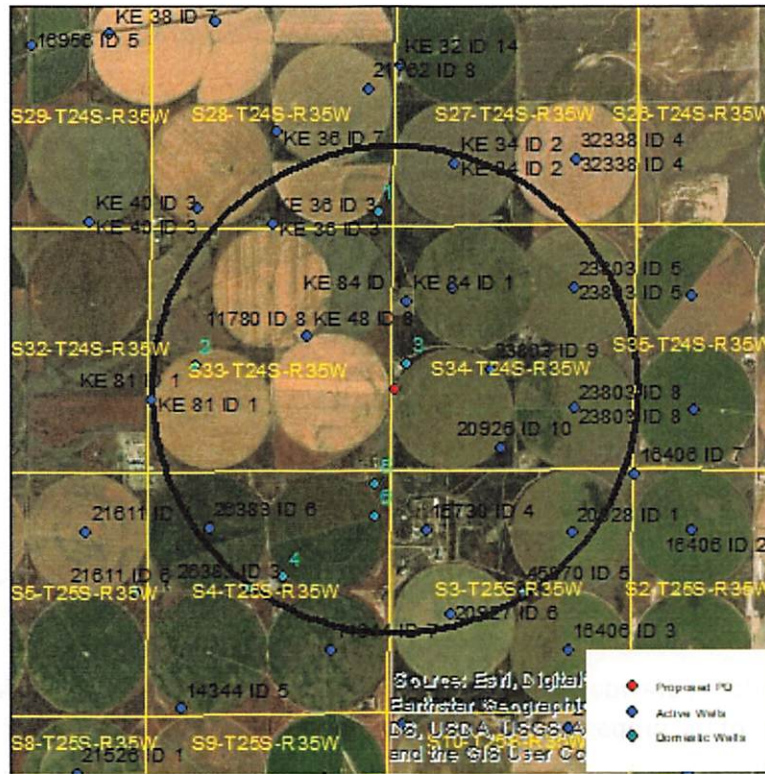


Evaluation of proposed move for Water Right Nos 16406 and 23803

Proposed: Move half of water right no. 16406 ID7 to the well currently authorized under water right no. 23803 ID8, located 1,951 ft to the northwest. Move water right no. 23803 ID8 to the well location currently authorized under water right no. 23803 ID9, located 2,006 ft to the northwest. Move water right number 23803 ID9 to a new well location, 2,123 ft to the southwest. The new well location will be authorized 272 AF at a rate of 875 gpm. No other well location is increasing authority, and water use is not expected to change at those well locations, so effects were only calculated from the new well location.



Wells within 1 mile: KE 84, 23803 ID5, 23803 ID6, 23803 ID8, 23803 ID9, 20926, KE 36, KE 34, KE 48 & 11780, 26383, 15730, 20927, 20928, 45870, and six domestic wells, numbered on the above map.

The saturated thickness at the proposed well location is estimated to be 217 ft, based upon the GMD3 model, the driller's log, and an observation well in section 2-25-35. For saturated thickness greater than 200 ft, the drawdown allowance is 4.0 ft.

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

$$S = 0.1304, T = 10,021 \text{ ft}^2/\text{day}, t_{p\text{proposed}} = 70 \text{ days}, Q_{\text{proposed}} = 875 \text{ gpm}$$

Theis drawdowns were calculated as follows:

KE 84: Net drawdown = 2.9 ft

23803 ID5: Net drawdown = 1.5 ft

23803 ID6: Net drawdown = 2.3 ft

23803 ID8:	Net drawdown = 1.7 ft
23803 ID9:	Net drawdown = 2.7 ft
20926:	Net drawdown = 2.3 ft
KE 36:	Net drawdown = 1.5 ft
KE 34:	Net drawdown = 1.4 ft
KE 48 & 11780:	Net drawdown = 2.6 ft
26383:	Net drawdown = 1.4 ft
15730:	Net drawdown = 2.0 ft
20927:	Net drawdown = 1.4 ft
20928:	Net drawdown = 1.4 ft
45870:	Net drawdown = 1.4 ft
Domestic 1:	Net drawdown = 1.7 ft
Domestic 2:	Net drawdown = 1.5 ft
Domestic 3:	Net drawdown = 5.7 ft
Domestic 4:	Net drawdown = 1.5 ft
Domestic 5:	Net drawdown = 2.7 ft
Domestic 6:	Net drawdown = 2.2 ft

Net drawdown exceeds the drawdown allowance of 4.0 ft for the domestic well labeled "3" on the map, located just northeast of the proposed well location. Critical well analysis was performed at this domestic well location.

Critical Well Evaluation:

Domestic 3:

Water Column = 124 ft (Based on depth of the well. Nearby well logs indicate that this well could likely be redrilled into deeper formation.)

