

Watermaster's Report

Ground Water District 63-S (Stewart Gulch)

March 1, 2012 to March 1, 2013

Withdrawals

The total withdrawal of low temperature geothermal water in GWD63-S in WY11 was 176.4 mgal (Figure 1). This amount was 5.6 mgal more than the withdrawal in WY10, which is a 3% increase (Table 1). Overall, the withdrawal from the Stewart Gulch aquifer system was 526.0 acre feet.

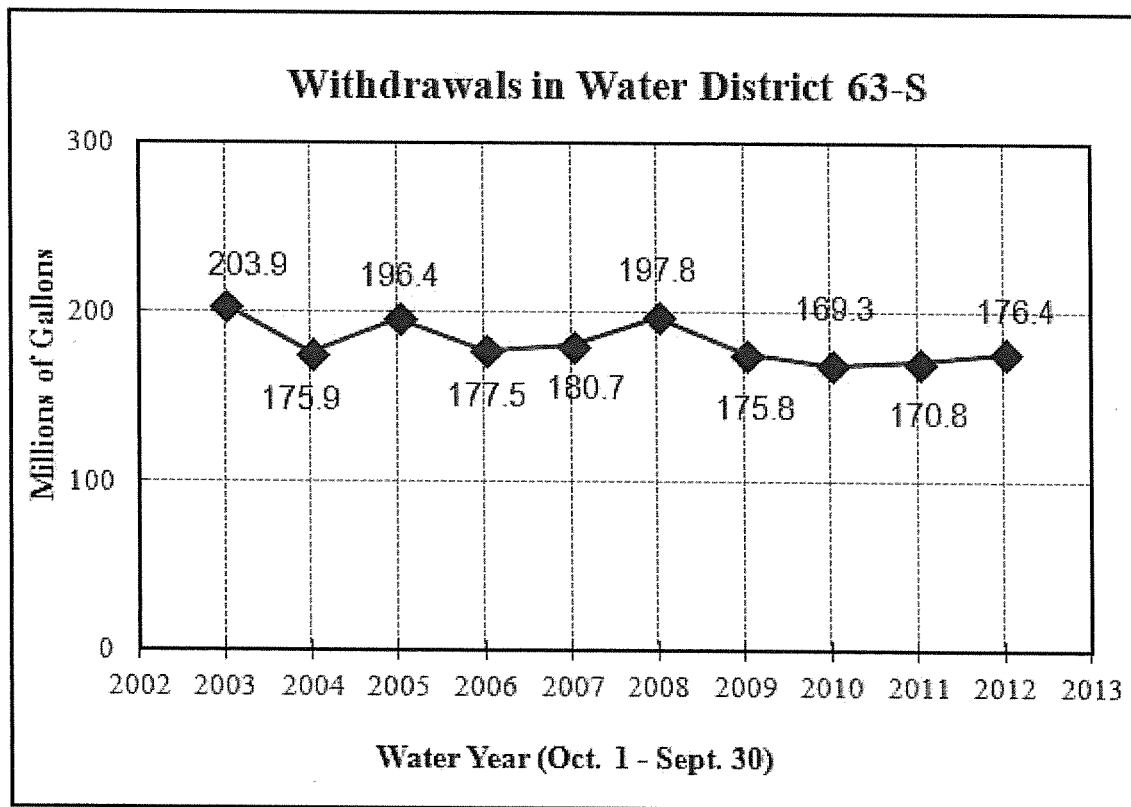


Figure 1. Low-temperature geothermal ground water withdrawals in Ground Water District 63-S for Water Years 2003-2012.

Table 1. Withdrawals¹ from Stewart Gulch Ground Water District 63-S geothermal wells for Water Year 2012 (October 1, 2011 through September 30, 2012).

Well	Withdrawals in WY12 (millions of gallons)	Change from WY11 (millions of gallons)	Percent Change from WY11
TTCI Ties (Triangle)	0	0	0
TTCI Silkey (Shed)	7.9	+0.3	+4%
TTCI House (Office)	0.3	-0.5	See Comments ²
Edwards Greenhouse	65.4	+0.4	+<0.1%
Terteling Ranch Windsock	66.9	-2.4	-4%
Terteling Ranch Pool	19.2	+0.6	+3%
Quail Hollow (Tee Ltd) Upper	<0.1	<0.1	See Comments ³
Quail Hollow (Nibbler) Lower	11.7	+7.5	+276%
Whitehead	4.9	-0.1	-2%
Total	176.4	+5.6	+3%

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.

