

Water-Data Report 2011

254946080172601 Local number G 3250. USGS Observation Well in Miami Springs, FL.

Biscayne aquifer
Biscayne Limestone Aquifer

Miami-Dade County, FL

LOCATION.--Lat 25°49'46.8", long 80°17'26.2" referenced to North American Datum of 1983, in NE ¼ SE ¼ SE ¼ sec.13, T.53 S., R.40 E., Miami-Dade County, FL, Hydrologic Unit 03090202, approximately 200 ft southeast of the intersection of Dove Avenue and North Royal Poinciana Boulevard, 3 ft southwest of Miami Canal.

WATER-QUALITY RECORDS

WELL CHARACTERISTICS.--Depth 116 ft. Upper casing diameter 2 in.; top of first opening 106 ft, bottom of last opening 116 ft.

DATUM.--Land-surface datum is 5.70 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 5.73 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--August 1981 to September 1994 (intermittent), October 1994 to current year.

INSTRUMENTATION.--Monthly measurement with chalked steel tape or electric tape. Annual profile with electromagnetic induction logger. See REMARKS.

REMARKS.--Well also used for salinity monitoring, including an annual induction log. Salinity monitoring began August 1981. Induction logging began in April 1995. Induction logs are used to assess movement of the fresh-water/salt-water interface in ground water. See [RECORDS OF BULK CONDUCTIVITY](#).

In 2008, the instrument used to calibrate the induction logging probe was re-examined, and found to have been constructed to a different specification than originally communicated by the manufacturer. As a consequence of this calibration problem, logs of bulk conductivity collected from 1995 to 2007 are considered to be in error. The 0.7686 multiplier correction applied to most bulk conductivity data collected prior to 2002, as referenced in previous data publications, is not required. Instead, a 1.33 multiplier correction has been applied for bulk conductivity data collected from water years 1998, and 2002 to 2007. A 1.0 multiplier has been applied to the remainder of the data, to the current year. However, the depths of any hydrologic or lithologic features seen in the published logs are not affected by this correction.

In order to display changes in bulk conductivity between induction logs collected over the period of record, each log has been adjusted to a median conductivity value at a depth that corresponds to a stable lithologic feature which produces a consistent conductivity profile, based on data collected from 1997 to 2008. These adjustments compensate for small variations in equipment response resulting from variations in environmental conditions and/or probe calibrations. For this station, induction logs are adjusted to a median response of 8.1 mS/m at a depth of 41.3 ft below land surface. The resulting plot of logs collected from 1996 to the current year is provided in this report. The original and corrected records of bulk conductivity, in millisiemens per meter, are available in files of the U.S. Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--

WATER-LEVEL ELEVATION: Highest water level measured, 2.16 ft NGVD, Oct. 21, 1999; lowest, 10.38 ft below NGVD, Feb. 04, 2011.

CHLORIDE CONCENTRATION: Highest measured chloride concentration, 735 mg/L, Apr. 22, 2005; lowest, 46 mg/L, Oct. 21, 1999 and May 22, 2000.

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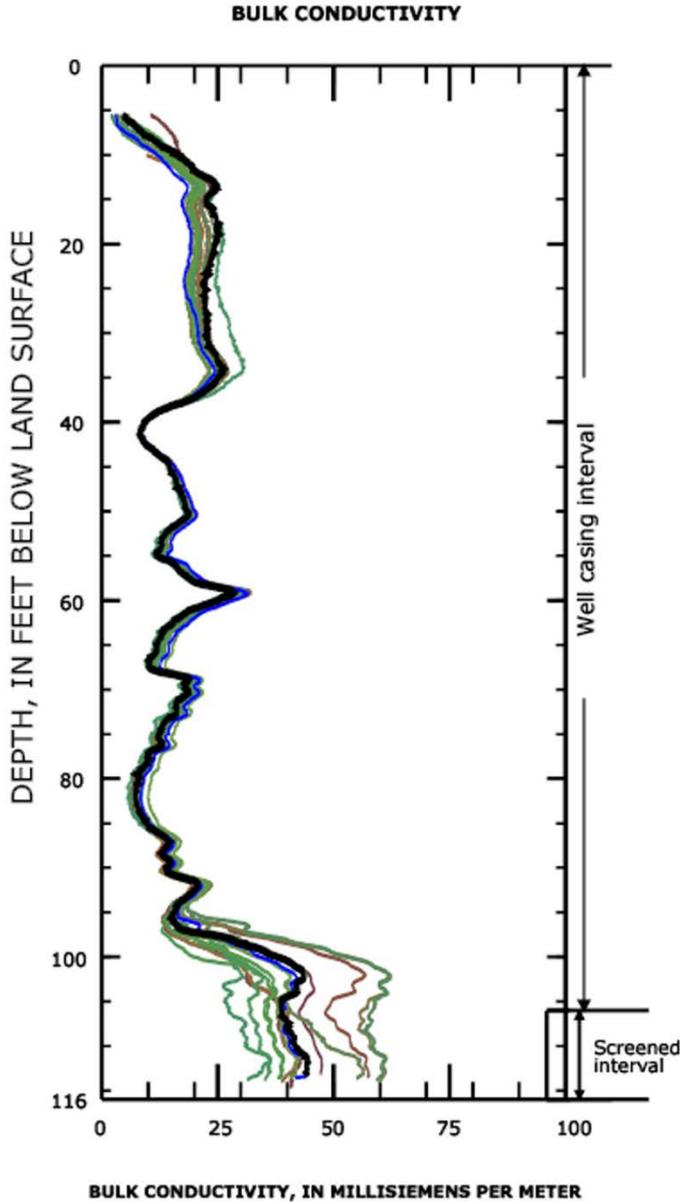
WATER-QUALITY DATA**WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011**

