

Water-Data Report 2011

**252814080244101 Local number G 3698. USGS Observation Well near Homestead, FL.**

Biscayne aquifer  
Biscayne Limestone Aquifer

Miami-Dade County, FL

LOCATION.--Lat 25°28'12.9", long 80°24'39.7" referenced to North American Datum of 1983, in NW ¼ NW ¼ SW ¼ sec.14, T.57 S., R.39 E., Miami-Dade County, FL, Hydrologic Unit 03090202, about 250 ft east of the intersection of SW 137th Avenue and SW 320th Street, 12 ft north of the road.

**WATER-QUALITY RECORDS**

WELL CHARACTERISTICS.--Depth 85 ft. Upper casing diameter 2 in.; top of first opening 80 ft, bottom of last opening 85 ft.

DATUM.--Land-surface datum is 4.70 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 3.99 ft above National Geodetic Vertical Datum of 1929 (NGVD), Nov. 28, 2007, to present. From Nov. 30, 1999, to Nov. 28, 2007, measuring point was top of casing, 4.68 ft above NGVD. Prior to November 28, 2007, top of casing was incorrectly considered to be 5.82 ft above NGVD. See REMARKS.

PERIOD OF RECORD.--October 1999 to current year. See REMARKS.

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

REMARKS.--This station is also used for salinity monitoring, including an annual induction log. Salinity monitoring began in October 1999. Water-level measurements began in November 1999. Induction logging began April 2000. The figures of water levels as elevation, in feet NGVD, prior to November 2007 are in error. Corrected records are in the files of the U.S. Geological Survey. Station rebuilt November 28, 2007. See DATUM. 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 26.4 mS/m at a depth of 35.5 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, 2.52 ft NGVD, July 25, 2000; lowest, 0.81 ft NGVD, May 16, 2002.

CHLORIDE CONCENTRATION: Highest measured chloride concentration, 2,200 mg/L, Jan. 19, Apr. 05, 2011; lowest, 16 mg/L, Feb. 03, 2000.

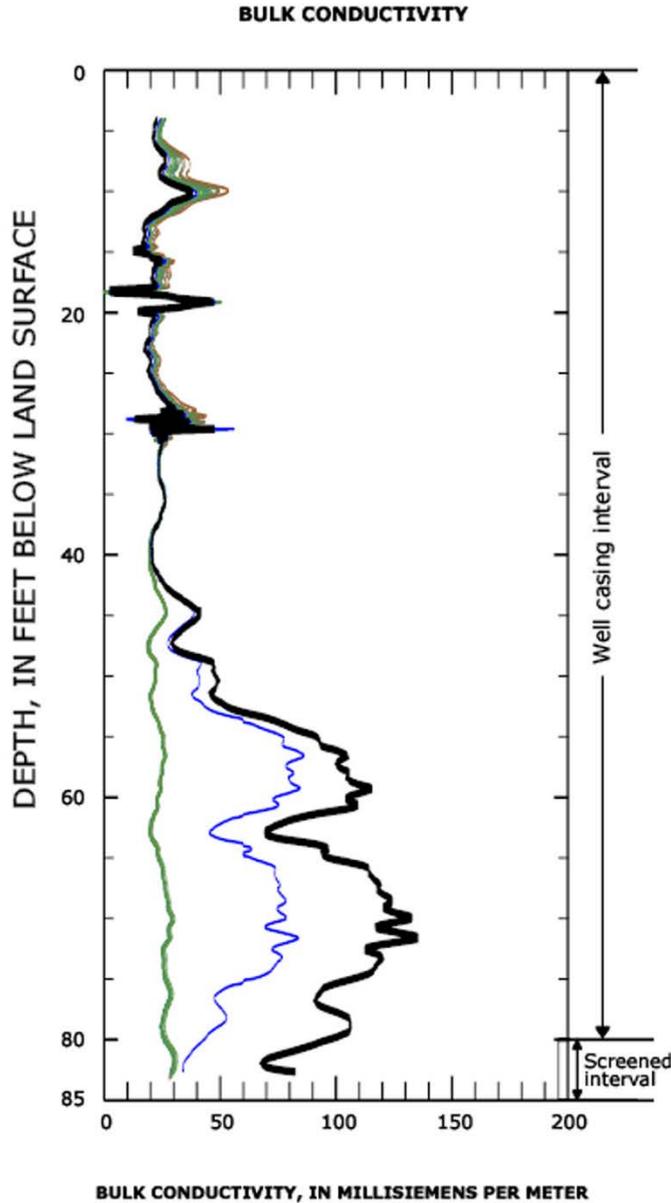
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**WATER-QUALITY DATA****WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011**[NGVD, National Geodetic Vertical Datum; ft, feet; mg/L, milligrams per liter; °C, degrees Celsius;  $\mu$ S/cm, microsiemens per centimeter]