²The withdrawal in WY12 was 300,000 gallons; in WY11 the withdrawal was 800,000 gallons. This is decrease of over 60% but because the actual amounts are low, it would be misleading to report a percentage in this column.

³The withdrawal in WY12 was 71,700 gallons; in WY11 the withdrawal was 59,500 gallons. This is increase of about 20% but the actual amounts are so low that it would be misleading to report a percentage in this column.

The ownerships and locations of the wells allow them to be grouped into four individual withdrawal centers, which is a useful approach for summarizing the withdrawals in these localized areas within the District. Table 2 shows the four centers and the changes in withdrawals from WY11 to WY12

Table 2. Four withdrawal centers in GWD63-S and changes from WY11 to WY12.

Withdrawal Center	Number of Wells	Numerical change from WY11 to WY12	Percentage change from WY11 to WY12
Edwards Greenhouse	1	+0.4 mgal	+<0.1%
Terteling Garden Center	3 (2 in use; 1 unused)	-0.2 mgal	-2%
Quail Hollow	2	+7.5 mgal	+276%
Terteling Ranch	2	-1.8 mgal	-2%

Water Levels

Overall, ground water levels in GWD63-S wells were fairly consistent with previous years. Maximum values in some wells remained the same as WY11, and decreased slightly in some wells. Minimum values were a little higher in WY12.

The Edwards well had a decrease in the maximum water level of 1.2 feet and an increase in the minimum water level of 3.5 feet in WY12 (Figure 2).

The TTCI Tiegs (Triangle) well also had a slight decrease in the maximum water level (0.2 feet), and an increase in the minimum water level of 2.3 feet (Figure 3). The TTCI House (Office) well had a larger decrease in the maximum level (2.8 feet); the minimum value increased slightly (0.2 feet)(Figure 4). The Silkey (Shed) had very slight increases in both the maximum and minimum water level (Figures 5).

The maximum water levels in the Quail Hollow wells were nearly the same in WY12 as in WY11, and the minimum levels were a little higher in WY12 (Figures 6 and 7).

The Terteling Ranch Windsock and Pool wells showed slight increases in the minimum water levels and the maximum water levels remained about the same as in WY11 (Figures 8 and 9).

