

Water-Data Report 2011

255116080120601 Local number G 3602. USGS Observation Well near El Portal, FL.

Biscayne aquifer
Biscayne Limestone Aquifer

Miami-Dade County, FL

LOCATION.--Lat 25°51'16", long 80°12'06" referenced to North American Datum of 1927, in SE ¼ SE ¼ SW ¼ sec.1, T.53 S., R.41 E., Miami-Dade County, FL, Hydrologic Unit 03090202, 29 ft west of intersection of NW 2nd Avenue and NW 87th Street, near Horace Mann Middle School.

WATER-QUALITY RECORDS

WELL CHARACTERISTICS.--Depth 160 ft. Upper casing diameter 2 in.; top of first opening 155 ft, bottom of last opening 160 ft.

DATUM.--Land-surface datum is 5.20 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 5.23 ft above National Geodetic Vertical Datum of 1929, Sept. 1995 to present.

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

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

REMARKS.--This station is also used for quarterly salinity monitoring, including an annual induction log. Salinity monitoring began in September 1995. Induction logging began in January 1996. Water-level measurements began in October 1996. 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 1995 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 2006. A 1.0 multiplier has been applied to the remainder of the data, to the current year. However, the depths of 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 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 36.7 mS/m at a depth of 8.5 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, 3.60 ft NGVD, Oct. 21, 1999; lowest, 1.13 ft NGVD, May 13, 2002.

CHLORIDE CONCENTRATION: Highest measured chloride concentration, 4,000 mg/L, Oct. 21, 2010; lowest, 2,200 mg/L, Sept. 28, 1995.

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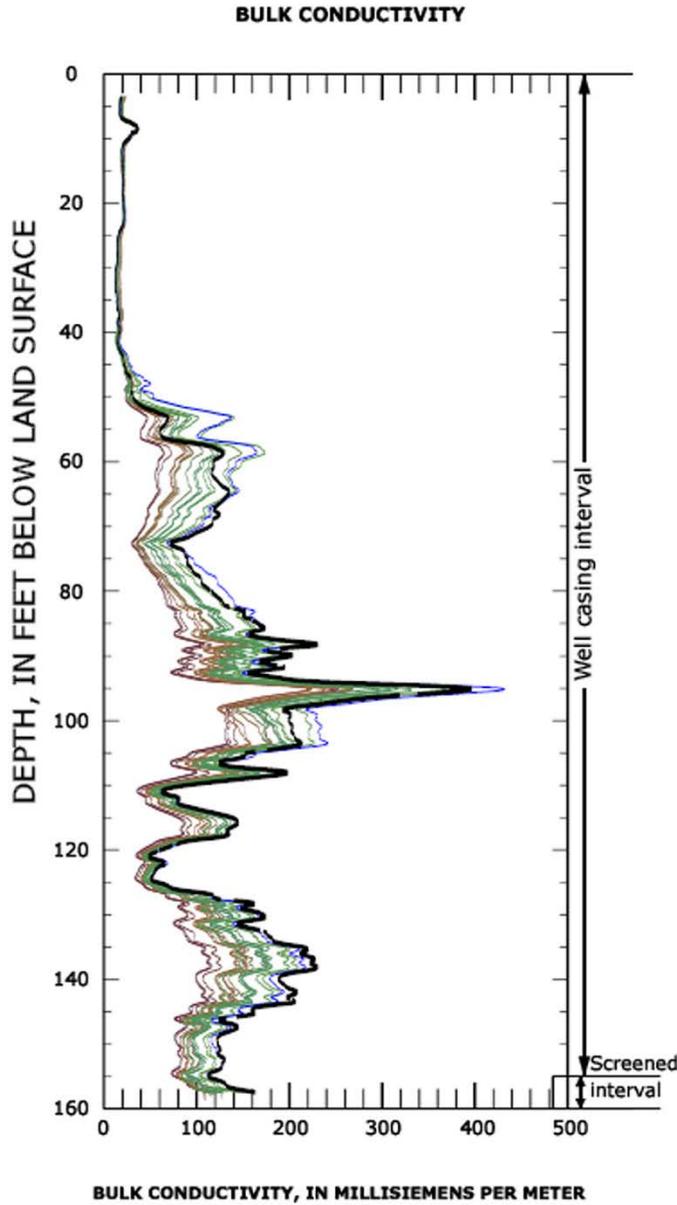
WATER-QUALITY DATA**WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011**[NGVD, National Geodetic Vertical Datum; ft, feet; mg/L, milligrams per liter; °C, degrees Celsius; μ S/cm, microsiemens per centimeter]

