

# Water Resources Data Maryland and Delaware Water Year 1993

Volume 2. Ground-Water Data



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT MD-DE-93-2  
Prepared in cooperation with the States of Maryland and Delaware  
and with other agencies

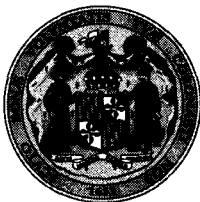
# CALENDAR FOR WATER YEAR 1993

1992

OCTOBER							NOVEMBER							DECEMBER						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
				1	2	3	1	2	3	4	5	6	7			1	2	3	4	5
4	5	6	7	8	9	10	8	9	10	11	12	13	14	6	7	8	9	10	11	12
11	12	13	14	15	16	17	15	16	17	18	19	20	21	13	14	15	16	17	18	19
18	19	20	21	22	23	24	22	23	24	25	26	27	28	20	21	22	23	24	25	26
25	26	27	28	29	30	31	29	30						27	28	29	30	31		

1993

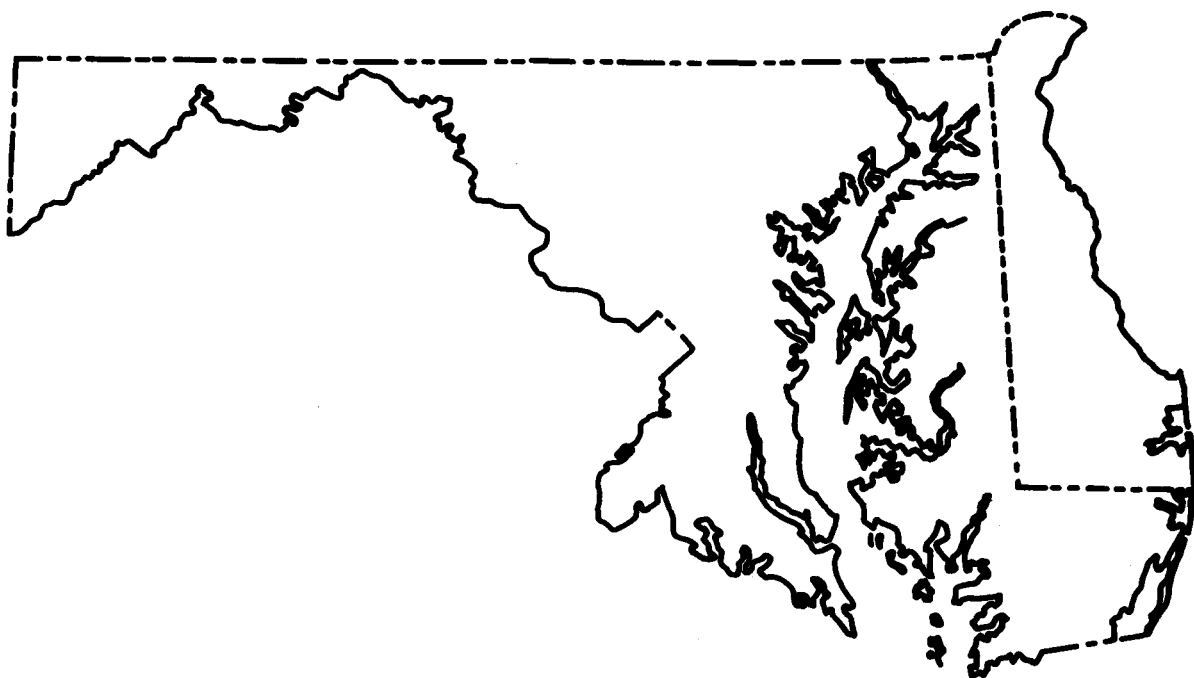
JANUARY							FEBRUARY							MARCH						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
					1	2		1	2	3	4	5	6		1	2	3	4	5	6
3	4	5	6	7	8	9	7	8	9	10	11	12	13	7	8	9	10	11	12	13
10	11	12	13	14	15	16	14	15	16	17	18	19	20	14	15	16	17	18	19	20
17	18	19	20	21	22	23	21	22	23	24	25	26	27	21	22	23	24	25	26	27
24	25	26	27	28	29	30	28							28	29	30	31			
31																				
APRIL							MAY							JUNE						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
				1	2	3							1			1	2	3	4	5
4	5	6	7	8	9	10	2	3	4	5	6	7	8	6	7	8	9	10	11	12
11	12	13	14	15	16	17	9	10	11	12	13	14	15	13	14	15	16	17	18	19
18	19	20	21	22	23	24	16	17	18	19	20	21	22	20	21	22	23	24	25	26
25	26	27	28	29	30		23	24	25	26	27	28	29	27	28	29	30			
							30	31												
JULY							AUGUST							SEPTEMBER						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
				1	2	3	1	2	3	4	5	6	7				1	2	3	4
4	5	6	7	8	9	10	8	9	10	11	12	13	14	5	6	7	8	9	10	11
11	12	13	14	15	16	17	15	16	17	18	19	20	21	12	13	14	15	16	17	18
18	19	20	21	22	23	24	22	23	24	25	26	27	28	19	20	21	22	23	24	25
25	26	27	28	29	30	31	29	30	31					26	27	28	29	30		



# Water Resources Data Maryland and Delaware Water Year 1993

## Volume 2. Ground-Water Data

by M.J. Smigaj, R.W. Saffer, and J.L. Tegeler



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT MD-DE-93-2  
Prepared in cooperation with the States of Maryland and Delaware  
and with other agencies

UNITED STATES DEPARTMENT OF THE INTERIOR

BRUCE BABBITT, Secretary

U.S. GEOLOGICAL SURVEY

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Towson, Maryland 21286



## PREFACE

This volume of the annual hydrologic data report of Maryland and Delaware is one of a series of annual reports that document hydrologic data gathered from the U.S. Geological Survey's surface- and ground-water data-collection networks in each State, Puerto Rico, and the Trust Territories. These records of streamflow, ground-water levels, and quality of water provide the hydrologic information needed by State, local, and Federal agencies, and the private sector for developing and managing our Nation's land and water resources. Hydrologic data for Maryland, Delaware, and the District of Columbia are contained in two volumes:

Volume 1. Surface Water Data

Volume 2. Ground Water Data

This report (Volume 2) is the culmination of a concerted effort by dedicated personnel of the U.S. Geological Survey, Maryland Geological Survey, and Delaware Geological Survey, who collected, compiled, analyzed, and verified, the data for this report. In addition to the authors, who had primary responsibility for assuring that the information contained herein is accurate, complete, and adheres to Geological Survey policy and established guidelines, the following projects, and individuals contributed to the collection, and data processing on the GWSI, ADAPS, and QWDATA data bases:

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Spring 393459076045001 Local number CE Cc 40.....		34
<b>FREDRICK COUNTY</b>		
Spring 392552077262201 Local number FR Dd 178.....		35
Spring 391846077370501 Local number FR Fb 12.....		36
<b>HARFORD COUNTY</b>		
Spring 394153076325701 Local number HA Aa 9.....		37
<b>WASHINGTON COUNTY</b>		
Spring 392836077442701 Local number WA Di 103.....		38

GROUND-WATER LEVELS		
<b>DELAWARE:</b>		
<b>KENT COUNTY</b>		
Well 390607075331501 Local number Jd42-03.....		39
Well 385041075395601 Local number Mc51-01.....		40
Well 385310075331301 Local number Md22-01.....		41
<b>NEWCASTLE COUNTY</b>		
Well 393917075401601 Local number Db15-05.....		42
Well 393856075415602 Local number Db24-17.....		43
Well 393734075371103 Local number Db33-17.....		44
Well 393734075371102 Local number Db33-18.....		45
Well 393734075371101 Local number Db33-19.....		46
Well 393755075364801 Local number Dc34-05.....		47
Well 393755075364802 Local number Dc34-06.....		48
Well 393316075421601 Local number Eb23-22.....		49
Well 393316075421602 Local number Eb23-23.....		50
Well 393316075421603 Local number Eb23-24.....		51
Well 393316075421604 Local number Eb23-25.....		52
Well 391949075410701 Local number Hb14-01.....		53
<b>SUSSEX COUNTY</b>		
Well 384639075353101 Local number Nc45-01.....		54
Well 384704075212900 Local number Nf44-01.....		55
Well 384955075192801 Local number Ng11-01.....		56
Well 384558075083501 Local number Ni52-11.....		57
Well 384558075083502 Local number Ni52-12.....		58
Well 384038075110001 Local number Oh54-01.....		59
Well 384038075110002 Local number Oh54-02.....		60
Well 384258075063101 Local number Oi24-06.....		61
Well 383730075213501 Local number Pf24-02.....		62
Well 383730075213502 Local number Pf24-03.....		63
Well 383138075260201 Local number Qe44-01.....		64
Well 383050075105201 Local number Qh54-04.....		65
Well 383050075105202 Local number Qh54-05.....		66
Well 383050075105203 Local number Qh54-06.....		67
Well 383050075105204 Local number Qh54-07.....		68
Well 383210075035802 Local number Qj32-17.....		69
Well 382808075030501 Local number Rj22-05.....		70
Well 382808075030502 Local number Rj22-06.....		71
Well 382808075030503 Local number Rj22-07.....		72
Well 382808075030504 Local number Rj22-08.....		73

<b>MARYLAND:</b>		
<b>ALLEGANY COUNTY</b>		
Well 394024078273401 Local number AL Ah 1.....		74
Well 393930078460901 Local number AL Bd 2.....		75
Well 393009079025201 Local number AL Ca 19.....		76
Well 393148079010601 Local number AL Ca 20.....		77
<b>ANNE ARUNDEL COUNTY</b>		
Well 391101076404001 Local number AA Ac 11.....		78
Well 391015076373501 Local number AA Ad 29.....		79
Well 391032076385902 Local number AA Ad 90.....		80
Well 391032076385904 Local number AA Ad 102.....		81
Well 391032076385905 Local number AA Ad 104.....		82
Well 391032076385906 Local number AA Ad 108.....		83
Well 391006076380101 Local number AA Ad 109.....		84-85
Well 391032076385907 Local number AA Ad 110.....		86
Well 390950076391101 Local number AA Bd 91.....		87
Well 390821076365401 Local number AA Bd 152.....		88-89
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Well 390922076371001 Local number AA Bd 156.....		91
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Well 390744076390001 Local number AA Bd 158.....		94
Well 390737076374402 Local number AA Bd 159.....		95
Well 390908076394402 Local number AA Bd 160.....		96-97
Well 390945076285601 Local number AA Bf 3.....		98
Well 390303076463201 Local number AA Cb 1.....		99
Well 390423076432001 Local number AA Cc 40.....		100
Well 390450076343402 Local number AA Ce 117.....		101-102
Well 390150076283003 Local number AA Cf 98.....		103
Well 390150076283002 Local number AA Cf 99.....		104
Well 390123076241602 Local number AA Cg 23.....		105-106
Well 390127076240301 Local number AA Cg 25.....		107
Well 385808076373502 Local number AA Dd 42.....		108
Well 385915076340401 Local number AA De 1.....		109-110

## GROUND-WATER LEVELS-Continued

**MARYLAND-Continued:****ANNE ARUNDEL COUNTY--Continued**

Well 385920076322401	Local number AA De 140	111
Well 385920076322402	Local number AA De 144	112
Well 385852076333201	Local number AA De 177	113-114
Well 385921076270701	Local number AA Df 19	115-116
Well 385916076270702	Local number AA Df 20	117-118
Well 385905076293601	Local number AA Df 79	119-120
Well 385623076274401	Local number AA Df 103	121
Well 385406076383901	Local number AA Ed 45	122
Well 384646076352401	Local number AA Fd 43	123

**BALTIMORE CITY**

Well 391617076322001	Local number 2S5E- 1	124
Well 391600076353301	Local number 3S2E- 5	125
Well 391556076315301	Local number 3S5E- 46	126
Well 391349076354501	Local number 5S2E- 24	127

**BALTIMORE COUNTY**

Well 393129076384201	Local number BA Cd 26	128
Well 393102076341801	Local number BA Ce 21	129
Well 392931076410301	Local number BA Dc 444	130
Well 392045076512501	Local number BA Ea 18	131
Well 392305076432001	Local number BA Ec 43	132
Well 391607076312901	Local number BA Fe 19	133
Well 391356076293501	Local number BA Gf 11	134
Well 391257076282501	Local number BA Gf 168	135
Well 391226076253401	Local number BA Gf 178	136

**CALVERT COUNTY**

Well 384331076395201	Local number CA Bb 27	137
Well 384334076394501	Local number CA Bb 28	138
Well 383930076314301	Local number CA Cc 18	139
Well 383934076320202	Local number CA Cc 39	140-141
Well 383605076344601	Local number CA Cc 57	142
Well 383239076354201	Local number CA Db 47	143
Well 383216076351401	Local number CA Db 65	144
Well 383216076351402	Local number CA Db 66	145
Well 383216076351403	Local number CA Db 67	146
Well 383050076305501	Local number CA Dc 35	147
Well 382549076260101	Local number CA Ed 47	148-149
Well 382343076302901	Local number CA Fc 13	150-151
Well 382340076303001	Local number CA Fc 15	152
Well 382340076303002	Local number CA Fc 16	153-154
Well 382340076303801	Local number CA Fc 18	155-156
Well 382339076304201	Local number CA Fc 33	157-158
Well 382339076304202	Local number CA Fc 34	159-160
Well 382408076260401	Local number CA Fd 51	161
Well 382407076260301	Local number CA Fd 54	162
Well 382318076242401	Local number CA Fe 22	163
Well 381952076270901	Local number CA Gd 6	164

**CAROLINE COUNTY**

Well 390333075504501	Local number CO Bc 1	165
Well 390227075470201	Local number CO Bd 53	166
Well 385310075503601	Local number CO Dc 129	167
Well 385217075490601	Local number CO Dd 47	168

**CARROLL COUNTY**

Well 394008077005601	Local number CL Ad 47	169
Well 393638076510001	Local number CL Bf 1	170
Well 393754076512401	Local number CL Bf 184	171
Well 392259077052401	Local number CL Ec 75	172

**CECIL COUNTY**

Well 393637075535001	Local number CE Be 73	173
Well 393637075535002	Local number CE Be 74	174
Well 393615075475901	Local number CE Bf 81	175
Well 393537075492001	Local number CE Bf 82	176
Well 393432075593601	Local number CE Cd 51	177
Well 393432075593602	Local number CE Cd 52	178
Well 393216075564201	Local number CE Cd 53	179
Well 393433075544901	Local number CE Ce 54	180
Well 393241075500201	Local number CE Ce 55	181
Well 393026075523101	Local number CE Ce 56	182
Well 392536075593201	Local number CE Dd 81	183
Well 392403075521801	Local number CE Ee 29	184



## GROUND-WATER LEVELS-Continued

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**MARYLAND-Continued:****CHARLES COUNTY**

Well 383524077111802	Local number CH Bb	17	185-186
Well 383524077094401	Local number CH Bc	5	187-188
Well 383633077083001	Local number CH Bc	24	189-190
Well 383819076555501	Local number CH Be	43	191-192
Well 383706076575601	Local number CH Be	57	193
Well 383706076575604	Local number CH Be	60	194
Well 383853076532601	Local number CH Bf	101	195-196
Well 383640076545901	Local number CH Bf	133	197
Well 383728076531701	Local number Ch Bf	134	198
Well 383508076540701	Local number CH Bf	146	199
Well 383508076540703	Local number CH Bf	151	200-201
Well 383637076545803	Local number CH Bf	157	202
Well 383637076531902	Local number CH Bf	158	203
Well 383746076482901	Local number CH Bg	12	204
Well 383652076495701	Local number CH Bg	13	205
Well 383422077114601	Local number CH Cb	7	206-207
Well 383236076563901	Local number CH Ce	37	208-209
Well 383340076511601	Local number CH Cf	33	210
Well 382607077002601	Local number CH Dd	33	211
Well 382925077010101	Local number CH Dd	38	212
Well 382927076552301	Local number CH De	45	213
Well 382103076560201	Local number CH Ee	16	214
Well 382154076574801	Local number CH Ee	70	215
Well 382456076562201	Local number CH Ee	90	216

**DORCHESTER COUNTY**

Well 383708075503801	Local number DO Bg	59	217
Well 383151076080801	Local number DO Cd	1	218
Well 383340076041601	Local number DO Ce	5	219
Well 383408076042402	Local number DO Ce	15	220
Well 383346076030301	Local number DO Ce	21	221
Well 383243076042301	Local number DO Ce	78	222
Well 383401076032001	Local number DO Ce	88	223
Well 382800076180701	Local number DO Db	17	224
Well 382807076175801	Local number DO Db	18	225
Well 382847076190901	Local number DO Db	19	226
Well 382916075491702	Local number DO Dh	27	227-228

**FREDRICK COUNTY**

Well 394200077190701	Local number FR Af	27	229
Well 393733077274801	Local number FR Bd	96	230
Well 393156077135701	Local number FR Cg	1	231
Well 392517077190401	Local number FR Df	35	232
Well 392257077095601	Local number FR Eh	11	233

**GARRETT COUNTY**

Well 394017078581701	Local number GA Ag	1	234
Well 393749079190301	Local number GA Bc	1	235
Well 393121079200401	Local number GA Cb	79	236
Well 392439079231801	Local number GA Eb	78	237
Well 391512079270901	Local number GA Fa	28	238
Well 391512079270902	Local number GA Fa	29	239
Well 391539079254601	Local number GA Fa	31	240
Well 391539079254602	Local number GA Fa	32	241
Well 391539079254603	Local number GA Fa	33	242
Well 391539079254604	Local number GA Fa	34	243
Well 391501079260001	Local number GA Fa	38	244
Well 391530079244401	Local number GA Fb	22	245
Well 391530079244403	Local number GA Fb	24	246
Well 391530079244404	Local number GA Fb	25	247
Well 391513079243602	Local number GA Fb	27	248
Well 391513079243605	Local number GA Fb	30	249
Well 391602079240301	Local number GA Fb	31	250
Well 391602079240304	Local number GA Fb	34	251
Well 391715079223105	Local number GA Fb	39	252
Well 391420079264901	Local number GA Ga	16	253

**HARFORD COUNTY**

Well 393902076160001	Local number HA Bd	31	254
Well 393158076302601	Local number HA Ca	23	255
Well 392529076180901	Local number HA Dd	89	256
Well 392721076150301	Local number HA Dd	91	257
Well 392721076150302	Local number HA Dd	92	258
Well 392557076161601	Local number HA Dd	106	259
Well 392921076100401	Local number HA De	66	260
Well 392628076133101	Local number HA De	151	261
Well 392606076145801	Local number HA De	181	262
Well 392606076145802	Local number HA De	182	263
Well 392606076145803	Local number HA De	183	264
Well 392914076110301	Local number HA De	195	265
Well 392819076130901	Local number HA De	197	266
Well 392819076130902	Local number HA De	198	267-268

## GROUND-WATER LEVELS-Continued

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MARYLAND-Continued:HARFORD COUNTY--Continued

Well 392435076203301	Local number	HA Ec	11.....	269
Well 392408076210101	Local number	HA Ec	46.....	270
Well 392408076210102	Local number	HA Ec	47.....	271
Well 392343076161901	Local number	HA Ed	24.....	272
Well 392455076192101	Local number	HA Ed	47.....	273
Well 392455076192102	Local number	HA Ed	48.....	274
Well 392455076192103	Local number	HA Ed	49.....	275
Well 392035076172203	Local number	HA Ed	59.....	276-277
Well 392035076172204	Local number	HA Ed	60.....	278-279
Well 392334076171303	Local number	HA Ed	80.....	280-281
Well 392343076183302	Local number	HA Ed	121.....	282-283
Well 392350076184301	Local number	HA Ed	128.....	284-285
Well 392437076183101	Local number	HA Ed	201.....	286-287
Well 392024076173001	Local number	HA Ed	223.....	288-289
Well 392024076173002	Local number	HA Ed	224.....	290-291
Well 391817076173701	Local number	HA Fd	6.....	292-293
Well 391816076173801	Local number	HA Fd	8.....	294-295
Well 391814076173801	Local number	HA Fd	21.....	296-297
Well 391814076173803	Local number	HA Fd	23.....	298-299
Well 391825076172601	Local number	HA Fd	26.....	300-301
Well 391825076172603	Local number	HA Fd	28.....	302-303
Well 391812076173101	Local number	HA Fd	29.....	304-305
Well 391812076173103	Local number	HA Fd	31.....	306-307
Well 391809076174301	Local number	HA Fd	32.....	308-309
Well 391809076174303	Local number	HA Fd	34.....	310-311
Well 391809076174603	Local number	HA Fd	37.....	312-313
Well 391826076173101	Local number	HA Fd	38.....	314-315
Well 391826076173103	Local number	HA Fd	40.....	316-317
Well 391810076172801	Local number	HA Fd	44.....	318-319
Well 391810076172803	Local number	HA Fd	46.....	320-321

HOWARD COUNTY

Well 391910076565701	Local number	HO Bd	1.....	322
Well 391440076555401	Local number	HO Cd	20.....	323
Well 391442076555301	Local number	HO Cd	21.....	324
Well 3914440765554701	Local number	HO Cd	25.....	325
Well 3914420765554701	Local number	HO Cd	26.....	326
Well 3914470765554702	Local number	HO Cd	28.....	327-328
Well 3914420765554702	Local number	HO Cd	29.....	329-330
Well 391440076555402	Local number	HO Cd	78.....	331-332
Well 391445076555101	Local number	HO Cd	79.....	333
Well 391438076555001	Local number	HO Cd	342.....	334-335
Well 391001076540001	Local number	HO Ce	38.....	336

KENT COUNTY

Well 392007076075501	Local number	KE Ac	20.....	337
Well 391751076061101	Local number	KE Bc	50.....	338-339
Well 391659976050402	Local number	KE Bc	185.....	340-341
Well 391650076050403	Local number	KE Bc	186.....	342-343
Well 391823075594701	Local number	KE Be	43.....	344
Well 391846075561701	Local number	KE Be	55.....	345
Well 391643075550901	Local number	KE Be	171.....	346-347
Well 391752075523901	Local number	KE Bf	93.....	348
Well 391755075532701	Local number	KE Bf	154.....	349
Well 391815075472101	Local number	KE Bg	33.....	350
Well 391815075472102	Local number	KE Bg	34.....	351
Well 391400076101401	Local number	KE Cb	36.....	352
Well 391124076101001	Local number	KE Cb	97.....	353-354
Well 391124076101002	Local number	KE Cb	98.....	355-356
Well 391124076101003	Local number	KE Cb	99.....	357-358
Well 391124076101004	Local number	KE Cb	100.....	359-360
Well 391251076142201	Local number	KE Cb	101.....	361-362
Well 391124076101005	Local number	KE Cb	103.....	363-364
Well 391432076015501	Local number	KE Cd	44.....	365
Well 390837076140401	Local number	KE Db	40.....	366
Well 390626076083301	Local number	KE Dc	89.....	267-368
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Well 391314077224201	Local number MO Cc	14	372
Well 390802077283801	Local number MO Db	68	373-374
Well 390917077244401	Local number MO Dc	59	375
Well 390451077245901	Local number MO Ec	10	376
Well 390434076573002	Local number MO Eh	20	377

**PRINCE GEORGES COUNTY**

Well 390151076561501	Local number PG Bc	16	378
Well 385130076465501	Local number PG De	21	379
Well 385152076431301	Local number PG Df	2	380
Well 384423077004501	Local number PG Fb	36	381
Well 384230076555501	Local number PG Fc	17	382
Well 384131076533301	Local number PG Fd	41	383
Well 383228076410601	Local number PG Hf	35	384-385
Well 383348076411301	Local number PG Hf	40	386-387
Well 383348076411302	Local number PG Hf	41	388-389
Well 383348076411303	Local number PG Hf	42	390-391

**QUEEN ANNES COUNTY**

Well 391203076024301	Local number QA Be	15	392
Well 391203076024302	Local number QA Be	16	393
Well 391203076024303	Local number QA Be	17	394
Well 3908410755515201	Local number QA Cg	1	395
Well 390201076182701	Local number QA Db	30	396
Well 390201076182703	Local number QA Db	32	397
Well 390023076174301	Local number QA Db	34	398
Well 390119076191001	Local number QA Db	35	399
Well 390023076174302	Local number QA Db	37	400
Well 385718076211501	Local number QA Ea	77	401
Well 385718076211502	Local number QA Ea	78	402
Well 385757076200101	Local number QA Ea	79	403
Well 385757076200102	Local number QA Ea	80	404
Well 385718076211503	Local number QA Ea	81	405
Well 385751076171603	Local number QA Eb	110	406
Well 385751076171601	Local number QA Eb	111	407
Well 385751076171602	Local number QA Eb	112	408
Well 385748076172001	Local number QA Eb	113	409-410
Well 385843076155302	Local number QA Eb	155	411
Well 385852076195201	Local number QA Eb	156	412
Well 385852076195202	Local number QA Eb	157	413
Well 385756076105301	Local number QA Ec	1	414
Well 385534075573601	Local number QA Ef	29	415
Well 385429076120201	Local number QA Fc	7	416

**ST. MARYS COUNTY**

Well 382838076470101	Local number SM Bb	15	417
Well 382838076470102	Local number SM Bb	22	418
Well 381616076364701	Local number SM Dd	46	419
Well 381616076364702	Local number SM Dd	49	420
Well 381807076380001	Local number SM Dd	50	421
Well 381616076364703	Local number SM Dd	62	422
Well 381615076364701	Local number SM Dd	63	423
Well 381841076284401	Local number SM Df	66	424
Well 381527076283101	Local number SM Df	71	425
Well 381548076272102	Local number SM Df	84	426
Well 381052076253001	Local number SM Ef	80	427
Well 381213076222801	Local number SM Eg	27	428
Well 380834076303401	Local number SM Fe	30	429-430
Well 380834076303402	Local number SM Fe	31	431
Well 380711076222201	Local number SM Fg	45	432
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**SOMERSET COUNTY**

Well 381156075412501	Local number SO Be	42	434
Well 380927075423701	Local number SO Ce	42	435-436
Well 380616075380701	Local number SO Cf	2	437

**TALBOT COUNTY**

Well 385242075593101	Local number TA Bf	73	438
Well 385242075593102	Local number TA Bf	74	439
Well 384923076100601	Local number TA Cc	35	440
Well 384514076103701	Local number TA Cc	36	441
Well 384643076043801	Local number TA Ce	7	442

**WASHINGTON COUNTY**

Well 394154078103501	Local number WA Ac	1	443
Well 393638078001301	Local number WA Be	2	444
Well 393851077343001	Local number WA Bk	25	445-446
Well 393414077461801	Local number WA Ch	106	447-448
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Well 382404075355401	Local number	WI Ce	204	452
Well 382037075310801	Local number	WI Cf	3	453
Well 382429075344501	Local number	WI Cf	147	454
Well 382329075263701	Local number	WI Cg	20	455

WORCHESTER COUNTY

Well 382621075174201	Local number	WO Ae	23	456
Well 382621075174202	Local number	WO Ae	24	457
Well 382621075174203	Local number	WO Ae	25	458
Well 382632075031801	Local number	WO Ah	6	459-460
Well 382635075030601	Local number	WO Ah	35	461
Well 382635075030602	Local number	WO Ah	36	462
Well 382635075030603	Local number	WO Ah	37	463
Well 382022075072401	Local number	WO Bg	1	464
Well 382359075094501	Local number	WO Bg	15	465
Well 382358075094501	Local number	WO Bg	45	466
Well 382358075094502	Local number	WO Bg	46	467
Well 382325075063301	Local number	WO Bg	47	468-469
Well 382325075063302	Local number	WO Bg	48	470-471
Well 382038075065901	Local number	WO Bg	49	472-473
Well 382215075041801	Local number	WO Bh	31	474-475
Well 382443075033501	Local number	WO Bh	34	476-477
Well 382215075041901	Local number	WO Bh	84	478
Well 382215075041902	Local number	WO Bh	85	479
Well 382215075041903	Local number	WO Bh	89	480-481
Well 382127075043802	Local number	WO Bh	98	482-483
Well 381939075052101	Local number	WO Cg	72	484
Well 381037075234301	Local number	WO Dd	7	485
Well 381457075174101	Local number	WO De	36	486
Well 381427075081102	Local number	WO Dg	21	487
Well 380408075335701	Local number	WO Fb	2	488

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<b>NEWCASTLE COUNTY</b>		
Well 394835075401501	Local number Bb25-28.....	490-495
Well 394826075391601	Local number Bc21-07.....	490-495
Well 394841075392001	Local number Bc21-09.....	490-495
Well 394754075365101	Local number Bc34-14.....	490-495
Well 394612075384501	Local number Bc42-22.....	490-495
Well 394407075390901	Local number Cc11-16.....	490-495
Well 393156075413101	Local number Eb44-19.....	490-495
Well 393112075392701	Local number Ec41-16.....	490-495
Well 392704075413301	Local number Fb34-21.....	490-495
Well 392704075413302	Local number Fb34-22.....	490-495
Well 392657075434702	Local number Fb42-06.....	490-495
Well 392657075434701	Local number Fb42-07.....	490-495
Well 392931075380602	Local number Fc12-20.....	490-495
Well 392846075390701	Local number Fc21-12.....	490-495
Well 392846075390702	Local number Fc21-13.....	490-495
<b>SUSSEX COUNTY</b>		
Mini piezometer 384338075222601	Local number E-14.....	496
Mini piezometer 384351075225601	Local number E-7.....	496
Mini piezometer 384429075235302	Local number Redden-B.....	496
<b>MARYLAND:</b>		
<b>ALLEGANY COUNTY</b>		
Well 394143078421301	Local number AL Ae 36.....	497-498
Well 394311078245501	Local number AL Ai 26.....	497-498
Well 393342078570901	Local number AL Cb 8.....	497-498
Spring 393438078420601	Local number AL Ce 4.....	497-498
<b>ANNE ARUNDEL COUNTY</b>		
Well 391032076385907	Local number AA Ad 110.....	499-500
Well 390127076240301	Local number AA Cg 25.....	499-500
Well 385623076274401	Local number AA Df 103.....	499-500
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Well 392931076410301	Local number BA Dc 444.....	501-502
<b>CALVERT COUNTY</b>		
Well 382343076302901	Local number CA Fc 13.....	503-504
Well 382340076303001	Local number CA Fc 15.....	503-504
Well 382340076303002	Local number CA Fc 16.....	503-504
Well 382340076303801	Local number CA Fc 18.....	503-504
Well 382340076303402	Local number CA Fc 29.....	503-504
Well 382340076303403	Local number CA Fc 30.....	503-504
Well 382340076303802	Local number CA Fc 31.....	503-504
Well 382340076303803	Local number CA Fc 32.....	503-504
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Well 382231076260001	Local number CA Fd 71.....	503-504
<b>CAROLINE COUNTY</b>		
Well 385302075540101	Local number CO Dc 146.....	505
Well 385009075445002	Local number CO De 16.....	505
<b>CARROLL COUNTY</b>		
Well 394200076551201	Local number Cl Ae 1.....	506-507
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Spring 393459076045001	Local number CE Cc 40.....	508
Well 392544075574803	Local number CE Dd 102.....	508
<b>CHARLES COUNTY</b>		
Well 383422077114601	Local number CH Cb 7.....	509-510
Well 382456076562201	Local number CH Ee 90.....	509-510
<b>DORCHESTER COUNTY</b>		
Well 383225075565003	Local number DO Cf 38.....	511-512
Well 383218075522802	Local number DO Cg 46.....	511-512
<b>FREDERICK COUNTY</b>		
Well 394200077190701	Local number FR Af 27.....	513-514
Spring 393218077271001	Local number FR Cd 38.....	513-514
Spring 392552077262201	Local number FR Dd 178.....	513-514
Well 392517077190401	Local number FR Df 35.....	513-514
Spring 391846077370501	Local number FR Fb 12.....	513-514
<b>GARRETT COUNTY</b>		
Well 394202079093901	Local number GA Ae 50.....	515
Spring 392420079221701	Local number GA Eb 72.....	515
<b>HARFORD COUNTY</b>		
Spring 394153076325701	Local number HA Aa 9.....	516-517
Spring 393800076240101	Local number HA Bc 31.....	516-517
Well 393158076302601	Local number HA Ca 23.....	516-517
Well 392721076150302	Local number HA Dd 92.....	516-517



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Well 392212075475501	Local number KE Ag	20	518-522
Well 392233075493201	Local number KE Ag	54	518-522
Well 391543076052201	Local number KE Bc	172	518-522
Well 391537076055401	Local number KE Bc	174	518-522
Well 391702076013101	Local number KE Bd	136	518-522
Well 391832075560802	Local number KE Be	47	518-522
Well 391522075573901	Local number KE Be	151	518-522
Well 391751075524001	Local number KE Bf	91	518-522
Well 391515075461901	Local number KE Bg	91	518-522
Well 391308076100301	Local number KE Cb	41	518-522
Well 391113076115801	Local number KE Cb	58	518-522
Well 391300076073701	Local number KE Cc	45	518-522
Well 391246076035001	Local number KE Cd	2	518-522
Well 391244076034701	Local number KE Cd	33	518-522
Well 391407076022801	Local number KE Cd	86	518-522
Well 391246076034701	Local number KE Cd	99	518-522
Well 391246076035202	Local number KE Cd	100	518-522
Well 391245076035201	Local number KE Cd	101	518-522
Well 391246076034702	Local number KE Cd	104	518-522
Well 391333076043501	Local number KE Cd	137	518-522
Well 390949076162901	Local number KE Da	15	518-522
Well 390740076125501	Local number KE Db	94	518-522
Well 390709076072701	Local number KE Dc	92	518-522
Well 390148076140601	Local number KE Eb	10	518-522
Well 390423076131301	Local number KE Eb	13	518-522

**MONTGOMERY COUNTY**

Well 391927077120801	Local number MO Be	62	523-525
Well 390802077283801	Local number MO Db	68	523-525

**PRINCE GEORGES COUNTY**

Well 390151076561501	Local number PG Bc	16	526-529
Well 385920076571701	Local number PG Bc	37	526-529

**QUEEN ANNES COUNTY**

Well 390841075515201	Local number QA Cg	1	530-534
Well 390055076184501	Local number QA Db	14	530-534
Well 390022076191801	Local number QA Db	15	530-534
Well 390059076191801	Local number QA Db	17	530-534
Well 390033076184501	Local number QA Db	23	530-534
Well 390117076191301	Local number QA Db	27	530-534
Well 390201076182701	Local number QA Db	30	530-534
Well 390201076182703	Local number QA Db	32	530-534
Well 390023076174301	Local number QA Db	34	530-534
Well 390119076191001	Local number QA Db	35	530-534
Well 390023076174302	Local number QA Db	37	530-534
Well 385825076202901	Local number QA Ea	39	530-534
Well 385820076202501	Local number QA Ea	42	530-534
Well 385554076213801	Local number QA Ea	45	530-534
Well 385825076201201	Local number QA Ea	48	530-534
Well 385505076215001	Local number QA Ea	59	530-534
Well 385701076212501	Local number QA Ea	60	530-534
Well 385812076202801	Local number QA Ea	61	530-534
Well 385742076205801	Local number QA Ea	71	530-534
Well 385718076211501	Local number QA Ea	77	530-534
Well 385718076211502	Local number QA Ea	78	530-534
Well 385757076200101	Local number QA Ea	79	535-537
Well 385757076200102	Local number QA Ea	80	535-537
Well 385718076211503	Local number QA Ea	81	535-537
Well 385705076212002	Local number QA Ea	82	535-537
Well 385705076212001	Local number QA Ea	83	535-537
Well 385843076155302	Local number QA Eb	155	535-537
Well 385852076195201	Local number QA Eb	156	535-537
Well 385852076195202	Local number QA Eb	157	535-537
Well 385354076212701	Local number QA Fa	49	535-537
Well 385024076222501	Local number QA Fa	54	535-537
Well 385133076201201	Local number QA Fa	58	535-537
Well 385254076201901	Local number QA Fa	60	535-537
Well 385434076215601	Local number QA Fa	63	535-537
Well 385454076214901	Local number QA Fa	64	535-537
Well 385236076215201	Local number QA Fa	66	535-537
Well 385023076222201	Local number QA Fa	67	535-537
Well 385254076201301	Local number QA Fa	72	535-537
Well 385227076215401	Local number QA Fa	74	535-537
Well 385155076200401	Local number QA Fa	75	535-537

**MARYLAND:****SOMERSET COUNTY**

Well 380920075420501 Local number SO Ce 98..... 538-539

**TALBOT COUNTY**

Well 384643076043801 Local number TA Ce 7..... 540

**WASHINGTON COUNTY**

Well 394149078052801 Local number WA Ad 101..... 541-544

Well 394115077461501 Local number WA Ah 63..... 541-544

Well 394219077335301 Local number WA Ak 99..... 541-544

Well 393815077353001 Local number WA Bj 51..... 541-544

Well 393419077405901 Local number WA Ci 168..... 541-544

Well 393210077392901 Local number WA Cj 132..... 541-544

Spring 392836077442701 Local number WA Di 103..... 541-544

**WICOMICO COUNTY**

Well 382329075412002 Local number WI Cd 71..... 545

Well 382150075352101 Local number WI Ce 13..... 545

**WORCESTER COUNTY**

Well 382632075031901 Local number WO Ah 34..... 546-549

Well 382635075030602 Local number WO Ah 36..... 546-549

Well 382332075141802 Local number WO Bf 87..... 546-549

Well 382214075041901 Local number WO Bh 28..... 546-549

Well 382443075033501 Local number WO Bh 34..... 546-549

Well 382215075041901 Local number WO Bh 84..... 546-549

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Well 382127075043803 Local number WO Bh 97..... 546-549

Well 382127075043802 Local number WO Bh 98..... 546-549

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## WATER RESOURCES DATA - MARYLAND AND DELAWARE, 1993

### VOLUME 2. GROUND-WATER DATA

#### INTRODUCTION

The Water Resources Division of the U.S. Geological Survey, in cooperation with State agencies, obtains a large amount of data pertaining to the water resources of Maryland and Delaware each water year. These data, accumulated during many water years, constitute a valuable data base for developing an improved understanding of the water resources of the State. To make these data readily available to interested parties outside the Geological Survey, the data are published annually in this report series entitled "Water Resources Data - Maryland and Delaware."

This series of annual reports for Maryland and Delaware began with the 1961 water year with a report that contained only data relating to the quantities of surface water. For the 1964 water year, a similar report was introduced that contained only data relating to water quality. Beginning with the 1975 water year, the report format was changed to present, in one volume, data on quantities of surface water, quality of surface and ground water, and ground-water levels. In the 1989 water year, the report format was changed to two volumes. Both volumes contained data on quantities of surface water, quality of surface and ground water, and ground-water levels. Volume 1 contained data on the Atlantic Slope Basins (Delaware River thru Patuxent River) and Volume 2 contained data on the Monongahela and Potomac River basins. Beginning with the 1991 water year, Volume 1 contains all information on quantities of surface water and surface-water-quality data and Volume 2 contains ground-water levels and ground-water-quality data.

This report is Volume 2 in our 1993 series and includes records of water levels and water quality of ground-water wells and springs. It contains records for water levels at 365 observation wells, discharge data for 5 springs, and water quality at 151 wells. Location of ground-water level wells are shown on figures 3 and 4. These data represent that part of the National Water Data System collected by the U.S. Geological Survey and cooperating State and Federal agencies in Maryland and Delaware.

Prior to introduction of this series and for several water years concurrent with it, water-resources data for Maryland and Delaware were published in U.S. Geological Survey Water-Supply Papers. Data on water levels for the 1935 through 1974 water years were published under the title "Ground-Water Levels in the United States." The above mentioned Water-Supply Papers may be consulted in the libraries of the principal cities of the United States and may be purchased from Books and Open-File Reports Section, Federal Center, Bldg. 41, Box 25425, Denver, CO 80225.

Publications similar to this report are published annually by the Geological Survey for all States. These official Survey reports have an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this volume is identified as "U.S. Geological Survey Water-Data Report MD-DE-93-2." For archiving and general distribution, the reports for 1971-74 water years also are identified as water-data reports. These water-data reports are for sale in paper copy or in microfiche by the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161. Beginning with the 1991 water year, all water-data reports will also be available on Compact Disc - Read Only Memory (CD-ROM). All data reports published for the current water year for the entire Nation, including Puerto Rico and the Trust Territories, will be reproduced on a single CD-ROM disc.

Additional information, including current prices, for ordering specific reports may be obtained from the District Chief at the address given on the back of the title page or by telephone (410) 828-1535. A limited number of CD-ROM discs will be available for sale by the Books and Open-File Reports Section, U.S. Geological Survey, Federal Center, Box 25425, Denver, Colorado 80225.

#### COOPERATION

The U.S. Geological Survey and agencies of the State of Maryland have had cooperative agreements for the collection of water-resource records from 1896 to 1909 and since 1924. Similar cooperative agreements have existed between the Survey and agencies of the State of Delaware, since 1943. Organizations that assisted in collecting the data in this report through cooperative agreements with the Survey are:

Maryland Geological Survey, E. T. Cleaves, Director.

Delaware Geological Survey, R. R. Jordan, State Geologist.

Maryland Department of Environment; Chesapeake Bay and  
Special Projects Program, R. M. Summers, Division Chief.

U.S. Army, Aberdeen Proving Ground, Support Activity, Environmental Management Division.

U.S. Navy, Naval Ordnance Station, Indian Head.

The following organizations aided in collecting records:

Delaware: State Department of Natural Resources and Environmental Control,  
Water Resources Agency for New Castle County.

Organizations that provided data are acknowledged in station descriptions.

#### SUMMARY OF HYDROLOGIC CONDITIONS

##### Ground-Water Levels

Ground-water levels in water-table and artesian observation wells in Maryland and Delaware fluctuate with response to precipitation and ground-water withdrawal. Water-table levels in Maryland and Delaware were above average at the beginning of the 1993 water year with levels declining slightly until March (fig. 1). With heavy rains and several major snowstorms that moved across the east coast during the winter, most of the water-table observation wells recorded peak levels for the months of March, April, and May. Many of these levels were record-high water levels. With an historic amount of precipitation for anyone month in the bi-State region, in March. The middle of spring was the beginning of a drought period that lasted through the summer months and ended when heavy rainstorms arrived the last 2 weeks of September. The water year ended at normal water-table levels.

In the bi-State areas where ground-water artesian aquifers are the main source for municipal water supplies, the water levels continued to decline for most of the area. Water-level conditions are summarized below for each of the physiographic provinces:

**Appalachian Plateau.**--Water-table levels were above normal at the beginning of the 1993 water year, reaching peak levels in March. Several observation wells recorded record-high water levels. These high water levels quickly fell to below normal levels by June, due to the late spring drought which lasted through the summer. Late September rains accounted for normal water-table levels at the end of the water year.

**Valley and Ridge.**-- Water-table levels were above normal at the beginning of the 1993 water year, reaching peak levels in March. Several observations wells recorded record-high water levels. Well WA Be 2, a long-term observation well with water-level data starting December 1949, surpassed a previous high level by almost 2 feet. Water-table levels began dropping in April and continued dropping through the remainder of the water year. However, water levels remained above normal throughout the water year.

**Blue Ridge.**-- Water-table levels were at normal levels at the beginning of the water year but sharply rose in December. These levels dropped during January and February, peaking in March. Water levels dropped throughout the remainder of the water year, but began rising near the end of September due to heavy rains.

**Piedmont.**-- Water-table levels were above normal at the beginning of the water year, and rose to record-high levels in April throughout most of the Piedmont. These levels declined throughout the remainder of the water year until the middle of September, when heavy rains fell accounting for a rise in water levels. Water levels in the Triassic limestone valley of Montgomery and Frederick Counties rose to record levels in April and declined to normal levels by the end of the water year. Water levels in the Poolesville area of Montgomery County, affected by ground-water withdrawals, recorded record-low levels in September.

**Coastal Plain.**-- Water-table levels on the western shore of the Chesapeake Bay were at normal to above-normal levels at the beginning of the water year. The water levels rose through January with a slight drop in February, and then rose sharply in March with a gradual decline through the end of the water year where levels remained above normal. Water-table levels on the Eastern Shore, or the Delmarva Peninsula, peaked in January, except those near the western boundary of the Chesapeake Bay. Those wells peaked in March like most of the bi-State area. Water-table levels were either normal or slightly above normal at the end of the water year even though this region received less precipitation than the rest of the bi-State area.

Artesian aquifers (identified in parenthesis), however, continued to decline in the following areas of Maryland because of increased ground-water withdrawals: Annapolis and vicinity (Magothy, Patapsco), Cecilton (Potomac), Charlotte Hall (Aquia), Glen Burnie (Patuxent), Kent Island (Aquia), La Plata (Patapsco), Leonardtown (Aquia), Lexington Park (Aquia), Ocean City (Manokin), Potomac Heights (Patuxent), Prince Frederick (Aquia), St. Charles (Patapsco, Patuxent), Solomons Island (Aquia), southern Anne Arundel County (Aquia), Vienna (Beaverdam), and Waldorf (Magothy, Patapsco).

# WATER RESOURCES DATA – MARYLAND AND DELAWARE, 1993

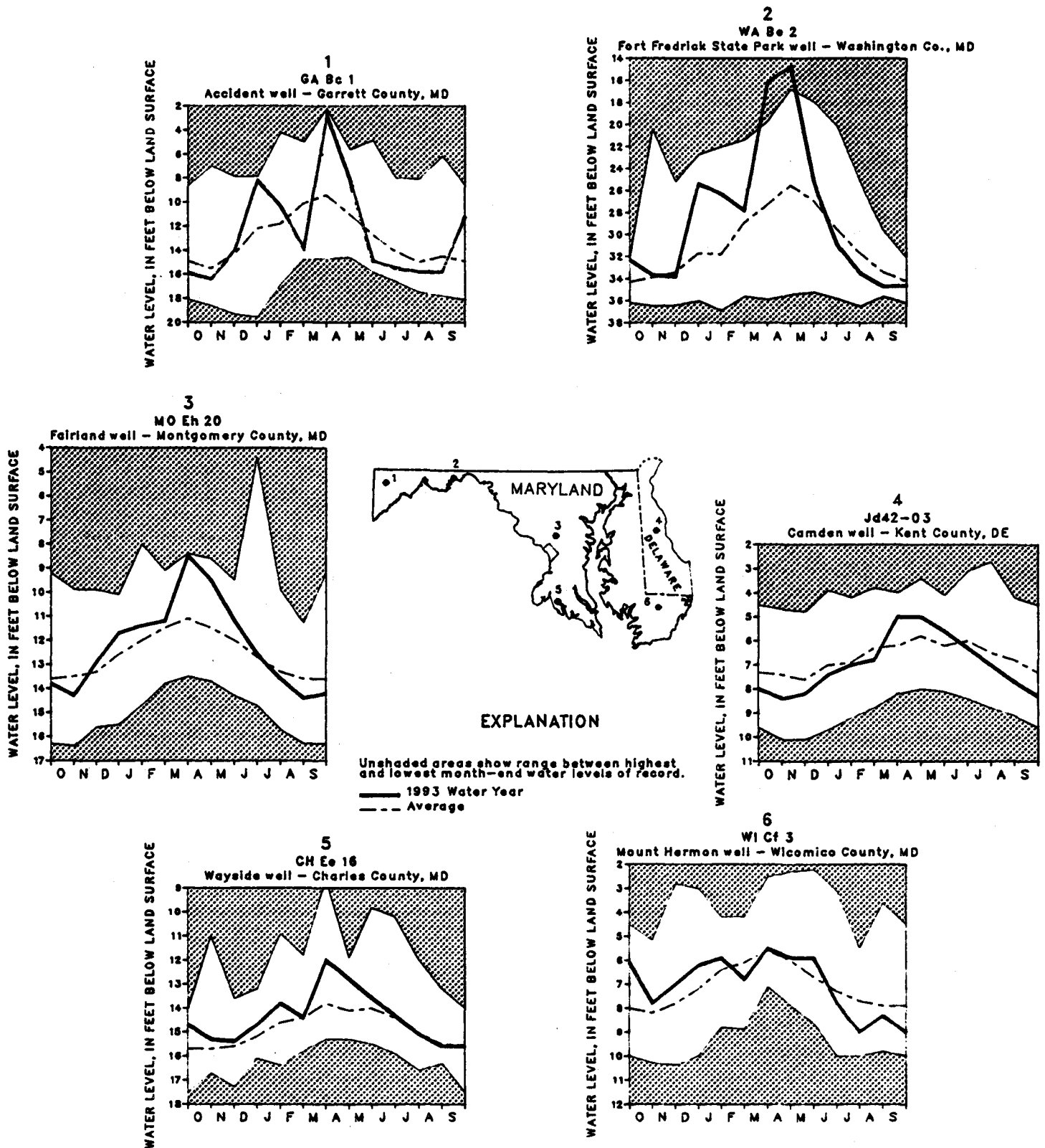


Figure 1.—Monthly ground-water levels at key observation wells.



**EXPLANATION OF THE RECORDS**

The ground-water and quality-of-ground-water records published in this report are for the 1993 water year that began October 1, 1992, and ended September 30, 1993. A calendar of the water year is provided on the inside of the front cover. The records contain ground-water-level data and water-quality data for ground water. The locations of the wells where the data were collected are shown in figures 3 and 4. The following sections of the introductory text are presented to provide users with a more detailed explanation of how the hydrologic data published in this report were collected, analyzed, computed, and arranged for presentation.

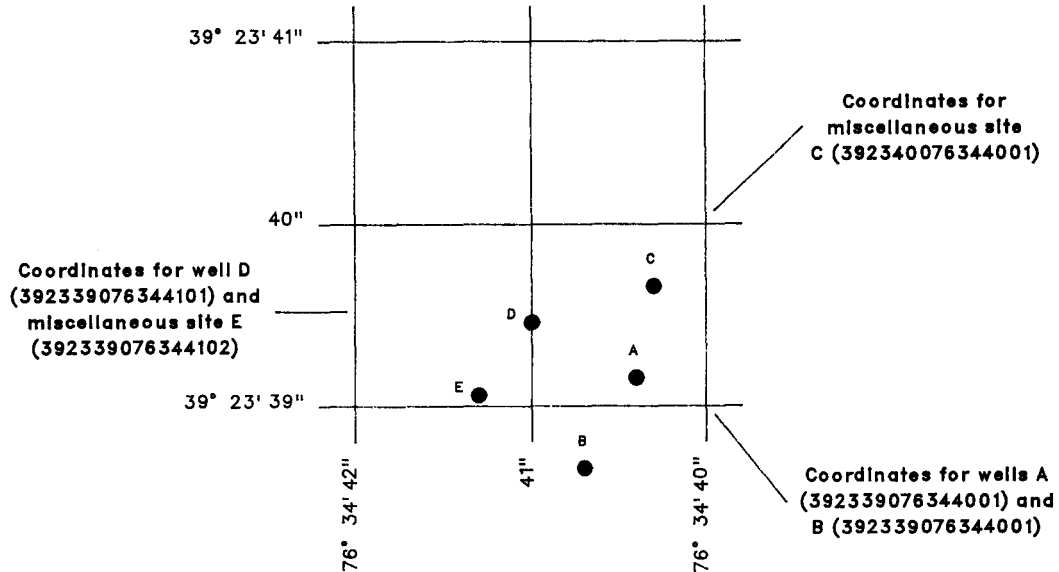


Figure 2.--System for numbering wells and miscellaneous sites (latitude and longitude)

**Station Identification Numbers**

Each well in this report is assigned a unique identification number. This number is unique in that it applies specifically to a given well and to no other. The number usually is assigned when a well is first established and is retained for that well indefinitely. The systems used by the U.S. Geological Survey to assign identification numbers for ground-water well sites is on geographic location. The "latitude-longitude" system is used for wells.

**Latitude-Longitude System**

The identification numbers for wells are assigned according to the grid system of latitude and longitude. The number consists of 15 digits. The first six digits denote the degrees, minutes, and seconds of latitude, the next seven digits denote degrees, minutes, and seconds of longitude, and the last two digits (assigned sequentially) identify the wells or other sites within a 1-second grid. This site-identification number, once assigned, is a pure number and has no locational significance. In the rare instance where the initial determination of latitude and longitude are found to be in error, the station will retain its initial identification number; however, its true latitude and longitude will be listed in the **LOCATION** paragraph of the station description. (See figure 2 above.)

**Well Numbering System**

Wells in Maryland are also identified on the basis of a second numbering system established by the Maryland Geological Survey. The first two letters of the well number are the county prefix (for example, AL for Allegany). The second part of the well number consists of two letters that designate a 5-minute quadrangle within the county; the first letter (a capital letter) denotes a 5-minute segment of latitude from north to south, and the second letter (lower case) denotes a 5-minute segment of longitude from west to east. The wells are numbered sequentially within each 5-minute quadrangle. For example, well AL Ah 1 is the first well inventoried within the Ah 5-minute quadrangle in Allegany County. Baltimore City well numbers are based on 1-mile grids, with reference to the Washington Monument as the center. Thus, well 7S4E-1 is in the grid cell 7 miles south and 4 miles east of the Washington Monument and is the first well inventoried in that grid cell.

Delaware wells are identified by a numbering system instituted by the Delaware Geological Survey. The State is divided into 5-minute quadrangles of latitude and longitude. The quadrangles are lettered north to south with capital letters. Each 5-minute quadrangle is further subdivided into 25 1-minute blocks which are numbered from north to south from 1 to 5 and are numbered in the sequence in which they are inventoried. The identity of a well is established by prefixing the sequence number with an upper and lower case letter followed by two numbers to designate the 5-minute and 1-minute blocks, respectively, in which the well is located. For example, well number Cb41-03 is the third well to be scheduled in the 1-minute block 41 that has coordinate "Cb41".

### Records of Ground-Water Levels

Water-level data from the Maryland and Delaware Observation-Well Networks and observation wells from 10 ground-water projects are reported. These data are intended to provide historical water-level information for ground-water management and identify ground-water conditions in project areas. The observation well networks were established to observe ground-water level fluctuations through time and to identify areas of man-induced stress on the ground-water flow system. The locations of these observation wells in Maryland and Delaware are shown in figure 3. The locations of project wells are shown in figure 4.

### Data Collection and Computation

Measurements of water levels are made in many types of water wells under various conditions. These methods of measurement are standardized to incorporate continuous precision. The equipment and measuring techniques used at each observation well ensures that the measurements at each well are of consistent accuracy and reliability.

The water-level data tables and hydrographs are presented in alphabetical order by counties. The primary identification number is the state well number that appears in the upper left hand corner (see Latitude-Longitude System section on page 5). The secondary identification number is the 15-digit number.

Water levels are measured manually by steel tape or by an electric sensing device approximately every 4 to 6 weeks; some wells are equipped with continuous graph or punch tape water-level recorders to observe daily fluctuations. The water levels are reported to the nearest hundredth of a foot above or below land-surface datum (lsd) or sea level. Land-surface datum is a datum plane that is approximately at land surface at each well. The elevation of the land-surface datum and the height of the measuring point (MP) above or below land-surface datum is given in each well description. Water levels for wells equipped with graphic or digital recorders report the daily maximum and minimum values.

### Data Presentation

A description of each observation well precedes the water-level tables and hydrographs. The following information is given in the description:

**WELL NUMBER.**--(See Latitude -Longitude System section on page 4.)

**SITE ID.**--A 15-digit number: the first 6 digits are the latitude, the next 7 digits are the longitude, and the last 2 digits refer to the sequence number for identifying one or more wells at a particular latitude and longitude. The site ID is the best location at the time of inventory. The actual latitude and longitude may be slightly different as a result of more up-to-date knowledge of location. The site ID is basically used as an identification number and not an exact location.

**PERMIT NUMBER.**--The permit number is the state permit number required for drilling wells in Maryland and Delaware. Upon completion of the well, the driller must submit a completion report which documents specific data on the construction of the well.

**LOCATION.**--The location is the latitude and longitude in the appropriate designation of degrees, minutes, and seconds. The hydrologic unit is a code for the river basin where the well is located (U.S. Geological Survey, 1974: Hydrologic Unit Map). Also a brief local description of the location is given along with the well-owner's name.

**AQUIFER.**--The aquifer is the geologic formation from which the well receives its water supply. Each aquifer is identified by its geologic age and its U. S. Geological Survey data base system code.

**WELL CHARACTERISTICS.**--This describes the type of well, the physical characteristics of the well, and the known construction information.

**INSTRUMENTATION.**--This provides information on the frequency of measurement of water levels and the equipment used.

**DATUM.**--This lists the altitude of land surface above sea level at the well to the nearest 10 feet as determined from a 7-1/2 minute quadrangle topographic map, or to the nearest hundredth of a foot as determined from surveying. The measuring point (MP) is the distance above or below the land surface at the point, at which the measurements are made.

**REMARKS.**--This section gives important miscellaneous data relevant to the well site.

**PERIOD OF RECORD.**--The period of record lists the beginning and ending month and year of water-level record or "current year" if the records are to be continued into the following year.

**EXTREMES FOR PERIOD OF RECORD.**--The extremes for period identify the date or dates of highest and lowest water-level measurements.

### Spring Discharge Tables

A table of discharge in gallons per minute follows the station description for each spring. The data appears in a tabling format of date and discharge. The data are measured volumetrically or by use of a flow meter.

### Water-Level Tables

A table of water levels follows the station description for each well. Water levels are reported in either of the following table formats:

**Hand-held measurements.**--If the data are collected by hand held measurements, the data appears in a tabling format of date and water level with the datum in reference to land surface. These values are reported to the nearest hundredth of a foot.

**Recorder.**--Water levels are presented in a two page 6-month format by water year with columns for daily maximums and minimums. These data are reported in reference to either land surface or sea level datum. The daily maximum column for land surface data represents the lowest daily water level recorded. The daily minimum column for land surface data represents the highest water level recorded. For sea level data, the daily maximum column represents highest daily water level recorded. The daily minimum column represents the lowest daily water level recorded. Missing data are represented by dashes in the table.

### Hydrographs

The hydrographs are a graphic display of water level fluctuations over a period of time. In this report a 5-year hydrograph is shown starting October 1, 1988 through September 30, 1993. Those hydrographs which display hand measured values are referenced to land surface datum. Each measurement is indicated by a circle and connected with a dashed line to indicate the trend from one measurement to the next. The trend line should be interpreted as a general direction of water level movement. Actual water levels may deviate from this line. The trend line is not drawn if the measurements are greater than 60 days apart. Recorder data are graphed as a continuous line using the lowest water level recorded for each day. Missing data are indicated by a blank space. Missing data result from recorder malfunctions, battery or clock failures, and mechanical problems related to the response of water level movement in a well.