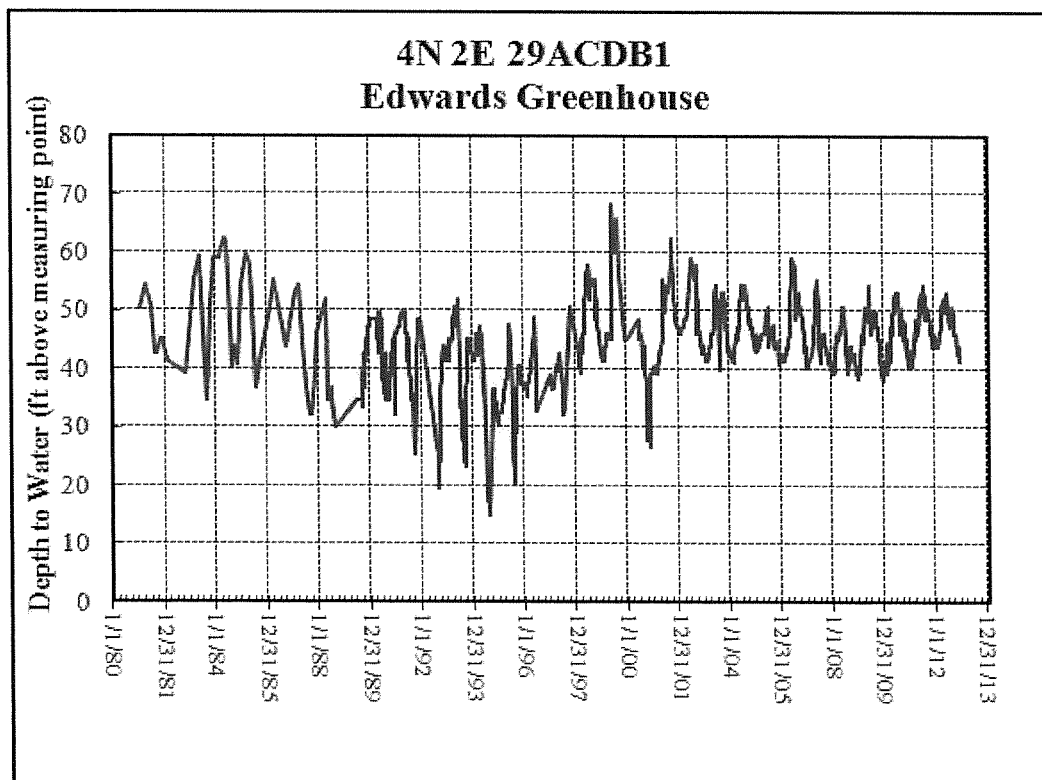


Figure 2. Water level hydrograph for the Edwards Greenhouse well.

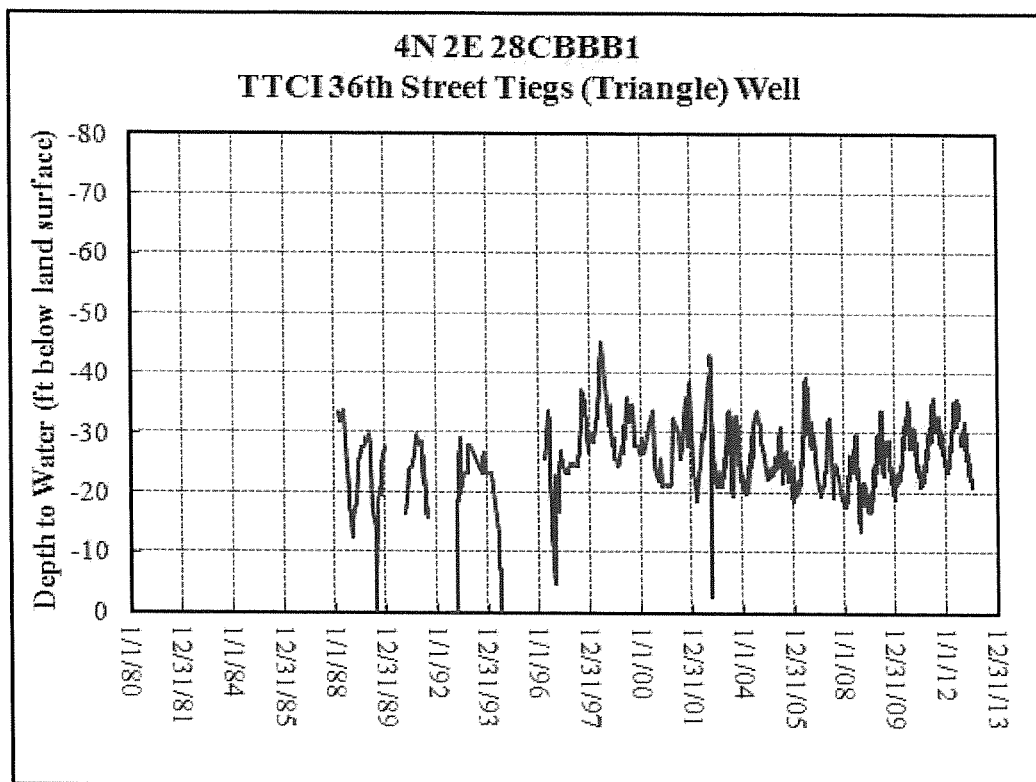


Figure 3. Water level hydrograph for the TTCI 36th Street Tiegs (Triangle) well.

