

## Water-Data Report 2008

**352828079313501 Local number MO-243, Piedmont Major Aquifer Study Site 49, near Robbins, NC**

 Piedmont and Blue Ridge crystalline-rock aquifers  
 Epiclastic Metavolcanic Rock

Moore County, NC

LOCATION.--Lat 35°28'28", long 79°31'35" referenced to North American Datum of 1983, Moore County, NC, Hydrologic Unit 03030003, .5 mi west of North Carolina Highway 22, .71 mi northeast of Robbins.

**WATER-QUALITY RECORDS**

WELL CHARACTERISTICS.--Depth 308 ft. Upper casing diameter 6 in; top of first opening 50 ft, bottom of last opening 308 ft.

PERIOD OF RECORD.--November 2007.

REMARKS.--Well is part of the National Water Quality Assessment Program (NAWQA).

**WATER-QUALITY DATA  
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**

Part 1 of 19

[QC, quality control sample. Remark codes: &lt;, less than; E, estimated; R, radchem non-detect, below ssLc; U, analyzed for but not detected.]

Date	Time	Sample medium and type	Depth to water level, feet below LSD	Water level, depth below MP, feet	Barometric pressure, mm Hg	Dissolved oxygen, mg/L	Dissolved oxygen, percent of saturation	pH, water, unfltrd field, std units	Specific conductance, wat unf µS/cm	Specifc conductance, 25 degC
<b>Nov</b>										
13...	1300	Ground water, replicate	64.90	66.10	750	2.8	29	7.1	547	
13...	1301	QC - Ground water, replicate	--	--	--	--	--	--	--	--

**WATER-QUALITY DATA  
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**

Part 2 of 19

[QC, quality control sample. Remark codes: &lt;, less than; E, estimated; R, radchem non-detect, below ssLc; U, analyzed for but not detected.]

Date	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO <sub>3</sub> (00900)	Calcium water, mg/L (00915)	Magnesium water, mg/L (00925)	Potassium water, mg/L (00935)	Sodium water, mg/L (00930)	Alkalinity, wat flt inf tit field, mg/L as CaCO <sub>3</sub> (39086)	Bicarbonate, wat flt infl pt titr., mg/L (00453)	Chloride, Bromide water, mg/L (71870) (00940)	Fluoride, water, mg/L (00950)	Silica, water, mg/L as SiO <sub>2</sub> (00955)	Sulfate water, mg/L (00945)
<b>Nov</b>												
13...	16.7	230	61.5	17.8	.66	20.0	142	172	.34	53.3	E.09	29.2
13...	--	--	--	--	--	--	--	--	--	--	--	--

**352828079313501 Local number MO-243, Piedmont Major Aquifer Study Site 49, near Robbins, NC—Continued**

**WATER-QUALITY DATA  
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**

Part 3 of 19

[QC, quality control sample. Remark codes: <, less than; E, estimated; R, radchem non-detect, below ssLc; U, analyzed for but not detected.]

	Residue on evap.		Nitrate +		Total nitro- gen	Ortho- phos- phate,	Colipge F-spec,	Colipge som, Ec	Total coli-			
Date	Ammonia at 180degC wat flt	Nitrite water, fltrd, mg/L (70300)	Nitrite water, fltrd, mg/L (00608)	Nitrite water, fltrd, mg/L (00631)	wat flt by anal mg/L (00613)	water, fltrd, mg/L (62854)	Organic carbon, 2-step, water, fltrd, absence	CN13hst 2-step, pres or absence	E coli, MI MF, water, col/ 100 mL (90901)	form, MI MF, water, col/ 100 mL (90900)	Alum- inum, water, fltrd, μg/L (01106)	Anti- mony, water, fltrd, μg/L (01095)
Nov 13...	308	<.020	3.01	.006	3.09	.074	.8	U	U	<1	E17	<1.6
13...	--	--	--	--	--	--	--	--	<1	25	--	--

**WATER-QUALITY DATA  
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**

Part 4 of 19

[QC, quality control sample. Remark codes: <, less than; E, estimated; R, radchem non-detect, below ssLc; U, analyzed for but not detected.]

