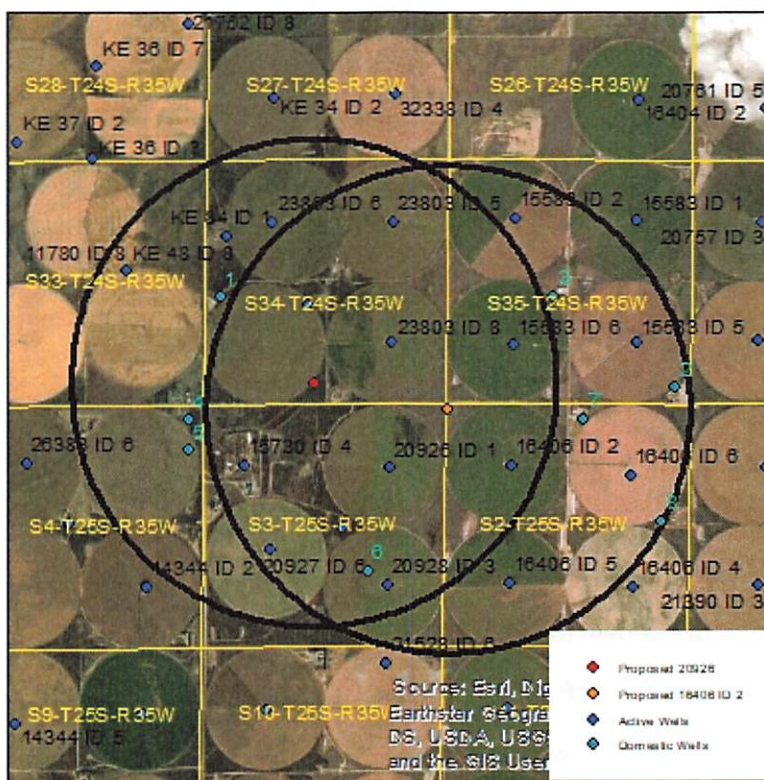


Evaluation of proposed moves for Water Right Nos 16406, 20926, and 20928

Proposed: Move water right nos. 16406, 20926, and 20928. Water right 16406 ID 5 will move to the well currently authorized under water right 20928. Water right 16406 ID 4 will move to the well currently authorized under water right 16406 ID 6. Water right 16406 ID 6 will move to the well currently authorized under water right 16406 ID 2. Water right 20928 will move to the well currently authorized under water right 20926. Water right 16406 ID 2 will move to a new location, 1,831 feet to the northwest. Water right 20926 will move to a new location, 2,493 ft to the northwest. No existing well is gaining new authority. Water right nos. 16406 ID 5 and 16406 ID 4 will no longer operate.



Wells within 1 mile of wells to be drilled: 11780 & KE 48, KE 84, 23803 ID 5, 23803 ID 6, 23803 ID 8, 23803 ID 9, 15583 ID 2, 15583 ID 5, 15583 ID 6, 15730, 20927, 20928, 45870, 16406 ID 6, and 8 domestic wells, numbered on the above map.

The saturated thickness at the proposed well location for water right no. 20296 is estimated to be 220 ft, based upon the GMD3 model. The saturated thickness at the proposed well location for water right no. 16406 ID 2 is 189 ft, based upon the GMD3 model. For saturated thickness greater than 200 ft, the drawdown allowance is 4.0 ft. For saturated thicknesses between 150 ft and 200 ft, the drawdown allowance is 3.5 ft. For this application, the drawdown allowance is 4.0 ft except for in sections 35-24-35 and 2-25-35, where the drawdown allowance is 3.5 ft.

