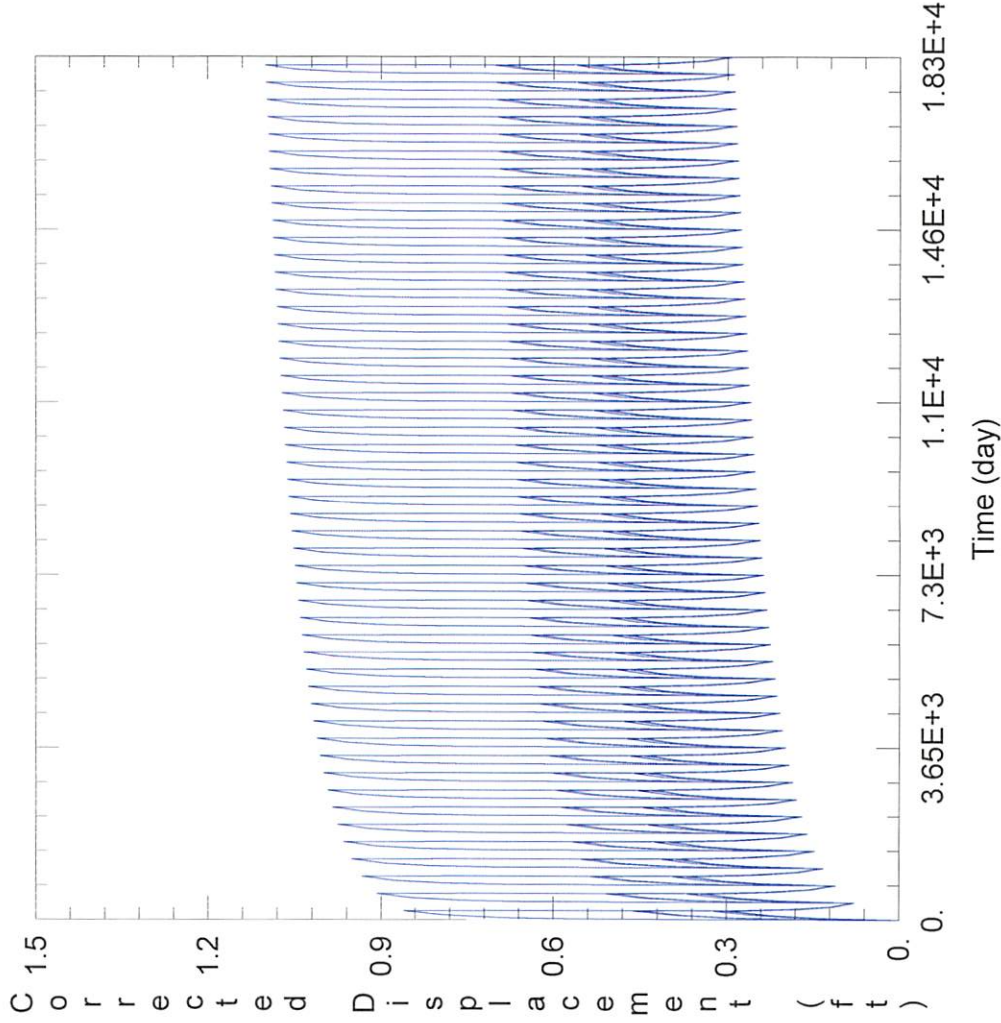
WELL TEST ANALYSIS

Data Set: C:\Users\scanstation\Documents\move requests\16776\16776 current.aqt
Date: 11/27/24   Time: 10:09:11

PROJECT INFORMATION

Test Well: 16776

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
16776	-231891	222180

Observation Wells

Well Name	X (ft)	Y (ft)
28302	-231891	222180
8846	-233203	224871
3353	-228947	227118
17132	-226580	225026
9440	-226704	221295
Domestic 1	-233218	219730
Domestic 2	-231592	222566
	-226819	221146