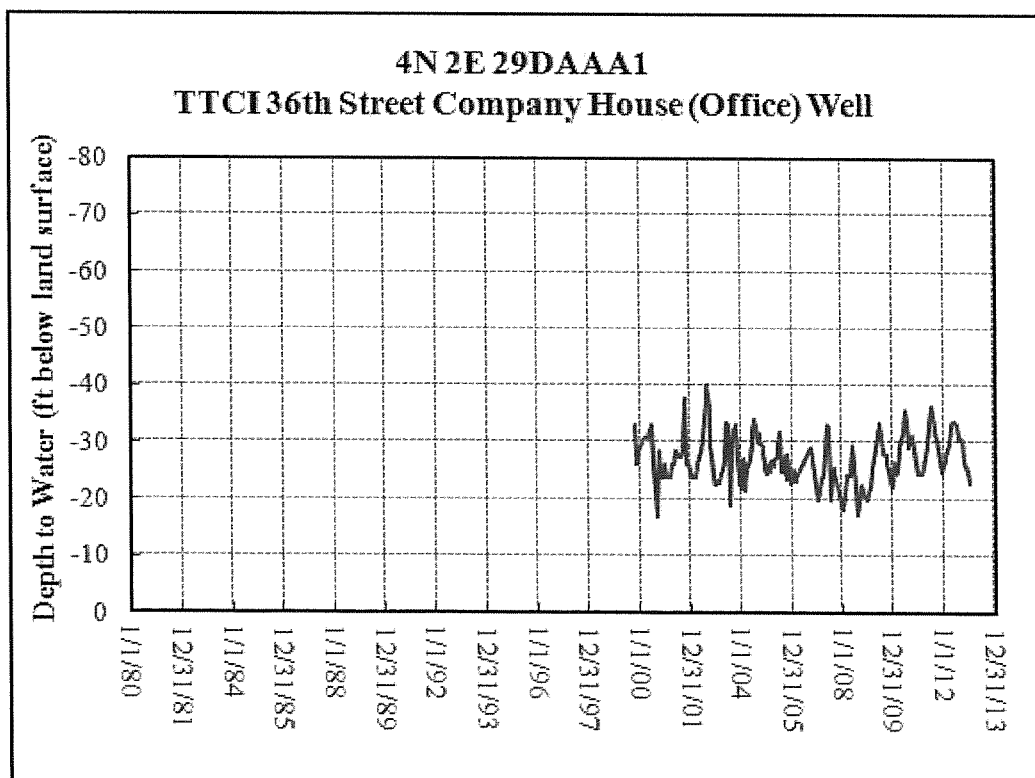


Figure 4. Water level hydrograph for the TTCI 36th Street House (Office) well.

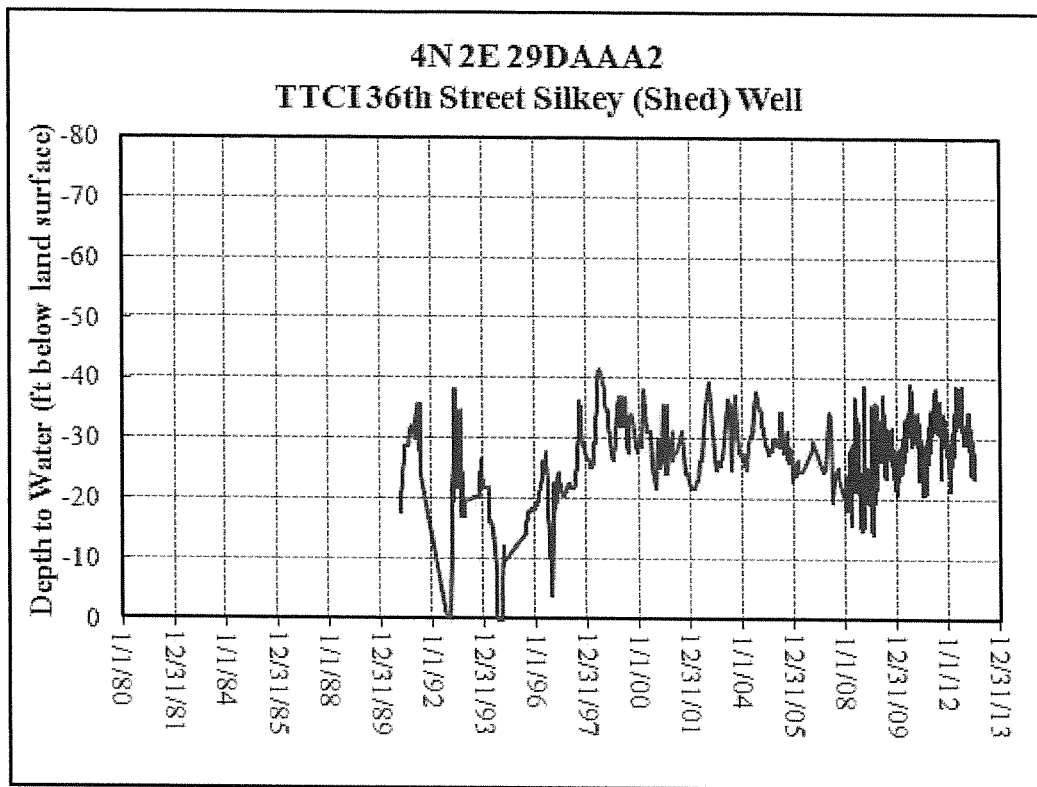


Figure 5. Water level hydrograph for the TTCI 36th Street Silkey (Shed) well.

