

Water-Data Report 2007

260325080113901 Local number G 2900. USGS Observation Well near Fort Lauderdale, FL.

Biscayne aquifer
Biscayne Limestone Aquifer
Broward County, FL

LOCATION.--Lat 26°03'28", long 80°11'38" referenced to North American Datum of 1983, in SE ¼ NW ¼ sec.31, T.50 S., R.42 E., Broward County, FL, Hydrologic Unit 03090202, 29 ft south of a storm drain on the east side of SW 35th Terrace, 0.45 mi south of Griffin Road.

GROUND-WATER RECORDS

WELL CHARACTERISTICS.--Depth 114.5 ft. Upper casing diameter 2 in, top of first opening 104.5 ft, bottom of last opening 114.5 ft.

DATUM.--Land-surface datum is 5.98 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of base, 9.44 ft above National Geodetic Vertical Datum of 1929, Feb. 15, 2001, to present. Prior to February 15, 2001, measuring point was top of casing 5.98 ft above NGVD. See REMARKS.

PERIOD OF RECORD.--Water Level Measurements: October 2000 to March 2001 (monthly), March 2001 to current year. Induction Logging: April 2000 to current year (annually). Specific Conductance: March 2001 to current year. Chloride concentration: October 2000 to current year (monthly).

GAGE.--Satellite data collection platform with pressure transducer and conductivity probe. Annual profile by induction logger. See REMARKS.

REMARKS.--Well is also used for salinity monitoring, including an annual induction log. See PERIOD OF RECORD. Induction logs are used to assess the movement of fresh-water/salt-water interface in ground water. See [RECORDS OF BULK CONDUCTIVITY](#). A calibration error was found to have affected some of the historical bulk conductivity logs collected by an induction logger. Bulk conductivity logs prior to the 2002 water year had been calibrated to a standard of 1,301 mS/m. For these calibrations, an internal setting limited the probe response to 1,000 mS/m. Data for the affected years was corrected by applying a 0.7686 multiplier. Station was reconstructed in February 2001, for the collection of continuous water-level, temperature and specific conductance data. Because of the failure of a conductance probe element, specific conductance data, originally collected October 2004 to February 2005, has been removed from the station data record. Temperature records are available in the files of the U.S. Geological Survey.

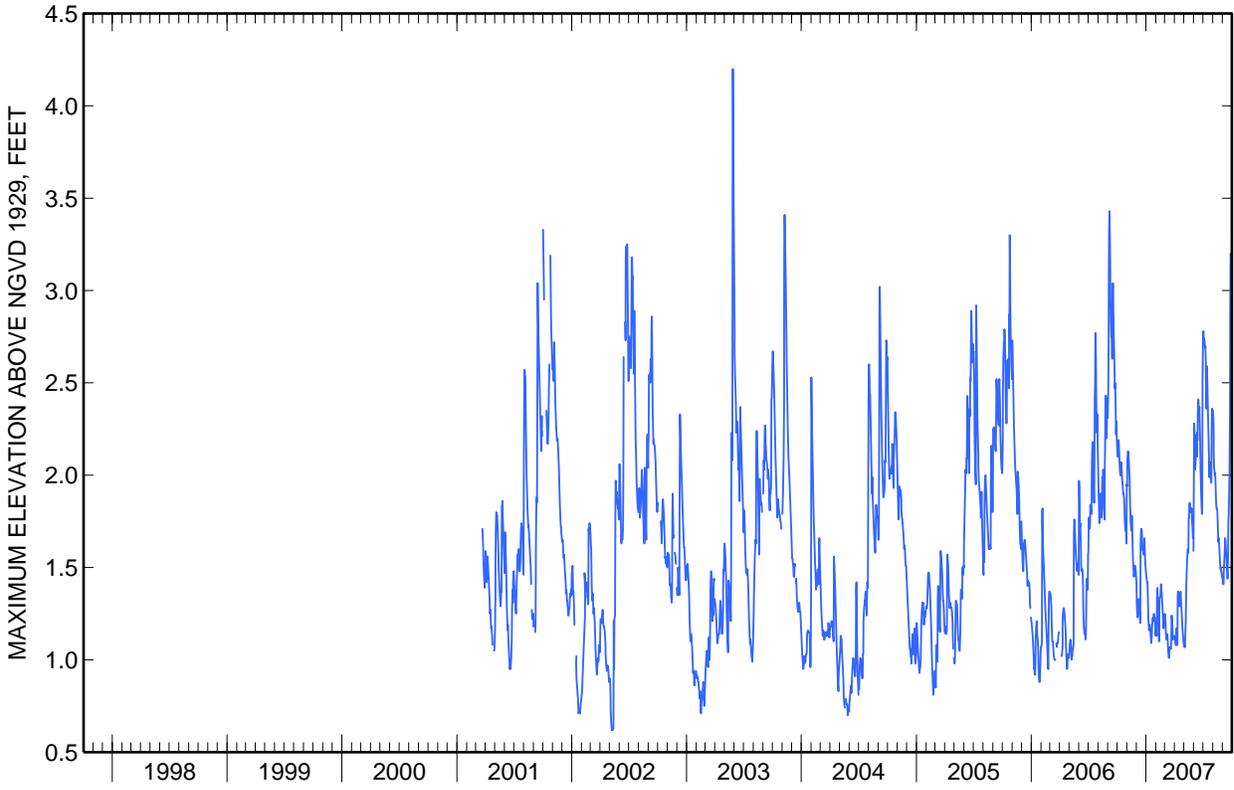
EXTREMES FOR PERIOD OF RECORD.--Highest daily maximum water level, 4.20 ft NGVD, May 27, 28, 2003; lowest, 0.62 ft NGVD, May 8, 10, 11, 2002. Highest daily mean specific conductance, 11,660 microsiemens per centimeter, June 1,2, 2007; lowest, 7,718 microsiemens per centimeter, Oct. 27, 2001.

