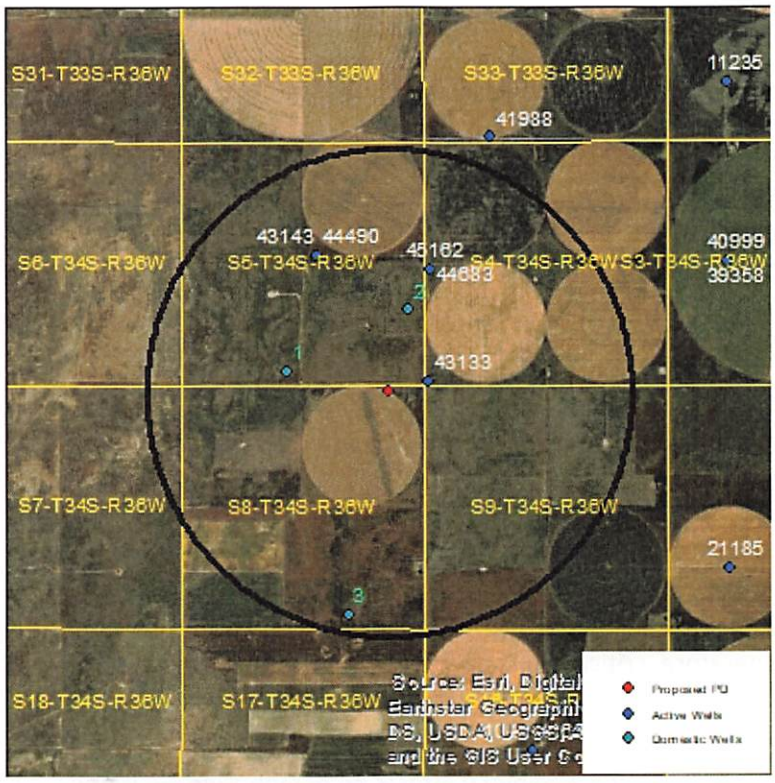
Evaluation of proposed move for Water Right No. 43133

Proposed: Move water right no. 43133 a distance of 876 ft to the southwest.



Wells within 1 mile: 44683 & 45162, 43143 & 44490, and three domestic wells, numbered on the above map.

The saturated thickness at the proposed well location is estimated to be 370 ft, based upon the driller's log and an observation well in section 10-34-36. 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 = 0.1644, T = 5812.1 ft^2/day,

$tp_{current}$ = 120 days (assumed), $Q_{current}$ = 479 gpm (based on average use and assumed time pumped), $tp_{proposed}$ = 104 days, $Q_{proposed}$ = 1090 gpm

Theis drawdowns were calculated as follows:

