

**361646081430402 Local number WT-099, NCDENR Tater Hill Research Station ASU-2D near Boone, NC
(Bedrock)**

Piedmont and Blue Ridge crystalline-rock aquifers
Mafic Gneiss

Watauga County, NC

LOCATION.--Lat 36°16'45.9", long 81°43'03.7" referenced to North American Datum of 1983, Watauga County, NC, Hydrologic Unit 05050001, 1.75 mi east of U.S. Highway 421 and 4.7 mi north of Boone. Owner: Appalachian State University and NCDENR (North Carolina Department of Environment and Natural Resources), Division of Water Quality.

GROUND-WATER RECORDS

WELL CHARACTERISTICS.--Drilled observation well, depth 350 ft, diameter 6 in., cased to 27 ft, open hole from 27 ft to 350 ft.

DATUM.--Land-surface datum is 4,060 ft above North American Vertical Datum of 1988. Measuring point: top of protective steel casing, 2.99 ft above land-surface datum.

PERIOD OF RECORD.--June 2007 to current year.

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

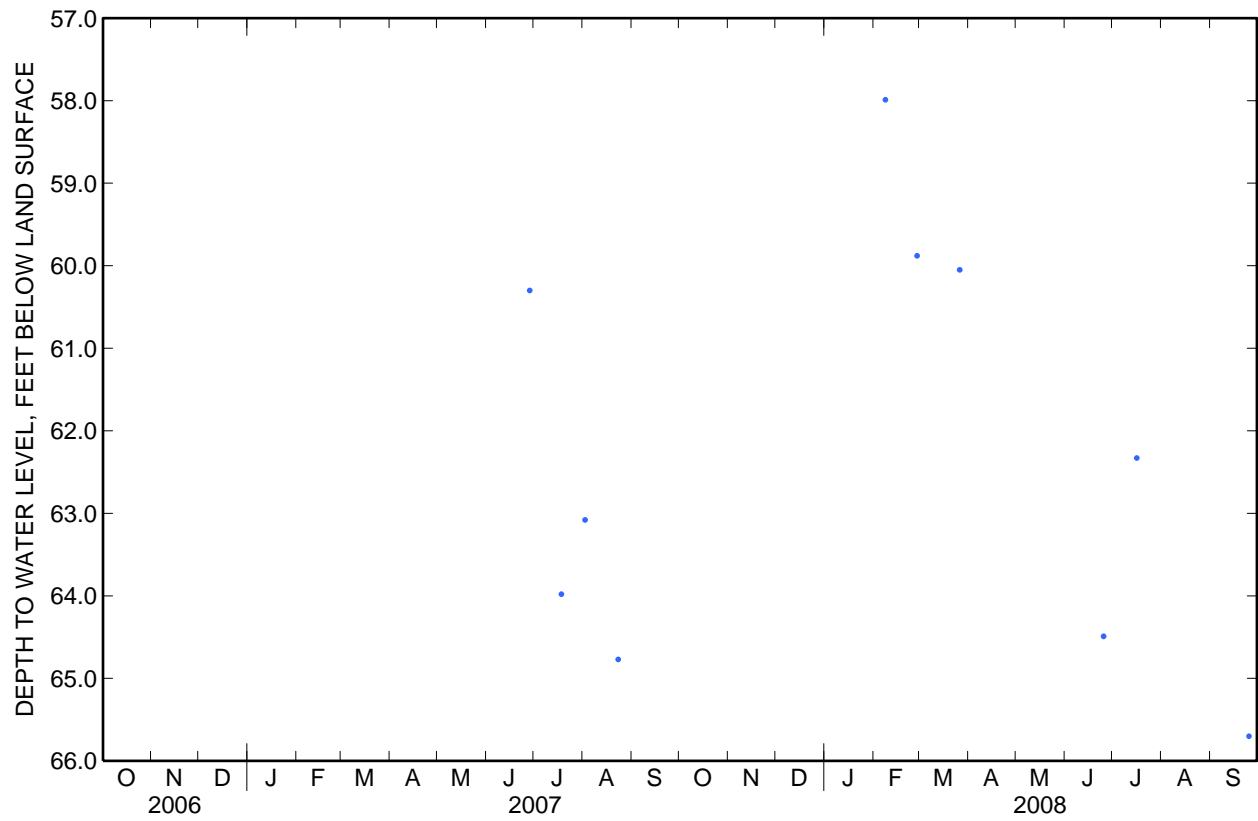
REMARKS.--Well is part of Piedmont/Mountains ground-water project.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 57.99 ft below land-surface datum, February 8, 2008; lowest water level measured, 65.70 ft below land-surface datum, September 25, 2008.

