

Domestic 20-30-36: Drawdown from current location = 1.39 ft
Drawdown from proposed location = 6.73 ft
Net drawdown = **5.3 ft**

Domestic 21-30-36: Drawdown from current location = 1.08 ft
Drawdown from proposed location = 6.83 ft
Net drawdown = **5.7 ft**

Net drawdown exceeds the drawdown allowance of 3.5 ft for all wells within 1 mile of the proposed location. Critical well analysis is necessary on those wells.

Critical Well Evaluation:

2656:

Water Column = 191 ft

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

DE = 46.8 ft (Water level decline from 2021 through 2046 based upon GMD3 model)

DD = 22.1 ft (S = 0.09985, T = 41,893 gpd/ft, Q = 325 gpm, tp = 306 days, efficiency = 70%)

DT = 74.5 ft

Economic Drawdown Constraint (EDC) = $0.4 * 191 \text{ ft} = 76.4 \text{ ft}$

Physical Drawdown Constraint (PDC) = $191 \text{ ft} - 60 \text{ ft} = 131 \text{ ft}$

Total drawdown of 74.5 ft is less than the EDC and PDC, so this well is **not critical**.

30648:

Water Column = 191 ft

DP = 5.5 ft (Net drawdown from the proposal indicated above)

DE = 46.8 ft (Water level decline from 2021 through 2046 based upon GMD3 model)

DD = 12.3 ft (S = 0.09985, T = 41,893 gpd/ft, Q = 190 gpm, tp = 141 days, efficiency = 70%)

DT = 64.6 ft

Economic Drawdown Constraint (EDC) = $0.4 * 191 \text{ ft} = 76.4 \text{ ft}$

Physical Drawdown Constraint (PDC) = $191 \text{ ft} - 60 \text{ ft} = 131 \text{ ft}$

Total drawdown of 64.6 ft is less than the EDC and PDC, so this well is **not critical**.

Domestic 20-30-36:

Water Column = 199 ft

DP = 5.3 ft (Net drawdown from the proposal indicated above)

DE = 31.0 ft (Water level decline from 2021 through 2046 based upon GMD3 model)

DT = 36.3 ft

Economic Drawdown Constraint (EDC) = $0.4 * 199 \text{ ft} = 79.6 \text{ ft}$

Physical Drawdown Constraint (PDC) = $199 \text{ ft} - 20 \text{ ft} = 179 \text{ ft}$

Total drawdown of 36.3 ft is less than the EDC and PDC, so this well is **not critical**.

Domestic 21-30-36:

Water Column = 190 ft

DP = 5.7 ft (Net drawdown from the proposal indicated above)

DE = 36.7 ft (Water level decline from 2021 through 2046 based upon GMD3 model)

