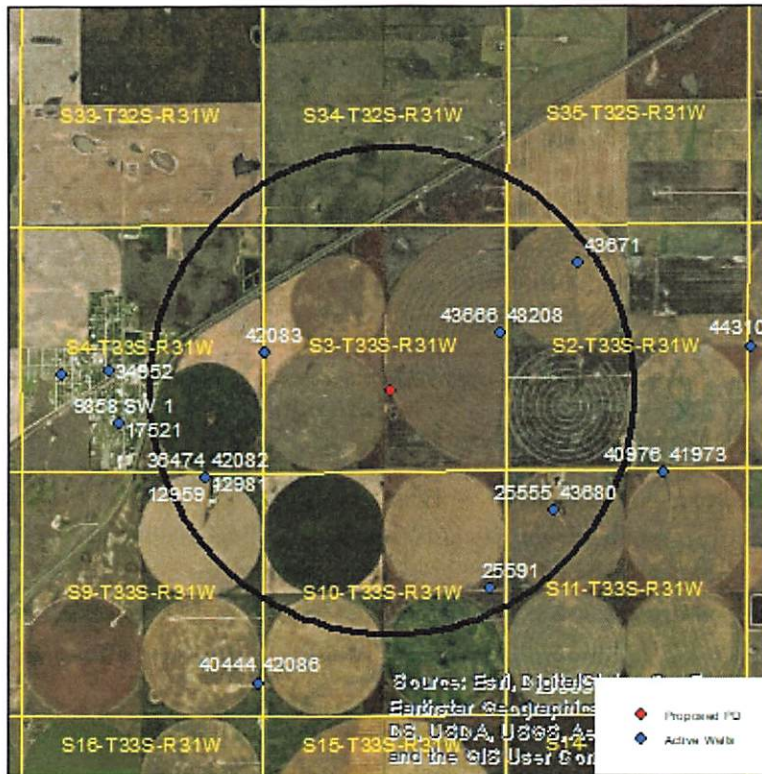


Evaluation of proposed move for Water Right Nos. 43666 and 48208A

Proposed: Move water right nos. 43666 & 48208A a distance of 2,640 ft to the southwest.



Wells within 1 mile: 42083, 43671, 12959 & 12981 & 36474 & 42082, 25591, and 25555 & 43680.

The saturated thickness at the proposed well location is estimated to be 220 ft, based upon the driller's log and an observation well in section 9-33-31. 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:

$$S = 0.1902, T = 7437.7 \text{ ft}^2/\text{day},$$

$t_{p\text{current}} = 94$ days (based on observed rate and average use), $Q_{\text{current}} = 958$ gpm (based on 2018 field inspection), $t_{p\text{proposed}} = 103$ days, $Q_{\text{proposed}} = 1100$ gpm

Theis drawdowns were calculated as follows:

- 42083: Drawdown from current location = 2.20 ft
 Drawdown from proposed location = 4.02 ft
 Net drawdown = **1.8 ft**
- 43671: Drawdown from current location = 3.80 ft
 Drawdown from proposed location = 2.84 ft
 Net drawdown = **-1.0 ft**

12959 & 12981 &

36474 & 42082:

Drawdown from current location = 1.79 ft

Drawdown from proposed location = 2.98 ft

Net drawdown = **1.2 ft**

25591:

Drawdown from current location = 2.10 ft

Drawdown from proposed location = 2.88 ft

Net drawdown = **0.8 ft**

25555 & 43680:

