



Water-Data Report 2007

**355427080493702 Local number IR-174, DENR Allison Woods Research Station MW-4I
(Transition/Intermediate zone well)**

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

LOCATION.--Lat 35°54'27.84", long 80°49'37.10" 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 40 ft, diameter 4 in., cased to 30 ft, screened interval from 30 ft to 40 ft, sand filter packed from 27 ft to 40 ft.

DATUM.--Land-surface datum is 830 ft above North American Vertical Datum of 1988. Measuring point: Top of PVC casing, 2.91 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, 10.19 ft below land-surface datum, January 3, 2007; lowest water level measured, 11.43 ft below land-surface datum, August 14, 2007.

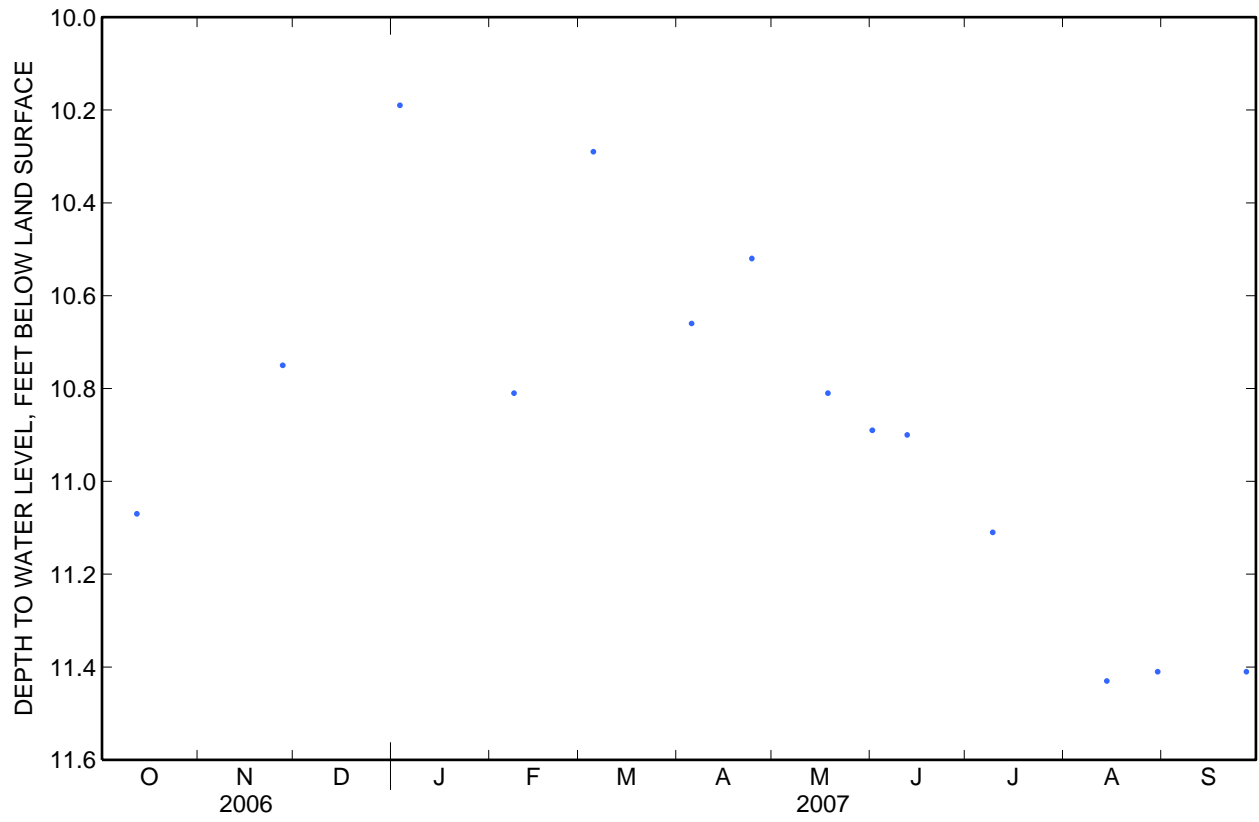
WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

| Date | Water level | Date | Water level |
|--------------|-------------|--------------|-------------|
| Oct 12, 2006 | 11.07 | May 18, 2007 | 10.81 |
| Nov 27 | 10.75 | Jun 1 | 10.89 |
| Jan 3, 2007 | 10.19 | 12 | 10.90 |
| Feb 8 | 10.81 | Jul 9 | 11.11 |
| Mar 5 | 10.29 | Aug 14 | 11.43 |
| Apr 5 | 10.66 | 30 | 11.41 |
| 24 | 10.52 | Sep 27 | 11.41 |

