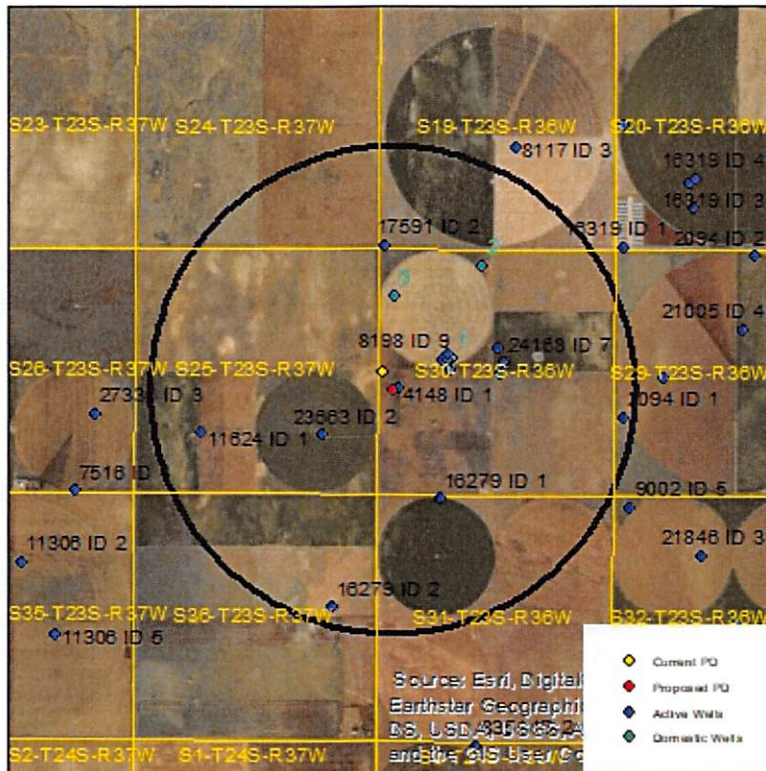


Evaluation of proposed move for Water Right No 4148

Proposed: Move water right no. 4148 a distance of 419 ft to the southeast.



Wells within 1 mile: 8198 & 24168, 8198 ID 9, 24168 ID 7, 2094, 17591, 23663, 11624, 16279 ID 1, 16279 ID 2, and 3 domestic wells, numbered on the above map.

The saturated thickness at the proposed well location is estimated to be 45 ft, based upon an observation well in section 32-23-36 and the driller's log at the proposed well location. For saturated thickness less than 50 ft, the drawdown allowance is 1.0 ft.

50 year Theis Analysis: The following values were used to run the analysis (note that this well has not been operated since 1985 so there is no drawdown under current conditions):

$$S = 0.163, T = 4073.4 \text{ ft}^2/\text{day}, t_{p\text{proposed}} = 90 \text{ days}, Q_{p\text{proposed}} = 757 \text{ gpm}$$

Theis drawdowns were calculated as follows:

