393815077353001 Local number WA Bj 51

Piedmont and Blue Ridge carbonate-rock aquifers
Waynesboro Formation

Washington County, MD

LOCATION.--Lat 39°38′15″, long 77°35′30″ referenced to North American Datum of 1927, Washington County, MD, Hydrologic Unit 02070004, MD Rt. 66, 0.3 mi southwest of Cavetown.

GROUNDWATER RECORDS

WELL CHARACTERISTICS.--Depth 166 ft. Upper casing diameter 6 in; top of first opening 57 ft, bottom of last opening 166 ft. Drilled, observation well; open hole below 57 ft.

DATUM.--Land-surface datum is 705 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1 ft below land-surface datum, Mar. 2, 1993, to present.

PERIOD OF RECORD.--August 1966, November 2004 to current year.

GAGE.--Water-level measurements by U.S. Geological Survey personnel.

REMARKS.--National Water-Quality Assessment Program, agricultural land-use study in the Great Valley Carbonate subunit of the Potomac River Basin.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 22.50 ft below land surface, May 20, 2008; lowest measured, 60.00 ft below land surface, August 11, 1966.

WATER LEVELS IN FEET BELOW LAND-SURFACE DATUM
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

[Measurement method: T, electric tape. Water-level status: - - , static.]

Date	Water level	Measurement method	Water-level status	Date	Water level	Measurement method	Water-level status
Jun 14	30.51	T	--	Jul 12	35.26	T	--

Water year 2011 highest: 30.51, Jun 14, 2011; lowest: 35.26, Jul 12, 2011

Suggested citation: U.S. Geological Survey, 2012, Water-resources data for the United States, Water Year 2011: U.S. Geological Survey Water-Data Report WDR-US-2011, site 393815077353001, accessed at http://wdr.water.usgs.gov/wy2011/pdfs/393815077353001.2011.pdf

393815077353001 Local number WA Bj 51—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Intermittent water-quality records collected at this station since Water Year 1993.

REMARKS.--National Water-Quality Assessment Program, agricultural land-use study in the Great Valley Carbonate subunit of the Potomac River Basin.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 1 of 17

[%, percent; $CaCO_3$, calcium carbonate; FNU, Formazin nephelometric units; LED, light-emitting diode; N, nitrogen; P, phosphorus; SiO_2, silicon dioxide; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than; E, estimated]

Date	Sample start time	Medium name	Sample type	Barometric pressure, mm Hg (00025)	Dissolved oxygen, water, unfiltered, mg/L (00300)	Dissolved oxygen, water, unfiltered, % saturation (00301)	Flow rate, instantaneous, gallons per minute (00059)	pH, water, unfiltered, field, standard units (00400)	pH, water, unfiltered, laboratory, standard units (00403)	Specific conductance, water, unfiltered, laboratory, µS/cm at 25 °C (90095)
06-14-2011	**1330**	Groundwater	Regular	746	8.7	85	3.3	7.2	7.5	546

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 2 of 17

[%, percent; $CaCO_3$, calcium carbonate; FNU, Formazin nephelometric units; LED, light-emitting diode; N, nitrogen; P, phosphorus; SiO_2, silicon dioxide; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than; E, estimated]

Date	Sample start time	Specific conductance, water, unfiltered, µS/cm at 25 °C (00095)	Temperature, water, °C (00010)	Turbidity, water, unfiltered, monochrome near infrared LED light, 780-900 nm, detection angle 90 +/- 2.5 degrees, FNU (63680)	Water level, depth below measuring point, feet (61055)	alpha-HCH-d6, surrogate, Schedule 2003, water, filtered, percent recovery (99995)	Diazinon-d10, surrogate, Schedule 2003, water, filtered, percent recovery (99994)	Sampler type (84164)
06-14-2011	**1330**	519	13.4	1.0	30.51	113	101	Sbmrsbl pos pressure

393815077353001 Local number WA Bj 51—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011
Part 3 of 17

[%, percent; $CaCO_3$, calcium carbonate; FNU, Formazin nephelometric units; LED, light-emitting diode; N, nitrogen; P, phosphorus; SiO_2, silicon dioxide; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than; E, estimated]

Date	Sample start time	Sampling method (82398)	Dissolved solids dried at 180 °C, water, filtered, mg/L (70300)	Hardness, water, mg/L as $CaCO_3$ (00900)	Calcium, water, filtered, mg/L (00915)	Magnesium, water, filtered, mg/L (00925)	Potassium, water, filtered, mg/L (00935)	Sodium, water, filtered, mg/L (00930)	Alkalinity, water, filtered, inflection-point, incremental titration method, field, mg/L as $CaCO_3$ (39086)
06-14-2011	1330	Submersible pump	233	289	73.1	25.8	1.47	5.32	253