| 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 21, 2010 | 1233 | 12,500 | 1.67 | 4,000 |
| January 25, 2011 | 1007 | 11,900 | 1.47 | 3,800 |
| April 26, 2011 | 1322 | 12,300 | 1.56 | 3,800 |
| July 14, 2011 | 1201 | 12,400 | 1.82 | 3,900 |

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WY 2011 Induction log results
Station: USGS 255116080120601
Local name: G -3602



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

| Induction log date | Chloride sample date | Dissolved chloride concentration, in mg/L |
|--------------------|----------------------|-------------------------------------------|
| Apr. 26, 2011 | Apr. 26, 2011 | 3,800 |
| Apr. 21, 2010 | Apr. 21, 2010 | 3,900 |
| May 11, 2009 | May 12, 2009 | 3,500 |
| May 7, 2008 | May 7, 2008 | 3,300 |
| June 19, 2007 | June 19, 2007 | 3,300 |
| Apr. 25, 2006 | Apr. 25, 2006 | 3,050 |
| Apr. 25, 2005 | Apr. 25, 2005 | 2,950 |
| Apr. 22, 2004 | Apr. 22, 2004 | 2,800 |
| Apr. 29, 2003 | Apr. 29, 2003 | 2,850 |
| May 13, 2002 | May 13, 2002 | 2,800 |
| Apr. 11, 2001 | Apr. 11, 2001 | 2,650 |
| Apr. 2000 | Apr. 17, 2000 | 2,550 |
| Apr. 12, 1999 | Apr. 12, 1999 | 2,550 |
| Apr. 20, 1998 | Apr. 15, 1998 | 2,600 |
| Apr. 21, 1997 | Apr. 21, 1997 | 2,400 |
| May 13, 1996 | - no sample - | -- |
| Jan. 9, 1996 | Jan. 10, 1996 | 2,500 |

255116080120601 Local number G 3602. USGS Observation Well near El Portal, FL.—Continued**Lithologic log, USGS 255116080120601. Local Number G -3602**

| Depth interval (ft below land surface) | Lithologic description |
|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| 0 - 5 | Oolitic limestone containing quartz sand, root structures and dissolution features; section also includes regolith |
| 5 - 15 | Sandy limestone with fine to very fine quartz grains, marine shell fragments, and dissolution features |
| 25 - 40 | Sandstone with micritic matrix, fine to very fine-grained, nodular, includes sparite; also includes marine shells and dissolution features |
| 40 - 55 | Sandy, peloidal limestone with iron traces and dissolution features; sand consists of poorly sorted quartz grains |
| 55 - 75 | Quartz sand, fines upwards from coarse to fine; includes some carbonate grains, calcite-cemented nodules, and hard layers throughout |
| 75 - 105 | Quartz sand, poorly sorted coarse to fine-grained and carbonate grains; some sandstone fragments that contain sparry calcite |
| 105 - 115 | Sandy limestone, with medium to fine-grained quartz sand, marine shell fragments, and medium-grained phosphate particles |
| 115 - 120 | Molluscan limestone, some shells are either dissolved or recrystallized, also includes quartz and carbonate grains |
| 120 - 130 | Molluscan limestone, some shells are either dissolved or recrystallized; also includes micrite and some quartz sand |
| 130 - 150 | Sandstone, quartz and carbonate sand, micritic matrix; includes marine shell fragments and fine phosphate grains |
| 150 - 155 | Sandstone, poorly sorted quartz sand in micritic matrix; includes marine shells and dissolution features |
| 155 - 160 | Section not logged |