Evaluation of proposed move for Water Right No. 33705
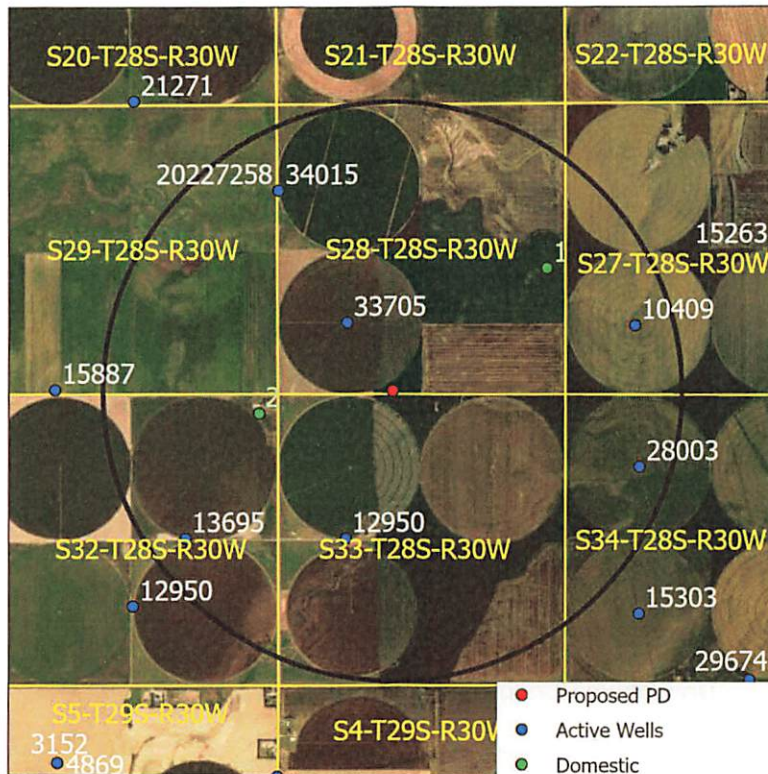
Proposed: Move water right no. 33705 to a new well location, a distance of 1,500 ft to the southeast.

Wells within 1 mile: 34015, 13695, 10409, 12950, and 28003 along with two domestic wells in sections 28-28-30 and 32-28-30.

The saturated thickness at the proposed well location is estimated to be 187.7 ft, based upon the GMD3 model. For saturated thickness between 150-200 ft, the drawdown allowance is 3.5 ft.

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

$S = 0.1294$, $T = 2,230.08$ ft^2/day, $tp_{current} = 77$ days (based on average use and observed rate), $Q_{current} = 590$ gpm (based on 2021 field inspection), $tp_{proposed} = 71$ days, $Q_{proposed} = 890$ gpm

Theis drawdowns were calculated as follows:

34015:	Drawdown from current location = 4.25 ft
	Drawdown from proposed location = 3.23ft
	Net drawdown = **-1.0 ft**
13695:	Drawdown from current location = 2.83 ft
	Drawdown from proposed location = 3.07 ft
	Net drawdown = **0.2 ft**