### Records of Ground-Water Quality

Records of ground-water quality in this report differ from other types of records in that, for most sampling sites, they consist of only one set of measurements for the water year. The quality of ground water ordinarily changes only slowly; therefore, for most general purposes, one annual sampling, or only a few samples taken at infrequent intervals during the year, is sufficient. Frequent measurement of the same constituents is not necessary unless one is concerned with a particular problem, such as monitoring for trends in nitrate or chloride concentrations. In the special cases where the quality of ground water may change more rapidly, more frequent measurements are made to identify the nature of the changes.

### Data Collection and Computation

The records of ground-water quality in this report were obtained mostly as a part of special studies in specific areas. Consequently, a number of chemical analyses are presented for some counties but none are presented for others. As a result, the records for this year, by themselves, do not provide a balanced view of ground-water quality Statewide. Such a view can be attained only by considering records for this year in context with similar records obtained for these and other counties in earlier years.

Most methods for collecting and analyzing water samples are described in the "U.S. Geological Survey Techniques of Water-Resources Investigations" manuals listed at the end of the introductory text. The values reported in this report represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. All samples were obtained by trained personnel. The wells sampled were pumped long enough to assure that the water collected came directly from the aquifer and had not stood for a long time in the well casing where it would have been exposed to the atmosphere and to the material, possibly metal, comprising the casings.

### Data Presentation

The records of ground-water quality are published in a section titled **QUALITY OF GROUND WATER** immediately following the ground-water-level records. Data for quality of ground water are listed alphabetically by County, and are identified by well or spring number (**Well Number**). The prime identification number for wells or springs sampled is the 15-digit (**site ID**) number derived from the latitude-longitude locations. The site ID includes a two digit sequence number for use at locations having multiple sites. No descriptive statements are given for ground-water-quality records; however, the well number, depth of well, date of sampling, and other pertinent data are given in the table containing the chemical analyses of the ground water.

**Remark Codes**

The following remark codes may appear with the water-quality data in this report:

**PRINTED OUTPUT****REMARK**

E	Estimated value
>	Actual value is known to be greater than the value shown
<	Actual value is known to be less than the value shown
K	Results based on colony count outside the acceptance range (non-ideal colony count)
L	Biological organism count less than 0.5 percent (organism may be observed rather than counted)
D	Biological organism count equal to or greater than 15 percent (dominant)
&	Biological organism estimated as dominant

**ACCESS TO WATSTORE DATA**

The U.S. Geological Survey is the principal Federal water-data agency and, as such, collects and disseminates about 70 percent of the water data currently being used by numerous State, local, private, and other Federal agencies to develop and manage our water resources. As part of the Geological Survey's program of releasing water data to the public, a large-scale computerized system has been developed for the storage and retrieval of water data collected through its activities. The National **WATER Storage and Retrieval System (WATSTORE)** was established in 1972 to provide an effective and efficient means for the processing and maintenance of water data collected through the activities of the U.S. Geological Survey and to facilitate release of the data to the public. A variety of useful products, ranging from data tables to complex statistical analyses such as Log Pearson Type III, can be produced using **WATSTORE**. The system resides on the central computer facilities of the U.S. Geological Survey at its National Center in Reston, Virginia, and consists of related files and data bases.

- \* **Station Header File** - Contains descriptive information on more than 440,000 sites throughout the United States and its territories where the U.S. Geological Survey collects or has collected data.
- \* **Daily Values File** - Contains more than 220 million daily values of stream flows, stages, reservoir contents, water temperature, specific conductance, sediment concentrations, sediment discharges, and ground-water levels.
- \* **Peak Flow File** - Contains approximately 500,000 maximum (peak) streamflow and gage-height values at surface-water sites.
- \* **Water Quality File** - Contains approximately 2 million analyses of water samples that describe the chemical, physical, biological, radio-chemical characteristics of both surface and ground water.
- \* **Ground-Water Site Inventory Data Base** - Contains inventory data for more than 900,000 well, springs, and other sources of ground water. The data includes site location, geohydrologic characteristics, well-construction history, and one-time field measurements such as water temperature.

In 1976, the U.S. Geological Survey opened **WATSTORE** to the public for direct access. The signing of a Memorandum of Agreement with the Survey is required to obtain direct access to **WATSTORE**. The system can be accessed either synchronously or asynchronously. The requestor will be expected to pay all computer costs he/she incurs. Direct access may be obtained by contacting:

U.S. Geological Survey  
National Water Data Exchange  
421 USGS National Center  
Reston, Virginia 22092

In addition to providing direct access to **WATSTORE**, data can be provided in various machine-readable formats on magnetic tape or 5-1/4 inch floppy disk; and, as noted in the introduction, on **CD-ROM** discs. Beginning with the 1991 water year, all water-data reports will also be available on Compact Disc - Read Only Memory (**CD-ROM**). All data reports published for the current water year for the entire Nation, including Puerto Rico and the Trust Territories, will be reproduced on a single **CD-ROM** disc. Information about the availability of specific types of data or products, and user charges, can be obtained locally from each of the Water Resources Division's District offices. (See address on the back of the title page.) A limited number of **CD-ROM** discs will be available for sale by the Books and Open-File Reports Section, U.S. Geological Survey, Federal Center, Box 25425, Denver, Colorado 80225.

### DEFINITION OF TERMS

Terms related to water-quality and other hydrologic data, as used in this report, are defined below. See also table for converting English units to International System (SI) Units on the inside of the back cover.

**Adenosine triphosphate (ATP)** is an organic, phosphate-rich, compound important in the transfer of energy in organisms. Its central role in living cells makes it an excellent indicator of the presence of living material in water. A measure of ATP therefore provides a sensitive and rapid estimate of biomass. ATP is reported in micrograms per liter of the original water sample.

**Algae** are mostly aquatic single-celled, colonial, or multi-celled plants, containing chlorophyll and lacking roots, stems, and leaves.

**Algal growth potential (AGP)** is the maximum algal dry weight biomass that can be produced in a natural water sample under standardized laboratory conditions. The growth potential is the algal biomass present at stationary phase and is expressed as milligrams dry weight of algae produced per liter of sample.

**Aquifer** is a geologic formation, group of formations, or part of a formation that contains sufficient saturated permeable material to yield significant quantities of water to wells and springs.

**Artesian** means confined and is used to describe a well in which the water level stands above the top of the aquifer tapped by the well. A flowing artesian well is one in which the water level is above the land surface.

**Bacteria** are microscopic unicellular organisms, typically spherical, rodlike, or spiral and threadlike in shape, often clumped into colonies. Some bacteria cause disease, while others perform an essential role in nature in the recycling of materials; for example, by decomposing organic matter into a form available for reuse by plants.

**Total coliform bacteria** are a particular group of bacteria that are used as indicators of possible sewage pollution. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria which ferment lactose with gas formation within 48 hours at 35°C. In the laboratory these bacteria are defined as all the organisms that produce colonies with a golden-green metallic sheen within 24 hours when incubated at 35°C plus or minus 1.0°C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

**Fecal coliform bacteria** are bacteria that are present in the intestine or feces of warm-blooded animals. They are often used as indicators of the sanitary quality of the water. In the laboratory they are defined as all organisms that produce blue colonies within 24 hours when incubated at 44.5°C plus or minus 0.2°C on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

**Fecal streptococcal bacteria** are bacteria found also in the intestine of warm-blooded animals. Their presence in water is considered to verify fecal pollution. They are characterized as Gram-positive, cocci bacteria which are capable of growth in brain-heart infusion broth. In the laboratory they are defined as all the organisms which produce red or pink colonies within 48 hours at 35°C plus or minus 1.0°C on KF-streptococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

**Biochemical oxygen demand (BOD)** is a measure of the quantity of dissolved oxygen, in milligrams per liter, necessary for the decomposition of organic matter by micro-organisms, such as bacteria.

**Biomass** is the amount of living matter present at any given time, expressed as the mass per unit area or volume of habitat.

**Ash mass** is the mass or amount of residue present after the residue from the dry mass determination has been ashed in a muffle furnace at a temperature of 500°C for 1 hour. The ash mass values of zooplankton and phytoplankton are expressed in grams per cubic meter ( $\text{g}/\text{m}^3$ ), and periphyton and benthic organisms in grams per square mile ( $\text{g}/\text{m}^2$ ).

**Dry mass** refers to the mass of residue present after drying in an oven at 105°C for zooplankton and periphyton, until the mass remains unchanged. This mass represents the total organic matter, ash and sediment, in the sample. Dry-mass values are expressed in the same units as ash mass.

**Organic mass** or volatile mass of the living substance is the difference between the dry mass and ash mass and represents the actual mass of the living matter. The organic mass is expressed in the same units as for ash mass and dry mass.

**Wet mass** is the mass of living matter plus contained water.

**Cells/volume** refers to the number of cells of any organism which is counted by using a microscope and grid or counting cell. Many planktonic organisms are multicelled and are counted according to the number of contained cells per sample, usually milliliters (mL) or liters (L).

**Chemical oxygen demand (COD)** is a measure of the chemically oxidizable material in the water and furnishes an approximation of the amount of organic and reducing material present. The determined value may correlate with natural water color or with carbonaceous organic pollution from sewage or industrial wastes.



**Chlorophyll** refers to the green pigments of plants. Chlorophyll a and b are the two most common green pigments in plants.

**Color unit** is produced by one milligram per liter of platinum in the form of the chloroplatinate ion. Color is expressed in units of the platinum-cobalt scale.

**Dissolved** refers to that material in a representative water sample which passes through a 0.45  $\mu$ m membrane filter. This is a convenient operational definition used by Federal agencies that collect water data. Determinations of "dissolved" constituents are made on subsamples of the filtrate.

**Dissolved-solids concentration** of water is determined either analytically by the "residue-on-evaporation" method, or mathematically by totaling the concentrations of individual constituents reported in a comprehensive chemical analysis. During the analytical determination of dissolved solids, the bicarbonate (generally a major dissolved component of water) is converted to carbonate. Therefore, in the mathematical calculation of dissolved-solids concentration, the bicarbonate value, in milligrams per liter, is multiplied by 0.492 to reflect the change.

**Hardness of water** is a physical-chemical characteristic that is commonly recognized by the increased quantity of soap required to produce lather. It is computed as the sum of equivalents of polyvalent cations and is expressed as the equivalent concentration of calcium carbonate ( $\text{CaCO}_3$ ).

**Hydrologic Bench-Mark Network** is a network of 57 sites in small drainage basins around the country whose purpose is to provide consistent data on the hydrology, including water quality, and related factors in representative undeveloped watersheds nationwide, and to provide analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by the activities of man.

**Hydrologic unit** is a geographic area representing part or all of a surface drainage basin or distinct hydrologic feature as delineated by the Office of Water Data Coordination on the State Hydrologic Unit Maps; each hydrologic unit is identified by an eight-digit number.

**Land-surface datum (lsd)** is a datum plane that is approximately at land surface at each ground-water observation well.

**Measuring point (MP)** is an arbitrary permanent reference point from which the distance to the water surface in a well is measured to obtain the water level.

**Metamorphic stage** refers to the stage of development that an organism exhibits during its transformation from an immature form to an adult form. This developmental process exists for most insects, and the degree of difference from the immature stage to the adult form varies from relatively slight to pronounced, with many intermediates. Examples of metamorphic stages of insects are egg-larva-adult or egg-nymph-adult.

**Methylene blue active substances (MBAS)** are apparent detergents. The determination depends on the formation of a blue color when methylene blue dye reacts with synthetic anionic detergent compounds.

**Micrograms per gram ( $\mu\text{g/g}$ )** is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the element per unit mass (gram) of material analyzed.

**Micrograms per liter ( $\mu\text{g/L}$ ,  $\mu\text{g/L}$ )** is a unit expressing the concentration of chemical constituents in solution as mass (micrograms) of solute per unit volume (liter) of water. One thousand micrograms per liter is equivalent to one milligram per liter.

**Milligrams per liter ( $\text{mg/L}$ ,  $\text{mg/L}$ )** is a unit for expressing the concentration of chemical constituents in solution. Milligrams per liter represents the mass of solute per unit volume (liter) of water. Concentration of suspended sediment also is expressed in  $\text{mg/L}$  and is based on the mass of dry sediment per liter of water-sediment mixture.

**National Geodetic Vertical Datum of 1929 (NGVD of 1929)** is a geodetic datum derived from a general adjustment of the first order level nets of both the United States and Canada. It was formerly called "Sea Level Datum of 1929" or "mean sea level" in this series of reports. Although the datum was derived from the average sea level over a period of many years at 26 tide stations along the Atlantic, Gulf of Mexico, and Pacific Coasts, it does not necessarily represent local mean sea level at any particular place.

**Organism** is any living entity.

**Organism count/area** refers to the number of organisms collected and enumerated in a sample and adjusted to the number per area habitat, usually square meter ( $\text{m}^2$ ), acre, or hectare. Periphyton, benthic organisms, and macrophytes are expressed in these terms.

**Organism count/volume** refers to the number of organisms collected and enumerated in a sample and adjusted to the number per sample volume, usually milliliter (mL) or liter (L). Numbers of planktonic organisms can be expressed in these terms.

**Total organism count** is the total number of organisms collected and enumerated in any particular sample.

Parameter Code is a 5-digit number used in the U.S. Geological Survey computerized data system, WATSTORE, to uniquely identify a specific constituent. The codes used in WATSTORE are the same as those used in the U.S. Environmental Protection Agency data system, STORET. The Environmental Protection Agency assigns and approves all requests for new codes.

Partial-record station is a particular site where limited water-quality data are collected systematically over a period of years for use in hydrologic analyses.

Particle size is the diameter, in millimeters (mm), of a particle determined by either sieve or sedimentation methods. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube) determine fall diameter of particles in either distilled water (chemically dispersed) or in native water (the river water at the time and point of sampling).

Particle-size classification used in this report agrees with the recommendation made by the American Geophysical Union Subcommittee on Sediment Terminology. The classification is as follows:

<u>Classification</u>	<u>Size (mm)</u>	<u>Method of analysis</u>
Clay.....	0.00024 - 0.004	Sedimentation
Silt.....	.004 - .062	Sedimentation
Sand.....	.062 - 2.0	Sedimentation or sieve
Gravel.....	2.0 - 64.0	Sieve

The particle-size distributions given in this report are not necessarily representative of all particles in transport in the stream. Most of the organic matter is removed, and the sample is subjected to mechanical and chemical dispersion before analysis in distilled water. Chemical dispersion is not used for native-water analysis.

Percent composition is a unit for expressing the ratio of a particular part of a sample or population to the total sample or population, in terms of types, numbers, mass, or volume.

Periphyton is the assemblage of microorganisms attached to and living upon submerged solid surfaces. While primarily consisting of algae, they also include bacteria, fungi, protozoa, rotifers, and other small organisms.

Pesticides are chemical compounds used to control undesirable organisms. Major categories of pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides.

Picocurie (PC, pCi) is one trillionth ( $1 \times 10^{-12}$ ) of the amount of radioactivity represented by a curie (Ci). A curie is the amount of radioactivity that yields  $3.7 \times 10^{10}$  radioactive disintegrations per second. A picocurie yields 2.22 dpm (disintegrations per minute).

Plankton is the community of suspended, floating, or weakly swimming organisms that live in the open water of lakes and rivers.

Phytoplankton is the plant part of the plankton. They are usually microscopic and their movement is subject to the water currents. Phytoplankton growth is dependent upon solar radiation and nutrient substances. Because they are able to incorporate as well as release materials to the surrounding water, the phytoplankton have a profound effect upon the quality of the water. They are the primary food producers in the aquatic environment and are commonly known as algae.

Blue-green algae are a group of phytoplankton organisms having a blue pigment, in addition to the green pigment called chlorophyll. Blue-green algae often cause nuisance conditions in water.

Diatoms are the unicellular or colonial algae having a siliceous shell. Their concentrations are expressed as number of cells per milliliter (cells/mL) of sample.

Green algae have chlorophyll pigments similar in color to those of higher green plants. Some forms produce algae mats or floating "moss" in lakes. Their concentrations are expressed as number of cells per milliliter (cells/mL) of sample.

Zooplankton is the animal part of the plankton. Zooplankton are capable of extensive movements within the water column and are often large enough to be seen with the unaided eye. Zooplankton are secondary consumers feeding upon bacteria, phytoplankton, and detritus. Because they are the grazers in the aquatic environment, the zooplankton are a vital part of the aquatic food web. The zooplankton community is dominated by small crustaceans and rotifers.

Primary productivity is a measure of the rate at which new organic matter is formed and accumulated through photosynthetic and chemosynthetic activity of producer organisms (chiefly, green plants). The rate of primary production is estimated by measuring the amount of oxygen released (oxygen method) or the amount of carbon assimilated by the plants (carbon method).

Milligrams of carbon per area or volume per unit time [mg C/(m<sup>2</sup>.time)] for periphyton and macrophytes and [mg C/(m<sup>3</sup>.time)] for phytoplankton are units for expressing primary productivity. They define the amount of carbon dioxide consumed as measured by radioactive carbon (carbon 14). The carbon 14 method is of greater sensitivity than the oxygen light and dark bottle method and is preferred for use in unenriched waters. Unit time may be either the hour or day, depending on the incubation period.

Milligrams of oxygen per area or volume per unit time [mg O<sub>2</sub>/(m<sup>2</sup>.time)] for periphyton and macrophytes and [mg O<sub>2</sub>/(m<sup>3</sup>.time)] for phytoplankton are the units for expressing primary productivity. They define production and respiration rates as estimated from changes in the measured dissolved-oxygen concentration. The oxygen light and dark bottle method is preferred if the rate of primary production is sufficient for accurate measurements to be made within 24 hours. Unit time may be either the hour or day, depending on the incubation period.

Radiochemical program is a network of regularly sampled water-quality stations where samples are collected to be analyzed for radioisotopes. The streams that are sampled represent major drainage basins in the conterminous United States.

Sea level: In this report "sea level" refers to the National Geodetic Datum of 1929 (NGVD of 1929)--a geodetic datum derived from a general adjustment of the first-order level nets of both the United States and Canada, formerly called Sea Level Datum of 1929.

Sodium-adsorption-ratio (SAR) is the expression of relative activity of sodium ions in exchange reactions within soil and is an index of sodium or alkali hazard to the soil. Waters range in respect to sodium hazard from those which can be used for irrigation on almost all soils to those which are generally unsatisfactory for irrigation.

Solute is any substance that is dissolved in water.

Specific conductance is a measure of the ability of a water to conduct an electrical current. It is expressed in microsiemens per centimeter at 25°C. Specific conductance is related to the type and concentration of ions in solution and can be used for approximating the dissolved-solids content of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is about 65 percent of the specific conductance (in microsiemens). This relation is not constant from stream to stream, and it may vary in the same source with changes in the composition of the water.

Suspended (as used in tables of chemical analyses) refers to the amount (concentration) of undissolved material in a water-sediment mixture. It is associated with the material retained on a 0.45-micrometer filter.

Suspended, recoverable is the amount of a given constituent that is in solution after the part of a representative water-suspended sediment sample that is retained on a 0.45 um membrane filter has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all the particulate matter is not achieved by the digestion treatment and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the sample. To achieve comparability of analytical data, equivalent digestion procedures are required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Determinations of "suspended, recoverable" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total recoverable concentrations of the constituent.

Suspended, total is the total amount of a given constituent in the part of a representative water-suspended sediment sample that is retained on a 0.45 um membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to determine when the results should be reported as "suspended, total."

Determinations of "suspended, total" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total concentrations of the constituent.

Taxonomy is the division of biology concerned with the classification and naming of organisms. The classification of organisms is based upon a hierarchical scheme beginning with Kingdom and ending with Species at the base. The higher the classification level, the fewer features the organisms have in common. For example, the taxonomy of a particular mayfly, Hexagenia limbata, is the following:

Kingdom.....	Animal
Phylum.....	Arthropoda
Class.....	Insecta
Order.....	Ephemeroptera
Family.....	Ephemeridae
Genus.....	<u>Hexagenia</u>
Species.....	<u>Hexagenia limbata</u>

**Thermograph** is an instrument that continuously records variations of temperature on a chart. The more general term "temperature recorder" is used in the table headings and refers to any instrument that records temperature whether on a chart, a tape, or any other medium.

**Time-weighted average** is computed by multiplying the number of days in the sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the total number of days. A time-weighted average represents the composition of water that would be contained in a vessel or reservoir that had received equal quantities of water from the stream each day for the year.

**Total** is the total amount of a given constituent in a representative water-suspended sediment sample, regardless of the constituent's physical or chemical form. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent present in both the dissolved and suspended phases of the sample. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total." (Note that the word "total" does double duty here, indicating both that the sample consists of a water-suspended sediment mixture and that the analytical method determined all of the constituent in the sample.)

**Total, recoverable** is the amount of a given constituent that is in solution after a representative water-suspended sediment sample has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all particulate matter is not achieved by the digestion treatment, and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the dissolved and suspended phases of the sample. To achieve comparability of analytical data, equivalent digestion procedures are required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

**Water year** in Geological Survey reports dealing with surface-water supply is the 12-month period October 1 through September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending September 30, 1985, is called the "1985 water year."

**WDR** is used as an abbreviation for "Water-Data Report" in the REVISED RECORDS paragraph to refer to State annual hydrologic-data reports (WRD was used as an abbreviation for "Water-Resources Data" in reports published prior to 1976).

**WSP** is used as an abbreviation for "Water-Supply Paper" in reference to previously published reports.

**PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS**

The U.S. Geological Survey publishes a series of manuals describing procedures for planning and conducting specialized work in water-resources investigations. The material is grouped under major subject headings called books and is further divided into sections and chapters. For example, Section A of Book 3 (Applications of Hydraulics) pertains to surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises.

The reports listed below are for sale by the U.S. Geological Survey, Books and Open-File Reports Section, Federal Center, Box 25425, Denver, Colorado 80225 (authorized agent of the Superintendent of Documents, Government Printing Office). Prepayment is required. Remittance should be sent by check or money order payable to the U.S. Geological Survey. Prices are not included because they are subject to change. When ordering or inquiring about prices for any of these publications, please give the title, book number, chapter number, and "U.S. Geological Survey Techniques of Water-Resources Investigations."

- 1-D1. **Water temperature--influential factors, field measurements, and data presentation**, by H. H. Stevens, Jr., J. F. Ficke, and G. F. Smoot: USGS--TWRI Book 1, Chapter D1. 1975. 65 pages.
- 1-D2. **Guidelines for collection and field analysis of ground-water samples for selected unstable constituents**, by W. W. Wood: USGS--TWRI Book 1, Chapter D2. 1976. 24 pages.
- 2-D1. **Application of surface geophysics to ground-water investigations**, by A. A. R. Zohdy, G. P. Eaton, and D. R. Mabey: USGS--TWRI Book 2, Chapter D1. 1974. 116 pages.
- 2-D2. **Application of seismic-refraction techniques to hydrologic studies**, by F. P. Haeni: USGS--TWRI Book 2, Chapter d2. 1988. 86 pages.
- 2-E1. **Application of borehole geophysics to water-resources investigations**, by W. S. Keys, and L. M. MacCary: USGS--TWRI Book 2, Chapter E1. 1971. 126 pages.
- 2-E2. **Borehole geophysics applied to ground-water investigations**, by W. S. Keys: USGS--TWRI Book 2, Chapter E2. 1990. 150 pages.
- 2-F1. **Application of drilling, coring, and sampling techniques to test holes and wells**, by Eugene Shuter, and Warren E. Teasdale: USGS--TWRI Book 2, Chapter F1. 1989. 97 pages.
- 3-A1. **General field and office procedures for indirect discharge measurements**, by M. A. Benson, and Tate Dalrymple: USGS--TWRI Book 3, Chapter A1. 1967. 30 pages.
- 3-A2. **Measurement of peak discharge by the slope-area method**, by Tate Dalrymple, and M. A. Benson: USGS--TWRI Book 3, Chapter A2. 1967. 12 pages.
- 3-A3. **Measurement of peak discharge at culverts by indirect methods**, by G. L. Bodhaine: USGS--TWRI Book 3, Chapter A3. 1968. 60 pages.
- 3-A4. **Measurement of peak discharge at width contractions by indirect methods**, by H. F. Matthai: USGS--TWRI Book 3, Chapter A4. 1967. 44 pages.
- 3-A5. **Measurement of peak discharge at dams by indirect methods**, by Harry Hulsing: USGS--TWRI Book 3, Chapter A5. 1967. 29 pages.
- 3-A6. **General procedure for gaging streams**, by R. W. Carter, and Jacob Davidian: USGS--TWRI Book 3, Chapter A6. 1968. 13 pages.
- 3-A7. **Stage measurements at gaging stations**, T. J. Buchanan, and W. P. Somers: USGS--TWRI Book 3, Chapter A7. 1968. 28 pages.
- 3-A8. **Discharge measurements at gaging stations**, by T. J. Buchanan, and W. P. Somers: USGS--TWRI Book 3, Chapter A8. 1969. 65 pages.
- 3-A9. **Measurement of time of travel and dispersion in streams by dye tracing**, by F. A. Kilpatrick, and J. F. Wilson, Jr.: USGS--TWRI Book 3, Chapter A9. 1989. 27 pages.
- 3-A10. **Discharge ratings at gaging stations**, E. J. Kennedy: USGS--TWRI Book 3, Chapter A10. 1984. 59 pages.
- 3-A11. **Measurement of discharge by moving-boat method**, by G. F. Smoot, and C. E. Novak: USGS--TWRI Book 3, Chapter A11. 1969. 22 pages.
- 3-A12. **Fluorimetric procedures for dye tracing**, by J. F. Wilson, Jr., E. D. Cobb, and F. A. Kilpatrick: USGS--TWRI Book 3, Chapter A12. 1986. 41 pages.
- 3-A13. **Computation of continuous records of streamflow**, by E. J. Kennedy: USGS--TWRI Book 3, Chapter A13. 1983. 53 pages.
- 3-A14. **Use of flumes in measuring discharge**, by F. A. Kilpatrick, and V. R. Schneider: USGS--TWRI Book 3, Chapter A14. 1983. 46 pages.
- 3-A15. **Computation of water-surface profiles in open channels**, by Jacob Davidian: USGS--TWRI Book 3, Chapter A15. 1984. 48 pages.
- 3-A16. **Measurement of discharge using tracers**, by F. A. Kilpatrick, and E. D. Cobb: USGS--TWRI Book 3, Chapter A16. 1985. 52 pages.

## PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS--Continued

- 3-A17. **Acoustic velocity meter systems**, by Antonius Laenen: USGS--TWRI Book 3, Chapter A17. 1985. 38 pages.
- 3-A18. **Determination of stream reaeration coefficients by use of tracers**, by F. A. Kilpatrick, R. E. Rathbun, N. Yotsukura, G. W. Parker, and L. L. Delong: USGS--TWRI Book 3, Chapter 18A. 1989. 52 pages.
- 3-A19. **Levels of streamflow gaging stations**, by E. J. Kennedy: USGS--TWRI Book 3, Chapter A19. 1990. 27 pages.
- 3-B1. **Aquifer-test design, observation, and data analysis**, by R. W. Stallman: USGS--TWRI Book 3, Chapter B1. 1971. 26 pages.
- 3-B2. **Introduction to ground-water hydraulics, a programmed text for self-instruction**, by G. D. Bennett: USGS--TWRI Book 3, Chapter B2. 1976. 172 pages.
- 3-B3. **Type curves for selected problems of flow to wells in confined aquifers**, by J. E. Reed: USGS--TWRI Book 3, Chapter B3. 1980. 106 pages.
- 3-B4. **Regression modeling of ground-water flow**, by Richard L. Cooley, and Richard L. Naff: USGS--TWRI Book 3, Chapter B4. 1990. 232 pages.
- 3-B5. **Definition of boundary and initial conditions in the analysis of saturated ground-water flow systems --An introduction**, by O. L. Franke, T. E. Reilly, and G. D. Bennett: USGS--TWRI Book 3, Chapter B5. 1987. 15 pages.
- 3-B6. **The principle of superposition and its application in ground-water hydraulics**, by T. E. Reilly, O. L. Franke, and G. D. Bennett: USGS--TWRI Book 3, Chapter B6. 1987. 28 pages.
- 3-C1. **Fluvial sediment concepts**, by H. P. Guy: USGS--TWRI Book 3, Chapter C1. 1970. 55 pages.
- 3-C2. **Field methods of measurement of fluvial sediment**, by H. P. Guy, and V. W. Norman: USGS--TWRI Book 3, Chapter C2. 1970. 59 pages.
- 3-C3. **Computation of fluvial-sediment discharge**, by George Porterfield: USGS--TWRI Book 3, Chapter C3. 1972. 66 pages.
- 4-A1. **Some statistical tools in hydrology**, by H. C. Riggs: USGS--TWRI Book 4, Chapter A1. 1968. 39 pages.
- 4-A2. **Frequency curves**, by H. C. Riggs: USGS--TWRI Book 4, Chapter A2. 1968. 15 pages.
- 4-B1. **Low-flow investigations**, by H. C. Riggs: USGS--TWRI Book 4, Chapter B1. 1972. 18 pages.
- 4-B2. **Storage analyses for water supply**, by H. C. Riggs, and C. H. Hardison: USGS--TWRI Book 4, Chapter B2. 1973. 20 pages.
- 4-B3. **Regional analyses of streamflow characteristics**, by H. C. Riggs: USGS--TWRI Book 4, Chapter B3. 1973. 15 pages.
- 4-D1. **Computation of rate and volume of stream depletion by wells**, by C. T. Jenkins: USGS--TWRI Book 4, Chapter D1. 1970. 17 pages.
- 5-A1. **Methods for determination of inorganic substances in water and fluvial sediments**, by M. J. Fishman, and L. C. Friedman: USGS--TWRI Book 5, Chapter A1. 1989. 545 pages.
- 5-A2. **Determination of minor elements in water by emission spectroscopy**, by P. R. Barnett, and E. C. Mallory, Jr.: USGS--TWRI Book 5, Chapter A2. 1971. 31 pages.
- 5-A3. **Methods for determination of organic substances in water and fluvial sediments**, by R. L. Wershaw, M. J. Fishman, R. R. Grabbe, and L. E. Lowe: USGS--TWRI Book 5, Chapter A3. 1987. 80 pages.
- 5-A4. **Methods for collection and analysis of aquatic biological and microbiological samples**, by L. J. Britton, and P. E. Greeson, editors: USGS--TWRI Book 5, Chapter A4. 1989. 363 pages.
- 5-A5. **Methods for determination of radioactive substances in water and fluvial sediments**, by L. L. Thatcher, V. J. Janzer, and K. W. Edwards: USGS--TWRI Book 5, Chapter A5. 1977. 95 pages.
- 5-A6. **Quality assurance practices for the chemical and biological analyses of water and fluvial sediments**, by L. C. Friedman and D. E. Erdmann: USGS--TWRI Book 5, Chapter A6. 1982. 181 pages.
- 5-C1. **Laboratory theory and methods for sediment analysis**, by H. P. Guy: USGS--TWRI Book 5, Chapter C1. 1969. 58 pages.
- 6-A1. **A modular three-dimensional finite-difference ground-water flow model**, by M. G. McDonald, and A. W. Harbaugh: USGS--TWRI Book 6, Chapter A1. 1988. 586 pages.
- 6-A3. **A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 1: Model Description and User's Manual**, by L. J. Torak: USGS--TWRI Book 6, Chapter 3. 1993. 136 pages.
- 6-A4. **A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 2: Derivation of finite-element, equations and comparisons with analytical solutions**, by R. L. Cooley: USGS--TWRI Book 6, Chapter A4. 1992. 108 pages.
- 6-A5. **A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 3: Design philosophy and programming details**, by L. J. Torak: USGS--TWRI Book 6, Chapter A5. 1993. 243 pages.

**PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS--Continued**

- 7-C1. **Finite difference model for aquifer simulation in two dimensions with results of numerical experiments**, by P. C. Trescott, G. F. Pinder, and S. P. Larson: USGS--TWRI Book 7, Chapter C1. 1976. 116 pages.
- 7-C2. **Computer model of two-dimensional solute transport and dispersion in ground water**, by L. F. Konikow, and J. D. Bredehoeft: USGS--TWRI Book 7, Chapter C2. 1978. 90 pages.
- 7-C3. **A model for simulation of flow in singular and interconnected channels**, by R. W. Schaffranek, R. A. Baltzer, and D. E. Goldberg: USGS--TWRI Book 7, Chapter C3. 1981. 110 pages.
- 8-A1. **Methods of measuring water levels in deep wells**, by M. S. Garber and F. C. Koopman: USGS--TWRI Book 8, Chapter A1. 1968. 23 pages.
- 8-A2. **Installation and service manual for U. S. Geological Survey manometers**, by J. D. Craig: USGS--TWRI Book 8, Chapter A2. 1983. 57 pages.
- 8-B2. **Calibration and maintenance of vertical-axis type current meters**, by G. F. Smoot, and C. E. Novak: USGS--TWRI Book 8, Chapter B2. 1968. 15 pages.

**SELECTED U.S. GEOLOGICAL SURVEY REPORTS ON GROUND-WATER RESOURCES IN DELAWARE**

Listed below is a selection of reports on ground-water resources in Delaware which are available through the U.S. Geological Survey, Book and Open-File Reports, Federal Center, Building 41, Box 25425, Denver, Colorado 80225.

**Professional Papers**

**Structural and stratigraphic frameworks and spatial distribution of the permeability of the Atlantic Coastal Plain, New York to North Carolina**, by P.M. Brown, J.A. Miller, and F.M. Swain: U.S. Geological Survey Professional Paper No. 796. 1972.

**Water resources of the Delmarva Peninsula**, by E.M. Cushing, I.H. Kantrowitz, and K.R. Taylor: U.S. Geological Survey Professional Paper No. 822. 1972. 58 pages.

**Hydrogeologic framework of the Coastal Plain sediments in Maryland, Delaware, and the District of Columbia, as developed for the Northern Atlantic Regional Aquifer Systems Analysis (RASA)**, by D.A. Vroblesky, and W.B. Fleck: U.S. Geological Survey Professional Paper No. 1404-E. 1989. 45 pages.

**Simulation of the ground-water flow system of the Coastal Plain sediments, Maryland, Delaware, and the District of Columbia**, by W.B. Fleck, and D.A. Vroblesky: U.S. Geological Survey Professional Paper No. 1404-J. 1992.

**Water-Supply Papers**

**Beach-area water supplies between Ocean City, Maryland, and Rehoboth Beach, Delaware**, by T.H. Slaughter: U.S. Geological Survey Water-Supply Paper No. 1619-T. 1962.

**Ground-water resources of southern New Castle County, Delaware**, by D.R. Rima, O.J. Coskery, and P.W. Anderson: U.S. Geological Survey Water-Supply Paper No. 1756. 1964.

**Ground-water-quality assessment of the Delmarva Peninsula, Delaware, Maryland, and Virginia: Analysis of available water-quality data through 1987**, by P.A. Hamilton, and R.J. Shedlock: U.S. Geological Survey Water-Supply Paper No. 2355-B. 1989. 186 pages.

**Hydrologic Investigation Atlases**

**Water-table, surface-drainage, and engineering soils map of the St. Georges area, Delaware**, by J.K. Adams, and D.H. Boggess: U.S. Geological Survey Hydrologic Investigation Atlas No. 60. 1963. 1 map. scale 1:24,000.

**Water-table, surface-drainage and engineering soils map of the Newark area, Delaware**, by D.H. Boggess, and J.K. Adams: U.S. Geological Survey Hydrologic Investigation Atlas No. 64. 1963. 1 map. scale 1:24,000.

**Water-table, surface-drainage and engineering soils map of the Wilmington area, Delaware**, by J.K. Adams, and D.H. Boggess: U.S. Geological Survey Hydrologic Investigation Atlas No. 79. 1964. 1 map. scale 1:24,000.

**Water-table, surface-drainage and engineering soils map of the Taylors Bridge area, Delaware**, by J.K. Adams, D.H. Boggess, and others: U.S. Geological Survey Hydrologic Investigation Atlas No. 80. 1964. 1 map. scale 1:24,000.

**Water-table, surface-drainage and engineering soils map of the Smyrna area, Delaware**, by J.K. Adams, D.H. Boggess, and others: U.S. Geological Survey Hydrologic Investigation Atlas No. 81. 1964. 1 map. scale 1:24,000.

**Water-table, surface-drainage and engineering soils map of the Middletown area, Delaware**, by J.K. Adams, D.H. Boggess, and others: U.S. Geological Survey Hydrologic Investigation Atlas No. 82. 1964. 1 map. scale 1:24,000.

**Water-table, surface-drainage and engineering soils map of the Clayton area, Delaware**, by J.K. Adams, D.H. Boggess, and others: U.S. Geological Survey Hydrologic Investigation Atlas No. 83. 1964. 1 map. scale 1:24,000.

**Water-table, surface-drainage and engineering soils map of the Sharptown area, Delaware**, by J.K. Adams, D.H. Boggess, and others: U.S. Geological Survey Hydrologic Investigation Atlas No. 84. 1964. 1 map. scale 1:24,000.

**Water-table, surface-drainage and engineering soils map of the Greenwood quadrangle, Delaware**, by J.K. Adams, D.H. Boggess, and others: U.S. Geological Survey Hydrologic Investigation Atlas No. 99. 1964. 1 map. scale 1:24,000.

**Water-table, surface-drainage and engineering soils map of the Hickman area, Delaware**, by J.K. Adams, D.H. Boggess, and others: U.S. Geological Survey Hydrologic Investigation Atlas No. 100. 1964. 1 map. scale 1:24,000.

**Water-table, surface-drainage and engineering soils map of the Ellendale quadrangle, Delaware**, by J.K. Adams, D.H. Boggess, and others: U.S. Geological Survey Hydrologic Investigation Atlas No. 101. 1964. 1 map. scale 1:24,000.

**Water-table, surface-drainage and engineering soils map of the Milton quadrangle, Delaware**, by J.K. Adams, D.H. Boggess, and others: U.S. Geological Survey Hydrologic Investigation Atlas No. 102. 1964. 1 map. scale 1:24,000.



- Water-table, surface-drainage and engineering soils map of the Lewes area, Delaware,**  
by J.K. Adams, D.H. Boggess, and others: U.S. Geological Survey Hydrologic Investigation Atlas No. 103. 1964.  
1 map. scale 1:24,000.
- Water-table, surface-drainage and engineering soils map of the Seaford West area, Delaware,**  
by D.H. Boggess, J.K. Adams, and others: U.S. Geological Survey Hydrologic Investigation Atlas No. 105. 1964.  
1 map. scale 1:24,000.
- Water-table, surface-drainage and engineering soils map of the Seaford East area, Delaware,**  
by D.H. Boggess, J.K. Adams, and others: U.S. Geological Survey Hydrologic Investigation Atlas No. 106. 1964.  
1 map. scale 1:24,000.
- Water-table, surface-drainage and engineering soils map of the Georgetown quadrangle, Delaware,**  
by D.H. Boggess, J.K. Adams, and others: U.S. Geological Survey Hydrologic Investigation Atlas No. 107. 1964.  
1 map. scale 1:24,000.
- Water-table, surface-drainage and engineering soils map of the Harbeson quadrangle, Delaware,**  
by D.H. Boggess, J.K. Adams, and others: U.S. Geological Survey Hydrologic Investigation Atlas No. 108. 1964.  
1 map. scale 1:24,000.
- Water-table, surface-drainage and engineering soils map of the Rehoboth Beach area, Delaware,**  
by D.H. Boggess, J.K. Adams, and others: U.S. Geological Survey Hydrologic Investigation Atlas No. 109. 1964.  
1 map. scale 1:24,000.
- Water-table, surface-drainage and engineering soils map of the Frankford area, Delaware,**  
by J.K. Adams, D.H. Boggess, and others: U.S. Geological Survey Hydrologic Investigation Atlas No. 119. 1964.  
1 map. scale 1:24,000.
- Water-table, surface-drainage and engineering soils map of the Trap Pond area, Delaware,**  
by J.K. Adams, D.H. Boggess, and others: U.S. Geological Survey Hydrologic Investigation Atlas No. 120. 1964.  
1 map. scale 1:24,000.
- Water-table, surface-drainage and engineering soils map of the Millsboro area, Delaware,**  
by J.K. Adams, D.H. Boggess, and others: U.S. Geological Survey Hydrologic Investigation Atlas No. 121. 1964.  
1 map. scale 1:24,000.
- Water-table, surface-drainage and engineering soils map of the Bethany Beach area, Delaware,**  
by J.K. Adams, D.H. Boggess, and others: U.S. Geological Survey Hydrologic Investigation Atlas No. 122. 1964.  
1 map. scale 1:24,000.
- Water-table, surface-drainage and engineering soils map of the Laurel area, Delaware,**  
by J.K. Adams, D.H. Boggess, and others: U.S. Geological Survey Hydrologic Investigation Atlas No. 123. 1964.  
1 map. scale 1:24,000.
- Water-table, surface-drainage and engineering soils map of the Marydel area, Delaware,**  
by D.H. Boggess, C.F. Davis, and others: U.S. Geological Survey Hydrologic Investigation Atlas No. 132. 1964-65.  
1 map. scale 1:24,000.
- Water-table, surface-drainage and engineering soils map of the Milford quadrangle, Delaware,**  
by D.H. Boggess, C.F. Davis, and others: U.S. Geological Survey Hydrologic Investigation Atlas No. 133. 1964-65.  
1 map. scale 1:24,000.
- Water-table, surface-drainage and engineering soils map of the Little Creek quadrangle, Delaware,**  
by D.H. Boggess, C.F. Davis, and others: U.S. Geological Survey Hydrologic Investigation Atlas No. 134. 1964-65.  
1 map. scale 1:24,000.
- Water-table, surface-drainage and engineering soils map of the Burrsville area, Delaware,**  
by D.H. Boggess, C.F. Davis, and others: U.S. Geological Survey Hydrologic Investigation Atlas No. 135. 1964-65.  
1 map. scale 1:24,000.
- Water-table, surface-drainage and engineering soils map of the Harrington quadrangle, Delaware,**  
by D.H. Boggess, C.F. Davis, and others: U.S. Geological Survey Hydrologic Investigation Atlas No. 136. 1964-65.  
1 map. scale 1:24,000.
- Water-table, surface-drainage and engineering soils map of the Mispillion River, Delaware,**  
by D.H. Boggess, C.F. Davis, and others: U.S. Geological Survey Hydrologic Investigation Atlas No. 137. 1964-65.  
1 map. scale 1:24,000.
- Water-table, surface-drainage and engineering soils map of the Kenton area, Delaware,**  
by D.H. Boggess, C.F. Davis, and others: U.S. Geological Survey Hydrologic Investigation Atlas No. 138. 1964-65.  
1 map. scale 1:24,000.
- Water-table, surface-drainage and engineering soils map of the Dover quadrangle, Delaware,**  
by D.H. Boggess, C.F. Davis, and others: U.S. Geological Survey Hydrologic Investigation Atlas No. 139. 1964-65.  
1 map. scale 1:24,000.
- Water-table, surface-drainage and engineering soils map of the Frederica area, Delaware,**  
by D.H. Boggess, C.F. Davis, and others: U.S. Geological Survey Hydrologic Investigation Atlas No. 140. 1964-65.  
1 map. scale 1:24,000.
- Water-table, surface-drainage and engineering soils map of the Wyoming quadrangle, Delaware,**  
by D.H. Boggess, C.F. Davis, and others: U.S. Geological Survey Hydrologic Investigation Atlas No. 141. 1964-65.  
1 map. scale 1:24,000.

## Water-Resources Investigations Report

**Ground-water temperature of the Wyoming quadrangle in central Delaware, with application to ground-water-source heat pumps**, by A.L. Hodges, Jr.: U.S. Geological Survey Water-Resources Investigations Report No. 82-53. 1983. 29 pages.

**Simulated ground-water flow in the Potomac aquifers, New Castle County, Delaware**, by M.M. Martin: U.S. Geological Survey Water-Resources Investigations Report No. 84-4007.

**Hydrogeology, degradation of groundwater quality, and simulation of infiltration from the Delaware River into the Potomac aquifers, northern Delaware**, by S.W. Phillips: U.S. Geological Survey Water-Resources Investigations Report No. 87-4185. 1988. 86 pages.

**Water levels, chloride concentrations, and pumpage in the Coastal aquifers of Delaware and Maryland**, by D.J. Phelan: U.S. Geological Survey Water-Resources Investigations Report No. 87-4229. 1988. 106 pages.

## Open-File Reports

**Availability of ground water on the Delmarva Peninsula**, by A.J. Hodges, Jr.: U.S. Geological Survey Open-File Report No. 77-759. 1978. 6 pages.

**Hydrologic data for the Potomac Formation in New Castle County, Delaware**, by M.M. Martin: U.S. Geological Survey Open-File Report No. 81-916. 1982. 148 pages.

**Ground-water-quality data for the Atlantic Coastal Plain, Delaware, Maryland, Virginia, and North Carolina**, by L.L. Knobel: U.S. Geological Survey Open-File Report No. 85-154. 1986. 84 pages.

**Ground-water quality assessment of the Delmarva Peninsula, Delaware, Maryland, and Virginia, project description**, by L.J. Bachman, R.J. Shedlock, and P.J. Phillips: U.S. Geological Survey Open-File Report No. 87-112. 1988. 18 pages.

**Groundwater assessment of the Delmarva Peninsula, Delaware, Maryland, and Virginia: Analysis of available water-quality data through 1987**, by P.A. Hamilton, R.J. Shedlock, and P.J. Phillips: U.S. Geological Survey Open-File Report No. 89-34. 1990. 71 pages.

**Distribution of dissolved atrazine and two metabolites in the confined aquifer, southeastern Delaware**, by J.M. Denver, and M.W. Sandstrom: U.S. Geological Survey Open-File Report No. 91-88. 1992. 48 pages.

**Water quality assessment of the Delmarva Peninsula, Delaware, Maryland and Virginia -- Effects of agriculture activities on and distribution of, nitrate and other inorganic constituents in surficial aquifers**, by P.A. Hamilton, J.M. Denver, P.J. Phillips, and R.J. Shedlock: U.S. Geological Survey Open-File Report No. 93-40. 1993. 87 pages.

## Unnumbered Reports

**A summary of geologic and hydrologic data from an exploratory well drilled near Greenwood, Delaware**: U.S. Geological Survey. 1971. 18 pages.

## SELECTED DELAWARE GEOLOGICAL SURVEY REPORTS ON GROUND-WATER RESOURCES IN DELAWARE

Listed below is a selection of reports on ground-water resources in Delaware which are available through the Delaware Geological Survey, by writing: Publications, Delaware Geological Survey, University of Delaware, Newark, DE 19716-7501.

## Report of Investigations

**High-capacity test well developed at the Dover Air Force Base**, by W.C. Rasmussen, J.J. Groot, and A.J. Depman: Delaware Geological Survey Report of Investigation No. 2. 1958. 36 pages.

**Wells for the observation of chloride and water levels in aquifers that cross the Chesapeake and Delaware Canal**, by W.C. Rasmussen, J.J. Groot, and N.H. Beamer: Delaware Geological Survey Report of Investigation No. 3. 1958. 22 pages.

**Ground-water levels in Delaware, January 1962-June 1966**, by K.D. Woodruff: Delaware Geological Survey Report of Investigation No. 9. 1967. 28 pages.

**The Occurrence of saline ground-water in Delaware aquifers**, by K.D. Woodruff: Delaware Geological Survey Report of Investigation No. 13. 1969. 45 pages.

**General ground-water quality in fresh-aquifers of Delaware**, by K.D. Woodruff: Delaware Geological Survey Report of Investigation No. 15. 1970. 32 pages.

**Ground-water geology of the Delaware Atlantic seashore**, by J.C. Miller: Delaware Geological Survey Report of Investigation No. 17. 1971. 33 pages.

**Geology and ground water, University of Delaware, Newark, Delaware, by K.D. Woodruff, J.C. Miller, R.M. Jordan, N. Spoljaric and T.E. Pickett: Delaware Geological Survey Report of Investigation No. 18. 1972. 40 pages.**

**Configuration on the base and thickness of the unconfined aquifer in southeastern Sussex County, Delaware, by J.M. Denver: Delaware Geological Survey Report of Investigation No. 20. 1983. 12 pages.**

**Hydrogeology of selected sites in the greater Newark area, Delaware, by J.H. Talley: Delaware Geological Survey Report of Investigation No. 22. 1974. 61 pages.**

**Relation of ground water to surface water in four small basins of the Delaware Coastal Plain, by R.H. Johnston: Delaware Geological Survey Report of Investigation No. 24. 1976. 56 pages.**

**Hydraulic characteristics of the Piney Point aquifer and overlying confining bed near Dover, Delaware, by P.P. Leahy: Delaware Geological Survey Report of Investigation No. 26. 1976. 24 pages.**

**Ground-water investigations in the Delaware Piedmont for the City of Newark, 1976, by W.F. Hahn: Delaware Geological Survey Report of Investigation No. 27. 1977. 26 pages.**

**Well and aquifer tests, Laird Tract well field, Newark, Delaware, by J.H. Talley, and W.F. Hahn: Delaware Geological Survey Report of Investigation No. 28. 1978. 26 pages.**

**Digital model of the Piney Point aquifer in Kent County, Delaware, by P.P. Leahy: Delaware Geological Survey Report of Investigation No. 29. 1979. 81 pages.**

**Ground-water levels in Delaware, July, 1966-December, 1977, by J.H. Talley: Delaware Geological Survey Report of Investigation No. 30. 1979. 50 pages.**

**Hydrology of the Manokin, Ocean City, and Pocomoke aquifers of southeastern Delaware, by A.L. Hodges: Delaware Geological Survey Report of Investigation No. 38. 1983. 60 pages.**

**Sodium concentrations in water from the Piney Point Formation, Dover area, Delaware, by N. Spoljaric: Delaware Geological Survey Report of Investigation No. 40. 1986. 14 pages.**

**Hydrogeology and geochemistry of the unconfined aquifer, west-central and southwestern Delaware, by J.M. Denver: Delaware Geological Survey Report of Investigation No. 41. 1986. 100 pages.**

**Estimate of direct discharge of fresh ground water to Rehoboth and Indian River Bays, by A.S. Andres: Delaware Geological Survey Report of Investigation No. 43. 1987. 37 pages.**

**Ground-water levels in Delaware, January 1978-December 1987, by J.H. Talley: Delaware Geological Survey Report of Investigation No. 44. 1988. 58 pages.**

**Effects of agricultural practices and septic-system effluent on the quality of water in the unconfined aquifer in parts of eastern Sussex County, Delaware, by J.M. Denver: Delaware Geological Survey Report of Investigation No. 45. 1989. 66 pages.**

**Results of the coastal Sussex County, Delaware, ground-water quality survey, by A.S. Andres: Delaware Geological Survey Report of Investigation No. 49. 1991. 28 pages.**

**Herbicides in shallow ground-water at two agriculture sites in Delaware, by J.M. Denver: Delaware Geological Survey Report of Investigation No. 51. 1993. 28 pages.**

#### Bulletin

**Ground-water problems in highway construction and maintenance, by W.C. Rasmussen, and L.B. Haigler: Delaware Geological Survey Bulletin No. 1. 1953. 24 pages.**

**Geology and ground-water resources of the Newark area, Delaware, by J.J. Groot, and W.C. Rasmussen: Delaware Geological Survey Bulletin No. 2. 1954. 133 pages.**

**Preliminary report on the geology and ground-water resources of Delaware, by I.W. Marine, and W.C. Rasmussen: Delaware Geological Survey Bulletin No. 4. 1955. 336 pages.**

**Ground-water resources of southern New Castle County, Delaware, by D.R. Rima, O.J. Coskery, and P.W. Anderson: Delaware Geological Survey Bulletin No. 11. 1964. 54 pages.**

**Geology, hydrology and geophysics of Columbia sediments in the Middletown-Odessa area, Delaware, by N. Spoljaric, and K.D. Woodruff: Delaware Geological Survey Bulletin No. 14. 1973. 78 pages.**

**Hydrology of the Columbia (Pleistocene) deposits of Delaware, by R.H. Johnston: Delaware Geological Survey Bulletin No. 14. 1973. 7 pages.**

#### Open File Reports

**A preliminary report on nitrate contamination of shallow ground waters in Delaware, by J.C. Miller: Delaware Geological Survey Open File Report No. 1. 1971. 7 pages.**

**Geologic and Hydrologic aspects of landfills, by N. Spoljaric, and J.H. Talley: Delaware Geological Survey Open File Report No. 16. 1982. 22 pages.**

**Ground-water availability in southern New Castle County, Delaware**, by J.J. Groot, P.M. Demicco, and P.J. Cherry: Delaware Geological Survey Open File Report No. 23. 1983. 20 pages.

**Saturated thickness of the water-table aquifer in southern New Castle County, Delaware**, by J.J. Groot, P.M. Demicco, and P.J. Cherry: Delaware Geological Survey Open File Report No. 24. 1983. 1 map.

**Saturated thickness of the Columbia Formation in southern New Castle County, Delaware**, by J.J. Groot, P.M. Demicco, and P.J. Cherry: Delaware Geological Survey Open File Report No. 25. 1983. 1 map.

**Salinity distribution and ground-water circulation beneath the Coastal Plain of Delaware and the adjacent Continental Shelf**, by J.J. Groot: Delaware Geological Survey Open File Report No. 26. 1983. 24 pages.

**Potential for ground-water recharge in the Coastal Plain of New Castle County, Delaware, sheet 1, Northern New Castle County (1983)**; 2 sheets, **Chesapeake and Delaware Canal area (1985)**, by S. Petty, W.D. Miller, and B.A. Lanan; K.D. Woodruff, editor: Delaware Geological Survey Open File Report No. 28. maps with discussion. scale 1:24,000.

**Source of ground-water contamination**, by J.H. Talley: Delaware Geological Survey Open File Report No. 29. 1985. 20 pages.

**Ground-water level and chemistry data from coastal Sussex County, Delaware, Ground-water quality survey**, by A.S. Andres: Delaware Geological Survey Open File Report No. 33. 1991. 31 pages.

**Methodology for mapping ground-water recharge area in Delaware's Coastal Plain**, by A.S. Andres: Delaware Geological Survey Open File Report No. 34. 1991. 18 pages. (reprinted 1992).

**Estimate of nitrate flux to Rehoboth and Indian River Bays, Delaware through direct discharge of ground-water**, by A.S. Andres: Delaware Geological Survey Open File Report No. 35. 1992. 36 pages.

#### Water Level Reports

**Water levels and aretsian pressures in Delaware-1952**, by I.W. Marine: Delaware Geological Survey Water Level Report No. 1. 1954. 11 pages.

**Water levels and aretsian pressures in Delaware-1953**, by D.H. Boggess, and O.J. Coskery: Delaware Geological Survey Water Level Report No. 2. 1954. 10 pages.

**Water levels and aretsian pressures in Delaware-1954**, by D.H. Boggess, and O.J. Coskery: Delaware Geological Survey Water Level Report No. 3. 1955. 10 pages.

**Water levels and aretsian pressures in Delaware-1955**, by O.J. Coskery: Delaware Geological Survey Water Level Report No. 4. 1956. 10 pages.

**Water levels in Delaware-1956**, by O.J. Coskery Delaware Geological Survey Water Level Report No. 5. 1958. 21 pages.

**Water levels in Delaware-1957**, by O.J. Coskery Delaware Geological Survey Water Level Report No. 6. 1961. 22 pages.

**Water levels in Delaware-1958**, by O.J. Coskery Delaware Geological Survey Water Level Report No. 7. 1961. 17 pages.

#### SELECTED U.S.GEOLOGICAL SURVEY REPORTS ON GROUND-WATER RESOURCES IN MARYLAND

Listed below is a selection of reports on ground-water resources in Maryland which are available through the U.S. Geological Survey, Book and Open-File Reports, Federal Center, Building 41, Box 25425, Denver, Colorado 80225.

#### Professional Papers

**Hydrochemical facies and ground-water flow patterns in northern part of Atlantic Coastal Plain**, by William Back: U.S. Geological Survey Professional Paper No. 498-A. 1966.

**Relationships of fresh and salty ground water in the northern Atlantic Coastal Plain of the United States**, in Geological Survey Research, by J.E. Upson: U.S. Geological Survey Professional Paper No. 550-C. 1966. p. C235-C243.

**Structural and stratigraphic frameworks and spatial distribution of the permeability of the Atlantic Coastal Plain, New York to North Carolina**, by P.M. Brown, J.A. Miller, and F.M. Swain: U.S. Geological Survey Professional Paper No. 796. 1972.

**Summary appraisals of the Nation's ground-water resources Mid-Atlantic Region**, by Allen Sinnott, and E.M. Cushing: U.S. Geological Survey Professional Paper No. 813-I. 1976.

**Water Desources of the Delmarva Peninsula**, by E.M. Cushing, I.H. Kantrowitz, and K.R. Taylor: U.S. Geological Survey Professional Paper No. 822. 1973. 58 pages.

**Hydrogeologic framework of the Coastal Plain sediments in Maryland, Delaware and the District of Columbia, as developed for the Northern Atlantic Region Aquifer Systems Analysis (NARSA)**, U.S. Geological Survey, by D.A. Vroblesky, and W.B. Fleck: U.S. Geological Survey Professional Paper No. 1404-E. 1989. 45 pages.

**Conceptualization and analysis of ground-water flow system in the Coastal Plain of Virginia and adjacent parts of Maryland and North Carolina**, by J.F. Harsh: U.S. Geological Survey Professional Paper No. 1404-F. 1990. 100 pages.

**Simulation of the ground-water flow system in the Coastal Plain sediments, Maryland, Delaware, and the District of Columbia**, by W.B. Fleck, and D.A. Vroblesky: U.S. Geological Survey Professional Paper No. 1404-J. 1992.

#### Water-Supply Papers

**Water resources of the Baltimore area, Maryland**, by E.G. Otton, R.O.R. Martin and W.H. Durum: U. S. Geological Survey Water-Supply Paper No. 1499-F. 1964.

**Beach-area water supplies between Ocean City, Maryland, and Rehoboth Beach, Delaware**, by T.H. Slaughter: U. S. Geological Survey Water-Supply Paper No. 1619-T. 1962.

**Ground-Water-Quality assessment of the Delmarva Peninsula, Delaware, Maryland, and Virginia: Analysis of available water-quality data through 1987**, by P.A. Hamilton, and R.J. Shedlock: U. S. Geological Survey Water-Supply Paper No. 2355-B. 1989. 186 pages.

#### Hydrologic Investigation Atlas

**Water resources of southern Maryland**, by J.M. Weigle, W.E. Webb, and R.A. Gardner: U.S. Geological Survey Hydrologic Investigation Atlas No. 365. 1970.

#### Water-Resources Investigations Report

**Ground Water in the Piedmont Upland of Central Maryland**, by C. A. Richardson: U. S. Geological Survey Water-Resources Investigations No. 80-18. 1980. 42 pages.

**The difference between the potentiometric surface of the Magothy aquifer of September 1982 in southern Maryland**, F.K. Mack, J.C. Wheeler, S.E. Curtin and D.C. Andreasen: U. S. Geological Survey Water-Resources Investigations Report No. 83-4282. 1983. 1 sheet.