260325080113901 Local number G 2900. USGS Observation Well near Fort Lauderdale, FL.—Continued

ELEVATION ABOVE NGVD 1929, FEET
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MAXIMUM VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	2.12	1.94	1.39	1.46	1.16	1.25	1.12	1.09	1.92	2.78	2.35	1.44
2	2.10	2.09	1.33	1.44	1.15	1.23	1.12	1.07	2.28	2.78	2.34	1.41
3	2.10	2.11	1.27	1.43	1.13	1.21	1.12	1.08	2.24	2.72	2.23	1.41
4	2.12	2.13	1.23	1.42	1.33	1.18	1.10	1.07	2.13	2.74	2.13	1.41
5	2.19	2.10	1.24	1.42	1.39	1.12	1.08	1.10	2.03	2.73	2.02	1.48
6	2.15	2.08	1.30	1.35	1.36	1.11	1.15	1.16	2.05	2.71	2.01	1.54
7	2.10	2.06	1.33	1.28	1.31	1.13	1.17	1.29	2.09	2.69	2.00	1.57
8	2.07	2.04	1.33	1.22	1.27	1.13	1.13	1.35	2.17	2.70	2.01	1.60
9	2.01	1.99	1.31	1.17	1.21	1.14	1.08	1.45	2.22	2.62	1.97	1.66
10	2.00	1.88	1.27	1.16	1.16	1.10	1.09	1.48	2.17	2.46	1.91	1.65
11	2.00	1.81	1.26	1.18	1.10	1.07	1.35	1.54	2.10	2.36	1.86	1.62
12	2.03	1.75	1.21	1.19	1.27	1.04	1.37	1.58	2.23	2.41	1.82	1.58
13	2.07	1.72	1.20	1.17	1.34	1.02	1.35	1.60	2.19	2.59	1.82	1.54
14	2.04	1.70	1.63	1.17	1.34	1.01	1.35	1.59	2.30	2.57	1.82	1.51
15	2.03	1.70	1.69	1.13	1.34	1.03	1.34	1.58	2.40	2.40	1.80	1.50
16	2.01	1.78	1.71	1.11	1.38	1.06	1.29	1.77	2.41	2.36	1.75	1.44
17	1.97	1.69	1.71	1.09	1.41	1.07	1.30	1.77	2.36	2.26	1.69	1.44
18	1.94	1.65	1.69	1.12	1.39	1.07	1.32	1.82	2.34	2.21	1.64	1.57
19	1.91	1.60	1.64	1.14	1.36	1.06	1.35	1.85	2.37	2.10	1.66	1.75
20	1.90	1.54	1.60	1.20	1.34	1.06	1.37	1.82	2.30	2.03	1.65	1.78
21	1.90	1.49	1.59	1.21	1.31	1.06	1.34	1.81	2.20	1.99	1.61	1.86
22	1.88	1.47	1.59	1.23	1.27	1.14	1.30	1.82	2.11	2.07	1.58	1.95
23	1.86	1.45	1.58	1.21	1.24	1.24	1.26	1.82	2.00	2.07	1.54	2.07
24	1.82	1.47	1.57	1.23	1.19	1.21	1.22	1.80	1.92	2.03	1.52	2.32
25	1.74	1.51	1.58	1.25	1.17	1.20	1.21	1.82	1.88	1.99	1.49	2.88
26	1.72	1.51	1.66	1.24	1.22	1.15	1.18	1.77	1.84	1.97	1.50	3.20
27	1.70	1.51	1.61	1.23	1.22	1.12	1.17	1.73	1.79	1.96	1.49	3.19
28	1.71	1.50	1.54	1.23	1.22	1.11	1.12	1.71	1.82	2.22	1.47	2.99
29	1.68	1.48	1.51	1.19	---	1.11	1.10	1.66	2.52	2.36	1.47	2.78
30	1.63	1.45	1.50	1.15	---	1.12	1.09	---	2.68	2.36	1.45	2.83
31	1.95	---	1.48	1.13	---	1.13	---	1.59	---	2.35	1.45	---
Total	60.45	52.20	45.55	38.15	35.58	34.68	36.54	---	65.06	73.59	55.05	56.97
Mean	1.95	1.74	1.47	1.23	1.27	1.12	1.22	---	2.17	2.37	1.78	1.90
Max	2.19	2.13	1.71	1.46	1.41	1.25	1.37	---	2.68	2.78	2.35	3.20
Min	1.63	1.45	1.20	1.09	1.10	1.01	1.08	---	1.79	1.96	1.45	1.41

