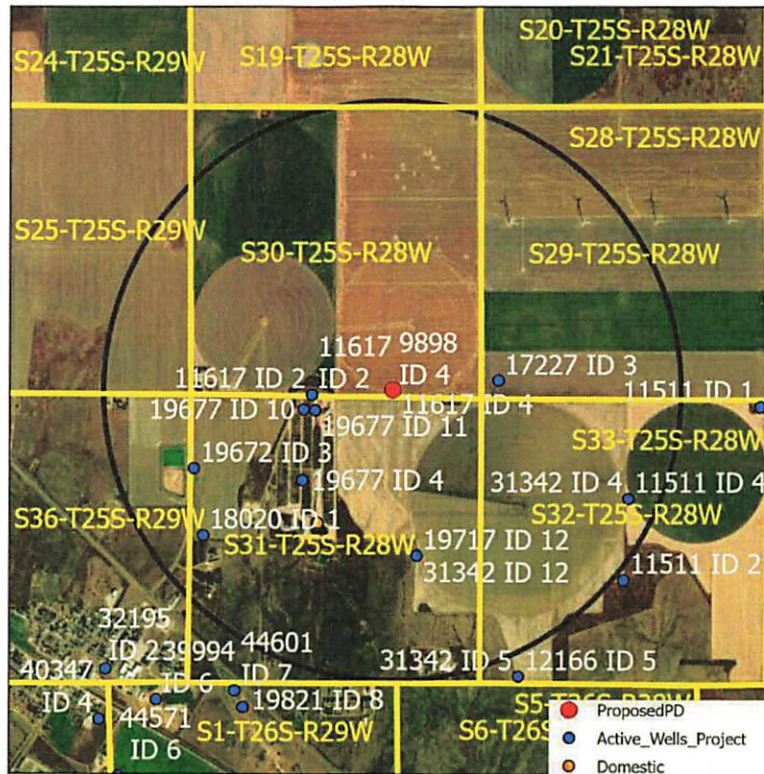


## Evaluation of proposed move for Water Right No. 11617 ID2

Proposed: Move water right no. 11617 ID2 a distance of 1474 ft to the east and stack it onto another water right under no. 9898



Wells within 1 mile: 17227, 19672, 18020, 19677 ID4, 19677 ID10, 19677 ID11, 19717, 11511, and one domestic well in S31-25-29.

The saturated thickness at the proposed well location is estimated to be 83.6 ft, based upon the GMD3 model. For saturated thickness between than 75 ft and 100 ft, the drawdown allowance is 2.0 ft.

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

$S = 0.058$ ,  $T = 9295 \text{ ft}^2/\text{day}$ ,  $tp_{\text{current}} = 164 \text{ days}$ ,  $Q_{\text{current}} = 165 \text{ gpm}$ ,  $tp_{\text{proposed}} = 94 \text{ days}$ ,  $Q_{\text{proposed}} = 1240 \text{ gpm}$

These drawdowns were calculated as follows:

17227: Drawdown from current location = 1.27 ft  
 Drawdown from proposed location = 6.85 ft  
 Net drawdown = **5.6 ft**

19672: Drawdown from current location = 0.91 ft  
 Drawdown from proposed location = 4.38 ft  
 Net drawdown = **3.5 ft**

18020: Drawdown from current location = 0.86 ft  
Drawdown from proposed location = 4.09 ft  
Net drawdown = **3.23 ft**

19677 ID4: Drawdown from current location = 1.17 ft  
Drawdown from proposed location = 6.19 ft  
Net drawdown = **5.0 ft**

19677 ID10: Drawdown from current location = 1.35 ft  
Drawdown from proposed location = 7.49 ft  
Net drawdown = **6.1 ft**

19677 ID11: Drawdown from current location = 1.42 ft  
Drawdown from proposed location = 7.98 ft  
Net drawdown = **6.6 ft**

19717: Drawdown from current location = 1.03 ft  
Drawdown from proposed location = 5.19 ft  
Net drawdown = **4.16 ft**

11511: Drawdown from current location = 0.82 ft  
Drawdown from proposed location = 3.85 ft  
Net drawdown = **3.0 ft**

Domestic S31-25-29: Drawdown from current location = 1.08 ft  
Drawdown from proposed location = 5.53 ft  
Net drawdown = **4.4 ft**

Net drawdown exceeds the drawdown allowance for all wells labeled above, so a critical analysis was ran for all wells.