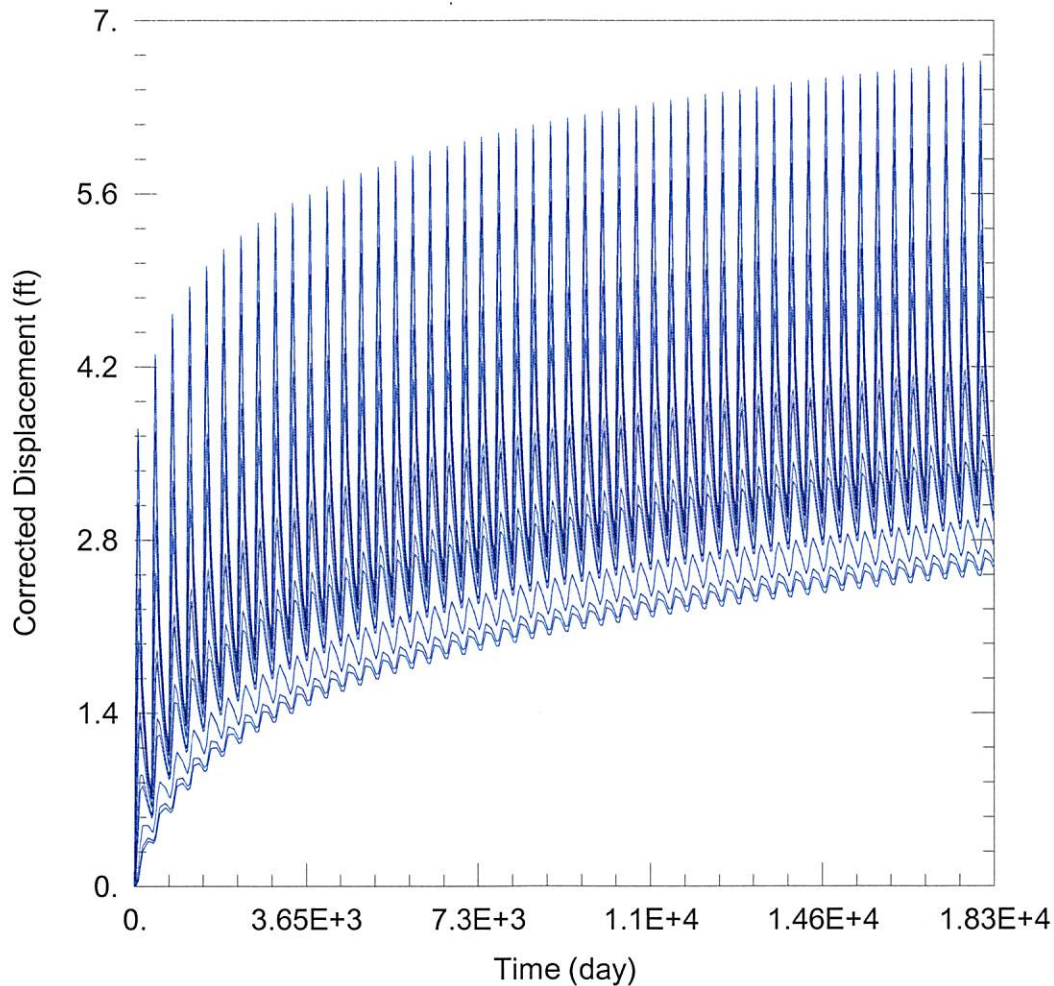
| | |
|---------------|-----------------------|
| 8198 & 24168: | Net drawdown = 6.5 ft |
| 8198 ID 9: | Net drawdown = 6.7 ft |
| 24168 ID 7: | Net drawdown = 4.2 ft |
| 2094: | Net drawdown = 2.7 ft |
| 17591: | Net drawdown = 3.6 ft |
| 23663: | Net drawdown = 5.3 ft |

| | |
|-------------|------------------------------|
| 11624: | Net drawdown = 3.0 ft |
| 16279 ID 1: | Net drawdown = 4.1 ft |
| 16279 ID 2: | Net drawdown = 2.7 ft |
| Domestic 1: | Net drawdown = 6.0 ft |
| Domestic 2: | Net drawdown = 3.4 ft |
| Domestic 3: | Net drawdown = 4.9 ft |

Net drawdown exceeds the drawdown allowance of 1.0 ft for all wells within 1 mile of the proposed location. Critical well analysis estimates a water column of at least 60 ft during drawdown is necessary to provide enough rate for production from a non-domestic well. Since the saturated thickness is only 45 ft without additional drawdown effects, all nearby non-domestic wells are critical.

Conclusion:

The proposed well location does not meet well spacing requirements under GMD3 rules. The proposed well location does increase spacing, which normally is an exception to spacing rules. However, that exception is based upon a presumption that increasing spacing will reduce well-to-well interaction effects. Since the well has not been operated at its current location for 35 years, the proposed well location is, for all intents and purposes, a new well with new effects on neighboring wells. GMD3 staff will review the application with the Board of Directors to seek recommendation after giving neighbors time to notify the GMD of any concerns they may have.



WELL TEST ANALYSIS

Data Set: C:\Users\trevora\Documents\2020_moves\4148\4148.aqt
 Date: 06/04/20 Time: 15:37:36

PROJECT INFORMATION

Company: GMD 3
 Project: 4148
 Location: Kearny County
 Test Well: 4148

WELL DATA

Pumping Wells

| Well Name | X (ft) | Y (ft) |
|-----------|---------|--------|
| 4148 | -150261 | 418509 |

Observation Wells

| Well Name | X (ft) | Y (ft) |
|----------------|---------|--------|
| □ | -150261 | 418509 |
| □ 8198 & 24168 | -149005 | 418917 |
| □ 8198 ID9 | -149154 | 419154 |
| □ 24168 ID7 | -147845 | 419090 |
| □ 2094 | -145214 | 417891 |
| □ 17591 | -150419 | 421632 |
| □ 23663 | -151773 | 417527 |
| □ 11624 | -154415 | 417558 |
| □ 16279 ID1 | -149234 | 416129 |
| □ 16279 ID2 | -151569 | 413790 |
| □ Domestic 1 | -148951 | 419199 |
| □ Domestic 2 | -148288 | 421194 |
| □ Domestic 3 | -150229 | 420538 |