260325080113901 Local number G 2900. USGS Observation Well near Fort Lauderdale, FL.—Continued

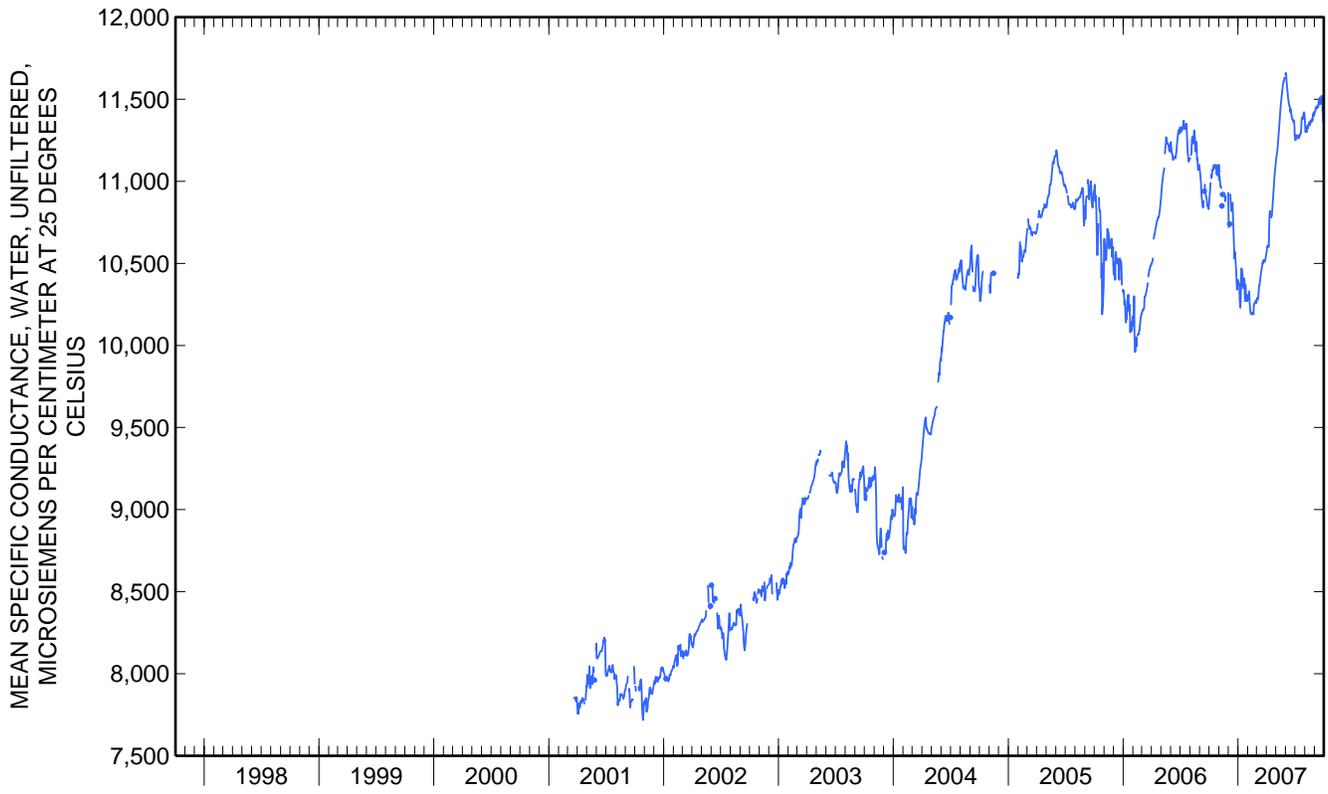


260325080113901 Local number G 2900. USGS Observation Well near Fort Lauderdale, FL.—Continued

**SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES**

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	10,880	11,010	10,790	10,390	10,300	10,280	10,560	11,120	11,660	11,280	11,380	11,420
2	10,910	11,030	10,720	10,370	10,310	10,290	10,580	11,140	11,660	11,250	11,330	11,420
3	10,930	11,030	---	10,380	10,310	10,290	10,600	11,150	11,620	11,260	11,300	11,430
4	10,960	10,990	---	10,370	10,320	10,280	10,600	11,160	11,600	11,280	11,310	11,440
5	10,990	10,970	10,740	10,370	10,330	10,290	10,610	11,180	11,580	11,280	11,310	11,450
6	---	10,970	---	10,280	10,270	10,300	10,610	11,190	11,560	11,280	11,320	11,440
7	11,040	10,970	10,920	10,250	10,240	10,330	10,610	11,210	11,540	11,270	11,300	11,450
8	11,020	10,960	10,890	10,230	10,220	10,350	10,600	11,230	11,520	11,280	11,330	11,450
9	11,030	---	10,860	10,270	10,200	10,370	10,660	11,250	11,500	11,280	11,340	11,460
10	11,060	10,850	10,820	10,360	10,200	10,370	10,750	11,290	11,480	11,270	11,320	11,460
11	11,070	---	10,830	10,460	10,190	10,380	10,800	11,320	11,470	11,260	11,340	11,450
12	11,070	10,920	10,850	10,470	10,200	10,400	10,820	11,360	11,460	11,260	11,340	11,450
13	11,080	---	10,840	10,460	10,200	10,420	10,800	11,390	11,460	11,270	11,350	11,460
14	11,070	---	10,870	10,450	10,200	10,440	10,790	11,420	11,450	11,270	11,350	11,490
15	11,100	---	10,830	10,410	10,190	10,450	10,790	11,440	11,430	11,280	11,360	11,490
