

22057: Drawdown from current location = 2.47 ft
Drawdown from proposed location = 3.18 ft
Net drawdown = **0.7 ft**

131 & 972: Drawdown from current location = 2.34 ft
Drawdown from proposed location = 2.89 ft
Net drawdown = **0.6 ft**

34358: Drawdown from current location = 1.63 ft
Drawdown from proposed location = 2.95 ft
Net drawdown = **1.3 ft**

5520: Drawdown from current location = 1.55 ft
Drawdown from proposed location = 3.34 ft
Net drawdown = **1.8 ft**

8924: Drawdown from current location = 1.72 ft
Drawdown from proposed location = 4.83 ft
Net drawdown = **3.1 ft**

1177: Drawdown from current location = 1.52 ft
Drawdown from proposed location = 3.65 ft
Net drawdown = **2.1 ft**

24007: Drawdown from current location = 1.45 ft
Drawdown from proposed location = 3.00 ft
Net drawdown = **1.5 ft**

Domestic 21-28-38: Drawdown from current location = 2.11 ft
Drawdown from proposed location = 7.02 ft
Net drawdown = **4.9 ft**

Domestic 20-28-38: Drawdown from current location = 2.39 ft
Drawdown from proposed location = 2.93 ft
Net drawdown = **0.5 ft**

Domestic 29-28-38: Drawdown from current location = 2.41 ft
Drawdown from proposed location = 3.07 ft
Net drawdown = **0.7 ft**

Domestic 27-28-38: Drawdown from current location = 1.51 ft
Drawdown from proposed location = 3.69 ft
Net drawdown = **2.2 ft**

Net drawdown exceeds the drawdown allowance of 3.0 ft for water right number 8924 and the domestic well in section 21-28-38, so critical well evaluation is necessary on those wells.

Critical Well Evaluation:

8924:

Water Column = 146.7 ft (No driller's log was available, so modeled saturated thickness was used.)

DP = 3.11 ft

DE = 44.1 ft

DD = 23.7 ft (S = 0.1086, T = 39,300 gpd/ft, Q = 349 gpm, tp = 114 days, efficiency = 70%)

DT = 70.9 ft

Economic Drawdown Constraint (EDC) = 146.7 ft * 0.4 = 58.7 ft

Physical Drawdown Constraint (PDC) = 146.7 ft – 60 ft = 86.7 ft

The EDC is more conservative than the PDC, so the maximum allowable drawdown is 58.7 ft. Total drawdown of 70.9 ft is greater than the maximum allowable drawdown, so this well is **critical**.

Domestic 21-28-38:

Water Column = 276 ft (from driller's log)

DP = 3.11 ft

DE = 44.1 ft

DT = 51.5 ft

Economic Drawdown Constraint (EDC) = 276 ft * 0.4 = 110.4 ft

Physical Drawdown Constraint (PDC) = 276 ft – 20 ft = 256 ft

The EDC is more conservative than the PDC, so the maximum allowable drawdown is 110.4 ft. Total drawdown of 51.5 ft is less than the maximum allowable drawdown, so this well is **not critical**.

Conclusion:

The well authorized under water right number 8924 is a critical well. It is possible that more information could determine that the well is deeper than estimated and therefore not critical. It is also unlikely that the proposed well will be capable of pumping water at the proposed rate of 1325 gpm. Limiting the rate pumped from the proposed well to 1125 gpm would reduce the 50 year net effect on water right number 8924 to 3.0 ft, which would meet the drawdown allowance criteria in the Drawdown Assessment Guidelines for GMD3. GMD3 staff recommends approval of this proposal, limiting the rate of the proposed well to 1125 gpm.