

Watermaster's Report

Ground Water District 63-S (Stewart Gulch)

March 1, 2010 to March 1, 2011

Summary of Watermaster Activities

The total withdrawal of low temperature geothermal water in Ground Water District 63-S (GWD63-S) in Water Year 2010 (WY10) was 184.9 million gallons (mgal) (Figure 1). This total was 9.2 mgal more than the total withdrawal in Water Year 2009 (WY09) (Table 1). This change was a 5% increase from WY09 to WY10. Overall, the withdrawal from the Stewart Gulch aquifer system was 567.4 acre feet.

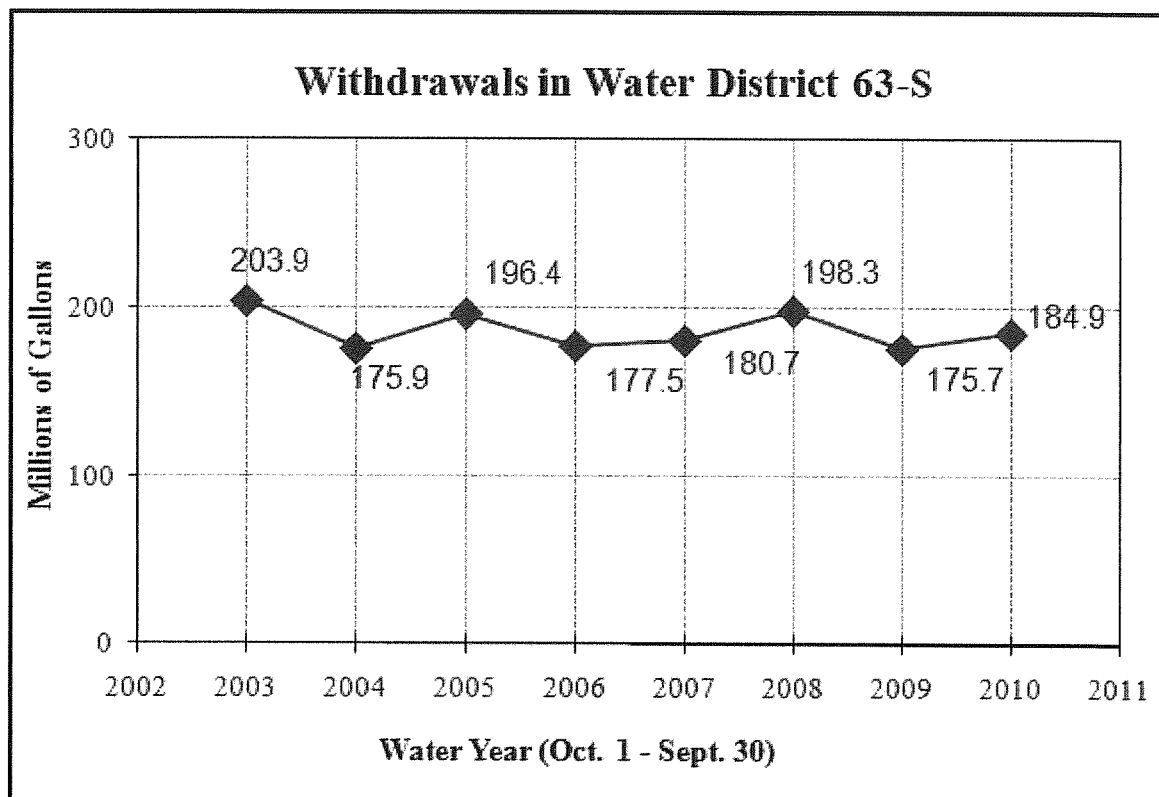


Figure 1. Low-temperature geothermal ground water withdrawals in Ground Water District 63-S for Water Years 2003-2010.

Water Levels

Despite an increase in withdrawals of 5%, all of the wells in GWD63-S, with the exception of the Edwards well, showed overall upward trends in their maximum water levels in WY10 (Figures 2-9). This is not typical for GWD63-S. The wells are highly interconnected, and thus increases and decreases in withdrawals result in accompanying decreases and increases in water levels. The reason for the pattern this water year is unknown.

The Edwards well had a slight decrease of 1.1 feet in the maximum water level from WY09 to WY10 (Figure 2). The minimum water level did not change.