16	11,100	---	10,740	10,360	---	10,460	10,780	11,450	11,420	11,280	11,350	11,470
17	11,090	10,930	10,710	10,350	---	10,470	10,790	11,460	11,440	11,290	11,340	11,500
18	11,090	10,920	10,660	10,390	10,200	10,490	10,790	11,490	11,430	11,290	11,350	11,510
19	11,080	10,920	10,550	10,400	10,190	10,500	10,820	11,510	11,410	11,290	11,370	11,470
20	11,090	10,880	10,530	10,410	10,250	10,510	10,870	11,530	11,400	11,320	11,370	11,490
21	11,100	10,880	10,570	10,390	10,250	10,500	10,890	11,550	11,390	11,360	11,370	11,510
22	11,100	10,910	10,570	10,300	10,260	10,510	10,910	11,570	11,380	11,380	11,360	11,510
23	11,080	---	10,530	10,270	10,260	10,520	10,930	11,590	11,380	11,390	11,370	11,520
24	11,050	---	10,500	10,370	10,260	10,510	10,950	11,600	11,370	11,390	11,380	11,520
25	11,040	---	10,490	10,340	10,270	10,510	10,980	11,610	11,370	11,390	11,370	11,510
26	11,070	---	10,430	10,290	10,270	10,510	11,010	11,610	11,360	11,380	11,400	11,430
27	11,080	---	10,360	10,280	10,260	10,510	11,060	11,620	11,360	11,390	11,410	11,430
28	11,100	---	10,340	10,300	10,260	10,520	11,070	11,630	11,370	11,410	11,400	11,390
29	11,060	---	10,360	10,270	---	10,530	11,090	11,630	11,330	11,420	11,420	11,360
30	11,030	10,930	10,390	10,270	---	10,540	11,110	---	11,270	11,420	11,400	11,380
31	11,100	---	10,400	10,280	---	10,550	---	11,650	---	11,410	11,410	---
Total	---	---	---	320,790	---	323,380	324,230	---	343,670	350,880	352,050	343,760
Mean	---	---	---	10,350	---	10,430	10,810	---	11,460	11,320	11,360	11,460
Max	---	---	---	10,470	---	10,550	11,110	---	11,660	11,420	11,420	11,520
Min	---	---	---	10,230	---	10,280	10,560	---	11,270	11,250	11,300	11,360

