GROUND-WATER LEVELS

ROCKINGHAM COUNTY-Continued

362226079410101. County number, RK-243; DENR Upper Piedmont Research Station MW-S4S (Regolith well).

LOCATION.--Lat 36°22'26", long 79°41'01", Hydrologic Unit 03010103, .6 mi north of Wentworth Street, .6 mi west of Secondary Road 1993 on North Carolina State University Research Farm. Owner: DENR (North Carolina Department of Environment and Natural Resources), Division of Water Quality.

WATER-LEVEL RECORDS

AQUIFER .-- Regolith (saprolitic Felsic Gneiss).

WELL CHARACTERISTICS.--Drilled observation well, depth 15 ft, diameter 4 in., cased to 5 ft, screened interval from 5 ft to 15 ft, sand filter packed from 4 ft to 15 ft.

INSTRUMENTATION .-- Water-level recorder collecting data at 60-minute intervals. Satellite telemetry at site.

DATUM .-- Land-surface datum is 650 ft above NGVD of 1929. Measuring point: Top of protective steel casing, 1.99 ft above land-surface datum.

REMARKS .-- Well is part of Piedmont/Mountains groundwater project. Well is located in close proximity to stream. Well also sampled for water quality.

PERIOD OF RECORD.--May 2002 to September 2003. Continuous record began May 2003.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 4.13 ft below land-surface datum, Aug. 12, 2003; lowest water level measured 5.47 ft below land-surface datum, Aug. 7, 2002.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, FOR PERIOD MAY TO SEPTEMBER 2002

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAY 06	5.28*	MAY 15	5.25*	JUN 05	5.33*	AUG 07	5.47*	SEP 05	5.38*
*DENR me	asurements.								

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL	DATE	WATER LEVEL								
OCT 23 NOV 20	4.72* 4.63*	DEC 10 FEB 03	4.91* 4.68*	MAR 10 APR 02	4.27* 4.42*	APR 29 JUN 02	4.47* 4.44*	JUL 07 AUG 12	4.68* 4.13*	SEP 10	4.65*

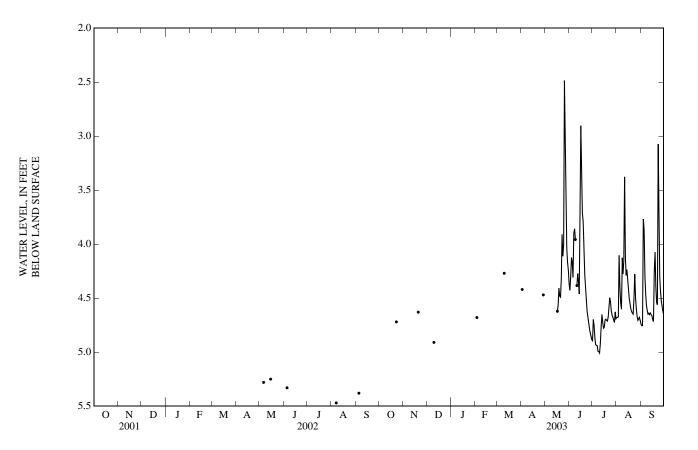
*DENR measurements.

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE FOR PERIOD MAY 2003 TO SEPTEMBER 2003 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1									4.36	4.89	4.68	4.74
2									4.43	4.70	4.68	4.76
3									4.30	4.76	4.67	4.75
4									4.12	4.87	4.10	3.77
5									4.16	4.93	4.40	3.87
6									4.31	4.94	4.55	4.29
7									3.90	4.94	4.60	4.47
8									3.86	4.99	4.13	4.57
9									3.96	5.00	4.28	4.62
10										5.01	4.16	4.65
11									4.38	4.92	3.38	4.64
12									4.27	4.76	4.12	4.65
13									4.36	4.65	4.29	4.64
14									4.46	4.72	4.24	4.65
15									3.99	4.78	4.33	4.66
16									2.91	4.77	4.43	4.70
17								4.62	3.25	4.70	4.50	4.72
18								4.56	3.71	4.70	4.55	4.25
19								4.41	3.79	4.71	4.60	4.08
20								4.48	4.08	4.71	4.62	4.39
21								4.49	4.28	4.67	4.64	4.54
22								4.32	4.41	4.59	4.65	4.56
23								3.91	4.52	4.50	4.51	3.07
24								4.11	4.62	4.54	4.28	4.03
25								4.01	4.68	4.62	4.50	4.30
26								2.49	4.73	4.66	4.59	4.44
27								3.53	4.78	4.67	4.67	4.53
28								3.84	4.82	4.70	4.71	4.58
29								4.04	4.85	4.73	4.69	4.62
30								4.17	4.89	4.63	4.68	4.65
31								4.24		4.69	4.71	
WTD VD	2003	MEAN 443	HIGH 2	40 LOW 4	5.01							

WTR YR 2003 MEAN 4.43 HIGH 2.49 LOW 5.01

362226079410101. County number, RK-243; DENR Upper Piedmont Research Station MW-S4S (Regolith well).



362226079410101 RK-243 DENR Upper Piedmont Research Station MW-S4S (Regolith well)-Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD .-- May to September 2003.