The TTCI Tiegs (Triangle) well had an increase in the maximum water level of 1.4 feet from WY09 to WY10; the minimum water level increased 2.2 feet (Figure 3). The TTCI House (Office), and Silkey (Shed) also had similar water level trends (Figures 4 and 5).

The Quail Hollow wells showed slight increases in the maximum water levels (Figures 6 and 7). The minimum water level for the Quail Hollow Upper well increased; the minimum water level change for the Lower well could not be determined because of missing data.

Both the maximum and minimum water levels in the Terteling Ranch Windsock and Pool wells increased in WY10 (Figures 8 and 9).

Table 1. Withdrawals¹ from Ground Water District 63-S low-temperature geothermal wells for Water Year 2010 (October 1, 2009 through September 30, 2010).

Well	Withdrawals in WY10 (millions of gallons)	Change from WY09 (millions of gallons)	Percent Change from WY09
TTCI Tiegs (Triangle)	0	0	0
TTCI Silkey (Shed)	5.8	NC ²	NC
TTCI House (Office)	0.5	-0.3	-40%
Edwards Greenhouse	67.4	+3.7	+6%
Terteling Ranch Windsock	73.7	+8.3	+13%
Terteling Ranch Pool	14.9	-0.9	-6%
Quail Hollow (Tee Ltd) Upper	16.7	-2.7	-16%
Quail Hollow (Nibbler) Lower	1.7	+1.7	See comments ³
Whitehead	4.2	-0.6	-12%
Total	184.9	+9.2	+5%

¹These numbers contain some degree of uncertainty which is typically associated with measurement equipment and methods. Therefore, the amounts are being reported in millions with one decimal place.

²NC = No change.

³The withdrawal in WY09 was only 4,023 gallons. Thus, a calculated percent change would be exceptionally large and not valid for comparison with the other wells.

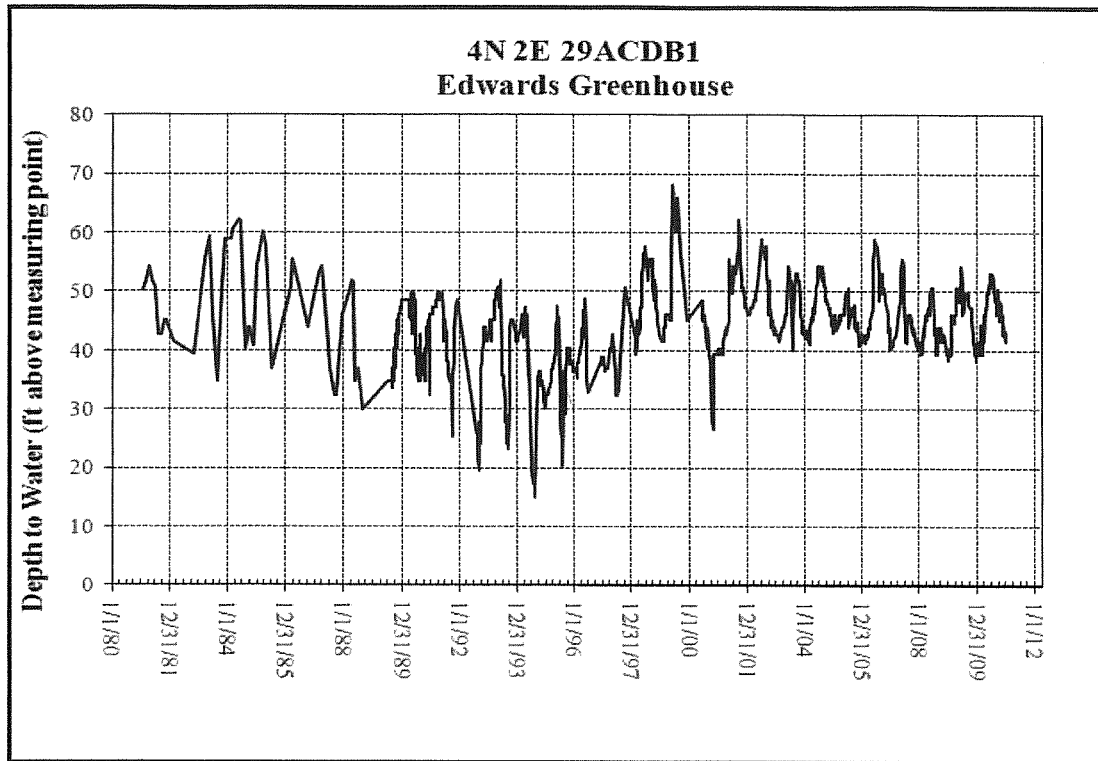


Figure 2. Water level hydrograph for the Edwards Greenhouse well.