SOLUTION

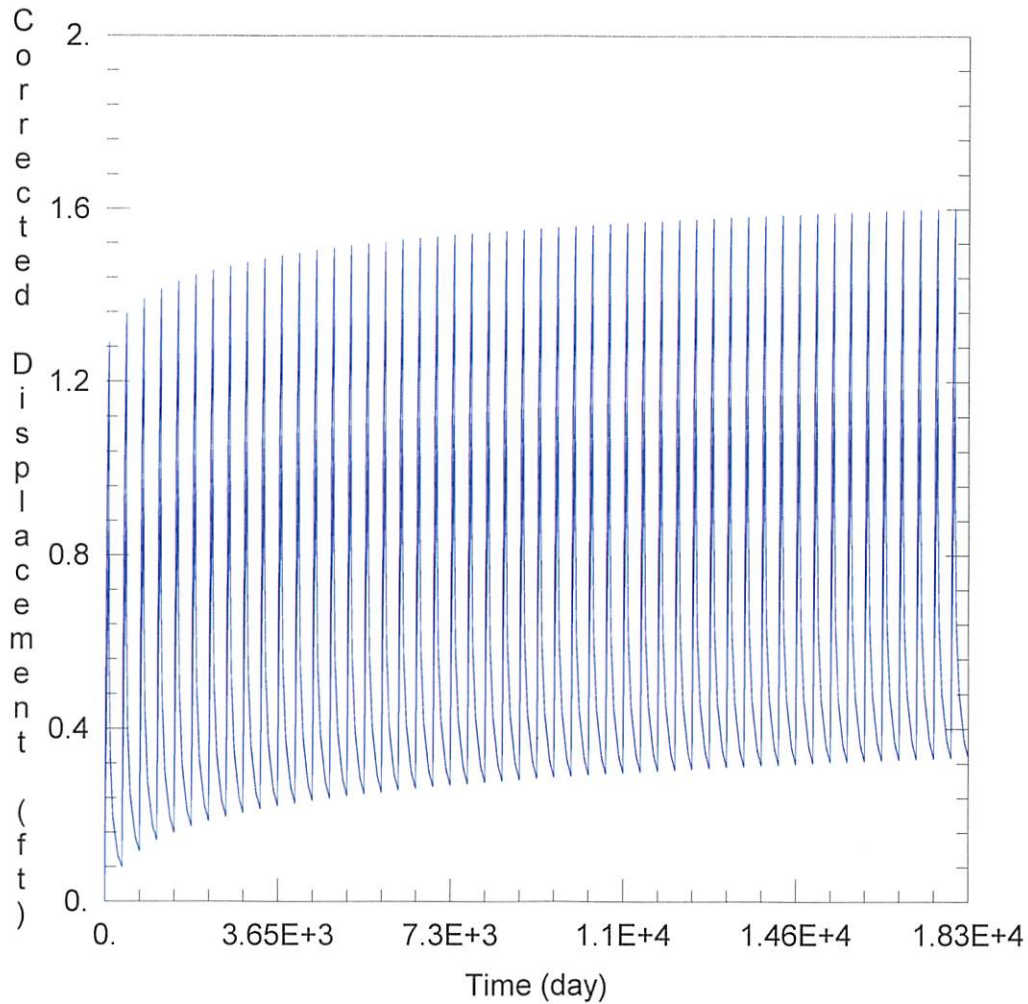Aquifer Model: Unconfined   Solution Method: Theis

T = 8.411E+4 ft²/day   S = 0.081
Kz/Kr = 1.   b = 131.5 ft

WELL TEST ANALYSIS

Data Set: C:\Users\scanstation\Documents\move requests\16776\16776 proposed.aqt

Date: 11/27/24   Time: 10:09:16

PROJECT INFORMATION

Test Well: 16776

WELL DATA

Pumping Wells			Observation Wells		
Well Name	X (ft)	Y (ft)	Well Name	X (ft)	Y (ft)
16776	-229401	222192	□	-229401	222192
			□ 28302	-233203	224871
			□ 8846	-228947	227118
			□ 3353	-226580	225026
			□ 17132	-226704	221295
			□ 9440	-233218	219730
			□ Domestic 1	-231592	222566
			□ Domestic 2	-226819	221146

SOLUTION

Aquifer Model: Unconfined   Solution Method: Theis

T   = 8.411E+4 ft^2/day   S   = 0.081
Kz/Kr = 1.   b   = 131.5 ft