WATER LEVELS IN FEET BELOW LAND-SURFACE DATUM

| Date | Water level | Date | Water level |
|-----------------------------|-------------|--------------|-------------|
| Feb 8, 2008 | 57.99 | Jun 25, 2008 | 64.49 |
| 28 | 59.88 | Jul 16 | 62.33 |
| Mar 26 | 60.05 | Sep 25 | 65.70 |
| Highest: 57.99 Feb 08, 2008 | | | |
| Lowest: 65.70 Sep 25, 2008 | | | |

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WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 2007.

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

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Part 1 of 4

[QC, quality control sample. Remark codes: <, less than; E, estimated.]

| Date | Time | Sample medium and type | Depth of well, feet below LSD (72008) | 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 25 degC μ S/cm (00095) | Temperature, water, deg C (00010) |
|-------|------|------------------------------|---------------------------------------|------------------------------------|--------------------------------|---|---|--|-----------------------------------|
| Oct | | | | | | | | | |
| 02... | 1610 | Ground water, regular | 350.00 | 669 | 9.1 | 96 | 6.8 | 65 | 12.1 |
| 02... | 1615 | QC - Ground water, replicate | 350.00 | -- | -- | -- | -- | -- | -- |

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Part 2 of 4

[QC, quality control sample. Remark codes: <, less than; E, estimated.]

| Date | Hardness, water, mg/L as CaCO3 (00900) | 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 CaCO3 (00419) | 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 as SiO2 (00955) | Sulfate, water, fltrd, mg/L (00945) | Residue on evap. at 180degC wat flt mg/L (70300) |
|-------|--|-------------------------------------|---------------------------------------|---------------------------------------|------------------------------------|--|---|-------------------------------------|--------------------------------------|--------------------------------------|--|-------------------------------------|--|
| Oct | | | | | | | | | | | | | |
| 02... | 31 | 10.0 | 1.49 | 1.27 | 1.41 | 33 | 40 | E.01 | .64 | <.12 | 10.3 | 4.02 | 51 |
| 02... | 31 | 10.0 | 1.50 | 1.32 | 1.46 | -- | -- | E.01 | .66 | <.12 | 10.4 | 4.17 | 52 |

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Part 3 of 4

[QC, quality control sample. Remark codes: <, less than; E, estimated.]

| Date | Ammonia, water, fltrd, mg/L as N (00608) | Nitrate + nitrite, water, fltrd, mg/L as N (00631) | Nitrite, water, fltrd, mg/L as N (00613) | Total nitrogen, wat flt by analysis, mg/L (62854) | Orthophosphate, water, fltrd, mg/L as P (00671) | Aluminum, water, fltrd, μ g/L (01106) | Antimony, water, fltrd, μ g/L (01095) | Arsenic, water, fltrd, μ g/L (01000) | Barium, water, fltrd, μ g/L (01005) | Beryllium, water, fltrd, μ g/L (01010) | Boron, water, fltrd, μ g/L (01020) | Cadmium, water, fltrd, μ g/L (01025) | Chromium, water, fltrd, μ g/L (01030) |
|-------|--|--|--|---|---|---|---|--|---|--|--|--|---|
| Oct | | | | | | | | | | | | | |
| 02... | <.020 | .06 | <.002 | E.06 | E.004 | 2.2 | <.14 | <.06 | 5 | <.01 | 4.0 | <.04 | .27 |
| 02... | <.020 | .05 | <.002 | E.04 | E.004 | 2.4 | <.14 | <.06 | 5 | <.01 | 4.3 | <.04 | .34 |

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WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Part 4 of 4

[QC, quality control sample. Remark codes: <, less than; E, estimated.]

| Date | 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) | 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) | Uranium natural water, fltrd, µg/L (22703) | Data base number | Medium code |
|--------------|---|--|--|--|--|---|--|---|--|--|---|------------------------|----------------|
| Oct | | | | | | | | | | | | | |
| 02... | .58 | 2.3 | E7 | <.08 | 31.4 | .6 | 1.3 | .11 | <.1 | 8.1 | .07 | 01 | WG |
| 02... | .58 | 2.2 | <8 | <.08 | 30.9 | .8 | 1.6 | .11 | <.1 | 7.5 | .09 | 04 | WGQ |