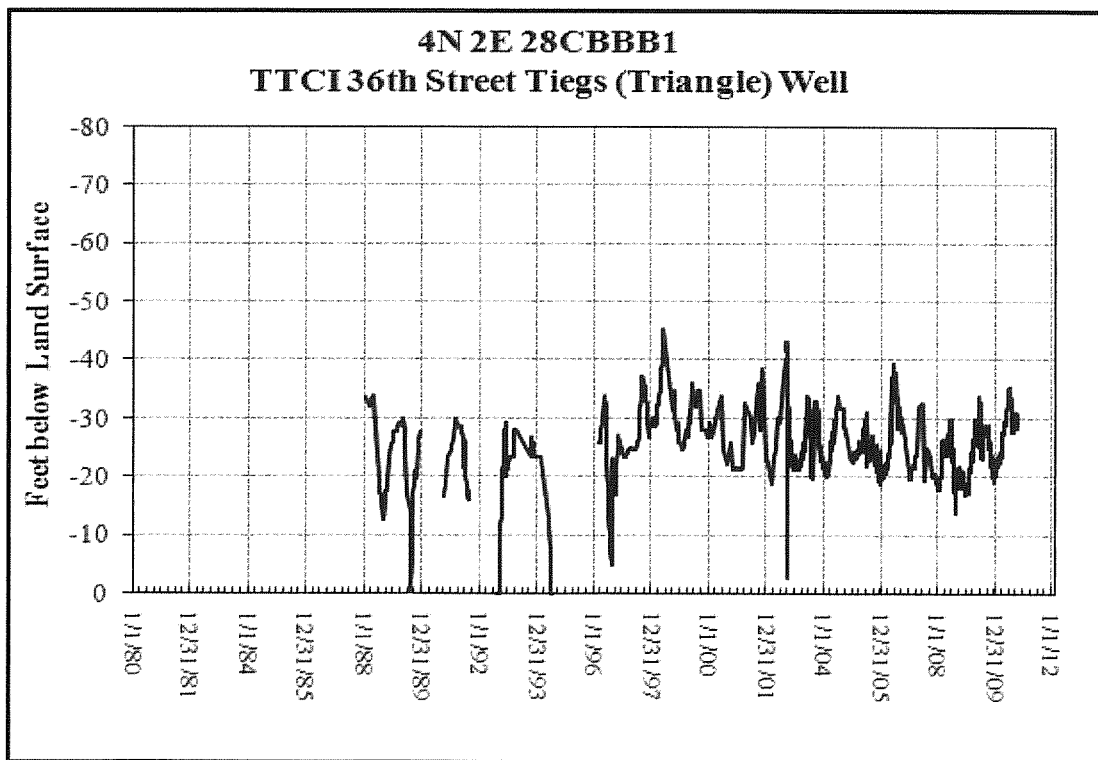


Figure 3. Water level hydrograph for the TTCI 36th Street Tieg (Triangle) well.

