

Water-Data Report 2012

**253024080231001 Local number G 3615. USGS Observation Well near Homestead, FL.**

Biscayne aquifer  
Biscayne Limestone Aquifer

Miami-Dade County, FL

LOCATION.--Lat 25°30'25.9", long 80°23'09.6" referenced to North American Datum of 1983, in NE ¼ NW ¼ NE ¼ sec.1, T.57 S., R.39 E., Miami-Dade County, FL, Hydrologic Unit 03090202, approximately 0.9 mi west of SW 112th Avenue on SW 280th Street, 17 ft east of Homestead Air Force Base perimeter fence.

**WATER-QUALITY RECORDS**

WELL CHARACTERISTICS.--Depth 80 ft. Upper casing diameter 2; top of first opening 75 ft, bottom of last opening 80 ft.

DATUM.--Land-surface datum is 4.50 ft above National Geodetic Vertical Datum of 1929. Measuring point: From Sept. 19, 1995, to present, measuring point has been top of casing, 4.54 ft above National Geodetic Vertical Datum of 1929. Prior to March, 2000, top of casing measuring point was estimated to be 5 ft above NGVD using a topographic map. See REMARKS.

PERIOD OF RECORD.--September 1995 to current year.

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

REMARKS.--This station is also used for salinity monitoring. Salinity monitoring began in September 1995. Induction logging began January 1996. Water-level measurements began in April 2000. Water-level elevation data collected prior to March 14, 2000, has been computed using the measuring point established on March 14, 2000, and is in the files of the U.S. Geological Survey. See DATUM. 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 1996 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 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 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 16.2 mS/m at a depth of 47.6 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, 2.99 ft NGVD, July 11, 2012; lowest, 1.02 ft NGVD, May 14, 2002.

CHLORIDE CONCENTRATION: Highest measured chloride concentration, 4,300 mg/L, July 11, 2011; lowest, 540 mg/L, Jan. 24, 2006.

## 253024080231001 Local number G 3615. USGS Observation Well near Homestead, FL.—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;  $\mu$ S/cm, microsiemens per centimeter]

Date	Sample start time	Specific conductance, water, unfiltered, $\mu$ S/cm at 25°C (00095)	Elevation above NGVD 1929, ft (72020)	Chloride, water, unfiltered, mg/L (99220)
October 20, 2011	1543	7,710	2.23	2,400
January 18, 2012	1222	9,460	1.36	3,000
April 12, 2012	0823	11,400	1.34	3,700
July 11, 2012	1324	6,800	2.99	2,100

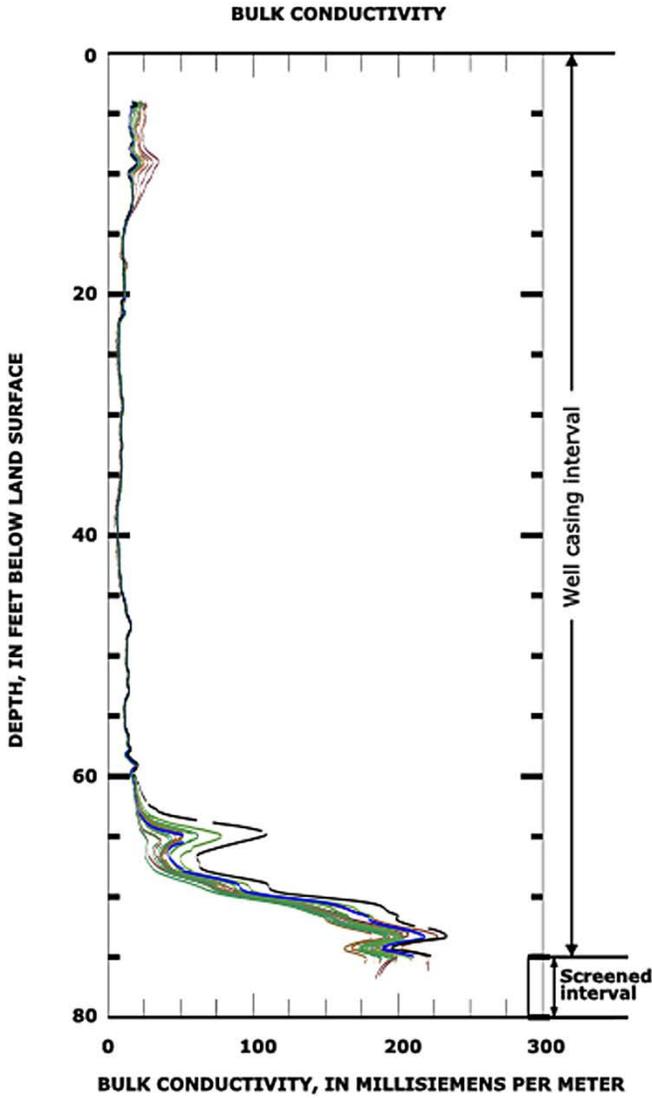
## Lithologic log, USGS 253024080231001. Local Number G -3615

Depth interval (ft below land surface)	Lithologic description
0 - 15	Sandy, peloidal limestone with micrite; some sandy limestone with coral towards the bottom of the section
15 - 40	Sandy limestone with marine shells, large dissolution features containing calcite fill; some iron content and possibly foraminifera
40 - 45	Sandy limestone with mollusks; sand is fine to very fine grained quartz
45 - 60	Sandy limestone with marine shell fragments and molds; sand is poorly to well sorted medium-grained quartz; sequence fines upward
60 - 65	Sandy limestone with marine shells and recrystallized coral
65 - 70	Sandy limestone with dissolution pipes and possible hard layers; includes some large marine shells in a bed with sparry calcite
70 - 75	Sandstone, coarse-grained, sparry calcite; includes marine shells, some coral fragments, and poorly sorted quartz sand
75 - 80	Section not logged

253024080231001 Local number G 3615. USGS Observation Well near Homestead, FL.—Continued



WY 2012 Induction log results  
 Station: USGS 253024080231001  
 Local name: G -3615



INDUCTION LOG DATES,  
 ASSOCIATED CHLORIDE SAMPLE DATES

Induction log date	Chloride sample date	Dissolved chloride concentration, in mg/L
Apr. 12, 2012	Apr. 12, 2012	3,700
Apr. 6, 2011	Apr. 6, 2011	3,800
Apr. 6, 2010	Apr. 6, 2010	2,250
Apr. 28, 2009	Apr. 28, 2009	3,800
Apr. 28, 2008	Apr. 28, 2008	2,100
May 25, 2007	May 25, 2007	2,000
Apr. 17, 2006	Apr. 17, 2006	980
Apr. 14, 2005	Apr. 14, 2005	1,520
Apr. 19, 2004	Apr. 19, 2004	1,300
Apr. 24, 2003	Apr. 24, 2003	1,580
May 14, 2002	May 14, 2002	2,100
Apr. 4, 2001	Apr. 4, 2001	2,700
Apr. 18, 2000	Apr. 18, 2000	1,020
Apr. 7, 1999	Apr. 8, 1999	1,680
Apr. 1998	Apr. 17, 1998	1,600
May 8, 1996	- no sample -	--
Jan. 17, 1996	Jan. 11, 1996	2,000