Date	Beryl-						Chrom-						Hydro-				Mangan-	
	Arsenic water, fltrd, µg/L (01000)	Barium, water, fltrd, µg/L (01005)	ium, water, fltrd, µg/L (01010)	Boron, water, fltrd, µg/L (01020)	Cadmium, water, fltrd, µg/L (01025)	ium, water, fltrd, µg/L (01030)	Cobalt, water, fltrd, µg/L (01035)	Copper, water, fltrd, µg/L (01040)	sulfide, water, unfltrd mg/L (71875)	Iron, water, fltrd, µg/L (01046)	Lead, water, fltrd, µg/L (01049)	Lithium, water, fltrd, µg/L (01130)	Manganese, water, fltrd, µg/L (01056)					
Nov 13...	.37	8	E.01	E6	E.02	<.12	.08	3.9	U	<8	.60	13.8	15.8					
13...	--	--	--	--	--	--	--	--	--	--	--	--	--					

**WATER-QUALITY DATA  
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**

Part 5 of 19

[QC, quality control sample. Remark codes: <, less than; E, estimated; R, radchem non-detect, below ssLc; U, analyzed for but not detected.]

## 352828079313501 Local number MO-243, Piedmont Major Aquifer Study Site 49, near Robbins, NC—Continued

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**

Part 6 of 19

[QC, quality control sample. Remark codes: &lt;, less than; E, estimated; R, radchem non-detect, below ssLc; U, analyzed for but not detected.]

Date	3,4-Dichloroaniline water, fltrd, µg/L (61625)	3,5-Dichloroaniline water, fltrd, µg/L (61627)	Chlorophenol, 2methyl aniline water, fltrd, µg/L (61633)	Acetochlor, water, fltrd, µg/L (49260)	Alachlor, water, fltrd, µg/L (46342)	Endosulfan, water, fltrd, µg/L (34362)	Atrazine, water, fltrd, µg/L (39632)	Azinomethoxy, water, fltrd, µg/L (61635)	Azinomethyl, water, fltrd, µg/L (82686)	Benzofuran, alin, water, fltrd, µg/L (82673)	Carbaryl, water, fltrd, µg/L (82680)	Carboxylic acid, water, fltrd, µg/L (82674)	Chloropyrifos oxon, water, fltrd, µg/L (61636)
Nov													
13...	<.006	<.008	<.005	<.006	<.006	<.006	<.007	<.04	<.120	<.004	<.060	<.020	<.06
13...	--	--	--	--	--	--	--	--	--	--	--	--	--

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**

Part 7 of 19

[QC, quality control sample. Remark codes: &lt;, less than; E, estimated; R, radchem non-detect, below ssLc; U, analyzed for but not detected.]

Date	cis-Chlorpyrifos water, fltrd, µg/L (38933)	cis-Permethrin water, fltrd, 0.7u GF (82687)	cis-Propiconazole, water, fltrd, µg/L (79846)	Cyanazine, water, fltrd, µg/L (04041)	Cyfluthrin, water, fltrd, µg/L (61585)	Lambda-cyhalothrin, water, fltrd, µg/L (61595)	Cypermethrin, water, fltrd, µg/L (61586)	DCPA, water, fltrd, 0.7u GF (82682)	Desulfophenyl-fipronil, water, fltrd, µg/L (62170)	Diazinon, water, fltrd, µg/L (39572)	Dicrotophos, water, fltrd, µg/L (38454)	Dieldrin, water, fltrd, µg/L (39381)	Dimethoate, water, fltrd, 0.7u GF (82662)
Nov													
13...	<.005	<.010	<.006	<.020	<.016	<.004	<.014	<.003	<.012	<.005	<.08	<.009	<.006
13...	--	--	--	--	--	--	--	--	--	--	--	--	--

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**

Part 8 of 19

[QC, quality control sample. Remark codes: &lt;, less than; E, estimated; R, radchem non-detect, below ssLc; U, analyzed for but not detected.]

Date	Disulfoton sulfone water, fltrd, 0.7u GF (61640)	Disulfoton foton, water, fltrd, 0.7u GF (82677)	Endosulfan sulfate water, fltrd, 0.7u GF (61590)	EPTC, water, fltrd, 0.7u GF (82668)	Ethion monoxon water, fltrd, µg/L (61644)	Ethion, water, fltrd, µg/L (82346)	Ethoprop, water, fltrd, 0.7u GF (82672)	Fenamiphos sulfone water, fltrd, µg/L (61645)	Fenamiphos sulfone oxide, water, fltrd, µg/L (61646)	Fenamiphos sulfone amide, water, fltrd, µg/L (61591)	Desulfophenyl-fipronil, water, fltrd, µg/L (62169)	Fipronil sulfide water, fltrd, µg/L (62167)	Fipronil sulfone water, fltrd, µg/L (62168)
Nov													
13...	<.01	<.04	<.022	<.002	<.02	<.006	<.012	<.053	<.04	<.03	<.029	<.013	<.024
13...	--	--	--	--	--	--	--	--	--	--	--	--	--

## 352828079313501 Local number MO-243, Piedmont Major Aquifer Study Site 49, near Robbins, NC—Continued

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**

Part 9 of 19

[QC, quality control sample. Remark codes: &lt;, less than; E, estimated; R, radchem non-detect, below ssLc; U, analyzed for but not detected.]

