

Water-Data Report 2012

254156080172101 Local number G -3607

Biscayne aquifer
Biscayne Limestone Aquifer

Miami-Dade County, FL

LOCATION.--Lat 25°41'57.5", long 80°17'21.7" referenced to North American Datum of 1983, in NE ¼ SW ¼ NE ¼ sec.36, T.54 S., R.40 E., Miami-Dade County, FL, Hydrologic Unit 03090202, on the north side of the entrance road to the American Legion building, 41 ft west of SW 59 Avenue.

WATER-QUALITY RECORDS

WELL CHARACTERISTICS.--Depth 120 ft. Upper casing diameter 2; top of first opening 115 ft, bottom of last opening 120 ft. The well is obstructed at 104.5 ft. See REMARKS.

DATUM.--Land-surface datum is 9 ft above National Geodetic Vertical Datum of 1929. Measuring point: From June 23, 1995, to present, measuring point has been top of casing, 9.03 ft above National Geodetic Vertical Datum of 1929. Prior to WY 2000, the MP was considered to be about 10 ft above NGVD, from topographic map. See REMARKS.

PERIOD OF RECORD.--July 1995 to July 2008 (quarterly), January 2009 to current year. See REMARKS.

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

REMARKS.--This station is also used for quarterly salinity monitoring, including an annual induction log. Salinity monitoring began in July 1995. Water-level measurements began in October 1996. Annual induction logging began April 2006; logs from 1995 and 1996 were collected as part of a prior saltwater intrusion monitoring project. Induction logs are used to assess movement of the fresh-water/salt-water interface in ground water. See [RECORDS OF BULK CONDUCTIVITY](#).

The top of casing measuring point elevation was surveyed in 2000. Water-level depths collected prior to 2000 have been recomputed as water-level elevations and are in files of the U. S. Geological Survey. See DATUM. The well is obstructed at a depth of 104.5 ft, but is considered to remain in communication with the aquifer.

In WY2008, 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 in 2006 and 2007 are considered to be in error. A 1.33 multiplier correction is required for bulk conductivity data collected these water years. 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 mean conductivity value at a depth that corresponds to a stable lithologic feature which produces a consistent conductivity profile, based on data collected from 1996 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 6.3 mS/m at a depth of 68.6 ft below land surface. The resulting plot of logs collected, from 1995 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, 4.04 ft NGVD, Oct. 6, 2008; lowest, 1.22 ft NGVD, June 16, 2011.

CHLORIDE CONCENTRATION: Highest measured chloride concentration, 94 mg/L, Oct. 27, 1998; lowest, 28 mg/L, Jan. 12, 1996.