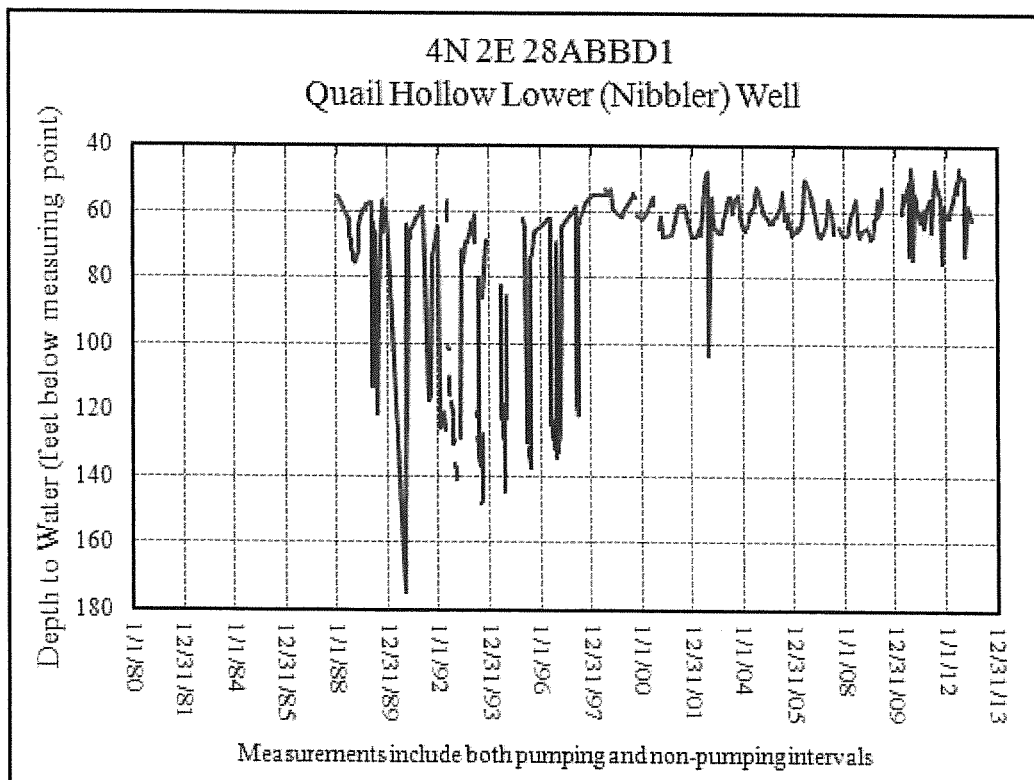


Figure 6. Water level hydrograph for the Quail Hollow Nibbler (Lower) well.