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011
Part 4 of 17

[%, percent; $CaCO_3$, calcium carbonate; FNU, Formazin nephelometric units; LED, light-emitting diode; N, nitrogen; P, phosphorus; SiO_2, silicon dioxide; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than; E, estimated]

Date	Sample start time	Bicarbonate, water, filtered, inflection-point, incremental titration method, field, mg/L (00453)	Bromide, water, filtered, mg/L (71870)	Chloride, water, filtered, mg/L (00940)	Fluoride, water, filtered, mg/L (00950)	Silica, water, filtered, mg/L as SiO_2 (00955)	Sulfate, water, filtered, mg/L (00945)	Ammonia, water, filtered, mg/L as N (00608)	Nitrate plus nitrite, water, filtered, mg/L as N (00631)	Nitrate, water, filtered, mg/L as N (00618)
06-14-2011	1330	308	.0124	15.0	.105	10.5	7.23	< .010	4.75	4.75

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011
Part 5 of 17

[%, percent; $CaCO_3$, calcium carbonate; FNU, Formazin nephelometric units; LED, light-emitting diode; N, nitrogen; P, phosphorus; SiO_2, silicon dioxide; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than; E, estimated]

Date	Sample start time	Nitrite, water, filtered, mg/L as N (00613)	Organic nitrogen, water, filtered, mg/L (00607)	Orthophosphate, water, filtered, mg/L (00660)	Orthophosphate, water, filtered, mg/L as P (00671)	Total nitrogen, water, filtered, analytically determined, mg/L (62854)	Aluminum, water, filtered, µg/L (01106)	Barium, water, filtered, µg/L (01005)	Beryllium, water, filtered, µg/L (01010)
06-14-2011	1330	< .0010	< .16	.045	.0145	4.92	< 1.7	34.3	< .006

393815077353001 Local number WA Bj 51—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 6 of 17

[%, percent; $CaCO_3$, calcium carbonate; FNU, Formazin nephelometric units; LED, light-emitting diode; N, nitrogen; P, phosphorus; SiO_2, silicon dioxide; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than; E, estimated]

Date	Sample start time	Cadmium, water, filtered, µg/L (01025)	Chromium, water, filtered, µg/L (01030)	Cobalt, water, filtered, µg/L (01035)	Copper, water, filtered, µg/L (01040)	Iron, water, filtered, µg/L (01046)	Lead, water, filtered, µg/L (01049)	Lithium, water, filtered, µg/L (01130)	Manganese, water, filtered, µg/L (01056)	Molybdenum, water, filtered, µg/L (01060)
06-14-2011	**1330**	.024	.289	.0450	2.00	< 3.2	.144	1.44	.246	.0959

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 7 of 17

[%, percent; $CaCO_3$, calcium carbonate; FNU, Formazin nephelometric units; LED, light-emitting diode; N, nitrogen; P, phosphorus; SiO_2, silicon dioxide; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than; E, estimated]

Date	Sample start time	Nickel, water, filtered, µg/L (01065)	Silver, water, filtered, µg/L (01075)	Strontium, water, filtered, µg/L (01080)	Thallium, water, filtered, µg/L (01057)	Vanadium, water, filtered, µg/L (01085)	Zinc, water, filtered, µg/L (01090)	Antimony, water, filtered, µg/L (01095)	Arsenic, water, filtered, µg/L (01000)	Boron, water, filtered, µg/L (01020)
06-14-2011	**1330**	.210	< .005	69.0	< .010	.127	7.73	< .027	.111	< 3

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 8 of 17

[%, percent; $CaCO_3$, calcium carbonate; FNU, Formazin nephelometric units; LED, light-emitting diode; N, nitrogen; P, phosphorus; SiO_2, silicon dioxide; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than; E, estimated]

Date	Sample start time	Selenium, water, filtered, µg/L (01145)	1-Naphthol, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (49295)	2,6-Diethylaniline, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82660)	2-Chloro-2',6'-diethylacetanilide, water, filtered, recoverable, µg/L (61618)	2-Chloro-4-isopropylamino-6-amino-s-triazine, water, filtered, recoverable, µg/L (04040)	2-Ethyl-6-methylaniline, water, filtered, recoverable, µg/L (61620)	3,4-Dichloroaniline, water, filtered, recoverable, µg/L (61625)	3,5-Dichloroaniline, water, filtered, recoverable, µg/L (61627)	4-Chloro-2-methylphenol, water, filtered, recoverable, µg/L (61633)
06-14-2011	**1330**	.135	< .036	< .0060	< .010	E .186	< .010	< .0042	< .0040	< .0046