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

$$S = 0.1304, T = 10,021 \text{ ft}^2/\text{day}$$

15583 ID 2:

Drawdown from current location = 1.44 ft

Drawdown from proposed location = 2.75 ft

Net drawdown = 1.3 ft

15583 ID 5:	Drawdown from current location = 1.76 ft Drawdown from proposed location = 2.54 ft Net drawdown = 0.8 ft
15583 ID 6:	Drawdown from current location = 1.82 ft Drawdown from proposed location = 4.19 ft Net drawdown = 2.4 ft
15730:	Drawdown from current location = 1.54 ft Drawdown from proposed location = 3.88 ft Net drawdown = 2.3 ft
20927:	Drawdown from current location = 1.69 ft Drawdown from proposed location = 3.05 ft Net drawdown = 1.4 ft
20928:	Drawdown from current location = 2.43 ft Drawdown from proposed location = 3.00 ft Net drawdown = 0.6 ft
45870:	Drawdown from current location = 2.01 ft Drawdown from proposed location = 3.76 ft Net drawdown = 1.8 ft
16406 ID 6:	Drawdown from current location = 2.52 ft Drawdown from proposed location = 2.56 ft Net drawdown = 0.0 ft
Domestic 1:	Drawdown from current location = 1.29 ft Drawdown from proposed location = 3.40 ft Net drawdown = 2.1 ft
Domestic 2:	Drawdown from current location = 1.88 ft Drawdown from proposed location = 2.34 ft Net drawdown = 0.5 ft

Domestic 3: Drawdown from current location = 1.65 ft
Drawdown from proposed location = 3.02 ft
Net drawdown = **1.4 ft**

Domestic 4: Drawdown from current location = 1.37 ft
Drawdown from proposed location = 3.32 ft
Net drawdown = **1.9 ft**

Domestic 5: Drawdown from current location = 1.40 ft
Drawdown from proposed location = 3.16 ft
Net drawdown = **1.8 ft**

Domestic 6: Drawdown from current location = 2.26 ft
Drawdown from proposed location = 3.13 ft
Net drawdown = **0.9 ft**

Domestic 7: Drawdown from current location = 2.20 ft
Drawdown from proposed location = 3.14 ft
Net drawdown = **0.9 ft**

Domestic 8: Drawdown from current location = 2.76 ft
Drawdown from proposed location = 2.26 ft
Net drawdown = **-0.5 ft**

Net drawdown effect on water right no. 23803 ID 8 exceeds the drawdown allowance. Therefore, critical well analysis is not necessary on that well.

Critical Well Analysis

23803 ID 8:

Drawdown Due to Proposal: 4.3 ft
Projected 25 Year Aquifer Decline: 43.9 ft
Dynamic Drawdown: 15.1 ft (Q = 407 gpm, tp = 139 days, 70% well efficiency)
Total Drawdown Effect: **63.3 ft**

