Evaluation of proposed move for Water Right No. 14640

Proposed: Move water right no. 14640 a distance 2,482 ft northeast to a new location.

Wells within 1 mile: 33699, 6509, 9321, and one domestic well in S6-32-29.

The saturated thickness at the proposed well location is estimated to be 260 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:

$S = 0.091$, $T = 26,182$ ft^2/day, $tp_{current} = 111$ days (based on average use and observed rate),

$Q_{current} = 945$ gpm (based on 2020 field inspection), $tp_{proposed} = 87$ days, $Q_{proposed} = 1605$ gpm

Theis drawdowns were calculated as follows:

|	
33699:	Drawdown from current location = 1.63 ft
	Drawdown from proposed location = 2.16 ft
	Net drawdown = **0.5 ft**
6509:	Drawdown from current location = 1.49 ft
	Drawdown from proposed location = 3.01 ft
	Net drawdown = **1.5 ft**

9321: Drawdown from current location = 2.01 ft

Drawdown from proposed location = 1.91 ft

Net drawdown = **-0.1 ft**

Domestic S6-32-29: Drawdown from current location = 1.29 ft

Drawdown from proposed location = 2.34 ft

Net drawdown = **1.0 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 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.
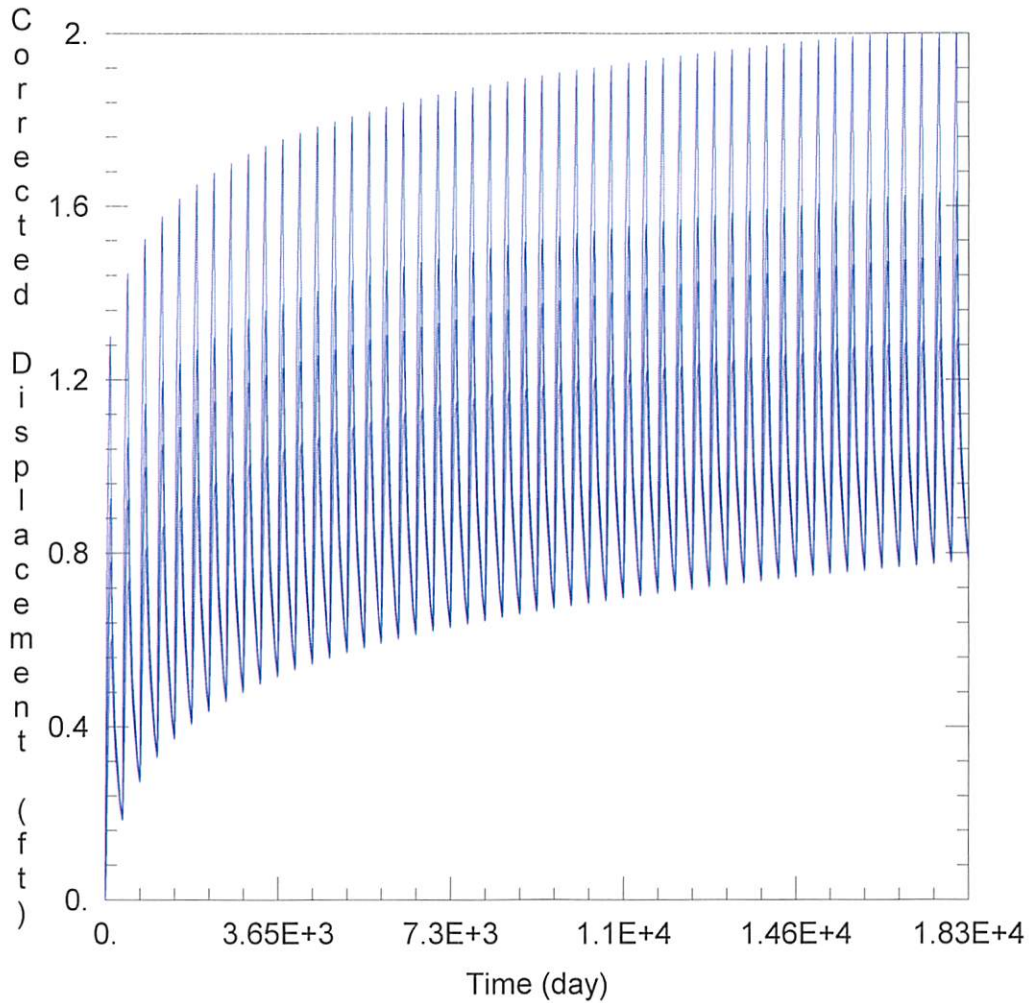
WELL TEST ANALYSIS

Data Set: C:\Users\scanstation\Documents\move requests\14640\14640 current.aqt
Date: 01/02/25   Time: 11:36:30