**The difference between the potentiometric surfaces of the Magothy aquifer of September 1975 and September 1982 in southern Maryland**, F.K. Mack, J.C. Wheeler, S.E. Curtin and D.C. Andreasen: U. S. Geological Survey Water-Resources Investigations Report No. 83-4283. 1983. 1 sheet.

**Nitrate in the Columbia Aquifer, Central Delmarva Peninsula, Maryland**, by L. J. Bachman: U. S. Geological Survey Water-Resources Investigations Report No. 84-4322. 51 pages.

**The potentiometric surface of the Magothy aquifer in southern Maryland, September 1983**, by F.K. Mack, J.C. Wheeler, and S.E. Curtin: U. S. Geological Survey Water-Resources Investigations Report No. 85-4000. 1985. 1 sheet.

**The potentiometric surface of the Magothy aquifer in southern Maryland, September 1984**, by F.K. Mack, J.C. Wheeler, and S.E. Curtin: U. S. Geological Survey Water-Resources Investigations Report No. 85-4003. 1985. 1 sheet.

**Hydrogeology and water quality of the Catoctin Mountain National Park area, Frederick County, Maryland**, by T.J. Trombley: U. S. Geological Survey Water-Resources Investigations Report No. 85-4241. 1985. 41 pages.

**The difference between the potentiometric surfaces of the Magothy aquifer of September 1982 and September 1984 in southern Maryland**, by F.K. Mack, J.C. Wheeler, S.E. Curtin and D.C. Andreasen: U. S. Geological Survey Water-Resources Investigations Report No. 85-4337. 1985. 1 sheet.

**Preliminary map showing the potentiometric surface of the Aquia aquifer in southern Maryland, September 1984**, by F.K. Mack, J.C. Wheeler, S.E. Curtin and D.C. Andreasen: U.S. Geological Survey Water-Resources Investigations Report No. 85-4338. 1985. 1 sheet.

**Preliminary map showing the difference between the potentiometric surfaces of the Aquia aquifer of September 1982 and September 1984 in southern Maryland**, by F.K. Mack, J.C. Wheeler, S.E. Curtin and D.C. Andreasen: U.S. Geological Survey Water-Resources Investigations Report No. 85-4339. 1985. 1 sheet.

**Reconnaissance of the groundwater, surface-water system in the Zekiah swamp Run Basin, Charles and Prince Georges Counties, Maryland**, by H.T. Hopkins, G.T. Fisher, and L.J. McGreevy: U.S. Geological Survey Water-Resources Investigations Report No. 86-4097. 1986. 49 pages.

**The Potentiometric surfaces of the Magothy aquifer in southern Maryland, during the fall of 1986**, by F.K. Mack, J.C. Wheeler, C.E. Curtin, and D.C. Andreasen: U.S. Geological Survey Water-Resources Investigations Report No. 87-4025. 1987. 1 sheet.

**The Potentiometric surface of the Magothy aquifer in southern Maryland, September 1985**, by F.K. Mack, J.C. Wheeler, C.E. Curtin, and D.C. Andreasen: U.S. Geological Survey Water-Resources Investigations Report No. 87-4029. 1987. 1 sheet.

**The Potentiometric surfaces of the Aquia aquifer in southern Maryland, during the fall of 1986**, by F.K. Mack, J.C. Wheeler, C.E. Curtin, and D.C. Andreasen: U.S. Geological Survey Water-Resources Investigations Report No. 87-4214. 1987. 1 sheet.

**Difference between the potentiometric surfaces of the Aquia aquifer in spring of 1979 and fall of 1986 in southern Maryland**, by F.K. Mack, J.C. Wheeler, C.E. Curtin, and D.C. Andreasen: U.S. Geological Survey Water-Resources Investigations Report No. 87-4215. 1987. 1 sheet.

**Potentiometric surfaces of the Magothy aquifer in southern Maryland, during the fall of 1986**, by F.K. Mack, J.C. Wheeler, C.E. Curtin, and D.C. Andreasen: U.S. Geological Survey Water-Resources Investigations Report No. 87-4016. 1987. 1 sheet.

**Difference between the potentiometric surfaces of the Magothy aquifer in the fall of 1975 and fall of 1986 in southern Maryland**, by F.K. Mack, J.C. Wheeler, C.E. Curtin, and D.C. Andreasen: U.S. Geological Survey Water-Resources Investigations Report No. 87-4217. 1987. 1 sheet.

**Water Levels, chloride concentrations, and pumpage in the coastal aquifers of Maryland and Delaware**, by D. J. Phelan: U.S. Geological Survey Water-Resources Investigations Report No. 87-4229. 1987. 106 pages.

**Potentiometric surface of the Aquia aquifer in southern Maryland during the fall of 1987**, by F.K. Mack, J.C. Wheeler, C.E. Curtin, and D.C. Andreasen: U.S. Geological Survey Water-Resources Investigations Report No. 89-4012. 1989. 1 sheet.

**Potentiometric surface of the Magothy aquifer in southern Maryland, during the fall of 1987**, by F.K. Mack, J.C. Wheeler, C.E. Curtin, and D.C. Andreasen: U.S. Geological Survey Water-Resources Investigations Report No. 89-4013. 1989. 1 sheet.

**Hydrogeology of the Canal Creek area of Aberdeen Proving Ground Maryland**, by J.P. Oliveros, and D.A. Vroblesky: U.S. Geological Survey Water-Resources Investigations Report No. 89-4013. 1989. 50 pages.

**Inorganic and organic groundwater chemistry in the Canal Creek area of Aberdeen Proving Ground, Maryland**, by M.M. Lorah, and D.A. Vroblesky: U.S. Geological Survey Water-Resources Investigations Report No. 89-4022. 1989. 97 pages.

**Change in potentiometric surfaces of the Magothy aquifer in southern Maryland, from the fall of 1986 to the fall of 1988**, by F.K. Mack, J.C. Wheeler, C.E. Curtin, and D.C. Andreasen: U.S. Geological Survey Water-Resources Investigations Report No. 90-4037. 1990. 1 sheet.

**Change in potentiometric surfaces of the Magothy aquifer in southern Maryland, from the fall of 1986 to the fall of 1988**, by F.K. Mack, J.C. Wheeler, C.E. Curtin, and D.C. Andreasen: U.S. Geological Survey Water-Resources Investigations Report No. 90-4038. 1990. 1 sheet.

**The difference between the potentiometric surface of the Magothy aquifer of September 1986 and September 1988 in southern Maryland**, by F.K. Mack, J.C. Wheeler, C.E. Curtin, and D.C. Andreasen: U.S. Geological Survey Water-Resources Investigations Report No. 90-4039. 1990. 1 sheet.

**Potentiometric surface of the Magothy aquifer in southern Maryland, during September 1988**, by F.K. Mack, J.C. Wheeler, C.E. Curtin, and D.C. Andreasen: U.S. Geological Survey Water-Resources Investigations Report No. 90-4040. 1990. 1 sheet.

**Preliminary assessment of the geologic framework, hydrogeology, and groundwater quality of the Potomac Group aquifer system, northwestern Charles County, Maryland**, by S.N. Hiortdahl: U.S. Geological Survey Water-Resources Investigations Report No. 91-4059. (in press).

**Potentiometric surface of the Magothy aquifer in southern Maryland, during September 1989**, by F.K. Mack, J.C. Wheeler, C.E. Curtin, and D.C. Andreasen: U.S. Geological Survey Water-Resources Investigations Report No. 91-4093. 1991. 1 sheet.

**Potentiometric surface of the Aquia aquifer in southern Maryland, September 1989**, by F.K. Mack, J.C. Wheeler, C.E. Curtin, and D.C. Andreasen: U.S. Geological Survey Water-Resources Investigations Report No. 91-4094. 1991. 1 sheet.

**Water withdrawal and use in Maryland, 1988-89**, by J.C. Wheeler: U.S. Geological Survey Water-Resources Investigations Report No. 91-4179. 1992. 40 pages.

**Hydrologic and soil gas at J-Field, Aberdeen Proving Ground, Maryland**, by W.B. Hughes: U.S. Geological Survey Water-Resources Investigations Report No. 92-4087. 1992. 83 pages.

**Water withdrawal and use in Maryland, 1990-91**, by J.C. Wheeler: U.S. Geological Survey Water-Resources Investigations Report No. 93-4225. 1993.

#### Open-File Reports

**Environmental geohydrology folio no. 1, White Marsh 7-1/2 minute quadrangle, Maryland**, by E.G. Otton: U.S. Geological Survey Open-File Report No. 74-737. 1974. 4 pages.

**Areas of shallow water table, Prince Georges County, Maryland**, by C.A. Richardson: U.S. Geological Survey Open-File Report No. 76-194. 1976. 2 pages. 1 plate.

**Availability of ground water in Prince Georges County, Maryland**, by C.A. Richardson: U.S. Geological Survey Open-File Report No. 76-197. 1976. 6 pages. 4 plates.

**Preliminary analysis of geohydrologic data from test wells drilled near Chalk Point, Prince Georges County, Maryland**, by F.K. Mack: U.S. Geological Survey Open-File Report No. 76-322. 1976. 31 pages.

**Approximate depth to water table, Montgomery County, Maryland**, by C.A. Richardson: U.S. Geological Survey Open-File Report No. 76-881. 1976. 2 pages. 1 plate.

**Availability of ground water in Montgomery County, Maryland**, by C.A. Richardson: U.S. Geological Survey Open-File Report No. 76-882. 1976. 6 pages. 1 plate.

**Westminster quadrangle: Hydrogeologic atlas**, by E.G. Otton: U.S. Geological Survey Open-File Report No. 77-793.

**New Windsor quadrangle: Hydrogeologic atlas**, by E. G. Otton: U.S. Geological Survey Open-File Report No. 78-769. 1978.

**Map showing the potentiometric surface of the Magothy aquifer in southern Maryland, September 1977**, by F.K. Mack, J.C. Wheeler, and S.E. Curtin: U.S. Geological Survey Open-File Report No. 78-999. 1978. 1 sheet.

**Finksburg quadrangle, Maryland**, by J.F. Williams III: U.S. Geological Survey Open-File Report No. 79-1536. 1979. 50 pages.

**Hampstead quadrangle, Maryland: Hydrogeology**, by M.T. Duigon: U.S. Geological Survey Open-File Report No. 80-561. 1980. 50 pages.

**Map showing the potentiometric surface of the Magothy aquifer in southern Maryland, September 1979**, by F.K. Mack, J.C. Wheeler, and S.E. Curtin: U.S. Geological Survey Open-File Report No. 80-959. 1980. 1 sheet.

**Hereford quadrangle, Maryland: Hydrogeology**, by M.T. Duigon: U.S. Geological Survey Open-File Report No. 80-962. 1980. 50 pages.

**Reisterstown quadrangle, Maryland: Hydrogeology**, by M.T. Duigon: U.S. Geological Survey Open-File Report No. 80-1009. 1980. 55 pages.

**Lineboro quadrangle, Maryland: Hydrogeology**, by M.T. Duigon: U.S. Geological Survey Open-File Report No. 80-1010. 1980. 50 pages.

**Ellicott City quadrangle, Maryland: Hydrogeology**, by M.T. Duigon: U.S. Geological Survey Open-File Report No. 80-1011. 1980. 56 pages.

**New Freedom quadrangle, Maryland: Hydrogeology**, by M.T. Duigon: U.S. Geological Survey Open-File Report No. 80-1012. 1980. 54 pages.

**Hydrogeologic Atlas, Union Bridge and Woodsboro quadrangles, Carroll County, Maryland**, by J.M. Weigle: U.S. Geological Survey Open-File Report No. 80-1013. 1981. 10 pages.

**Hydrogeologic Atlas, Taneytown and Emmitsburg quadrangles, Carroll County, Maryland**, by J.M. Weigle: U.S. Geological Survey Open-File Report No. 80-1014. 1981. 40 pages.

**Hydrogeologic Atlas, Littlestown quadrangle, Carroll County, Maryland**, by J.M. Weigle: U.S. Geological Survey Open-File Report No. 80-1015. 1981. 44 pages.

**Phoenix quadrangle, Baltimore and Harford counties, Maryland: Hydrogeology**, by E.G. Otton: U.S. Geological Survey Open-File Report No. 81-65. 1982. 46 pages.

**Map showing the potentiometric surface of the Magothy aquifer in southern Maryland, September 1979**, by F.J. Chapelle, D.D. Drummond, and Tracey Curley: U.S. Geological Survey Open-File Report No. 81-416. 1982. 1 sheet.

**Map showing how the potentiometric surface of the Magothy aquifer of August 1980 differed from the potentiometric surface of September 1977**, by F.K. Mack, J.C. Wheeler, and S.E. Curtin: U.S. Geological Survey Open-File Report No. 81-631. 1982. 1 sheet.

**Map showing the potentiometric surface of the Magothy aquifer of September 1979 differed from the potentiometric surface of September 1977, in Maryland**, by F.K. Mack, J.C. Wheeler, and S.E. Curtin: U.S. Geological Survey Open-File Report No. 81-632. 1982. 1 sheet.

**Map showing the potentiometric surface of the Magothy aquifer, in southern Maryland, August 1980**, by F.K. Mack, J.C. Wheeler, and S.E. Curtin: U.S. Geological Survey Open-File Report No. 81-633. 1982. 1 sheet.

**Map showing the potentiometric surface of the Magothy aquifer, in southern Maryland, September 1981**, by F.K. Mack, J.C. Wheeler, and S.E. Curtin: U.S. Geological Survey Open-File Report No. 82-257. 1983. 1 sheet.

**The difference between the potentiometric surface of the Magothy aquifer of September 1975, and September 1981 in southern Maryland**, by F.K. Mack, J.C. Wheeler, and S.E. Curtin: U.S. Geological Survey Open-File Report No. 82-339. 1983. 1 sheet.

**Preliminary analysis of geohydrologic data from the test wells drilled near Chester, on Kent Island, Queen Annes County, Maryland**, by F.K. Mack, J.C. Wheeler, and S.E. Curtin: U.S. Geological Survey Open-File Report No. 82-854. 1983. 33 pages.

**Water level declines in the Magothy aquifer in southern Maryland related to increase in pumpage**, by F.K. Mack, J.C. Wheeler, and S.E. Curtin: U.S. Geological Survey Open-File Report No. 82-919. 1983. 29 pages.

**The difference between the potentiometric surface of the Aquia aquifer of September 1975 and September 1981 in southern Maryland**, by F.K. Mack, J.C. Wheeler, and S.E. Curtin: U.S. Geological Survey Open-File Report No. 83-339. 1984. 1 sheet.

**Map showing the potentiometric surface of the Aquia aquifer in southern Maryland, September 1982**, by F.K. Mack, J.C. Wheeler, and S.E. Curtin: U.S. Geological Survey Open-File Report No. 83-929. 1984. 1 sheet.

**Preliminary map showing the difference between the potentiometric surfaces of the Aquia aquifer of April 1979 and September 1982 in southern Maryland**, by F.K. Mack, J.C. Wheeler, and S.E. Curtin: U.S. Geological Survey Open-File Report No. 83-930. 1984. 1 sheet.

**Hydrologic data: South branch Casselman River, Garrett County, and Marsh Run, Washington County, Maryland**, by J.T. Hilleary: U.S. Geological Survey Open-File Report No. 84-426. 1985. 63 pages.

**Ground-water quality data for the Atlantic Coastal Plain, Delaware, Maryland, Virginia, and North Carolina**, by L.L. Knobel: U.S. Geological Survey Open-File Report No. 85-154. 1986. pp. 42-55.

**Ground-water quality assessment of the Delmarva Peninsula, Delaware, Maryland, and Virginia**, by L.J. Bachman, R.J. Shedlock, and P.J. Phillips: U.S. Geological Survey Open-File Report No. 87-112. 1988. 18 pages.

**Groundwater use in the Coastal Plain of Maryland, 1900-1980**, by J.C. Wheeler, and F.W. Wilde: U.S. Geological Survey Open-File Report No. 87-540. 1988. 173 pages.

**Maryland and the District of Columbia ground-water quality**, by J.C. Wheeler: U.S. Geological Survey Open-File Report No. 87-0730. 1988. 10 pages.

**Ground-water quality assessment of the Delmarva Peninsula, Delaware, Maryland, and Virginia, project description**, by L.J. Bachman, R.J. Shedlock, and P.J. Phillips: U.S. Geological Survey Open-File Report No. 87-112. 18 pages.

**Water withdrawal and use in Maryland**, by J.C. Wheeler: U.S. Geological Survey Open-File Report No. 88-714. 1989. 30 pages.

**Groundwater assessment of the Delmarva Peninsula, Delaware, Maryland, and Virginia: Analysis of available water-quality data through 1987**, by P.A. Hamilton, R.J. Shedlock, and P.J. Phillips: U.S. Geological Survey Open-File Report No. 89-34. 1990. 71 pages.

**Hydrogeologic and chemical data for the O-Field area, Aberdeen Proving Ground, Maryland**, by D.A. Vroblesky, and P.R. Nemoff: U.S. Geological Survey Open-File Report No. 89-238. 1990. 70 pages.

**Hydrogeologic data for Canal Creek area of Aberdeen Proving Ground, Maryland**, by J.P. Oliveros, and Patrice Gernhardt: U.S. Geological Survey Open-File Report No. 89-387. 1990. 71 pages.

**Hydrogeologic data for Carroll Island, Aberdeen Proving Ground, Maryland**, by L.K. Ham, L.N. Sears, S.W. Phillips, and F.T. Tenbus: U.S. Geological Survey Open-File Report No. 89-388. 1990. 105 pages.

**Groundwater, surface-water, and bottom-sediments effects of selected remedial actions in the O-Field area of Aberdeen Proving Ground, Maryland**, by D.A. Vroblesky, M.M. Lorah, and J.P. Oliveros: U.S. Geological Survey Open-File Report No. 89-399. 1990. 162 pages.

**Study approach for the hydrogeologic assessment of Carroll Island and Graces Quarters, Aberdeen Proving Ground, Maryland**, by F.J. Tenbus, and S.W. Phillips: U.S. Geological Survey Open-File Report No. 90-181. 1991. 68 pages.

**Water withdrawal and use in Maryland**, by J.C. Wheeler: U.S. Geological Survey Open-File Report No. 90-572. 1991. 28 pages.

**Water quality assessment of the Delmarva Peninsula, Delaware, Maryland and Virginia -- Effects of agriculture activities on and distribution of, nitrate and other inorganic constituents in surficial aquifers**, by P.A. Hamilton, J.M. Denver, P.J. Phillips, and R.J. Shedlock: U.S. Geological Survey Open-File Report No. 93-40. 1993. 87 pages.

#### Unnumbered Reports

**Geophysical cross-section of the Cretaceous sediments of southern Maryland**: U.S. Geological Survey. 1968. 46 pages.

**Preliminary results of an exploratory water well at Ocean City, Maryland**: U.S. Geological Survey. 1969. 18 pages.

**Geologic and hydrologic data from a test well drilled near Chestertown, Maryland**: U.S. Geological Survey. 1971. 20 pages.

**Environmental geohydrology, Cockeysville quadrangle 6**, by E.G. Otton: U.S. Geological Survey. 1975. 4 pages.

#### Miscellaneous Maps

**Water resources of Southern Maryland**, by J.M. Weigle, W.E. Webb, and R.A. Gardner: U.S. Geological Survey Miscellaneous Maps No. HA-365. 1970. 3 sheets.



**SELECTED MARYLAND GEOLOGICAL SURVEY REPORTS ON GROUND-WATER RESOURCES IN MARYLAND**

Listed below is a selection of reports on ground-water resources in Maryland which are available through the Maryland Geological Survey, 2300 St. Paul Street, Baltimore, Maryland 21218.

**Basic Data Reports**

**Records of wells and springs in Baltimore County, Maryland**, by C.P. Laughlin: Maryland Geological Survey Basic Data Report No. 1. 1966. 406 pages.

**Records of wells and springs, chemical analysis, and selected well logs in Charles County, Maryland**, by T.H. Slaughter and C.P. Laughlin: Maryland Geological Survey Basic Data Report No. 2. 1966. 93 pages.

**Hydrogeologic data from the James Island State Park test well (1,514 Feet), Somerset County, Maryland**, by H.J. Hansen: Maryland Geological Survey Basic Data Report No. 3. 1967. 24 pages.

**Southern Maryland - Records of selected wells, water levels, and chemical analysis of water**, by J.M. Weigle and W.F. Webb: Maryland Geological Survey Basic Data Report No. 4. 1970. 48 pages.

**Deep wells of Maryland**, by Jonathan Edwards, Jr.: Maryland Geological Survey Basic Data Report No. 5. 1970. 160 pages.

**Worcester County ground-water information: Well records, chemical quality data, and pumpage**, by R.C. Lucas: Maryland Geological Survey Basic Data Report No. 6. 1972. 90 pages.

**Harford County ground-water information: Selected well records, chemical quality data, and pumpage**, by L.J. Nutter and M.J. Smigaj: Maryland Geological Survey Basic Data Report No. 7. 1975. 89 pages.

**Anne Arundel County ground-water information: Selected well records, chemical-quality data, pumpage, appropriation data, and selected well logs**, by R.C. Lucas: Maryland Geological Survey Basic Data Report No. 8. 1976. 149 pages.

**Maryland ground-water information: chemical quality data**, by R.S. Woll: Maryland Geological Survey Basic Data Report No. 10. 1978. 125 pages.

**Garrett County water-well records, chemical-quality data, ground-water use, coal test-hole, and surface-water data**, by L.J. Nutter, L.L. Knobel, and M.J. Smigaj, with a section on gas-well records compiled by K.A. Schwarz, and Jonathan Edwards, Jr.: Maryland Geological Survey Basic Data Report No. 11. 1980. 102 pages.

**Carroll County ground-water information: Well records, chemical-quality data**, by J.T. Hilleary, and J.M. Weigle: Maryland Geological Survey Basic Data Report No. 12. 1981. 252 pages.

**Prince George's County ground-water information: Well records, chemical-quality data, pumpage, appropriation data, observation well records, and well logs**, by M.D. Tompkins: Maryland Geological Survey Basic Data Report No. 13. 1983. 160 pages.

**Records of selected wells, Calvert and St. Mary's Counties, Maryland**, by D.D. Drummond: Maryland Geological Survey Basic Data Report No. 14. 1984. 117 pages.

**Ground-water and surface-water data Frederick County, Maryland**, by J.R. Dine, M.D. Tompkins, and M.T. Duigon: Maryland Geological Survey Basic Data Report No. 15. 1985. 240 pages.

**Hydrologic data for Cecil County, Maryland**, by R. E. Willey, R. A. McGregor, J. de Grouchy, and M.D. Tompkins: Maryland Geological Survey Basic Data Report No. 16. 1987. 150 pages.

**Ground-water levels from the Maryland observation-well network, 1943-86**, by M.J. Smigaj, and R.G. Davis, Jr.: Maryland Geological Survey Basic Data Report No. 17. 1987. 234 pages.

**Ground-water and surface-water data for Washington County, Maryland**, by M.T. Duigon, J.R. Dine, and M.D. Tompkins: Maryland Geological Survey Basic Data Report No. 18. 1989. 273 pages.

**Ground-water and surface-water data for Howard County, Maryland**, by J.R. Dine, J.C. Adamski, and M.D. Tompkins: Maryland Geological Survey Basic Data Report No. 19. 1992. 240 pages.

**Bulletins**

**Geology and ground-water resources of the Baltimore Area**, by R.R. Bennett, and R.R. Meyer: Department of Geology, Mines and Water Resources Bulletin No. 4. 1952. 573 pages.

**Water resources of Anne Arundel County**, by V.R. Bennion and J.W. Brookhart: Department of Geology, Mines and Water Resources Bulletin No. 5. 1949. 149 pages.

**Water resources of Calvert County**, by V.R. Bennion, D.F. Dougherty, and R.M. Overbeck: Department of Geology, Mines and Water Resources Bulletin No. 8. 1951. 100 pages.

**Geology and water resources of Prince George's County**, by C.W. Cooke, R.O.R. Martin, and Gerald Meyer: Department of Geology, Mines and Water Resources Bulletin No. 10. 1952. 270 pages.

**Water resources of St. Mary's County**, by R.O.R. Martin, and H.F. Ferguson: Department of Geology, Mines and Water Resources Bulletin No. 11. 1953. 195 pages.

**Geology and water resources of Garrett County**, by T.W. Amsden, R.M. Overbeck, and R.O.R. Martin: Department of Geology, Mines and Water Resources Bulletin No. 13. 1954. 349 pages.

**Water resources of Howard and Montgomery Counties**, by R.J. Dingman, Gerald Meyer, and R.O.R. Martin: Department of Geology, Mines and Water Resources Bulletin No. 14. 1954. 260 pages.

**Ground-water resources of the southern Maryland Coastal Plain**, by E.G. Otton: Department of Geology, Mines and Water Resources Bulletin No. 15. 1955. 347 pages.

**Water resources of Somerset, Wicomico, and Worcester Counties**, by W.C. Rasmussen, T.H. Slaughter, and A.E. Hulme, with a section on the Salisbury area, by R.R. Meyer and R.R. Bennett: Department of Geology, Mines and Water Resources Bulletin No. 16. 1955. 535 pages.

**Water resources of Baltimore and Harford Counties**, by R.J. Dingman, H.F. Ferguson, and R.O.R. Martin: Department of Geology, Mines and Water Resources Bulletin No. 17. 1956. 465 pages.

**Water resources of Caroline, Dorchester, and Talbot Counties**, by W.C. Rasmussen, T.C. Slaughter, A.E. Hulme, and J.J. Murphy: Department of Geology, Mines and Water Resources Bulletin No. 18. 1957. 465 pages.

**Water resources of Cecil, Kent, and Queen Anne's Counties**, by R.M. Overbeck, T.C. Slaughter, and A.E. Hulme: Department of Geology, Mines and Water Resources Bulletin No. 21. 1958. 478 pages.

**Water resources of Carroll and Frederick Counties**, by Gerald Meyer and R.M. Beall: Department of Geology, Mines and Water Resources Bulletin No. 22. 1958. 355 pages.

**Water resources of Allegany and Washington Counties**, by T.H. Slaughter, and J.M. Darling: Department of Geology, Mines and Water Resources Bulletin No. 24. 1962. 408 pages.

**Ground-water supplies for industrial and urban development in Anne Arundel County**, by F.K. Mack, and C.A. Richardson: Department of Geology, Mines and Water Resources Bulletin No. 26. 1962. 90 pages.

**Ground water in Prince George's County**, by F.K. Mack: Maryland Geological Survey Bulletin No. 29. 1966 101 pages.

**Availability of ground water in Charles County**, by T.H. Slaughter, E.G. Otton, and C.P. Laughlin: Maryland Geological Survey Bulletin No. 30. 1968. 101 pages.

**Geohydrology of channel-fill deposits near Salisbury, Maryland**, by F.K. Mack, W.O. Thomas, and J.M. Weigle: Maryland Geological Survey Bulletin No. 31. 1972. 124 pages.

**Ground-water resources in Harford County**, by L.J. Nutter: Maryland Geological Survey Bulletin No. 33. 1977. 44 pages.

**Water resources of Frederick County, Maryland**, by M.T. Duigon, and J.R. Dine: Maryland Geological Survey Bulletin No. 33. 1987. 102 pages.

**Water resources and estimated effects of ground-water development, Cecil County, Maryland**, by E.G. Otton, R.E. Willey, R.A. McGregor, Grufron Achmad, S.N. Hiortdahl, and J.M. Gerhart: Maryland Geological Survey Bulletin No. 34. 1988. 133 pages.

**Hydrogeology and ground-water of Somerset County, Maryland**, by W.H. Werkheiser: Maryland Geological Survey Bulletin No. 35. 1990. 156 pages.

**Water resources of Washington County**, by M.T. Duigon, and J.R. Dine: Maryland Geological Survey Bulletin No. 36. 1991. 126 pages.

#### Report of Investigations

**Water resources of the Salisbury area, Maryland**, by D.H. Boggess, and S.G. Heidel: Maryland Geological Survey Report of Investigations No. 3. 1968. 69 pages.

**Ground-water occurrence in the Maryland Piedmont**, by L.J. Nutter, and E.G. Otton: Maryland Geological Survey Report of Investigations No. 10. 1969. 56 pages.

**Water resources of Dorchester and Talbot Counties, Maryland with special emphasis on the ground-water potential of the Cambridge and Easton areas**, by F.K. Mack, W.E. Webb, and R.A. Gardner: Maryland Geological Survey Report of Investigations No. 17. 1971. 107 pages.

**Solid-waste disposal in the geohydrologic environment of Maryland**, by E.G. Otton: Maryland Geological Survey Report of Investigations No. 18. 1972. 59 pages.

**Hydrogeology of the carbonate rocks, Frederick and Hagerstown valleys, Maryland**, by L.J. Nutter: Maryland Geological Survey Report of Investigations No. 19. 1973. 70 pages.

**Hydrogeology of the formation and neutralization of acid water draining from underground coal mines of western Maryland**, by E.F. Holiday, and S.W. McKenzie: Maryland Geological Survey Report of Investigations No. 20. 1973. 50 pages.

**An evaluation of the Magothy Aquifer in the Annapolis Area, Maryland**, by F.K. Mack: Maryland Geological Survey Report of Investigations No. 22. 1974. 75 pages.

**Availability of fresh ground water in northern Worcester County, Maryland, with Special Emphasis on the Ocean City area**, by J.M. Weigle: Maryland Geological Survey Report of Investigations No. 24. 1974. 64 pages.

**Hydrogeology of the Triassic Rocks of Maryland**, by L.J. Nutter: Maryland Geological Survey Report of Investigations No. 26. 1975. 37 pages.

**Digital simulation and prediction of water levels in the Magothy aquifer in southern Maryland**, by F.K. Mack, and R.J. Mandle: Maryland Geological Survey Report of Investigations No. 28. 1977. 42 pages.

**Simulated changes in water level in the Piney Point aquifer in Maryland**, by J.F. Williams: Maryland Geological Survey Report of Investigations No. 31. 1979. 50 pages.

**A quasi three-dimensional finite-difference ground-water flow model with a field application**, by Grufron Achmad, and J.M. Weigle: Maryland Geological Survey Report of Investigations No. 33. 1979. 58 pages.

**The Availability in ground water in western Montgomery County, Maryland**, by E.G. Otton: Maryland Geological Survey Report of Investigations No. 34. 1981. 76 pages.

**Geohydrology of the fresh aquifer system in the vicinity of Ocean City, Maryland with a section on simulated Water-Level Changes**, by J.M. Weigle, and Grufron Achmad: Maryland Geological Survey Report of Investigations No. 37. 1982. 55 pages.

**Hydrogeology, digital simulation, and geochemistry of the Aquia and Piney Point-Manjemo aquifer system in Southern Maryland**, by F.H. Chapelle, and D.D. Drummond: Maryland Geological Survey Report of Investigations No. 38. 1983. 100 pages.

**Hydrogeology of the upper Chesapeake Bay area Maryland, with emphasis on aquifers of the Potomac Group**, by E.G. Otton, and R.J. Mandle: Maryland Geological Survey Report of Investigations No. 39. 1984. 62 pages.

**The Columbia aquifer of the Eastern Shore of Maryland. Part 1: Hydrogeology**, by L.J. Bachman, 1984. 34 pages. **Part 2: Selected water-well records, chemical analysis, water-level measurements, lithologic logs, and geophysical logs**, by J.M. Wilson, 1984. 110 pages: Maryland Geological Survey Report of Investigations No. 40.

**First report on the hydrologic effects of underground coal mining in southern Garrett County, Maryland**, by M.T. Duigon, and M.J. Smigaj: Maryland Geological Survey Report of Investigations No. 41. 1985. 99 pages.

**Hydrologic and mining data from an area of underground coal mining in Garrett County, Maryland**, by S. N. Hiortdahl: Maryland Geological Survey Report of Investigations No. 41-A. 1988. 81 pages.

**Maryland springs - Their physical, thermal, and chemical characteristics**, by E. G. Otton, and J. T. Hilleary: Maryland Geological Survey Report of Investigations No. 44. 1985. 151 pages.

**Hydrogeology, digital solute-transport simulation, and geochemistry of the Lower Cretaceous aquifer system near Baltimore, Maryland**, by F.H. Chapelle: Maryland Geological Survey Report of Investigations No. 43. 1985. 120 pages.

**Simulation of ground-water flow and base flow in weathered crystalline rock, Upper Cattail Creek, Howard County, Maryland**, by R.E. Willey, and Grufron Achmad: Maryland Geological Survey Report of Investigations No. 45. 1986. 68 pages.

**Evaluation of the water-supply potential of aquifers in the Potomac Group of Anne Arundel County, Maryland**, by F.K. Mack, and Grufron Achmad: Maryland Geological Survey Report of Investigations No. 46. 1986. 111 pages.

**Ground-water in the coastal plain, Harford County, Maryland**, by David Drummond: Maryland Geological Survey Report of Investigations No. 50. 1988.

**Hydrogeology, brackish-water occurrence, and simulation of flow and brackish-water movement in the Aquia aquifer in the Kent Island area, Maryland**, by D.D. Drummond: Maryland Geological Survey Report of Investigations No. 51. 1988. 131 pages.

**Geology and hydrologic assessment of Coastal Plain aquifers in the Waldorf area, Charles County, Maryland**, by J.M. Wilson, and W.B. Fleck: Maryland Geological Survey Report of Investigations No. 53. 1990. 138 pages.

**Simulated hydrologic effects of the development of the Patapsco aquifer system in Glen Burnie, Anne Arundel County, Maryland**, by Grufron Achmad: Maryland Geological Survey Report of Investigations No. 54. 1991. 96 pages.

**Effects of development and novel construction techniques on yield of water well drilled in crystalline rock, Westminster, Maryland**, by M. T. Duigon: Maryland Geological Survey Report of Investigations No. 56. 1992. 53 pages.

**Hydrogeologic framework and the distribution and movement of brackish water in the Ocean City - Manokin Aquifer system at Ocean City, Maryland**, by Grufron Achmad and J. M. Wilson: Maryland Geological Survey Report of Investigations No. 57. 1993. 125 pages.

**Hydrogeology, water-supply potential, and water quality of the Coastal Plain aquifers of Harford County, Maryland**, by D. D. Drummond and J. D. Blomquist: Maryland Geological Survey Report of Investigations No. 58. 1993. 160 pages.

#### Open-File Reports

##### Hydrogeology

**Availability of ground water for urban and industrial development in upper Montgomery County, Maryland**, by P.M. Johnston, and E.G. Otton: Maryland Geological Survey Open-File Report No. 63-02-1. 1963. 47 pages.

**Ground-water aquifers and mineral commodities of Maryland**, Prepared in cooperation with the Maryland Department of State Planning: Maryland Geological Survey Open-File Report No. 69-06-1. 1969. 36 pages.

**A User's guide for the Artesian aquifers of the Maryland Coastal Plain. Part One: Introductory definitions and examples.** 86 pages. **Part Two: Aquifer characteristics.** by H.J. Hansen: Maryland Geological Survey Open-File Report No. 72-02-01. 1972. 123 pages.

**Geologic and hydrologic data from two core holes drilled through the Aquia Formation (Eocene-Paleocene) in Prince George's and Queen Anne's Counties, Maryland**, by H.J. Hansen: Maryland Geological Survey Open-File Report No. 77-02-1. 1977. 77 pages.

**Waste Gate Formation. Part One: Hydrogeologic framework and potential utilization of the brine aquifers of the Waste Gate Formation, a new unit of the Potomac Group underlying the Delmarva Peninsula**, by H.J. Hansen, 1982. 50 pages. **Part Two: Palynology of the continental Cretaceous sediments, Crisfield geothermal test well, eastern Maryland**, by J.A. Doyle: Maryland Geological Survey Open-File Report No. 82-02-1. 1982. 37 pages.

**Summary of hydrogeologic data from a deep (2,678 Ft.) well at Lexington Park, St. Mary's County, Maryland**, by H.J. Hansen, and J.M. Wilson: Maryland Geological Survey Open-File Report No. 84-02-1. 1984. 61 pages.

**Stratigraphy, hydrogeology, and water chemistry of the Cretaceous aquifers of the Waldorf/La Plata Area, Charles County, Maryland**, by J.M. Wilson: Maryland Geological Survey Open-File Report No. 86-02-2. 1986. 66 pages.

**Summary of hydrogeologic data from a test well (1,725 Ft.) drilled in Tuckahoe State Park, Queen Anne's County, Maryland**, by D.C. Andreasen, and H.J. Hansen: Maryland Geological Survey Open-File Report No. 87-02-3. 1987. 47 pages.

**Selected geohydrologic characteristics of the Patapsco aquifers at Chalk Point, Prince George's County**, by F.K. Mack: Maryland Geological Survey Open-File Report No. 88-02-4. 1988. 36 pages.

**Hydrogeology and stratigraphy of a 1,515-Foot test Well drilled near Princess Anne, Somerset County, Maryland**, by H.J. Hansen, and J.M. Wilson: Maryland Geological Survey Open-File Report No. 91-02-5. 1990. 59 pages.

**Geohydrologic data for the Coastal Plain sediments underlying Broadneck peninsula, Anne Arundel County, Maryland**, by F.K. Mack, and D.C. Andreasen: Maryland Geological Survey Open-File Report No. 92-02-6. 1991. 76 pages.

#### Information Circulars

**The Electric Log: Geophysic's contribution to ground-water prospecting and evaluation**, by H.J. Hansen: Maryland Geological Survey Information Circular No. 4. 1967. 11 pages.

**Well yields in the bedrock aquifers of Maryland**, by L.J. Nutter: Maryland Geological Survey Information Circular No. 16. 1974. 24 pages.

**A digital simulation model of the Aquia aquifer in southern Maryland**, by G.W. Kapple, and H.J. Hansen: Maryland Geological Survey Information Circular No. 20. 1976. 34 pages.

**Hydrogeologic characteristics of the Waste Gate Formation, A new subsurface unit of the Potomac Group underlying the eastern Delmarva Peninsula**, by H.J. Hansen: Maryland Geological Survey Information Circular No. 39. 1984. 24 pages.

#### Maps

##### Quadrangle Atlases

**Cockeysville Quadrangle: Geology, hydrology, and mineral resources**, by E.G. Otton, E.T. Cleaves, W.P. Crowley, K.R. Kuff, and Jurgen Reinhardt: Maryland Geological Survey Quadrangle Atlas No. 3. 1975. 8 maps.

**White Marsh Quadrangle: Geology, hydrology, and mineral resources**, by E.T. Cleaves, K.R. Kuff, W.P. Crowley, and Jurgen Reinhardt: Maryland Geological Survey Quadrangle Atlas No. 4. 1979. 3 maps. Five other maps for this atlas are available for inspection at MGS: by E.T. Cleaves, and E.G. Otton.

**Jarrettsville Quadrangle hydrogeology**, by L.J. Nutter: Maryland Geological Survey Quadrangle Atlas No. 5. 1977. 4 maps.

**Bel Air Quadrangle hydrogeology**, by L.J. Nutter: Maryland Geological Survey Quadrangle Atlas No. 6. 1977. 4 maps.

**Hydrogeologic Atlas, Reisterstown Quadrangle, Baltimore County, Maryland**, by M.T. Duigon, and W.P. Crowley: Maryland Geological Survey Quadrangle Atlas No. 7. 1983. 6 maps.

**Hydrogeologic Atlas Westminster Quadrangle, Carroll County, Maryland**, by E.G. Otton: Maryland Geological Survey Quadrangle Atlas No. 9. 1979. 5 maps.

**Hydrogeologic Atlas Winfield Quadrangle, Carroll County, Maryland**, by E.G. Otton: Maryland Geological Survey Quadrangle Atlas No. 10. 1980. 5 maps.

**Hydrogeologic Atlas New Windsor Quadrangle, Carroll County, Maryland**, by E.G. Otton: Maryland Geological Survey Quadrangle Atlas No. 11. 1980. 5 maps.

**Hydrogeologic Atlas Hampstead Quadrangle, Carroll County, Maryland,** by M.T. Duigon: Maryland Geological Survey Quadrangle Atlas No. 12. 1981. 5 maps.

**Hydrogeologic Atlas Lineboro Quadrangle, Carroll County, Maryland,** by M.T. Duigon, E.G. Otton, and J.T. Hilleary: Maryland Geological Survey Quadrangle Atlas No. 13. 1981. 5 maps.

**Hydrogeologic Atlas Littlestown Quadrangle, Carroll County, Maryland,** by J.M. Weigle, and J.T. Hilleary: Maryland Geological Survey Quadrangle Atlas No. 14. 1981. 5 maps.

**Hydrogeologic Atlas Manchester Quadrangle, Carroll County, Maryland,** by E.G. Otton: Maryland Geological Survey Quadrangle Atlas No. 15. 1981. 5 maps.

**Hydrogeologic Atlas Taneytown-Emitsburg Quadrangles, Carroll County, Maryland,** by J.M. Weigle: Maryland Geological Survey Quadrangle Atlas No. 16. 1981. 5 maps.

**Hydrogeologic Atlas Union Bridge-Woodboro Quadrangles, Carroll County, Maryland,** by J.M. Weigle: Maryland Geological Survey Quadrangle Atlas No. 17. 1981. 5 maps.

**Hydrogeologic Atlas Hereford Quadrangle, Baltimore County, Maryland,** by M.T. Duigon, and J.T. Hilleary: Maryland Geological Survey Quadrangle Atlas No. 18. 1981. 5 maps.

**Hydrogeologic Atlas Finksburg Quadrangle, Carroll County, Maryland,** by J.F. Williams: Maryland Geological Survey Quadrangle Atlas No. 19. 1981. 5 maps.

**Hydrogeologic Atlas New Freedom Quadrangle, Baltimore County, Maryland,** by M.T. Duigon: Maryland Geological Survey Quadrangle Atlas No. 20. 1983. 5 maps.

**Hydrogeologic Atlas Ellicott City Quadrangle, Baltimore and Howard Counties, Maryland,** by M.T. Duigon: Maryland Geological Survey Quadrangle Atlas No. 21. 1983. 5 maps.

**Hydrogeologic Atlas Phoenix Quadrangle, Baltimore and Harford Counties, Maryland,** by E.G. Otton: Maryland Geological Survey Quadrangle Atlas No. 22. 1983. 5 maps.

**Hydrogeologic Atlas Morrisville Quadrangle, Baltimore and Harford Counties, Maryland,** by E.G. Otton: Maryland Geological Survey Quadrangle Atlas No. 23. 1983. 5 maps.

#### **SELECTED U.S.GEOLOGICAL SURVEY REPORTS ON GROUND-WATER RESOURCES IN THE DISTRICT OF COLUMBIA**

Listed below is a selection of reports on ground-water resources in Washington, D. C. which are available through the U.S. Geological Survey, Book and Open-File Reports, Federal Center, Building 41, Box 25425, Denver, Colorado 80225.

##### **Water-Supply Paper**

**Geology and ground-water resources of Washington, D.C., and vicinity,** by P. M. Johnston, with a section on Chemical quality of the water, by D. E. Weaver and Leonard Siu: U.S. Geological Survey Water-Supply Paper 1776. 1964. 133 pages.

##### **Open-File Report**

**Maryland and the District of Columbia ground-water quality,** by J.C. Wheeler: U.S. Geological Survey Open-File Report No. 87-0730. 1988. 10 pages.

## WATER RESOURCES DATA - MARYLAND AND DELAWARE, 1993

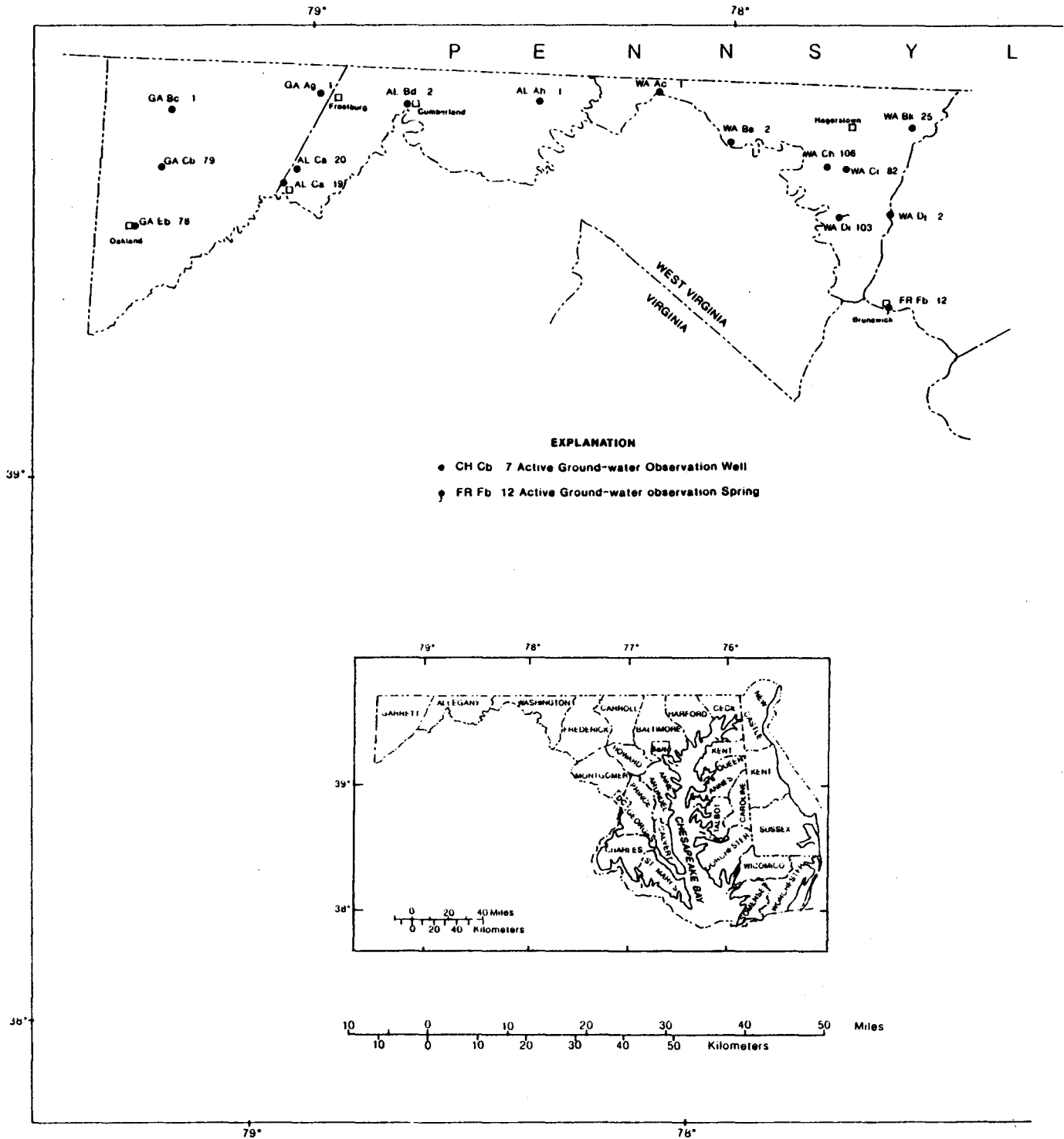
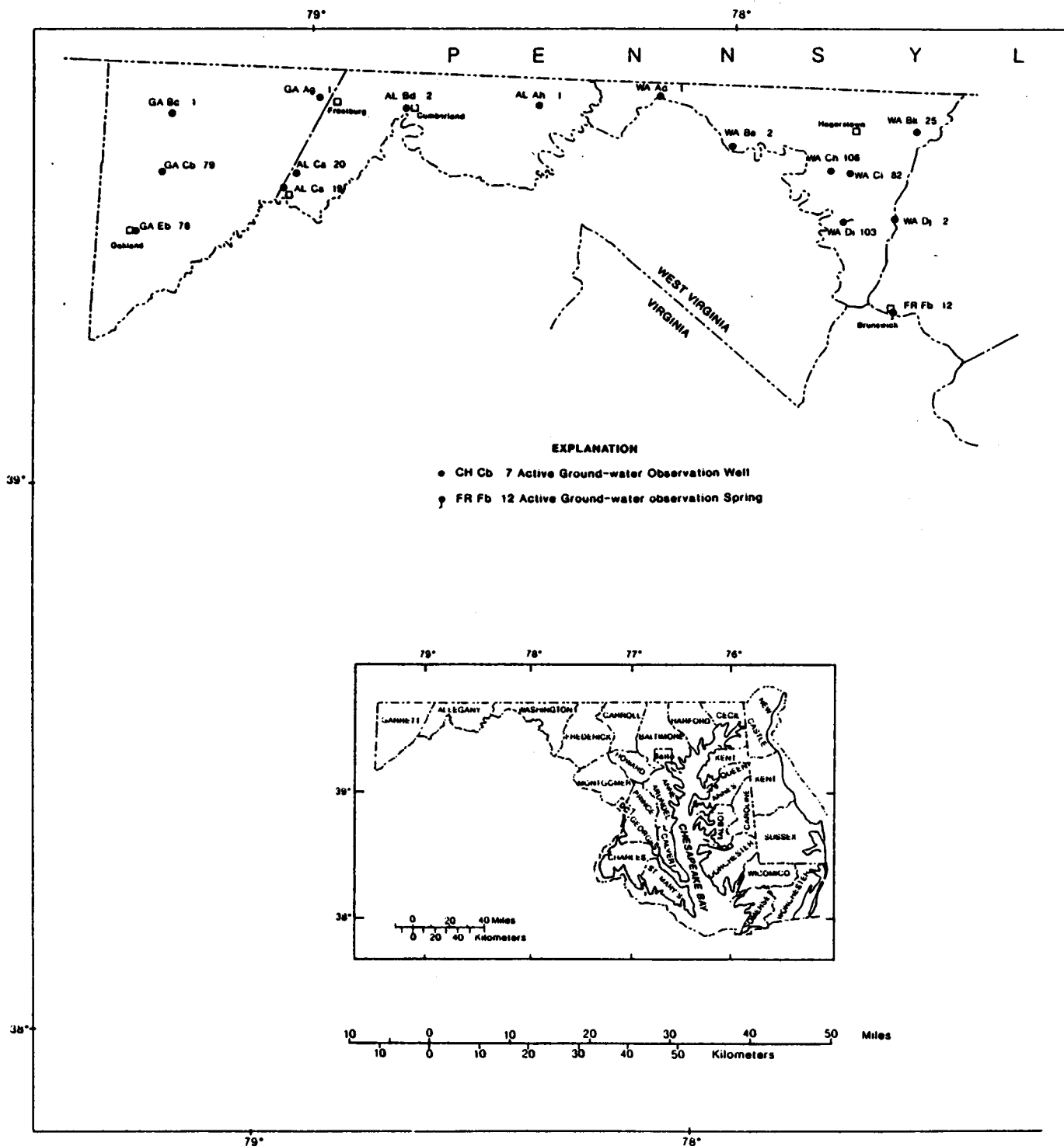


Figure 3. Location of Maryland and Delaware ground-water network observation wells and springs.



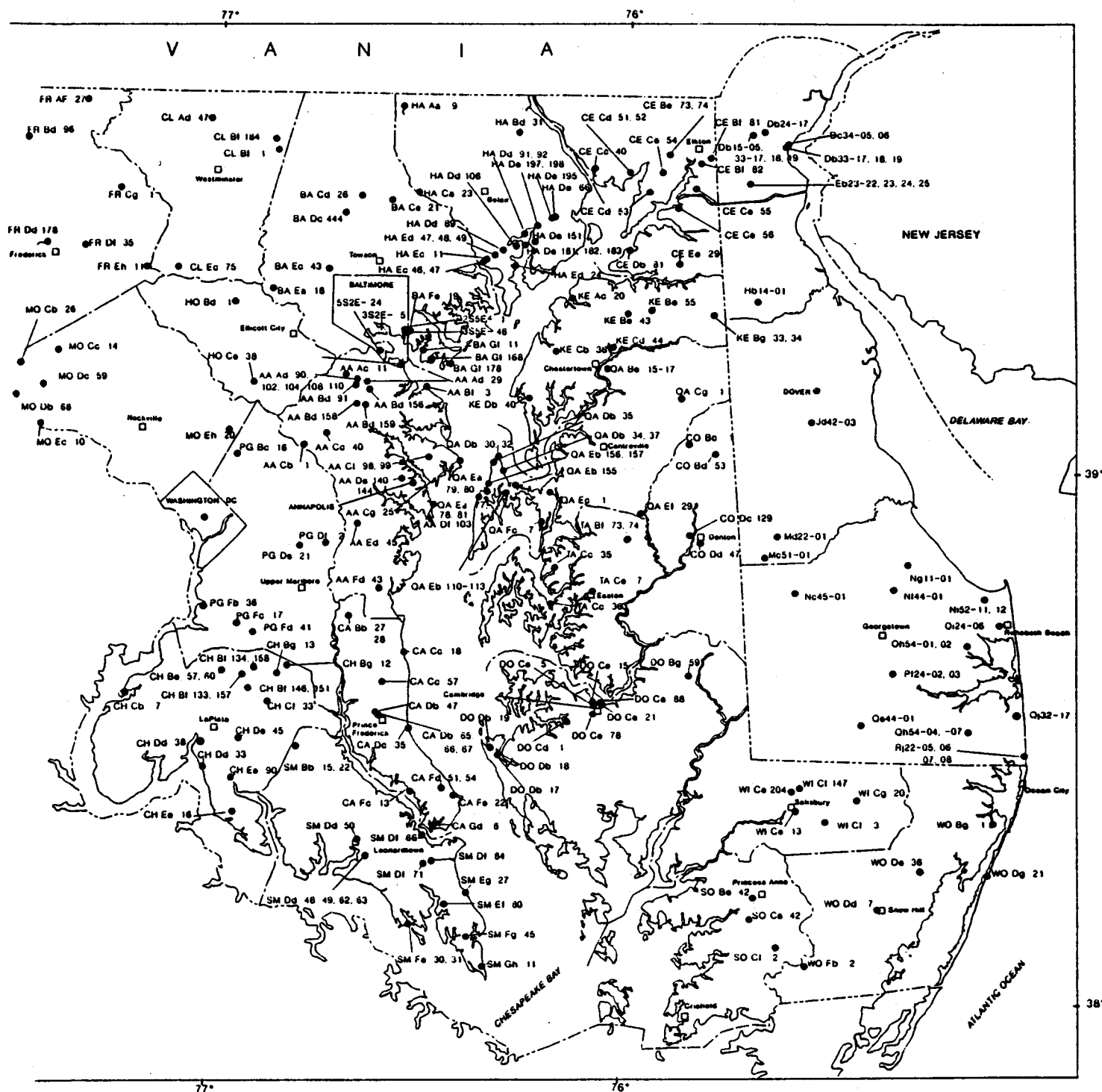
# WATER RESOURCES DATA - MARYLAND AND DELAWARE, 1993



base map modified from U.S. Geological Survey 1:500,000

Figure 4. Location of Maryland project ground-water observation wells.







## GROUND-WATER SPRING DISCHARGE

**MARYLAND--Continued**

**FREDERICK COUNTY**

SPRING NUMBER.--FR Dd 178. SITE ID.--392552077262201.

LOCATION.--Lat 39°25'52", long 77°26'22", Hydrologic Unit 02070009, at Montview State Hospital.

Owner: Montview State Hospital.

**AQUIFER.--Frederick Limestone of Lower Cambrian age. Aquifer code: 377FDCK.**

SPRING IMPROVEMENTS.--Springhouse with discharge pipe.

**INSTRUMENTATION.**--Monthly current meter discharge measurements by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 315 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Maryland Water-Level and Water Quality Network observation spring. Temperatures are available.

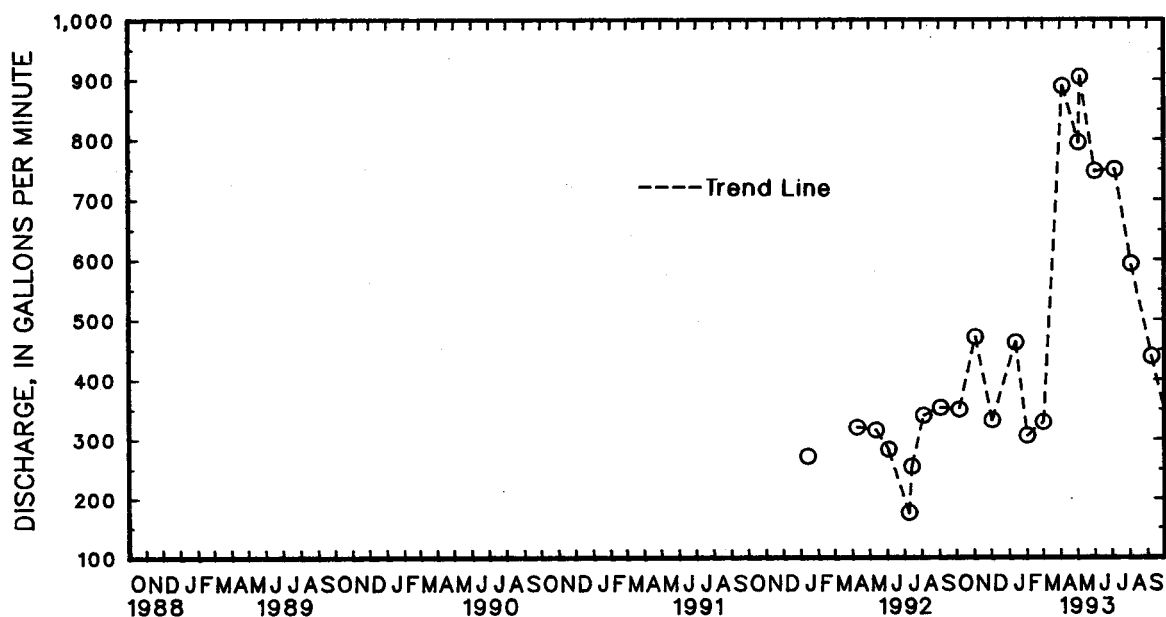
PERIOD OF RECORD.--April 1981, February 1989, September 1989, April 1991 and March 1992 to current year.

**EXTREMES FOR PERIOD OF RECORD.**--Maximum discharge measured, 904 gal/min, May 6, 1993;

minimum discharge measured, 180 gal/min, April 17, 1991.

**DISCHARGE, IN GALLONS PER MINUTE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993**

DATE	DISCHARGE	DATE	DISCHARGE	DATE	DISCHARGE	DATE	DISCHARGE	DATE	DISCHARGE
OCT 6	350	JAN 12	462	APR 4	889	JUN 1	745	AUG 3	590
NOV 3	471	FEB 1	304	MAY 3	794	JUL 6	748	SEP 8	435
DEC 2	330	MAR 1	327	MAY 6	904				
WATER YEAR 1993	MAXIMUM	904	APR 4, 1993	MINIMUM	304	SEP 9, 1993			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER SPRING DISCHARGE

MARYLAND--Continued

HARFORD COUNTY

SPRING NUMBER.--HA Aa 9. SITE ID.--394153076325701.