DT = 42.4 ft

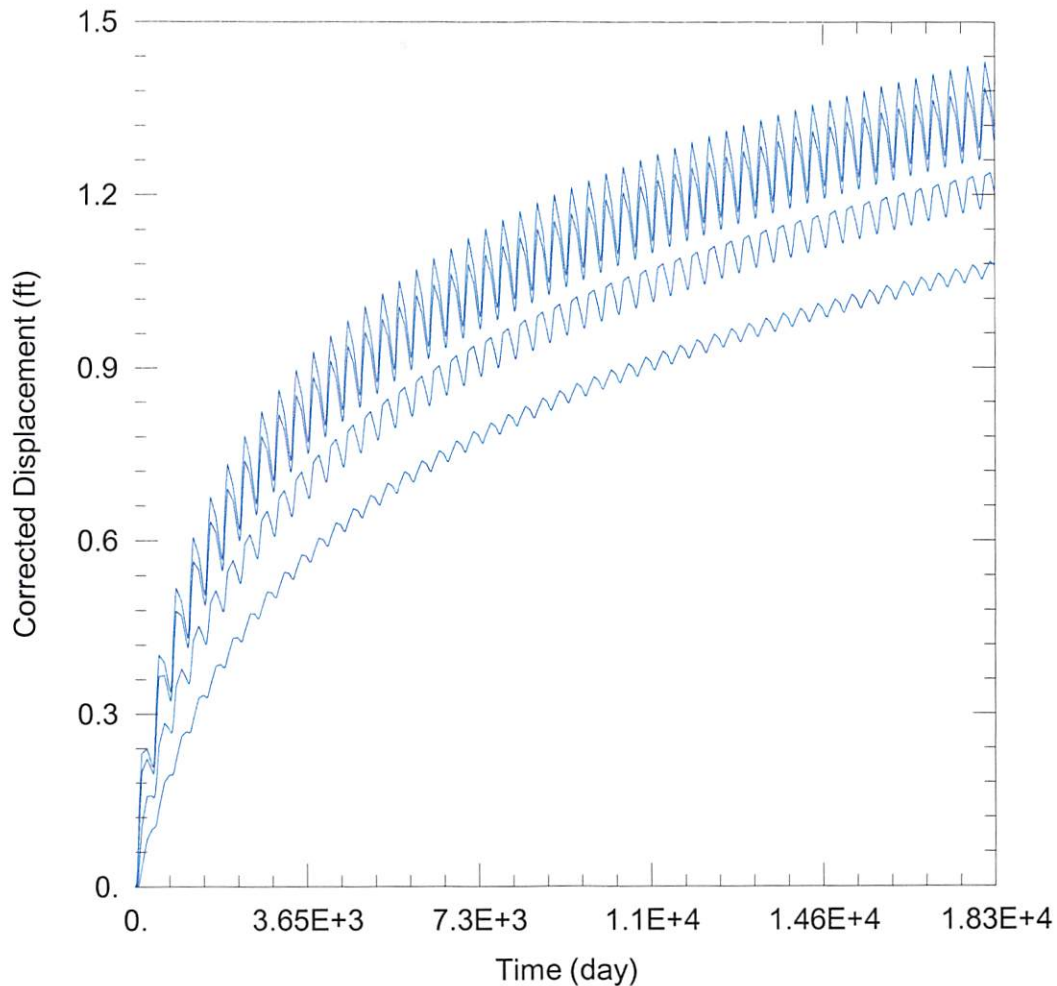
Economic Drawdown Constraint (EDC) = $0.4 * 190 \text{ ft} = 76.0 \text{ ft}$

Physical Drawdown Constraint (PDC) = $190 \text{ ft} - 20 \text{ ft} = 170 \text{ ft}$

Total drawdown of 42.4 ft is less than the EDC and PDC, so this well is **not critical**.

Conclusion:

If the proposed well is operated at its full rate and quantity, drawdown effects on neighboring wells may be noticeable. However, the remaining saturated thickness and aquifer conditions suggest that it is unlikely neighboring wells will lose the capability to maintain their current production as a result of this move in the near term. All neighboring wells are operated by the applicant. GMD3 staff recommends approval of this application.



WELL TEST ANALYSIS

Data Set: C:\Users\trevora\Documents\2021_Moves\18349\18349 Current.aqt

Date: 08/30/21

Time: 16:26:02

PROJECT INFORMATION

Company: GMD 3

Project: 18349

Location: Grant County

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
18349	-137210	204205

Observation Wells

Well Name	X (ft)	Y (ft)
□	-137210	204205
□ <u>2656</u>	-133081	205390
□ <u>30648</u>	-131838	204168
□ <u>Domestic 20-30-36</u>	-140883	201580
□ <u>Domestic 21-30-36</u>	-132047	199961