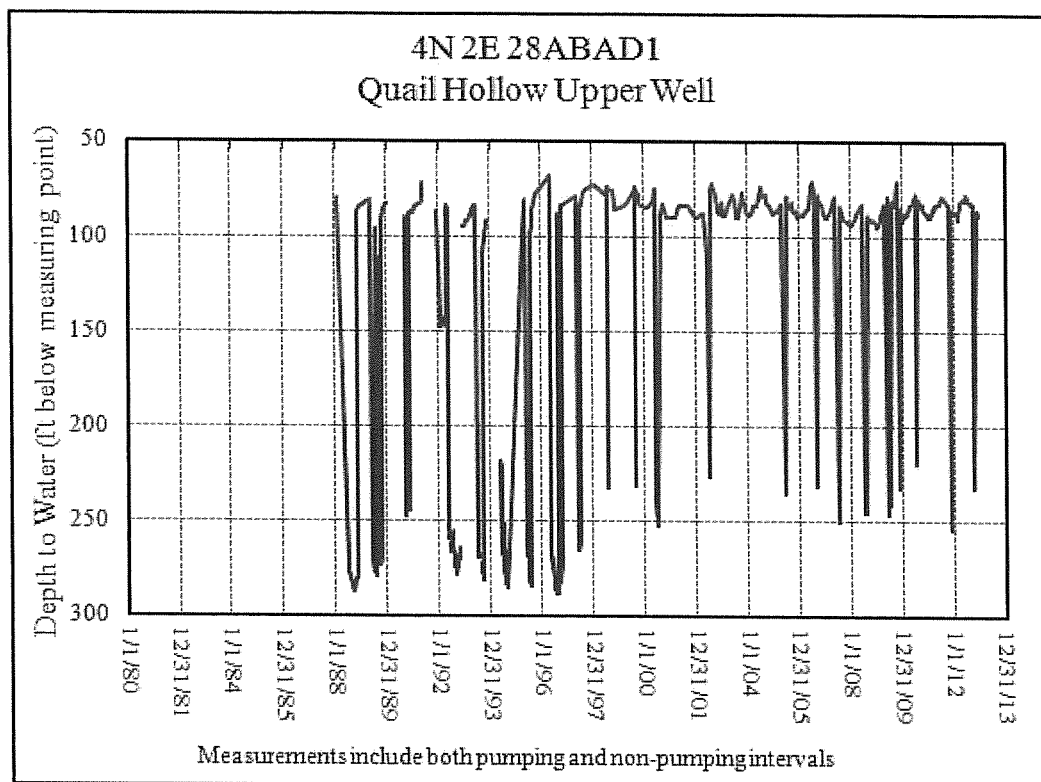


Figure 7. Water level hydrograph for the Quail Hollow Tee Ltd (Upper) well.

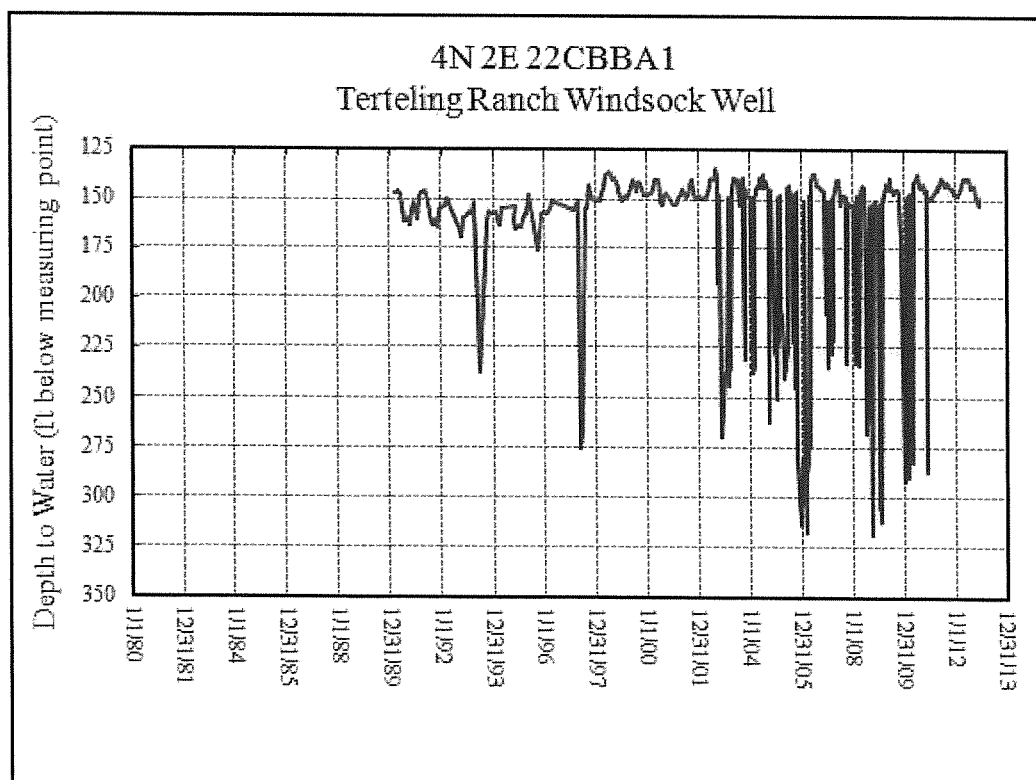


Figure 8. Water level hydrograph for the Terteling Ranch Windsock well.