**Critical Well Evaluation:**

**17227:**

Water Column = 87 ft

DP = 5.6 ft (Net drawdown from the proposal indicated above)

DE = 37.5 ft (Water level decline from 2024 through 2049 based upon GMD3 model)

DD = 0 ft (No water use in last 10 years)

DT = 43.1 ft

Economic Drawdown Constraint (EDC) =  $0.4 * 87 \text{ ft} = 34.8 \text{ ft}$

Physical Drawdown Constraint (PDC) =  $87 \text{ ft} - 60 \text{ ft} = 27.0 \text{ ft}$

Total drawdown of 43.1 ft is greater than the EDC and the PDC, so this well is **critical**.

**19672:**

Water Column = 78 ft

DP = 3.5 ft (Net drawdown from the proposal indicated above)

DE = 35.3 ft (Water level decline from 2024 through 2049 based upon GMD3 model)

DD = 4.0 ft ( $S = 0.061$ ,  $T = 6,387 \text{ ft}^2/\text{day}$ ,  $Q = 97 \text{ gpm}$ ,  $tp = 120 \text{ days}$ , efficiency = 70%)

DT = 42.8 ft

Economic Drawdown Constraint (EDC) =  $0.4 * 78 \text{ ft} = 31.2 \text{ ft}$

Physical Drawdown Constraint (PDC) =  $78 \text{ ft} - 60 \text{ ft} = 18.0 \text{ ft}$

Total drawdown of 42.8 ft exceeds the EDC and the PDC, so this well is **critical**.

**18020:**

Water Column = 78 ft

DP = 3.2 ft (Net drawdown from the proposal indicated above)

DE = 35.3 ft (Water level decline from 2024 through 2049 based upon GMD3 model)

DD = 4.3 ft ( $S = 0.061$ ,  $T = 6,287 \text{ ft}^2/\text{day}$ ,  $Q = 100 \text{ gpm}$ ,  $tp = 191 \text{ days}$ , efficiency = 70%)

DT = 42.8 ft

Economic Drawdown Constraint (EDC) =  $0.4 * 78 \text{ ft} = 31.2 \text{ ft}$

Physical Drawdown Constraint (PDC) =  $78 \text{ ft} - 60 \text{ ft} = 18.0 \text{ ft}$

Total drawdown of 42.8 ft exceeds the EDC and the PDC, so this well is **critical**.

**19677 ID4:**

Water Column = 78 ft

DP = 5.0 ft (Net drawdown from the proposal indicated above)

DE = 35.3 ft (Water level decline from 2024 through 2049 based upon GMD3 model)

DD = 1.47 ft ( $S = 0.061$ ,  $T = 6,287 \text{ ft}^2/\text{day}$ ,  $Q = 34 \text{ gpm}$ ,  $t_p = 219 \text{ days}$ , efficiency = 70%)

DT = 47.8 ft

Economic Drawdown Constraint (EDC) =  $0.4 * 78 \text{ ft} = 31.2 \text{ ft}$

Physical Drawdown Constraint (PDC) =  $78 \text{ ft} - 60 \text{ ft} = 18.0 \text{ ft}$

Total drawdown of 41.8 ft is greater than the EDC and the PDC, so this well is critical.