254156080172101 Local number G -3607—Continued

WATER-QUALITY DATA

WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012

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

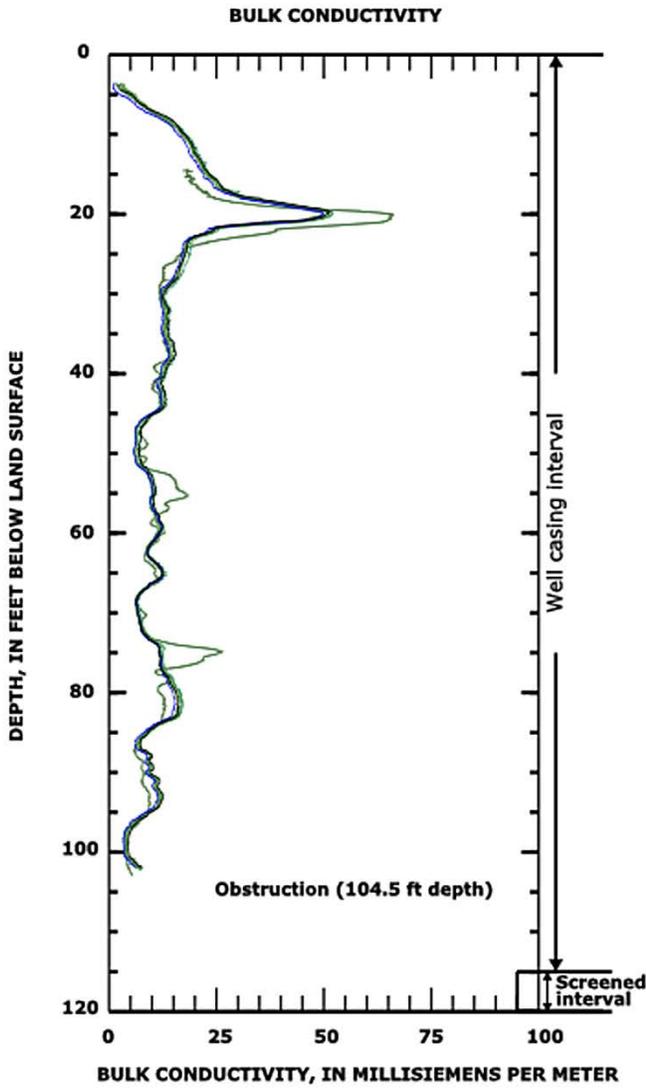
Date	Sample start time	Specific conductivity, water, unfiltered, $\mu\text{S}/\text{cm}$ at 25°C (00095)	Elevation above NGVD 1929, ft (72020)	Chloride, water, unfiltered, mg/L (99220)
October 24, 2011	1126	623	2.13	60
November 23, 2011	1258	615	2.73	60
December 23, 2011	1140	632	2.69	62
January 19, 2012	1258	630	2.50	62
February 27, 2012	1028	621	2.38	60
March 16, 2012	1153	611	2.60	60
April 20, 2012	1155	609	2.48	62
May 17, 2012	1106	621	2.83	64
June 27, 2012	1212	626	3.08	60
July 19, 2012	1208	607	2.73	58
August 24, 2012	1444	608	2.50	64
September 27, 2012	1137	610	2.96	57

Lithologic log, USGS 254156080172101. Local Number G -3607

Depth interval (ft below land surface)	Lithologic description
10 - 15	Medium-grained quartz sand and oolite. Some fragments contain carbonate cement and/or micrite.
15 - 35	Well sorted quartz sand. Generally forming a fining upwards sequence over a range from medium to fine grains at the top.
35 - 45	Coquina.
45 - 50	Coquina and marly limestone containing marine shells and corals.
50 - 55	Medium to coarse-grained quartz and carbonate grains in carbonate cement. Marine shells. Dissolution features.
55 - 60	Marly limestone. Corals, marine shell fragments, carbonate grains, and some fine to medium-grained quartz.
60 - 65	Poorly sorted medium to coarse-grained quartz and carbonate grains in cement.
65 - 70	Medium to coarse-grained quartz in cement with some micrite. Marine shells. Dissolution features.
70 - 100	Fine-grained quartz in cement with some marly limestone. Marine shells. Dissolution features. Trace amounts of very fine phosphates.
100 - 105	Marly limestone. Heavy dissolution features. Marine shells. Trace amounts of very fine black phosphates.
105 - 110	Marly limestone. Marine shells. Dissolution features with calcite fill. Trace amounts of very fine phosphates.
110 - 115	Medium to coarse-grained quartz in calcite cement. Marine shell fragments. Dissolution features. Trace amounts of very fine phosphates.
115 - 120	Poorly sorted medium to coarse-grained quartz, gray in color. Some calcite cement. Marine shells. Sponge spicules. Trace amounts of very fine phosphates.



WY 2012 Induction log results
 Station: USGS 254156080172101
 Local name: G -3607



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

Induction log date	Chloride sample date	Dissolved chloride concentration, in mg/L
Apr. 20, 2012	Apr. 20, 2012	62
Apr. 22, 2011	Apr. 22, 2011	62
Apr. 14, 2010	Apr. 14, 2010	62
May 13, 2009	May 13, 2009	66
Apr. 30, 2008	Apr. 30, 2008	66
June 15, 2007	June 15, 2007	68
Apr. 28, 2006	Apr. 24, 2006	76
Jan. 17, 1996	Jan. 12, 1996	28
July 11, 1995	July 11, 1995	32