44683 & 45162: Drawdown from current location = 2.77 ft

Drawdown from proposed location = 4.98 ft

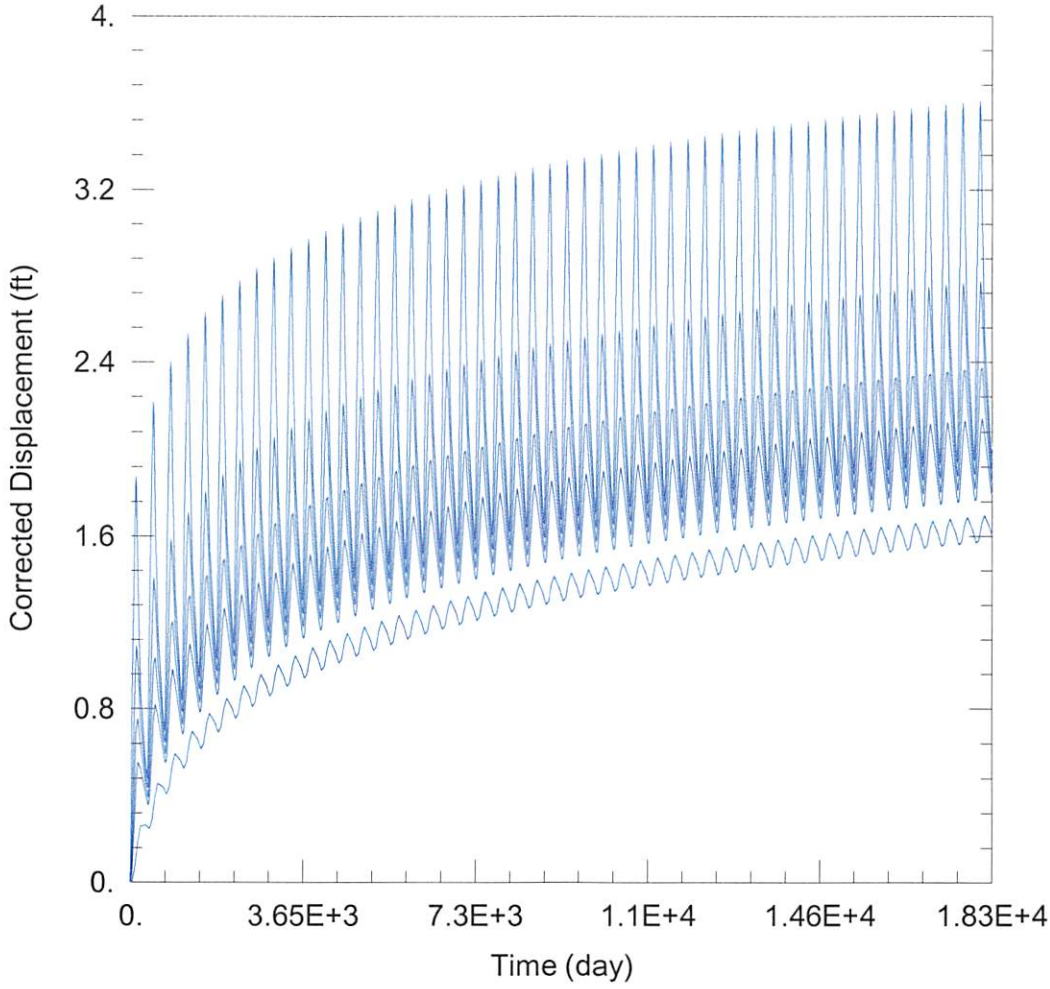
Net drawdown = **2.2 ft**

43143 & 44490:	Drawdown from current location = 2.14 ft
	Drawdown from proposed location = 4.47 ft
	Net drawdown = **2.3 ft**
Domestic 1:	Drawdown from current location = 2.37 ft
	Drawdown from proposed location = 5.83 ft
	Net drawdown = **3.5 ft**
Domestic 2:	Drawdown from current location = 3.61 ft
	Drawdown from proposed location = 6.68 ft
	Net drawdown = **3.1 ft**
Domestic 3:	Drawdown from current location = 1.70 ft
	Drawdown from proposed location = 3.54 ft
	Net drawdown = **1.8 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 is unlikely to cause impairment. GMD3 staff recommends approval of this proposal.



WELL TEST ANALYSIS

Data Set: C:\Users\trevora\Documents\2021_Moves\43133\43133 Current.aqt
Date: 06/30/21 Time: 16:14:55