**19677 ID10:**

Water Column = 82 ft

DP = 6.1 ft (Net drawdown from the proposal indicated above)

DE = 37.0 ft (Water level decline from 2024 through 2049 based upon GMD3 model)

DD = 0 ft (No use in last 10 years)

DT = 43.1 ft

Economic Drawdown Constraint (EDC) =  $0.4 * 82 \text{ ft} = 32.8 \text{ ft}$

Physical Drawdown Constraint (PDC) =  $82 \text{ ft} - 60 \text{ ft} = 22.0 \text{ ft}$

Total drawdown of 43.1 ft is greater than the EDC and the PDC, so this well is critical.

**19677 ID11:**

Water Column = 84 ft

DP = 6.6 ft (Net drawdown from the proposal indicated above)

DE = 38.0 ft (Water level decline from 2024 through 2049 based upon GMD3 model)

DD = 1.04 ft ( $S = 0.058$ ,  $T = 9,338 \text{ ft}^2/\text{day}$ ,  $Q = 35 \text{ gpm}$ ,  $t_p = 219 \text{ days}$ , efficiency = 70%)

DT = 45.6 ft

Economic Drawdown Constraint (EDC) =  $0.4 * 84 \text{ ft} = 33.6 \text{ ft}$

Physical Drawdown Constraint (PDC) =  $84 \text{ ft} - 60 \text{ ft} = 24.0 \text{ ft}$

Total drawdown of 45.6 ft is greater than the EDC and the PDC, so this well is critical.

**19717:**

Water Column = 83 ft

DP = 4.2 ft (Net drawdown from the proposal indicated above)

DE = 37.8 ft (Water level decline from 2024 through 2049 based upon GMD3 model)

DD = 14.3 ft (S = 0.064, T = 9,256 ft<sup>2</sup>/day, Q = 500 gpm, tp = 107 days, efficiency = 70%)

DT = 56.3 ft

Economic Drawdown Constraint (EDC) = 0.4 \* 83 ft = 33.2 ft

Physical Drawdown Constraint (PDC) = 83 ft – 60 ft = 23.0 ft

Total drawdown of 56.3 ft is greater than the EDC and the PDC, so this well is **critical**.

**11511:**

Water Column = 69 ft

DP = 3.0 ft (Net drawdown from the proposal indicated above)

DE = 37.0 ft (Water level decline from 2024 through 2049 based upon GMD3 model)

DD = 15.4 ft (S = 0.048, T = 7,829 ft<sup>2</sup>/day, Q = 455 gpm, tp = 94 days, efficiency = 70%)

DT = 55.4 ft

Economic Drawdown Constraint (EDC) = 0.4 \* 69 ft = 33.2 ft

Physical Drawdown Constraint (PDC) = 69 ft – 60 ft = 9.0 ft

Total drawdown of 55.4 ft is greater than the EDC and the PDC, so this well is **critical**.

**Domestic 1:**

Water Column = 77 ft

DP = 4.4 ft (Net drawdown from the proposal indicated above)

DE = 37.0 ft (Water level decline from 2024 through 2049 based upon GMD3 model)