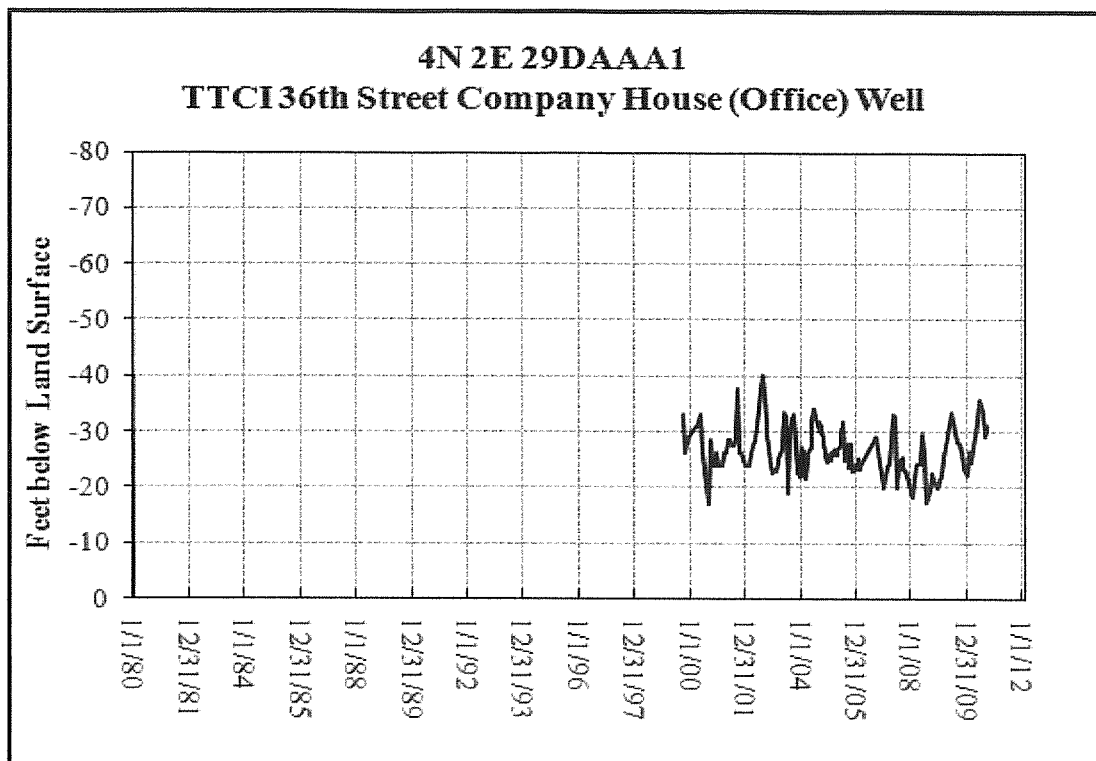


Figure 4. Water level hydrograph for the TTCI 36th Street House (Office) well.

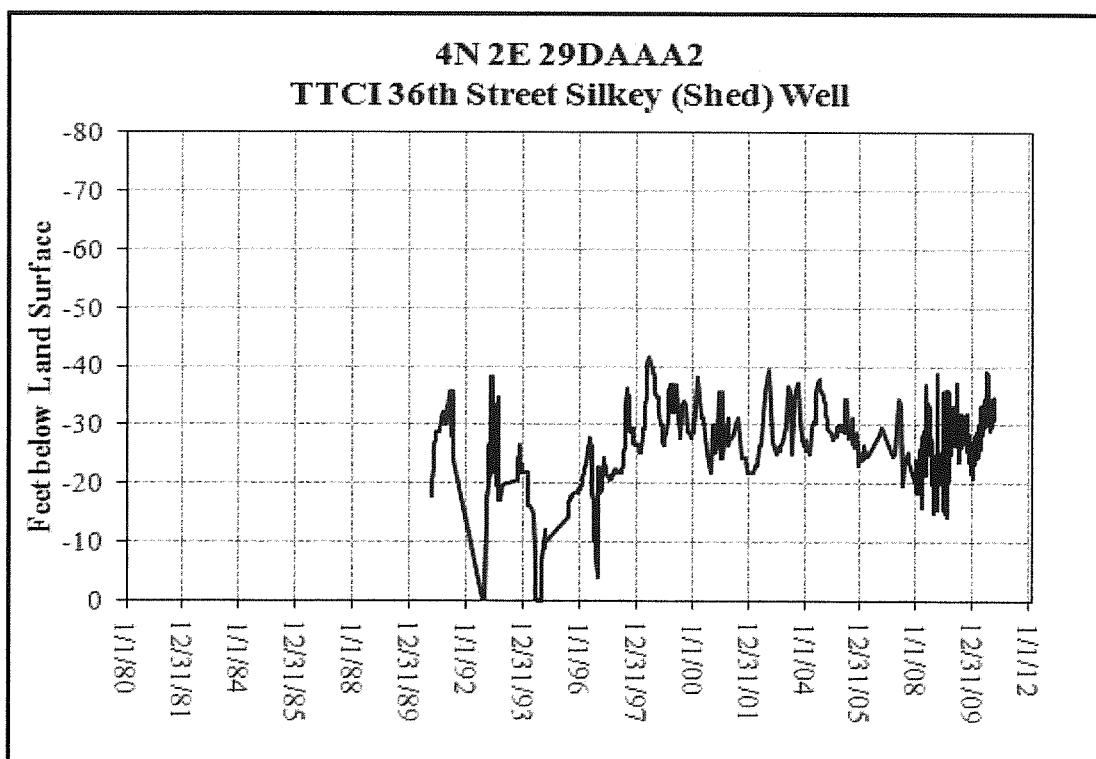


Figure 5. Water level hydrograph for the TTCI 36th Street Silkey (Shed) well.