| 10409: | Drawdown from current location = 2.95 ft |
	Drawdown from proposed location = 3.05 ft
	Net drawdown = **0.1 ft**
12950:	Drawdown from current location = 3.38 ft
	Drawdown from proposed location = 4.14 ft
	Net drawdown = **0.8 ft**
28003:	Drawdown from current location = 2.61 ft
	Drawdown from proposed location = 3.02 ft
	Net drawdown = **0.4 ft**
Domestic 28-28-30:	Drawdown from current location = 3.47 ft
	Drawdown from proposed location = 3.57 ft
	Net drawdown = **0.1 ft**
Domestic 32-28-30:	Drawdown from current location = 4.78 ft
	Drawdown from proposed location = 4.56 ft
	Net drawdown = **-0.2 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 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.
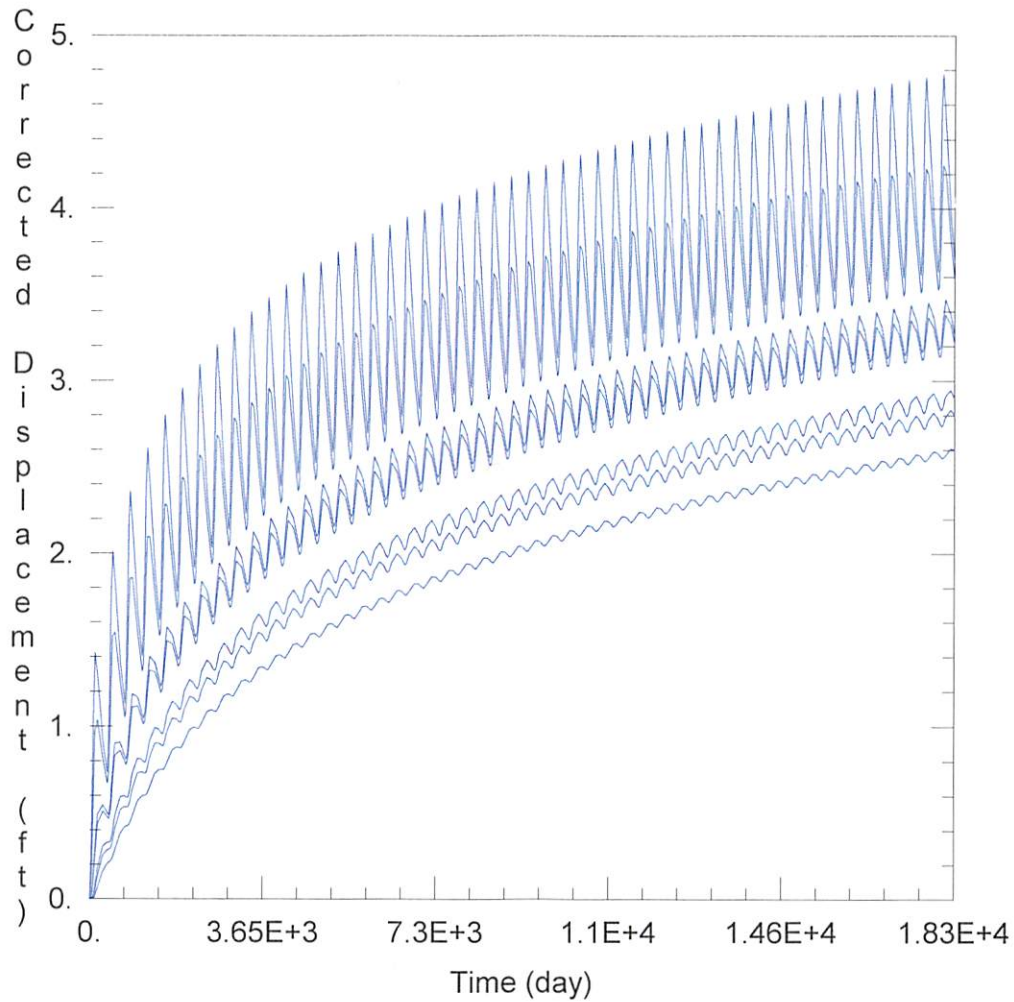
WELL TEST ANALYSIS

Data Set: C:\Users\scanstation\Documents\move requests\33705\33705 current.aqt
Date: 07/01/24   Time: 11:52:32

PROJECT INFORMATION

Test Well: 33705

WELL DATA

Pumping Wells			Observation Wells		
Well Name	X (ft)	Y (ft)	Well Name	X (ft)	Y (ft)
33705	54465	256871	▫	54465	256871
			▫ 34015	53217	259282
			▫ 10409	59710	256816
			▫ 13695	51517	252932
			▫ 12950	54435	252941
			▫ 28003	59803	254249
			▫ Domestic 1	58113	257867
			▫ Domestic2	52856	255213