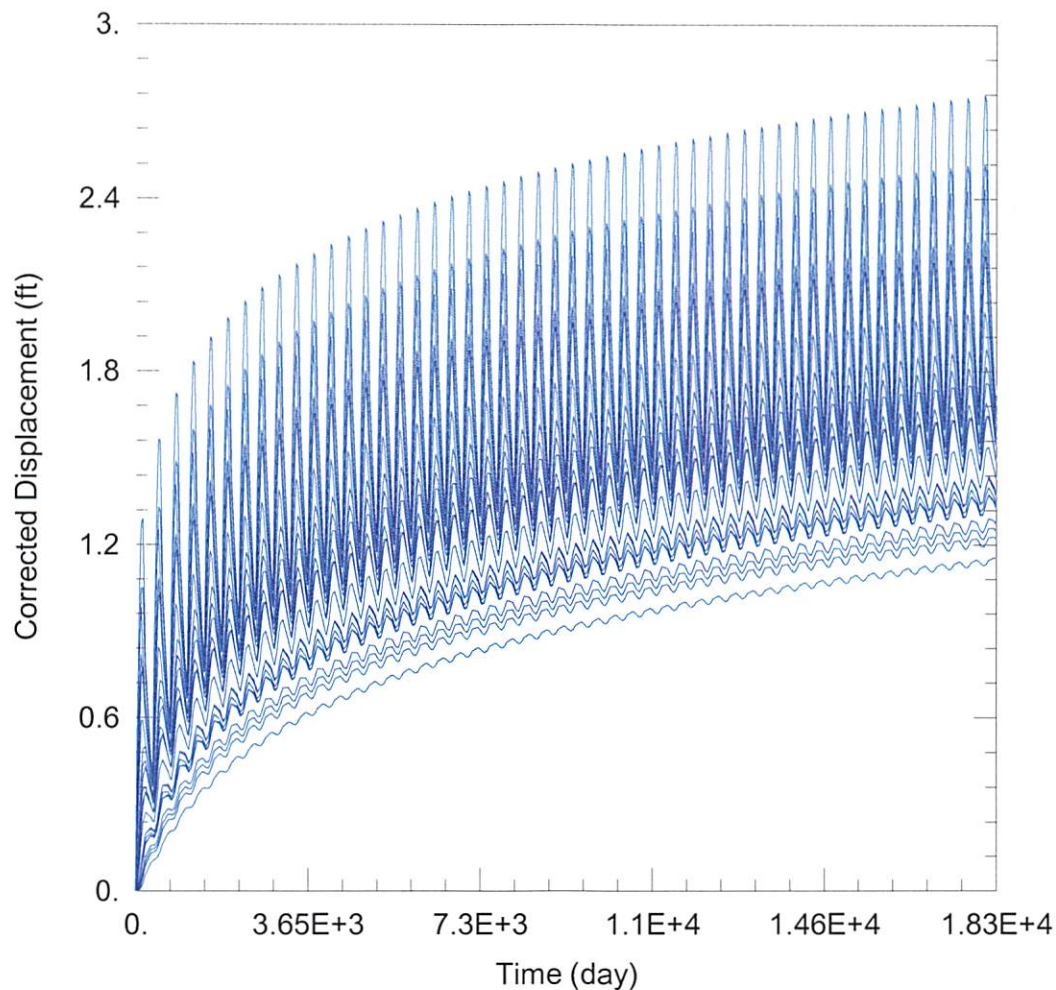
Economic Drawdown Constraint (EDC) = 220 ft * 0.4 = 88 ft

Physical Drawdown Constraint (PDC) = 220 ft – 60 ft = 160 ft

The total drawdown effect is less than both the EDC and PDC, so this well is not critical.

Conclusion:

Based upon information from the GMD3 model, this proposal is unlikely to cause noticeable effects on neighboring critical wells, and is unlikely to create an impairment. GMD3 staff recommends approval of the application.