LOCATION.--Lat 39°41'53", long 76°32'57", Hydrologic Unit 02050306, 30 ft south of Church Lane, .5 mi west of Norrisville.

Owner: Milton Smith.

AQUIFER.--Prettyboy Schist of Paleozoic age. Aquifer code: 300PTRB.

SPRING IMPROVEMENTS.--4 in. plastic outflow pipe.

INSTRUMENTATION.--Monthly volumetric measurements by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 640 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Maryland Water-Level and Water Quality Network observation spring. Temperature readings are available.

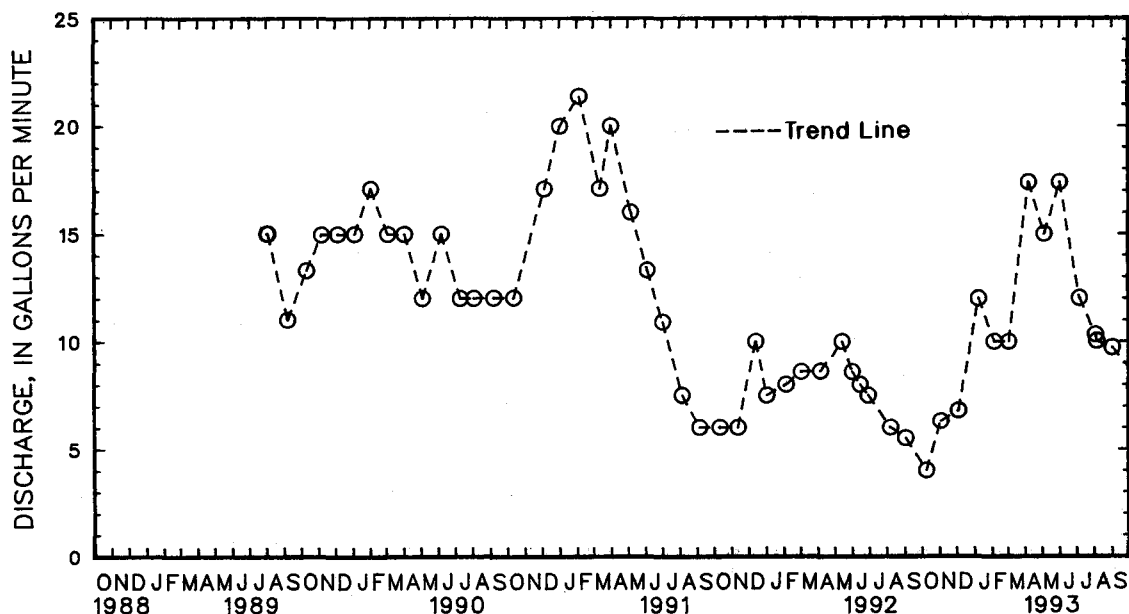
PERIOD OF RECORD.--October 1980, August 1989 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge measured, 21.4 gal/min, Feb. 5, 1991;  
minimum discharge measured, 4.0 gal/min, Oct. 8, 1992.

DISCHARGE, IN GALLONS PER MINUTE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	DISCHARGE	DATE	DISCHARGE	DATE	DISCHARGE	DATE	DISCHARGE	DATE	DISCHARGE
OCT 8	4.0	JAN 8	12.0	APR 7	17.4	JUN 1	17.4	AUG 5	10.0
NOV 3	6.3	FEB 4	6.8	MAY 5	15.0	JUL 6	12.0	SEP 1	9.7
DEC 4	6.8	MAR 2	10.0						

WATER YEAR 1993    MAXIMUM    17.4    JUN 1, 1993    MINIMUM    4.0    OCT 8, 1992



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER SPRING DISCHARGE

MARYLAND--Continued

WASHINGTON COUNTY

SPRING NUMBER.--WA Di 103. SITE ID.--392836077442701.

LOCATION.--Lat 39°28'36", long 77°44'27", Hydrologic Unit 02070004, 0.2 mi southeast of Smoketown Rd. and Mummas Lane, 1.0 mi north of Sharpsburg.

Owner: National Park Service, Antietam National Battlefield.

AQUIFER.--Conococheague Limestone of Upper Cambrian age. Aquifer code: 371CCCG.

SPRING IMPROVEMENTS.--Spring House with cement trough.

INSTRUMENTATION.--Monthly volumetric discharge measurements by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 475 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Maryland Water-Level and Water Quality Network observation spring. Temperature readings are available.

PERIOD OF RECORD.--May 1969, April 1987, and January 1991 to current year.

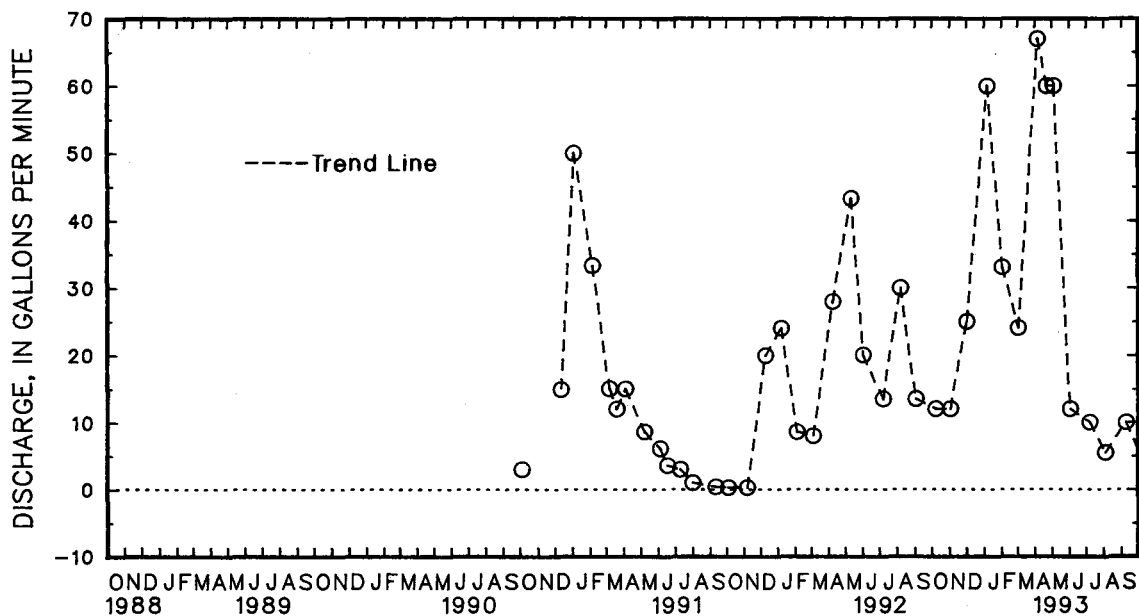
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge measured, 67.0 gal/min, April 4, 1993;

minimum discharge measured, 0.3 gal/min, Oct. 4, 1991 and Nov. 7, 1991.

## DISCHARGE, IN GALLONS PER MINUTE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	DISCHARGE	DATE	DISCHARGE	DATE	DISCHARGE	DATE	DISCHARGE	DATE	DISCHARGE
OCT 7	12.0	JAN 6	60.0	APR 6	67.0	JUN 2	12.0	AUG 4	5.5
NOV 2	12.0	FEB 2	33.0	MAY 4	60.0	JUL 7	10.0	SEP 9	10.0
DEC 1	25.0	MAR 2	24.0						

WATER YEAR 1993    MAXIMUM    67.0    APR 4, 1993    MINIMUM    10.0    JUL 7, 1993,    SEP 9, 1993



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

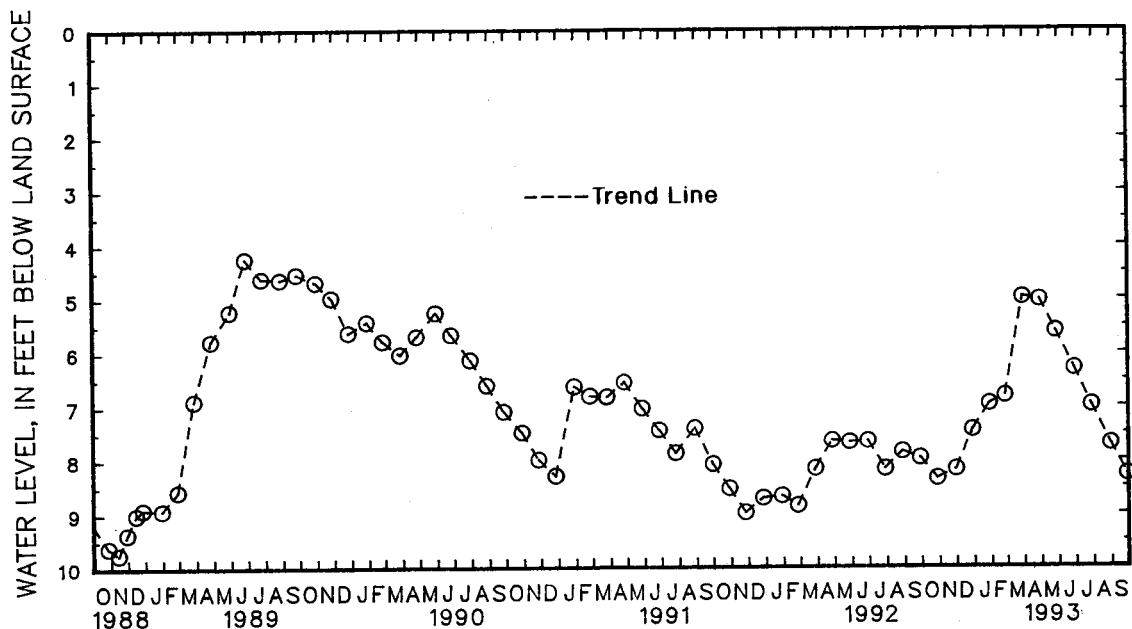
DELAWARE--Continued

## KENT COUNTY

WELL NUMBER.--Jd42-03. SITE ID.--390607075331501. PERMIT NUMBER.--10230.  
 LOCATION.--Lat 39°06'07", long 75°33'15", Hydrologic Unit 02040207, 1 mi south of Camden.  
 Owner: Delaware Department of Transportation.  
 AQUIFER.--Columbia Group of Pleistocene age. Aquifer code: 112CLMB.  
 WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 11 ft; casing diameter 1.25 in., to 8.5 ft; well point from 8.5 to 11 ft.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape or electric sensing device by U.S. Geological Survey or Delaware Geological Survey personnel.  
 DATUM.--Elevation of land surface is 44 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
 Measuring point: Top of casing at land surface.  
 PERIOD OF RECORD.--October 1950 to December 1961, August 1971 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.69 ft below land surface, July 18, 1975; lowest measured, 10.10 ft below land surface, Nov. 28, 1986.

## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	8.35	DEC 29	7.44	FEB 25	6.81	APR 28	5.03	JUN 28	6.31	AUG 30	7.71
NOV 30	8.18	JAN 28	6.96	MAR 29	4.98	MAY 26	5.61	JUL 28	6.99	SEP 28	8.28
WATER YEAR 1993		HIGHEST	4.98	MAR 29, 1993		LOWEST	8.35	OCT 28, 1992			



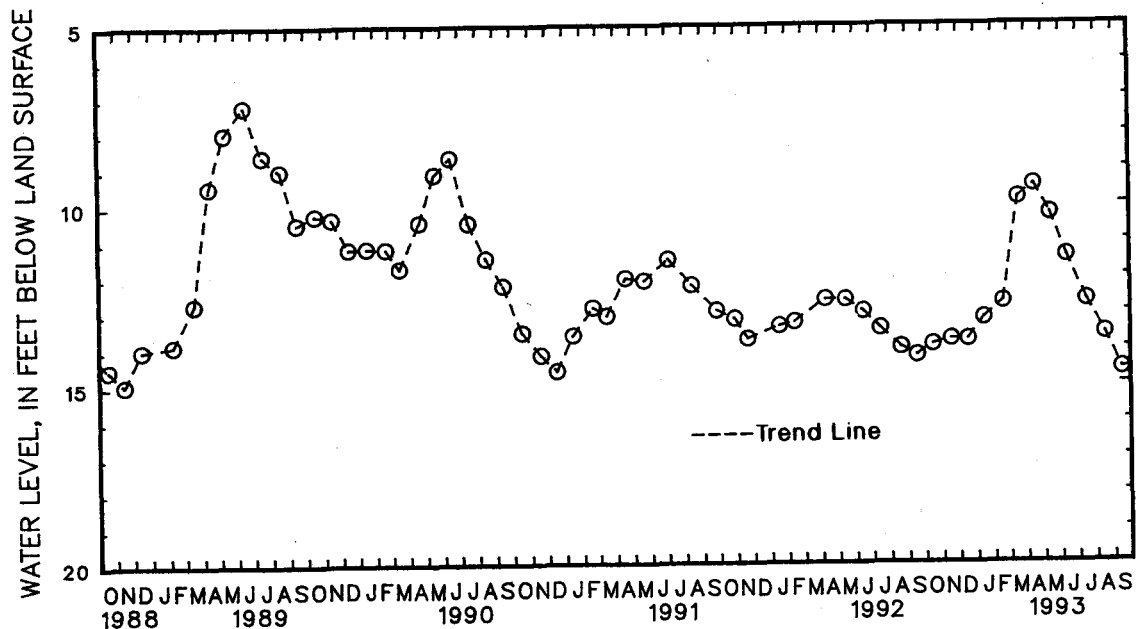
5 YEAR HYDROGRAPH  
 OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
DELAWARE--Continued  
KENT COUNTY--Continued

WELL NUMBER.--Mc51-01. SITE ID.--385041075395601.  
LOCATION.--Lat 38°50'41", long 75°39'56", Hydrologic Unit 02060008, 1.3 mi northeast of Adamsville.  
Owner: Delaware Department of Transportation.  
AQUIFER.--Columbia Group of Pleistocene age. Aquifer code: 112CLMB.  
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 19 ft; casing diameter 2 in., to 15 ft; well point from 15 to 19 ft.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
DATUM.--Elevation of land surface is 55 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
Measuring point: Top of casing at land surface.  
PERIOD OF RECORD.--September 1958 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.28 ft below land surface, May 31, 1984; lowest measured, 16.29 ft below land surface, Jan. 19, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15	13.93	DEC 17	13.79	FEB 17	12.75	APR 14	9.49	JUN 11	11.47	AUG 16	13.64
NOV 17	13.78	JAN 14	13.19	MAR 17	9.85	MAY 13	10.29	JUL 15	12.71	SEP 15	14.63
WATER YEAR 1993		HIGHEST 9.49 APR 14, 1993		LOWEST 14.63 SEP 15, 1993							



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993



## GROUND-WATER LEVELS

DELAWARE--Continued

KENT COUNTY--Continued

WELL NUMBER.--Md22-01. SITE ID.--385310075331301. PERMIT NUMBER.--10221.

LOCATION.--Lat 38°53'10", long 75°33'13", Hydrologic Unit 02040207, 2.4 mi west of Williamsville.

Owner: Delaware Department of Transportation.

AQUIFER.--Columbia Group of Pleistocene age. Aquifer code: 112CLMB

WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 17 ft; casing diameter 1 in., to 14 ft; well point from 14 to 17 ft.

INSTRUMENTATION.--Bimonthly measurements with chalked steel tape by U.S. Geological Survey, and Delaware Geological Survey personnel.

DATUM.--Elevation of land surface is 58 ft above National Geodetic Vertical Datum of 1929, from topographic map.

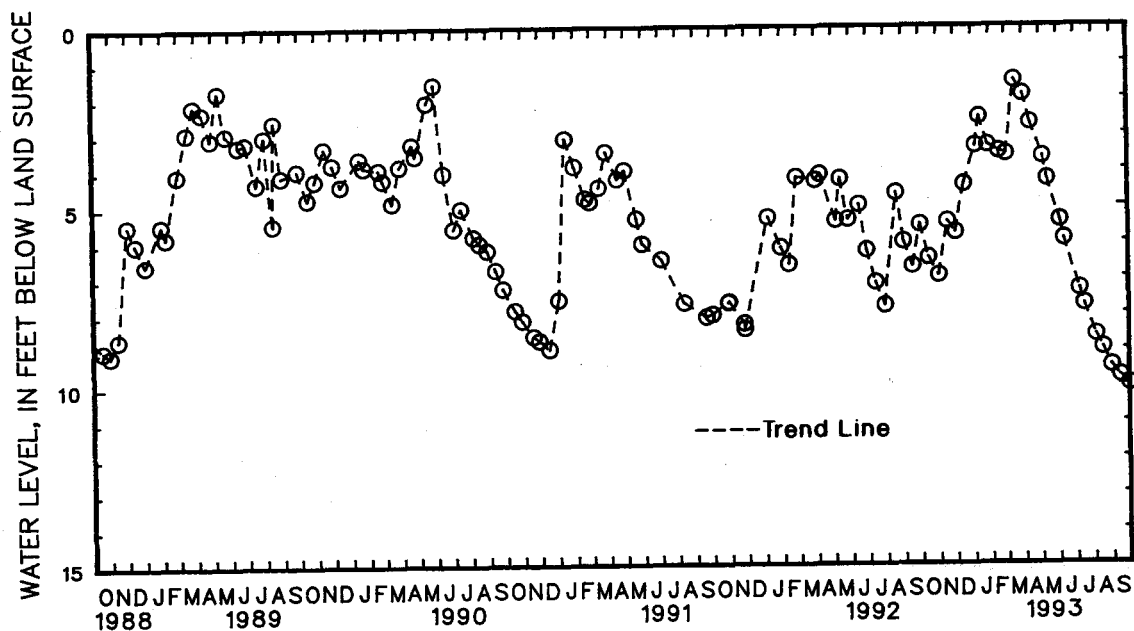
Measuring point: Top of casing at land surface.

PERIOD OF RECORD.--September 1958 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.07 ft below land surface, July 14, 1975; lowest measured, 11.14 ft below land surface, Jan. 6, 1966.

## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15	6.46	DEC 17	4.42	FEB 17	3.52	APR 14	2.72	JUN 11	5.95	AUG 16	9.00
NOV 2	6.96	JAN 6	3.37	MAR 2	3.60	MAY 5	3.67	JUL 7	7.36	31	9.50
17	5.45	14	2.54	17	1.53	13	4.29	15	7.78	SEP 15	9.78
DEC 1	5.76	28	3.35	APR 1	1.92	JUN 4	5.43	AUG 4	8.64	30	10.00
WATER YEAR 1993		HIGHEST	1.53	MAR 17, 1993	LOWEST	10.00	SEP 30, 1993				



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

DELAWARE--Continued

NEW CASTLE COUNTY

WELL NUMBER.--Db15-05. SITE ID.--393917075401601.

LOCATION.--Lat 39°39'17", long 75°40'16", Hydrologic Unit 02040205, Smalley's Dam,  
at the Wilmington Suburban Water Co. plant.

Owner: Wilmington Suburban Water Co.

AQUIFER.--Potomac Group of Lower Cretaceous age. Aquifer code: 217PTMC.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 306 ft; casing diameter 12 in., to 215.5 ft,  
and 238.5 to 273.5 ft, screen diameter 12 in., from 215.5 to 238.5 ft and 273.5 to 306 ft.

INSTRUMENTATION.--Twice yearly measurements with chalked steel tape by U.S. Geological Survey personnel.

Equipped with graphic water-level recorder from March 1979 to November 1981.

DATUM.--Elevation of land surface is 20 ft above National Geodetic Vertical Datum of 1929, from topographic map.

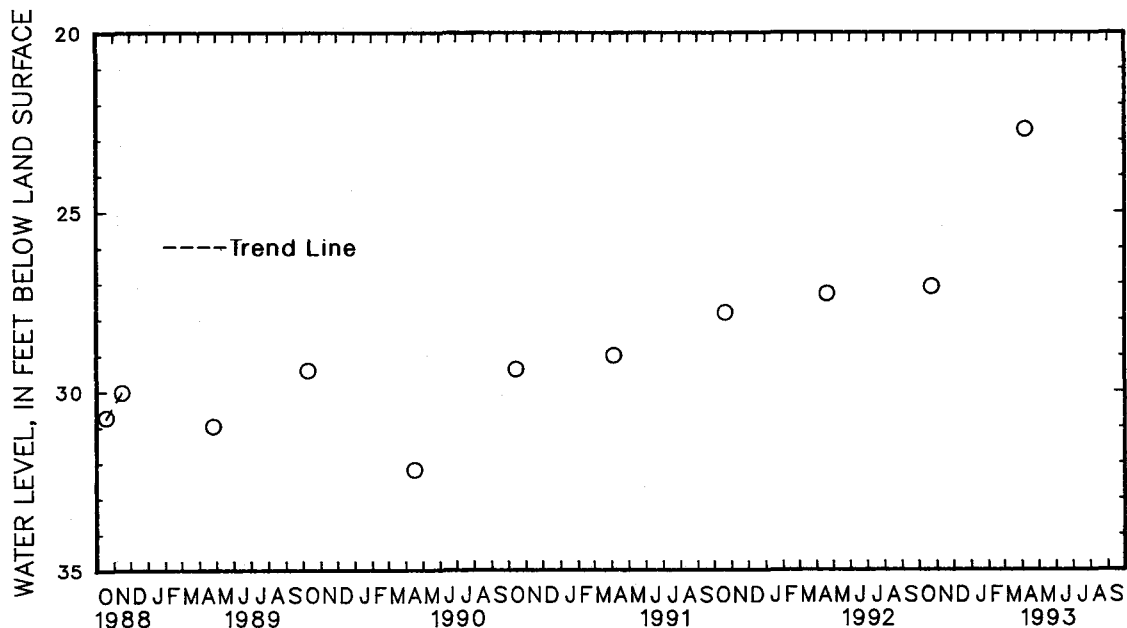
Measuring Point: Top of 12 in. casing, 1.5 ft above land surface.

PERIOD OF RECORD.--March 1979 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 22.70 ft below land surface, April 7, 1993;  
lowest measured, 39.31 ft below land surface, Sept. 30, 1981.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	27.08	APR 7	22.70
WATER YEAR 1993      HIGHEST    22.70    APR 7, 1993      LOWEST    27.08    OCT 23, 1992			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

DELAWARE--Continued

NEW CASTLE COUNTY--Continued

WELL NUMBER.--Db24-17. SITE ID.--393856075415402. PERMIT NUMBER.--65430.

LOCATION.--Lat 39°38'56", long 75°41'54", Hydrologic Unit 02040205, 2 mi south of Ogletown.

Owner: Delaware Department of Transportation.

AQUIFER.--Columbia Group of Pleistocene age. Aquifer code: 112CLMB.

WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 22 ft; casing diameter 2 in., to 17 ft; screen diameter 2 in., from 17 to 22 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by Delaware Geological Survey personnel.

DATUM.--Elevation of land surface is 77 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of casing, 0.55 ft above land surface.

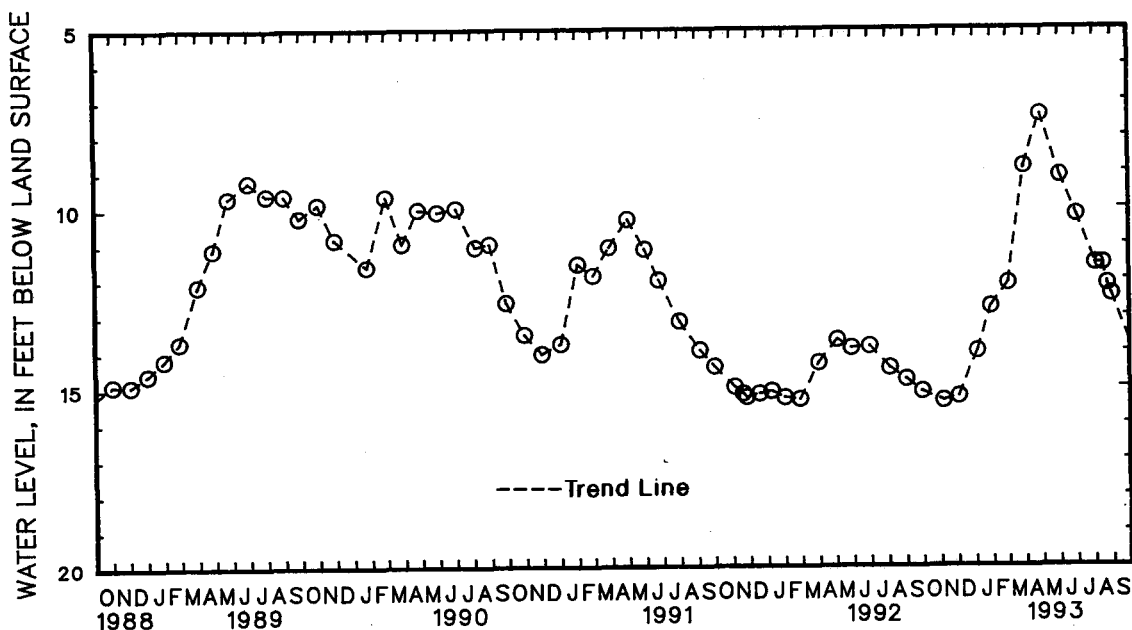
REMARKS.--Water-level measurements furnished by Delaware Geological Survey.

PERIOD OF RECORD.--June 1986 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 7.42 ft below land surface, April 29, 1993; lowest measured, 15.74 ft below land surface, Nov. 10, 1986.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 5	15.40	JAN 29	12.77	APR 29	7.42	AUG 3	11.59	AUG 30	12.46
DEC 2	15.28	MAR 1	12.12	JUN 2	9.14	16	11.59		
JAN 5	14.02	30	8.87	JUL 1	10.23	23	12.17		
WATER YEAR 1993		HIGHEST	7.42	APR 29, 1993	LOWEST	15.40	NOV 5, 1992		



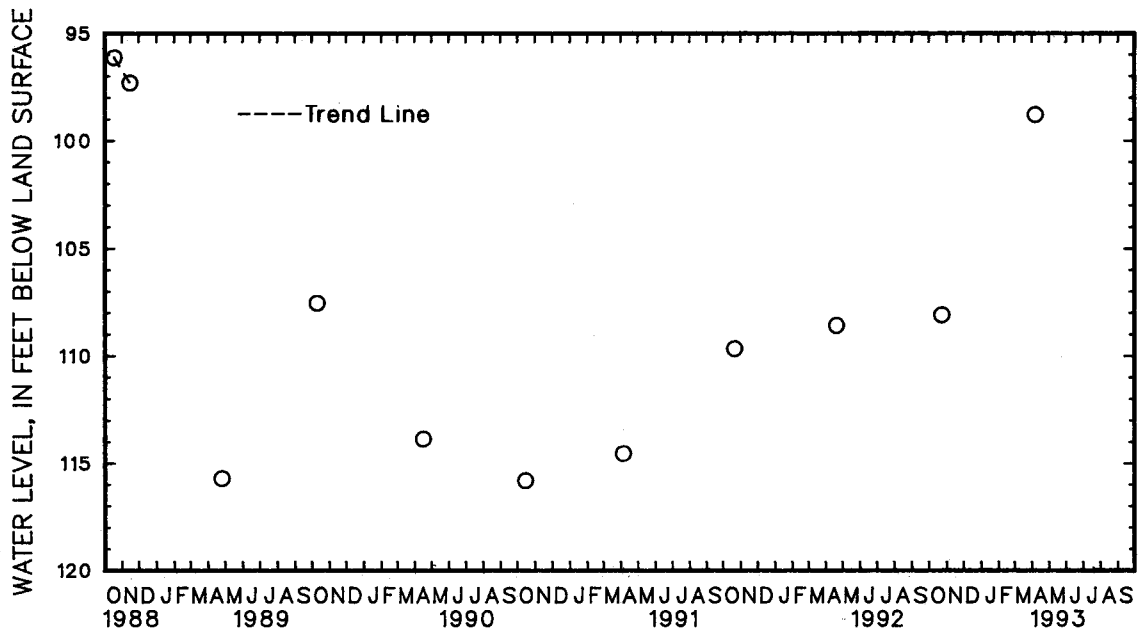
5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
DELAWARE--Continued  
NEW CASTLE COUNTY--Continued

WELL NUMBER.--Db33-17. SITE ID.--393734075371103. PERMIT NUMBER--44612.  
LOCATION.--Lat 39°37'34", long 75°37'11", Hydrologic Unit 02040205, off Salem Church Rd., near Beck's Pond.  
Owner: U.S. Geological Survey.  
AQUIFER.--Potomac Group of Lower Cretaceous age. Aquifer code: 217PTMC.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 189 ft; casing diameter 2 in., to 185 ft; screen diameter 2 in., from 185 to 189 ft. Installed in a 8 in. borehole with Db33-18, and Db33-19.  
INSTRUMENTATION.--Twice yearly measurements with chalked steel tape by U.S. Geological Survey personnel.  
Measured monthly from October 1980 to November 1981.  
DATUM.--Elevation of land surface is 48 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
Measuring Point: Top of coupling, 1.75 ft above land surface.  
PERIOD OF RECORD.--October 1980 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 96.13 ft below land surface, Oct. 18, 1988;  
lowest measured, 115.82 ft below land surface, Oct. 15, 1990.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	108.09	APR 7	98.78
WATER YEAR 1993      HIGHEST   98.78   APR 7, 1993      LOWEST   108.09   OCT 23, 1992			



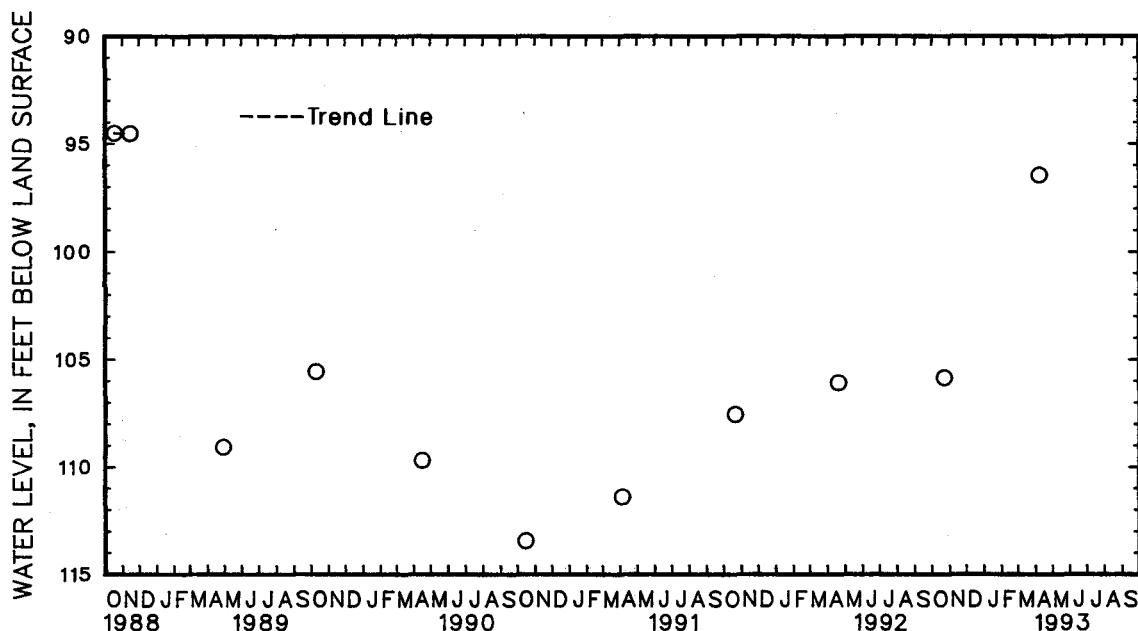
5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
DELAWARE--Continued  
NEW CASTLE COUNTY--Continued

WELL NUMBER.--Db33-18. SITE ID.--393734075371102. PERMIT NUMBER--44612.  
LOCATION.--Lat 39°37'34", long 75°37'11", Hydrologic Unit 02040205, off Salem Church Rd., near Beck's Pond.  
Owner: U.S. Geological Survey.  
AQUIFER.--Potomac Group of Lower Cretaceous age. Aquifer code: 217PTMC.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 143 ft; casing diameter 2 in., to 139 ft; screen diameter 2 in., from 139 to 143 ft. Installed in a 8 in. borehole with Db33-17, and Db33-19.  
INSTRUMENTATION.--Twice yearly measurements with chalked steel tape by U.S. Geological Survey personnel.  
Measured monthly from October 1980 to November 1981.  
DATUM.--Elevation of land surface is 48 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
Measuring Point: Top of coupling, 1.75 ft above land surface.  
PERIOD OF RECORD.--October 1980 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 94.53 ft below land surface, Oct. 18, 1988; lowest measured, 113.44 ft below land surface, Oct. 15, 1990.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	105.84	APR 7	96.46
WATER YEAR 1993      HIGHEST   96.46   APR 7, 1993      LOWEST   105.84   OCT 23, 1992			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

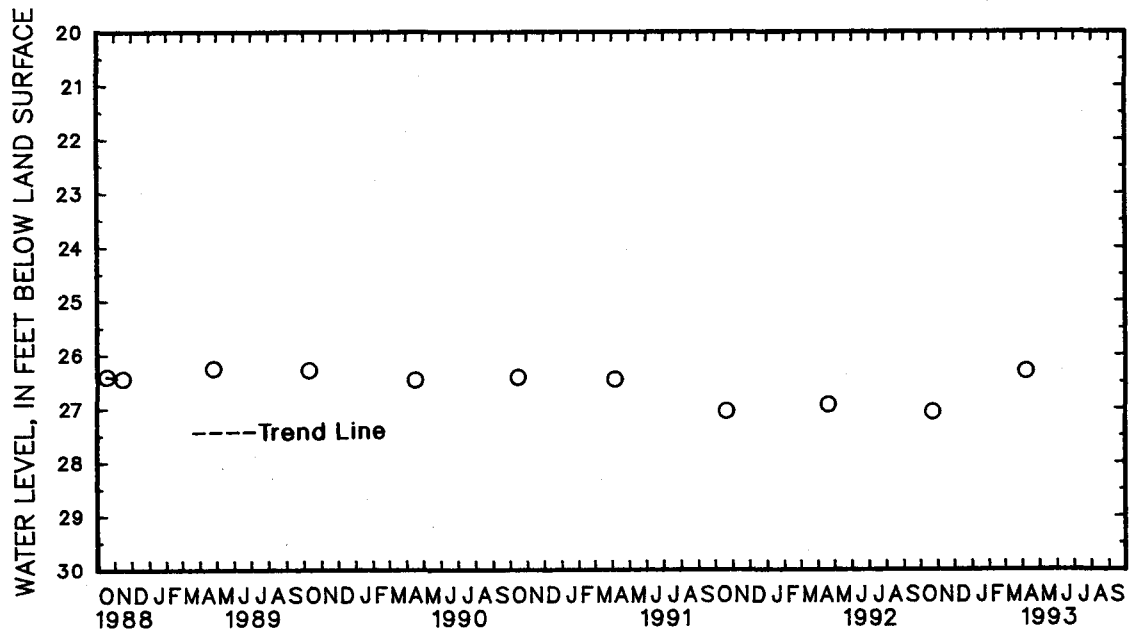
DELAWARE--Continued

NEW CASTLE COUNTY--Continued

WELL NUMBER.--Db33-19. SITE ID.--393734075371101. PERMIT NUMBER--44612.  
 LOCATION.--Lat 39°37'34", long 75°37'11", Hydrologic Unit 02040205, off Salem Church Rd., nr Beck's Pond.  
 Owner: U.S. Geological Survey.  
 AQUIFER.--Columbia Group of Pleistocene age. Aquifer code: 112CLMB.  
 WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 39 ft; casing diameter 2 in; to 35 ft; screen diameter 2 in., from 35 to 39 ft. Installed in a 8 in. borehole with Db33-17, and Db33-18.  
 INSTRUMENTATION.--Twice yearly measurements with chalked steel tape by U.S. Geological Survey personnel. Measured monthly from October 1980 to November 1981.  
 DATUM.--Elevation of land surface is 48 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring Point: Top of coupling, 1.75 ft above land surface.  
 PERIOD OF RECORD.--October 1980 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 25.35 ft below land surface, July 14, 1981; lowest measured 28.23 ft below land surface, April 3, 1981.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	27.07	APR 7	26.31
WATER YEAR 1993      HIGHEST    26.31    APR 7, 1993      LOWEST    27.07    OCT 23, 1992			



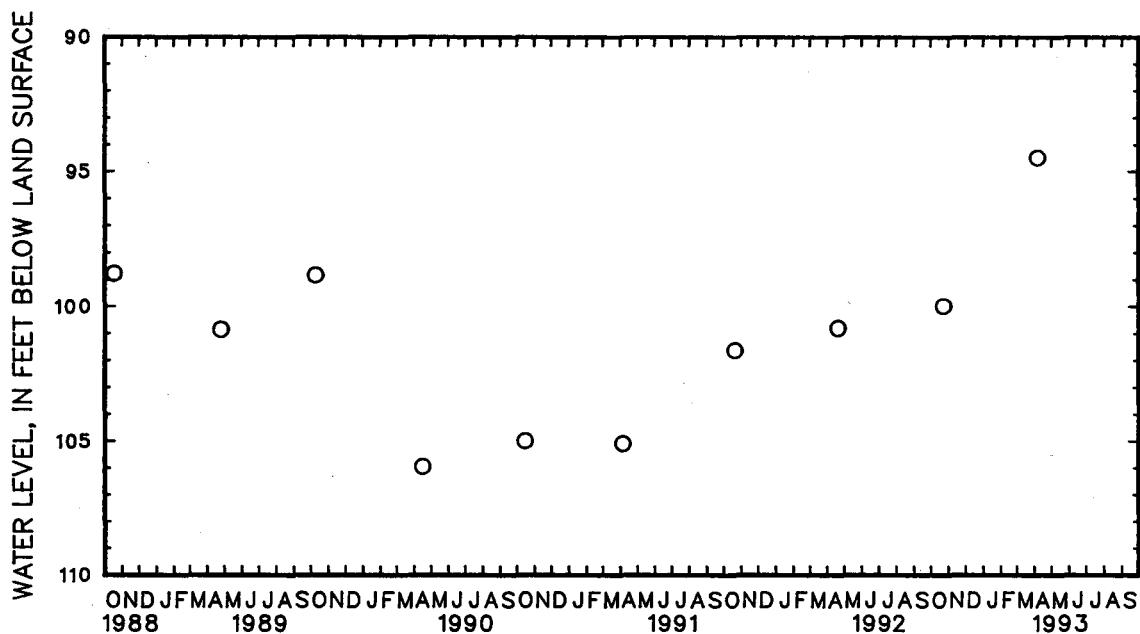
5 YEAR HYDROGRAPH  
 OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
DELAWARE--Continued  
NEW CASTLE COUNTY--Continued

WELL NUMBER.--Dc34-05. SITE ID.--393755075364801.  
LOCATION.--Lat 39°37'55", long 75°36'48", Hydrologic Unit 02040205, east side of Rt. 9,  
at National Guard Rifle Range.  
Owner: U.S. Geological Survey.  
AQUIFER.--Potomac Group of Lower Cretaceous age. Aquifer code: 217PTMC.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 579 ft; casing diameter 2 in., to 574 ft;  
screen diameter 2 in., from 574 to 579 ft.  
INSTRUMENTATION.--Twice yearly measurements with chalked steel tape by U.S. Geological Survey personnel.  
Measured monthly from November 1975 to November 1981.  
DATUM.--Elevation of land surface is 28 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
Measuring Point: Top of coupling, 2.1 ft above land surface.  
PERIOD OF RECORD.--November 1975 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 88.38 ft below land surface, Oct. 10, 1984;  
lowest measured, 130.62 ft below land surface, May 5, 1978.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	99.98	APR 7	94.48
WATER YEAR 1993      HIGHEST   94.48   APR 7, 1993      LOWEST   99.98   OCT 23, 1992			



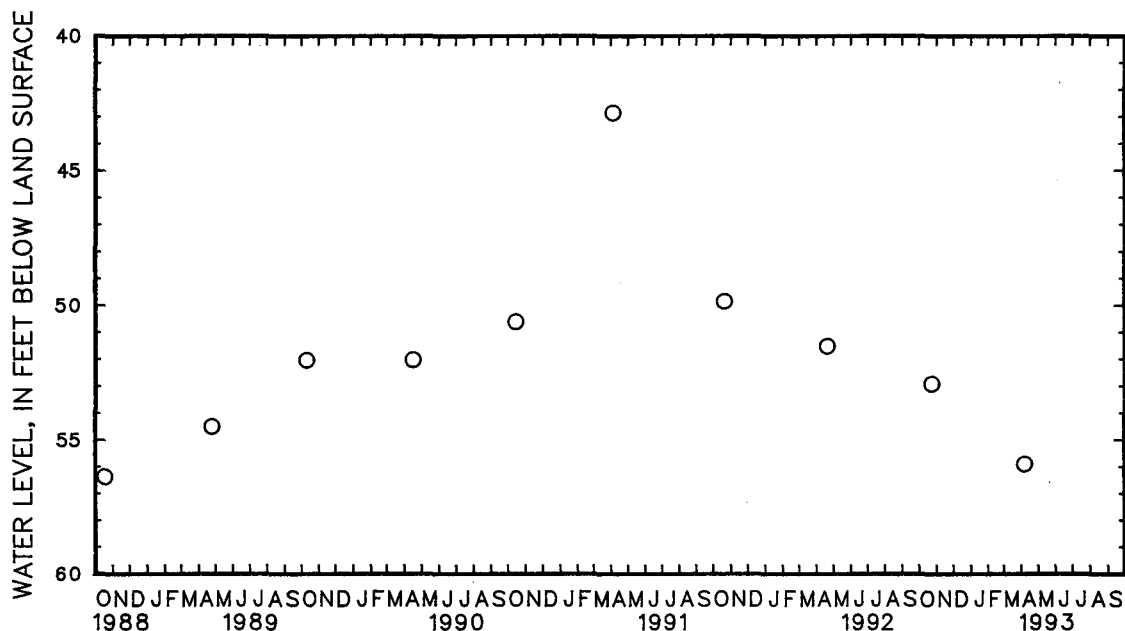
5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
DELAWARE--Continued  
NEW CASTLE COUNTY--Continued

WELL NUMBER.--Dc34-06. SITE ID.--393755075364802.  
LOCATION.--Lat 39°37'55", long 75°36'48", Hydrologic Unit 02040205, east side of Rt. 9,  
at National Guard Rifle Range.  
Owner: U.S. Geological Survey  
AQUIFER.--Potomac Group of Lower Cretaceous age. Aquifer code: 217PTMC.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 188 ft; casing diameter 2 in., to 183 ft;  
screened from 183 to 188 ft.  
INSTRUMENTATION.--Twice yearly measurements with chalked steel tape by U.S. Geological Survey personnel.  
Equipped with graphic water-level recorder from November 1975 to October 1982. Beginning March 1982, water-  
level measured twice yearly.  
DATUM.--Elevation of land surface is 28 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
Measuring Point: Top of 6 in casing, 2.0 ft above land surface.  
PERIOD OF RECORD.--November 1975 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 39.94 ft below land surface, Feb. 15, 1976;  
lowest measured, 62.37 ft below land surface, Oct. 15, 1982.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	52.94	APR 7	55.92
WATER YEAR 1993      HIGHEST   52.94   OCT 23, 1992      LOWEST   55.92   APR 7, 1993			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993



GROUND-WATER LEVELS  
DELAWARE--Continued  
NEW CASTLE COUNTY--Continued

WELL NUMBER.--Eb23-22. SITE ID.--393316075421601.

LOCATION.--Lat 39°33'16", long 75°42'16", Hydrologic Unit 02040205, at Lums Pond State Park.

Owner: U.S. Geological Survey.

AQUIFER.--Magothy Formation of Upper Cretaceous age. Aquifer code: 211MGTY.

WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 105 ft; casing diameter 2 in., to 101 ft, screened from 101 to 105 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 60 ft above National Geodetic Vertical Datum of 1929, from topographic map.

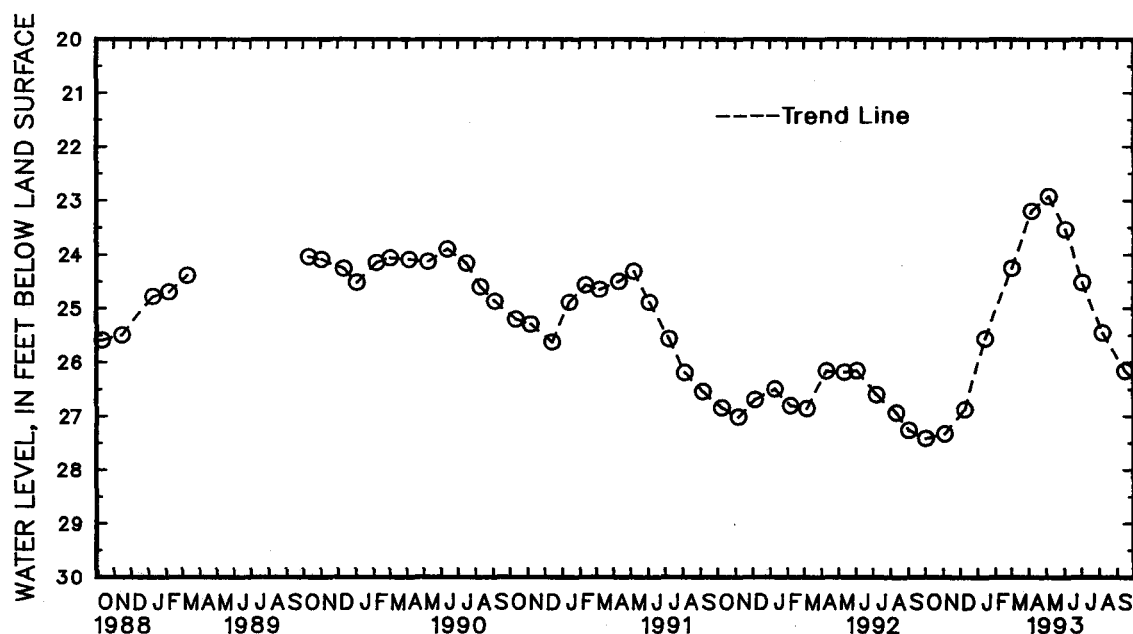
Measuring Point: Top of casing, 2.50 ft above land surface.

PERIOD OF RECORD.--November 1980 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 22.92 ft below land surface, May 5, 1993;  
lowest measured, 27.42 ft below land surface, Oct. 2, 1992.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	
OCT 2	27.42	DEC 9	26.88	MAR 2	24.25	MAY 5	22.92	JUL 2	24.52	SEP 15	26.17	
NOV 4	27.33	JAN 14	25.56	APR 6	23.19	JUN 3	23.53	AUG 6	25.46			
WATER YEAR 1993		HIGHEST	22.92	MAY 5, 1993		LOWEST	27.42	OCT 2, 1992				



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

DELAWARE--Continued

NEW CASTLE COUNTY--Continued

WELL NUMBER.--Eb23-23. SITE ID.--393316075421602.

LOCATION.--Lat 39°33'16", long 75°42'16", Hydrologic Unit 02040205, at Lums Pond State Park.

Owner: U.S. Geological Survey.

AQUIFER.--Potomac Group of Lower Cretaceous age. Aquifer code: 217PTMC.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 292 ft; casing diameter 2 in., to 288 ft, screened from 288 to 292 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 60 ft above National Geodetic Vertical Datum of 1929, from topographic map.

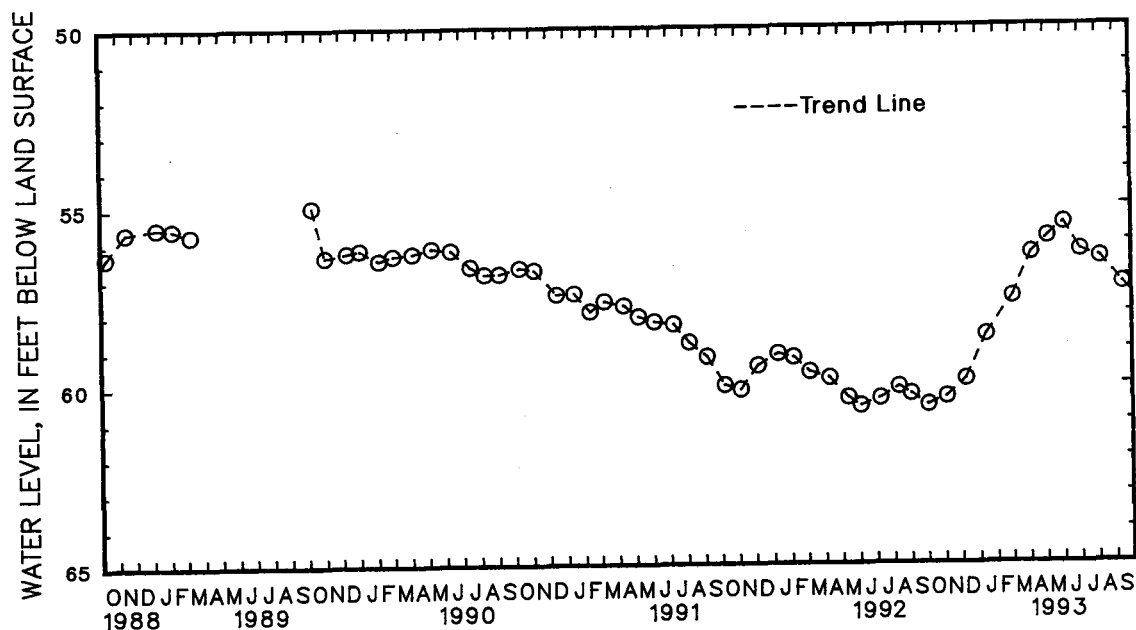
Measuring Point: Top of casing, 2.5 ft above land surface.

PERIOD OF RECORD.--November 1980 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 52.38 ft below land surface, Oct. 12, 1982; lowest measured, 60.60 ft below land surface, June 3, 1992.

## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	
OCT 2	60.59	DEC 9	59.87	MAR 2	57.58	MAY 5	55.91	JUL 2	56.29	SEP 15	57.22	
NOV 4	60.36	JAN 14	58.63	APR 6	56.36	JUN 3	55.53	AUG 6	56.50			
WATER YEAR 1993		HIGHEST	55.53	JUN 3, 1993		LOWEST	60.59	OCT 2, 1992				



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## DELAWARE--Continued

## NEW CASTLE COUNTY--Continued

LOCATION.--Lat 39°33'16", long 75°42'16", Hydrologic Unit 02040205, at Lums Pond State Park.

Owner: U.S. Geological Survey.

**AQUIFER.**--Potomac Group of Lower Cretaceous age. Aquifer code: 217PTMC.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 436 ft; casing diameter 2 in., to 432 ft, screened from 432 to 436 ft.

**INSTRUMENTATION.**--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

**DATUM.**--Elevation of land surface is 60 ft above National Geodetic Vertical Datum of 1929, from topographic map.

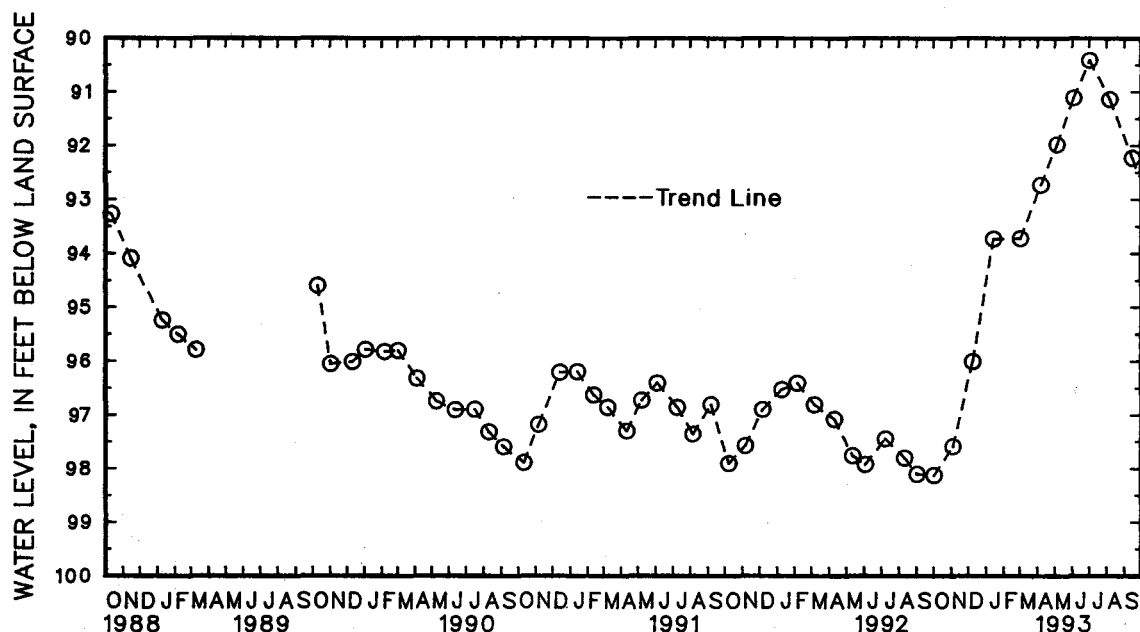
Measuring Point: Top of casing, 2.5 ft above land surface.

PERIOD OF RECORD.--November 1980 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 88.17 ft below land surface, Nov. 13, 1980;  
lowest measured, 98.13 ft below land surface, Oct. 2, 1992.

**WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993**

DATE		WATER LEVEL		DATE		WATER LEVEL		DATE		WATER LEVEL		DATE		WATER LEVEL								
OCT	2	98.13		DEC	9	96.01		MAR	2	93.72		MAY	5	91.98		JUL	2	90.41		SEP	15	92.24
NOV	4	97.59		JAN	14	93.73		APR	6	92.73		JUN	3	91.11		AUG	6	91.14				
WATER YEAR 1993				HIGHEST	90.41	JUL 2, 1993				LOWEST	98.13	OCT 2, 1992										



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

DELAWARE--Continued

NEW CASTLE COUNTY--Continued

WELL NUMBER.--Eb23-25. SITE ID.--393316075421604.

LOCATION.--Lat 39°33'16", long 75°42'16", Hydrologic Unit 02040205, at Lums Pond State Park.

Owner: U.S. Geological Survey.

**AQUIFER.--**Potomac Group of Lower Cretaceous age. Aquifer code: 217PTMC.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 604 ft; screen diameter 2 in., to 600 ft, screened from 600 to 604 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 60 ft above National Geodetic Vertical Datum of 1929, from topographic map.

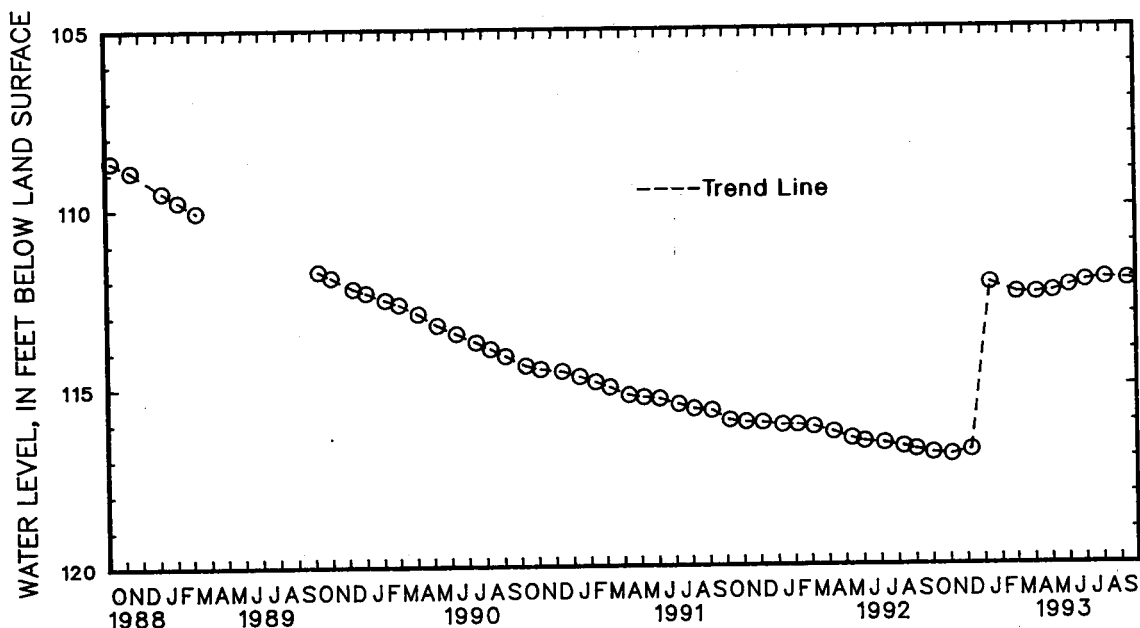
Measuring Point: Top of casing, 2.5 ft above land surface.

PERIOD OF RECORD.--November 1980 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 105.07 ft below land surface, April 20, 1982;  
lowest measured, 116.95 ft below land surface, Nov. 4, 1992.

WATER LEVEL. IN FEET BELOW LAND SURFACE. WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE			WATER LEVEL			DATE			WATER LEVEL			DATE			WATER LEVEL			DATE			WATER LEVEL		
OCT	2	116.90	DEC	9	116.82	MAR	2	112.43	MAY	5	112.40	JUL	2	112.11	SEP	15	112.08						
NOV	4	116.95	JAN	14	112.15	APR	6	112.44	JUN	3	112.25	AUG	6	112.04									
WATER YEAR 1993			HIGHEST 112.04			AUG 6. 1993			LOWEST 116.95			NOV 4. 1992											



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
DELAWARE--Continued  
NEW CASTLE COUNTY--Continued

WELL NUMBER.--Hb14-01. SITE ID.--391949075410701.

LOCATION.--Lat 39°19'49", long 75°41'07", Hydrologic Unit 02040205, at Prices Corners.

Owner: Delaware Department of Transportation.

AQUIFER.--Columbia Group of Pleistocene age. Aquifer code: 112CLMB

WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 19 ft; casing diameter 1 in., to 16 ft; well point from 16 to 19 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape or electric sensing device by

U.S. Geological Survey and Delaware Geological Survey personnel.

DATUM.--Elevation of land surface is 72 ft above National Geodetic Vertical Datum of 1929, from topographic map.

