

Water-Data Report 2012

253027080234701 Local number G 3700. USGS Observation Well near Homestead, FL.

Biscayne aquifer
Biscayne Limestone Aquifer

Miami-Dade County, FL

LOCATION.--Lat 25°30'26.1", long 80°23'48.1" referenced to North American Datum of 1983, in SE ¼ SE ¼ SE ¼ sec.35, T.56 S., R.39 E., Miami-Dade County, FL, Hydrologic Unit 03090202, in the sidewalk 37 ft north of SW 280th Street and 200 ft west of SW 127th Avenue centerline.

WATER-QUALITY RECORDS

WELL CHARACTERISTICS.--Depth 82.5 ft. Upper casing diameter 2; top of first opening 77.5 ft, bottom of last opening 82.5 ft.

DATUM.--Land-surface datum is 9.4 ft above National Geodetic Vertical Datum of 1929. Measuring point: From Mar. 14, 2000, to present, measuring point has been top of casing, 9.35 ft above National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--April 2000 to current year. See REMARKS.

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

REMARKS.--This station is also used for annual salinity monitoring, including an annual induction log. Annual induction logging began in April 2000. Water-level measurements began in November 2000. Salinity monitoring began in October 2002. Induction logs are used to assess the 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, published logs of bulk conductivity collected from 2000 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 is required for bulk conductivity data collected from water years 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 2000 to 2007. 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 13.7 mS/m at a depth of 36.3 ft below land surface. The resulting plot of logs collected from 2000 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, 3.58ft NGVD, July 11, 2012; lowest, 1.05 ft NGVD, May 16, 2002.

CHLORIDE CONCENTRATION: Highest measured chloride concentration, 34 mg/L, Apr. 25, 2003; lowest, 24 mg/L, Oct. 23, 2002.

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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; --, no data]

Date	Sample start time	Specific conductance, water, unfiltered, $\mu\text{S}/\text{cm}$ at 25°C (00095)	Elevation above NGVD 1929, ft (72020)	Chloride, water, unfiltered, mg/L (99220)
October 20, 2011	1214	--	2.54	--
January 18, 2012	1209	--	1.63	--
April 13, 2012	1230	483	1.50	28
July 11, 2012	1300	--	3.58	--

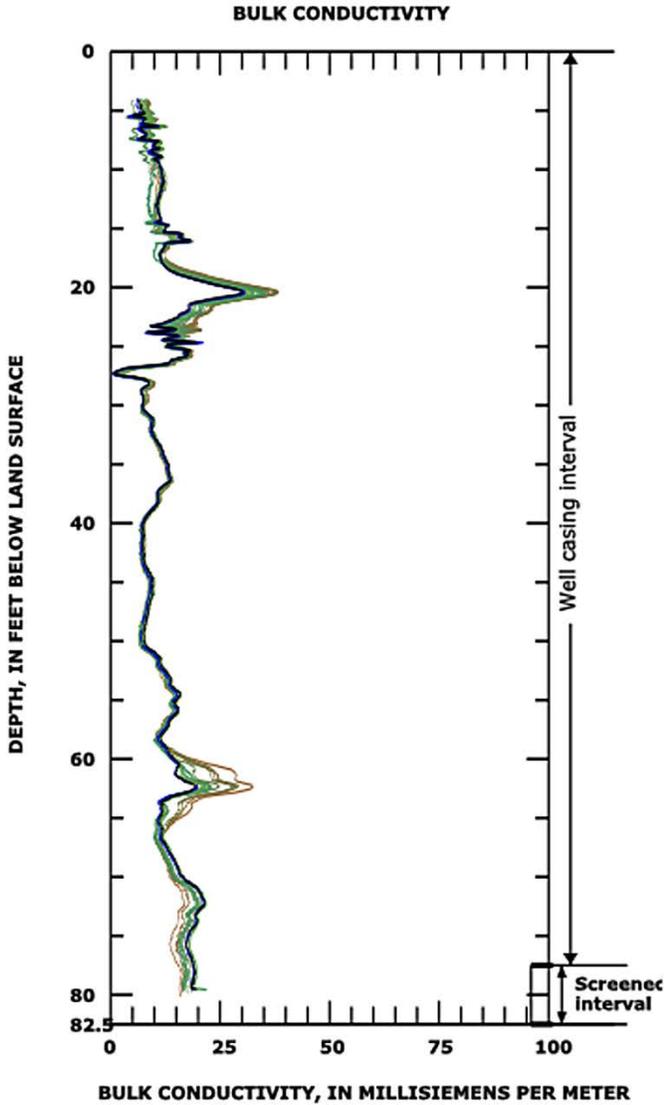
Lithologic log, USGS 253027080234701. Local Number G -3700

Depth interval (ft below land surface)	Lithologic description
0 - 5	Sandy carbonate mud, white to tan, quartz sand is fine to very fine grained and grains are sub-rounded, with shell fragments
5 - 15	Carbonate mud, white to tan, with shell fragments
15 - 20	Limestone, white, well cemented, with shell fragments
20 - 25	Limestone, white to tan, well cemented, with shell fragments; quartz sand, fine grained, grains are sub-angular to sub-rounded, with heavy minerals
25 - 30	Limestone, tan, well cemented, with shell fragments
30 - 35	Limestone, tan to yellow, well cemented, with shell fragments
35 - 40	Limestone, tan to orange, well cemented, with abundant shell fragments; sand, cemented; heavy minerals, fine grained, grains are sub-rounded; carbonate mud, white
40 - 55	Limestone, white to tan, well cemented with abundant shell fragments
55 - 60	Limestone, white to tan, well cemented, with shell fragments; sandstone, fine to very-fine grained, grains are sub-angular to sub-rounded, with heavy minerals
60 - 75	Limestone, white to tan, well cemented, with abundant shell fragments
75 - 80	Limestone, white to tan, well cemented, with abundant shell fragments; quartz sand, fine to very fine grained, grains are sub-rounded, with shell fragments
80 - 83	Not described

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



WY 2012 Induction log results
 Station: USGS 253027080234701
 Local name: G -3700



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

Induction log date	Chloride sample date	Dissolved chloride concentration, in mg/L
Apr. 13, 2012	Apr. 13, 2012	28
Apr. 5, 2011	Apr. 5, 2011	28
Apr. 7, 2010	Apr. 7, 2010	26
Apr. 29, 2009	Apr. 29, 2009	28
Apr. 29, 2008	Apr. 29, 2008	26
June 12, 2007	June 12, 2007	26
Apr. 17, 2006	Apr. 17, 2006	30
Apr. 14, 2005	Apr. 14, 2005	30
Apr. 20, 2004	Apr. 20, 2004	32
Apr. 25, 2003	Apr. 25, 2003	34
May 16, 2002	- no sample -	--
Apr. 4, 2001	- no sample -	--
Apr. 11, 2000	- no sample -	--