Date	Fipro-	Fonofos	Hexa-	Ipro-	Isofen-	Mala-	Mala-	Meta-	Methid-	Methyl	Methyl	Metola-	Metri-
	nil, water, filtrd,	water, water, filtrd,	zinone, water, filtrd,	dione, water, filtrd,	phos, water, filtrd,	oxon, water, filtrd,	thion, water, filtrd,	laxyl, water, filtrd,	athion, water, filtrd,	para- oxon, water, filtrd,	para- thion, water, filtrd,	chlor, water, filtrd,	buzin, water, filtrd,
	µg/L (62166)	µg/L (04095)	µg/L (04025)	µg/L (61593)	µg/L (61594)	µg/L (61652)	µg/L (39532)	µg/L (61596)	µg/L (61598)	µg/L (61664)	µg/L (82667)	µg/L (39415)	µg/L (82630)
<b>Nov</b>													
13...	<.020	<.010	<.008	<.01	<.006	<.020	<.016	<.007	<.004	<.01	<.008	<.010	<.012
13...	--	--	--	--	--	--	--	--	--	--	--	--	--

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**

Part 10 of 19

[QC, quality control sample. Remark codes: &lt;, less than; E, estimated; R, radchem non-detect, below ssLc; U, analyzed for but not detected.]

Date	Moli-	Oxy-	Pendi-	Phorate	Phorate	Phosmet	Phosmet	Prome-	Prome-	Propy-	Pro-	Propar-	
	nate, water, filtrd, 0.7u GF	Myco- butanil	fluor- fen,										
	µg/L (82671)	µg/L (61599)	µg/L (61600)	µg/L (82683)	µg/L (61666)	µg/L (82664)	µg/L (61668)	µg/L (61601)	µg/L (04037)	µg/L (04036)	µg/L (82676)	µg/L (82679)	µg/L (82685)
<b>Nov</b>													
13...	<.003	<.010	<.006	<.012	<.03	<.040	<.05	<.008	<.01	<.006	<.004	<.006	<.04
13...	--	--	--	--	--	--	--	--	--	--	--	--	--

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**

Part 11 of 19

[QC, quality control sample. Remark codes: &lt;, less than; E, estimated; R, radchem non-detect, below ssLc; U, analyzed for but not detected.]

Date	Tebu-	Ter-	Terbu-	Terbu-	Thio-	trans-	Propi-	Tribu-	Tri-	1,1,1,2	1,1,1-	1,1,2,2	
	Simazine, water, filtrd, 0.7u GF	thiuron											
	µg/L (04035)	µg/L (82670)	Teflu-	sulfone	water,	azine,	water,	water,	water,	flurin,	Tetra-	chloro-	chloro-
			thrin,	water,	filtrd	filtrd	filtrd	filtrd	filtrd	water,	chloro-	ethane,	ethane,
			µg/L (61606)	µg/L (61674)	µg/L (82675)	µg/L (04022)	µg/L (82681)	µg/L (79847)	µg/L (61610)	µg/L (82661)	µg/L (77562)	µg/L (34506)	µg/L (34516)
<b>Nov</b>													
13...	<.006	<.02	<.003	<.04	<.02	<.01	<.010	<.02	<.035	<.006	<.04	<.02	<.10
13...	--	--	--	--	--	--	--	--	--	--	--	--	--

## 352828079313501 Local number MO-243, Piedmont Major Aquifer Study Site 49, near Robbins, NC—Continued

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**

Part 12 of 19

[QC, quality control sample. Remark codes: &lt;, less than; E, estimated; R, radchem non-detect, below ssLc; U, analyzed for but not detected.]

Date	CFC-113 water, unfltrd	1,1,2- Tri- chloro- ethane, water, unfltrd	1,1-Di- chloro- ethane, water, unfltrd	1,1-Di- chloro- ethene, water, unfltrd	1,1-Di- chloro- propene water, unfltrd	1,2,3,4 -Tetra- methyl- benzene water, unfltrd	1,2,3,5 -Tetra- methyl- benzene water, unfltrd	1,2,3- Tri- chloro- benzene water, unfltrd	1,2,3- Tri- chloro- propane water, unfltrd	1,2,3- Tri- methyl- benzene water, unfltrd	1,2,3- Tri- chloro- benzene water, unfltrd	1,2,4- Tri- methyl- benzene water, unfltrd	1,2,4- Tri- chloro- propane water, unfltrd	
		µg/L (77652)	µg/L (34511)	µg/L (34496)	µg/L (34501)	µg/L (77168)	µg/L (49999)	µg/L (50000)	µg/L (77613)	µg/L (77443)	µg/L (77221)	µg/L (34551)	µg/L (77222)	µg/L (82625)
<b>Nov</b>														
13...	<.04	<.06	<.04	<.02	<.04	<.1	<.1	<.1	<.12	<.1	<.1	<.04	<.04	<.5
13...	--	--	--	--	--	--	--	--	--	--	--	--	--	--