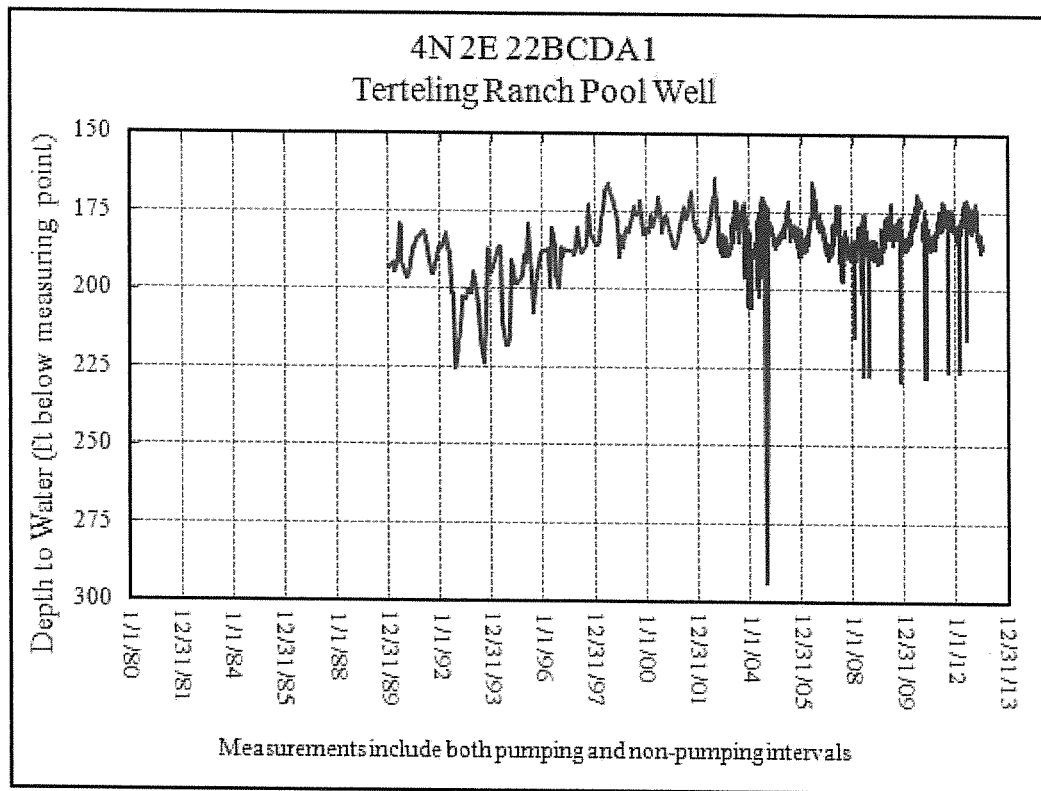


Figure 9. Water level hydrograph for the Terteling Ranch Pool well.

Watermaster Expenses

The Watermaster worked 13.0 hours in the time period from March 1, 2012 to February 28, 2013. The billing for these services is as follows:

Salary	\$ 364.05
Fringe	\$ 131.44
Supplies	\$ 0.00
Indirect	\$ 208.11

Total \$ 703.60

Table 3 is the assessment for the Watermaster's expenses for Ground Water District 63-S for March 1, 2012 through February 28, 2013

Table 3. Assessment for Watermaster's expenses for Water District 63S for March 1, 2011 through February 29, 2012.

Owner	Name	Percentage ¹	Assessment ²
Terteling Company	Flora Tiegs	0.000	\$0.00
Terteling Company	Flora Silkey	20.723	\$145.81
Terteling Company	Flora House	1.566	\$11.02
Edwards Greenhouses	Edwards	22.864	\$160.87
Terteling Company	Terteling Windsock	36.147	\$254.33
Terteling Company	Terteling Pool	9.714	\$68.35
Quail Hollow Golf Course	Quail Hollow Upper	6.562	\$46.17
Quail Hollow Golf Course	Quail Hollow Lower	2.444	\$17.20
Rose and Mary Ryan	Ryan	-	\$10.00
David Niznik	Whitehead	-	-
	Total	100	\$713.75

¹ Percentages as determined at the 2004 Annual Meeting.

² Based on percentages in Column 3 times the Watermaster's Fees for this time period (\$703.60).

Respectfully submitted,

Kenneth Neely

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Watermaster for Ground Water District 63-S