SOLUTION

Aquifer Model: Unconfined   Solution Method: Theis
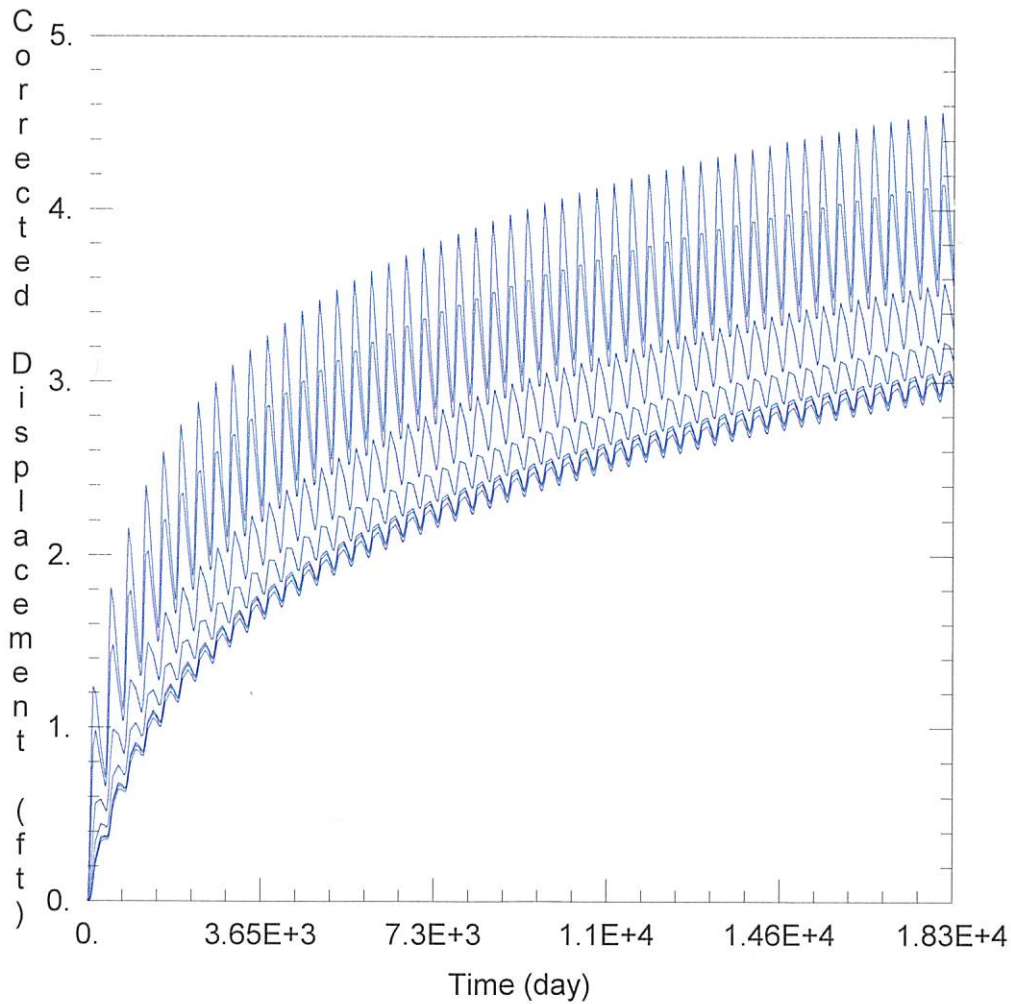
T   = 2230.1 ft^2/day   S   = 0.1294
Kz/Kr = 1.   b   = 187.7 ft

WELL TEST ANALYSIS

Data Set: C:\Users\scanstation\Documents\move requests\33705\33705 proposed.aqt
Date: 07/01/24   Time: 11:52:27

PROJECT INFORMATION

Test Well: 33705

WELL DATA

Pumping Wells		
Well Name	X (ft)	Y (ft)
33705	55288	255614

Observation Wells		
Well Name	X (ft)	Y (ft)
□	55288	255614
□ 34015	53217	259282
□ 10409	59710	256816
□ 13695	51517	252932
□ 12950	54435	252941
□ 28003	59803	254249
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SOLUTION

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T   = 2230.1 ft^2/day   S   = 0.1294
Kz/Kr = 1.   b   = 187.7 ft