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

DE = 41.3 ft (Water level decline from 2021 through 2046 based upon GMD3 model)

DT = 47.0 ft

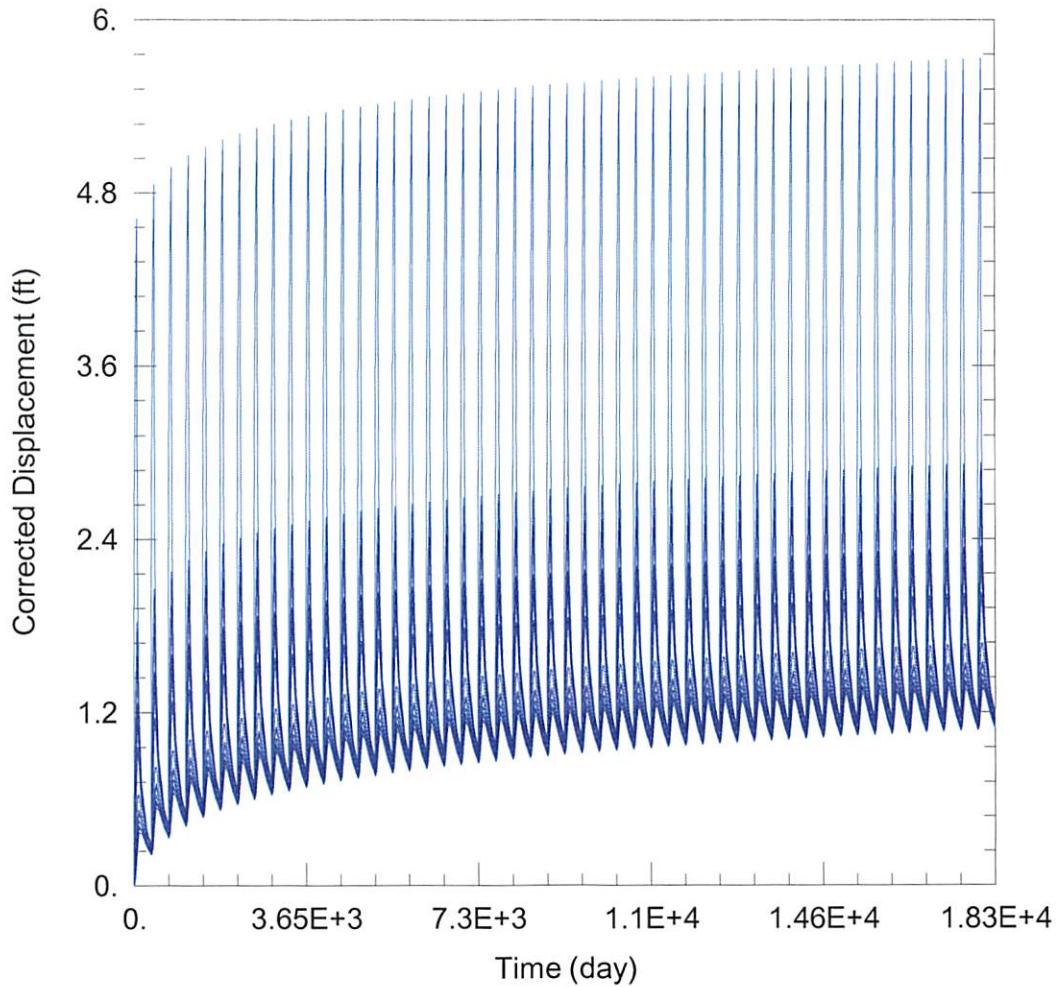
Economic Drawdown Constraint (EDC) = $0.4 * 124 \text{ ft} = 49.6 \text{ ft}$

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

Total drawdown of 47.0 ft is less than the EDC and PDC, so this well is **not critical**.

Conclusion:

The proposed moves are not likely to create noticeable effects on most neighboring wells. One domestic well in the area may have a noticeable effect, but this well is owned and operated by the applicant, and analysis did not flag the well as critical. GMD3 staff recommends approval of the application.



WELL TEST ANALYSIS

Data Set: C:\Users\trevora\Documents\2021_Moves\16406+\16406+ Proposed.aqt

Date: 08/27/21

Time: 11:48:22

PROJECT INFORMATION

Company: GMD 3

Project: 16406+

Location: Kearny County

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
Proposed PD	-103376	380914

Observation Wells

Well Name	X (ft)	Y (ft)
□	-103376	380914
□ KE 84	-103109	382801
□ 23803 ID5	-99473	383111
□ 23803 ID6	-102098	383103
□ 23803 ID8	-99483	380489
□ 23803 ID9	-101297	381344
□ 20926	-101068	379642
□ KE 36	-106016	384498
□ KE 34	-102088	385801
□ KE 48 & 11780	-105275	382055
□ 26383	-107426	377916
□ 15730	-102695	377876
□ 20927	-102154	376035
□ 20928	-99522	377795