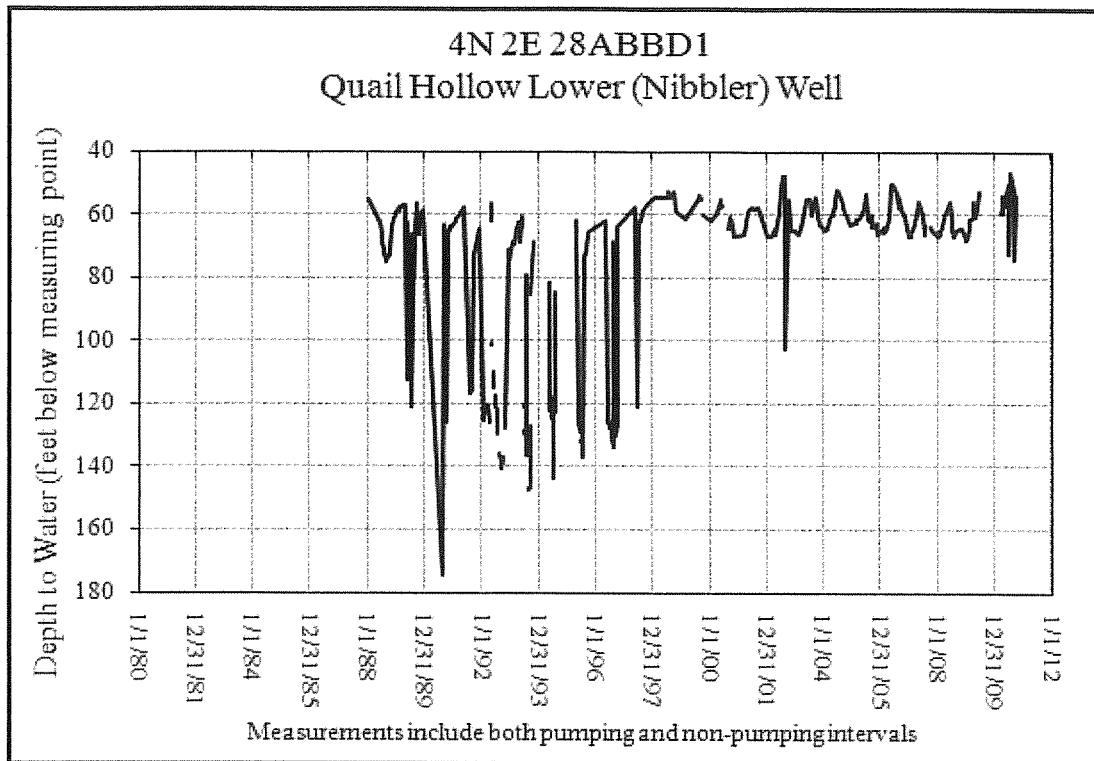


Figure 6. Water level hydrograph for the Quail Hollow Nibbler (Lower) well.

