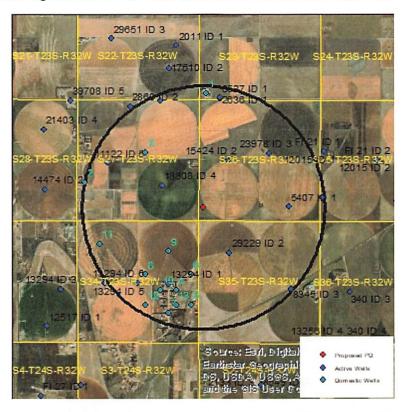
Evaluation of proposed move for Water Right No. 15424

Proposed: Move water right no. 15424 to a new well location a distance of 2,314 ft to the southwest.



Wells within 1 mile: 23978, 5407, FI 21 & 12015, FI 19 & 2636 & 6527 & 10329, 10329, 2383, 11122, 18908, 13924 ID 1, 13924 ID 5, 29229, 8345, and 13 domestic wells, numbered on the above map.

The saturated thickness at the proposed well location is estimated to be 69 ft, based upon the driller's log and an observation well in section 26-23-32. For saturated thickness between 50 ft and 75 ft, the drawdown allowance is 1.5 ft.

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

$$S = 0.1298$$
, $T = 3157.9$ ft²/day, $tp_{current} = 144$ days, $Q_{current} = 272$ gpm, $tp_{proposed} = 55$ days, $Q_{proposed} = 1480$ gpm

Theis drawdowns were calculated as follows:

23978: Drawdown from current location = 3.62 ft

Drawdown from proposed location = 4.97 ft

Net drawdown = 1.4 ft

5407: Drawdown from current location = 2.52 ft

Drawdown from proposed location = 4.96 ft

Net drawdown = 2.4 ft

$\Gamma(Z) \propto (Z) \times (Z)$	FI 21 & 12015:	Drawdown from current location = 2.14 ft
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Drawdown from proposed location = 4.01 ft

Net drawdown = 1.9 ft

FI 19 & 2636 & 6527 & 10329: Drawdown from current location = 2.82 ft

Drawdown from proposed location = 4.19 ft

Net drawdown = 1.4 ft

10329: Drawdown from current location = 2.84ft

Drawdown from proposed location = 4.21 ft

Net drawdown = 1.4 ft

2383: Drawdown from current location = 2.27 ft

Drawdown from proposed location = 4.08 ft

Net drawdown = 1.8 ft

11122: Drawdown from current location = 1.91 ft

Drawdown from proposed location = 4.31 ft

Net drawdown = 2.4 ft

18908: Drawdown from current location = 2.64 ft

Drawdown from proposed location = 7.58 ft

Net drawdown = 4.9 ft

13924 ID 1: Drawdown from current location = 1.76 ft

Drawdown from proposed location = 5.01 ft

Net drawdown = 3.2 ft

13924 ID 5: Drawdown from current location = 1.65 ft

Drawdown from proposed location = 4.48 ft

Net drawdown = 2.8 ft

29229: Drawdown from current location = 2.25 ft

Drawdown from proposed location = 6.99 ft

Net drawdown = 4.7 ft

8345: Drawdown from current location = 1.72 ft

Drawdown from proposed location = 3.99 ft

Net drawdown = 2.3 ft

Domestic 1: Drawdown from current location = 2.65 ft

Drawdown from proposed location = 4.11 ft

Net drawdown = 1.5 ft

Domestic 2: Drawdown from current location = 1.70 ft

Drawdown from proposed location = 3.97 ft

Net drawdown = 2.3 ft

Domestic 3: Drawdown from current location = 2.39 ft

Drawdown from proposed location = 5.17 ft

Net drawdown = 2.8 ft

Domestic 4: Drawdown from current location = 1.75 ft

Drawdown from proposed location = 4.93 ft

Net drawdown = 3.2 ft

Domestic 5: Drawdown from current location = 1.68 ft

Drawdown from proposed location = 4.55 ft

Net drawdown = 2.9 ft

Domestic 6: Drawdown from current location = 1.93 ft

Drawdown from proposed location = 5.76 ft

Net drawdown = 3.8 ft

Domestic 7: Drawdown from current location = 1.58 ft

Drawdown from proposed location = 4.19 ft

Net drawdown = 2.6 ft

Domestic 8: Drawdown from current location = 1.74 ft

Drawdown from proposed location = 4.87 ft

Net drawdown = 3.1 ft

Domestic 9: Drawdown from current location = 2.04 ft

Drawdown from proposed location = 6.66 ft

Net drawdown = 4.62 ft

Domestic 10: Drawdown from current location = 1.70 ft

Drawdown from proposed location = 4.73 ft

Net drawdown = 3.0 ft

Domestic 11: Drawdown from current location = 1.65 ft

Drawdown from proposed location = 4.22 ft

Net drawdown = 2.6 ft

Domestic 12: Drawdown from current location = 1.56 ft

Drawdown from proposed location = 4.13 ft

Net drawdown = 2.6 ft

Domestic 13: Drawdown from current location = 1.65 ft

Drawdown from proposed location = 4.46 ft

Net drawdown = 2.8 ft

Net drawdown exceeds the drawdown allowance of 2.5 ft for water right numbers 5407, FI 21 & 12015, 2383, 11122, 18908, 13924 ID 1, 13924 ID 5, 29229, and 8345, and for domestic wells 2-13. The GMD3 model predicts that no saturated thickness will remain in section 26-23-32 in 25 years, so all wells are considered critical.