PROJECT INFORMATION

Company: GMD 3
Project: 43133
Location: Stevens County

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
43133	-130803	86680

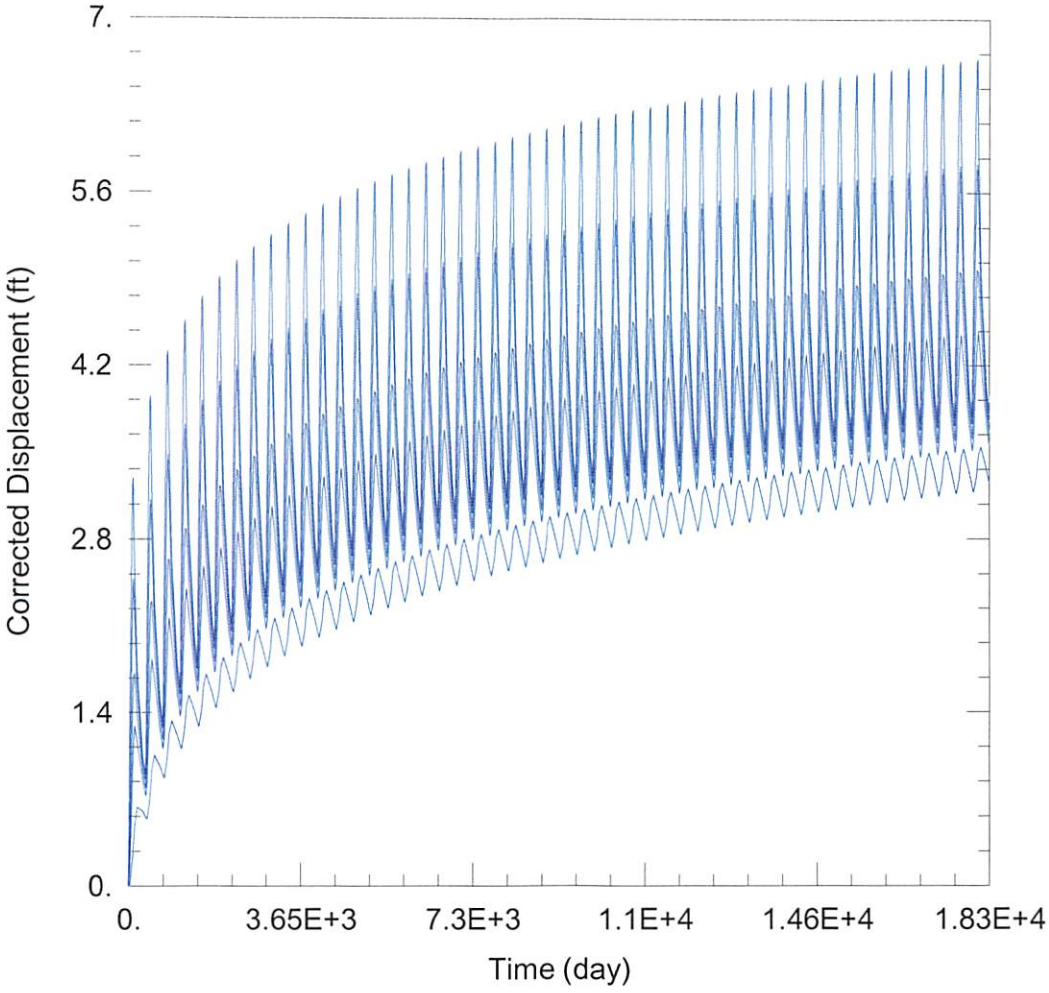
Observation Wells

Well Name	X (ft)	Y (ft)
▫	-130803	86680
▫ 44683 & 45162	-130762	89112
▫ 43143 & 44490	-133239	89394
▫ Domestic 1	-133864	86896
▫ Domestic 2	-131216	88204
▫ Domestic 3	-132540	81634

SOLUTION

Aquifer Model: Unconfined
Solution Method: Theis

T = 5812.1 ft^2/day
S = 0.1644
Kz/Kr = 1.
b = 370. ft



WELL TEST ANALYSIS

Data Set: C:\Users\trevora\Documents\2021_Moves\43133\43133 Proposed.aqt
Date: 06/30/21 Time: 16:14:47

PROJECT INFORMATION

Company: GMD 3
Project: 43133
Location: Stevens County

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
43133	-131641	86426

Observation Wells

Well Name	X (ft)	Y (ft)
▫	-131641	86426
▫ 44683 & 45162	-130762	89112
▫ 43143 & 44490	-133239	89394
▫ Domestic 1	-133864	86896
▫ Domestic 2	-131216	88204
▫ Domestic 3	-132540	81634

SOLUTION

Aquifer Model: Unconfined
Solution Method: Theis

T = 5812.1 ft^2/day
S = 0.1644
Kz/Kr = 1.
b = 370. ft