[NGVD, National Geodetic Vertical Datum; ft, feet; mg/L, milligrams per liter;
°C, degrees Celsius; $\mu\text{S}/\text{cm}$, microsiemens per centimeter]

Date	Sample start time	Specific conduc- tance, water, unfiltered, $\mu\text{S}/\text{cm}$ at 25 °C (00095)	Elevation above NGVD 1929, ft (72020)	Chloride, water, unfiltered, mg/L (99220)
October 12, 2010	1528	1,170	-4.95	190
November 9, 2010	1540	1,380	-6.92	238
December 9, 2010	1500	1,070	-5.57	165
January 19, 2011	1510	1,120	-7.10	180
February 4, 2011	0850	1,240	-10.38	198
March 7, 2011	1458	1,010	-5.59	150
April 28, 2011	0825	1,010	-8.39	148
May 10, 2011	1513	1,030	-8.50	148
June 1, 2011	1632	1,200	-7.91	193
July 14, 2011	1508	1,170	-7.47	190
August 22, 2011	1703	1,310	-4.59	223
September 7, 2011	1640	919	-4.66	135



WY 2011 Induction log results
Station: USGS 254946080172601
Local name: G -3250



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

Induction log date	Chloride sample date	Dissolved chloride concentration, in mg/L
Apr. 28, 2011	Apr. 28, 2011	148
Apr. 27, 2010	Apr. 27, 2010	175
May 7, 2009	May 6, 2009	115
May 5, 2008	May 8, 2008	120
May 31, 2007	May 31, 2007	54
April 26, 2006	April 26, 2006	96
April 22, 2005	April 22, 2005	735
April 27, 2004	April 27, 2004	465
April 28, 2003	April 28, 2003	285
May 15, 2002	May 16, 2002	450
April 6, 2001	March 22, 2001	370
April 2000	April 17, 2000	205
April 12, 1999	April 29, 1999	480
May 1998	May 19, 1998	275
May 20, 1997	May 19, 1997	490
April 17, 1995	April 27, 1995	175

254946080172601 Local number G 3250. USGS Observation Well in Miami Springs, FL.—Continued**Lithologic log, USGS 254946080172601. Local Number G -3250**

Depth interval (ft below land surface)	Lithologic description
0 - 15	Oolitic limestone with quartz sand
15 - 17	Limestone and tan quartz sand
17 - 28	Quartz sand, tan, fine-grained
28 - 35	Quartz sand, gray-brown, fine-grained
35 - 49	Quartz sand with limestone gravel; gray sand grades to fine-grained light brown sand; some clay is present
49 - 60	Sand, fine-grained brown sand with small amounts of carbonate sand, poorly indurated sandstone, and limestone fragments
60 - 66	Sand with a small amount of sandstone and clay
66 - 68	Sand and limestone rock fragments
68 - 70	Sandy limestone
70 - 73	Sand and limestone rock fragments
73 - 75	Sandy limestone
75 - 77	Sand and limestone rock fragments
77 - 87	Limestone
87 - 90	Limestone with extensive dissolution features
90 - 92	Shells
92 - 101	Limestone
101 - 115	Sand, composed of quartz and carbonate grains