393815077353001 Local number WA Bj 51—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 9 of 17

[%, percent; $CaCO_3$, calcium carbonate; FNU, Formazin nephelometric units; LED, light-emitting diode; N, nitrogen; P, phosphorus; SiO_2, silicon dioxide; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than; E, estimated]

Date	Sample start time	Aceto-chlor, water, filtered, recover-able, µg/L (49260)	Alachlor, water, filtered, recover-able, µg/L (46342)	alpha-Endo-sulfan, water, filtered, recover-able, µg/L (34362)	Atrazine, water, filtered, recover-able, µg/L (39632)	Azinphos-methyl oxygen analog, water, filtered, recover-able, µg/L (61635)	Azinphos-methyl, water, filtered (0.7 micron glass fiber filter), recover-able, µg/L (82686)	Benfluralin, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82673)	Carbaryl, water, filtered (0.7 micron glass fiber filter), recover-able, µg/L (82680)
06-14-2011	1330	< .010	< .008	< .006	.0473	< .042	< .12	< .014	< .06

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 10 of 17

[%, percent; $CaCO_3$, calcium carbonate; FNU, Formazin nephelometric units; LED, light-emitting diode; N, nitrogen; P, phosphorus; SiO_2, silicon dioxide; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than; E, estimated]

Date	Sample start time	Carbofuran, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82674)	Chlorpyrifos oxygen analog, water, filtered, recoverable, µg/L (61636)	Chlor-pyrifos, water, filtered, recover-able, µg/L (38933)	cis-Permeth-rin, water, filtered (0.7 micron glass fiber filter), recover-able, µg/L (82687)	cis-Propicon-azole, water, filtered, recover-able, µg/L (79846)	Cyanazine, water, filtered, recover-able, µg/L (04041)	Cyfluthrin, water, filtered, recover-able, µg/L (61585)	Cyper-methrin, water, filtered, recover-able, µg/L (61586)
06-14-2011	1330	< .060	< .06	< .0036	< .010	< .008	< .022	< .016	< .020

393815077353001 Local number WA Bj 51—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 11 of 17

[%, percent; $CaCO_3$, calcium carbonate; FNU, Formazin nephelometric units; LED, light-emitting diode; N, nitrogen; P, phosphorus; SiO_2, silicon dioxide; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than; E, estimated]

Date	Sample start time	DCPA, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82682)	Desulfinyl-fipronil amide, water, filtered, recoverable, µg/L (62169)	Desulfinyl-fipronil, water, filtered, recoverable, µg/L (62170)	Diazinon, water, filtered, recoverable, µg/L (39572)	Dichlorvos, water, filtered, recoverable, µg/L (38775)	Dicrotophos, water, filtered, recoverable, µg/L (38454)	Dieldrin, water, filtered, recoverable, µg/L (39381)	Dimethoate, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82662)	Disulfoton sulfone, water, filtered, recoverable, µg/L (61640)
06-14-2011	1330	< .0076	< .029	< .012	< .0060	< .04	< .08	< .008	< .006	< .014

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 12 of 17

[%, percent; $CaCO_3$, calcium carbonate; FNU, Formazin nephelometric units; LED, light-emitting diode; N, nitrogen; P, phosphorus; SiO_2, silicon dioxide; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than; E, estimated]

Date	Sample start time	Disulfoton, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82677)	Endosulfan sulfate, water, filtered, recoverable, µg/L (61590)	EPTC, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82668)	Ethion monoxon, water, filtered, recoverable, µg/L (61644)	Ethion, water, filtered, recoverable, µg/L (82346)	Ethoprop, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82672)	Fenamiphos sulfone, water, filtered, recoverable, µg/L (61645)	Fenamiphos sulfoxide, water, filtered, recoverable, µg/L (61646)	Fenamiphos, water, filtered, recoverable, µg/L (61591)
06-14-2011	1330	< .040	< .016	< .0056	< .021	< .008	< .016	< .054	< .08	< .030

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 13 of 17

[%, percent; $CaCO_3$, calcium carbonate; FNU, Formazin nephelometric units; LED, light-emitting diode; N, nitrogen; P, phosphorus; SiO_2, silicon dioxide; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than; E, estimated]