260325080113901 Local number G 2900. USGS Observation Well near Fort Lauderdale, FL.—Continued



260325080113901 Local number G 2900. USGS Observation Well near Fort Lauderdale, FL.—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Date	Time	Specific conductance, wat unf, μS/cm, 25 degC, (00095)	Chloride, water, fltrd, mg/L (00940)
Oct			
06...	0850	8,660	2,600
Nov			
09...	0941	9,040	2,750
Dec			
11...	0952	9,320	2,800
Jan			
24...	1007	9,690	3,000
Feb			
20...	0840	9,260	3,100
Mar			
05...	0939	9,370	3,100
Apr			
11...	0945	10,200	3,100
May			
30...	0907	10,800	3,400
Jun			
22...	1159	10,300	3,100
Jul			
20...	0827	9,570	3,100
Aug			
23...	0910	9,620	2,900
Sep			
27...	0916	10,100	3,100

260325080113901 Local number G 2900. USGS Observation Well near Fort Lauderdale, FL.—Continued**Lithologic log, USGS 260325080113901. Local Number G -2900**

Depth interval feet below land surface	Lithologic description
0 - 10	Quartz sand, tan to black, fine to very fine grained, grains are frosted, sub-angular to sub-rounded, and coated with organic matter; organic matter
10 - 15	Quartz sand, tan to brown, well sorted, fine to very fine grained, grains are frosted and sub-angular to sub-rounded
15 - 20	Quartz sand, tan to brown, fine to very fine grained, grains are frosted and sub-rounded, with concretions and shell fragments
20-25	Quartz sand, tan, fine to very fine grained, frosted grains, with concretions and shell fragments
25-35	Quartz sand, tan to yellow, fine to very fine grained, grains are frosted and sub-rounded
35-40	Quartz sand, tan to brown, fine to very fine grained, grains are clear to frosted and sub-angular to sub-rounded
40-45	Quartz sand, tan, fine to very fine grained, grains are clear and sub-angular to sub-rounded, with traces of heavy minerals
45-50	Quartz sand, tan, fine to very fine grained, grains are clear and sub-angular to sub-rounded, with traces of heavy minerals; limestone concretions
50-55	Quartz sand, tan, well sorted, fine to very fine grained, grains are clear and sub-angular to sub-rounded with concretions, shell fragments and some heavy minerals
55-70	Quartz sand, tan, well sorted, fine to very fine grained, grains are clear and sub-angular to sub-rounded, with heavy minerals; sandy limestone concretions with shell fragments and heavy minerals
70-75	Sand, white, fine to very fine grained, grains are sub-angular; limestone concretions with shell fragments
75-85	Quartz sand, tan, very fine to fine grained, grains are clear and sub-angular to sub-rounded, with heavy minerals and shell fragments; sand with concretions with calcite cement.
85-95	Quartz sand, white to gray, very fine grained, grains are sub-angular to sub-rounded, with concretions, shell fragments, and heavy minerals
95-100	Sand, gray, very fine grained, grains are clear and sub-angular to sub-rounded, with shell fragments, heavy minerals, and concretions
100-115	Quartz sand, tan to gray, fine to very fine grained, grains are clear and sub-angular to sub-rounded, with shell fragments, concretions, and heavy minerals