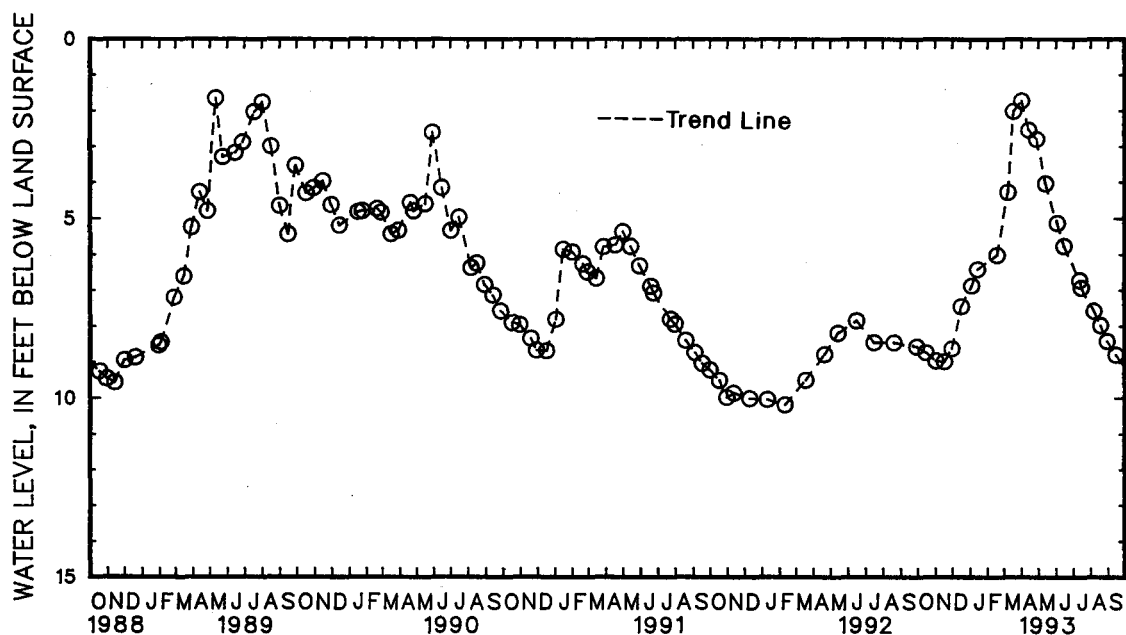
Measuring point: Top of casing at land surface.

PERIOD OF RECORD.--October 1957 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.49 ft below land surface, April 7, 1958; lowest measured, 11.95 ft below land surface, Aug. 31, 1966.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15	8.74	DEC 17	7.45	MAR 8	4.27	APR 28	2.80	JUL 12	6.73	AUG 30	8.43
NOV 2	8.97	JAN 4	6.87	MAR 18	2.01	MAY 13	4.04	JUL 15	6.94	SEP 15	8.81
17	8.99	14	6.41	APR 1	1.72	JUN 2	5.14	AUG 6	7.59		
30	8.63	FEB 17	6.01	14	2.54	14	5.78	18	7.99		
WATER YEAR 1993		HIGHEST	1.72	APR 1, 1993	LOWEST	8.99	NOV 17, 1992				



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

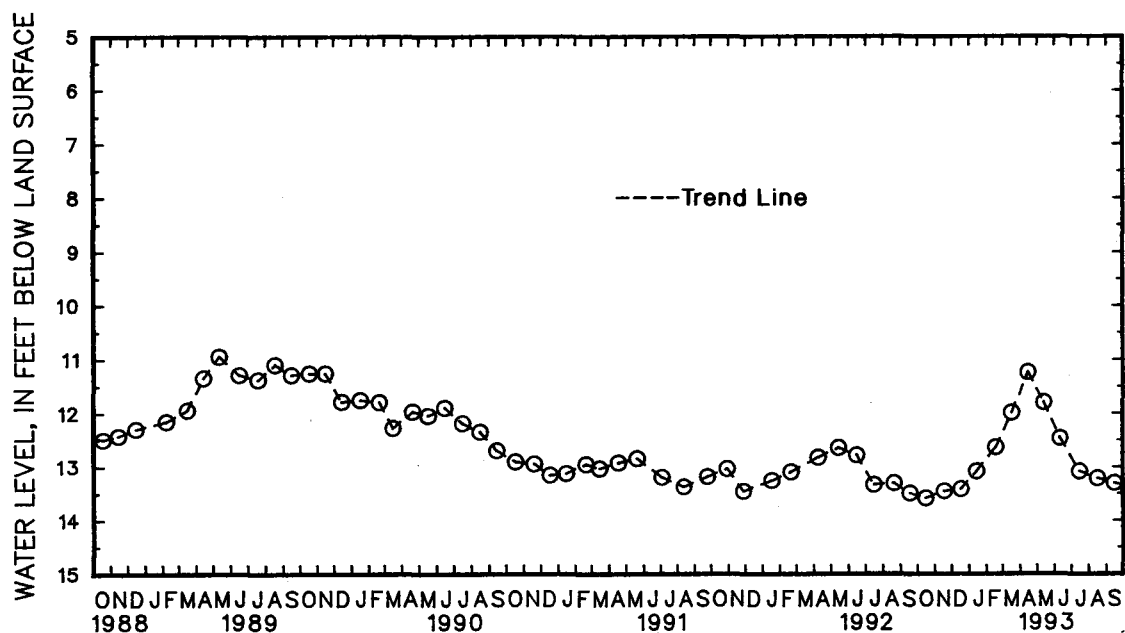
DELAWARE--Continued

## SUSSEX COUNTY

WELL NUMBER.--No45-01. SITE ID.--384639075353101. PERMIT NUMBER.--10226.  
 LOCATION.--Lat 38°46'39", long 75°35'31", Hydrologic Unit 02060008, 2.0 mi south of Greenwood.  
 Owner: P. H. Cannon.  
 AQUIFER.--Columbia Group of Pleistocene age. Aquifer code: 112CLMB.  
 WELL CHARACTERISTICS.--Driven, observation, water-table well, depth 15 ft; casing diameter 1 in., to 14 ft; screened from 14 to 15 ft.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 DATUM.--Elevation of land surface is 43 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
 Measuring point: Top of casing, 1.0 ft above land surface.  
 PERIOD OF RECORD.--January 1958 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.82 ft below land surface, April 9, 1958; lowest measured, 14.66 ft below land surface, Dec. 11, 1978.

## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15	13.59	DEC 17	13.42	FEB 17	12.64	APR 14	11.24	JUN 11	12.47	AUG 16	13.22
NOV 17	13.46	JAN 14	13.09	MAR 17	11.99	MAY 13	11.80	JUL 15	13.09	SEP 15	13.31
WATER YEAR 1993		HIGHEST	11.24	APR 14, 1993		LOWEST	13.59	OCT 15, 1992			



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

DELAWARE--Continued

SUSSEX COUNTY--Continued

WELL NUMBER.--Nf44-01. SITE ID.--384704075212900. PERMIT NUMBER.--39703.

LOCATION.--Lat 38°47'04", long 75°21'29", Hydrologic Unit 02040207, at intersection of DE Rt 16 and DE Rt 30, next to railroad tracks.

Owner: Unknown.

AQUIFER.--Manokin aquifer of Miocene age. Aquifer code: 122MNKN.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 121 ft; casing diameter 2 in., to 20 ft; screened from 116 to 121 ft.

INSTRUMENTATION.--Twice yearly measurements with chalked steel tape by U.S. Geological Survey personnel.

Measured monthly from October 1977 to December 1979. Measured twice yearly from March 1980 to current year.

DATUM.--Elevation of land surface is 40 ft above National Geodetic Vertical Datum of 1929.

Measuring Point: Top of recorder platform, 1.30 ft above land surface.

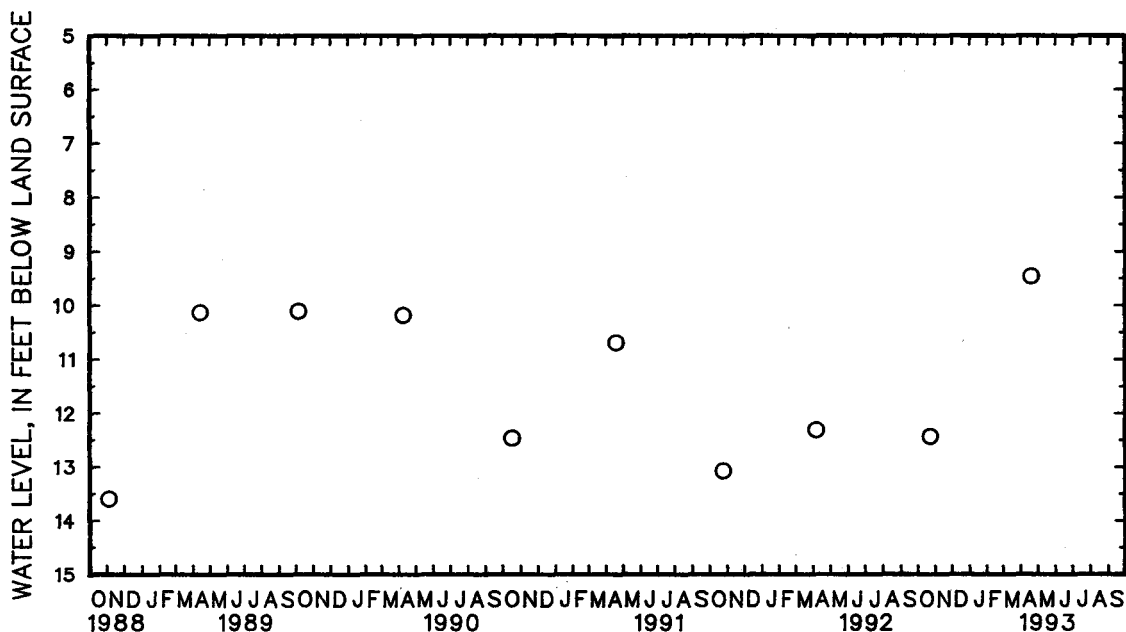
REMARKS.--Delaware Water-Level Network observation well.

PERIOD OF RECORD.--October 1977 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 7.52 ft below land surface, March 2, 1977; lowest measured, 13.79 ft below land surface, Nov. 2, 1977.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	12.44	APR 19	9.46
WATER YEAR 1993      HIGHEST      9.46    APR 19, 1993      LOWEST      12.44    OCT 23, 1992			



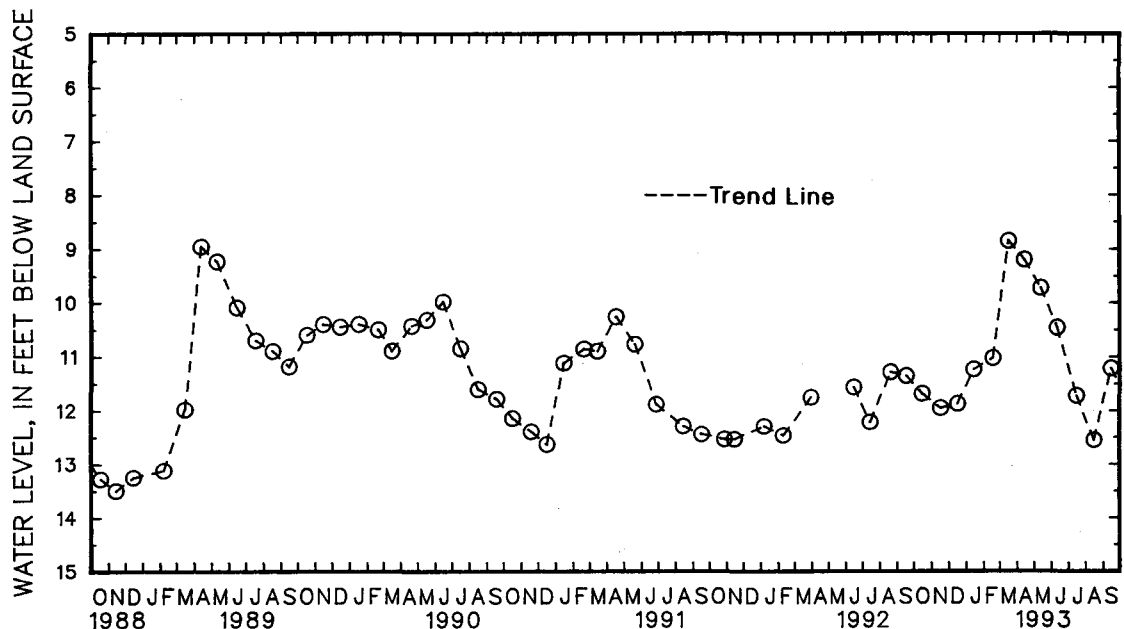
5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
DELAWARE--Continued  
SUSSEX COUNTY--Continued

WELL NUMBER.--Ng11-01. SITE ID.--384955075192801. PERMIT NUMBER.--10227.  
LOCATION.--Lat 38°49'55", long 75°19'28", Hydrologic Unit 02040207, 1.2 mi east of Jefferson Crossroads.  
Owner: Delaware Department of Transportation.  
AQUIFER.--Columbia Group of Pleistocene age. Aquifer code: 112CLMB.  
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 19 ft; casing diameter 1 in., to 16 ft; well point from 16 to 19 ft.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
DATUM.--Elevation of land surface is 24 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
Measuring point: Top of casing at land surface.  
PERIOD OF RECORD.--September 1959 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.91 ft below land surface, April 10, 1984;  
lowest measured, 14.64 ft below land surface, Jan. 7, 1966.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15	11.69	DEC 17	11.88	FEB 17	11.03	APR 14	9.20	JUN 11	10.46	AUG 16	12.56
NOV 17	11.96	JAN 14	11.24	MAR 17	8.85	MAY 13	9.73	JUL 15	11.73	SEP 15	11.22
WATER YEAR 1993		HIGHEST	8.85	MAR 17, 1993		LOWEST	12.56	AUG 16, 1993			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993



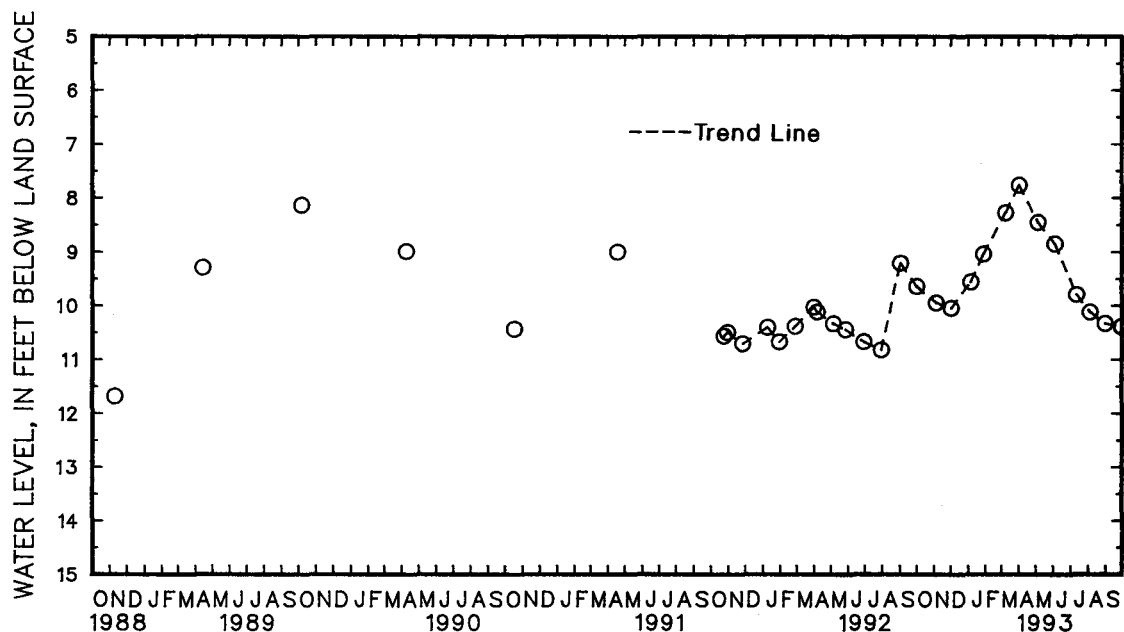


GROUND-WATER LEVELS  
DELAWARE--Continued  
SUSSEX COUNTY--Continued

WELL NUMBER.--N152-12. SITE ID.--384558075083502. PERMIT NUMBER.--057365.  
LOCATION.--Lat 38°45'58", long 75°08'35", Hydrologic Unit 02040207, in Lewes Library Park, nr railroad tracks.  
Owner: Town of Lewes.  
AQUIFER.--Columbia Group of Pleistocene age. Aquifer code: 112CLMB.  
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 80 ft; casing diameter 2 in., to 70 ft; screened from 70 to 80 ft.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by Delaware Geological Survey personnel.  
Intermittent measurements from July 1986 to July 1987. Twice yearly measurements from February 1988 to January 1992. Measurements from 1986 to 1992 taken by U.S. Geological Survey personnel.  
DATUM.--Elevation of land surface is 16 ft above National Geodetic Vertical Datum of 1929.  
Measuring Point: Top of 6 in. casing.  
REMARKS.--Delaware Water-Level Network observation well.  
PERIOD OF RECORD.--July 1986 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 7.76 ft below land surface, April 1, 1993; lowest measured, 11.70 ft below land surface, Nov. 20, 1986.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 1	9.64	JAN 6	9.56	APR 1	7.76	JUL 12	9.80	SEP 29	10.40
NOV 4	9.95	28	9.04	MAY 5	8.45	AUG 4	10.13		
DEC 1	10.05	MAR 8	8.27	JUN 4	8.85	31	10.34		
WATER YEAR 1993		HIGHEST	7.76	APR 1, 1993	LOWEST	10.40	SEP 29, 1993		



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

DELAWARE--Continued

SUSSEX COUNTY--Continued

WELL NUMBER.--Oh54-01. SITE ID.--384038075110001.

LOCATION.--Lat 38°40'38", long 75°11'00", Hydrologic Unit 02060010, at intersection of DE Rts 24 and 277, near Angola.

Owner: U.S. Geological Survey.

AQUIFER.--Manokin aquifer of Miocene age. Aquifer code: 122MNKN.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 290 ft; casing diameter 2 in., to 280 ft; screen diameter 2 in., from 280 to 290 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by Delaware Geological Survey personnel. Measured monthly from November 1977 to December 1979; twice yearly from March 1980 to October 1984. Monthly measurements by U.S. Geological Survey and Delaware Geological Survey personnel from February 1985 to July 1987.

DATUM.--Elevation of land surface is 18 ft above National Geodetic Vertical Datum of 1929, from topographic map.

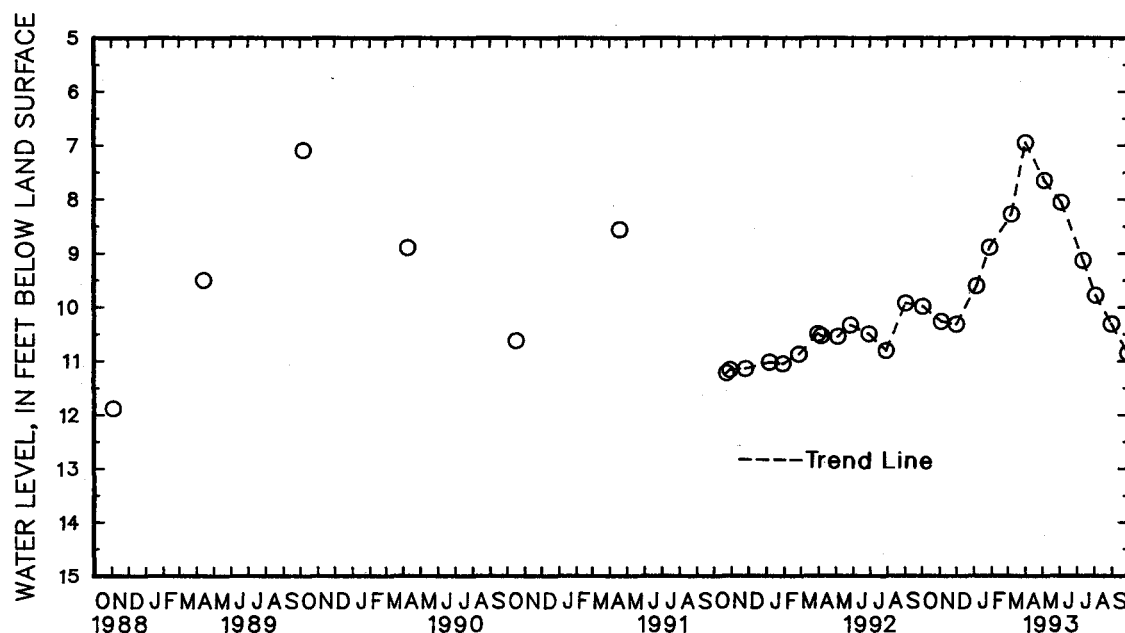
Measuring Point: Top of steel casing, 1.5 ft above land surface.

PERIOD OF RECORD.--November 1977 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.35 ft below land surface, April 4, 1984; lowest measured, 11.98 ft below land surface, Nov. 20, 1986.

## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 2	9.99	JAN 6	9.61	APR 1	6.95	JUL 12	9.14	SEP 29	10.86
NOV 4	10.27	28	8.89	MAY 5	7.65	AUG 4	9.79		
DEC 1	10.32	MAR 8	8.27	JUN 4	8.06	31	10.32		
WATER YEAR 1993		HIGHEST 6.95 APR 1, 1993		LOWEST 10.86 SEP 29, 1993					



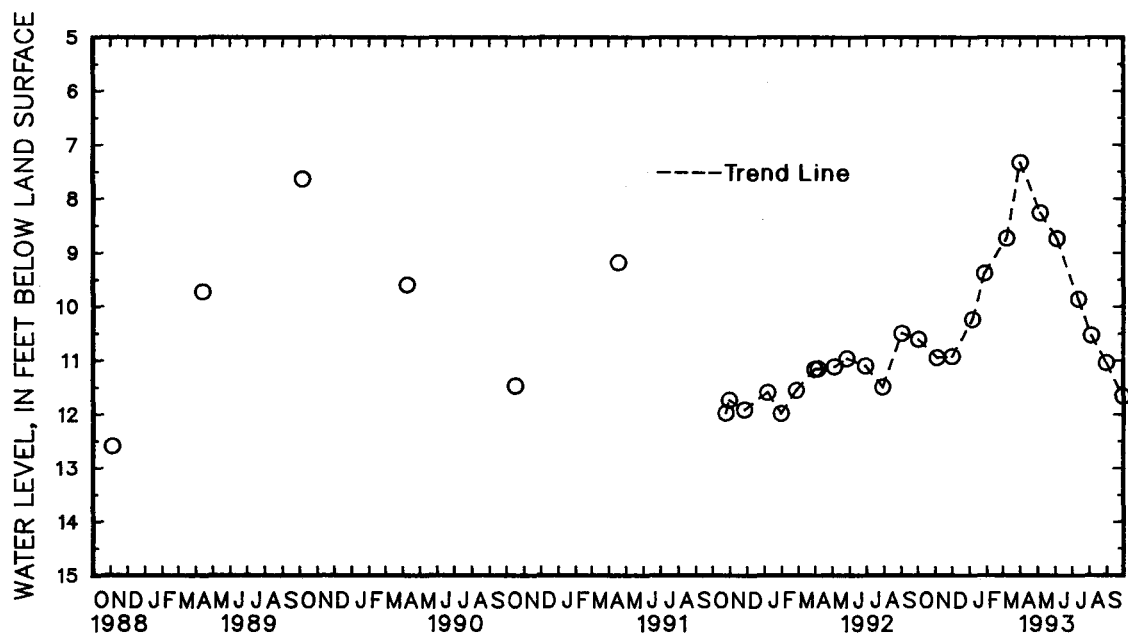
5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
DELAWARE--Continued  
SUSSEX COUNTY--Continued

WELL NUMBER.--Oh54-02. SITE ID.--384038075110002.  
LOCATION.--Lat 38°40'38", long 75°11'00", Hydrologic Unit 02060010, at intersection of DE Rts. 24 and 277, near Angola.  
Owner: U.S. Geological Survey.  
AQUIFER.--Pocomoke aquifer of Miocene age. Aquifer code: 122PCMK.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 189 ft; casing diameter 2 in., to 179 ft; screen diameter 2 in., from 179 to 189 ft.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by Delaware Geological Survey personnel. Measured monthly from November 1977 to December 1979; twice yearly from March 1980 to October 1984. Measured monthly by U.S. Geological Survey and Delaware Geological Survey personnel from February 1985 to July 1987.  
DATUM.--Elevation of land surface is 18 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
Measuring Point: Top of steel casing, 1.5 ft above land surface.  
PERIOD OF RECORD.--November 1977 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.44 ft below land surface, April 2, 1979; lowest measured, 13.85 ft below land surface, Sept. 23, 1981.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 2	10.61	JAN 6	10.24	APR 1	7.33	JUL 12	9.87	SEP 29	11.67
NOV 4	10.95	28	9.38	MAY 5	8.26	AUG 4	10.54		
DEC 1	10.93	MAR 8	8.73	JUN 4	8.74	31	11.05		
WATER YEAR 1993		HIGHEST	7.33	APR 1, 1993		LOWEST	11.67	SEP 29, 1993	



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

DELAWARE--Continued

SUSSEX COUNTY--Continued

WELL NUMBER.--O124-06. SITE ID.--384258075063101. PERMIT NUMBER.--03489.

LOCATION.--Lat 38°42'58", long 75°06'31", Hydrologic Unit 020600010, nr DE Rt. 1, at Rehobeth Water Pumping Station.

**Owner: City of Rehoboth.**

**AQUIFER.--**Manokin aquifer of Miocene age.      **Aquifer code:** 122MNKN.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 250 ft; casing diameter 4 in., to 230 ft; screened 230 to 250 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by Delaware Geological Survey personnel.

Equipped with graphic water-level recorder from June 1976 to December 1979.

Measured monthly January 1980 to December 1981.

DATUM.--Elevation of land surface is 25 ft above National Geodetic Vertical Datum of 1929.

Measuring Point: Top of recorder platform, 70 ft above land surface.

REMARKS.--Delaware Water-Level Network observation well.

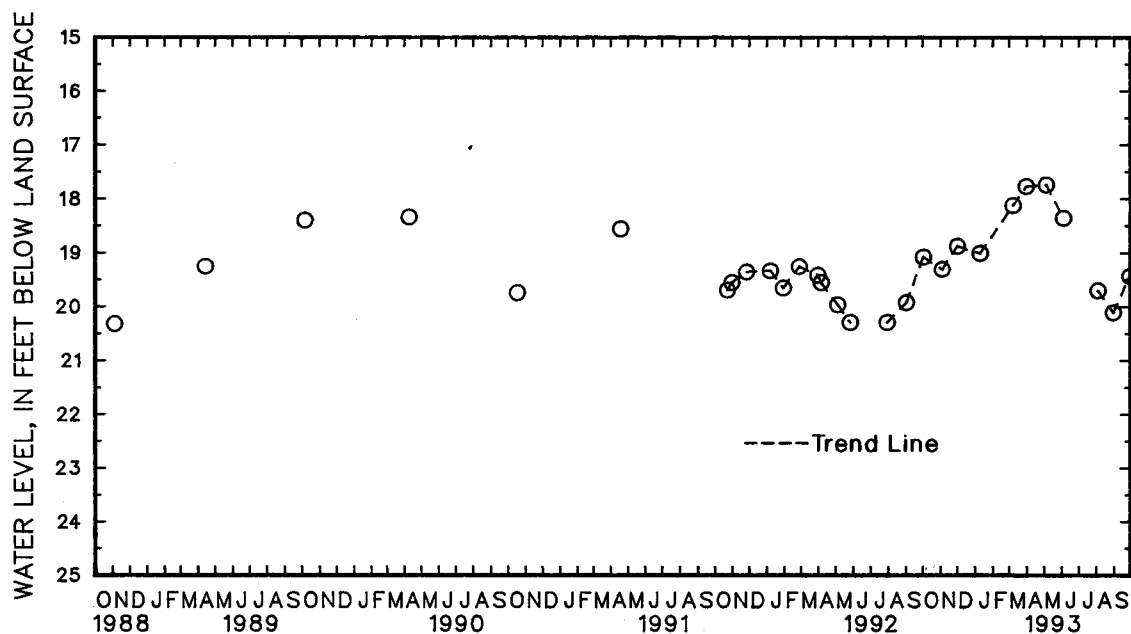
PERIOD OF RECORD.--May 1976 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 16.90 ft below land surface, March 25, 1979.

lowest measured, 20.49 ft below land surface. July 24, 1981

WATER LEVEL. IN FEET BELOW LAND SURFACE. WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE		WATER LEVEL		DATE		WATER LEVEL		DATE		WATER LEVEL		DATE		WATER LEVEL	
OCT 2	19.08	DEC 1	18.88	MAR 8	18.12	MAY 5	17.74	AUG 4	19.71	SEP 29	19.44				
NOV 4	19.31	JAN 10	18.01	31	17.77	JUN 4	18.36	31	20.12						
WATER YEAR 1993		HIGHEST	17.74	MAY 5, 1993		LOWEST	20.12	AUG 31, 1993							



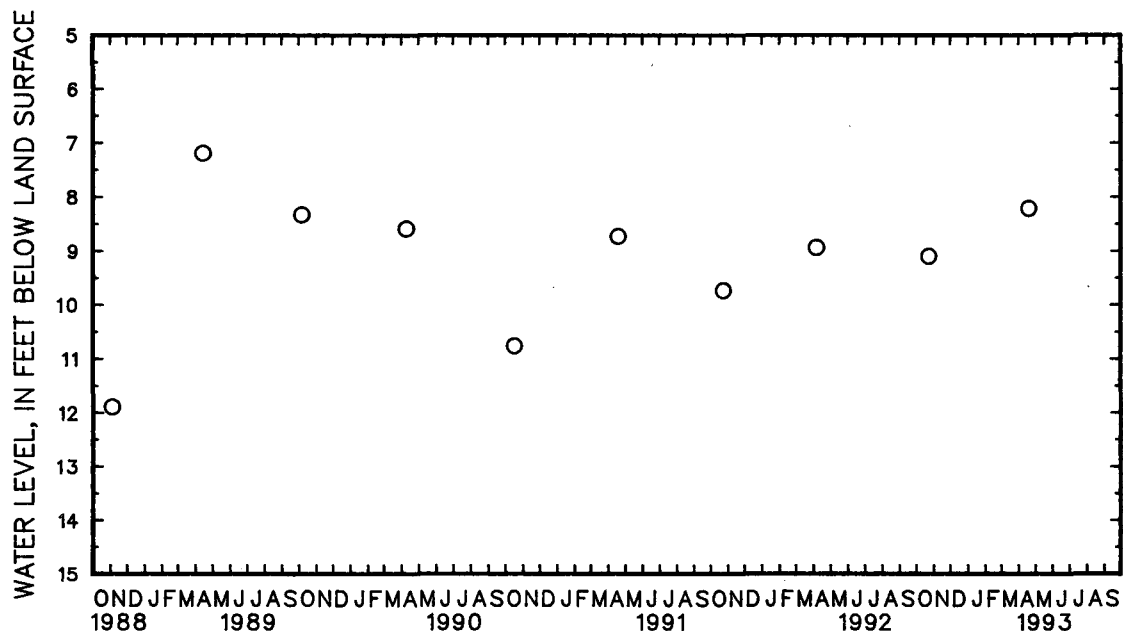
5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
DELAWARE--Continued  
SUSSEX COUNTY--Continued

WELL NUMBER.--Pf24-02. SITE ID.--383730075213501.  
LOCATION.--Lat 38°37'30", long 75°21'35", Hydrologic Unit 02060010, nr DE Rt 113, nr Stockley Hospital.  
Owner: U.S. Geological Survey.  
AQUIFER.--Columbia Group of Pleistocene age. Aquifer code: 112CLMB.  
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 49 ft; casing diameter 4 in., to 46 ft; screened from 46 to 49 ft.  
INSTRUMENTATION.--Twice yearly measurements with chalked steel tape by U.S. Geological Survey personnel.  
Equipped with graphic water-level recorder from January 1970 to January 1982. Intermittent measurements April 1982 to August 1987. Twice yearly measurements February 1988 to current year.  
DATUM.--Elevation of land surface is 50 ft above National Geodetic Vertical Datum of 1929.  
Measuring Point: Top of 4 in. steel casing, 3.0 ft. above land surface.  
REMARKS.--Delaware Water-Level Network observation well.  
PERIOD OF RECORD.--January 1970 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.53 ft below land surface, March 10, 1979; lowest measured, 12.08 ft below land surface, October 22, 1986.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	9.10	APR 19	8.21
WATER YEAR 1993      HIGHEST      8.21   APR 19, 1993      LOWEST      9.10   OCT 23, 1992			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

DALAWARE--Continued

SUSSEX COUNTY--Continued

WELL NUMBER.--Pf24-03. SITE ID.--383730075213502.

LOCATION.--Lat 38°37'30", long 75°21'35", Hydrologic Unit 02060010, nr DE Rt. 113, nr Stockley Hospital.

Owner: U.S. Geological Survey.

AQUIFER.--Manokin aquifer of Miocene age. Aquifer code: 122MNKN.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 178 ft; casing diameter 4 in., to 58 ft; casing diameter 2 in., to 168 ft; screened from 168 to 178 ft.

INSTRUMENTATION.--Twice yearly measurements with chalked steel tape by U.S. Geological Survey personnel.

Weekly measurements from November 1976 to May 1977. Measured monthly from June 1977 to January 1982.

Intermittent measurements April 1982 to August 1986. Measured twice yearly from February 1988 to current year.

DATUM.--Elevation of land surface is 50 ft above National Geodetic Vertical Datum of 1929.

Measuring Point: Top of 4 in. PVC casing, 1.70 ft above land surface.

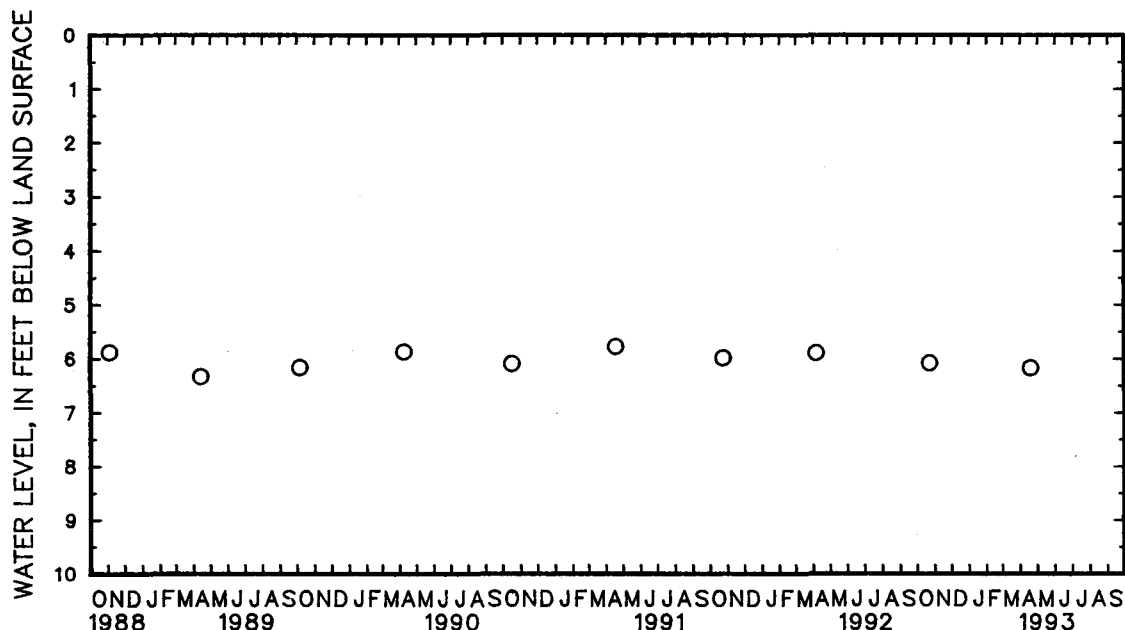
REMARKS.--Delaware Water-Level Network observation well.

PERIOD OF RECORD.--November 1976 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.67 ft below land surface, April 2, 1979; lowest measured, 12.72 ft below land surface, August 28, 1979.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	6.09	APR 19	6.18
WATER YEAR 1993      HIGHEST      6.09    OCT 23, 1992      LOWEST      6.18    APR 19, 1993			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

DELAWARE-- Continued

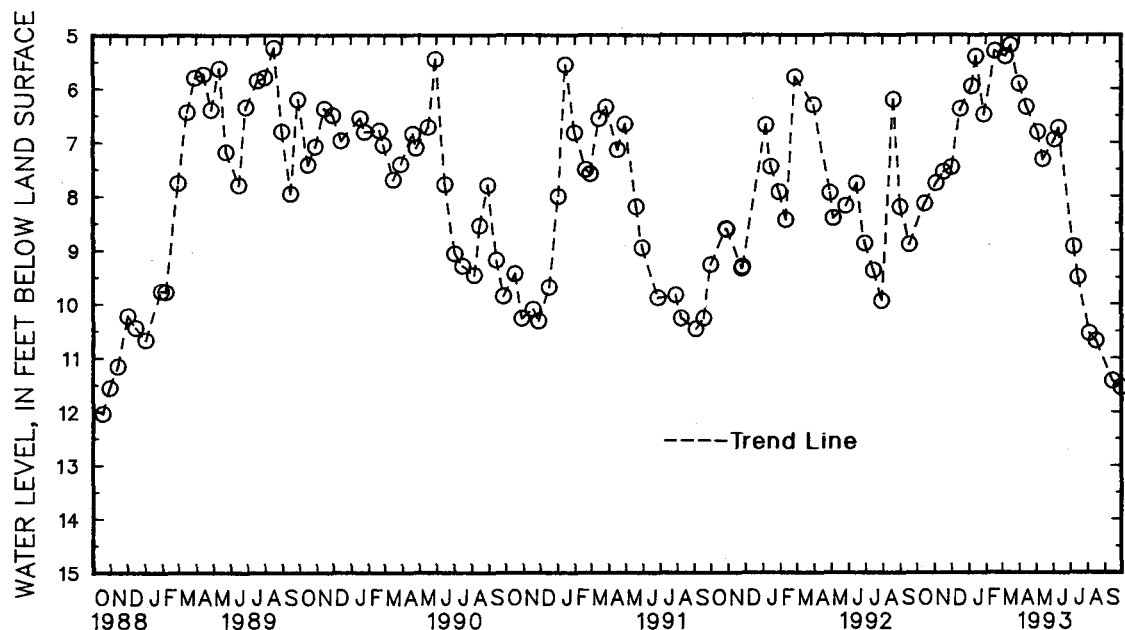
SUSSEX COUNTY--Continued

WELL NUMBER.--Qe44-01. SITE ID.--383138075260201. PERMIT NUMBER.--49320.  
 LOCATION.--Lat 38°31'38", long 75°26'02", Hydrologic Unit 02060008, 1.0 mi east of Whaleys Crossroads.  
 Owner: Delaware Department of Transportation.  
 AQUIFER.--Columbia Group of Pleistocene age. Aquifer code: 112CLMB.  
 WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 25 ft; casing diameter 1 in., to 22 ft; well point from 22 to 25 ft.  
 INSTRUMENTATION.--Bimonthly measurements with chalked steel tape by U.S. Geological Survey and Delaware Geological Survey personnel.  
 DATUM.--Elevation of land surface is 50 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
 Measuring point: Top of casing at land surface.  
 PERIOD OF RECORD.--September 1959 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.92 ft below land surface, Feb. 9, 1973; lowest measured, 12.22 ft below land surface, Dec. 2, 1981.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15	8.14	DEC 17	6.37	FEB 17	5.30	APR 14	6.34	JUN 11	6.73	AUG 16	10.69
NOV 4	7.76	JAN 6	5.95	MAR 8	5.40	MAY 5	6.81	JUL 7	8.94	SEP 15	11.43
17	7.55	14	5.40	17	5.19	13	7.32	15	9.51	30	11.55
DEC 1	7.46	28	6.48	APR 1	5.91	JUN 4	6.95	AUG 4	10.55		

WATER YEAR 1993      HIGHEST      5.19 MAR 17, 1993      LOWEST      11.55 SEP 30, 1993



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993



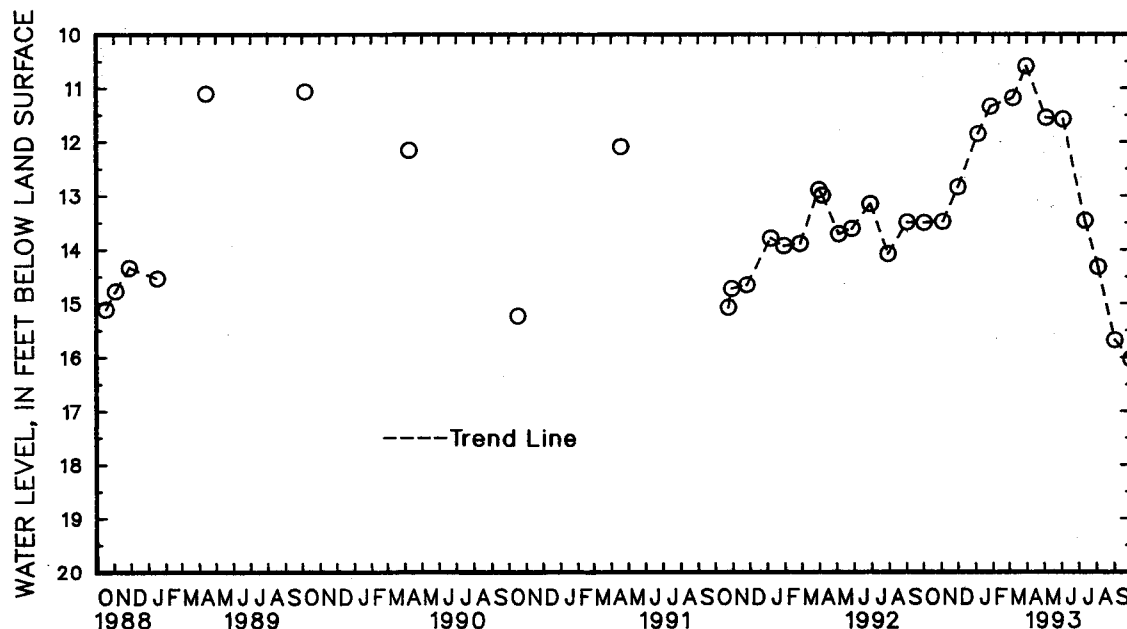
GROUND-WATER LEVELS  
DELAWARE--Continued  
SUSSEX COUNTY--Continued

WELL NUMBER.--Qh54-04. SITE ID.--383050075105201.  
LOCATION.--Lat 39°30'50", long 75°10'52", Hydrologic Unit 02060010 , at Pyle Center, Omar.  
Owner: U.S. Geological Survey.  
AQUIFER.--Manokin aquifer of Miocene age. Aquifer code: 122MNKN.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 328 ft; casing diameter 2 in., to 324 ft; screen diameter 2 in., from 324 to 328 ft.  
INSTRUMENTATION.--Twice yearly measurements with chalked steel tape by Delaware Geological Survey personnel.  
Measured monthly from November 1978 to December 1979. Intermittent measurements March 1980 to February 1985.  
Measured monthly from April 1985 to November 1988.  
DATUM.--Elevation of land surface is 28 ft above National Geodetic Vertical Datum of 1929.  
Measuring Point: Top of casing, 2.0 ft above land surface.  
PERIOD OF RECORD.--November 1978 to present.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.07 ft below land surface, April 2, 1979;  
lowest measured, 16.46 ft below land surface, Oct. 21, 1987.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 2	13.50	JAN 6	11.85	MAR 31	10.59	JUL 12	13.47	SEP 30	16.04
NOV 4	13.48	28	11.34	MAY 5	11.55	AUG 4	14.33		
DEC 1	12.84	MAR 8	11.18	JUN 4	11.58	SEP 2	15.69		

WATER YEAR 1993      HIGHEST    10.59    MAR 31, 1993      LOWEST    16.04    SEP 30, 1993



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

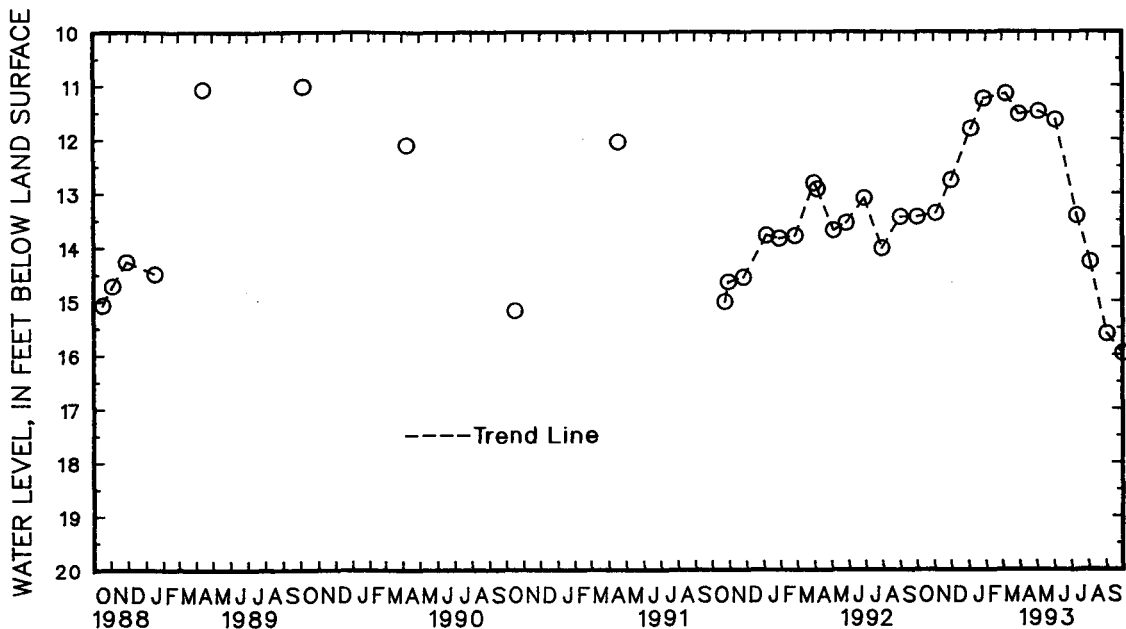
GROUND-WATER LEVELS  
DELAWARE--Continued  
SUSSEX COUNTY--Continued

WELL NUMBER.--Qh54-05. SITE ID.--383050075105202.  
LOCATION.--Lat 39°30'50", long 75°10'52", Hydrologic Unit 02060010 , at Pyle Center, Omar.  
Owner: U.S. Geological Survey.  
AQUIFER.--Ocean City aquifer of Miocene age. Aquifer code: 122OCNC.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 232 ft; casing diameter 2 in., to 229 ft; screen diameter 2 in., from 229 to 232 ft.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by Delaware Geological Survey personnel.  
Measured monthly from November 1978 to December 1979. Intermittent measurements March 1980 to February 1985.  
Measured monthly from April 1985 to November 1988.  
DATUM.--Elevation of land surface is 28 ft above National Geodetic Vertical Datum of 1929.  
Measuring Point: Top of casing, 2.0 ft above land surface.  
PERIOD OF RECORD.--November 1978 to present.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.63 ft below land surface, March 1, 1979;  
lowest measured, 16.43 ft below land surface, Oct. 21, 1987.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 2	13.44	JAN 6	11.80	MAR 31	11.53	JUL 12	13.42	SEP 30	15.98
NOV 4	13.37	28	11.24	MAY 5	11.48	AUG 4	14.28		
DEC 1	12.76	MAR 8	11.15	JUN 4	11.64	SEP 2	15.62		

WATER YEAR 1993      HIGHEST    11.15    MAR 8, 1993      LOWEST    15.98    SEP 30, 1993



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

DELAWARE--Continued

SUSSEX COUNTY--Continued

WELL NUMBER.--Qh54-06. SITE ID.--383050075105203.

LOCATION.--Lat 39°30'50", long 75°10'52", Hydrologic Unit 02060010, at Pyle Center, Omar.

Owner: U.S. Geological Survey.

AQUIFER.--Pocomoke aquifer of Miocene age. Aquifer code: 122PCMK.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 148 ft; casing diameter 2 in., to 144 ft; screen diameter 2 in., from 144 to 148 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by Delaware Geological Survey personnel.

Measured monthly from November 1978 to December 1979. Intermittent measurements March 1980 to February 1985.

Measured monthly from April 1985 to November 1988.

DATUM.--Elevation of land surface is 28 ft above National Geodetic Vertical Datum of 1929.

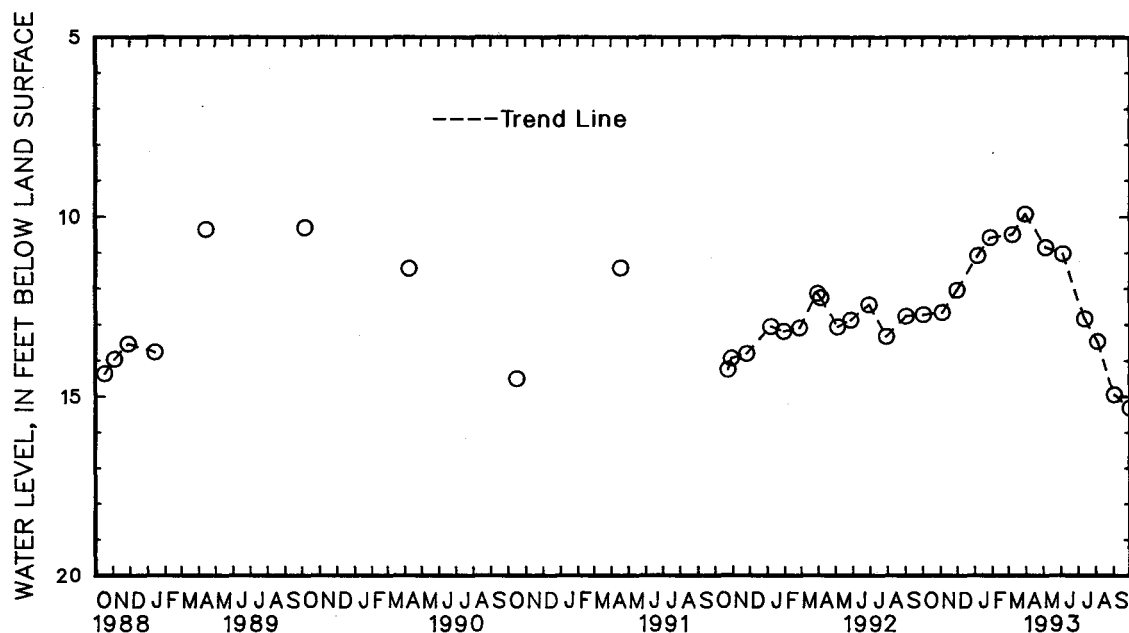
Measuring Point: Top of casing, 2.0 ft above land surface.

PERIOD OF RECORD.--November 1978 to present.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.95 ft below land surface, March 1, 1979; lowest measured, 17.10 ft below land surface, July 24, 1986.

## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

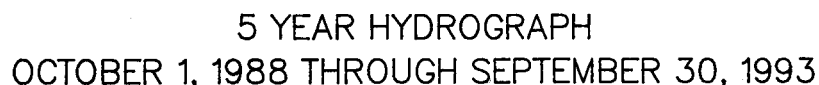
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 2	12.73	JAN 6	11.08	MAR 31	9.92	JUL 12	12.85	SEP 30	15.32
NOV 4	12.67	28	10.58	MAY 5	10.87	AUG 4	13.48		
DEC 1	12.04	MAR 8	10.49	JUN 4	11.03	SEP 2	14.96		
WATER YEAR 1993		HIGHEST	9.92	MAR 31, 1993	LOWEST	15.32	SEP 30, 1993		



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

WELL NUMBER.--Qh54-07. SITE ID.--383050075105204.  
LOCATION.--Lat 39°30'50", long 75°10'52", Hydrologic Unit 02060010, at Pyle Center, Omar.  
Owner: U.S. Geological Survey.  
AQUIFER.--Columbia group of Pleistocene age. Aquifer code: 112CLMB.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 108 ft; casing diameter 2 in., to 104 ft;  
screen diameter 2 in., from 104 to 108 ft.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by Delaware Geological Survey personnel.  
Measured monthly from November 1978 to December 1979, and April 1985 to November 1988. Intermittent  
measurements from March 1980 to February 1985.  
DATUM.--Elevation of land surface is 28 ft above National Geodetic Vertical Datum of 1929.  
Measuring Point: Top of casing, 2.0 ft above land surface.  
PERIOD OF RECORD.--December 1978 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.83 ft below land surface, March 1, 1979;  
lowest measured, 15.69 ft below land surface, Oct. 21, 1987.

DATE		WATER LEVEL	DATE		WATER LEVEL	DATE		WATER LEVEL	DATE		WATER LEVEL			
OCT	2	12.66	JAN	6	10.93	MAR	31	9.81	JUL	12	12.72	SEP	30	15.25
NOV	4	12.58		28	10.71	MAY	5	10.74		4	13.43			
DEC	1	11.94	MAR	8	10.38		JUN	4	10.94	SEP	2	14.88		
WATER YEAR 1993			HIGHEST	9.81	MAR 31, 1993			LOWEST	15.25	SEP 30, 1993				



## GROUND-WATER LEVELS

DELAWARE--Continued

SUSSEX COUNTY--Continued

WELL NUMBER.--QJ32-17. SITE ID.--383210075035802. PERMIT NUMBER.--45428.

LOCATION.--Lat 38°32'10", long 75°03'58", Hydrologic Unit 02060010, 0.5 mi southwest of intersection of Del Rts. 1 and 26, Bethany Beach.

Owner: Town of Bethany Beach.

**AQUIFER.**--Manokin aquifer of Miocene age.      Aquifer code: 122MNKN.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 400 ft; casing diameter 4 in., to 335 ft; screen diameter 4 in. from 335 to 400 ft.

**INSTRUMENTATION.**--Monthly measurements with chalked steel tape by Delaware Geological Survey personnel.

DATUM.--Elevation of land surface is 7 ft. above National Geodetic Vertical Datum of 1929.

Measuring Point: Top of casing, at land surface.

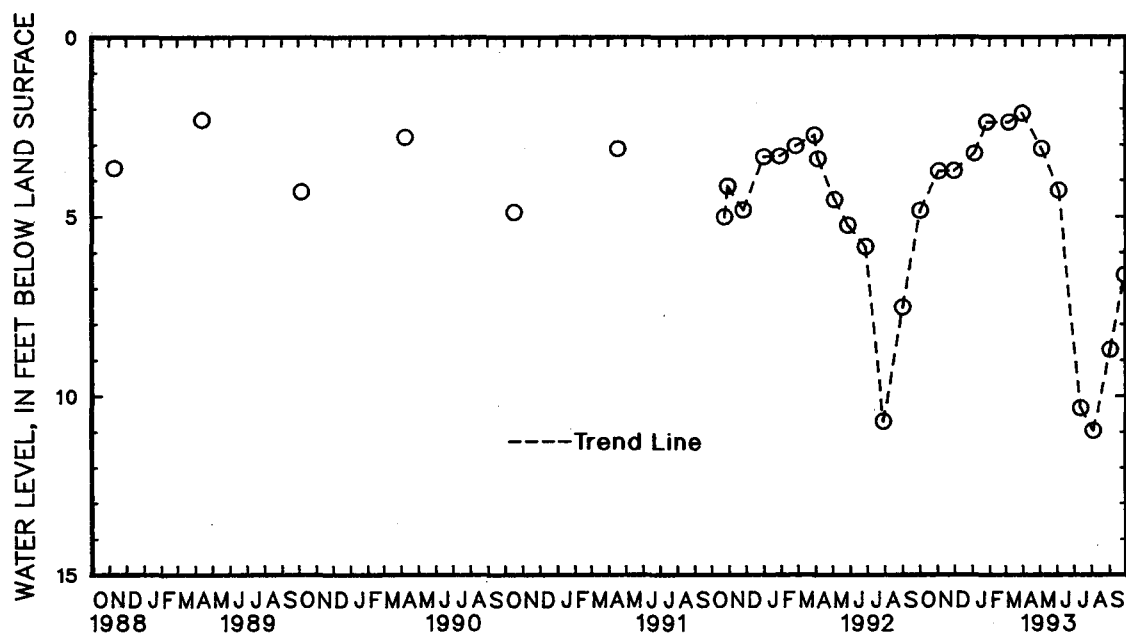
REMARKS.--Delaware Water-Level Network observation well.

PERIOD OF RECORD.--February 1988 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.12 ft below land surface, April 1, 1993;  
lowest measured, 10.97 ft below land surface, Aug. 4, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 2	4.83	JAN 6	3.24	APR 1	2.12	JUL 12	10.34	SEP 28	6.62
NOV 4	3.74	28	2.37	MAY 5	3.11	AUG 4	10.97		
DEC 1	3.73	MAR 8	2.37	JUN 4	4.28	SEP 2	8.71		
WATER YEAR 1993		HIGHEST	2.12	APR 1, 1993		LOWEST	10.97	AUG 4, 1993	



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
DELAWARE--Continued  
SUSSEX COUNTY--Continued

WELL NUMBER.--Rj22-05. SITE ID.--382808075030501.

LOCATION.--Lat 38°28'08", long 75°03'05", Hydrologic Unit 02060010, at Fenwick Island State Park.

Owner: U.S. Geological Survey.

AQUIFER.--Manokin aquifer of Miocene age. Aquifer code: 122MNKN.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 455 ft; casing diameter 1.25 in., to 450 ft; screen diameter 2 in., from 450 to 455 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by Delaware Geological Survey personnel. Measured monthly from April 1977 to March 1980, and April 1985 to July 1987. Intermittent measurements from September 1980 to February 1985.

DATUM.--Elevation of land surface is 5 ft above National Geodetic Vertical Datum of 1929, from topographic map.

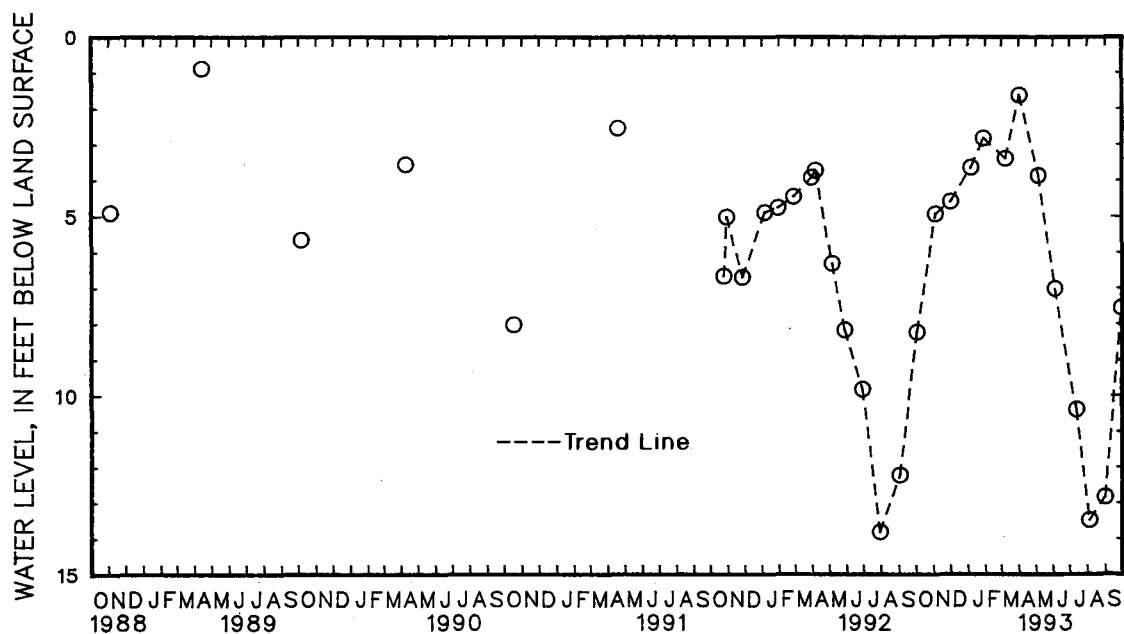
Measuring Point: Top of casing, 1.0 ft above land surface.

