ATTACHMENT 2

RESULTS OF UTAH DIVISION OF WATER RIGHTS THEIS EQUATION DISTANCE-DRAWDOWN WEB APPLICATION FROM THE SOUTH BRANCH IRRIGATION WELL TO DGW-2

CALCULATED THEIS:

Given input:

Constant pumping rate (Q): 0.311921 cfs
Aquifer transmissivity (T): 25595 ft²/day or 0.296238 ft²/second
Time since pumping began (t): 30 days
Radial distance from well (r): 1,360.00 feet
Aquifer storativity (S): 0.17

Q is the constant pumping rate (L3/T; ft3/day or m3/day)
h is hydraulic head (L; ft or m)
ho is hydraulic head before pumping started (L; ft or m)
ho-h is the drawdown (L; ft or m)
T is aquifer transmissivity (L2/T; ft2/day or m2/day)
t is time since pumping began (T; days)
r is radial distance from the pumping well (L; ft or m)
S is aquifer storavity (dimensionless)
b is aquifer thickness (L; ft or m)

u: 0.102374
W(u) series: 1.80173345200857

Drawdown (ho-h) at day 30: 0.15 ft using series calculation of W(u) to u=

Drawdown over the course of a year from initial well drilling:
Day 1: -0.00 ft
Day 4: 0.03 ft
Day 7: 0.05 ft
Day 10: 0.07 ft
Day 13: 0.09 ft
Day 16: 0.11 ft
Day 19: 0.12 ft
Day 22: 0.13 ft
Day 25: 0.14 ft
Day 28: 0.15 ft
~~Month 1: 0.15 ft~~
Month 2: 0.21 ft
Month 3: 0.24 ft
Month 4: 0.26 ft
Month 5: 0.28 ft
Month 6: 0.30 ft
Month 7: 0.31 ft
Month 8: 0.32 ft
Month 9: 0.33 ft
Month 10: 0.34 ft
Month 11: 0.35 ft
Month 12: 0.35 ft

Drawdown over multiple years from initial well drilling:
Year 1: 0.35 ft
Year 2: 0.41 ft
Year 3: 0.44 ft
Year 4: 0.47 ft
Year 5: 0.49 ft
Year 6: 0.50 ft
Year 7: 0.52 ft
Year 8: 0.53 ft
Year 9: 0.54 ft
Year 10: 0.55 ft
Year 11: 0.55 ft
Year 12: 0.56 ft
Year 13: 0.57 ft