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**

Part 13 of 19

[QC, quality control sample. Remark codes: &lt;, less than; E, estimated; R, radchem non-detect, below ssLc; U, analyzed for but not detected.]

Date	1,2-Di- bromo- ethane, water, unfltrd	1,2-Di- chloro- benzene, water, unfltrd	1,2-Di- chloro- ethane, water, unfltrd	1,2-Di- chloro- propane water, unfltrd	1,3,5- Tri- methyl- benzene water, unfltrd	1,3-Di- chloro- benzene water, unfltrd	1,3-Di- chloro- propane water, unfltrd	1,4-Di- chloro- benzene water, unfltrd	2,2-Di- chloro- propane water, unfltrd	2- Chloro- toluene water, unfltrd	2- Ethyl- toluene water, unfltrd	3- Chloro- propene water, unfltrd	4- Chloro- toluene water, unfltrd	
	µg/L (77651)	µg/L (34536)	µg/L (32103)	µg/L (34541)	µg/L (77226)	µg/L (34566)	µg/L (77173)	µg/L (34571)	µg/L (77170)	µg/L (77275)	µg/L (77220)	µg/L (78109)	µg/L (77277)	
<b>Nov</b>														
13...	<.04	<.02	<.1	<.02	<.04	<.04	<.1	<.02	<.06	<.04	<.04	<.08	<.04	<.04
13...	--	--	--	--	--	--	--	--	--	--	--	--	--	--

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**

Part 14 of 19

[QC, quality control sample. Remark codes: &lt;, less than; E, estimated; R, radchem non-detect, below ssLc; U, analyzed for but not detected.]

Date	4-Iso- propyl- toluene water, unfltrd	Acetone water, unfltrd	Acrylo- nitrile water, unfltrd	Benzene water, unfltrd	Bromo- benzene water, unfltrd	Bromo- chloro- methane water, unfltrd	Bromo- di- chloro- methane water, unfltrd	Bromo- ethene, water, unfltrd	Bromo- methane water, unfltrd	Tri- bromo- methane water, unfltrd	Bromo- methane water, unfltrd	Carbon di- sulfide water, unfltrd	Chloro- benzene water, unfltrd	Chloro- ethane, water, unfltrd
	µg/L (77356)	µg/L (81552)	µg/L (34215)	µg/L (34030)	µg/L (81555)	µg/L (77297)	µg/L (32101)	µg/L (50002)	µg/L (32104)	µg/L (34413)	µg/L (77041)	µg/L (34301)	µg/L (34311)	
<b>Nov</b>														
13...	<.08	<4	<.4	<.02	<.02	<.06	<.04	<.1	<.08	<.4	<.06	<.02	<.1	
13...	--	--	--	--	--	--	--	--	--	--	--	--	--	--

## 352828079313501 Local number MO-243, Piedmont Major Aquifer Study Site 49, near Robbins, NC—Continued

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**

Part 15 of 19

[QC, quality control sample. Remark codes: &lt;, less than; E, estimated; R, radchem non-detect, below ssLc; U, analyzed for but not detected.]

Date	cis-Chloro-methane water, unfltrd	cis-1,2-Dichloro-ethene, water, unfltrd	cis-1,3-Dichloro-propene, water, unfltrd	Di-bromo-chloro-methane, water, unfltrd	Di-bromo-chloro-methane, water, unfltrd	Di-chloro-fluoro-methane, wat unf	Di-chloro-methane, unfltrd	Di-ethyl ether, water, unfltrd	Diiso-propyl ether, water, unfltrd	Ethyl methacrylate, water, unfltrd	Ethyl methyl ketone, water, unfltrd	Ethyl benzene, water, unfltrd	Hexachlorobutadiene, water, unfltrd
	µg/L (34418)	µg/L (77093)	µg/L (34704)	µg/L (32105)	µg/L (30217)	µg/L (34668)	µg/L (34423)	µg/L (81576)	µg/L (81577)	µg/L (73570)	µg/L (81595)	µg/L (34371)	µg/L (39702)
<b>Nov</b>													
13...	<.1	<.02	<.10	<.1	<.04	<.14	<.04	<.1	<.06	<.1	<1.6	<.04	<.1
13...	--	--	--	--	--	--	--	--	--	--	--	--	--

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**

Part 16 of 19

[QC, quality control sample. Remark codes: &lt;, less than; E, estimated; R, radchem non-detect, below ssLc; U, analyzed for but not detected.]