Conclusion:

The proposed moves are in an area with a depleted aquifer that will soon lose productivity. If the new well is operated at the proposed rate and quantity, it is likely to create noticeable effects on neighboring critical wells. GMD3 staff recommends a rate limitation of 400 gpm and a quantity limitation of 202 AF at the proposed new well location. This rate and quantity would produce the following net effects on neighboring critical wells:

5407: Net Drawdown = 0.2 ft

FI 21 & 12015: Net Drawdown = 0.1 ft

2383: Net Drawdown = 0.0 ft

11122: Net Drawdown = **0.5** ft

18908: Net Drawdown = **1.4** ft

13924 ID 1: Net Drawdown = **1.0** ft

13924 ID 5: Net Drawdown = **0.8** ft

29229: Net Drawdown = **1.5** ft

8345: Net Drawdown = 0.5 ft

Domestic 2: Net Drawdown = 0.5 ft

Domestic 3: Net Drawdown = 0.5 ft

Domestic 4: Net Drawdown = 1.0 ft

Domestic 5: Net Drawdown = 0.9 ft

Domestic 6: Net Drawdown = 1.3 ft

Domestic 7: Net Drawdown = 0.7 ft

Domestic 8: Net Drawdown = **1.0** ft

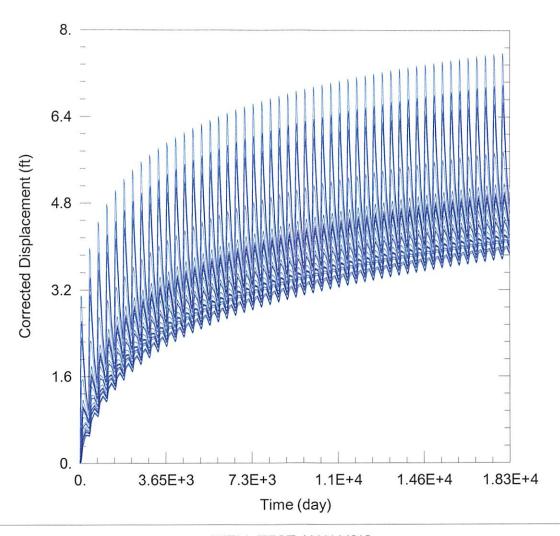
Domestic 9: Net Drawdown = **1.5** ft

Domestic 10: Net Drawdown = 0.9 ft

Domestic 11: Net Drawdown = 0.7 ft

Domestic 12: Net Drawdown = 0.8 ft

Domestic 13: Net Drawdown = **0.8** ft



WELL TEST ANALYSIS

Data Set: C:\Users\trevora\Documents\2021_Moves\15424\15424 Proposed.aqt

Date: 03/24/21 Time: 14:54:15

PROJECT INFORMATION

Company: GMD 3 Project: 15424

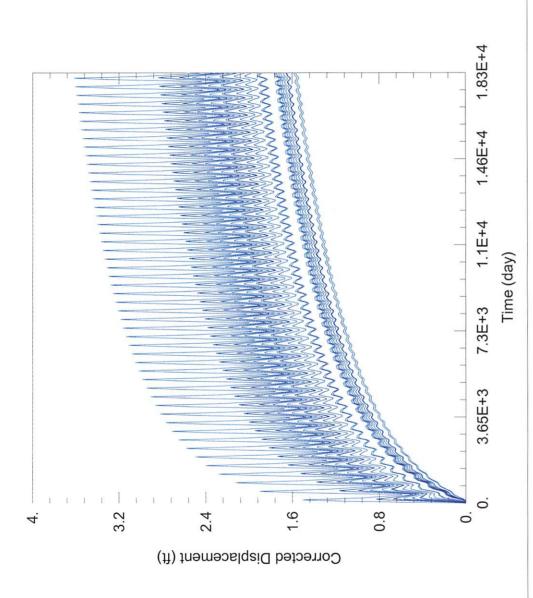
Location: Finney County

Test Well: 15424

WELL DATA

P	umping Wells	
Well Name	X (ft)	Y (ft)
15424	-3096	416890

Observa	ation Wells	
Well Name	X (ft)	Y (ft)
	-3096	416890
23978	-218	419220
5407	618	416915
□ FI 21 & 12015	2058	417301
□ FI 19 & 2636 & 6527 &	1032-2378	421646
- 10329	-2349	421609
- 2383	-4941	421537
o 11122	-7275	418824
18908	-4885	417848
□ 13924 ID1	-4626	413576
□ 13924 ID5	-5980	413624
29229	-1946	414942
□ 8345	733	413354



WELL TEST ANALYSIS

Data Set: C:\Users\trevora\Documents\2021_Moves\15424\15424 Current.aqt Date: 03/24/21

PROJECT INFORMATION

Company: GMD 3 Project: 15424

Location: Finney County

Test Well: 15424

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>	

Y (ft) 418929

X (ft) -2004

Well Name 15424

Pumping Wells

Observat	Observation Wells	
Well Name	X (ft)	Y (ft)
	-2004	418929
□ 23978	-218	419220
□ 5407	618	416915
□ FI 21 & 12015	2058	417301
□ FI 19 & 2636 & 6527 & 1032-2378	032-2378	421646
□ 10329	-2349	421609
□ 2383	-4941	421537
· 11122	-7275	418824
□ 18908	-4885	417848
□ 13924 ID1	-4626	413576
□ 13924 ID5	-5980	413624
□ 29229	-1946	414942
□ 8345	733	413354