PERIOD OF DAILY RECORD .--

SPECIFIC CONDUCTANCE: May to September 2003.

pH: May to September 2003.

WATER TEMPERATURE: May to September 2003.

DISSOLVED OXYGEN: May to September 2003.

DISSOLVED OXYGEN, PERCENT SATURATION: May to September 2003.

INSTRUMENTATION .-- Water-quality monitor with satellite telemetry from May to September 2003.

REMARKS.--Station operated in cooperation with North Carolina Department of Environment and Natural Resources, Water Resources Division, as part of the Piedmont/Mountains ground-water project. Dissolved oxygen, percent saturation, is computed using a barometric pressure of 750 mm Hg.

EXTREMES FOR CURRENT YEAR .--

CONSTITUENT	MAXIMUM RECORDED	MINIMUM RECORDED
SPECIFIC CONDUCTANCE, microsiemens	388, August 14	312, June 7, 8
pH, standard units	6.5, on many days during the period	6.2, September 11, 23-30
WATER TEMPERATURE, °C	17.2, September 23	11.5, May 1, 2
DISSOLVED OXYGEN, mg/L	0.5, June 7	0.0, on many days during the period
DISSOLVED OXYGEN, PERCENT SATURATION,%	5, June 7	0, on many days during the period

362226079410101 RK-243 DENR Upper Piedmont Research Station MW-S4S (Regolith well)-Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS FOR PERIOD MAY TO SEPTEMBER 2003 DAILY MEAN VALUES

					DAI		ALUES					
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1									326	328	331	332
2								323	320	328	331	333
$\frac{2}{3}$								325	327	328	331	333
4								326	328	328	332	332
5								326	328	328	333	332
6								326	328	328	333	331
7								326	325	328	333	331
8								326	317	328	333	332
9								325	324	328	333	331
10								326		327	334	331
11								326	325	328	333	330
12								326	327	328		330
13								325	327	329		329
14								325	327	328	336	329
15								325	327	328	336	329
16								325	327	328	337	329
17								324	326	326	337	329
18								325	328	320	336	328
19								325	328	327	336	329
20								325	329	327	335	329
21								325	329	328	335	328
22								326	329	329	335	328
23								326	329	329	334	327
24								325	329	329	334	327
25								325	329	330	334	327
26								319	329	330	334	327
27								320	329	330	334	327
28								324	329	329	334	327
29								325	329	330	334	327
30								326	329	331	333	327
31								326		330	333	
MEAN										328		329
MAX										331		333
MIN										326		327

362226079410101 RK-243 DENR Upper Piedmont Research Station MW-S4S (Regolith well)-Continued

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS FOR PERIOD MAY TO SEPTEMBER 2003 DAILY MEAN VALUES

DALET MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1									6.4	6.4	6.4	6.3
2								6.3	6.4	6.4	6.4	6.3
3								6.3	6.4	6.4	6.4	6.3
4								6.3	6.4	6.4	6.4	6.3
5								6.3	6.4	6.4	6.4	6.3
6								6.3	6.4	6.4	6.4	6.3
7								6.3	6.4	6.4	6.4	6.3
8								6.3	6.3	6.4	6.4	6.3
9								6.3	6.4	6.4 6.4	6.4	6.3
10									0.4			
10								6.3		6.4	6.4	6.3
11								6.3	6.4	6.4	6.4	6.3
12								6.4	6.4	6.4		6.3
13								6.4	6.4	6.5		6.3
14								6.4	6.4	6.4		6.3
15								6.4	6.4	6.4	6.4	6.3
16								6.4	6.4	6.4	6.4	6.3
17								6.5	6.4	6.4	6.4	6.3
18								6.5	6.4	6.4	6.4	6.3
19								6.5	6.4	6.4	6.4	6.3
20								6.5	6.4	6.4	6.4	6.3
20								0.5	0.4	0.4	0.4	0.5
21								6.5	6.4	6.4	6.4	6.3
22								6.5	6.4	6.4	6.4	6.3
23								6.5	6.4	6.4	6.3	6.3
24								6.5	6.4	6.4	6.3	6.2
25								6.5	6.4	6.4	6.3	6.2
26								6.5	6.4	6.4	6.3	6.2
27								6.5	6.4	6.4	6.3	6.2
28								6.5	6.4	6.4	6.3	6.2
29								6.5	6.4	6.4	6.3	6.2
30								6.5	6.4	6.4	6.3	6.2
31								6.5		6.4	6.3	
MEAN										6.4		6.3
MAX										6.5		6.3
MIN										6.4		6.2