WELL TEST ANALYSIS

Data Set: C:\...\16406 & 20926 & 20928 Current.aqt

Date: 10/06/20

Time: 14:31:38

PROJECT INFORMATION

Company: GMD 3

Project: 16406 & 20926 & 20928

Location: Kearny County

Test Well: 16406 & 20926 & 20928

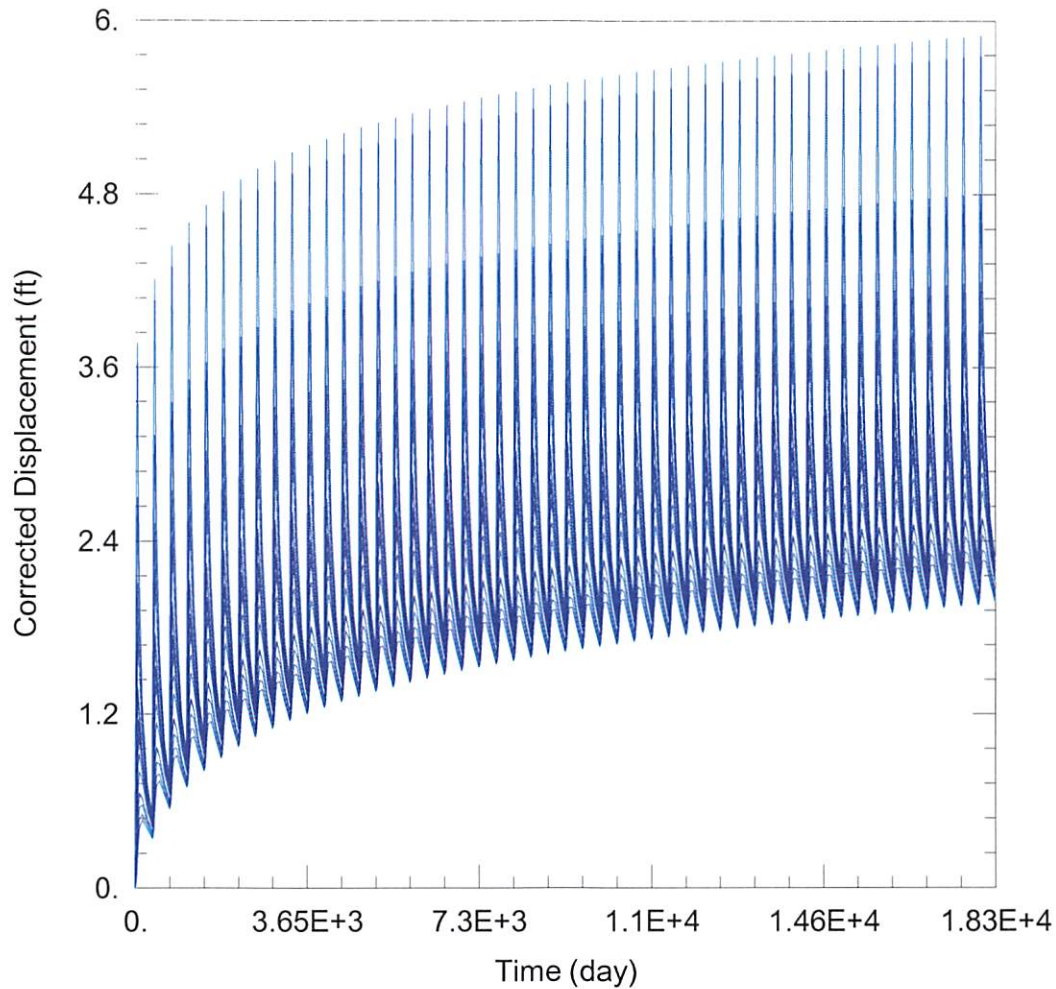
WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
	-96827	375287
	-94113	375208

Observation Wells

Well Name	X (ft)	Y (ft)
□	-96827	375287
□	-94113	375208
□ 11780 & KE48	-105135	382047
□ KE84	-102968	382794
□ 23803 ID5	-99332	383103
□ 23803 ID6	-101954	383095
□ 23803 ID8	-99347	380481
□ 23803 ID9	-101176	381337
□ 15583 ID2	-96695	383181
□ 15583 ID5	-94039	380484
□ 15583 ID6	-96720	380432
□ 15730	-102571	377868
□ 20927	-102033	376027



WELL TEST ANALYSIS

Data Set: C:\...\16406 & 20926 & 20928 Proposed.aqt

Date: 10/06/20

Time: 14:31:24

PROJECT INFORMATION

Company: GMD 3

Project: 16406 & 20926 & 20928

Location: Kearny County

Test Well: 16406 & 20926 & 20928

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
	-101068	379642
	-98150	379064

Observation Wells

Well Name	X (ft)	Y (ft)
□	-101068	379642
□	-98150	379064
□ 11780 & KE48	-105135	382047
□ KE84	-102968	382794
□ 23803 ID5	-99332	383103
□ 23803 ID6	-101954	383095
□ 23803 ID8	-99347	380481
□ 23803 ID9	-101176	381337
□ 15583 ID2	-96695	383181
□ 15583 ID5	-94039	380484
□ 15583 ID6	-96720	380432
□ 15730	-102571	377868
□ 20927	-102033	376027