Drawdown from current location = 2.57 ft

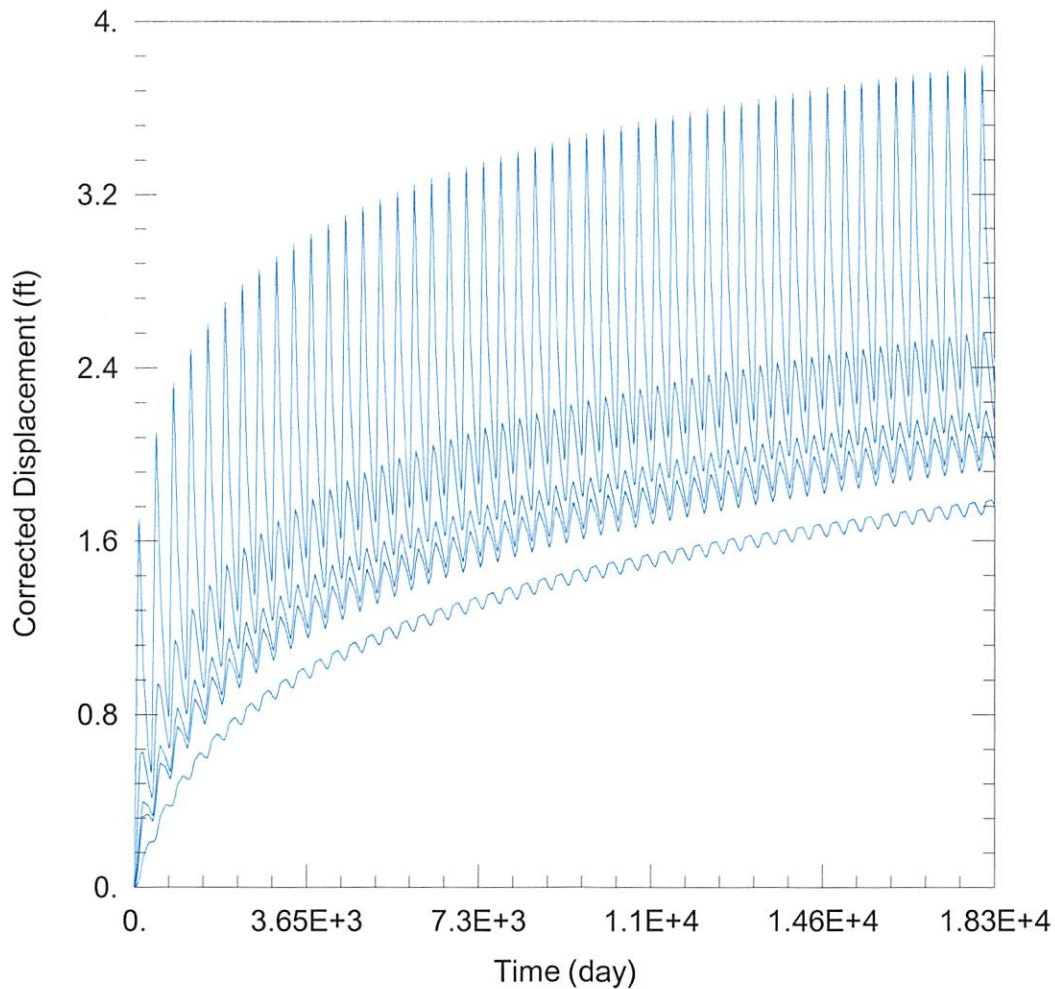
Drawdown from proposed location = 3.03 ft

Net drawdown = **0.5 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\2022_moves\43666_48208A\43666 Current.aqt

Date: 02/17/22

Time: 16:19:31

PROJECT INFORMATION

Company: GMD 3

Project: 43666 & 48208A

Location: Seward County

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
43666 & 48208	37088	120913

Observation Wells

Well Name	X (ft)	Y (ft)
□	37088	120913
□ <u>42083</u>	31992	120484
□ <u>43671</u>	38775	122434
□ <u>12959 & 12981 & 36474 & 430684</u>	36862	117789
□ <u>25591</u>	36862	115404
□ <u>25555 & 43680</u>	38258	117088