Date	Hexachloro-ethane, water, unfltrd	Iodo-methane, water, unfltrd	Iso-butyl ketone, water, unfltrd	Iso-propyl benzene, water, unfltrd	Methyl acrylo-nitrile, water, unfltrd	Methyl acrylate, water, unfltrd	Methyl methacrylate, water, unfltrd	Methyl pentyl ether, water, unfltrd	Methyl + para-Xylene, water, unfltrd	Methyl naphthalene, water, unfltrd	Methyl n-butyl ketone, water, unfltrd	n-Butyl benzene, water, unfltrd	Propyl benzene, water, unfltrd
	µg/L (34396)	µg/L (77424)	µg/L (78133)	µg/L (77223)	µg/L (81593)	µg/L (49991)	µg/L (81597)	µg/L (50005)	µg/L (85795)	µg/L (34696)	µg/L (77103)	µg/L (77342)	µg/L (77224)
<b>Nov</b>													
13...	<.1	<.40	<.4	<.04	<.2	<.6	<.2	<.06	<.08	<.2	<.6	<.1	<.04
13...	--	--	--	--	--	--	--	--	--	--	--	--	--

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**

Part 17 of 19

[QC, quality control sample. Remark codes: &lt;, less than; E, estimated; R, radchem non-detect, below ssLc; U, analyzed for but not detected.]

Date	o-Xylene, water, unfltrd	sec-Butyl-benzene, water, unfltrd	Styrene, water, unfltrd	t-Butyl ethyl ether, water, unfltrd	Methyl t-butyl ether, water, unfltrd	tert-Butyl benzene, water, unfltrd	Tetra-chloro-ethene, water, unfltrd	Tetra-chloro-methane, water, unfltrd	Tetra-hydro-furan, water, unfltrd	Toluene, water, unfltrd	trans-1,2-Dichloro-ethene, water, unfltrd	trans-1,3-Dichloro-propene, water, unfltrd	trans-1,4-Dichloro-2-butene, wat unf
	µg/L (77135)	µg/L (77350)	µg/L (77128)	µg/L (50004)	µg/L (78032)	µg/L (77353)	µg/L (34475)	µg/L (32102)	µg/L (81607)	µg/L (34010)	µg/L (34546)	µg/L (34699)	µg/L (73547)
<b>Nov</b>													
13...	<.04	<.04	<.04	<.04	<.1	<.06	<.04	<.08	<1	<.02	<.02	<.10	<.6
13...	--	--	--	--	--	--	--	--	--	--	--	--	--

## 352828079313501 Local number MO-243, Piedmont Major Aquifer Study Site 49, near Robbins, NC—Continued

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**

Part 18 of 19

[QC, quality control sample. Remark codes: &lt;, less than; E, estimated; R, radchem non-detect, below ssLc; U, analyzed for but not detected.]

Date	Tri-chloro-ethene, water, unfltrd	Tri-chloro-fluoro-methane water, unfltrd	Tri-chloro-methane water, unfltrd	Vinyl chloride, water, unfltrd	Di-chloro-vos, water, unfltrd	Gross alpha 30 day recount	Gross alpha radioac 72 hr,	Gross beta 30 day recount	Gross beta radioac 72 hr,	Ra-226, water, filtrd,	Rn-222	
	µg/L (39180)	µg/L (34488)	µg/L (32106)	µg/L (39175)	µg/L (38775)	pCi/L (63016)	pCi/L (63014)	pCi/L (63017)	pCi/L (63015)	pCi/L (09511)	water, unfltrd	
<b>Nov</b>												
13...	<.02	<.08	E.08	<.1	<.01	R-1.6	R-.9	1.1	R.1	R.006	R-.12	23
13...	--	--	--	--	--	--	--	--	--	--	--	--

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**

Part 19 of 19

[QC, quality control sample. Remark codes: <, less than;  
E, estimated; R, radchem non-detect, below ssLc; U, analyzed for  
but not detected.]

Date	Tritium 2-sigma water, unfltrd pCi/L (75985)	Tritium water, unfltrd pCi/L (07000)	Uranium natural water, filtrd, µg/L (22703)	Data base number	Medium code
<b>Nov</b>					
13...	.83	12.51	.29	01	WG
13...	--	--	--	04	WGQ