



Water-Data Report 2007

**353704079451205 Local number RA-171. DENR North Carolina Zoo Research Station CH-1 (Corehole)**

Piedmont and Blue Ridge crystalline-rock aquifers  
Mafic Metavolcanic Rock  
Randolph County, NC

LOCATION.--Lat 35°37'04", long 79°45'12" referenced to North American Datum of 1983, Randolph County, NC, Hydrologic Unit 03030003, 6 mi southeast of Asheboro at the North Carolina Zoo, on Panther Creek Road. Owner: NCDENR (North Carolina Department of Environment and Natural Resources).

**GROUND-WATER RECORDS**

WELL CHARACTERISTICS.--Drilled observation well, depth 185 ft, diameter 4 in., cased to 32 ft, open hole from 32 to 185 ft.

DATUM.--Land-surface datum is 598.85 ft above National Geodetic Vertical Datum of 1929 (levels by NCDENR). Measuring point: top of protective steel casing, 3.17 ft above land-surface datum.

PERIOD OF RECORD.--April 2007 to September 2007.

GAGE.--Measured periodically with electric tape by NCDENR and USGS.

REMARKS.--Well is part of Piedmont/Mountains ground-water study.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 2.23 ft below land-surface datum, April 15, 2007; lowest water level recorded, 7.50 ft below land-surface datum, September 20, 2007.

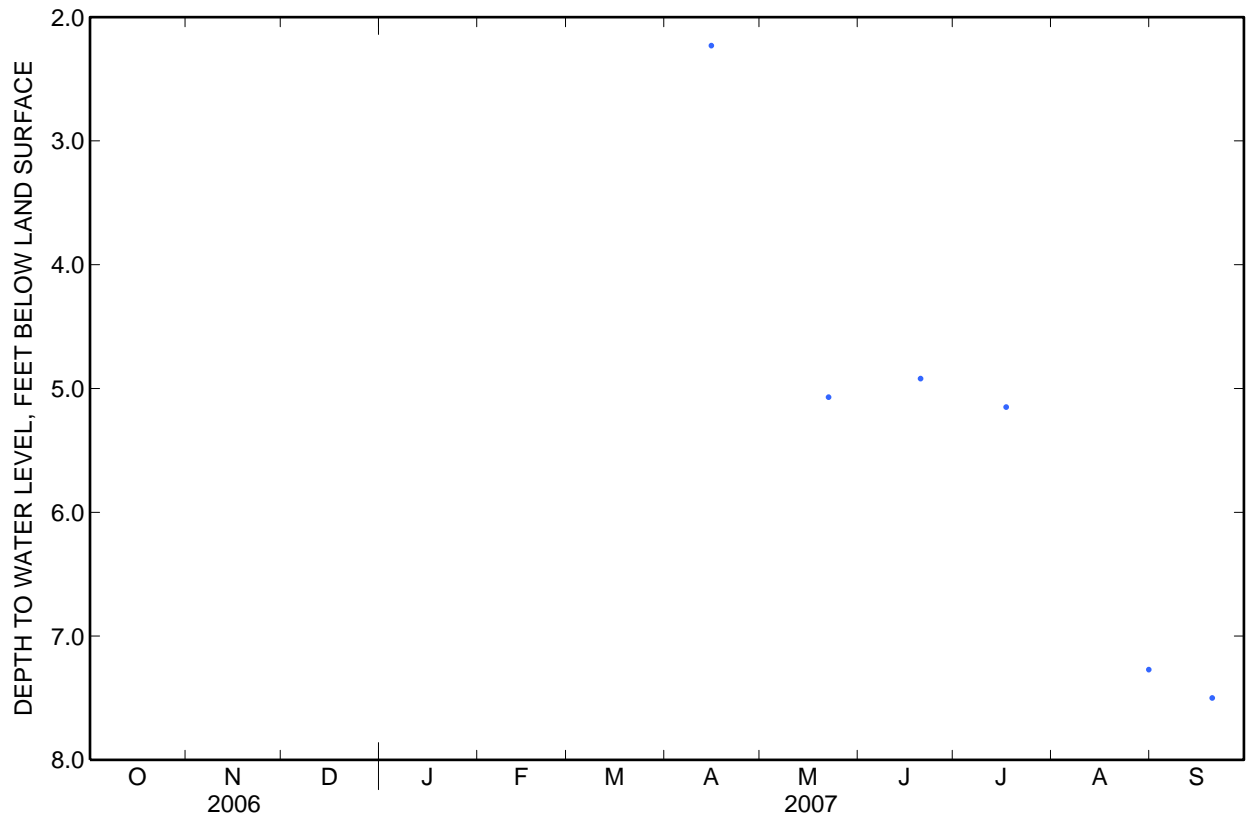
**WATER LEVELS IN FEET BELOW LAND SURFACE DATUM**

