



Water-Data Report 2007

**355422080493102 Local number IR-170, DENR Allison Woods Research Station MW-3I (Transition zone well)**

Piedmont and Blue Ridge crystalline-rock aquifers  
Transition Zone  
Iredell County, NC

LOCATION.--Lat 35°54'22.97", long 80°49'31.07" referenced to North American Datum of 1983, Iredell County, NC, Hydrologic Unit 03040102, 1.7 mi east of U.S. Interstate 77, 0.4 mi north of U.S. Highway 21 on Allison Woods Foundation property. Owner: NCDENR (North Carolina Department of Environment and Natural Resources), Division of Water Quality.

**GROUND-WATER RECORDS**

WELL CHARACTERISTICS.--Drilled observation well, depth 35 ft, diameter 4 in., cased to 25 ft, screened interval from 25 ft to 35 ft, sand filter packed from 18 ft to 35 ft.

DATUM.--Land-surface datum is 840 ft above North American Vertical Datum of 1988. Measuring point: Top of PVC casing, 3.16 ft above land-surface datum, May 12, 2006, to present.

PERIOD OF RECORD.--May 2006 to current year.

GAGE.--Measured periodically with electric tape (by USGS and NCDENR, Division of Water Quality).

REMARKS.--Well is part of Piedmont/Mountains groundwater project.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.08 ft below land-surface datum, March 5, 2007; lowest water level measured, 10.18 ft below land-surface datum, July 24, 2006.

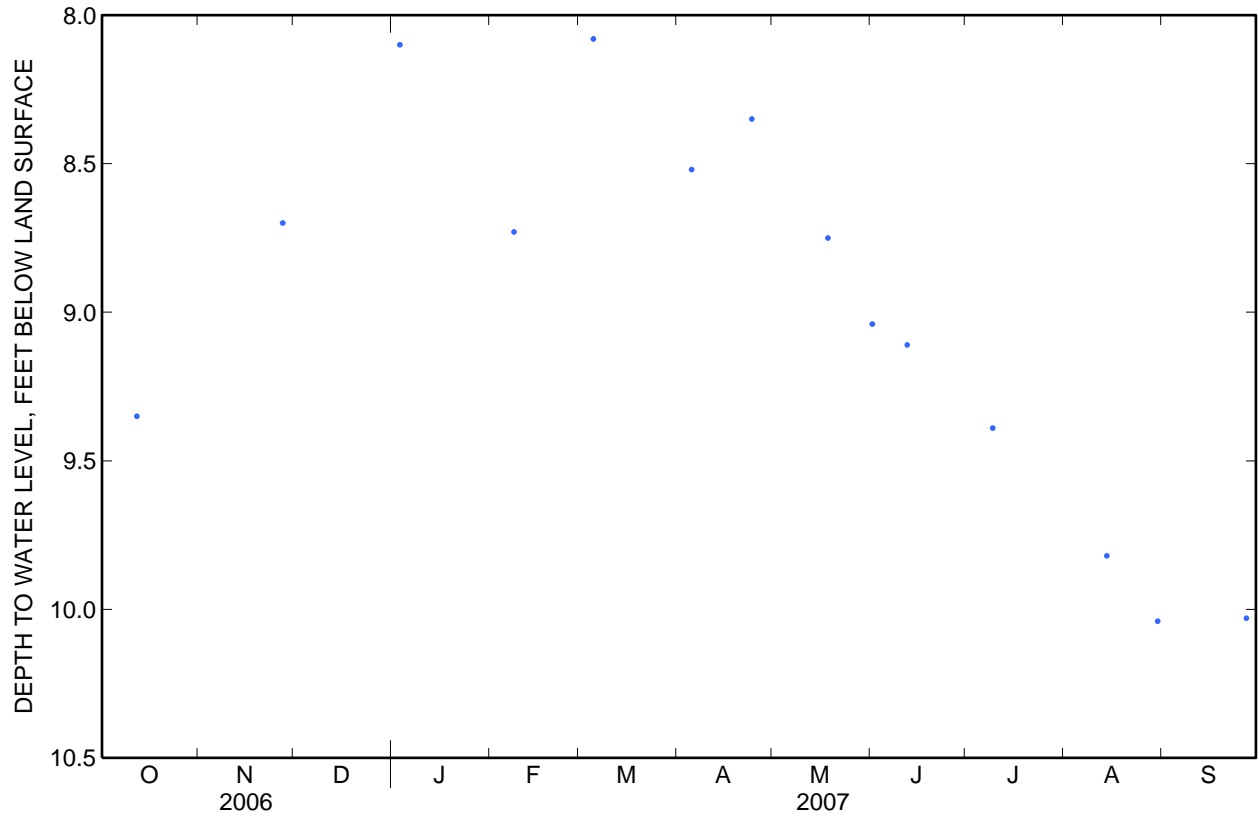
**WATER LEVELS IN FEET BELOW LAND SURFACE DATUM**

Date	Water level	Date	Water level
Oct 12, 2006	9.35	May 18, 2007	8.75
Nov 27	8.70	Jun 1	9.04
Jan 3, 2007	8.10	12	9.11
Feb 8	8.73	Jul 9	9.39
Mar 5	8.08	Aug 14	9.82
Apr 5	8.52	30	10.04
24	8.35	Sep 27	10.03

Highest: 8.08 Mar 05, 2007

Lowest: 10.04 Aug 30, 2007

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## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 2007.