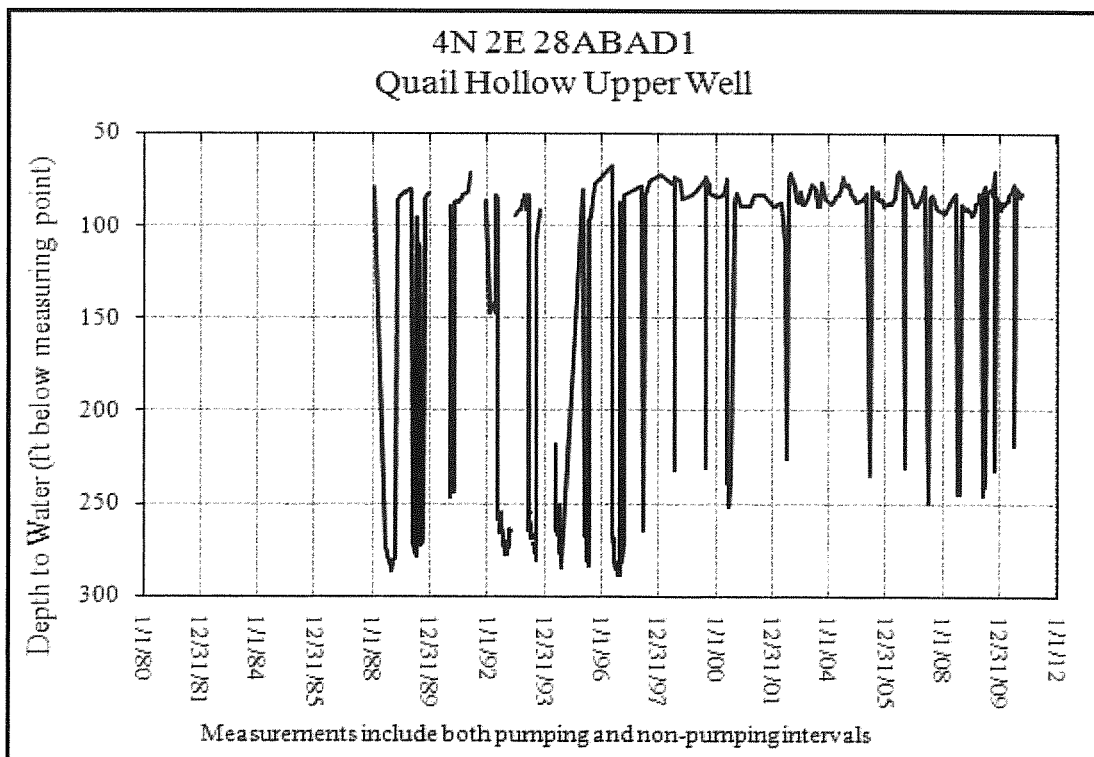


Figure 7. Water level hydrograph for the Quail Hollow Tee Ltd (Upper) well.

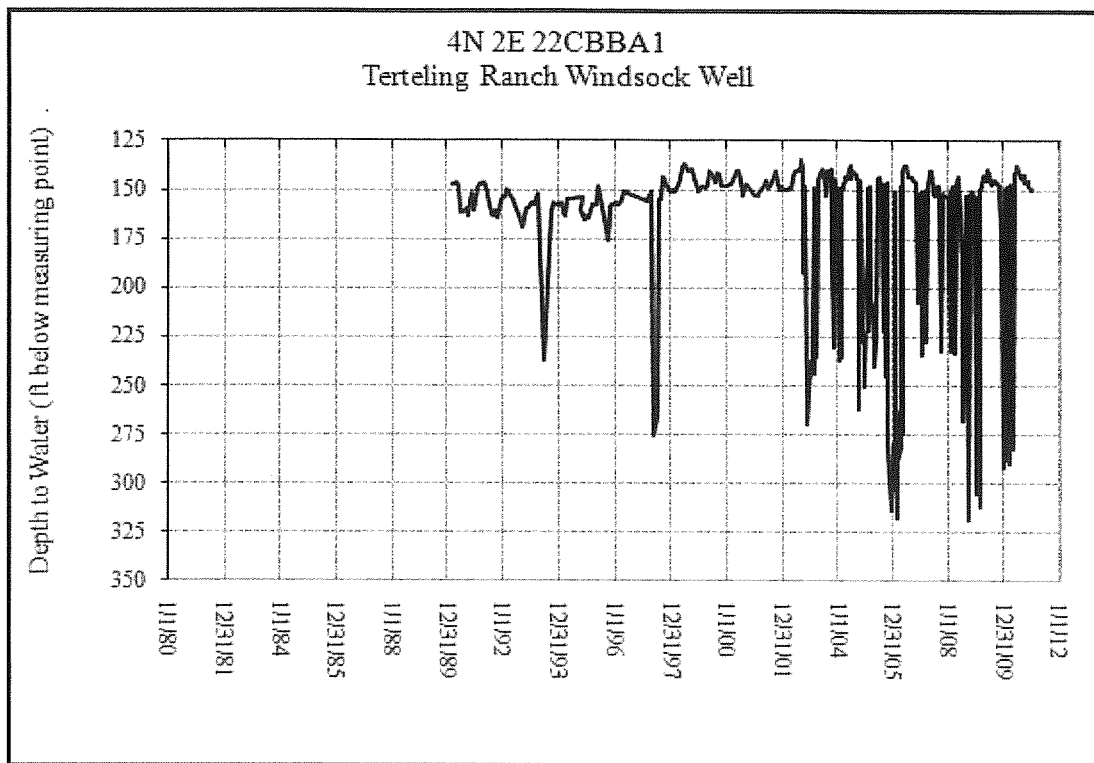


Figure 8. Water level hydrograph for the Terteling Ranch Windsock well.