<b>Date</b>	<b>Sample start time</b>	<b>Specific conduc- tance, water, unfiltered, <math>\mu</math>S/cm at 25 °C (00095)</b>	<b>Elevation above NGVD 1929, ft (72020)</b>	<b>Chloride, water, unfiltered, mg/L (99220)</b>
<b>October 6, 2010</b>	<b>1126</b>	2,080	2.44	540
<b>January 19, 2011</b>	<b>1124</b>	6,790	1.71	2,200
<b>April 5, 2011</b>	<b>1040</b>	7,130	1.38	2,200
<b>July 11, 2011</b>	<b>1058</b>	6,520	1.94	2,100



**WY 2011 Induction log results**  
**Station: USGS 252814080244101**  
**Local name: G -3698**



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

Induction log date	Chloride sample date	Dissolved chloride concentration, in mg/L
Apr. 5, 2011	Apr. 5, 2011	2,200
Apr. 7, 2010	Apr. 7, 2010	850
Apr. 29, 2009	Apr. 29, 2009	26
Apr. 29, 2008	Apr. 29, 2008	24
June 17, 2007	June 12, 2007	24
Apr. 18, 2006	Apr. 18, 2006	30
Apr. 19, 2005	Apr. 19, 2005	26
Apr. 20, 2004	Apr. 20, 2004	32
Apr. 25, 2003	Apr. 25, 2003	40
May 16, 2002	May 16, 2002	28
Apr. 4, 2001	Apr. 4, 2001	28
Apr. 11, 2000	May 2, 2000	40

**252814080244101 Local number G 3698. USGS Observation Well near Homestead, FL.—Continued****Lithologic log for Well 252814080244101. Local Number G -3698**

<b>Depth interval (ft below land surface)</b>	<b>Lithologic description</b>
0 - 5	Quartz sand, tan, well sorted, fine to very fine grained, grains are sub-angular to sub-rounded, with heavy minerals and organic matter
5 - 10	Quartz sand, tan, fine to very fine grained, grains are sub-angular to sub-rounded, with organic matter; limestone, well cemented, with shell fragments
10 - 15	Limestone concretions, white, well cemented, with shell fragments
15 - 20	Limestone concretions, white, well cemented, with shell fragments and heavy minerals; quartz sand, very fine grained
20 - 25	Limestone, white, well cemented with shell fragments
25 - 30	Limestone, white to orange, well cemented, with shell fragments; quartz sand, well sorted; sub-rounded with concretions
30 - 45	Limestone, white, well cemented, with shell fragments
45 - 50	Limestone, white, well cemented, with abundant shell fragments; quartz sand, fine to very fine grained and grains are sub-angular to sub-rounded; heavy minerals
50 - 55	Limestone, white, well cemented with calcite, with shell fragments; quartz sand, fine to very fine grained and grains are sub-angular to sub-rounded
55 - 60	Limestone, white, well cemented, with shell fragments
60 - 65	Limestone, well cemented, with shell fragments; sand, well sorted, fine grained, and grains are rounded
65 - 70	Limestone, well cemented, with shell fragments; quartz sand, well sorted, with oyster shell fragments
70 - 75	Limestone, well cemented, with shell fragments; quartz sand, well sorted, grains are rounded, with oyster shell fragments
75 - 80	Limestone, well cemented, with shell fragments; quartz sand, well sorted, with heavy minerals
80 - 85	Quartz sand, gray, well sorted, very fine grained, grains are frosted, and sub-angular to sub-rounded with heavy minerals, shell fragments, and calcite crystals

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