REMARKS.--Well is part of Piedmont/Mountains groundwater project.

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

Part 1 of 4

[Remark codes: &lt;, less than; E, estimated.]

Date	Time	Sample type	Depth of well, feet below LSD (72008)	Depth to top sample interval, feet below LSD (72015)	Depth to water level, feet below LSD (72019)	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, deg C (00010)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)
<b>Nov</b>												
29...	1025	Environmental	35.00	34.00	8.74	5.1	--	6.0	83	14.3	5.84	2.57
29...	1110	Blank	35.00	--	--	--	--	--	--	--	<.02	<.014
<b>Jul</b>												
11...	0930	Environmental	35.00	34.00	9.37	5.9	58	5.8	79	13.9	6.49	2.62
11...	0935	Replicate	35.00	--	--	5.9	58	5.8	79	13.9	6.41	2.58

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

Part 2 of 4

[Remark codes: &lt;, less than; E, estimated.]

Date	Potassium, water, fltrd, mg/L (00935)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unfltrd, titr., field, mg/L as CaCO3 (00419)	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)	Total nitrogen, wat flt by analysis, mg/L (62854)
<b>Nov</b>													
29...	3.48	3.93	24	E.02	3.47	<.10	22.1	1.40	65	<.020	2.03	<.002	2.12
29...	<.04	<.20	--	<.02	<.12	<.10	E.01	<.18	<.10	<.020	<.06	<.002	E.05
<b>Jul</b>													
11...	2.56	3.87	23	<.02	3.27	E.06	22.2	1.33	76	<.020	2.18	E.001	2.24
11...	2.56	3.88	24	E.01	3.30	<.10	22.0	1.33	75	<.020	2.19	<.002	2.26

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

Part 3 of 4

[Remark codes: &lt;, less than; E, estimated.]

Date	Ortho-phosphate, water, fltrd, mg/L as P (00671)	Aluminum, water, fltrd, µg/L (01106)	Antimony, water, fltrd, µg/L (01095)	Arsenic, water, fltrd, µg/L (01000)	Barium, water, fltrd, µg/L (01005)	Beryllium, water, fltrd, µg/L (01010)	Boron, water, fltrd, µg/L (01020)	Cadmium, water, fltrd, µg/L (01025)	Chromium, water, fltrd, µg/L (01030)	Cobalt, water, fltrd, µg/L (01035)	Copper, water, fltrd, µg/L (01040)	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)
<b>Nov</b>													
29...	.011	<1.6	<.06	<.12	87	<.06	1.9	<.04	.29	.20	E.28	<6	E.06
29...	<.006	<1.6	<.06	<.12	<.08	<.06	<1.8	<.04	<.12	<.04	<.40	<6	<.12
<b>Jul</b>													
11...	.010	<1.6	<.06	<.12	71	<.06	E.9	<.04	.26	<.04	<.40	<6	<.12
11...	.010	<1.6	<.06	<.12	72	<.06	E1.0	<.04	.28	<.04	<.40	<6	<.12

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

Part 4 of 4

[Remark codes: &lt;, less than; E, estimated.]

Date	Manganese, water, fltrd, µg/L (01056)	Molybdenum, water, fltrd, µg/L (01060)	Nickel, water, fltrd, µg/L (01065)	Selenium, water, fltrd, µg/L (01145)	Silver, water, fltrd, µg/L (01075)	Zinc, water, fltrd, µg/L (01090)	Rn-222, 2-sigma, unfltrd, pCi/L (76002)	Rn-222, unfltrd, pCi/L (82303)	Uranium, natural, water, fltrd, µg/L (22703)	Data base number
<b>Nov</b>										
29...	53.7	<.1	1.7	E.04	<.1	2.6	--	--	<.04	01
29...	<.2	<.1	<.06	<.08	<.1	<.60	--	--	<.04	04
<b>Jul</b>										
11...	22.1	<.1	1.5	<.08	<.1	1.5	29	940	<.04	01
11...	22.4	<.1	1.5	<.08	<.1	1.6	30	1,010	<.04	04