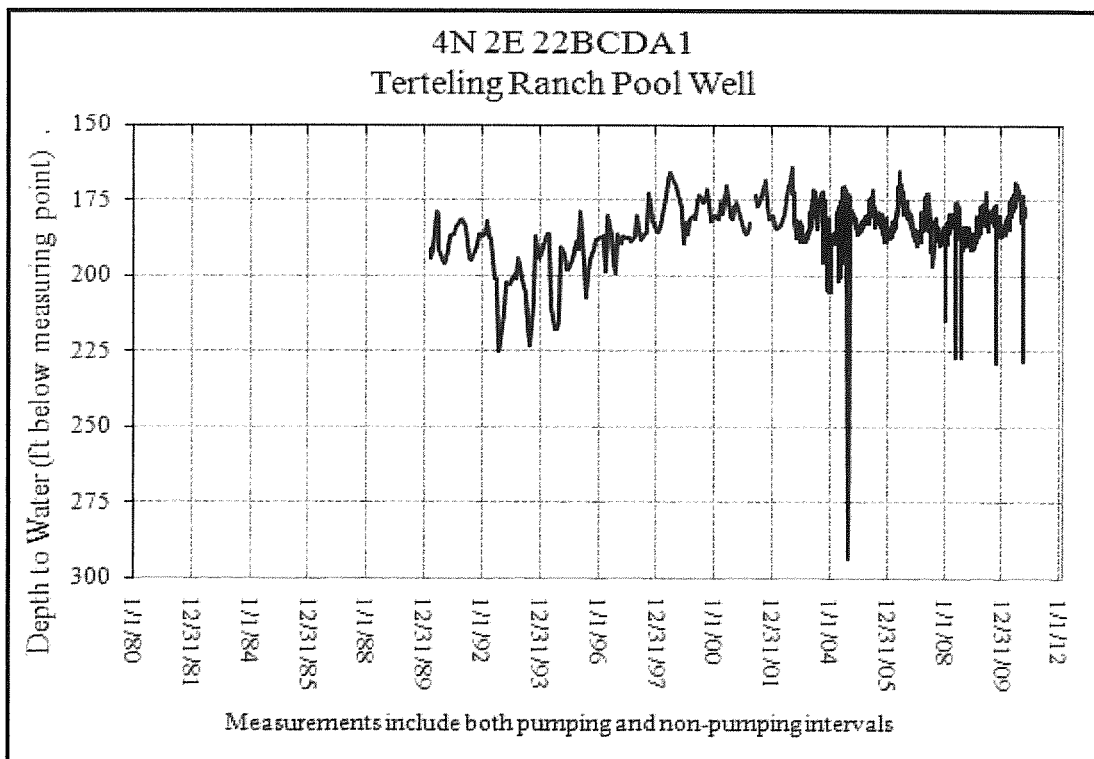


Figure 9. Water level hydrograph for the Terteling Ranch Pool well.

Watermaster Expenses

The Watermaster worked 20.5 hours in the time period from March 1, 2010 to February 28, 2011. The billing for these services is as follows:

Salary	\$ 565.39
Fringe	\$ 190.03
Supplies	\$ 0.00
<u>Indirect</u>	<u>\$ 317.28</u>
Total	\$1,072.70

Table 3. Assessment for Watermaster's expenses for Water District 63S for March 1, 2010 through February 28, 2011.

Owner	Name	Percentage ¹	Assessment ²
Terteling Company	Flora Tiegs	0.000	\$0.00
Terteling Company	Flora Silkey	20.723	\$222.30
Terteling Company	Flora House	1.566	\$16.80
Edwards Greenhouses	Edwards	22.864	\$245.26
Terteling Company	Terteling Windsock	36.147	\$387.75
Terteling Company	Terteling Pool	9.714	\$104.20
Quail Hollow Golf Course	Quail Hollow Upper	6.562	\$70.39
Quail Hollow Golf Course	Quail Hollow Lower	2.444	\$26.22
Rose and Mary Ryan	Ryan	-	\$10.00
David Niznik	Whitehead	-	-
	Total	100	\$1082.92

¹Percentages as determined at the 2004 Annual Meeting.

²Based on percentages in Column 3 times the Watermaster's Fees for this time period (\$1,072.70).

Respectfully submitted,

Kenneth Neely

Kenneth Neely, Watermaster