Highest: 10.19 Jan 03, 2007

Lowest: 11.43 Aug 14, 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: <, 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) | Dissolved oxygen, mg/L (00300) | pH, water, unfltrd field, std units (00400) | Specific conductance, wat unfltrd μ S/cm 25 degC (00095) | Temperature, deg C (00010) | Calcium water, fltrd, mg/L (00915) | Magnesium, water, fltrd, mg/L (00925) | Potassium, water, fltrd, mg/L (00935) | Sodium, water, fltrd, mg/L (00930) | ANC, wat unfltrd, titr., field, mg/L as CaCO ₃ (00419) |
|-----------|------|---------------------------------------|------------------------------------------------------|----------------------------------------------|--------------------------------|---------------------------------------------|--------------------------------------------------------------|----------------------------|------------------------------------|---------------------------------------|---------------------------------------|------------------------------------|-------------------------------------------------------------------|
| Nov 29... | 1245 | 40.0 | 39.00 | 10.76 | 7.2 | 6.1 | 65 | 14.3 | 6.91 | 2.03 | 1.49 | 3.35 | 33 |
| Jul 10... | 1400 | 40.0 | 39.00 | 11.05 | 10.6 | 6.3 | 64 | 14.4 | 6.79 | 2.06 | 1.57 | 3.76 | 30 |

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 2 of 4

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

| Date | Bicarbonate, wat unfltrd, titr., 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 fltrd 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 fltrd by analysis, mg/L (62854) | Orthophosphate, water, fltrd, mg/L as P (00671) | Aluminum, water, fltrd, μ g/L (01106) |
|-----------|------------------------------------------------------|------------------------------------|--------------------------------------|--------------------------------------|------------------------------------|------------------------------------|----------------------------------------------------|-----------------------------------------|---------------------------------------------------|-----------------------------------------|-----------------------------------------------------|-------------------------------------------------|-------------------------------------------|
| Nov 29... | -- | E.01 | 1.19 | <.10 | 23.8 | 1.65 | 59 | <.020 | <.06 | <.002 | <.06 | .025 | <1.6 |
| Jul 10... | 36 | E.01 | 1.21 | <.10 | 24.0 | 1.51 | 51 | <.020 | <.06 | <.002 | <.06 | .027 | <1.6 |

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WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 3 of 4

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

| Date | Anti- mony, water, fltrd, µg/L (01095) | Arsenic water, fltrd, µg/L (01000) | Barium, water, fltrd, µg/L (01005) | Beryll- ium, water, fltrd, µg/L (01010) | Boron, water, fltrd, µg/L (01020) | Cadmium water, fltrd, µg/L (01025) | Chrom- ium, 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) | Mangan- ese, water, fltrd, µg/L (01056) | Molyb- denum, water, fltrd, µg/L (01060) |
|---------------------|-------------------------------------------------------|------------------------------------------------|------------------------------------------------|--------------------------------------------------------|-----------------------------------------------|------------------------------------------------|-------------------------------------------------------|-----------------------------------------------|------------------------------------------------|----------------------------------------------|----------------------------------------------|--------------------------------------------------------|---------------------------------------------------------|
| Nov 29... | <.06 | <.12 | 23 | <.06 | 2.9 | <.04 | .60 | E.03 | <.40 | <6 | <.12 | .9 | E.1 |
| Jul 10... | <.06 | <.12 | 22 | <.06 | 2.0 | <.04 | .71 | .04 | <.40 | <6 | <.12 | .8 | E.1 |

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 4 of 4

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

| Date | Nickel, water, fltrd, µg/L (01065) | Selen- ium, 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 29... | .27 | E.06 | <.1 | .62 | -- | -- | E.02 |
| Jul 10... | .32 | E.05 | <.1 | <.60 | 37 | 1,540 | E.02 |