

8924 & 21292: Saturated thickness = 131 ft
Drawdown from current location = 0.63 ft
Drawdown from proposed location = 2.58 ft
Net drawdown = **1.9 ft**

131 & 972 ID6: Saturated thickness = 95 ft
Drawdown from current location = 0.87 ft
Drawdown from proposed location = 2.52 ft
Net drawdown = **1.7 ft**

131 & 972 ID7: Saturated thickness = 95 ft
Drawdown from current location = 0.79 ft
Drawdown from proposed location = 3.51 ft
Net drawdown = **2.7 ft**

20176: Saturated thickness = 113 ft
Drawdown from current location = 0.57 ft
Drawdown from proposed location = 2.31 ft
Net drawdown = **1.7 ft**

3463 & 45619: Saturated thickness = 128 ft
Drawdown from current location = 0.55 ft
Drawdown from proposed location = 2.32 ft
Net drawdown = **1.8 ft**

34358: 128 ft
Drawdown from current location = 0.54 ft
Drawdown from proposed location = 2.31 ft
Net drawdown = **1.8 ft**

8924: Saturated thickness = 143 ft
Drawdown from current location = 0.57 ft
Drawdown from proposed location = 2.47 ft
Net drawdown = **1.9 ft**

Domestic 20-28-38: Saturated thickness = 95 ft
Drawdown from current location = 0.75 ft
Drawdown from proposed location = 3.04 ft
Net drawdown = **2.3 ft**

Domestic 21-28-38: Saturated thickness = 124 ft
Drawdown from current location = 0.67 ft
Drawdown from proposed location = 3.17 ft
Net drawdown = **2.5 ft**

Domestic 29-28-38: Saturated thickness = 113 ft
Drawdown from current location = 0.73 ft
Drawdown from proposed location = 3.65 ft
Net drawdown = **2.9 ft**

Net drawdown exceeds the drawdown allowance for water right numbers 18201, 131 & 972 ID7, and each of the domestic wells. This means that it is likely that well to well interaction from the proposed well location will produce a noticeable effect on neighboring wells. Critical well analysis was performed on the three domestic wells. Analysis was not performed on 18201 and 131 & 972 ID7 because those wells are owned and operated by the applicant.

Critical Well Evaluation:

Domestic 20-28-38:

Water Column = 95 ft

DP = 2.7 ft (Net drawdown from the proposal indicated above)

DE = 38.8 ft (Water level decline from 2021 through 2046 based upon GMD3 model)

DT = 41.5 ft

Economic Drawdown Constraint (EDC) = $0.4 * 124 \text{ ft} = 38 \text{ ft}$

Physical Drawdown Constraint (PDC) = $95 \text{ ft} - 20 \text{ ft} = 75 \text{ ft}$

Total drawdown of 41.5 ft is greater than the EDC, so this well is **critical**.

Domestic 21-28-38:

Water Column = 124 ft

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

DE = 45.4 ft (Water level decline from 2021 through 2046 based upon GMD3 model)

DT = 48.9 ft

Economic Drawdown Constraint (EDC) = $0.4 * 124 \text{ ft} = 49.6 \text{ ft}$

Physical Drawdown Constraint (PDC) = $124 \text{ ft} - 20 \text{ ft} = 104 \text{ ft}$

Total drawdown of 48.9 ft does not exceed the EDC or PDC, so this well is **not critical**.

Domestic 29-28-38:

Water Column = 113 ft

DP = 2.9 ft (Net drawdown from the proposal indicated above)

DE = 42.8 ft (Water level decline from 2021 through 2046 based upon GMD3 model)