PERIOD OF RECORD.--April 1977 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, .80 ft above land surface, April 4, 1984; lowest measured, 13.81 ft below land surface, July 30, 1992.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 2	8.22	JAN 6	3.64	APR 1	1.62	JUL 12	10.39	SEP 29	7.55
NOV 4	4.94	28	2.82	MAY 5	3.87	AUG 4	13.48		
DEC 1	4.58	MAR 8	3.39	JUN 4	7.02	31	12.84		
WATER YEAR 1993		HIGHEST	1.62	APR 1, 1993		LOWEST	13.48	AUG 4, 1993	



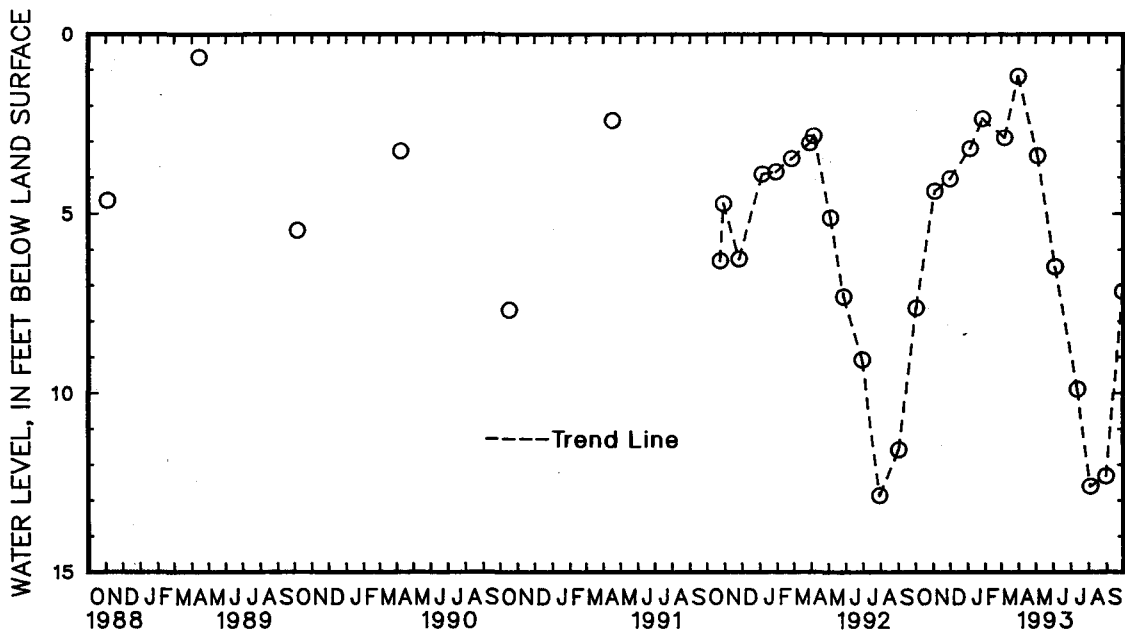
5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
DELAWARE--Continued  
SUSSEX COUNTY--Continued

WELL NUMBER.--Rj22-06. SITE ID.--382808075030502.  
LOCATION.--Lat 38°28'08", long 75°03'05", Hydrologic Unit 02060010, at Fenwick Island State Park.  
Owner: U.S. Geological Survey.  
AQUIFER.--Manokin aquifer of Miocene age. Aquifer code: 122MNKN.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 295 ft; casing diameter 1.25 in., to 290 ft; screen diameter 2 in., from 290 to 295 ft.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by Delaware Geological Survey personnel. Measured monthly from April 1977 to March 1980, and April 1985 to July 1987. Intermittent measurements from September 1980 to February 1985.  
DATUM.--Elevation of land surface is 5 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring Point: Top of casing, 1.0 ft above land surface.  
PERIOD OF RECORD.--April 1977 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.00 ft above land surface, April 2, 1979, and April 4, 1984; lowest measured, 12.86 ft below land surface, July 30, 1992.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 2	7.62	JAN 6	3.19	APR 1	1.17	JUL 12	9.90	SEP 29	7.17
NOV 4	4.37	28	2.35	MAY 5	3.40	AUG 4	12.61		
DEC 1	4.03	MAR 8	2.89	JUN 4	6.49	31	12.32		
WATER YEAR 1993		HIGHEST 1.17		APR 1, 1993		LOWEST 12.61		AUG 4, 1993	



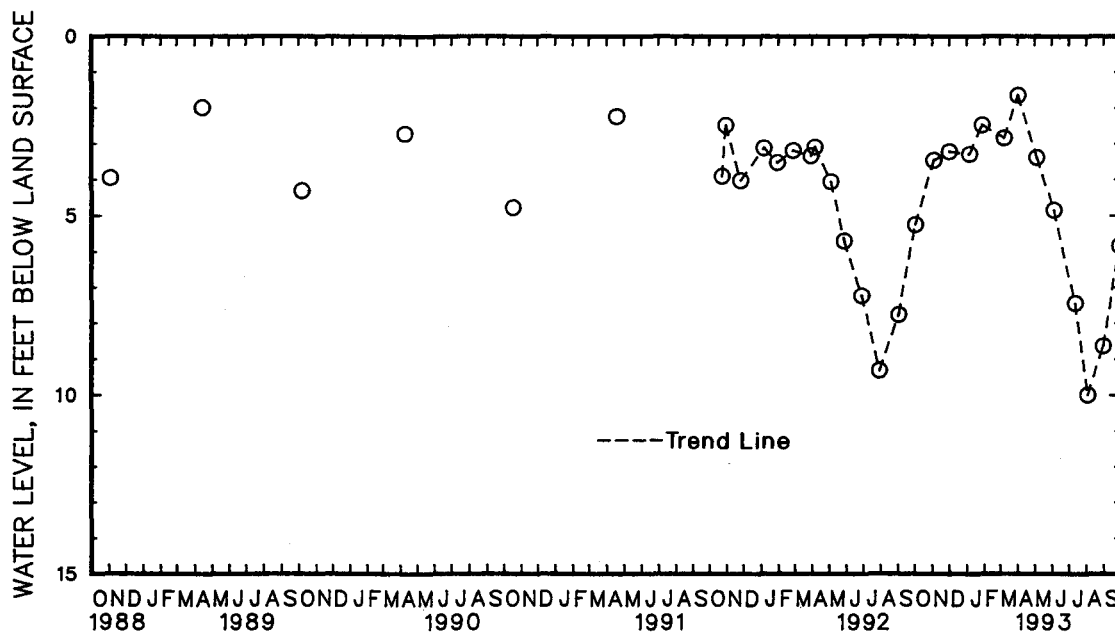
5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
DELAWARE--Continued  
SUSSEX COUNTY--Continued

WELL NUMBER.--Rj22-07. SITE ID.--382808075030503.  
LOCATION.--Lat 38°28'08", long 75°03'05", Hydrologic Unit 02060010, at Fenwick Island State Park.  
Owner: U.S. Geological Survey.  
AQUIFER.--Ocean City aquifer of Miocene age. Aquifer code: 122OCNC.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 185 ft; casing diameter 1.25 in., to 180 ft; screen diameter 2 in., from 180 to 185 ft.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by Delaware Geological Survey personnel. Measured monthly from April 1977 to March 1980 and April 1985 to July 1987. Intermittent measurements from September 1980 to February 1985.  
DATUM.--Elevation of land surface is 5 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring Point: Top of casing, 1.0 ft above land surface.  
PERIOD OF RECORD.--April 1977 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, .33 ft above land surface, Feb. 20, 1986; lowest measured, 10.00 ft below land surface, Aug 4, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 2	5.25	JAN 6	3.29	APR 1	1.65	JUL 12	7.46	SEP 29	5.83
NOV 4	3.46	28	2.48	MAY 5	3.39	AUG 4	10.00		
DEC 1	3.22	MAR 8	2.84	JUN 4	4.86	31	8.64		
WATER YEAR 1993		HIGHEST 1.65 APR 1, 1993		LOWEST 10.00 AUG 4, 1993					



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

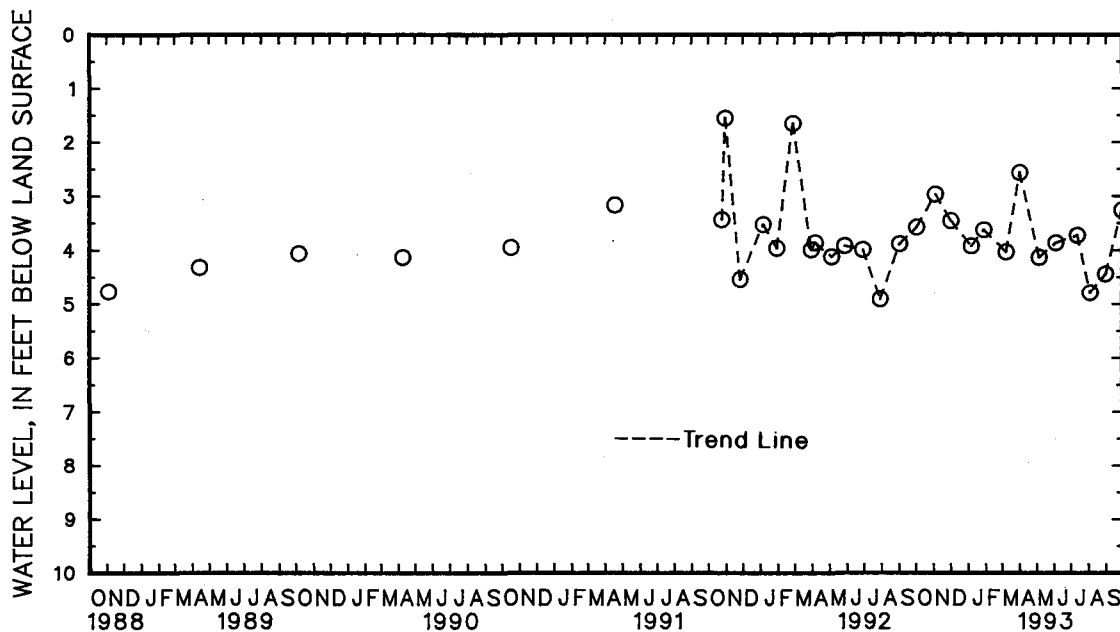


GROUND-WATER LEVELS  
DELAWARE--Continued  
SUSSEX COUNTY--Continued

WELL NUMBER.--Rj22-08. SITE ID.--382808075030504.  
LOCATION.--Lat 38°28'08", long 75°03'05", Hydrologic Unit 02060010, at Fenwick Island State Park.  
Owner: U.S. Geological Survey.  
AQUIFER.--Pleistocene-Pliocene Formation of Pleistocene age. Aquifer code: 112PCPC.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 115 ft; casing diameter 1.25 in., to 110 ft; screen diameter 2 in., from 110 to 115 ft.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by Delaware Geological Survey personnel.  
Measured monthly from April 1977 to March 1980, and April 1985 to July 1987. Intermittent measurements from September 1980 to February 1985.  
DATUM.--Elevation of land surface is 5 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
Measuring Point: Top of casing, 1.0 ft above land surface.  
PERIOD OF RECORD.--April 1977 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.28 ft below land surface, March 27, 1978; lowest measured, 5.39 ft below land surface, July 24, 1981.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 2	3.58	JAN 6	3.93	APR 1	2.57	JUL 12	3.73	SEP 29	3.26
NOV 4	2.97	28	3.63	MAY 5	4.14	AUG 4	4.80		
DEC 1	3.46	MAR 8	4.04	JUN 4	3.87	31	4.45		
WATER YEAR 1993		HIGHEST	2.57	APR 1, 1993		LOWEST	4.80	AUG 4, 1993	



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

## MARYLAND

## ALLEGANY COUNTY

WELL NUMBER.--AL Ah 1. SITE ID.--394024078273401.

LOCATION.--Lat 39°40'24", long 78°27'34", Hydrologic Unit 02070003, near Fifteen Mile Creek, 2.8 mi southeast of Pratt.

Owner: Green Ridge State Forest.

AQUIFER.--Jennings Formation of Upper Devonian Age. Aquifer code: 341JNGS.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, reported depth 300 ft, measured depth 114.5 ft; casing diameter 8 in. to unknown depth; open hole.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 720 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of sanitary seal in casing, 0.3 ft above land surface.

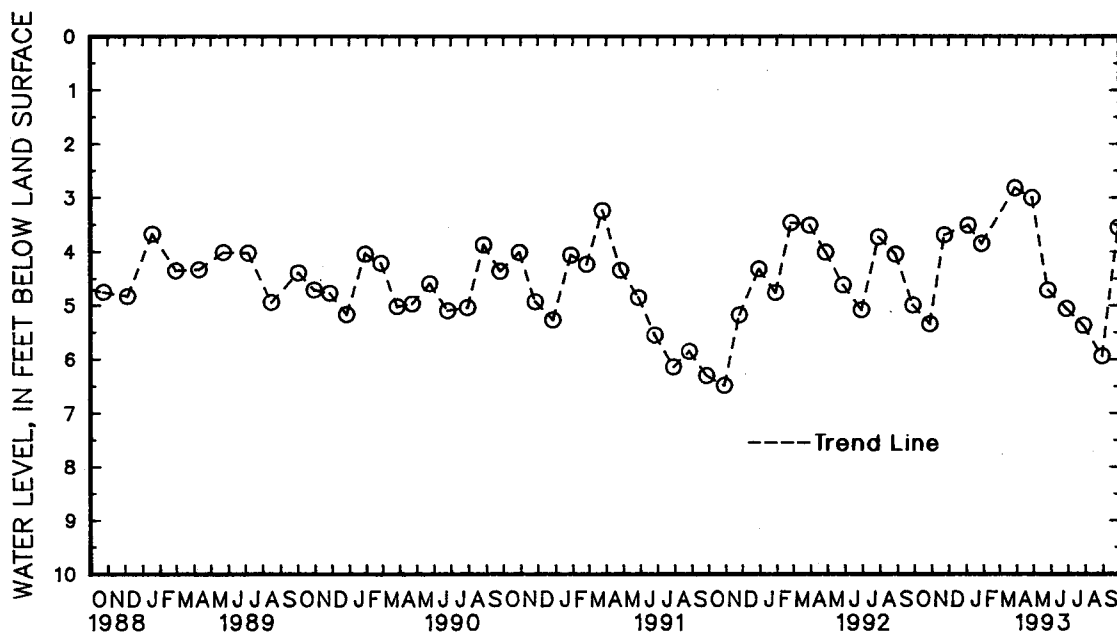
REMARKS.--Maryland Water-Level Network observation well. Water level was more than 40 ft below land surface on Nov. 19, 1969, and Feb. 12, 1970, when well was being pumped. Water levels may be affected by nearby pumping.

PERIOD OF RECORD.--December 1949 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.80 ft below land surface, May 18, 1978; lowest measured 19.75 ft below land surface, July 17, 1968.

## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	5.35	JAN 4	3.51	MAR 29	2.82	MAY 26	4.72	JUL 28	5.38	SEP 28	3.55
NOV 23	3.69	28	3.85	APR 28	3.00	JUN 28	5.07	AUG 30	5.95		
WATER YEAR 1993		HIGHEST	2.82	MAR 29, 1993	LOWEST	5.95	AUG 30, 1993				



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
ALLEGANY COUNTY--Continued

WELL NUMBER.--AL Bd 2. SITE ID.--393930078460901.

LOCATION.--Lat 39°39'30", long 78°46'09", Hydrologic Unit 02070002, at Henderson Ave. and Valley St., Cumberland.

Owner: formerly Cumberland Brewing Company.

AQUIFER.--Tonoloway Limestone of Upper Silurian age. Aquifer code: 351TNLY.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, Reported depth 100 ft, measured depth 91 ft; casing diameter 6 in. to unknown depth; open hole.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 640 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of casing at land surface.

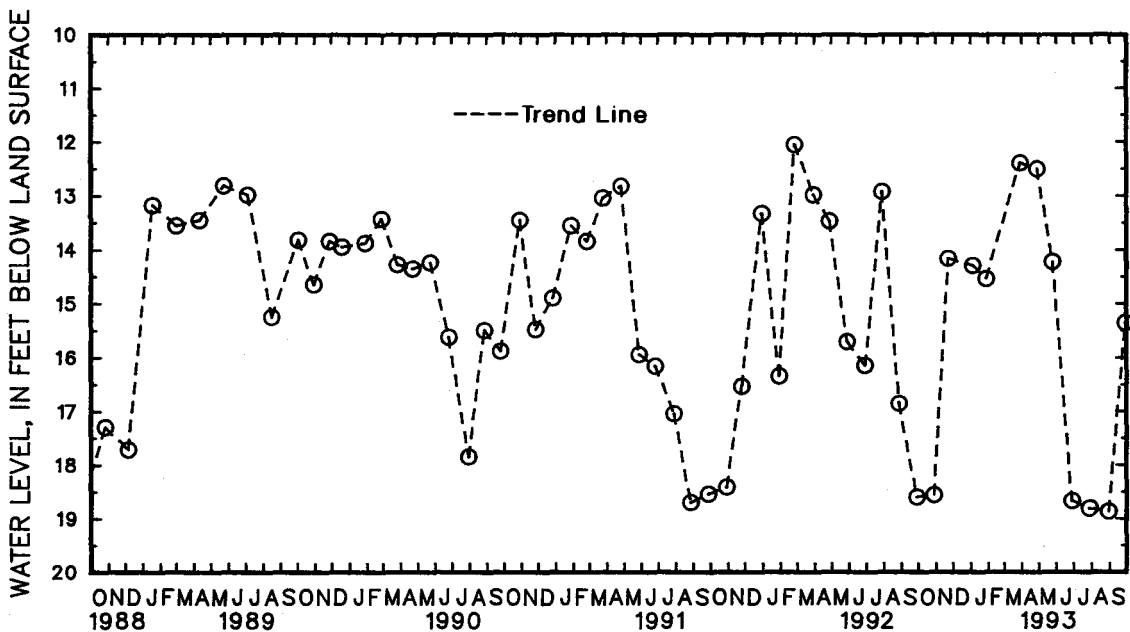
REMARKS.--Maryland Water-Level Network observation well.

PERIOD OF RECORD.--October 1946 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.24 ft below land surface, Feb. 8, 1973; lowest measured, 32.55 ft below land surface, Sept. 7, 1966.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	
OCT 28	18.55	JAN 4	14.29	MAR 29	12.39	MAY 26	14.23	JUL 28	18.81	SEP 28	15.35	
NOV 23	14.16	28	14.53	APR 28	12.50	JUN 28	18.67	AUG 30	18.87			
WATER YEAR 1993		HIGHEST	12.39	MAR 29, 1993		LOWEST	18.87	AUG 30, 1993				



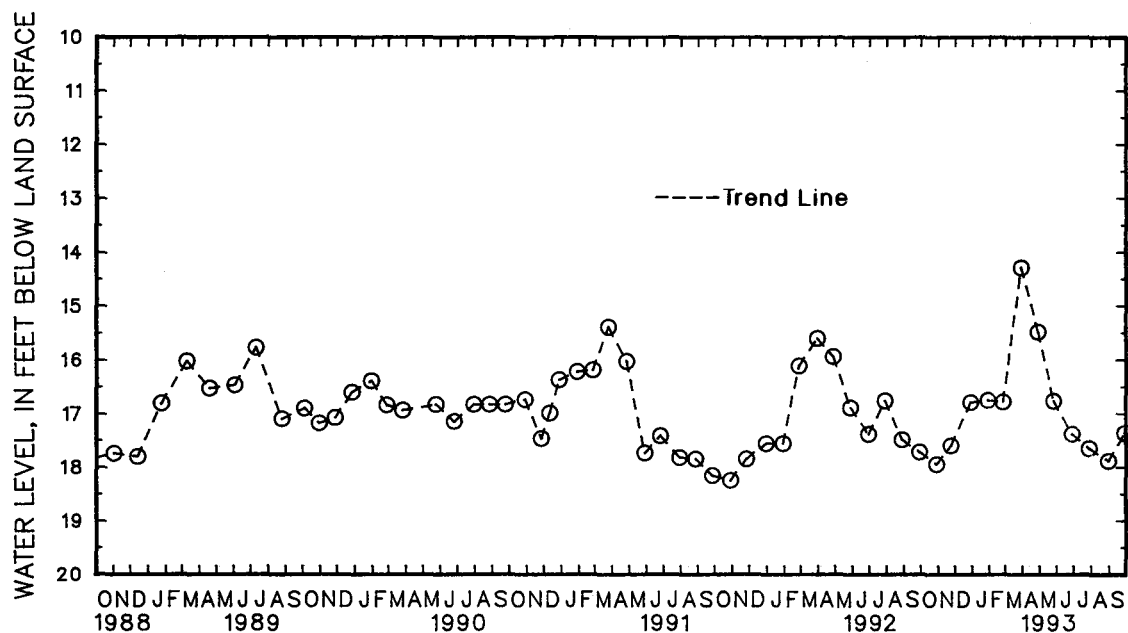
5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
ALLEGANY COUNTY--Continued

WELL NUMBER.--AL Ca 19. SITE ID.--393009079025201. PERMIT NUMBER.--AL-05-0057.  
LOCATION.--Lat 39°30'09", long 79°02'52", Hydrologic Unit 02070002, north end of Franklin.  
Owner: Carl Arthur.  
AQUIFER.--Conemaugh Formation of Upper Pennsylvanian age. Aquifer code: 321CNMG.  
WELL CHARACTERISTICS.--Drilled, unused, water-table well, measured depth 86 ft;  
casing diameter 6 in., to 46 ft; open hole.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
DATUM.--Elevation of land surface is 1,035 ft above National Geodetic Vertical Datum of 1929,  
from topographic map.  
Measuring point: Top of casing, 2.0 ft above land surface.  
REMARKS.--Maryland Water-Level Network observation well.  
PERIOD OF RECORD.--July 1974 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.88 ft below land surface, March 19, 1984;  
lowest measured, 19.30 ft below land surface, Nov. 1, 1977.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	17.95	DEC 29	16.79	FEB 25	16.78	APR 28	15.48	JUN 28	17.39	AUG 30	17.89
NOV 23	17.60	JAN 29	16.75	MAR 29	14.28	MAY 26	16.77	JUL 28	17.65	SEP 28	17.37
WATER YEAR 1993		HIGHEST	14.28	MAR 29, 1993		LOWEST	17.95	OCT 28, 1992			



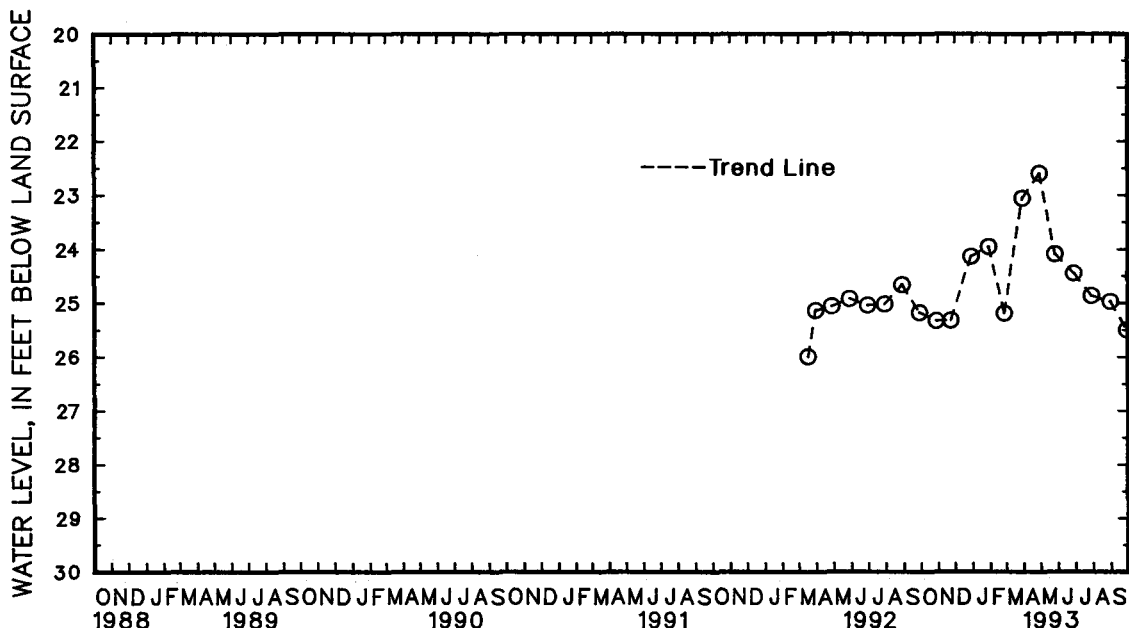
5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
ALLEGANY COUNTY--Continued

WELL NUMBER.--AL Ca 20. SITE ID.--393148079010601. PERMIT NUMBER.--AL-81-0477.  
LOCATION.--Lat 39°31'48", long 79°01'06", Hydrologic Unit 02070002, at Barton Municipal Park.  
Owner: Town of Barton.  
AQUIFER.--Conemaugh Formation of Upper Pennsylvanian age. Aquifer code: 321CNMG.  
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 71 ft; casing diameter 8 in., to 20 ft; open hole.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel March 1992.  
DATUM.--Elevation of land surface is 1,250 ft above National Geodetic Vertical Datum of 1929.  
Measuring Point: Top of casing, 1.7 ft above land surface.  
REMARKS.--Maryland Water-Level Network observation well.  
PERIOD OF RECORD.--March 1992 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 22.59 ft below land surface, April 28, 1993; lowest measured, 26.00 ft below land surface, March 17, 1992.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	25.32	DEC 29	24.13	FEB 25	25.19	APR 28	22.59	JUN 28	24.45	AUG 30	24.98
NOV 23	25.31	JAN 29	23.95	MAR 29	23.05	MAY 26	24.09	JUL 28	24.87	SEP 28	25.50
WATER YEAR 1993		HIGHEST	22.59	APR 28, 1993		LOWEST	25.50	SEP 28, 1993			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

ANNE ARUNDEL COUNTY

WELL NUMBER.--AA Ac 11. SITE ID.--391101076404001. PERMIT NUMBER.--AA-00-2445.

LOCATION.--Lat 39°11'01", long 76°40'40", Hydrologic Unit 02060003, west end of runway 15,  
Baltimore-Washington International Airport.

Baltimore-Washington International Airport.

**Owner:** Maryland Department of Transportation.

AQUIFER.--Patuxent Formation of Lower Cretaceous age. Aquifer code: 217PTXN.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, depth 320 ft; casing diameter 6 in., to 312 ft; screened from 312 to 320 ft.

**INSTRUMENTATION.**--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 136.9 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of casing, 1.0 above land surface.

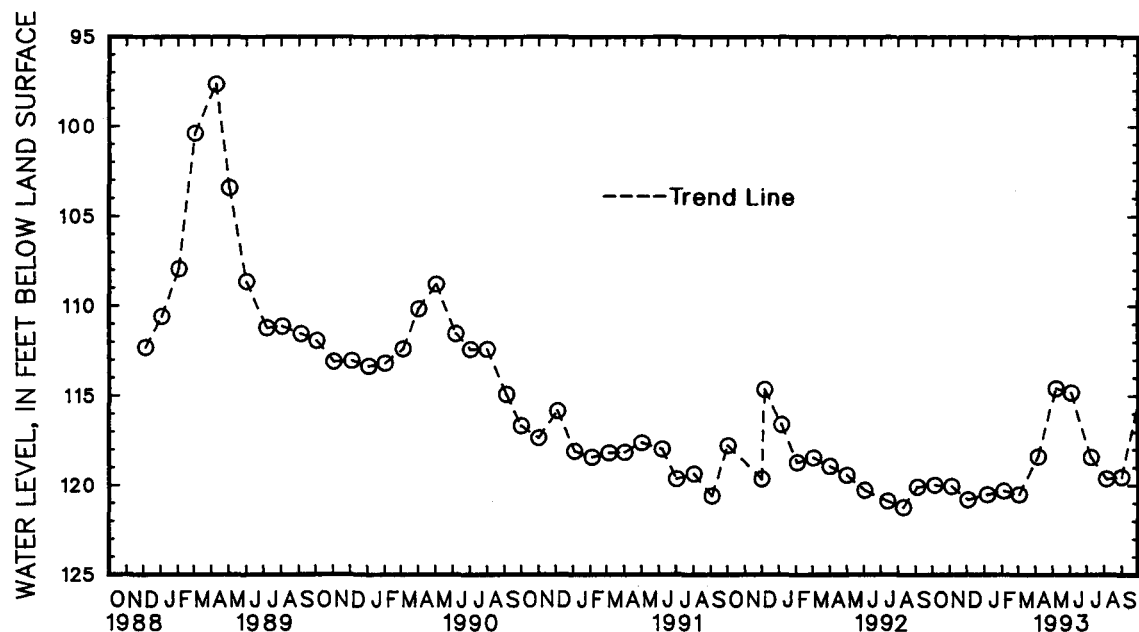
REMARKS.--Maryland Water-Level Network observation well. Well used during construction of airport. Water level reported by driller 90 ft below land surface, April 23, 1948.

PERIOD OF RECORD.--June 1959 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 86.60 ft below land surface, March 9, 1965;  
lowest measured, 125.12 ft below land surface, Oct. 9, 1986.

WATER LEVEL, IN FEET BELOW LAND SURFACE. WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE			WATER LEVEL			DATE			WATER LEVEL			DATE			WATER LEVEL			DATE			WATER LEVEL		
OCT	5	119.99	DEC	3	120.81	FEB	4	120.32	APR	6	118.40	JUN	3	114.82	AUG	5	119.64						
NOV	4	120.06	JAN	6	120.53	MAR	3	120.51	MAY	7	114.58	JUL	9	118.44	SEP	1	119.55						
WATER YEAR 1993			HIGHEST 114.58			MAY 7, 1993			LOWEST 120.81			DEC 3, 1992											



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

ANNE ARUNDEL COUNTY--Continued

WELL NUMBER.--AA Ad 29. SITE ID.--391015076373501.

LOCATION.--Lat 39°10'15", long 76°37'35", Hydrologic Unit 02060003, near Linden Lane, Glen Burnie, near the Anne Arundel County Department of Public Works office.

Owner: Anne Arundel County Department of Public Works.

AQUIFER.--Patuxent Formation of Lower Cretaceous age. Aquifer code: 217PTXN.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 500 ft; casing diameter 3 in., to 395 ft and from 400 to 420 ft; casing diameter 2 in. from 420 to 460 ft; screened with 3 in. slotted pipe from 395 to 400 ft; screened with 2 in. slotted pipe from 460 to 500 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel. Equipped with graphic water-level recorder from July 19, 1948 to Jan. 18, 1968.

DATUM.--Elevation of land surface is 37 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of casing, 1.47 ft above land surface.

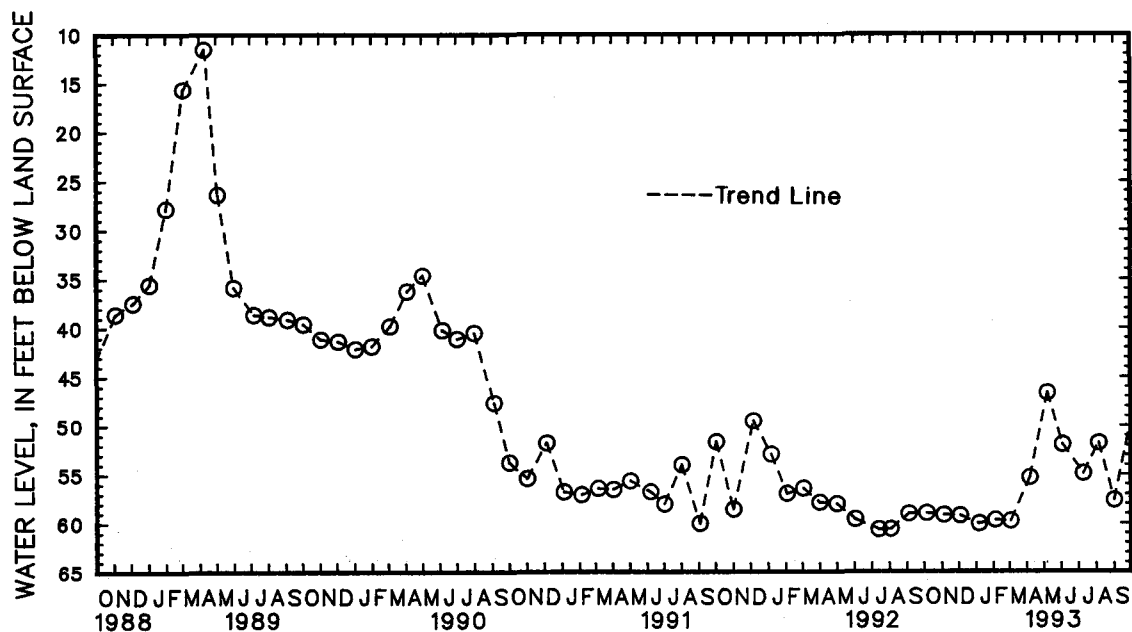
REMARKS.--Maryland Water-Level Network observation well.

PERIOD OF RECORD.--June 1948 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 14.04 ft above land surface, Sept. 2, 1952; lowest measured, 63.63 ft below land surface, July 30, 1986.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 5	58.97	DEC 3	59.22	FEB 4	59.67	APR 6	55.31	JUN 3	51.93	AUG 5	51.78
NOV 4	59.16	JAN 6	60.05	MAR 3	59.77	MAY 7	46.61	JUL 9	54.89	SEP 1	57.64
WATER YEAR 1993		HIGHEST	46.61	MAY 7, 1993		LOWEST	60.05	JAN 6, 1993			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993



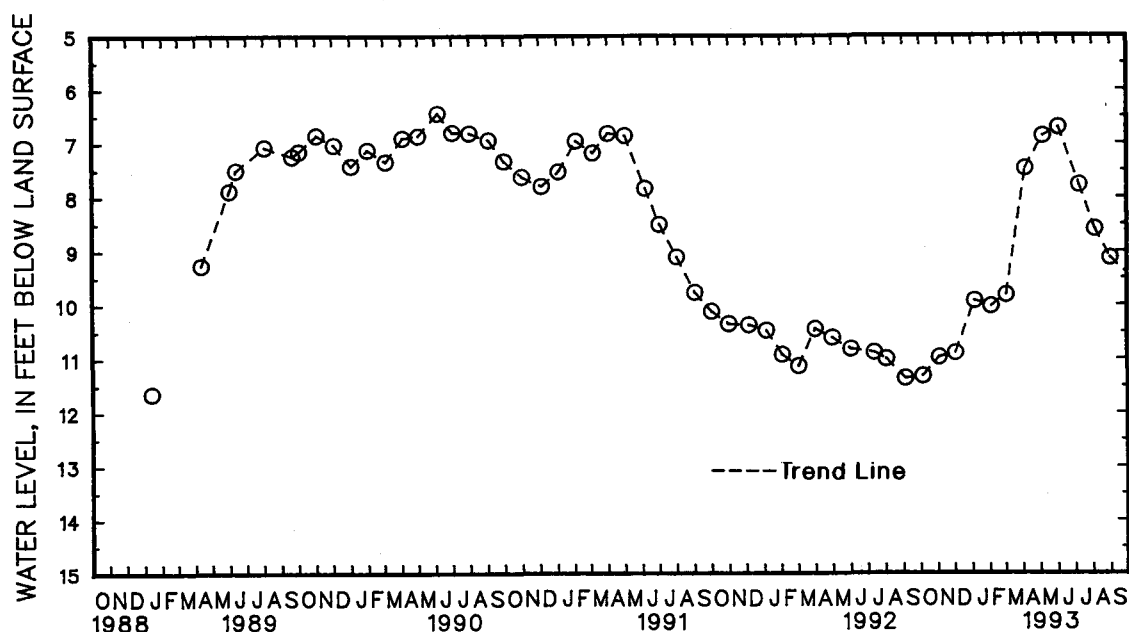
GROUND-WATER LEVELS  
MARYLAND--Continued  
ANNE ARUNDEL COUNTY--Continued

WELL NUMBER.--AA Ad 102. SITE ID.--391032076385904. PERMIT NUMBER.--AA-81-2641.  
LOCATION.--Lat 39°10'32", long 76°38'59", Hydrologic Unit 02060003, off Hammonds Ferry Rd.,  
0.5 mi north of Dorsey Rd. intersection.  
Owner: U.S. Geological Survey.  
AQUIFER.--Patapsco Formation of Lower Cretaceous age. Aquifer code: 217FPSC.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 108; casing diameter 6 in., to 80 ft;  
screen diameter 4 in. from 80 to 90 ft.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
Equipped with digital water-level recorder--60-minute recorder interval from Dec. 1983 to Oct. 2, 1990.  
DATUM.--Elevation of land surface is 73.72 ft above National Geodetic Vertical Datum of 1929.  
Measuring Point: Top of recorder platform, 2.45 ft above land surface.  
REMARKS.--Maryland Water-Level Network observation well and Glen Burnie Project observation well.  
PERIOD OF RECORD.--December 1983 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.44 ft below land surface, June 6 1990;  
lowest measured, 14.74 ft below land surface, Oct. 31, 1986 and Nov. 1, 1986.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 5	11.33	DEC 3	10.90	FEB 4	10.03	APR 6	7.47	JUN 3	6.71	AUG 5	8.60
NOV 4	10.98	JAN 6	9.93	MAR 3	9.82	MAY 7	6.87	JUL 9	7.78	SEP 1	11.25

WATER YEAR 1993      HIGHEST      6.71      JUN 3, 1993      LOWEST      11.33      OCT 5, 1992



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

ANNE ARUNDEL COUNTY--Continued

WELL NUMBER.--AA Ad 104. SITE ID.--391032076385905. PERMIT NUMBER.--AA-81-2760.  
 LOCATION.--Lat 39°10'32", long 76°38'59", Hydrologic Unit 02060003, off Hammonds Ferry Rd.,  
 0.5 mi north of Dorsey Rd. intersection.

Owner: U.S. Geological Survey.

AQUIFER.--Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSC.

WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 29 ft; casing diameter 4 in., to 19 ft;  
 screen diameter 4 in. from 19 to 29 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel. Equipped with  
 digital water-level recorder--30-minute recorder interval from November 1985 to Oct. 30, 1990.

DATUM.--Elevation of land surface is 80 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring Point: Top of casing, 2.9 ft above land surface.

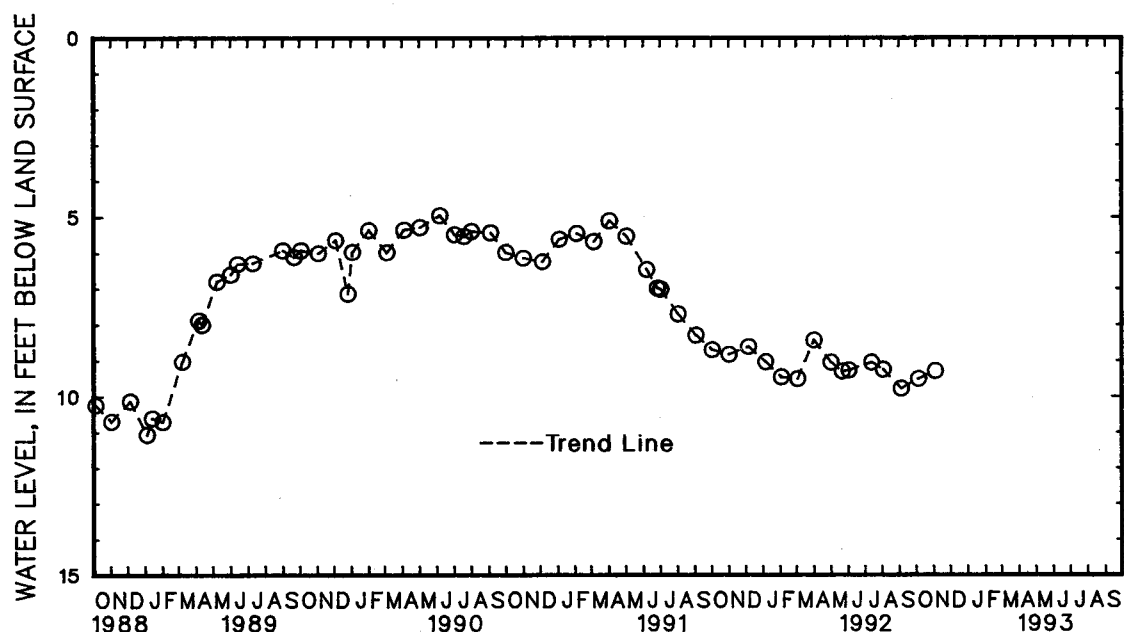
REMARKS.--Maryland Water-Level Network observation well and Glen Burnie Project observation well. Water levels  
 before Feb. 23, 1986 are not currently available. Well destroyed November 18, 1992.

PERIOD OF RECORD.--February 1985 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.95 ft below land surface, June 6, 1990;  
 lowest measured, 13.09 ft below land surface, Oct. 31, and Nov. 1, and 2, 1986.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 5	9.52	NOV 4	9.30
WATER YEAR 1993      HIGHEST      9.30    NOV 4, 1992      LOWEST      9.52    OCT 5, 1992			



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

ANNE ARUNDEL COUNTY--Continued

WELL NUMBER.--AA Ad 108. SITE ID.--391032076385906. PERMIT NUMBER.--AA-81-3475.

LOCATION.--Lat 39°10'32", long 76°38'59", Hydrologic Unit 02060003, off Hammonds Ferry Rd., 0.5 mi north of Dorsey Rd. intersection.

Owner: U.S. Geological Survey.

AQUIFER.--Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSC.

WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 11.5 ft; casing diameter 4 in., to 6 ft; screen diameter 4 in. from 6 to 11 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel. Equipped with digital water-level recorder--60-minute recorder interval from Feb. 23, 1986 to Sept. 30, 1990.

DATUM.--Elevation of land surface is 78.31 ft above National Geodetic Vertical Datum of 1929.

Measuring Point: Top of recorder platform, 5.5 ft above land surface.

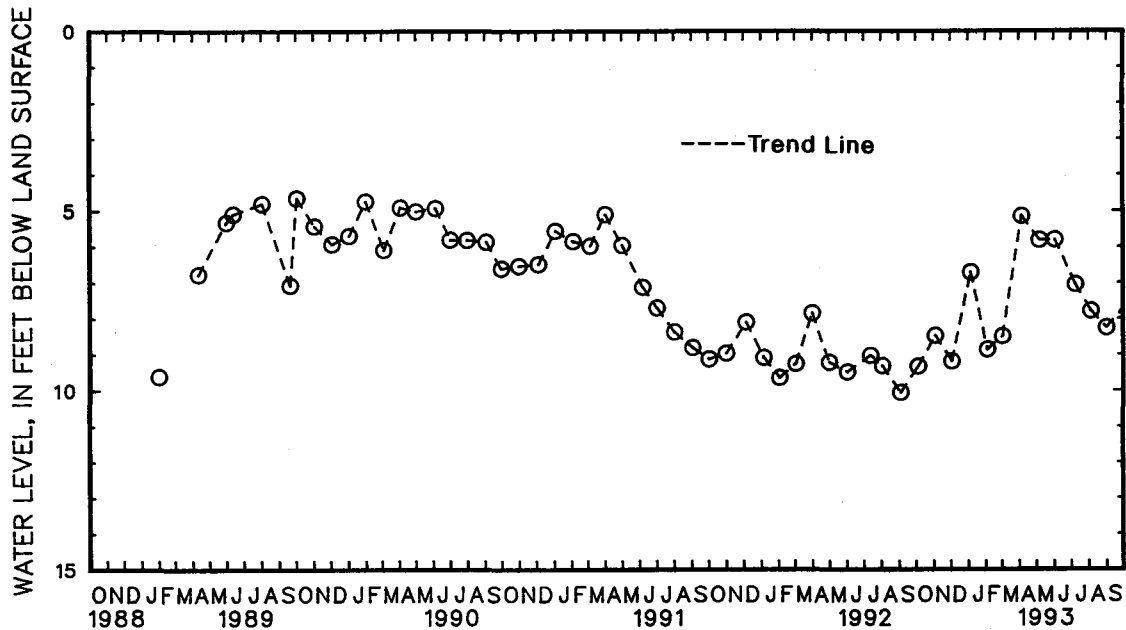
REMARKS.--Maryland Water-Level Network observation well. Glen Burnie Project observation well. Water levels before Feb. 23, 1986 are not currently available.

PERIOD OF RECORD.--August 1984 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.46 ft below land surface, Aug. 7, 1989; lowest measured, Dry on Aug. 22, 1985; Jan. 17, 1986; May 20, 1986; July 8, 1986 and Nov. 3, 1986.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 5	9.34	DEC 3	9.20	FEB 4	8.87	APR 6	5.15	JUN 3	5.81	AUG 5	7.80
NOV 4	8.48	JAN 6	6.71	MAR 3	8.50	MAY 7	5.82	JUL 9	7.06	SEP 1	8.27
WATER YEAR 1993		HIGHEST	5.15	APR 6, 1993		LOWEST	9.34	OCT 5, 1992			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

## MARYLAND--Continued

## ANNE ARUNDEL COUNTY--Continued

WELL NUMBER.--AA Ad 109. SITE ID.--391006076380101. PERMIT NUMBER.--AA-81-4890.  
 LOCATION.--Lat 39°10'06", long 76°38'01", Hydrologic Unit 02060003, 0.05 mi south of Dorsey Rd.,  
 0.17 mi west of MD Rt. 648.  
 Owner: U.S. Geological Survey.  
 AQUIFER.--Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSC.  
 WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 46 ft; casing diameter 4 in., to 36 ft;  
 screen diameter 4 in. from 36 to 46 ft.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 Equipped with digital water-level recorder--60-minute recorder interval from October 1985 to current year.  
 DATUM.--Elevation of land surface is 35 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
 Measuring Point: Top of recorder platform, 4.3 ft above land surface.  
 REMARKS.--Anne Arundel Co. observation well network. Water levels before Feb. 23, 1986 are not currently  
 available. Water levels affected by nearby pumping. Missing data due to recorder malfunction.  
 PERIOD OF RECORD.--October 1985 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 39.07 ft above sea level, April 21, 1991;  
 lowest measured, 20.20 ft above sea level, Oct. 15, 1987.

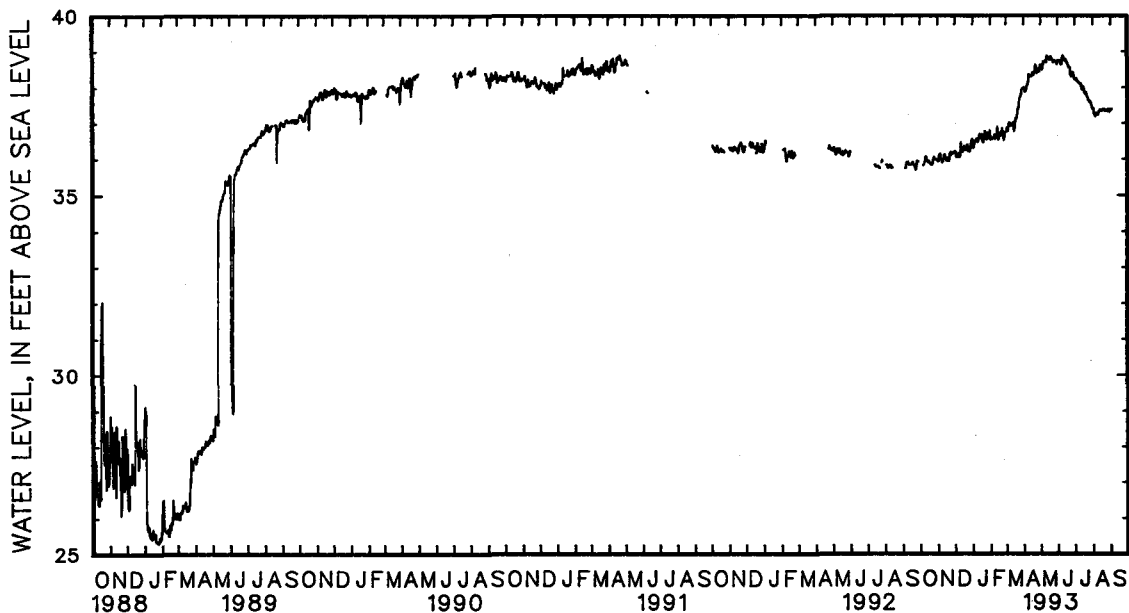
## WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	35.94	35.92	36.22	36.20	36.55	36.33	36.90	36.59	36.85	36.76
2	---	---	36.11	35.92	36.26	36.19	36.33	36.29	36.59	36.53	36.88	36.85
3	---	---	36.17	36.08	36.23	36.04	36.43	36.32	36.73	36.55	36.85	36.77
4	---	---	36.18	36.08	36.26	36.04	36.58	36.43	36.73	36.55	37.21	36.77
5	---	---	36.18	36.13	36.27	36.08	36.74	36.49	36.76	36.55	37.11	37.00
6	35.86	35.81	36.13	36.00	36.19	36.05	36.53	36.49	36.78	36.57	37.00	36.91
7	35.87	35.83	36.00	35.97	36.22	36.14	36.56	36.51	36.71	36.57	36.99	36.90
8	35.91	35.87	35.97	35.92	36.14	36.07	36.63	36.55	36.76	36.66	37.07	36.99
9	36.07	35.91	35.92	35.89	36.07	36.04	36.55	36.50	36.66	36.54	36.99	36.94
10	36.08	36.04	35.98	35.91	36.53	36.07	36.50	36.46	36.71	36.58	37.09	36.93
11	36.11	36.06	36.10	35.98	36.59	36.46	36.56	36.49	36.71	36.66	37.09	36.94
12	36.06	36.04	36.33	36.09	36.46	36.25	36.68	36.56	36.96	36.66	37.00	36.94
13	36.04	35.94	36.39	36.11	36.25	36.18	36.81	36.68	36.98	36.88	37.71	37.00
14	35.94	35.90	36.11	36.04	36.22	36.18	36.73	36.56	36.88	36.62	37.58	36.89
15	35.94	35.92	36.05	35.98	36.29	36.22	36.65	36.56	36.62	36.53	36.89	36.76
16	36.03	35.94	36.00	35.94	36.35	36.29	36.74	36.65	36.91	36.55	37.02	36.83
17	36.00	35.88	36.14	36.00	36.50	36.35	36.76	36.67	36.88	36.70	37.31	37.02
18	35.97	35.88	36.11	36.02	36.40	36.24	36.67	36.48	36.74	36.69	37.25	37.14
19	35.99	35.87	36.02	35.94	36.40	36.24	36.48	36.45	36.70	36.64	37.19	37.12
20	35.90	35.83	35.97	35.92	36.48	36.31	36.55	36.46	36.79	36.70	37.33	37.19
21	35.94	35.87	36.15	35.97	36.36	36.25	36.76	36.55	36.94	36.75	37.44	37.33
22	35.87	35.83	36.24	36.15	36.41	36.36	36.84	36.76	36.94	36.84	37.44	37.42
23	36.00	35.87	36.39	36.18	36.46	36.38	36.79	36.68	36.84	36.73	37.66	37.44
24	36.19	36.00	36.18	36.10	36.47	36.20	36.87	36.70	36.73	36.60	37.79	37.66
25	36.15	36.04	36.15	36.12	36.44	36.20	36.74	36.54	36.63	36.52	37.75	37.72
26	36.09	36.02	36.24	36.13	36.44	36.22	36.72	36.54	36.75	36.63	37.80	37.74
27	36.07	35.98	36.22	36.16	36.27	36.19	36.84	36.72	36.75	36.73	37.91	37.80
28	36.00	35.98	36.18	36.17	36.41	36.27	36.81	36.71	36.76	36.74	37.95	37.91
29	36.01	35.98	36.17	36.16	36.50	36.40	36.84	36.57	---	---	38.01	37.95
30	36.00	35.95	36.21	36.16	36.55	36.50	36.79	36.57	---	---	38.01	37.98
31	35.98	35.94	---	---	36.57	36.55	36.97	36.79	---	---	37.99	37.96
MONTH	36.19	35.81	36.39	35.89	36.59	36.04	36.97	36.29	36.98	36.52	38.01	36.76

GROUND-WATER LEVELS  
MARYLAND--Continued  
ANNE ARUNDEL COUNTY--Continued  
AA Ad 109--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	38.09	37.99	38.63	38.59	38.87	38.75	38.26	38.21	37.42	37.41	37.43	37.39
2	38.09	37.99	38.62	38.55	38.75	38.71	38.27	38.21	37.42	37.40	37.41	37.38
3	37.99	37.88	38.55	38.49	38.78	38.74	38.27	38.24	37.40	37.24	37.43	37.39
4	37.92	37.88	38.65	38.53	38.79	38.75	38.24	38.20	37.25	37.23	---	---
5	38.01	37.92	38.72	38.65	38.79	38.73	38.20	38.16	37.23	37.19	---	---
6	38.05	38.01	38.75	38.71	38.73	38.64	38.17	38.16	37.39	37.21	---	---
7	38.12	38.05	---	---	38.80	38.65	38.17	38.14	37.37	37.27	---	---
8	38.16	38.11	38.75	38.71	38.89	38.80	38.16	38.13	37.27	37.25	---	---
9	38.36	38.16	38.76	38.73	38.90	38.89	---	---	37.25	37.23	---	---
10	38.53	38.36	38.77	38.75	38.89	38.85	38.14	38.09	37.29	37.24	---	---
11	38.41	38.30	38.88	38.70	38.85	38.80	38.13	38.10	37.33	37.29	---	---
12	38.32	38.31	39.03	38.87	38.80	38.75	38.13	38.06	37.37	37.33	---	---
13	38.33	38.31	38.98	38.86	38.78	38.75	38.06	37.94	37.39	37.37	---	---
14	38.33	38.30	38.86	38.81	38.81	38.78	38.09	37.93	37.38	37.36	---	---
15	38.41	38.32	38.82	38.80	38.80	38.76	38.09	38.01	37.37	37.34	---	---
16	38.54	38.41	38.89	38.79	38.76	38.69	38.01	37.96	37.37	37.34	---	---
17	38.54	38.35	38.84	38.77	38.73	38.69	37.97	37.88	37.43	37.37	---	---
18	38.40	38.34	38.86	38.77	38.73	38.64	37.88	37.83	37.41	37.37	---	---
19	38.45	38.40	38.88	38.86	38.64	38.59	37.93	37.83	37.39	37.36	---	---
20	38.51	38.44	38.86	38.81	38.59	38.56	37.96	37.85	37.47	37.39	---	---
21	38.65	38.50	38.81	38.79	38.64	38.56	37.85	37.77	37.44	37.36	---	---
22	38.68	38.63	38.79	38.76	38.64	38.55	37.77	37.73	37.37	37.34	---	---
23	38.63	38.44	38.76	38.70	38.55	38.36	37.73	37.71	37.39	37.37	---	---
24	38.47	38.40	38.79	38.74	38.36	38.30	37.71	37.63	37.40	37.37	---	---
25	38.57	38.47	38.79	38.75	38.36	38.32	37.63	37.62	37.39	37.34	---	---
26	38.66	38.51	38.75	38.71	38.44	38.36	37.62	37.59	37.37	37.33	---	---
27	38.51	38.44	38.71	38.71	38.44	38.42	37.63	37.61	37.42	37.37	---	---
28	38.52	38.43	38.79	38.71	38.42	38.38	37.61	37.56	37.45	37.39	---	---
29	38.63	38.52	38.80	38.71	38.38	38.28	37.57	37.55	37.42	37.36	---	---
30	38.64	38.63	38.74	38.65	38.29	38.26	37.55	37.45	37.37	37.32	---	---
31	---	---	38.88	38.74	---	---	37.45	37.41	37.43	37.35	---	---
MONTH	38.68	37.88	39.03	38.49	38.90	38.26	38.27	37.41	37.47	37.19	37.43	37.38
YEAR	39.03	35.81										

Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

ANNE ARUNDEL COUNTY--Continued

WELL NUMBER.--AA Ad 110. SITE ID.--391032076385907. PERMIT NUMBER.--AA-88-8878.

LOCATION.--Lat 39°10'32", long 76°38'59", Hydrologic Unit 02060003, off Hammonds Ferry Rd.  
0.5 mi of Dorsey Rd. intersection.

Owner: U.S. Geological Survey.

AQUIFER.--Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSC.

WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 28 ft; casing diameter 4 in., to 18 ft;  
screen diameter 4 in. from 18 to 28 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 80 ft above National Geodetic Vertical Datum of 1929.

Measuring Point: Top of casing, 1.90 ft. above land surface.

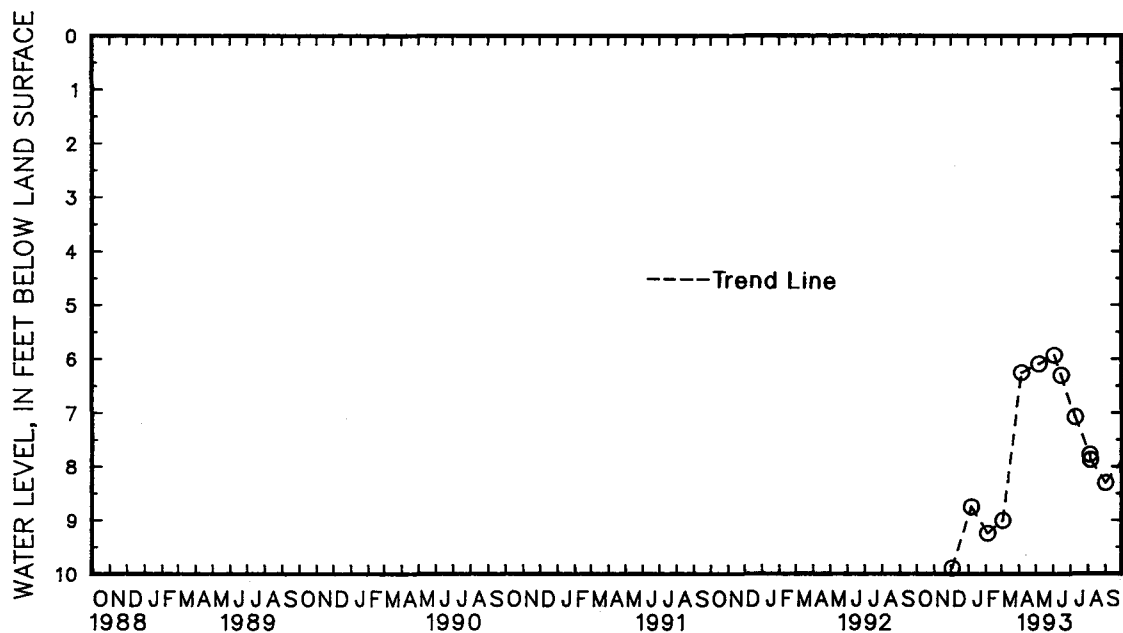
REMARKS.--Maryland Water-Level Network observation well.

