



Water-Data Report 2007

**355428080493002 Local number IR-166, DENR Allison Woods Research Station MW-2I (Transition zone well)**

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

LOCATION.--Lat 35°54'28.19", long 80°49'30.19" 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 70 ft, diameter 4 in., cased to 60 ft, screened interval from 60 ft to 70 ft, sand filter packed from 45 ft to 50 ft, natural fill from 50 to 73 ft.

DATUM.--Land-surface datum is 870 ft above North American Vertical Datum of 1988. Measuring point: divot on outer steel protective casing, 2.76 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, 25.15 ft below land-surface datum, May 18, 2007; lowest water level measured, 27.66 ft below land-surface datum, November 27, 2006.

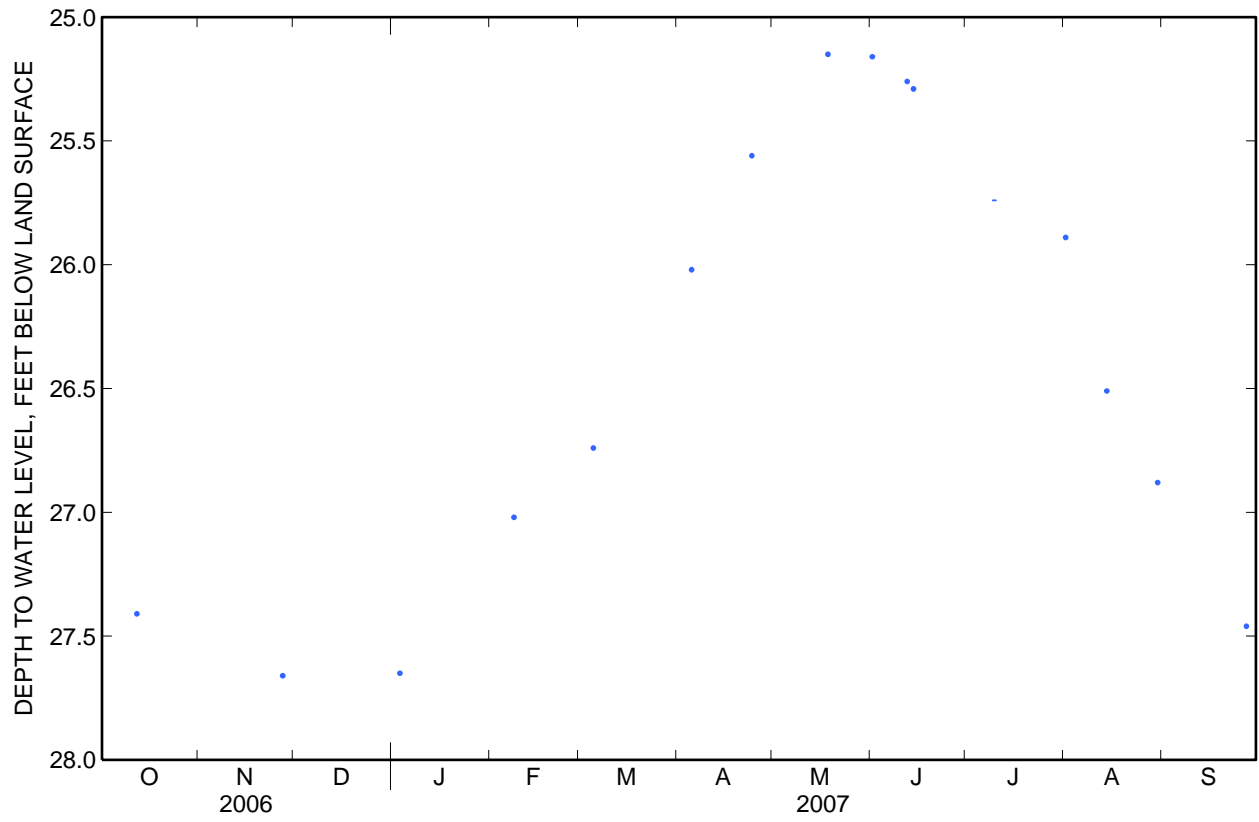
**WATER LEVELS IN FEET BELOW LAND SURFACE DATUM**

Date	Water level	Date	Water level
Oct 12, 2006	27.41	Jun 12, 2007	25.26
Nov 27	27.66	14	25.29
Jan 3, 2007	27.65	Jul 9	25.74
Feb 8	27.02	10	25.74
Mar 5	26.74	Aug 1	25.89
Apr 5	26.02	14	26.51
24	25.56	30	26.88
May 18	25.15	Sep 27	27.46
Jun 1	25.16		

Highest: 25.15 May 18, 2007

Lowest: 27.66 Nov 27, 2006

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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	Depth of well, feet below LSD (72008)	Depth to top sample interval, feet below LSD (72015)	Depth to water level, feet below LSD (72019)	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)	Potassium, water, fltrd, mg/L (00935)
Nov 28...	1535	70.00	68.00	27.66	--	1.7	--	6.6	137	15.6	19.8	3.81	5.43
Jul 10...	1045	70.00	68.00	25.74	746	1.9	20	7.0	151	16.2	17.2	3.03	5.57

WATER-QUALITY DATA  
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 2 of 4

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

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unfltrd, incrm. field, mg/L as CaCO3 (00419)	Bicarbonate, wat unfltrd, incrm. field, 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)	Total nitrogen, wat flt by analysis, mg/L (62854)
Nov 28...	5.35	67	--	E.02	1.20	.14	18.6	9.11	89	E.014	<.06	<.002	E.04
Jul 10...	4.30	64	91	E.01	1.31	.10	21.0	8.79	88	<.020	<.06	<.002	E.06

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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)
Nov 28...	.016	1.7	E.05	<.12	52	<.06	3.5	.22	.27	.43	<.40	<6	.25
Jul 10...	.018	4.1	E.03	<.12	56	<.06	13	.19	.23	.41	E.25	<6	E.10

**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, water, unfltrd, pCi/L (76002)	Rn-222, water, unfltrd, pCi/L (82303)	Uranium, natural, water, fltrd, µg/L (22703)
Nov 28...	139	.6	.77	.13	<.1	9.3	--	--	.15
Jul 10...	150	.4	.61	.08	<.1	20.7	25	950	.08