SOLUTION

Aquifer Model: Unconfined

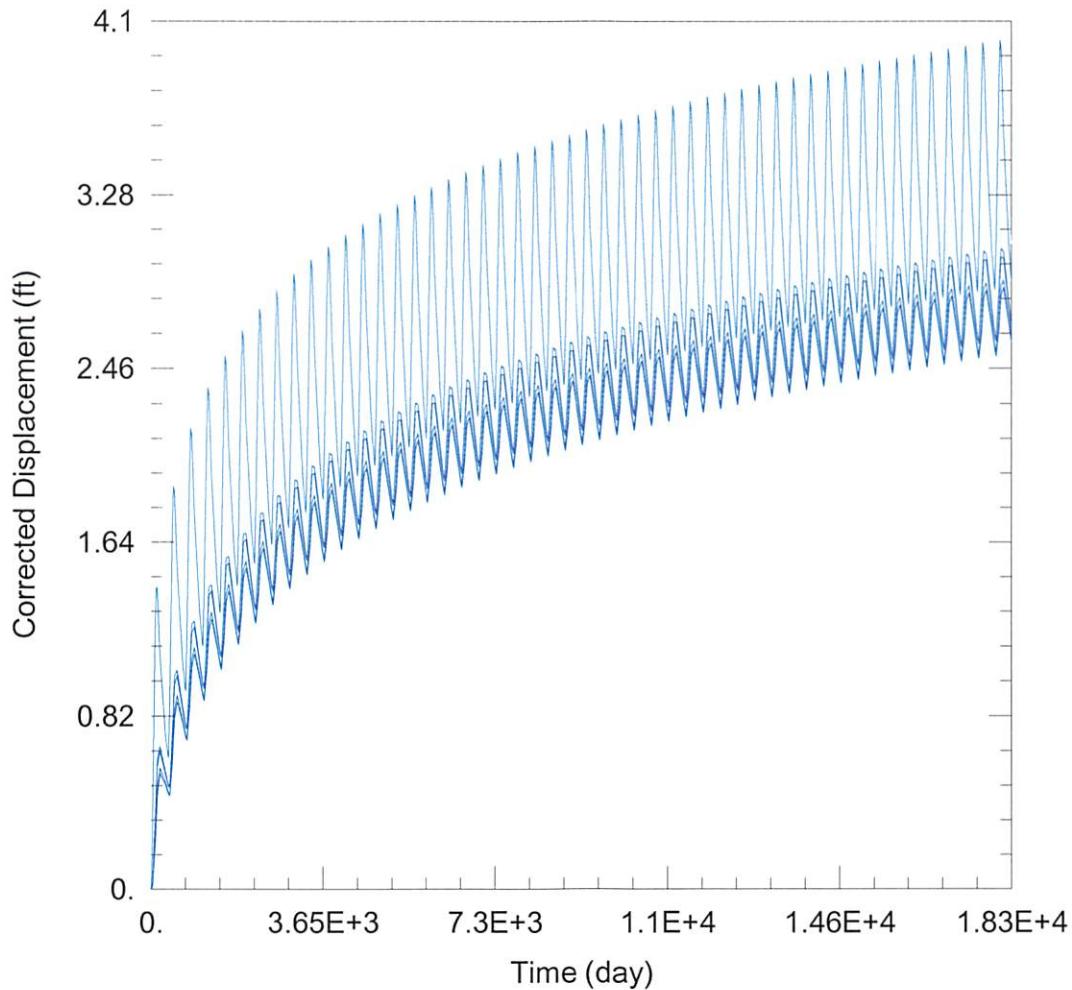
Solution Method: Theis

T = 7437.7 ft²/day

S = 0.1902

Kz/Kr = 1.

b = 220. ft



WELL TEST ANALYSIS

Data Set: C:\Users\trevora\Documents\2022_moves\43666_48208A\43666 Proposed.aqt

Date: 02/17/22

Time: 16:19:24

PROJECT INFORMATION

Company: GMD 3

Project: 43666 & 48208A

Location: Seward County

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
43666 & 48208	34731	119687

Observation Wells

Well Name	X (ft)	Y (ft)
□	34731	119687
□ <u>42083</u>	31992	120484
□ <u>43671</u>	38775	122434
□ <u>12959 & 12981 & 36474 & 430684</u>	36862	117789
□ <u>25591</u>	36862	115404
□ <u>25555 & 43680</u>	38258	117088

SOLUTION

Aquifer Model: Unconfined

Solution Method: Theis

T = 7437.7 ft²/day

S = 0.1902

Kz/Kr = 1.

b = 220. ft