PROJECT INFORMATION

Test Well: 14640

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
14640	76831	145890

Observation Wells

Well Name	X (ft)	Y (ft)
▫	76831	145890
▫ 33699	75803	149639
▫ 6509	79646	149423
▫ 9321	74653	144319
▫ domestic	79837	150669

SOLUTION

Aquifer Model: Unconfined   Solution Method: Theis
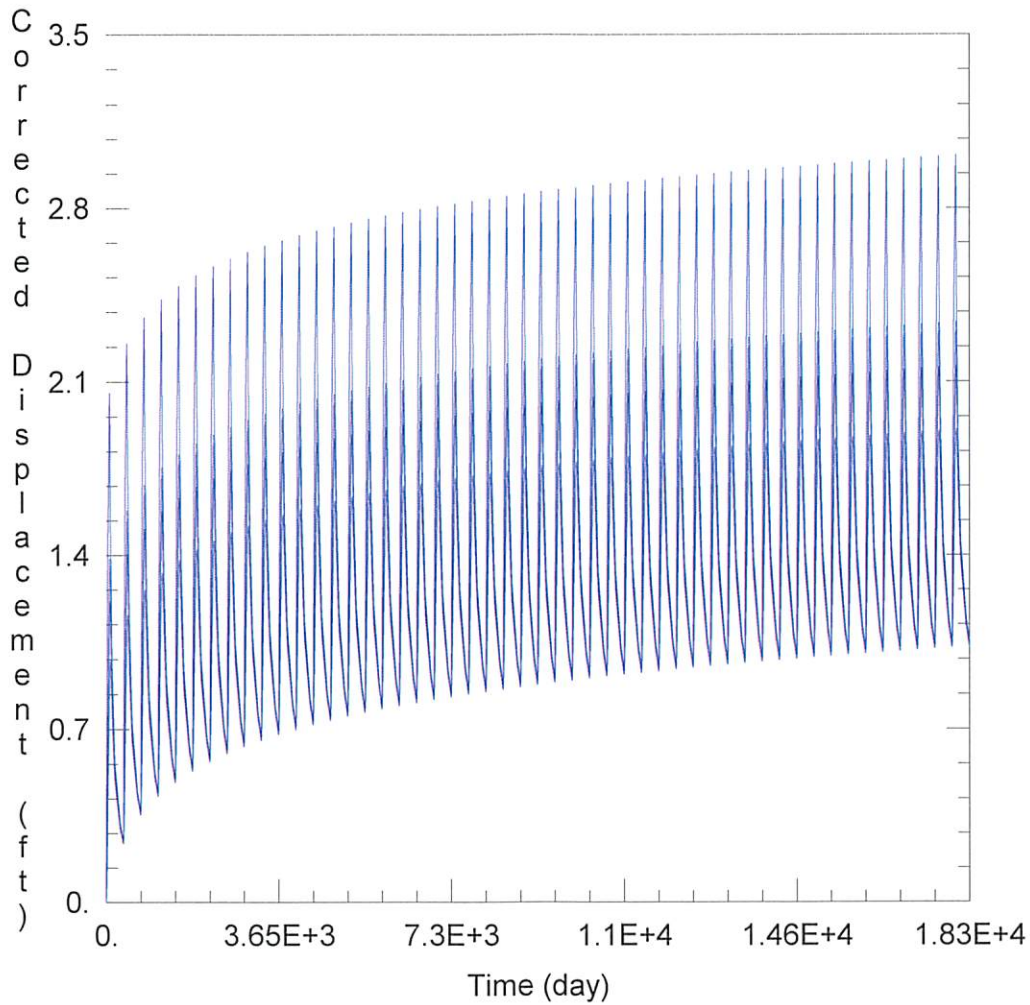
T   = 2.618E+4 ft^2/day   S   = 0.091
Kz/Kr = 1.   b   = 260. ft

WELL TEST ANALYSIS

Data Set: C:\Users\scanstation\Documents\move requests\14640\14640 proposed.aqt
Date: 01/02/25   Time: 11:36:33

PROJECT INFORMATION

Test Well: 14640

WELL DATA

Pumping Wells				Observation Wells		
Well Name	X (ft)	Y (ft)		Well Name	X (ft)	Y (ft)
14640	79103	146887		▢	79103	146887
				▢ 33699	75803	149639
				▢ 6509	79646	149423
				▢ 9321	74653	144319
				▢ domestic	79837	150669

SOLUTION

Aquifer Model: Unconfined   Solution Method: Theis

$T = 2.618E+4$ ft^2/day $S = 0.091$
$Kz/Kr = 1.$ $b = 260.$ ft