DT = 45.7 ft

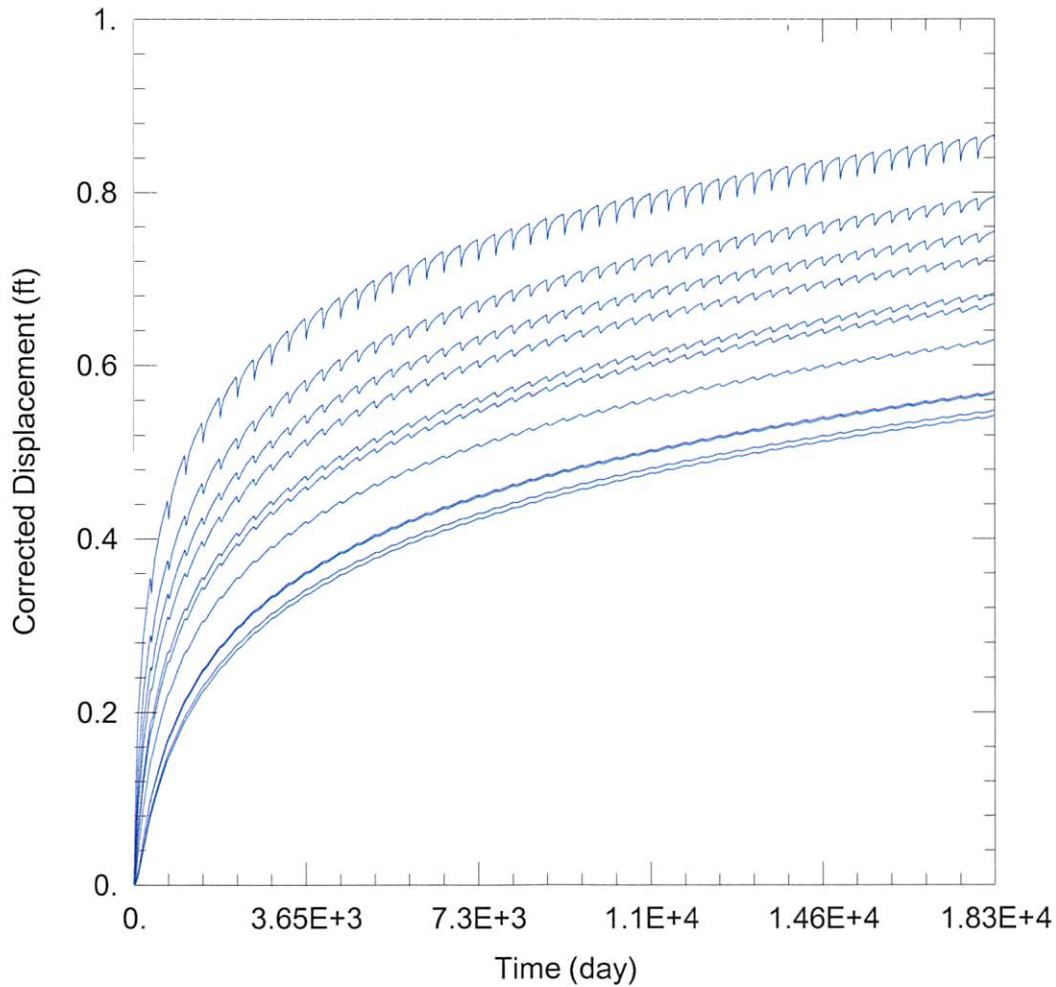
Economic Drawdown Constraint (EDC) = $0.4 * 113 \text{ ft} = 45.2 \text{ ft}$

Physical Drawdown Constraint (PDC) = $113 \text{ ft} - 20 \text{ ft} = 93 \text{ ft}$

Total drawdown of 45.7 ft is greater than the EDC, so this well is **critical**.

Conclusion:

The proposed move is located in an area with depleted aquifer and local wells have diminishing pumping capacities. If the new well is operated at the proposed rate and quantity, it is likely to create noticeable effects on neighboring critical wells. Concerned neighbors should contact either GMD3 at (620) 275-7147 or the Division of Water Resources at (620) 276-2901 if they would like to discuss options for mitigating effects. Otherwise, the move may be approved at full rate and quantity as it meets all rules and regulations.