Date	Sample start time	Fipronil sulfide, water, filtered, recoverable, µg/L (62167)	Fipronil sulfone, water, filtered, recoverable, µg/L (62168)	Fipronil, water, filtered, recoverable, µg/L (62166)	Fonofos, water, filtered, recoverable, µg/L (04095)	Hexazinone, water, filtered, recoverable, µg/L (04025)	Iprodione, water, filtered, recoverable, µg/L (61593)	Isofenphos, water, filtered, recoverable, µg/L (61594)	lambda-Cyhalothrin, water, filtered, recoverable, µg/L (61595)	Malaoxon, water, filtered, recoverable, µg/L (61652)
06-14-2011	1330	< .012	< .024	< .018	< .0048	< .008	< .014	< .006	< .010	< .022

393815077353001 Local number WA Bj 51—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 14 of 17

[%, percent; $CaCO_3$, calcium carbonate; FNU, Formazin nephelometric units; LED, light-emitting diode; N, nitrogen; P, phosphorus; SiO_2, silicon dioxide; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than; E, estimated]

Date	Sample start time	Malathion, water, filtered, recoverable, µg/L (39532)	Metalaxyl, water, filtered, recoverable, µg/L (61596)	Methidathion, water, filtered, recoverable, µg/L (61598)	Methyl paraoxon, water, filtered, recoverable, µg/L (61664)	Methyl parathion, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82667)	Metolachlor, water, filtered, recoverable, µg/L (39415)	Metribuzin, water, filtered, recoverable, µg/L (82630)	Molinate, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82671)	Myclobutanil, water, filtered, recoverable, µg/L (61599)
06-14-2011	1330	< .016	< .014	< .012	< .014	< .008	.0124	< .012	< .0040	< .010

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 15 of 17

[%, percent; $CaCO_3$, calcium carbonate; FNU, Formazin nephelometric units; LED, light-emitting diode; N, nitrogen; P, phosphorus; SiO_2, silicon dioxide; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than; E, estimated]

Date	Sample start time	Oxyfluorfen, water, filtered, recoverable, µg/L (61600)	Pendimethalin, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82683)	Phorate oxygen analog, water, filtered, recoverable, µg/L (61666)	Phorate, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82664)	Phosmet oxygen analog, water, filtered, recoverable, µg/L (61668)	Phosmet, water, filtered, recoverable, µg/L (61601)	Prometon, water, filtered, recoverable, µg/L (04037)	Prometryn, water, filtered, recoverable, µg/L (04036)	Propanil, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82679)
06-14-2011	1330	< .006	< .012	< .027	< .020	< .0511	< .14	.0067	< .006	< .010

393815077353001 Local number WA Bj 51—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 16 of 17

[%, percent; $CaCO_3$, calcium carbonate; FNU, Formazin nephelometric units; LED, light-emitting diode; N, nitrogen; P, phosphorus; SiO_2, silicon dioxide; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than; E, estimated]

Date	Sample start time	Propargite, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82685)	Propyzamide, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82676)	Simazine, water, filtered, recoverable, µg/L (04035)	Tebuthiuron, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82670)	Tefluthrin, water, filtered, recoverable, µg/L (61606)	Terbufos oxygen analog sulfone, water, filtered, recoverable, µg/L (61674)	Terbufos, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82675)	Terbuthylazine, water, filtered, recoverable, µg/L (04022)	Thiobencarb, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82681)
06-14-2011	**1330**	< .020	< .0036	.0731	< .028	< .010	< .045	< .018	< .0060	< .016

WATER-QUALITY DATA
WATER YEAR OCTOBER 2010 TO SEPTEMBER 2011

Part 17 of 17

[%, percent; $CaCO_3$, calcium carbonate; FNU, Formazin nephelometric units; LED, light-emitting diode; N, nitrogen; P, phosphorus; SiO_2, silicon dioxide; mg/L, milligrams per liter; mm Hg, millimeters of mercury; nm, nanometers; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than; E, estimated]

Date	Sample start time	trans-Propiconazole, water, filtered, recoverable, µg/L (79847)	Tribuphos, water, filtered, recoverable, µg/L (61610)	Trifluralin, water, filtered (0.7 micron glass fiber filter), recoverable, µg/L (82661)	Uranium (natural), water, filtered, µg/L (22703)
06-14-2011	**1330**	< .010	< .018	< .018	.350