PERIOD OF RECORD.--December 1992 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.93 ft below land surface, June 3, 1993;  
lowest measured, 9.89 ft below land surface, December 3, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 3	9.89	FEB 4	9.24	APR 6	6.25	JUN 3	5.93	JUL 9	7.08	AUG 5	7.88
JAN 6	8.75	MAR 3	9.00	MAY 7	6.09	JUN 15	6.30	AUG 4	7.78	SEP 1	8.31
WATER YEAR 1993		HIGHEST	5.93	JUN 3, 1993	LOWEST	9.89	DEC 3, 1992				



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

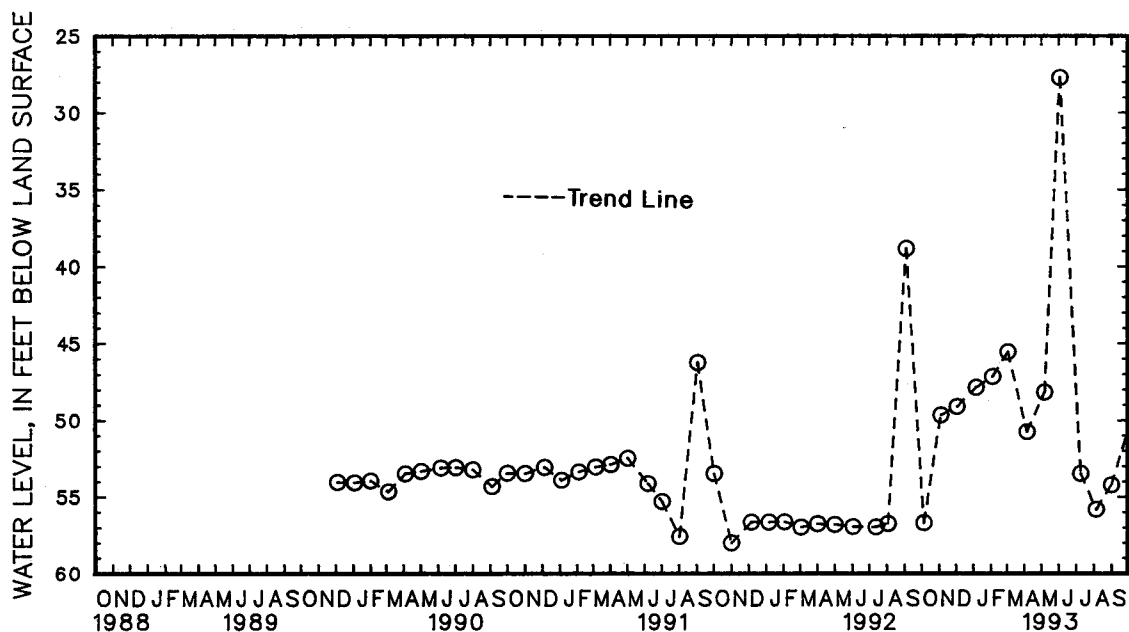
## MARYLAND--Continued

## ANNE ARUNDEL COUNTY--Continued

WELL NUMBER.--AA Bd 91. SITE ID.--390950076391101. PERMIT NUMBER.--AA-04-2029.  
 LOCATION.--Lat 39°09'50", long 76°39'11", Hydrologic Unit 02060003, .3 mi southeast of the intersection of Dorsey Rd. and Baltimore Annapolis Blvd., in the median of MD Route 176, Glen Burnie.  
 Owner: Anne Arundel Co. Department of Public Works.  
 AQUIFER.--Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSC.  
 WELL CHARACTERISTICS.--Drilled, artesian, observation well, depth 160 ft; casing diameter 6 in., to 119 ft; casing diameter 4 in. from 119 to 155 ft; screen diameter 2 in. from 155 to 160 ft.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 DATUM.--Elevation of land surface is 82.54 ft above National Geodetic Vertical Datum of 1929.  
 Measuring Point: Top of shelter platform, 3.25 ft above land surface.  
 REMARKS.--Maryland Water-Level Network observation well.  
 PERIOD OF RECORD.--April 1981 to March 1986, December 1989 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 27.71 ft below land surface, June 3, 1993; lowest measured, 75.20 ft below land surface, Sept. 1, 1982.

## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 5	56.69	DEC 3	49.10	FEB 4	47.14	APR 6	50.76	JUN 3	27.71	AUG 5	55.83
NOV 4	49.65	JAN 6	47.85	MAR 3	45.55	MAY 7	48.17	JUL 9	53.50	SEP 1	54.23
WATER YEAR 1993		HIGHEST	27.71	JUN 3, 1993	LOWEST	56.69	OCT 5, 1992				



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

## MARYLAND--Continued

## ANNE ARUNDEL COUNTY--Continued

WELL NUMBER.--AA Bd 152. SITE ID.--390821076365401. PERMIT NUMBER.--AA-81-3463.  
 LOCATION.--Lat 39°08'21", long 76°36'54", Hydrologic Unit 02060003, 100 ft north of MD Rt 100,  
 0.2 mi east of Oakwood Rd.  
 Owner: U.S. Geological Survey.  
 AQUIFER.--Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSC.  
 WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 103 ft; casing diameter 6 in., to 90 ft;  
 screen diameter 4 in. from 90 to 100 ft.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 Equipped with digital water-level recorder--60-minute recorder interval from March 14, 1985 to current year.  
 DATUM.--Elevation of land surface is 53 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
 Measuring Point: Top of recorder platform, 3.0 ft above land surface.  
 REMARKS.--Anne Arundel Co. observation well network. Water levels before Feb. 23, 1986 are not currently  
 available. Water levels are affected by nearby pumping. Missing data due to recorder malfunction.  
 PERIOD OF RECORD.--March 1985 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 25.24 ft above sea level, Jan. 14, 1992;  
 lowest measured, 19.88 ft above sea level, Aug. 21, 1987.

## WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

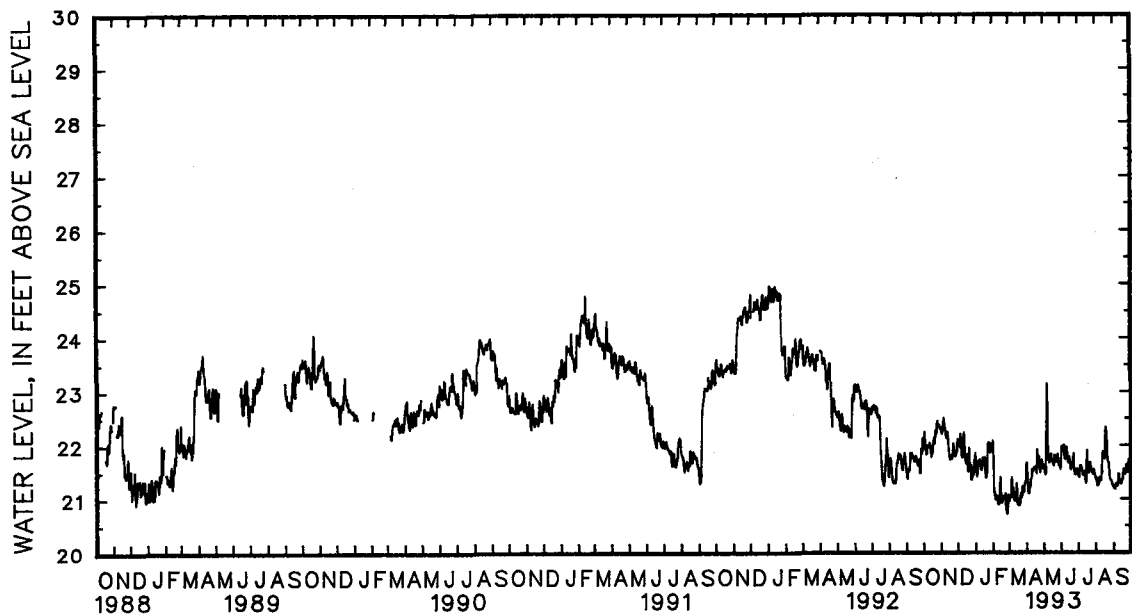
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	22.42	21.93	22.34	22.23	22.17	22.02	21.90	21.64	22.19	21.79	21.07	20.96
2	22.59	22.24	22.34	22.21	22.33	22.01	21.66	21.47	21.79	21.13	21.18	21.05
3	22.28	22.09	22.45	22.34	22.23	21.98	21.58	21.41	21.27	21.11	21.15	21.02
4	22.09	21.97	22.54	22.34	22.33	21.97	21.73	21.55	21.21	21.02	21.83	21.02
5	21.97	21.83	22.59	22.50	22.65	22.20	21.98	21.70	21.38	20.98	21.72	21.40
6	22.09	21.83	22.50	22.39	22.20	21.97	21.76	21.64	21.33	21.05	21.40	21.13
7	22.10	21.93	22.42	22.34	22.02	21.80	21.76	21.67	21.18	21.00	21.25	21.09
8	22.17	21.98	22.35	22.25	21.81	21.77	21.88	21.72	21.24	21.04	21.35	21.19
9	---	---	22.25	22.18	22.13	21.77	21.87	21.69	21.04	20.90	21.20	21.02
10	22.22	21.99	22.19	22.13	22.23	21.86	21.69	21.55	21.09	20.89	21.22	20.97
11	22.14	22.03	22.29	22.16	22.49	22.23	21.57	21.53	21.16	20.98	21.20	20.99
12	22.04	21.95	22.44	22.23	22.28	22.01	21.76	21.57	21.42	21.01	21.00	20.96
13	21.95	21.90	22.45	22.07	22.01	21.77	22.02	21.76	21.70	21.40	22.09	20.99
14	21.90	21.78	22.07	21.93	21.77	21.66	21.88	21.66	21.40	21.02	22.03	21.29
15	21.91	21.82	22.01	21.83	21.68	21.66	21.77	21.63	21.07	20.93	21.29	20.96
16	22.13	21.85	21.83	21.73	21.82	21.65	21.96	21.71	21.25	20.92	20.98	20.88
17	22.15	22.01	22.03	21.78	22.01	21.82	21.93	21.77	21.19	21.04	21.36	20.98
18	22.19	22.07	21.94	21.80	21.84	21.52	21.77	21.44	21.19	21.00	21.25	20.93
19	22.21	22.12	21.86	21.74	22.01	21.50	21.44	21.39	21.29	21.00	20.99	20.88
20	22.17	22.02	21.84	21.75	22.28	21.95	21.58	21.44	21.07	20.99	21.11	20.95
21	22.40	22.17	22.07	21.79	21.95	21.62	21.91	21.50	21.20	20.98	21.17	21.09
22	22.39	22.27	22.19	22.02	21.67	21.60	22.13	21.91	21.24	21.09	21.12	21.03
23	22.39	22.21	22.27	21.97	21.71	21.61	22.09	22.04	21.09	20.87	21.22	21.03
24	22.60	22.39	21.97	21.81	21.66	21.35	22.22	22.04	20.87	20.77	21.38	21.22
25	22.57	22.44	21.90	21.79	21.71	21.35	22.09	21.86	20.87	20.72	21.25	21.13
26	22.44	22.35	22.07	21.79	21.78	21.47	22.02	21.86	21.12	20.84	21.15	21.12
27	22.43	22.37	22.00	21.89	21.54	21.44	22.19	22.02	21.19	21.06	21.26	21.14
28	22.43	22.37	22.04	21.85	21.71	21.46	22.23	22.00	21.09	21.01	21.31	21.26
29	22.39	22.31	22.37	21.89	21.82	21.67	22.22	21.92	---	---	21.32	21.29
30	22.37	22.31	22.19	22.11	21.88	21.73	22.08	21.89	---	---	21.64	21.32
31	22.40	22.29	---	---	22.00	21.84	22.27	22.08	---	---	21.97	21.64
MONTH	22.60	21.78	22.59	21.73	22.65	21.35	22.27	21.39	22.19	20.72	22.09	20.88



GROUND-WATER LEVELS  
MARYLAND--Continued  
ANNE ARUNDEL COUNTY--Continued  
AA Bd 152--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	21.90	21.67	21.70	21.61	22.09	21.97	21.48	21.42	21.66	21.36	21.32	21.21
2	21.67	21.43	21.61	21.50	22.12	21.95	21.61	21.40	21.58	21.38	21.21	21.19
3	21.43	21.13	21.50	21.45	22.15	21.94	21.84	21.60	21.38	21.25	21.27	21.18
4	21.15	21.10	22.10	21.46	22.17	21.98	21.75	21.62	21.40	21.24	21.31	21.27
5	21.21	21.10	23.15	22.10	22.24	22.00	21.81	21.61	21.30	21.25	21.37	21.27
6	21.30	21.20	23.34	23.15	22.01	21.77	21.68	21.57	21.51	21.28	21.33	21.24
7	21.41	21.24	23.38	22.74	21.79	21.74	21.65	21.53	21.51	21.40	21.26	21.25
8	21.48	21.37	22.74	21.96	21.96	21.76	21.57	21.45	21.41	21.39	21.46	21.25
9	21.54	21.38	21.96	21.75	22.14	21.96	21.58	21.44	21.41	21.38	21.60	21.46
10	21.79	21.54	21.75	21.68	22.09	21.91	21.58	21.46	21.49	21.34	21.65	21.46
11	21.69	21.55	21.84	21.68	22.00	21.82	21.58	21.44	21.81	21.49	21.46	21.30
12	21.64	21.52	22.00	21.80	21.82	21.70	21.82	21.51	22.14	21.81	21.41	21.29
13	21.78	21.57	22.01	21.83	22.00	21.68	21.52	21.32	22.04	21.88	21.32	21.28
14	21.90	21.56	21.83	21.74	21.92	21.78	21.65	21.29	22.02	21.83	21.36	21.28
15	21.68	21.58	21.76	21.70	21.82	21.74	22.53	21.65	22.00	21.79	21.43	21.35
16	21.78	21.59	21.74	21.67	21.74	21.62	22.50	21.90	22.02	21.75	21.76	21.35
17	21.76	21.53	21.73	21.64	21.62	21.55	21.90	21.64	22.34	22.02	21.58	21.48
18	21.96	21.47	21.83	21.62	21.69	21.55	21.64	21.48	22.81	22.34	21.80	21.55
19	22.19	21.92	21.88	21.81	21.76	21.63	21.67	21.48	22.66	22.25	21.63	21.48
20	21.92	21.70	21.83	21.74	21.86	21.66	21.88	21.66	22.25	22.04	21.51	21.46
21	21.82	21.67	21.74	21.69	21.91	21.73	21.87	21.68	22.04	21.78	21.75	21.51
22	21.94	21.79	22.02	21.69	22.03	21.84	21.74	21.60	21.80	21.69	21.74	21.62
23	21.81	21.56	22.04	21.78	21.84	21.56	21.85	21.58	21.73	21.67	21.71	21.62
24	21.71	21.49	21.99	21.80	21.56	21.46	21.67	21.51	21.67	21.54	21.64	21.53
25	21.70	21.62	21.90	21.83	21.54	21.45	21.66	21.49	21.54	21.38	21.64	21.53
26	21.82	21.65	21.83	21.66	21.60	21.46	21.61	21.46	21.38	21.35	21.98	21.64
27	22.02	21.72	21.73	21.62	21.69	21.54	21.85	21.52	21.35	21.34	21.85	21.73
28	21.72	21.57	21.83	21.62	21.65	21.56	21.76	21.55	21.40	21.32	21.79	21.53
29	21.70	21.57	21.79	21.63	21.68	21.49	21.63	21.48	21.35	21.27	21.54	21.48
30	21.70	21.63	21.69	21.55	21.66	21.45	21.69	21.44	21.27	21.25	21.60	21.48
31	---	---	22.16	21.68	---	---	21.56	21.39	21.31	21.22	---	---
MONTH	22.19	21.10	23.38	21.45	22.24	21.45	22.53	21.29	22.81	21.22	21.98	21.18
YEAR	23.38	20.72										

Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

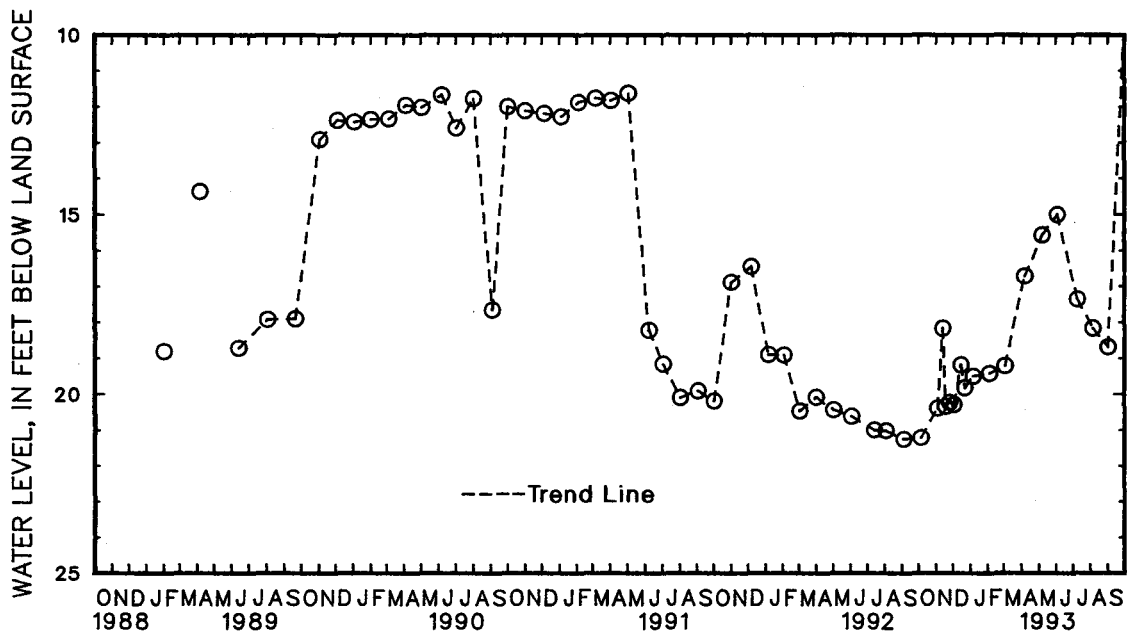
**MARYLAND--Continued**

ANNE ARUNDEL COUNTY--Continued

WELL NUMBER.--AA Bd 155. SITE ID.--390938076383701. PERMIT NUMBER.--AA-81-3460.  
LOCATION.--Lat 39°09'38", long 76°38'37", Hydrologic Unit 02060003, 200 ft off MD Rt. 3,  
0.4 mi south of MD Rt. 176 intersection.  
Owner: U.S. Geological Survey.  
AQUIFER.--Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSC.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 159 ft; casing diameter 6 in., to 145 ft.  
screen diameter 4 in. from 145 to 155 ft.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
Equipped with digital water-level recorder--60-minute recorder interval from Oct. 23, 1984 to current year.  
DATUM.--Elevation of land surface is 60 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
Measuring Point: Top of recorder platform, 2.5 ft above land surface.  
REMARKS.--Maryland Water-Level Network observation well.  
PERIOD OF RECORD.--October 1984 to current year  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.93 ft below land surface, August 23, 1990;  
lowest measured, 25.46 ft below land surface, Oct. 10, 1986.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE		WATER LEVEL		DATE		WATER LEVEL		DATE		WATER LEVEL		DATE		WATER LEVEL								
OCT	5	21.21		NOV	18	20.35		DEC	15	19.19		FEB	4	19.43		MAY	7	15.57		AUG	5	18.18
NOV	4	20.40			25	20.24			22	19.83		MAR	3	19.20		JUN	3	15.00		SEP	1	18.70
	12	18.17		DEC	3	20.30		JAN	6	19.51		APR	6	16.71		JUL	9	17.37				
WATER YEAR 1993				HIGHEST	15.00	JUN 3, 1993				LOWEST	21.21	OCT 5, 1992										



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

ANNE ARUNDEL COUNTY--Continued

WELL NUMBER.--AA Bd 156. SITE ID.--390922076371001. PERMIT NUMBER.--AA-81-3462.

LOCATION.--Lat 39°09'22", long 76°37'10", Hydrologic Unit 02060003, off Wardour Rd., 0.3 mi north of Aquahart Rd. intersection.

Owner: U.S. Geological Survey.

AQUIFER.--Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSC.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 173 ft; casing diameter 6 in., to 160 ft; screen diameter 4 in. from 160 to 170 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

Equipped with digital water-level recorder--30-minute recorder interval from October 1984 to current year.

DATUM.--Elevation of land surface is 70 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring Point: Top of recorder platform, 2.7 ft above land surface.

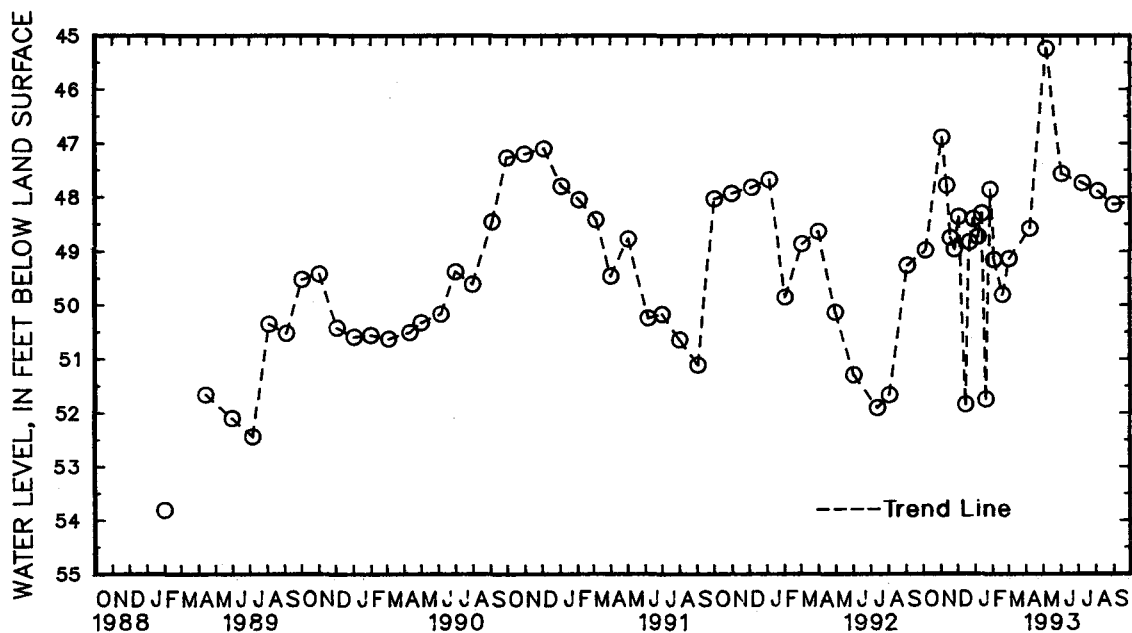
REMARKS.--Maryland Water-Level Network observation well and Glen Burnie Project observation well.

PERIOD OF RECORD.--October 1984 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 45.24 ft below land surface, May 7, 1993; lowest measured, 56.53 ft below land surface, Feb. 10, 1988.

## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	
OCT 5	48.98	NOV 25	48.97	DEC 29	48.40	JAN 28	47.87	APR 8	48.58	AUG 5	47.90	
NOV 4	46.89	DEC 3	48.37	JAN 6	48.73	FEB 4	49.16	MAY 7	45.24			
12	47.79	15	51.85	13	48.30	19	49.81	JUN 3	47.58			
18	48.76	22	48.83	20	51.75	MAR 3	49.14	JUL 9	47.75			
WATER YEAR 1993      HIGHEST 45.24 MAY 7, 1993      LOWEST 51.85 DEC 15, 1992												



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

ANNE ARUNDEL COUNTY--Continued

WELL NUMBER.--AA Bd 157. SITE ID.--390737076374401. PERMIT NUMBER.--AA-81-3464.  
 LOCATION.--Lat 39°07'37", long 76°37'44", Hydrologic Unit 02060003, off Nolfield Dr.,  
 0.14 mi east of Phirne Rd.  
 Owner: U.S. Geological Survey.  
 AQUIFER.--Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSC.  
 WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 180 ft; casing diameter 6 in., to 167 ft;  
 screen diameter 4 in. from 167 to 177 ft.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 Equipped with digital water-level recorder--60-minute recorder interval from March 1985 to current year.  
 DATUM.--Elevation of land surface is 75 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
 Measuring Point: Top of recorder platform, 2.5 ft above land surface.  
 REMARKS.--Anne Arundel Co. observation well network. Missing data due to recorder malfunction.  
 PERIOD OF RECORD.--March 1985 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 37.55 ft above sea level, Jan. 31, 1991;  
 lowest measured, 32.95 ft above sea level, Oct. 2, 1992.

## WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	33.65	33.13	34.42	34.38	34.55	34.45	34.41	34.26	34.60	34.36	34.47	34.38
2	33.32	32.95	34.43	34.38	34.82	34.46	34.43	34.25	34.70	34.60	34.56	34.43
3	33.51	33.29	34.50	34.43	34.79	34.72	---	---	34.70	34.52	34.55	34.41
4	33.61	33.51	34.56	34.44	34.78	34.72	---	---	---	---	34.96	34.41
5	34.44	33.61	34.60	34.54	35.38	34.72	---	---	34.47	34.29	34.77	34.63
6	34.54	34.37	34.62	34.46	34.78	34.74	---	---	34.57	34.33	34.78	34.58
7	34.54	34.38	34.60	34.45	34.84	34.77	34.55	34.47	34.48	34.31	34.77	34.57
8	34.62	34.38	34.47	34.40	34.84	34.82	34.70	34.47	34.59	34.37	34.84	34.64
9	34.43	34.40	34.40	34.35	34.83	34.73	34.65	34.45	34.41	34.31	34.76	34.55
10	34.73	34.41	34.39	34.34	34.82	34.73	34.49	34.43	34.46	34.30	34.72	34.54
11	34.53	34.43	34.48	34.37	34.78	34.72	34.43	34.42	34.52	34.38	34.74	34.52
12	34.45	34.41	34.63	34.42	34.75	34.72	34.52	34.42	34.67	34.37	34.60	34.51
13	34.44	34.38	34.74	34.47	34.82	34.74	34.76	34.49	34.87	34.63	35.33	34.55
14	34.40	34.36	34.60	34.42	34.85	34.82	34.59	34.45	34.66	34.44	35.15	34.60
15	34.39	34.36	34.59	34.39	34.89	34.85	34.57	34.45	34.54	34.42	34.60	34.47
16	34.47	34.36	34.41	34.36	34.90	34.77	34.74	34.48	34.70	34.42	34.55	34.47
17	34.46	34.38	34.50	34.36	34.81	34.74	34.69	34.48	34.70	34.54	34.83	34.55
18	34.43	34.38	34.50	34.36	34.99	34.81	34.48	34.36	34.66	34.47	34.72	34.56
19	34.43	34.36	34.47	34.36	34.99	34.74	34.53	34.35	34.86	34.47	34.65	34.55
20	34.41	34.34	34.44	34.35	34.80	34.72	34.69	34.41	34.62	34.47	34.71	34.60
21	34.69	34.39	34.56	34.35	34.93	34.80	34.50	34.40	34.63	34.45	34.71	34.68
22	34.61	34.44	34.74	34.46	34.93	34.87	34.60	34.50	34.65	34.48	34.69	34.64
23	34.70	34.43	34.77	34.45	34.90	34.80	34.59	34.50	34.48	34.32	34.80	34.64
24	34.72	34.59	34.54	34.41	34.95	34.81	34.64	34.50	34.37	34.26	34.92	34.80
25	34.69	34.52	34.53	34.40	34.91	34.66	34.50	34.37	34.31	34.23	34.81	34.76
26	34.52	34.44	34.64	34.39	34.77	34.56	34.49	34.37	34.47	34.26	34.79	34.76
27	34.56	34.44	34.60	34.44	34.77	34.65	34.63	34.49	34.50	34.35	34.88	34.78
28	34.54	34.44	34.66	34.44	34.72	34.52	34.51	34.22	34.48	34.37	34.91	34.88
29	34.45	34.42	34.84	34.44	34.54	34.40	34.55	34.26	---	---	34.93	34.90
30	34.43	34.40	34.54	34.45	34.52	34.37	34.55	34.36	---	---	35.28	34.93
31	34.51	34.40	---	---	34.42	34.35	34.40	34.29	---	---	35.55	35.28
MONTH	34.73	32.95	34.84	34.34	35.38	34.35	34.76	34.22	34.87	34.23	35.55	34.38

## GROUND-WATER LEVELS

93

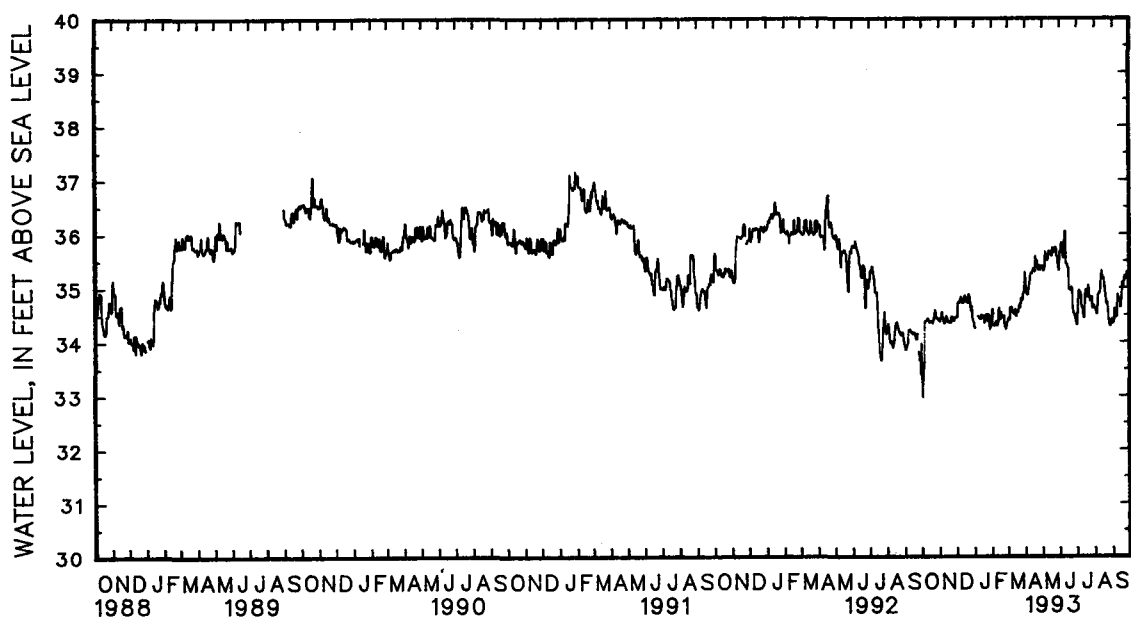
## MARYLAND--Continued

## ANNE ARUNDEL COUNTY--Continued

## AA Bd 157--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	35.42	35.18	35.55	35.40	35.81	35.66	34.46	34.31	35.00	34.62	34.49	34.34
2	35.19	35.04	35.46	35.35	35.94	35.66	34.73	34.46	34.93	34.60	34.52	34.35
3	35.04	34.89	35.35	35.31	36.08	35.77	34.98	34.73	34.79	34.60	34.62	34.40
4	34.91	34.87	35.41	35.32	36.11	35.83	34.97	34.95	34.82	34.51	34.75	34.60
5	34.97	34.87	35.71	35.38	36.13	35.77	34.95	34.94	34.74	34.51	34.91	34.60
6	35.09	34.95	35.70	35.66	35.85	35.63	34.94	34.92	35.00	34.67	34.85	34.48
7	35.18	34.98	35.70	35.64	35.74	35.56	34.92	34.91	35.08	34.87	34.63	34.45
8	35.25	35.09	35.69	35.56	35.80	35.56	34.91	34.89	35.08	34.87	34.79	34.47
9	35.25	35.14	35.56	35.51	36.05	35.80	34.89	34.68	35.06	34.91	34.95	34.75
10	35.40	35.25	35.58	35.51	36.06	36.04	34.83	34.63	35.07	34.91	35.02	34.86
11	35.38	35.27	35.68	35.52	36.05	36.04	34.77	34.62	35.35	35.07	34.96	34.80
12	35.43	35.26	35.82	35.62	36.04	35.44	34.97	34.59	35.45	35.18	34.98	34.80
13	35.47	35.27	35.87	35.68	35.79	35.44	34.69	34.44	35.52	35.31	34.89	34.78
14	35.68	35.32	35.78	35.66	35.63	35.43	34.71	34.44	35.55	35.22	34.86	34.64
15	35.39	35.35	35.73	35.64	35.50	35.37	34.94	34.71	35.53	35.19	34.80	34.64
16	35.49	35.34	35.66	35.62	35.39	35.35	35.15	34.94	35.35	35.17	35.10	34.75
17	35.51	35.30	35.68	35.59	35.35	34.97	35.15	34.95	35.36	35.17	35.11	34.90
18	35.81	35.30	35.78	35.59	34.98	34.96	35.08	34.82	35.23	35.02	35.33	35.09
19	35.95	35.58	35.88	35.74	34.96	34.95	34.99	34.82	35.10	34.92	35.24	35.04
20	35.58	35.42	35.85	35.68	35.03	34.95	35.10	34.97	35.16	34.87	35.14	35.04
21	35.55	35.42	35.76	35.65	35.02	35.00	35.31	35.04	35.04	34.70	35.34	35.13
22	35.70	35.49	36.05	35.69	35.31	35.00	35.14	34.96	34.88	34.70	35.37	35.22
23	35.61	35.34	36.06	35.71	35.30	34.96	35.25	34.81	34.89	34.72	35.33	35.21
24	35.57	35.33	35.99	35.75	34.96	34.61	34.96	34.75	34.91	34.56	35.26	35.16
25	35.55	35.41	35.89	35.72	34.66	34.54	34.97	34.75	34.64	34.41	35.28	35.16
26	35.55	35.40	35.76	35.59	34.60	34.51	34.97	34.80	34.49	34.33	35.57	35.28
27	35.40	35.33	35.75	35.57	34.63	34.50	35.29	34.82	34.37	34.29	35.45	35.29
28	35.42	35.32	35.78	35.57	34.55	34.43	34.95	34.62	34.57	34.29	35.35	35.19
29	35.50	35.35	35.73	35.42	34.66	34.43	34.83	34.62	34.53	34.33	35.25	35.15
30	35.51	35.40	35.48	35.32	34.53	34.32	34.88	34.67	34.59	34.41	35.30	35.17
31	---	---	35.90	35.32	---	---	34.83	34.62	34.63	34.39	---	---
MONTH	35.95	34.87	36.06	35.31	36.13	34.32	35.31	34.31	35.55	34.29	35.57	34.34
YEAR	36.13	32.95										

## Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

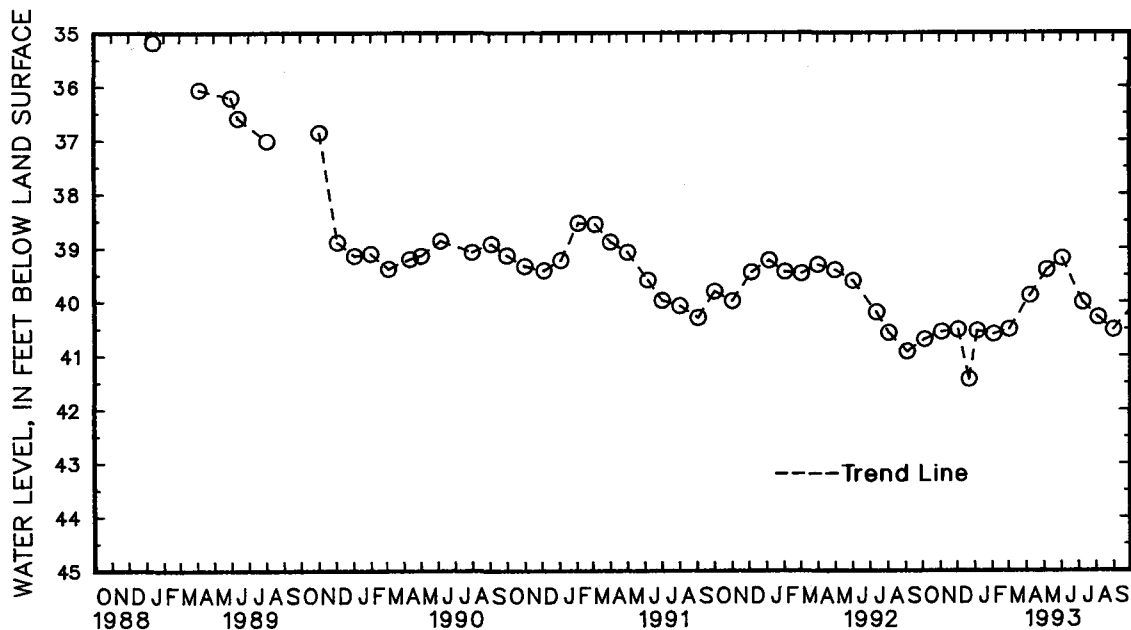
MARYLAND--Continued

ANNE ARUNDEL COUNTY--Continued

WELL NUMBER.--AA Bd 159. SITE ID.--390737076374402. PERMIT NUMBER.--AA-81-3949.  
 LOCATION.--Lat 39°07'37", long 76°37'44", Hydrologic Unit 02060003, off Nolfield Dr.,  
 0.14 mi east of Phrine Rd.  
 Owner: U.S. Geological Survey.  
 AQUIFER.--Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSC.  
 WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 100 ft; casing diameter 6 in., to 89 ft;  
 screen diameter 4 in. from 89 to 99 ft.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 Equipped with digital water-level recorder--60-minute recorder interval interval from March 1985,  
 to July 24, 1989.  
 DATUM.--Elevation of land surface is 78.23 ft above National Geodetic Vertical Datum of 1929,  
 from topographic map.  
 Measuring Point: Top of casing, 2.5 ft above land surface.  
 REMARKS.--Maryland Water-Level Network observation well and Glen Burnie Project observation well.  
 PERIOD OF RECORD.--March 1985 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 34.77 ft below land surface, Sept. 14, 1987;  
 lowest measured, 41.44 ft below land surface, Dec. 22, 1992.

## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 5	40.70	DEC 22	41.44	MAR 3	40.51	JUN 3	39.19	SEP 1	40.52
NOV 4	40.56	JAN 6	40.54	APR 8	39.88	JUL 9	40.01		
DEC 3	40.52	FEB 4	40.60	MAY 7	39.40	AUG 5	40.29		
WATER YEAR 1993		HIGHEST	39.19	JUN 3, 1993	LOWEST	41.44	DEC 22, 1992		



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

## MARYLAND--Continued

## ANNE ARUNDEL COUNTY--Continued

WELL NUMBER.--AA Bd 160. SITE ID.--390908076394402. PERMIT NUMBER.--AA-81-3461.  
 LOCATION.--Lat 39°09'08", long 76°39'44", Hydrologic Unit 02060003, 0.08 mi north of Queenstown Rd.,  
 0.41 mi. east of WB & A Rd.  
 Owner: U.S. Geological Survey.  
 AQUIFER.--Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSC.  
 WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 118 ft; casing diameter 6 in., to 105 ft.  
 screen diameter 4 in. from 105 to 115 ft.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 Equipped with digital water-level recorder--60-minute recorder interval from April 1985 to current year.  
 DATUM.--Elevation of land surface is 88 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
 Measuring Point: Top of recorder platform, 2.5 ft above land surface.  
 REMARKS.--Anne Arundel Co. observation well network.  
 PERIOD OF RECORD.--April 1985 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 74.78 ft above sea level, May 20, 1993;  
 lowest measured, 68.57 ft above sea level, Oct. 7, 1986.

## WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	70.54	70.06	70.55	70.53	70.47	70.27	71.14	70.81	72.03	71.80	72.24	72.18
2	70.37	70.00	70.66	70.42	70.29	70.26	71.16	70.81	71.80	71.77	72.29	72.24
3	70.58	70.16	70.71	70.66	70.26	70.11	71.50	71.16	71.92	71.78	---	---
4	70.26	69.99	70.73	70.66	70.24	70.11	71.70	71.50	71.93	71.83	72.56	72.15
5	70.23	69.90	70.74	70.70	70.36	70.14	71.83	71.62	71.97	71.83	72.49	72.44
6	70.14	69.90	70.70	70.64	70.80	70.36	71.64	71.60	72.00	71.85	72.44	72.36
7	70.19	69.92	70.66	70.63	70.85	70.80	71.66	71.60	71.95	71.84	72.46	72.36
8	70.46	70.19	70.66	70.60	70.83	70.76	71.72	71.65	72.02	71.91	72.56	72.46
9	70.67	70.46	70.62	70.59	70.81	70.76	71.67	71.59	71.91	71.85	72.48	72.42
10	70.68	70.24	70.66	70.59	71.17	70.80	71.60	71.58	71.97	71.88	72.59	72.41
11	70.61	70.17	70.72	70.66	71.26	71.16	71.68	71.59	71.96	71.92	72.59	72.45
12	70.66	70.17	70.87	70.71	71.18	71.06	71.77	71.68	72.20	71.92	72.52	72.44
13	70.68	70.61	70.90	70.73	71.07	71.04	71.88	71.77	72.23	72.14	73.13	72.52
14	70.62	70.59	70.73	70.70	71.12	71.04	71.82	71.72	72.14	72.00	73.05	72.43
15	70.67	70.61	70.72	70.68	71.22	71.11	71.77	71.72	72.01	71.98	72.43	72.36
16	70.71	70.66	70.71	70.68	71.27	71.22	71.83	71.77	72.32	72.01	72.54	72.39
17	70.69	70.25	70.80	70.71	71.39	71.27	71.86	71.79	72.29	72.13	72.81	72.54
18	70.55	70.13	70.77	70.72	71.31	71.21	71.79	71.65	72.14	72.10	72.79	72.71
19	70.49	70.14	70.72	70.69	71.33	71.22	71.67	71.62	72.12	72.08	72.78	72.71
20	70.48	70.27	70.71	70.69	71.42	71.29	71.76	71.62	72.17	72.12	72.92	72.78
21	70.58	70.23	70.81	70.71	71.29	70.83	71.89	71.75	72.29	72.14	73.00	72.92
22	70.37	70.08	70.86	70.80	70.83	70.73	71.96	71.89	72.32	72.16	73.02	72.98
23	70.46	70.11	70.97	70.84	70.84	70.73	71.91	71.84	72.16	72.10	73.15	73.00
24	70.26	70.05	70.84	70.81	70.75	70.61	71.97	71.84	72.10	72.01	73.27	73.15
25	70.23	69.94	70.87	70.83	71.09	70.74	71.87	71.79	72.04	71.97	73.26	73.21
26	70.00	69.91	70.93	70.83	71.19	70.71	71.90	71.79	72.14	72.04	73.33	73.25
27	70.23	69.91	70.91	70.89	70.99	70.71	72.01	71.90	72.16	72.14	73.47	73.33
28	70.48	70.23	70.91	70.89	71.10	70.71	71.97	71.90	72.18	72.15	73.53	73.47
29	70.53	70.47	70.91	70.89	71.16	70.84	71.99	71.81	---	---	73.60	73.52
30	70.53	70.51	70.90	70.47	71.21	70.85	71.93	71.81	---	---	73.61	73.55
31	70.57	70.52	---	---	71.29	70.90	72.09	71.93	---	---	73.66	73.55
MONTH	70.71	69.90	70.97	70.42	71.42	70.11	72.09	70.81	72.32	71.77	73.66	72.15



## GROUND-WATER LEVELS

97

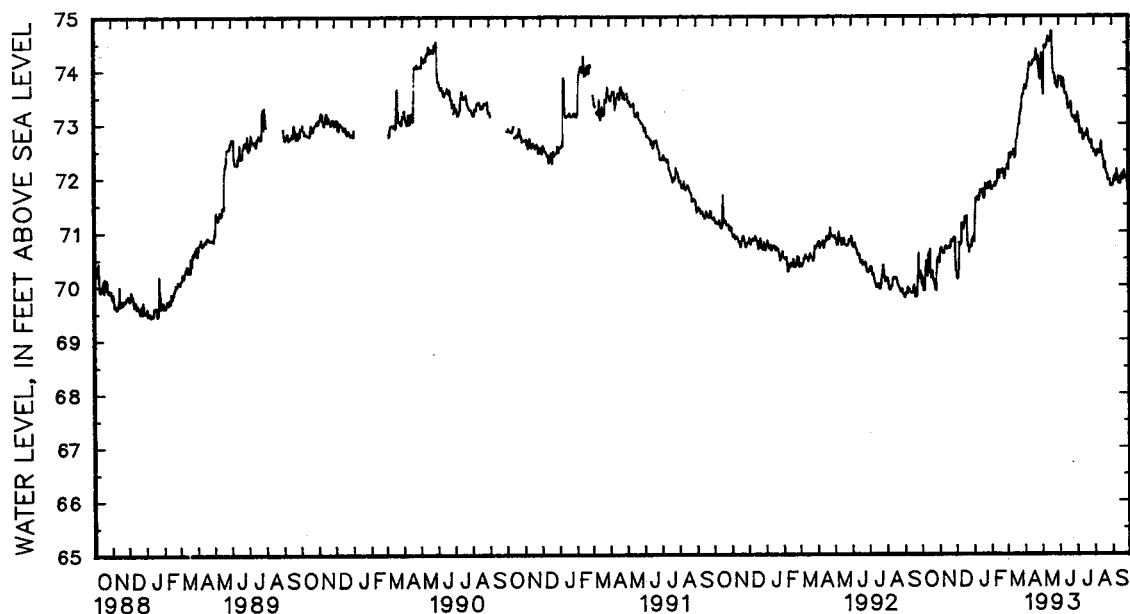
## MARYLAND--Continued

## ANNE ARUNDEL COUNTY--Continued

## AA Bd 160--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	73.80	73.66	74.34	74.32	74.13	73.88	73.22	73.02	72.94	72.46	72.12	71.84
2	73.79	73.72	74.35	74.30	74.24	73.87	73.45	73.05	72.93	72.49	71.97	71.84
3	73.72	73.65	74.31	73.69	74.28	73.86	73.68	73.21	72.81	72.41	72.09	71.89
4	73.71	73.65	74.15	73.55	74.31	73.86	73.62	73.17	72.79	72.38	72.23	71.96
5	73.77	73.68	74.45	74.15	74.39	73.87	73.52	73.08	72.75	72.38	72.46	71.99
6	73.85	73.76	74.49	74.45	74.06	73.69	73.39	72.94	72.84	72.41	72.42	72.02
7	73.99	73.82	74.49	74.44	73.92	73.68	73.19	72.81	73.01	72.50	72.19	71.93
8	74.03	73.96	74.44	74.41	73.98	73.67	73.10	72.81	72.92	72.49	72.24	71.93
9	74.15	74.01	74.46	74.42	74.29	73.84	73.17	72.87	72.81	72.45	72.51	72.14
10	74.30	74.15	74.50	74.45	74.04	73.71	73.26	72.87	72.70	72.44	72.37	72.05
11	74.21	74.07	74.57	74.47	73.95	73.57	73.21	72.88	72.98	72.50	72.30	71.95
12	74.12	74.08	74.70	74.55	73.88	73.55	73.14	72.80	72.66	72.47	72.31	71.94
13	74.10	74.08	74.71	74.63	73.93	73.54	73.12	72.69	72.99	72.66	72.09	71.88
14	74.12	74.08	74.63	74.56	73.89	73.56	72.89	72.69	73.02	72.48	72.04	71.88
15	74.17	74.11	74.58	74.54	73.71	73.48	72.92	72.80	72.90	72.41	72.11	71.87
16	74.32	74.17	74.61	74.52	73.67	73.36	73.19	72.80	72.81	72.35	72.34	71.88
17	74.32	74.18	74.63	74.56	73.45	73.28	73.12	72.78	72.71	72.33	72.13	71.97
18	74.19	74.16	74.73	74.56	73.63	73.28	73.08	72.76	72.41	72.17	72.47	72.05
19	74.25	74.18	74.77	74.73	73.70	73.35	73.05	72.76	72.33	72.16	72.36	71.96
20	74.29	74.22	74.78	74.71	73.57	73.36	73.21	72.89	72.68	72.27	72.16	71.95
21	74.40	74.27	74.73	74.13	73.66	73.35	73.26	72.83	72.48	72.13	72.42	72.09
22	74.45	74.39	74.46	73.96	73.87	73.40	73.04	72.74	72.35	72.07	72.44	72.12
23	74.40	74.25	74.36	73.94	73.46	73.17	73.14	72.67	72.23	72.07	72.29	71.98
24	74.26	74.18	74.27	73.92	73.26	73.13	73.01	72.66	72.46	72.04	72.15	71.98
25	74.35	74.26	74.25	73.85	73.35	73.13	73.00	72.63	72.09	71.94	72.23	71.99
26	74.37	74.11	74.00	73.73	73.28	73.10	73.01	72.62	72.18	71.94	72.42	72.01
27	74.20	73.95	74.08	73.73	73.44	73.10	73.16	72.68	72.09	71.95	72.43	72.00
28	74.17	73.86	74.12	73.72	73.32	73.13	72.98	72.53	72.27	71.95	72.32	71.90
29	74.14	73.83	74.13	73.68	73.18	73.04	72.97	72.53	72.14	71.85	72.04	71.86
30	74.33	74.08	73.98	73.66	73.18	73.02	72.92	72.52	72.09	71.83	72.13	71.86
31	---	---	74.28	73.75	---	---	72.91	72.46	72.12	71.83	---	---
MONTH	74.45	73.65	74.78	73.55	74.39	73.02	73.68	72.46	73.02	71.83	72.51	71.84
YEAR	74.78	69.90										

Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

ANNE ARUNDEL COUNTY--Continued

WELL NUMBER.--AA Bf 3. SITE ID.--390945076285601.

LOCATION.--Lat 39°09'45", long 76°28'56", Hydrologic Unit 02060003, 8 mi east of Glen Burnie at Fort Smallwood Park.

Owner: Baltimore City Department of Recreation and Parks.

AQUIFER.--Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSC.

WELL CHARACTERISTICS.--Dug, brick-lined, unused, water-table well, diameter 48 in., depth 22.8 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 20 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Hole in concrete cover at land surface.

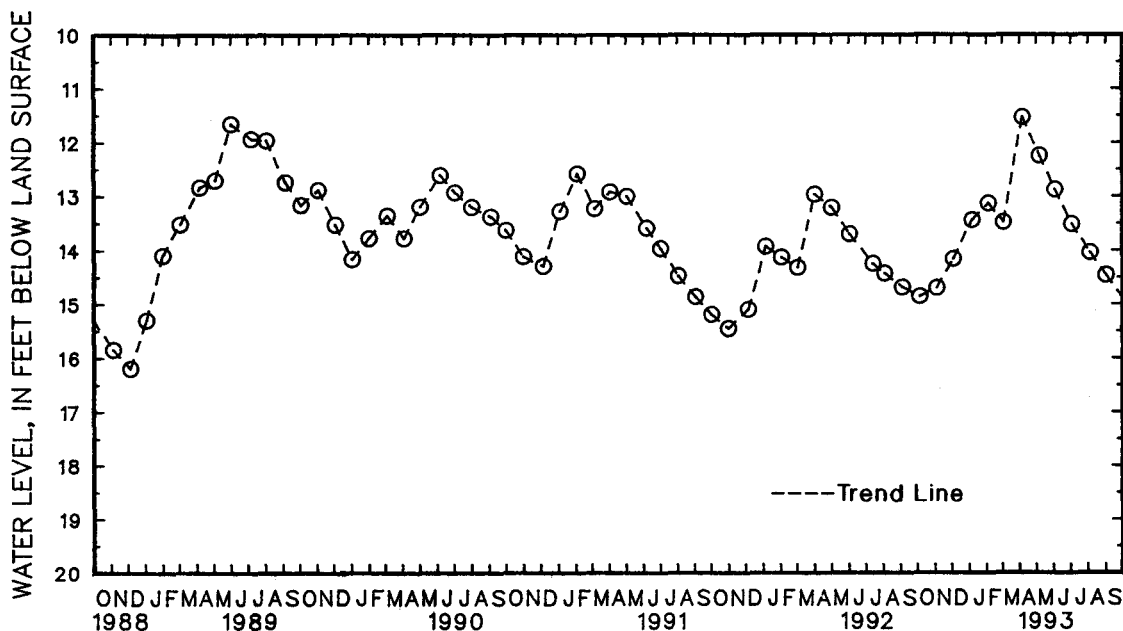
REMARKS.--Maryland Water-Level Network observation well. Water level measured 14.10 ft below land surface, Jan. 27, 1944.

PERIOD OF RECORD.--April 1956 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.40 ft below land surface, March 31, 1958; lowest measured, 19.09 ft below land surface, Dec. 7, 1965.

## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 5	14.86	DEC 3	14.16	FEB 4	13.13	APR 6	11.53	JUN 3	12.88	AUG 5	14.05
NOV 4	14.70	JAN 6	13.44	MAR 3	13.48	MAY 7	12.25	JUL 3	13.52	SEP 1	14.47
WATER YEAR 1993		HIGHEST	11.53	APR 6, 1993	LOWEST	14.86	OCT 5, 1992				



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

**MARYLAND--Continued**

ANNE ARUNDEL COUNTY--Continued

WELL NUMBER.--AA Cb 1. SITE ID.--390303076463201. PERMIT NUMBER.--AA-03-5695.

LOCATION.--Lat 39°03'03", long 76°46'32", Hydrologic Unit 02060006, on Duvall Bridge Rd., Patuxent Wildlife Research Center.

**Owner: U.S. Army.**

**AQUIFER.--**Patuxent Formation of Lower Cretaceous age. Aquifer code: 217PTXN.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 505 ft; casing diameter 6 in. to 485 ft; screen diameter 6 in. from 485 to 505 ft.

**INSTRUMENTATION.**--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

Equipped with digital water-level recorder--60-minute recorder interval from July 2, 1984 to current year.

DATUM.--Elevation of land surface is 126 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
Measuring point: Top lip of 3 in. extension pipe, 3.35 ft above land surface.

MARKS.--Maryland Water-Level Network observation well and Glen Burnie Project

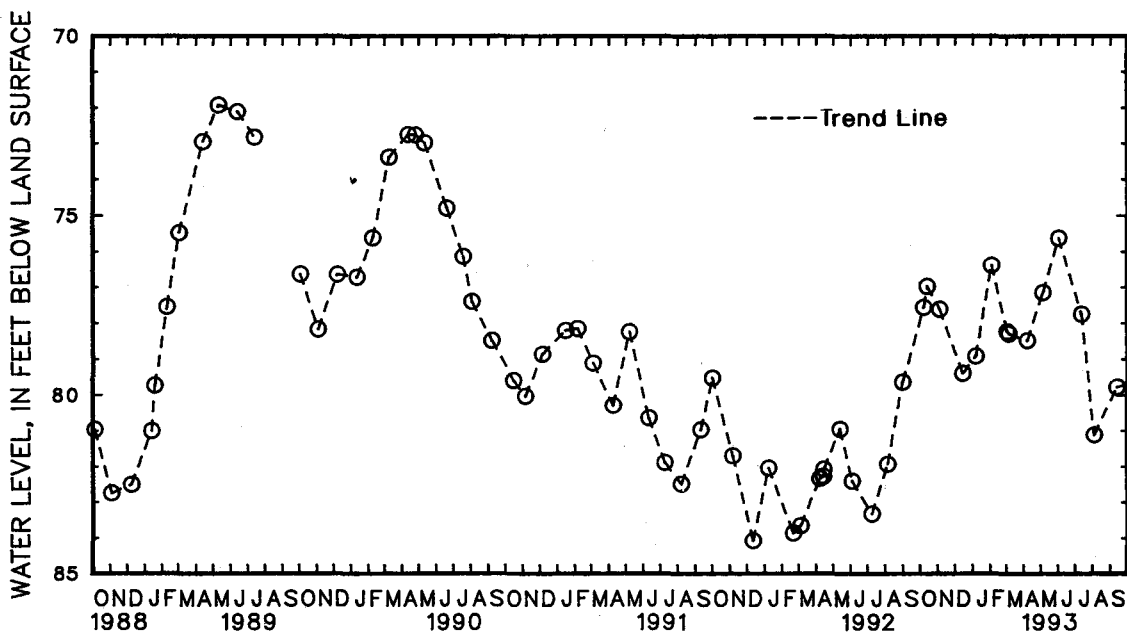
PERIOD OF RECORD.--March 1962 to current year.

**EXTREMES FOR PERIOD OF RECORD.**--Highest water

lowest measured, 92.84 ft below land surface, Aug. 10, 1987.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE		WATER LEVEL		DATE		WATER LEVEL		DATE		WATER LEVEL	
OCT 7	77.55	DEC 14	79.40	MAR 2	78.23	MAY 5	77.14	AUG 4	81.12		
13	76.97	JAN 6	78.92	5	78.29	JUN 2	75.62	SEP 13	79.78		
NOV 4	77.61	FEB 3	76.38	APR 7	78.48	JUL 12	77.75				
WATER YEAR 1993		HIGHEST	75.62	JUN 2, 1993		LOWEST	81.12	AUG 4, 1993			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

## MARYLAND--Continued

## ANNE ARUNDEL COUNTY--Continued

WELL NUMBER.--AA Cc 40. SITE ID.--390423076432001. PERMIT NUMBER.--AA-03-5693.

LOCATION.--Lat 39°04'23", long 76°43'20", Hydrologic Unit 02060006, on Rifle Range Rd.,  
Fort George G. Meade.

Owner: U.S. Army.

AQUIFER.--Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSC.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 238 ft; casing diameter 6 in., to 208 ft;  
screened diameter 6 in., from 208 to 238 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

Equipped with graphic water-level recorder from Dec. 4, 1959 to July 21, 1960 and Jan. 12, 1978 to  
December 1985.