DT = 41.4 ft

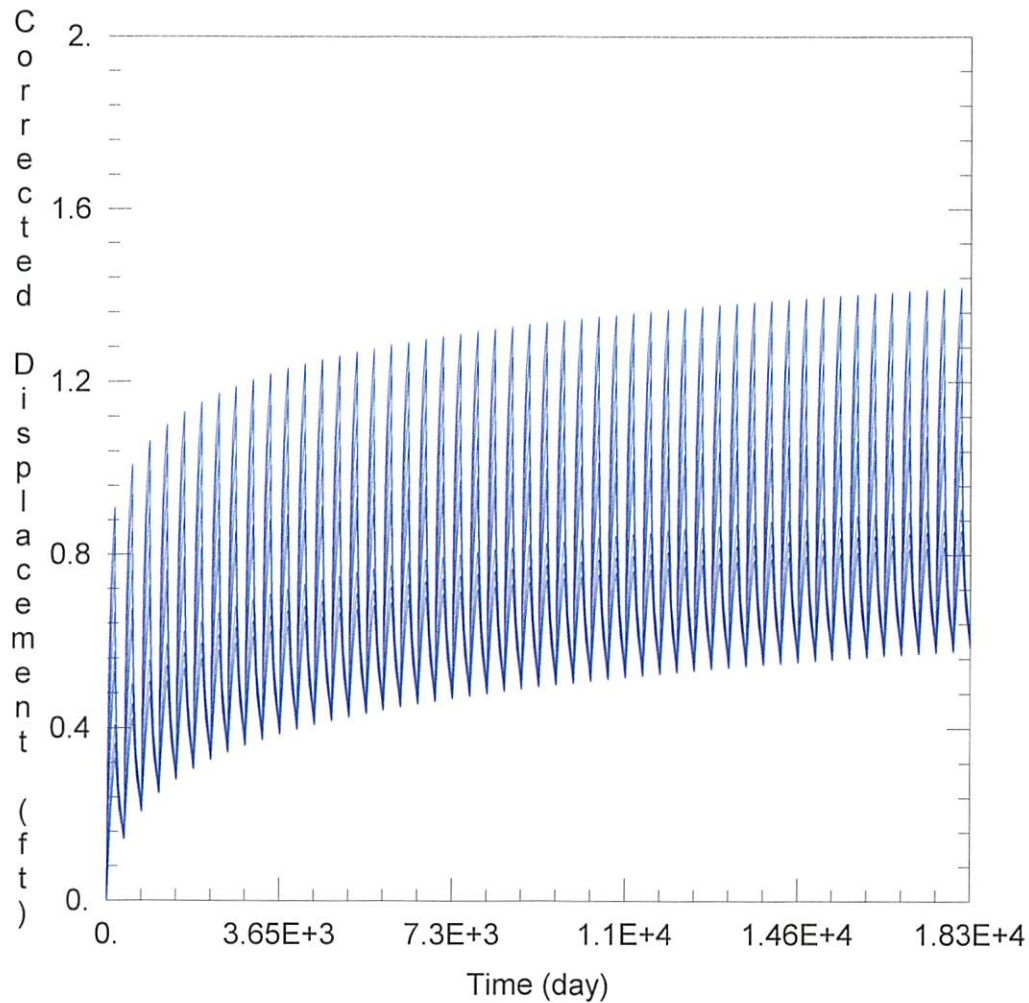
Economic Drawdown Constraint (EDC) = 0.4 \* 77 ft = 38.4 ft

Physical Drawdown Constraint (PDC) = 77 ft – 20 ft = 57.0 ft

Total drawdown of 41.4 ft is less than the PDC and greater than the EDC, so this well is **critical**.

**Conclusion:**

The proposed move is in a depleted aquifer area with about 80 ft of remaining saturated thickness. The analysis shows that net well-to-well effects created by this proposal are likely to be small but noticeable, due to the limited amount of remaining aquifer. Many nearby wells were flagged as critical because projected aquifer declines over the next 25 years amount to more than 40% of the remaining saturated thickness. 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\9898\9898 current.aqt  
 Date: 12/26/24 Time: 12:15:20

PROJECT INFORMATION

Test Well: 9898

WELL DATA

Pumping Wells

Observation Wells

Well Name	X (ft)	Y (ft)
9898	105532	352432

Well Name	X (ft)	Y (ft)
□	105532	352432
□ 17227	107466	352622
□ 19672	101901	351009
□ 18020	102076	349798
□ 19677 ID4	103892	350801
□ 19677 ID10	103916	352087
□ 19677 ID11	104118	352077
□ 19717	105977	349433
□ 11511	109842	350475
□ Domestic	104168	350028