Date	Water level	Date	Water level
Apr 15, 2007	2.23	Jul 17, 2007	5.15
May 22	5.07	Aug 31	7.27
Jun 20	4.92	Sep 20	7.50

Highest: 2.23 Apr 15, 2007

Lowest: 7.50 Sep 20, 2007

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## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 2007.

REMARKS.--Well is part of Piedmont/Mountains ground-water study.

WATER-QUALITY DATA  
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 1 of 4

[Remark codes: &lt;, less than; E, estimated; M, presence verified but not quantified.]

Date	Time	Medium code	Sample type	Depth of well, feet below LSD (72008)	Depth to top sample interval, feet below LSD (72015)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd, $\mu$ S/cm 25 degC (00095)	Temperature, water, deg C (00010)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)
May 02...	1200	Q	2	185	--	--	--	--	--	--	--	.04	E.008
02...	1345	6	9	185	147.00	741	1.8	19	7.7	366	17.1	42.6	8.65

WATER-QUALITY DATA  
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 2 of 4

[Remark codes: &lt;, less than; E, estimated; M, presence verified but not quantified.]

Date	Potassium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unfltrd, titr., mg/L as CaCO3 (00419)	Bicarbonate, wat unfltrd, titr., mg/L (00450)	Bromide, water, fltrd, mg/L (71870)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate, water, fltrd, mg/L (00945)	Residue on evap. at 180degC, wat flt, mg/L (70300)	Ammonia, water, fltrd, mg/L as N (00608)	Nitrite + nitrate, water, fltrd, mg/L as N (00631)	Nitrite, water, fltrd, mg/L as N (00613)
May 02...	<.04	<.20	--	--	<.02	<.12	<.10	.06	<.18	<10	<.020	<.06	<.002
02...	3.09	20.2	184	225	.15	4.16	.13	25.1	.88	206	E.013	<.06	<.002

WATER-QUALITY DATA  
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 3 of 4

[Remark codes: &lt;, less than; E, estimated; M, presence verified but not quantified.]

Date	Total nitrogen, wat flt by analysis, mg/L (62854)	Orthophosphate, water, fltrd, mg/L as P (00671)	Aluminum, water, fltrd, $\mu$ g/L (01106)	Antimony, water, fltrd, $\mu$ g/L (01095)	Arsenic, water, fltrd, $\mu$ g/L (01000)	Barium, water, fltrd, $\mu$ g/L (01005)	Beryllium, water, fltrd, $\mu$ g/L (01010)	Boron, water, fltrd, $\mu$ g/L (01020)	Cadmium, water, fltrd, $\mu$ g/L (01025)	Chromium, water, fltrd, $\mu$ g/L (01030)	Cobalt, water, fltrd, $\mu$ g/L (01035)	Copper, water, fltrd, $\mu$ g/L (01040)	Iron, water, fltrd, $\mu$ g/L (01046)
May 02...	.33	<.006	<1.6	<.06	<.12	M	<.06	<1.8	<.04	.14	<.04	E.37	<6
02...	.07	.009	11.8	.07	.85	26	<.06	4.5	<.04	E.11	.06	<.40	17

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**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007**

Part 4 of 4

[Remark codes: <, less than; E, estimated; M, presence verified but not quantified.]

<b>Date</b>	<b>Lead, water, fltrd, µg/L (01049)</b>	<b>Mangan- ese, water, fltrd, µg/L (01056)</b>	<b>Molyb- denum, water, fltrd, µg/L (01060)</b>	<b>Nickel, water, fltrd, µg/L (01065)</b>	<b>Selen- ium, water, fltrd, µg/L (01145)</b>	<b>Silver, water, fltrd, µg/L (01075)</b>	<b>Zinc, water, fltrd, µg/L (01090)</b>	<b>Uranium natural water, fltrd, µg/L (22703)</b>
<b>May</b>								
<b>02...</b>	<.12	<.2	E.1	.13	<.08	<.1	3.4	<.04
<b>02...</b>	<.12	112	1.4	.22	<.08	<.1	E.52	.05