SOLUTION

Aquifer Model: Unconfined

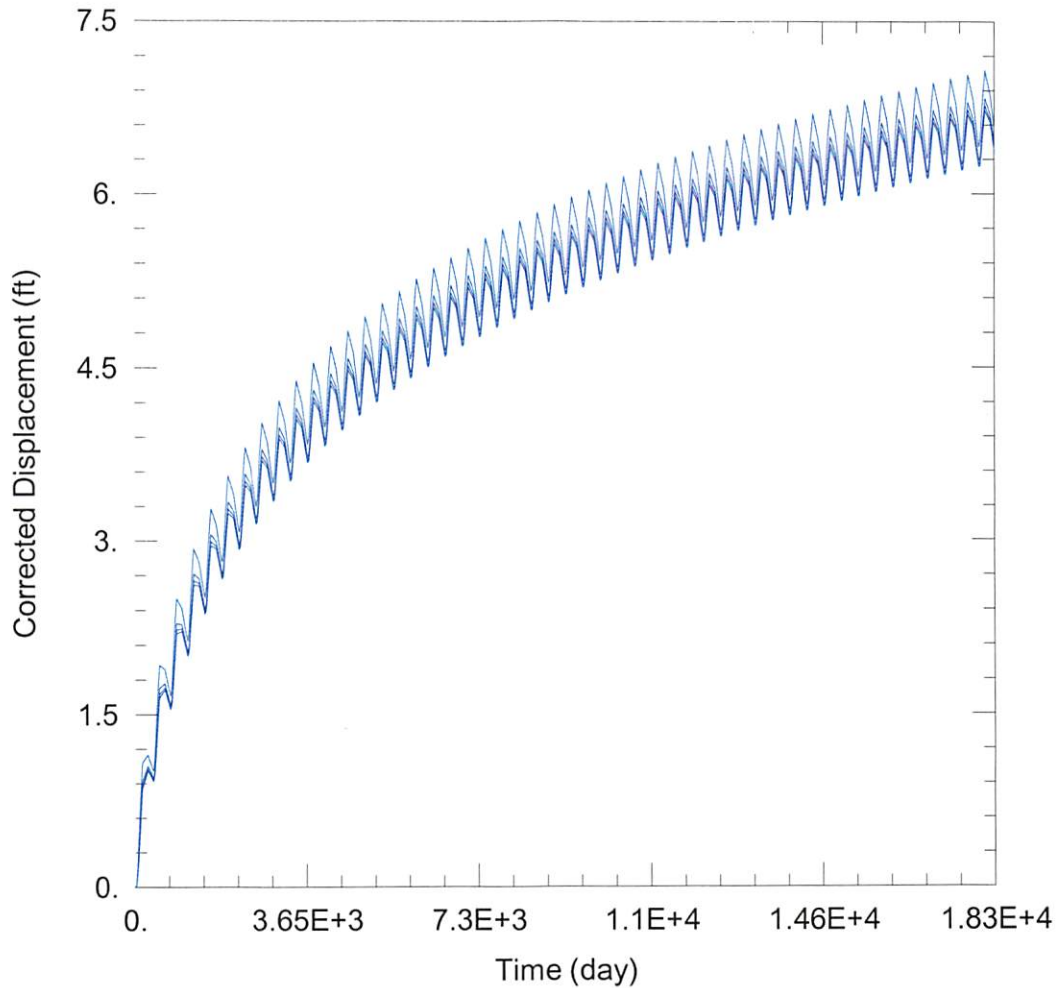
Solution Method: Theis

T = 2348.2 ft²/day

S = 0.09251

Kz/Kr = 1.

b = 190. ft



WELL TEST ANALYSIS

Data Set: C:\Users\trevora\Documents\2021_Moves\18349\18349 Proposed.aqt
 Date: 08/30/21 Time: 16:25:54

PROJECT INFORMATION

Company: GMD 3
 Project: 18349
 Location: Grant County

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
18349	-136145	202197

Observation Wells

Well Name	X (ft)	Y (ft)
□	-136145	202197
□ <u>2656</u>	-133081	205390
□ <u>30648</u>	-131838	204168
□ <u>Domestic 20-30-36</u>	-140883	201580
□ <u>Domestic 21-30-36</u>	-132047	199961

SOLUTION

Aquifer Model: Unconfined
 $T = 2348.2 \text{ ft}^2/\text{day}$
 $Kz/Kr = 1.$

Solution Method: Theis
 $S = 0.09251$
 $b = 190. \text{ ft}$