SOLUTION

Aquifer Model: Unconfined

Solution Method: Theis

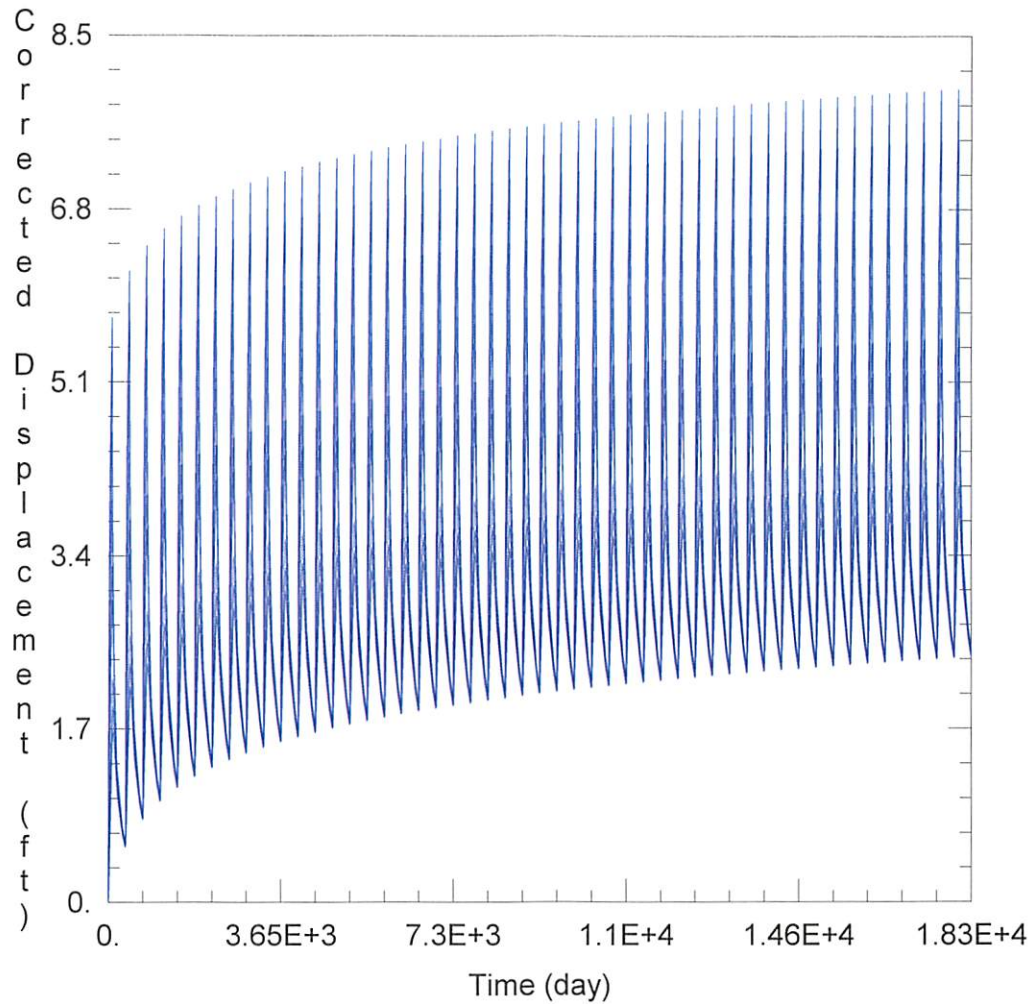
T = 9294.9 ft<sup>2</sup>/day

S = 0.058

Kz/Kr = 1.

b = 83.61 ft





WELL TEST ANALYSIS

Data Set: C:\Users\scanstation\Documents\move requests\9898\9898 proposed.aqt  
 Date: 12/26/24 Time: 12:15:25

PROJECT INFORMATION

Test Well: 9898

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
9898	105532	352432

Observation Wells

Well Name	X (ft)	Y (ft)
□ 17227	107466	352622
□ 19672	101901	351009
□ 18020	102076	349798
□ 19677 ID4	103892	350801
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S = 0.058

Kz/Kr = 1.

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