362226079410101 RK-243 DENR Upper Piedmont Research Station MW-S4S (Regolith well)-Continued

TEMPERATURE, WATER, DEGREES CELSIUS FOR PERIOD MAY TO SEPTEMBER 2003 DAILY MEAN VALUES

					Dim		ILCL5					
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1									12.7	13.6	14.9	15.6
2								11.6	12.7	13.7	14.9	15.6
3								11.6	12.8	13.7	14.9	15.7
4								11.6	12.8	13.7	15.0	15.9
5								11.6	12.8	13.8	14.9	15.7
U								1110		1010	1.112	1017
6								11.7	12.8	13.8	14.9	15.7
7								11.7	12.9	13.9	15.0	15.7
8								11.8	13.0	13.9	15.1	15.8
9								11.8	13.0	14.0	15.0	15.8
10								11.8		14.0	15.1	15.8
								11.0	12.0	14.0	15.1	15.0
11								11.9	12.9	14.0	15.1	15.9
12								11.9	12.9	14.1	14.9	15.9
13								11.9	12.9	14.1	14.9	16.0
14								12.0	13.0	14.1	15.0	16.0
15								12.0	13.1	14.2	15.0	16.0
16								12.1	13.1	14.2	15.0	16.1
17								12.1	13.0	14.2	15.1	16.1
18								12.1	13.0	14.2	15.1	16.3
19								12.2	13.1	14.3	15.1	16.1
20								12.2	13.1	14.4	15.2	16.1
21								12.2	13.1	14.4	15.2	16.1
22								12.3	13.2	14.5	15.3	16.1
23								12.3	13.2	14.5	15.3	16.4
24								12.4	13.3	14.5	15.3	16.1
25								12.4	13.4	14.5	15.3	16.2
26								10.5	12.4	14.0	15 4	16.0
26 27								12.5	13.4	14.6	15.4	16.2
								12.5	13.4	14.6	15.4	16.2
28								12.5	13.5	14.7	15.5	16.3
29								12.5	13.6	14.7	15.5	16.3
30 31								12.6	13.6	14.8	15.6	16.3
31								12.6		14.8	15.6	
MEAN										14.2	15.1	16.0
MAX										14.8	15.6	16.4
MIN										13.6	14.9	15.6
											,	

362226079410101 RK-243 DENR Upper Piedmont Research Station MW-S4S (Regolith well)-Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER FOR PERIOD MAY TO SEPTEMBER 2003 DAILY MEAN VALUES

					DAI		ALULS					
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1									0.1	0.1	0.0	0.1
2								0.1	0.1	0.1	0.0	0.1
3								0.1	0.1	0.1	0.0	0.1
4								0.1	0.1	0.1	0.0	0.1
5								0.1	0.1	0.1	0.0	0.1
5								0.1	0.1	0.1	0.0	0.1
6								0.2	0.1	0.1	0.0	0.1
7								0.2	0.2	0.1	0.0	0.1
8								0.2	0.2	0.1	0.0	0.1
9								0.2	0.1	0.1	0.0	0.1
10								0.1		0.1	0.0	0.1
11								0.1	0.2	0.1	0.0	0.1
12								0.1	0.1	0.1		0.1
13								0.2	0.1	0.1		0.1
14								0.2	0.1	0.1		0.1
15								0.2	0.1	0.1	0.2	0.1
16								0.0	0.1	0.0	0.0	0.1
16								0.2	0.1	0.0	0.2	0.1
17								0.1	0.1	0.0	0.2	0.1
18								0.1	0.1	0.0	0.2	0.1
19								0.1	0.1	0.0	0.2	0.1
20								0.1	0.1	0.0	0.1	0.1
21								0.1	0.1	0.0	0.1	0.1
$\frac{21}{22}$								0.1	0.1	0.0	0.1	0.1
22								0.1	0.1	0.0	0.1	0.1
23 24								0.1		0.0	0.1	
24 25								0.1	0.1 0.1	0.0	0.1	0.1 0.1
23								0.1	0.1	0.0	0.1	0.1
26								0.2	0.1	0.0	0.1	0.1
27								0.1	0.1	0.0	0.1	0.1
28								0.1	0.1	0.0	0.2	0.1
20 29								0.1	0.1	0.0	0.1	0.1
30								0.1	0.1	0.0	0.1	0.1
31								0.1		0.0	0.1	
51								0.1		0.0	0.2	
MEAN										0.0		0.1
MAX										0.1		0.1
MIN										0.0		0.1
										0.0		