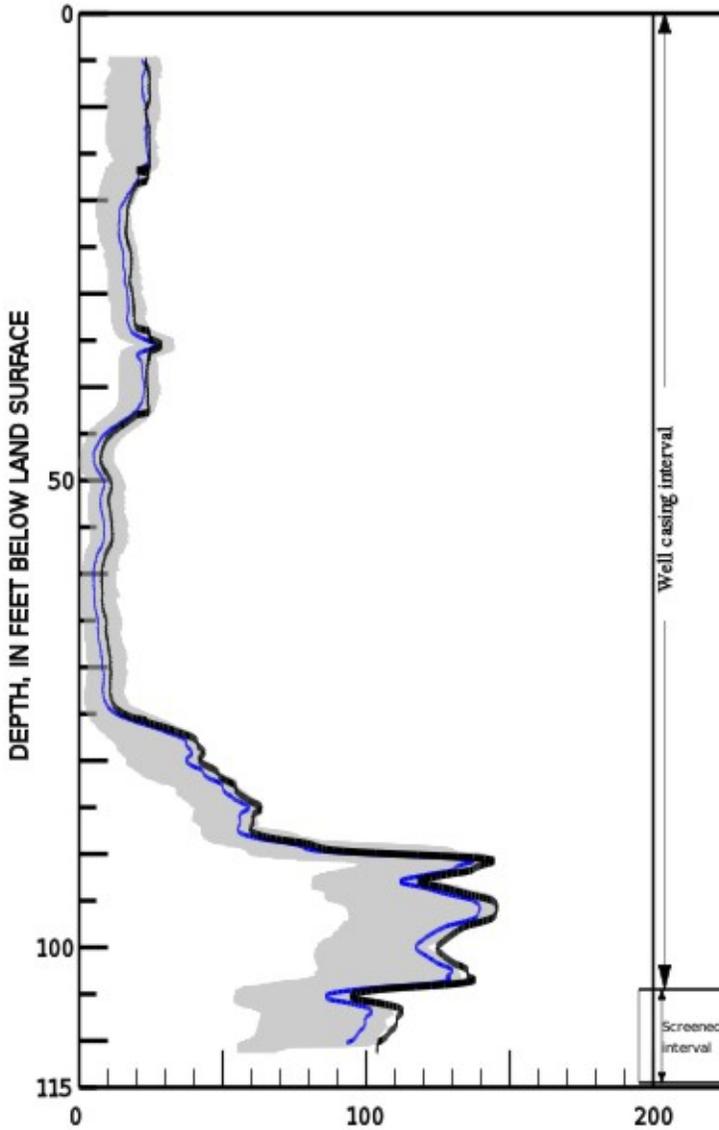
Compiled from the original lithologic description by Hydrologic Associates USA Inc., Miami, FL



WY 2007 Induction log results
Station: USGS 260325080113901
Local name: G -2900

BULK CONDUCTIVITY

**INDUCTION LOG DATES,
 ASSOCIATED CHLORIDE SAMPLE DATES**



Induction log date	Chloride sample date	Dissolved chloride concentration, in mg/L
May 30, 2007	May 30, 2007	3,400
May 12, 2006	May 12, 2006	3,200
May 2, 2005	April 28, 2005	3,200
May 20, 2004	May 20, 2004	2,850
May 7, 2003	May 7, 2003	2,800
May 21, 2002	June 5, 2002	2,500
April 17, 2001	April 17, 2001	3,100
August 28, 2000	October 20, 2000	2,150
April 19, 2000	- no sample -	

BULK CONDUCTIVITY, IN MILLISIEMENS PER METER

EXPLANATION

-  Bulk conductivity, in millisiemens per meter, May 12, 2006, May 30, 2007.
-  Shaded area represents range in bulk conductivity logs collected from April 19, 2000, through May 12, 2006.
-  Delimits the interval for which the well is open to the aquifer