

Water-Data Report 2011

255916080092001 Local number G 2965. USGS Observation Well near Hallandale, FL.

Biscayne aquifer
Biscayne Limestone Aquifer

Broward County, FL

LOCATION.--Lat 25°59'20", long 80°09'17.3" referenced to North American Datum of 1983, in NW ¼ NE ¼ sec.28, T.51 S., R.42 E., Broward County, FL, Hydrologic Unit 03090202, about 150 ft west of the southwest corner of the intersection of NW 3rd Street and NW 6th Avenue.

WATER-QUALITY RECORDS

WELL CHARACTERISTICS.--Depth 175 ft. Upper casing diameter 2 in.; top of first opening 170 ft, bottom of last opening 175 ft.

DATUM.--Land-surface datum is 10.8 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 10.78 ft above National Geodetic Vertical Datum of 1929 (NGVD), Dec. 22, 2005, to present. From Nov. 14, 2005, to Dec. 22, 2005, Top of casing was 10.74 ft above NGVD. See REMARKS.

PERIOD OF RECORD.--November 2005 to current year.

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

REMARKS.--Well G -2965 is also used for groundwater salinity monitoring, including an annual electromagnetic induction log since April 2006. Quarterly salinity samples were collected from November 2005 to July 2006; monthly salinity sampling started August 2006. Electromagnetic induction logs are used to assess movement of the fresh-water/salt-water interface in ground water. See [RECORDS OF BULK CONDUCTIVITY](#). The station was damaged in December 2005, and repaired in April 2006. See DATUM.

In WY2008, the instrument used to calibrate the induction 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 2006 to 2007 are considered to be in error, requiring a 1.33 multiplier correction to bulk conductivity data collected during that period of record. A 1.0 multiplier has been applied to the remainder of the data, to the current year. The logs published in this report include the noted corrections to date. However, the depths of any hydrologic or lithologic features previously shown in the published logs are not affected. 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 in 2006 and 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 4.5 mS/m at a depth of 106.7 ft below land surface. The resulting plot of logs collected, from 2006 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, 3.89 ft NGVD, Oct. 1, 2010; lowest, 0.82 ft NGVD, June 3, 2011.

CHLORIDE CONCENTRATION: Highest measured chloride concentration, 1,780 mg/L, Sept. 7, 2011; lowest, 410 mg/L, Nov. 14, 2005.

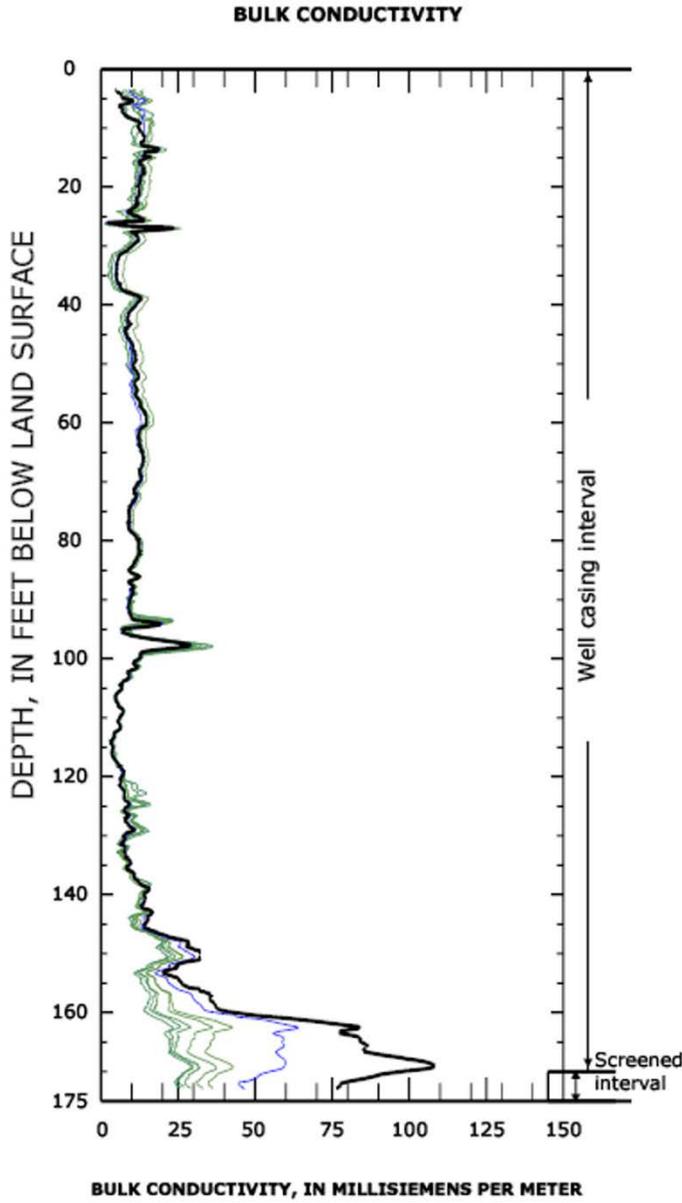
255916080092001 Local number G 2965. USGS Observation Well near Hallandale, FL.—Continued**WATER-QUALITY DATA****WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011**

[NGVD, National Geodetic Vertical Datum; ft, feet; mg/L, milligrams per liter;
°C, degrees Celsius; $\mu\text{S}/\text{cm}$, microsiemens per centimeter; --, no data]

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 1, 2010	0932	4,090	3.89	1,240
November 18, 2010	1113	4,300	1.89	1,320
December 3, 2010	1108	4,380	1.66	1,340
January 20, 2011	1200	4,630	1.41	1,460
February 4, 2011	1412	4,820	1.39	1,460
March 1, 2011	1237	4,850	1.09	1,500
April 1, 2011	0855	5,040	1.37	1,560
May 16, 2011	1456	5,140	1.27	1,620
June 3, 2011	1336	5,210	.82	1,680
July 1, 2011	0940	5,440	1.39	1,700
July 14, 2011	--	5,530	--	1,740
August 17, 2011	1356	5,620	1.99	1,740
September 7, 2011	1229	5,650	2.61	1,780



WY 2011 Induction log results
Station: USGS 255916080092001
Local name: G -2965



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

Induction log date	Chloride sample date	Dissolved chloride concentration, in mg/L
Apr. 1, 2011	Apr. 1, 2011	1,560
Apr. 28, 2010	Apr. 28, 2010	920
May 1, 2009	May 1, 2009	620
Apr. 28, 2008	May 1, 2008	530
June 11, 2007	June 11, 2007	480
Sept. 12, 2006	Sept. 12, 2006	430
Apr. 28, 2006	Apr. 28, 2006	420