

Water-Data Report 2012

260638080104801 Local number G 2902. USGS Observation Well near Melrose Park, FL.

Biscayne aquifer
Biscayne Limestone Aquifer

Broward County, FL

LOCATION.--Lat 26°06'39.7", long 80°10'47.4" referenced to North American Datum of 1983, in SE ¼ NE ¼ SW ¼ sec.8, T.50 S., R.42 E., Broward County, FL, Hydrologic Unit 03090202, at Triangle Park near the southwest corner of SW 8th Street and SW 28th Avenue, 0.75 mi south of Broward Boulevard.

WATER-QUALITY RECORDS

WELL CHARACTERISTICS.--Depth 190 ft. Upper casing diameter 2; top of first opening 180 ft, bottom of last opening 190 ft.

DATUM.--Land-surface datum is 7 ft above National Geodetic Vertical Datum of 1929. Measuring point: From October 2000 to present, measuring point has been top of casing, 7.03 ft above National Geodetic Vertical Datum of 1929.

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

INSTRUMENTATION.--Quarterly measurement with chalked steel tape or electric tape. See REMARKS.

REMARKS.--This well is also used for salinity monitoring. Salinity sampling began in April 2000. Electromagnetic induction logs were collected from April 2001 to May 2011. Water-level measurements began in October 2001. Electromagnetic induction logs are used to assess movement of the fresh-water/salt-water interface in ground water. See http://www.sflorida.er.usgs.gov/edl_data/text/induction.html#induction>RECORDS OF BULK CONDUCTIVITY.

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 from 2002 to 2008 are considered to be in error. The 0.7686 multiplier correction to conductivity data collected prior to WY2002, as referenced in previous data publications, is not required. Instead, a 1.33 multiplier correction is required for bulk conductivity data collected from 2002 to 2008. A 1.0 multiplier has been applied to the remainder of the data, to the 2011 water year. The logs published in the annual reports include the noted corrections. 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 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 8.8 mS/m at a depth of 85.9 ft below land surface. The resulting plots of logs collected, from 2001 to the 2011 year, were provided in the annual reports. 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, 4.62 ft NGVD, Oct. 6, 2008; lowest, 0.94 ft NGVD, Jan. 29, 2009.

CHLORIDE CONCENTRATION: Highest measured chloride concentration, 32 mg/L, Oct. 27, 2000; lowest, 14 mg/L, Apr. 18, 2001.

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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; μ S/cm, microsiemens per centimeter]

Date	Sample start time	Specific conduc- tance, water, unfiltered, μS/cm at 25°C (00095)	Elevation above NGVD 1929, ft (72020)	Chloride, water, unfiltered, mg/L (99220)
October 27, 2011	1149	528	3.13	28
January 20, 2012	1350	523	1.32	26
April 16, 2012	1308	510	2.33	30
July 6, 2012	1408	529	2.53	30