362226079410101 RK-243 DENR Upper Piedmont Research Station MW-S4S (Regolith well)-Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, PERCENT OF SATURATION FOR PERIOD MAY TO SEPTEMBER 2003 DAILY MEAN VALUES

					Dim		THEELD					
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1									0	0	0	1
2								0	Õ	Õ	Õ	1
3								1	ŏ	ŏ	ŏ	ī
4								Ō	ŏ	ŏ	ŏ	ī
5								ŏ	ŏ	ŏ	ŏ	1
5								0	0	0	0	1
6								1	0	0	0	1
7								2	0	0	0	1
8								2	2	0	0	1
9								1	0	0	0	1
10								1		0	0	1
									-			
11								0	2	0	0	1
12								0	0	0		1
13								I	0	0		1
14								1	0	0		1
15								2	0	0	2	1
16								1	0	0	2	1
10								0	0	0	$\frac{2}{2}$	1
18								0	Ő	Ő	$\frac{2}{2}$	1
19								Ő	ŏ	ŏ	$\frac{2}{2}$	1
20								0	0	0	1	1
20								0	0	0	1	1
21								0	0	0	1	1
22								0	0	0	1	1
23								0	0	0	1	1
24								0	0	0	1	1
25								0	0	0	1	1
26								2	0	0	1	1
27								0	0	0	1	0
28								0	0	0	2	0
29								0	0	0	1	0
30								0	0	0	1	0
31								0		0	2	
MEAN										0		0
MEAN MAX										0		1
MAX MIN										0		0
IVIIIN										0		0

362226079410101 RK-243 DENR Upper Piedmont Research Station MW-S4S (Regolith well)-Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--December 2002.

REMARKS.--Station operated in cooperation with North Carolina Department of Environment and Natural Resources, Water Resources Division as part of the Piedmont/Mountains ground-water project.

WATER-QUALITY DATA, DECEMBER 2002

			pH,	Specif.		Hard-							
			water,	conduc-		ness,		Magnes-	Potas-			Chlor-	
		Dis-	unfltrd	tance,	Temper-	water,	Calcium	ium,	sium,	Sodium,	Bromide	ide,	Silica,
		solved	field,	wat unf	ature,	unfltrd	water,						
Data	T :	oxygen,	std	uS/cm	water,	mg/L as	fltrd,						
Date	Time	mg/L (00300)	units (00400)	25 degC (00095)	deg C (00010)	CaCO3 (00900)	mg/L (00915)	mg/L (00925)	mg/L (00935)	mg/L (00930)	mg/L (71870)	mg/L (00940)	mg/L (00955)
DEC													
10	1545	0.5	6.2	319	15.0	130	27.7	13.9	2.01	7.12	0.09	16.5	38.2

Date	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	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)	Ortho- phos- phate, water, fltrd, mg/L as P (00671)	Alum- inum, water, fltrd, ug/L (01106)	Anti- mony, water, fltrd, ug/L (01095)	Arsenic water, fltrd, ug/L (01000)	Barium, water, fltrd, ug/L (01005)	Beryll- ium, water, fltrd, ug/L (01010)	Boron, water, fltrd, ug/L (01020)
DEC 10	40.3	204	0.25	0.24	< 0.06	< 0.008	0.02	E1	< 0.30	<2	8	< 0.06	<13

Date	Cadmium water, fltrd, ug/L (01025)	Chrom- ium, water, fltrd, ug/L (01030)	Cobalt water, fltrd, ug/L (01035)	Copper, water, fltrd, ug/L (01040)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Mangan- ese, water, fltrd, ug/L (01056)	Molyb- denum, water, fltrd, ug/L (01060)	Nickel, water, fltrd, ug/L (01065)	Selen- ium, water, fltrd, ug/L (01145)	Silver, water, fltrd, ug/L (01075)	Zinc, water, fltrd, ug/L (01090)	Alpha radio- activty water, fltrd, Th-230, pCi/L (04126)
DEC 10	0.04	<0.8	2.43	0.4	946	< 0.08	653	1.9	1.54	<3	<0.2	2	-0.1

Date	Gross beta radioac water, fltrd, Cs-137, pCi/L (03515)	Rn-222, water, unfltrd pCi/L (82303)	Uranium natural water, fltrd, ug/L (22703)
DEC 10	4.2	4,880	0.80