WELL TEST ANALYSIS

Data Set: C:\Users\trevora\Documents\2021_Moves\22057\22057 Current.aqt

Date: 07/13/21

Time: 11:25:45

PROJECT INFORMATION

Company: GMD 3

Project: 22057

Location: Grant County

WELL DATA

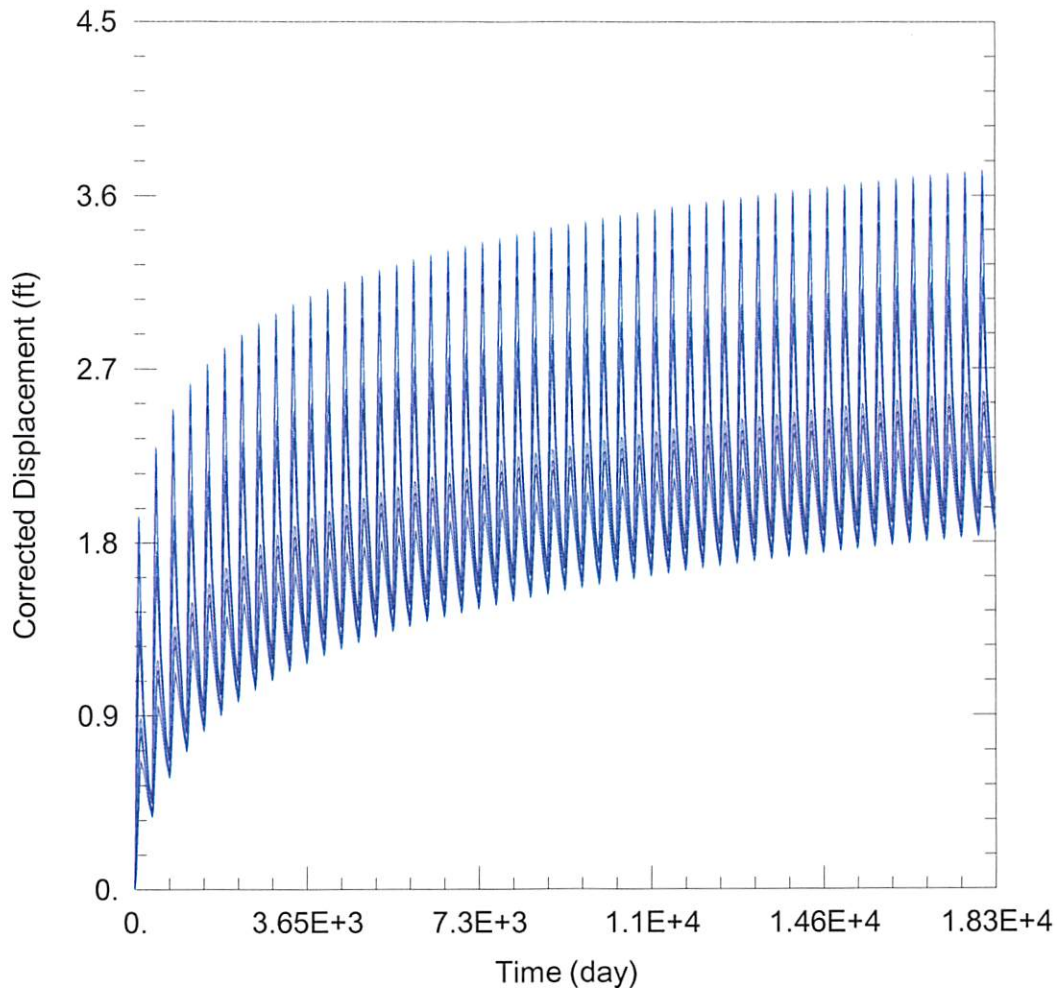
Pumping Wells

Well Name	X (ft)	Y (ft)
22057	-200010	264143

Observation Wells

Well Name	X (ft)	Y (ft)
□	-200010	264143
□ 18201	-196475	261491
□ 8924 & 21292	-194716	263063
□ 131 & 972 ID6	-201826	265442
□ 131 & 972 ID7	-201651	261740
□ 20176	-201566	257508
□ 3463 & 45619	-199340	256844
□ 34358	-198325	256829
□ 8924	-194768	259873
□ Domestic 20-28-38	-202377	261719
□ Domestic 21-28-38	-195710	262428
□ Domestic 29-28-38	-201062	260530

SOLUTION



WELL TEST ANALYSIS

Data Set: C:\Users\trevora\Documents\2021_Moves\22057\22057 Proposed.aqt

Date: 07/13/21

Time: 11:25:54

PROJECT INFORMATION

Company: GMD 3

Project: 22057

Location: Grant County

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
22057	-198925	261986

Observation Wells

Well Name	X (ft)	Y (ft)
□	-198925	261986
□ 18201	-196475	261491
□ 8924 & 21292	-194716	263063
□ 131 & 972 ID6	-201826	265442
□ 131 & 972 ID7	-201651	261740
□ 20176	-201566	257508
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□ Domestic 20-28-38	-202377	261719
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□ Domestic 29-28-38	-201062	260530

SOLUTION