DATUM.--Elevation of land surface is 137 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of casing, 2.60 ft above land surface.

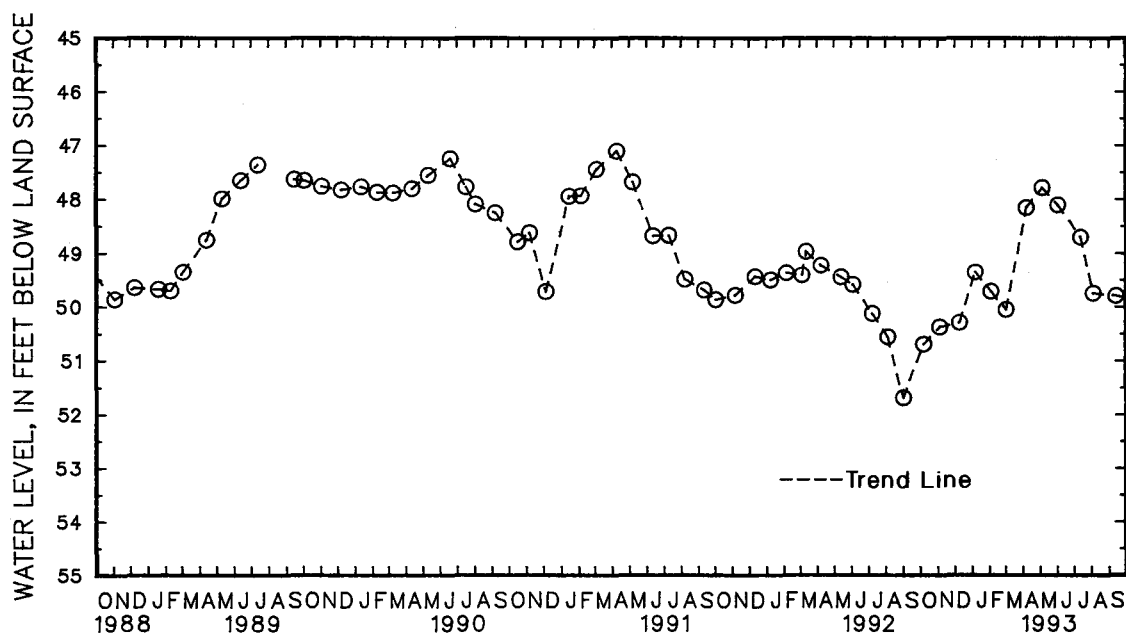
REMARKS.--Maryland Water-Level Network observation well.

PERIOD OF RECORD.--December 1959 to current year

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 42.58 ft below land surface, March 25, 1961;  
lowest measured, 51.69 ft below land surface, Sept. 1, 1992.

## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 7	50.69	DEC 9	50.29	FEB 3	49.71	APR 7	48.15	JUN 2	48.10	AUG 4	49.75
NOV 4	50.37	JAN 6	49.35	MAR 2	50.05	MAY 5	47.78	JUL 12	48.70	SEP 13	49.80
WATER YEAR 1993		HIGHEST	47.78	MAY 5, 1993	LOWEST	50.69	OCT 7, 1992				



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

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## MARYLAND--Continued

## ANNE ARUNDEL COUNTY--Continued

WELL NUMBER.--AA Cc 117. SITE ID.--390450076343402. PERMIT NUMBER.--AA-73-0172.  
 LOCATION.--Lat 39°04'50", long 76°34'34", Hydrologic Unit 02060004, 0.1 mi southwest of intersection of Severndale Rd. and Southway Rd.  
 Owner: Anne Arundel County Department of Public Utilities.  
 AQUIFER.--Patuxent Formation of Lower Cretaceous age. Aquifer code: 217PTXN.  
 WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 1,060 ft; casing diameter 6 in., to 836 ft, 851 to 870 ft, and 890 to 907 ft; screen diameter 6 in. from 836 to 851 ft, 870 to 890 ft, and 907 to 922 ft.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 Equipped with digital water-level recorder--30-minute recorder interval from Aug. 18, 1977 to current year.  
 DATUM.--Elevation of land surface is 85 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
 Measuring Point: Top of recorder platform, 0.5 ft above land surface.  
 REMARKS.--Anne Arundel Co. observation well network. Water levels affected by nearby pumping.  
 Missing data due to recorder malfunction.  
 PERIOD OF RECORD.--August 1977 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 22.58 ft above sea level, March 27, 1978; lowest measured, 3.14 ft above sea level, Sept. 4, 1987.

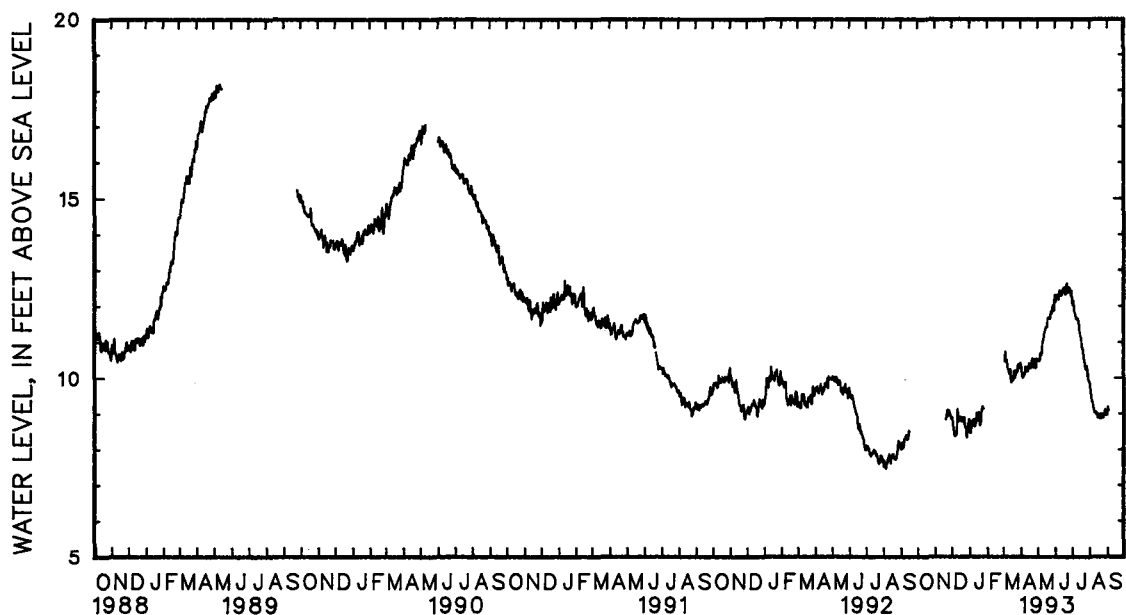
## WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	---	---	8.94	8.90	9.00	8.56	---	---	---	---
2	---	---	---	---	9.00	8.87	8.71	8.48	---	---	---	---
3	---	---	---	---	9.00	8.67	8.78	8.46	---	---	---	---
4	---	---	---	---	8.93	8.57	8.97	8.60	---	---	11.11	10.47
5	---	---	---	---	8.97	8.42	9.14	8.80	---	---	11.10	10.74
6	---	---	---	---	8.62	8.37	8.88	8.68	---	---	10.94	10.47
7	---	---	---	---	8.76	8.48	8.98	8.66	---	---	10.79	10.49
8	---	---	---	---	8.63	8.40	9.07	8.83	---	---	10.90	10.49
9	---	---	---	---	8.63	8.41	8.98	8.68	---	---	10.68	10.33
10	---	---	---	---	9.20	8.46	8.92	8.65	---	---	10.60	10.26
11	---	---	---	---	9.41	9.13	8.95	8.68	---	---	10.56	10.24
12	---	---	---	---	9.24	8.95	9.03	8.77	---	---	10.40	10.14
13	---	---	---	---	8.95	8.80	9.18	9.03	---	---	11.17	10.20
14	---	---	---	---	8.92	8.85	9.15	8.88	---	---	11.09	10.25
15	---	---	---	---	9.01	8.91	9.09	8.82	---	---	10.25	9.98
16	---	---	---	---	9.02	8.89	9.21	8.94	---	---	10.20	9.88
17	---	---	---	---	9.14	8.90	9.30	9.03	---	---	10.45	10.03
18	---	---	---	---	8.99	8.79	9.17	8.78	---	---	10.32	9.99
19	---	---	---	---	8.92	8.80	8.95	8.67	---	---	10.20	9.95
20	---	---	8.99	8.85	9.05	8.88	9.00	8.72	---	---	10.39	10.04
21	---	---	9.18	8.90	8.88	8.78	9.22	8.82	---	---	10.44	10.20
22	---	---	9.28	9.05	8.92	8.82	9.47	9.11	---	---	10.38	10.10
23	---	---	9.40	9.10	8.98	8.89	9.39	9.20	---	---	10.40	10.02
24	---	---	9.10	8.94	9.01	8.63	9.59	9.17	---	---	10.53	10.21
25	---	---	9.11	9.03	8.90	8.63	9.45	9.14	---	---	10.47	10.18
26	---	---	9.19	9.08	8.90	8.59	---	---	---	---	10.44	10.16
27	---	---	9.15	9.03	8.59	8.34	---	---	---	---	10.49	10.20
28	---	---	9.04	8.99	8.74	8.46	---	---	---	---	10.54	10.38
29	---	---	9.02	8.91	8.86	8.57	---	---	---	---	10.69	10.37
30	---	---	8.92	8.85	8.99	8.71	---	---	---	---	10.70	10.38
31	---	---	---	---	9.04	8.84	---	---	---	---	10.53	10.30
MONTH	---	---	9.40	8.85	9.41	8.34	9.59	8.46	---	---	11.17	9.88

GROUND-WATER LEVELS  
MARYLAND--Continued  
ANNE ARUNDEL COUNTY--Continued  
AA Ce 117--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	10.76	10.42	10.83	10.52	12.50	12.32	12.42	12.09	10.24	9.91	9.33	9.08
2	10.72	10.34	10.76	10.51	12.39	12.14	12.41	12.04	10.18	9.85	9.32	9.00
3	10.46	10.26	10.68	10.48	12.52	12.19	12.46	12.16	10.12	9.69	9.39	9.20
4	10.38	10.10	10.83	10.48	12.58	12.31	12.32	12.05	9.98	9.56	9.44	9.12
5	10.33	10.02	10.99	10.51	12.57	12.32	12.22	11.88	9.83	9.43	---	---
6	10.36	10.07	11.09	10.68	12.51	12.32	12.15	11.80	9.86	9.35	---	---
7	10.37	10.06	10.99	10.69	12.53	12.21	12.14	11.78	9.72	9.34	---	---
8	10.43	10.10	10.93	10.66	12.64	12.32	12.03	11.67	9.70	9.22	---	---
9	10.41	10.16	11.02	10.76	12.72	12.43	11.99	11.65	9.53	9.13	---	---
10	10.67	10.31	11.15	11.02	12.72	12.43	11.92	11.68	9.47	9.06	---	---
11	10.51	10.29	11.23	11.07	12.64	12.39	11.90	11.67	9.44	9.04	---	---
12	10.49	10.26	11.43	11.14	12.59	12.31	11.85	11.64	9.45	9.04	---	---
13	10.46	10.25	11.57	11.25	12.65	12.36	11.72	11.53	9.47	9.06	---	---
14	10.42	10.19	11.59	11.32	12.67	12.43	11.62	11.32	9.38	8.99	---	---
15	10.49	10.31	11.68	11.38	12.78	12.44	11.59	11.25	9.39	8.98	---	---
16	10.71	10.40	11.71	11.42	12.69	12.51	11.46	11.17	9.33	8.91	---	---
17	10.71	10.31	11.67	11.43	12.62	12.51	11.39	11.12	9.43	9.00	---	---
18	10.48	10.30	11.74	11.45	12.70	12.53	11.25	10.97	9.36	8.98	---	---
19	10.52	10.28	11.97	11.67	12.68	12.34	11.24	10.84	9.37	8.90	---	---
20	10.70	10.41	12.03	11.69	12.75	12.34	11.27	10.82	9.41	8.96	---	---
21	10.69	10.46	12.00	11.69	12.85	12.57	11.09	10.68	9.36	9.01	---	---
22	10.73	10.55	12.03	11.68	12.83	12.63	11.03	10.53	9.39	8.89	---	---
23	10.56	10.44	11.98	11.66	12.69	12.45	10.95	10.48	9.26	8.92	---	---
24	10.53	10.30	12.14	11.81	12.59	12.39	10.75	10.34	9.24	9.00	---	---
25	10.58	10.37	12.16	11.86	12.59	12.47	10.68	10.26	9.25	9.01	---	---
26	10.72	10.53	12.11	11.82	12.71	12.52	10.55	10.24	9.20	8.91	---	---
27	10.53	10.33	12.15	11.97	12.62	12.47	10.73	10.34	9.25	8.95	---	---
28	10.57	10.29	12.23	12.02	12.61	12.45	10.54	10.26	9.36	9.01	---	---
29	10.82	10.46	12.24	11.98	12.61	12.30	10.48	10.15	9.22	9.12	---	---
30	10.95	10.54	12.24	11.89	12.50	12.42	10.41	9.97	9.21	9.10	---	---
31	---	---	12.50	12.20	---	---	10.30	9.91	9.32	8.99	---	---
MONTH	10.95	10.02	12.50	10.48	12.85	12.14	12.46	9.91	10.24	8.89	9.44	9.00
YEAR	12.85	8.34										

Daily Low Water Levels



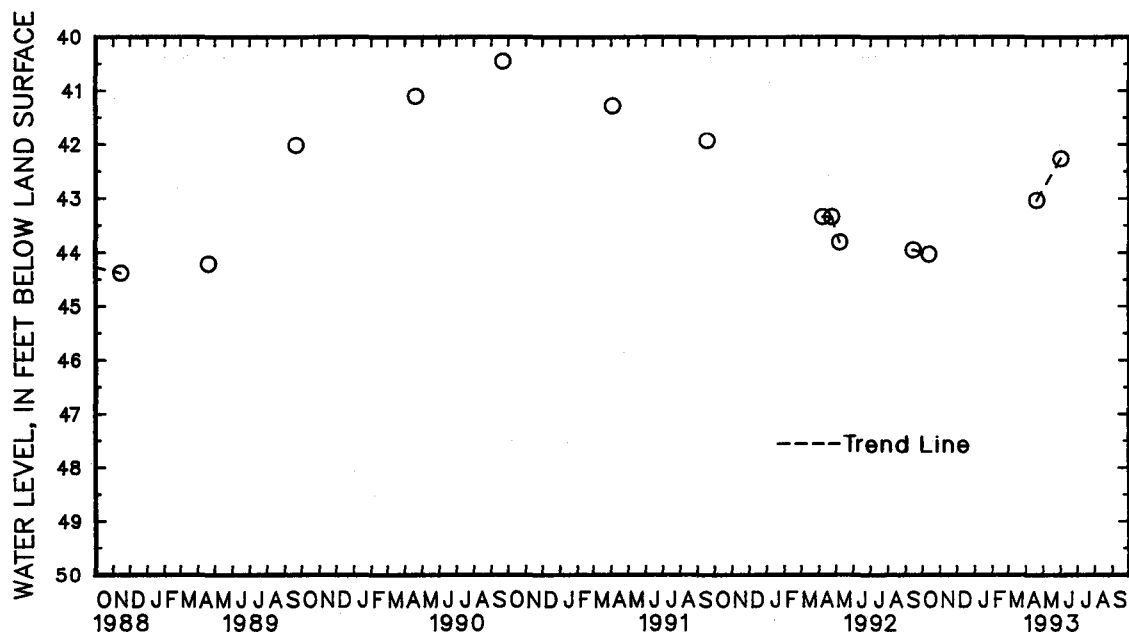
5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
ANNE ARUNDEL COUNTY--Continued

WELL NUMBER.--AA Cf 98. SITE ID.--390150076283003. PERMIT NUMBER.--AA-70-0099.  
LOCATION.--Lat 39°01'50", long 76°28'30", Hydrologic Unit 02060004, 3.1 mi northeast of Annapolis,  
at Broad Neck.  
Owner: Anne Arundel Co. Dept. of Recreation and Parks.  
AQUIFER.--Monmouth Formation of Upper Cretaceous age. Aquifer code: 211MNM.  
WELL CHARACTERISTICS.--Drilled, artesian, observation well, depth 100 ft; casing diameter 2 in., to 90 ft;  
screen diameter 2 in. from 90 to 100 ft.  
INSTRUMENTATION.--Twice yearly measurements with chalked steel tape by U.S. Geological Survey personnel.  
DATUM.--Elevation of land surface is 93.42 ft above National Geodetic Vertical Datum of 1929.  
Measuring Point: Top of casing, 3.50 ft above land surface.  
REMARKS.--Maryland Water-Level Network observation well,  
PERIOD OF RECORD.--September 1969 to September 1986, April 1989 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 34.14 ft below land surface, Aug. 3, 1972;  
lowest measured, 44.39 ft below land surface, Nov. 15, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 13	44.04	APR 20	43.04	JUN 2	42.27
WATER YEAR 1993      HIGHEST    42.27    JUN 2, 1993      LOWEST    44.04    OCT 13, 1992					



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993



## GROUND-WATER LEVELS

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## MARYLAND--Continued

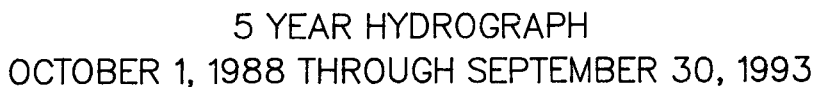
## ANNE ARUNDEL COUNTY--Continued

WELL NUMBER.--AA Cg 23. SITE ID.--390123076241602. PERMIT NUMBER.--AA-73-8959.  
 LOCATION.--Lat 39°01'23", long 76°24'16", Hydrologic Unit 02060004, 1500 ft northeast of Oceanic Dr.  
 and South Beach Rd. intersection at Sandy Point State Park.  
 Owner: U.S. Geological Survey  
 AQUIFER.--Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PFSC.  
 WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 986 ft; casing diameter 4 in., to 968 ft;  
 screen diameter 4 in. from 968 to 978 ft.  
 INSTRUMENTATION.-- Equipped with a graphic water-level recorder from Sept. 9, 1978 to Feb. 21, 1980.  
 Equipped with digital water-level recorder--60-minute recorder interval from Sept. 11, 1990 to current year.  
 DATUM.--Elevation of land surface is 12.57 ft above National Geodetic Vertical Datum of 1929.  
 Measuring Point: Top of recorder platform, 3.43 ft above land surface.  
 REMARKS.--Anne Arundel Co. observation well network. Missing data due to recorder malfunction.  
 PERIOD OF RECORD.-- September 1978 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.07 ft above sea level, May 3, 1980;  
 lowest measured, 12.00 ft below sea level, Sept. 17, 1993.

## WATER LEVEL, IN FEET BELOW SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	-11.62	-11.85	-11.30	-11.42	-10.79	-10.92	-9.22	-9.67	-9.65	-10.04	-9.06	-9.37
2	-11.50	-11.68	-10.89	-11.33	-10.64	-11.03	-9.67	-9.93	-10.04	-10.39	-8.82	-9.06
3	-11.47	-11.65	-10.78	-11.09	-10.64	-11.16	-9.58	-9.79	-9.40	-10.09	-8.97	-9.32
4	-11.55	-11.79	-10.80	-11.14	-10.74	-11.48	-9.34	-9.67	-9.42	-9.83	-8.64	-9.28
5	-11.39	-11.77	-10.75	-11.18	-10.69	-11.57	-9.18	-9.62	-9.40	-9.83	-8.53	-8.80
6	-11.24	-11.51	-11.18	-11.45	-11.22	-11.83	-9.60	-9.85	-9.41	-9.87	-8.75	-9.04
7	-11.39	-11.64	-11.25	-11.43	-11.03	-11.36	-9.35	-9.73	-9.37	-9.87	-8.87	-9.11
8	-11.46	-11.65	-11.29	-11.47	-11.23	-11.46	-9.28	-9.48	-9.28	-9.66	-8.82	-9.16
9	-11.18	-11.56	-11.33	-11.55	-11.06	-11.36	-9.42	-9.60	-9.52	-9.77	-9.08	-9.44
10	-11.21	-11.45	-11.22	-11.47	-10.21	-11.13	-9.33	-9.61	-9.43	-9.62	-9.10	-9.48
11	-11.11	-11.42	-11.02	-11.31	-9.90	-10.23	---	---	-9.48	-9.67	-9.10	-9.42
12	-11.27	-11.50	-10.76	-11.22	-10.23	-10.67	-9.40	-9.56	-8.98	-9.65	-9.41	-9.54
13	-11.29	-11.47	-10.71	-11.14	-10.52	-10.74	-9.22	-9.50	-8.83	-9.03	-8.50	-9.46
14	-11.38	-11.63	-11.13	-11.35	-10.29	-10.59	-9.24	-9.51	-8.93	-9.66	-8.49	-9.77
15	-11.39	-11.59	-11.19	-11.50	-10.12	-10.36	-9.27	-9.52	-9.59	-9.85	-9.77	-10.19
16	-11.24	-11.50	-11.27	-11.50	-10.12	-10.34	-9.15	-9.34	-9.01	-9.59	-9.74	-10.13
17	-11.26	-11.90	-10.99	-11.28	-10.11	-10.39	-9.06	-9.33	-9.08	-9.66	-9.45	-9.77
18	-11.39	-11.77	-10.99	-11.36	-10.25	-10.60	-9.20	-9.75	-9.51	-9.91	-9.66	-10.21
19	-11.36	-11.83	-11.18	-11.36	-10.27	-10.56	-9.71	-9.96	-9.82	-10.04	-9.70	-10.16
20	-11.45	-11.90	-11.08	-11.31	-9.86	-10.27	-9.76	-9.98	-9.30	-9.84	-9.31	-9.72
21	-11.25	-11.65	-10.74	-11.11	-10.02	-10.35	-9.70	-9.97	-8.95	-9.48	-9.25	-9.49
22	-11.65	-11.90	-10.61	-10.89	-9.69	-10.02	-9.17	-9.71	-8.86	-9.13	-9.39	-9.60
23	-11.46	-11.83	-10.54	-10.94	-9.29	-9.78	-9.38	-9.59	-9.07	-9.29	-9.30	-9.61
24	-11.01	-11.54	-10.84	-11.12	-9.29	-9.89	-9.18	-9.58	-9.29	-9.88	-9.09	-9.35
25	-11.25	-11.66	-10.56	-10.90	-9.19	-9.90	-9.39	-9.87	-9.81	-10.00	-9.23	-9.41
26	-11.22	-11.69	-10.42	-10.69	-9.26	-9.80	-9.73	-10.01	-9.48	-9.83	-9.14	-9.31
27	-11.32	-11.57	-10.57	-10.86	-9.71	-9.95	-9.60	-9.76	-9.47	-9.56	-9.10	-9.37
28	-11.30	-11.58	-10.76	-10.87	-9.46	-9.76	-9.26	-9.69	-9.25	-9.50	-8.95	-9.13
29	-11.31	-11.48	-10.80	-10.91	-9.39	-9.57	-9.26	-10.02	---	---	-8.93	-9.09
30	-11.32	-11.53	-10.79	-10.94	-9.24	-9.45	-9.72	-10.10	---	---	-8.90	-9.06
31	-11.35	-11.49	---	---	-9.22	-9.34	-9.57	-9.79	---	---	-8.91	-9.13
MONTH	-11.01	-11.90	-10.42	-11.55	-9.19	-11.83	-9.06	-10.10	-8.83	-10.39	-8.49	-10.21

## Daily Low Water Levels



## GROUND-WATER LEVELS

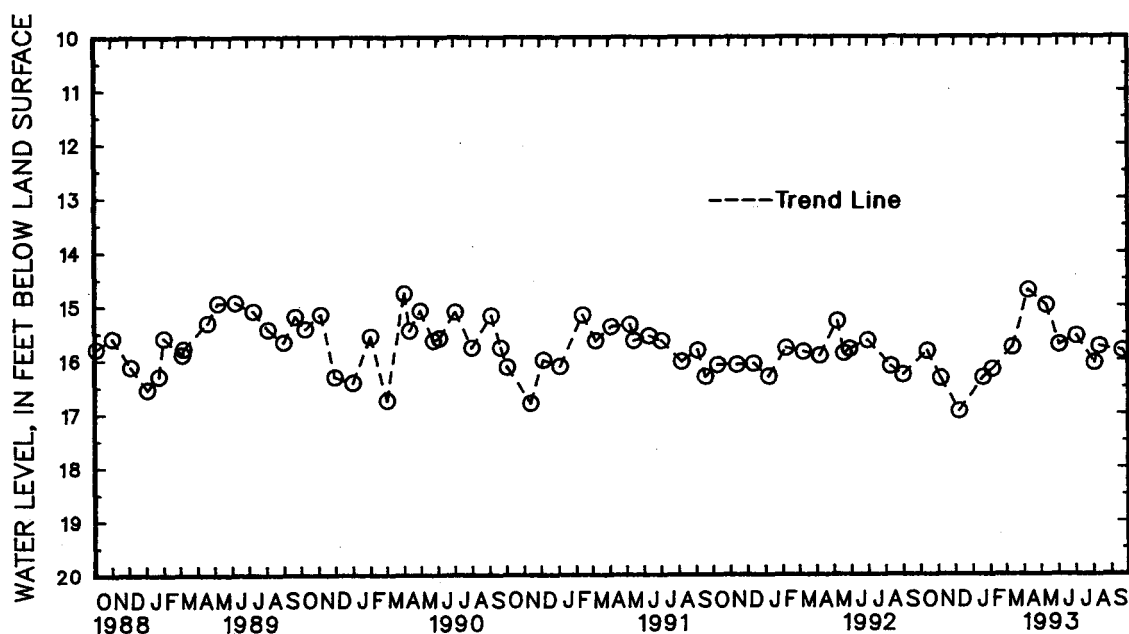
MARYLAND--Continued

ANNE ARUNDEL COUNTY--Continued

WELL NUMBER.--AA Cg 25. SITE ID.--390127076240301. PERMIT NUMBER.--AA-74-1240.  
 LOCATION.--Lat 39°01'27", long 76°24'03", Hydrologic Unit 02060004, at Sandy Point State Park,  
 nr maintenance area.  
 Owner: Maryland Department of Natural Resources.  
 AQUIFER.--Aquia Formation of Upper Paleocene age. Aquifer code: 125AQUI.  
 WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 107 ft; casing diameter 3 in., to 100 ft;  
 screen diameter 3 in. from 100 to 107 ft.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 DATUM.--Elevation of land surface is 17.33 ft above National Geodetic Vertical Datum of 1929.  
 Measuring Point: Top of casing, 2.93 ft above land surface.  
 REMARKS.--Maryland Water-Level Network observation well.  
 PERIOD OF RECORD.--April 1981 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 14.24 ft below land surface, April 13, 1988;  
 lowest measured, 18.25 ft below land surface, Oct. 1, 1986.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 13	15.84	JAN 20	16.33	APR 9	14.71	JUL 2	15.56	SEP 20	15.83
NOV 6	16.35	FEB 5	16.18	MAY 11	14.99	AUG 3	16.06		
DEC 8	16.96	MAR 12	15.77	JUN 2	15.72	11	15.75		
WATER YEAR 1993		HIGHEST	14.71	APR 9, 1993		LOWEST	16.96	DEC 8, 1992	



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

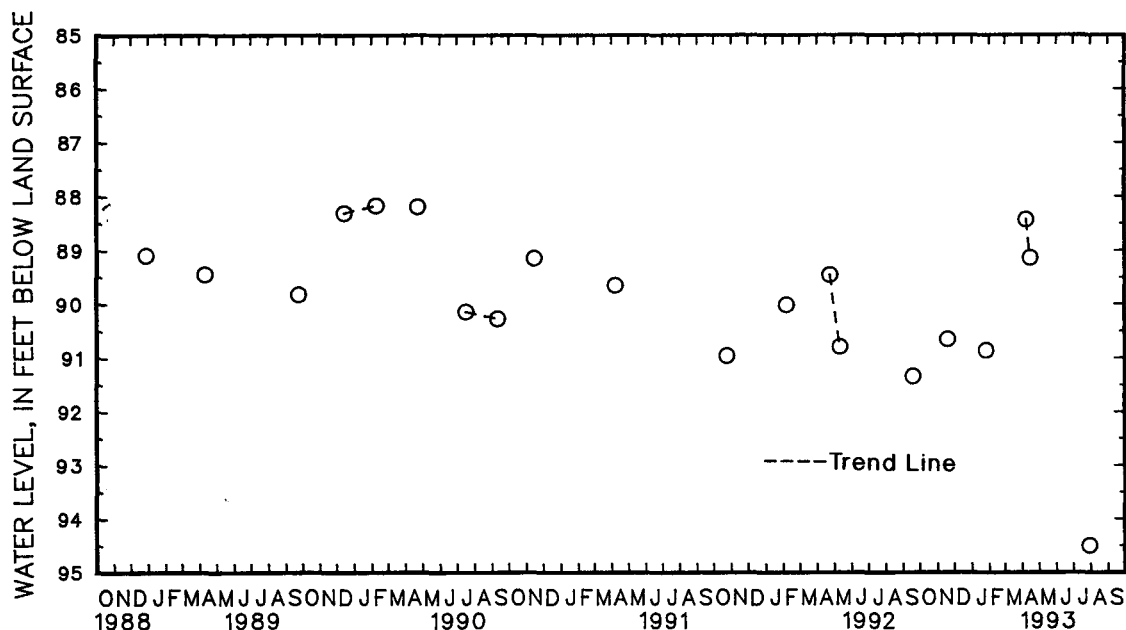
MARYLAND--Continued

ANNE ARUNDEL COUNTY--Continued

WELL NUMBER.--AA Dd 42. SITE ID.--385808076373502. PERMIT NUMBER.--AA-71-0231.  
 LOCATION.--Lat 38°58'08", long 76°37'35", Hydrologic Unit 02060004, 30 ft south of MD Rt 50,  
 0.5 mi from intersection with Howard Grove Rd. and Rutland Rd.  
 Owner: U.S. Geological Survey.  
 AQUIFER.--Magothy Formation of Upper Cretaceous age. Aquifer code: 211MGTY.  
 WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 275 ft; casing diameter 4 in.,  
 to 190 ft; casing diameter 2 in., from 200 to 225 ft, and 235 to 265 ft. screen diameter  
 2 in. from 190 to 200 ft., 225 to 235 ft, and 265 to 275 ft.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 Equipped with graphic water-level recorder from December 1971 to August 1975 and with a digital  
 water-level recorder--30-minute recorder interval from August 1975 to May 10, 1992.  
 DATUM.--Elevation of land surface is 105.5 ft above National Geodetic Vertical Datum of 1929,  
 from topographic map.  
 Measuring Point: Top of recorder platform, 1.0 ft above land surface.  
 REMARKS.--Anne Arundel Co. observation well network.  
 PERIOD OF RECORD.--December 1971 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 22.14 ft below land surface Aug. 3, and 4, 1974.  
 lowest measured, 94.50 ft below land surface, July 30, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 19	90.66	JAN 26	90.87	APR 8	88.43	APR 15	89.14	JUL 30	94.50
WATER YEAR 1993		HIGHEST	88.43	APR 8, 1993		LOWEST	94.50	JUL 30, 1993	



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

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## MARYLAND--Continued

## ANNE ARUNDEL COUNTY--Continued

WELL NUMBER.--AA De 1. SITE ID.--385915076340401.

LOCATION.--Lat 38°59'15", long 76°34'03", Hydrologic Unit 02060004, 0.07 mi north of MD Rt 450,  
1.1 mi west of Generals Highway.

Owner: U.S. Geological Survey.

AQUIFER.--Magothy Formation of Upper Cretaceous age. Aquifer code: 211MGTY.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 237 ft; casing diameter 10 in., to 207 ft;  
screen diameter 6 in. from 207 to 237 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

Equipped with graphic water-level recorder from May 1969 to Dec. 28, 1977 and with a digital water-level  
recorder--15-minute recorder interval from December 1977 to current year.

DATUM.--Elevation of land surface is 13.72 ft above National Geodetic Vertical Datum of 1929,

Measuring Point: Top of recorder platform, 2.5 ft above land surface.

REMARKS.--Anne Arundel Co. observation well network. Missing data due to recorder malfunction.

PERIOD OF RECORD.--May 1969 to current year.

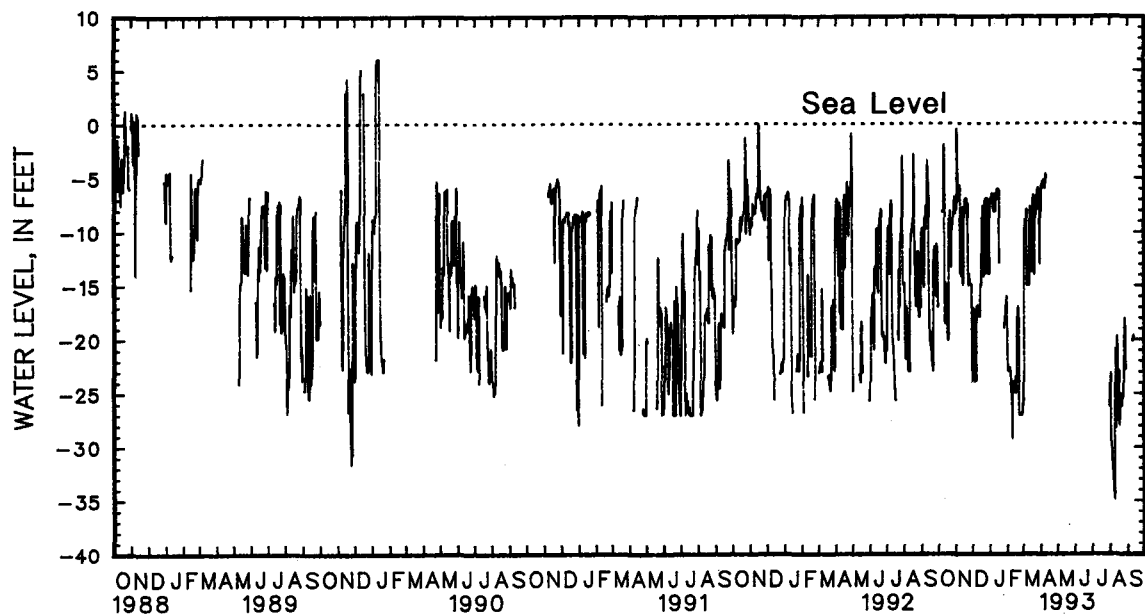
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.25 ft above sea level, Nov. 14, 1988;  
lowest measured, 36.19 ft below sea level, Oct. 25, 1989.WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
(READINGS BELOW SEA LEVEL INDICATED BY "-")

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	-5.01	---	-3.48	-7.92	-9.09	-23.40	-6.81	-6.99	-10.82	-21.93	-11.62	-26.04
2	-5.82	---	-.45	-7.32	-7.89	-17.12	-2.32	-6.93	-8.85	-22.96	-10.79	-25.71
3	-5.62	---	.44	-.45	-16.82	-17.19	-2.56	-6.95	-9.87	-22.94	-6.12	-10.79
4	-6.60	---	.73	-5.41	-8.02	-23.00	-6.27	-6.48	-9.92	-22.94	-5.64	-9.42
5	-3.58	---	-1.45	-6.17	-9.33	-23.95	-2.02	-6.97	-9.23	-22.68	-5.26	-9.07
6	-2.79	---	-6.17	-6.95	-7.69	-23.66	-2.18	-6.88	-10.33	-23.17	-4.28	-7.94
7	-2.49	-8.13	-1.09	-6.63	-9.06	-23.86	-3.05	-8.05	-9.44	-23.93	-4.09	-7.92
8	-4.28	-8.13	-.22	-5.78	-9.02	-17.00	-2.10	-6.49	-16.00	-24.91	-4.77	-14.99
9	-2.67	-8.10	-.45	-13.93	-8.83	-17.99	-1.99	-7.40	-23.19	-24.00	-4.07	-14.31
10	-1.27	-2.67	-3.16	-13.76	-5.54	-16.89	-2.79	-8.11	-23.05	-29.25	-2.19	-13.94
11	-.74	-1.93	-3.34	-14.13	-5.70	-16.97	-2.44	-6.99	-23.06	-23.99	-3.18	-14.15
12	-.45	-18.59	-3.08	-7.75	-10.22	-16.99	-2.70	-6.99	-20.72	-23.94	-4.03	-15.00
13	-7.36	-14.83	-2.78	-13.00	-8.11	-17.06	-1.81	-6.13	-9.11	-23.97	-3.04	-7.66
14	-4.15	-14.93	-3.97	-14.99	-8.43	-17.95	-1.79	-6.01	-9.46	-24.95	-2.28	-13.50
15	-3.74	-14.93	-3.90	-14.51	-4.67	-14.91	-5.95	-6.07	-9.34	-23.51	-3.33	-13.71
16	-4.79	-15.08	-3.39	-7.29	-4.85	-15.04	-1.95	-6.06	-18.31	-24.19	-3.07	-13.42
17	-4.45	-19.75	-6.77	-7.02	-3.54	-14.96	-2.16	-6.14	-17.15	-24.94	-3.52	-13.61
18	-5.07	-20.11	-2.55	-6.93	-3.83	-8.64	-2.03	-12.85	-9.65	-17.93	-2.80	-6.94
19	-5.32	-20.03	-6.71	-6.93	-3.57	-7.63	---	---	-16.69	-18.26	-6.28	-6.58
20	-4.82	-9.57	-2.47	-7.01	-3.34	-13.25	---	---	-10.78	-16.95	-2.28	-12.97
21	-3.37	-8.07	-3.60	-8.70	-4.35	-14.15	---	---	-16.06	-17.91	-3.31	-13.95
22	-7.11	-8.97	-2.88	-7.50	-2.91	-7.40	---	---	-9.80	-26.82	-5.42	-8.91
23	-3.62	-9.36	-2.64	-13.90	-3.06	-7.07	---	---	-14.83	-27.02	-2.81	-8.24
24	-4.01	-13.35	-8.98	-15.04	-2.72	-6.92	---	---	-27.02	-27.02	-1.19	-6.65
25	-4.56	-9.65	-7.31	-14.02	-3.44	-13.93	---	---	-12.06	-27.02	-2.41	-7.91
26	-4.24	-9.37	-14.00	-14.93	-2.15	-6.89	-10.67	-18.93	-11.42	-27.02	-1.66	-6.14
27	-3.72	-8.35	-5.79	-14.95	-2.43	-6.96	-9.30	-18.34	-14.99	-27.02	-2.75	-5.95
28	-3.77	-7.76	-8.94	-14.94	-2.48	-12.61	-9.91	-17.99	-11.85	-26.82	-1.85	-6.00
29	-4.03	-6.83	-9.51	-14.94	-2.81	-13.97	-16.08	-16.95	---	---	-3.13	-7.46
30	-4.06	-8.29	-14.66	-23.93	-2.81	-12.89	-15.98	-16.95	---	---	-1.28	-6.60
31	-3.33	-7.59	---	---	-3.38	-13.96	-15.62	-16.03	---	---	.03	-12.97
MONTH	-.45	-20.11	.73	-23.93	-2.15	-23.95	-1.79	-18.93	-8.85	-29.25	.03	-26.04

GROUND-WATER LEVELS  
MARYLAND--Continued  
ANNE ARUNDEL COUNTY--Continued  
AA De 1--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	-2.16	-7.36	---	---	---	---	---	---	-15.45	-25.30	---	---
2	-5.52	-5.65	---	---	---	---	---	---	-15.56	-23.23	---	---
3	-1.61	-5.97	---	---	---	---	---	---	-22.89	-29.52	---	---
4	-2.73	-5.39	---	---	---	---	---	---	-24.84	-29.60	---	---
5	-.06	-5.50	---	---	---	---	---	---	-25.80	-31.15	---	---
6	-1.26	-5.21	---	---	---	---	---	---	-26.93	-32.14	---	---
7	-5.19	-5.91	---	---	---	---	---	---	-29.25	-33.12	---	---
8	-4.94	-5.93	---	---	---	---	---	---	-32.42	-34.06	---	---
9	.79	-5.53	---	---	---	---	---	---	-20.89	-34.93	-7.63	-20.09
10	.78	-4.67	---	---	---	---	---	---	-20.17	-20.89	-8.25	-19.90
11	-4.67	-4.97	---	---	---	---	---	---	-15.98	-20.96	-6.78	-19.65
12	---	---	---	---	---	---	---	---	-13.42	-28.24	-7.72	-19.79
13	---	---	---	---	---	---	---	---	-12.29	-19.70	---	---
14	---	---	---	---	---	---	---	---	-11.31	-26.79	---	---
15	---	---	---	---	---	---	---	---	-11.19	-26.29	---	---
16	---	---	---	---	---	---	---	---	-12.00	-22.95	---	---
17	---	---	---	---	---	---	---	---	-17.83	-27.08	---	---
18	---	---	---	---	---	---	---	---	-18.17	-27.97	---	---
19	---	---	---	---	---	---	---	---	-17.34	-26.31	---	---
20	---	---	---	---	---	---	---	---	-16.89	-25.07	---	---
21	---	---	---	---	---	---	---	---	-16.92	-25.17	---	---
22	---	---	---	---	---	---	---	---	-17.10	-26.17	---	---
23	---	---	---	---	---	---	---	---	-17.46	-25.39	---	---
24	---	---	---	---	---	---	---	---	-18.51	-25.38	---	---
25	---	---	---	---	---	---	---	---	-16.26	-24.95	---	---
26	---	---	---	---	---	---	---	---	-16.20	-18.95	---	---
27	---	---	---	---	---	---	---	---	-17.41	-18.03	---	---
28	---	---	---	---	---	---	---	---	-15.91	-22.74	---	---
29	---	---	---	---	---	---	---	---	-14.96	-22.66	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	-15.12	-26.21	---	---	---	---
MONTH	.79	-7.36	---	---	---	---	-15.12	-26.21	-11.19	-34.93	-6.78	-20.09
YEAR	.79	-34.93										

Daily Low Water Levels



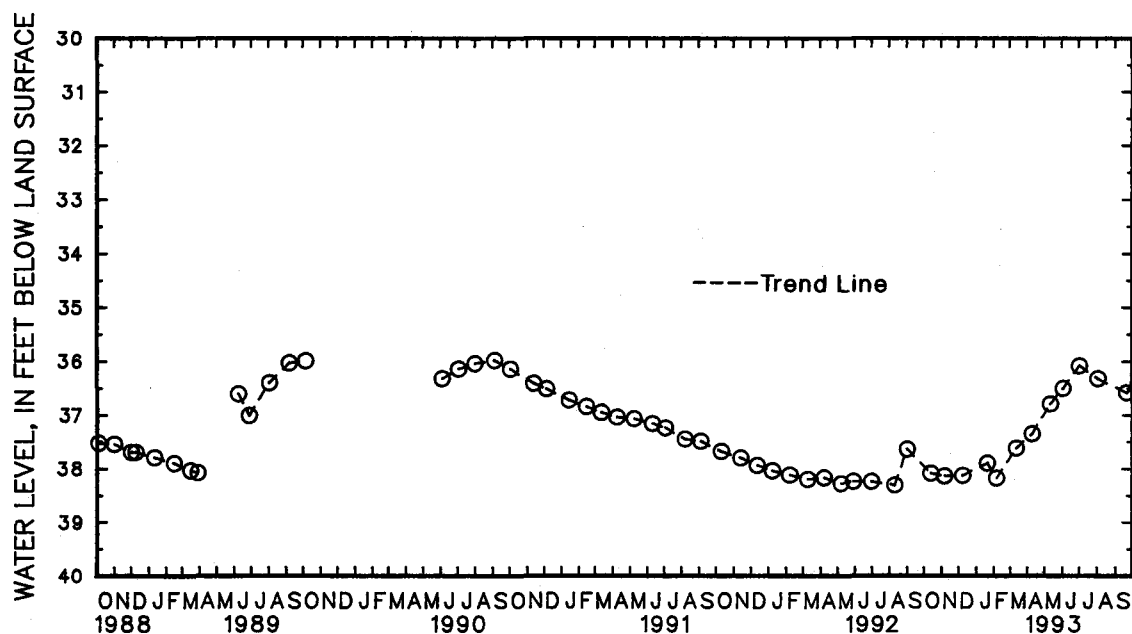
5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
ANNE ARUNDEL COUNTY--Continued

WELL NUMBER.--AA De 140. SITE ID.--385920076322401. PERMIT NUMBER.--AA-81-6267.  
LOCATION.--Lat 38°59'19", long 76°32'24", Hydrologic Unit 02040004, at Annapolis Mall.  
Owner: U.S. Geological Survey.  
AQUIFER.--Aquia Formation of Upper Paleocene age. Aquifer code: 125AQUI.  
WELL CHARACTERISTICS.--Drilled, water-table, observation well, depth 45 ft; casing diameter 3 in., to 32 ft; screen diameter 3 in. from 32 to 42 ft.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
DATUM.--Elevation of land surface is 85.03 ft above National Geodetic Vertical Datum of 1929.  
Measuring Point: Top of casing, 2.82 ft above land surface.  
REMARKS.--Maryland Water-Level Network observation well.  
PERIOD OF RECORD.--November 1986 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 35.98 ft below land surface, Sept. 5, 1990;  
lowest measured, 38.31 ft below land surface, Aug. 10, 1992.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 13	38.09	DEC 8	38.13	FEB 5	38.18	APR 9	37.35	JUN 2	36.50	AUG 3	36.32
NOV 6	38.14	JAN 20	37.90	MAR 12	37.62	MAY 11	36.79	JUL 2	36.08	SEP 20	36.58
WATER YEAR 1993		HIGHEST	36.08	JUL 2, 1993	LOWEST	38.18	FEB 5, 1993				



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

ANNE ARUNDEL COUNTY--Continued

WELL NUMBER.--AA De 144. SITE ID.--385920076322402. PERMIT NUMBER.--AA-81-6267.

LOCATION.--Lat 38°59'19", Long 76°32'21", Hydrologic Unit 02040004, at Annapolis Mall.

Owner: U.S. Geological Survey.

AQUIFER.--Aquia Formation of Upper Paleocene age. Aquifer code: 125AQUI.

WELL CHARACTERISTICS.--Drilled, water-table, observation well, depth 89 ft; casing diameter 3 in., to 71 ft; screen diameter 3 in. from 71 to 86 ft.

INSTRUMENTATION.--Twice yearly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 85.24 ft above National Geodetic Vertical Datum of 1929.

Measuring Point: Top of casing, 3.50 ft above land surface.

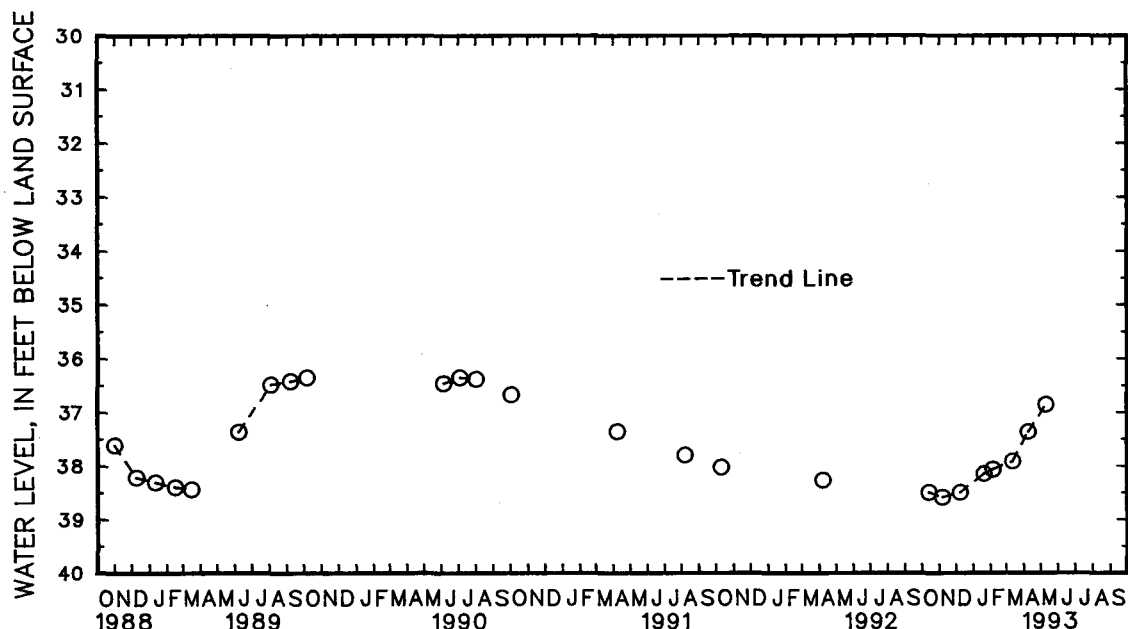
REMARKS.--Maryland Water-Level Network observation well.

PERIOD OF RECORD.--November 1988 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 36.35 ft below land surface, Oct. 6, 1989, and July 3, 1990; lowest measured, 38.59 ft below land surface, Nov. 6, 1992.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 13	38.50	DEC 8	38.50	FEB 5	38.07	APR 9	37.37
NOV 6	38.59	JAN 20	38.15	MAR 12	37.92	MAY 11	36.86
WATER YEAR 1993		HIGHEST	36.86	MAY 11, 1993	LOWEST	38.59	NOV 6, 1992



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993



## GROUND-WATER LEVELS

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## MARYLAND--Continued

## ANNE ARUNDEL COUNTY--Continued

WELL NUMBER.--AA De 177. SITE ID.--385852076333201. PERMIT NUMBER.--AA-81-9213.  
 LOCATION.--Lat 38°58'52", long 76°33'32", Hydrologic Unit 02060004, at Broadcreek Water Treatment Plant,  
 Harry Truman Parkway, Annapolis.  
 Owner: Anne Arundel County Dept. of Public Works.  
 AQUIFER.--Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSC.  
 WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 974 ft; casing diameter 26 in., to 72 ft;  
 casing diameter 18 in., to 800 ft; casing diameter 12 in. from 800 to 836 ft, 868 to 880 ft, 894 to 918 ft,  
 and 964 to 974 ft; screen diameter 12 in. from 836 to 868 ft, 880 to 894 ft, and 918 to 964 ft.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 Equipped with digital water-level recorder--30-minute recorder interval from Aug. 16, 1988 to current year.  
 DATUM.--Elevation of land surface is 93.85 ft above National Geodetic Vertical Datum of 1929.  
 Measuring Point: Top of casing, 4.37 ft above land surface.  
 REMARKS.--Anne Arundel Co. observation well network. Water levels are affected by nearby pumping.  
 PERIOD OF RECORD.--August 1988 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 7.08 ft above sea level, April 1, 1991;  
 lowest measured, 19.60 ft below sea level, Aug. 9, 1993.

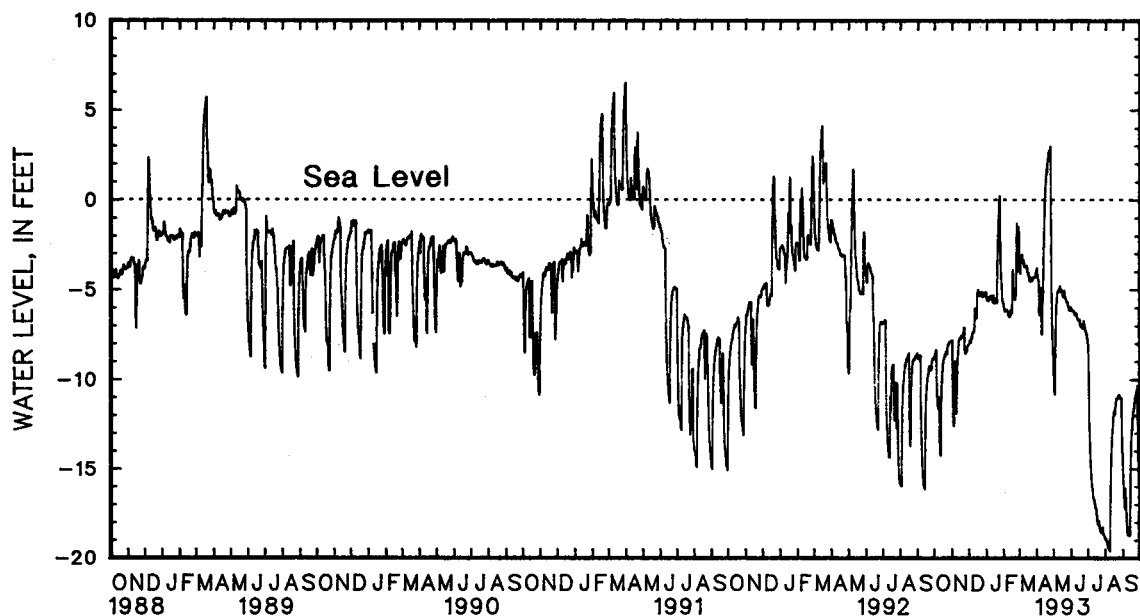
WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
 (READINGS BELOW SEA LEVEL INDICATED BY "--")

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	-8.40	-8.71	-7.52	-7.80	-7.44	-7.98	-5.02	-5.53	-5.16	-6.02	-3.27	-3.93
2	-8.33	-8.59	-7.46	-10.45	-7.27	-7.81	-5.23	-5.58	-5.55	-6.20	-3.27	-4.12
3	-8.06	-8.47	-10.45	-12.39	-7.60	-7.91	-5.28	-5.58	-5.51	-6.12	-3.08	-3.33
4	-8.18	-8.34	-10.61	-12.61	-7.28	-7.92	-5.40	-5.60	-5.42	-6.13	-2.70	-3.31
5	-8.33	-10.52	-8.95	-10.61	-7.01	-7.62	-5.03	-5.41	-5.57	-6.16	-2.64	-3.06
6	-8.90	-11.03	-8.69	-8.95	-6.95	-7.69	-5.20	-5.51	-5.54	-6.12	-2.89	-3.32
7	-9.76	-11.66	-8.29	-10.51	-6.76	-7.35	-5.21	-5.45	-5.46	-6.16	-3.02	-3.38
8	-9.62	-10.97	-10.32	-11.61	-6.82	-7.37	-5.01	-5.35	-5.95	-6.28	-3.03	-3.35
9	-9.40	-11.00	-9.77	-11.91	-6.77	-7.36	-4.96	-5.39	-6.28	-6.44	-3.21	-3.68
10	-11.00	-13.43	-8.76	-9.77	-5.28	-7.21	-5.07	-5.35	-6.37	-6.42	-3.27	-3.73
11	-13.07	-14.15	-8.15	-8.76	-4.71	-6.01	-5.11	-5.34	-6.38	-6.50	-3.27	-3.68
12	-11.19	-14.26	-7.58	-8.19	-5.82	-6.41	-5.20	-5.67	-6.13	-6.48	-3.39	-3.75
13	-10.17	-11.19	-7.46	-7.81	-5.82	-6.54	-4.94	-5.29	-5.47	-6.13	-2.89	-3.68
14	-9.49	-10.17	-7.48	-7.75	-5.18	-6.56	-5.12	-5.73	-5.49	-6.16	-3.13	-3.80
15	-9.07	-9.50	-7.39	-7.66	-4.87	-5.19	-5.33	-5.73	-3.51	-6.30	-3.70	-4.02
16	-8.73	-9.11	-7.51	-7.71	-4.77	-5.06	-5.17	-5.50	-2.11	-4.99	-3.95	-4.14
17	-8.61	-8.91	-7.47	-7.56	-4.55	-5.00	-5.07	-5.63	-1.43	-3.90	-3.76	-4.07
18	-8.50	-8.81	-7.25	-7.54	-4.83	-5.14	-5.35	-5.65	-3.90	-4.91	-4.05	-4.41
19	-8.34	-8.60	-7.45	-7.63	-4.97	-5.34	-3.63	-5.72	-4.91	-5.48	-4.41	-4.55
20	-8.38	-8.68	-7.25	-7.62	-4.86	-5.18	-2.03	-3.63	-5.18	-5.51	-4.20	-4.53
21	-8.17	-8.44	-7.01	-7.37	-5.09	-5.27	-0.89	-2.03	-5.38	-5.56	-4.08	-4.32
22	-8.40	-8.56	-6.79	-7.10	-4.90	-5.20	-0.19	-0.89	-4.77	-5.39	-4.31	-4.51
23	-8.10	-8.56	-6.81	-8.31	-4.87	-5.12	.21	-0.19	-1.26	-5.03	-4.32	-4.52
24	-7.72	-8.17	-8.21	-8.54	-5.02	-5.35	.72	.21	-0.24	-1.29	-3.92	-4.38
25	-7.70	-7.99	-8.03	-8.54	-5.00	-5.38	.64	-2.54	-1.29	-3.79	-4.06	-4.31
26	-7.70	-8.03	-8.30	-8.41	-4.61	-5.16	-2.54	-4.00	-0.93	-3.97	-4.04	-4.32
27	-7.58	-7.90	-7.40	-8.39	-4.98	-5.34	-3.35	-4.37	.18	-1.51	-4.20	-4.33
28	-7.69	-7.89	-7.81	-8.13	-4.96	-5.26	-4.17	-4.77	-1.51	-3.36	-4.03	-4.27
29	-7.64	-7.85	-7.78	-8.10	-4.81	-5.21	-4.77	-5.59	---	---	-4.06	-4.29
30	-7.58	-7.85	-7.97	-8.05	-4.90	-5.11	-5.59	-5.72	---	---	-3.99	-4.26
31	-7.58	-7.80	---	---	-4.80	-5.13	-5.61	-5.75	---	---	-3.23	-4.00
MONTH	-7.58	-14.26	-6.79	-12.61	-4.55	-7.98	.72	-5.75	.18	-6.50	-2.64	-4.55

GROUND-WATER LEVELS  
MARYLAND--Continued  
ANNE ARUNDEL COUNTY--Continued  
AA De 177--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	-3.54	-3.82	-8.79	-9.67	-5.78	-6.08	-7.85	-8.09	-18.21	-18.94	-13.69	-15.25
2	-3.82	-4.24	-9.67	-10.61	-5.95	-6.16	-7.77	-9.86	-18.40	-18.91	-14.81	-16.06
3	-4.15	-4.40	-7.82	-10.84	-5.88	-6.16	-9.86	-12.43	-18.22	-19.06	-15.90	-16.95
4	-4.30	-4.49	-6.18	-7.82	-5.87	-6.15	-12.13	-13.48	-18.35	-19.05	-16.08	-17.24
5	-4.25	-6.44	-5.59	-6.18	-5.88	-6.19	-13.45	-14.54	-18.99	-19.38	-14.19	-16.08
6	-4.86	-5.58	-5.14	-5.60	-6.01	-6.23	-14.35	-15.06	-18.87	-19.45	-14.90	-16.94
7	-4.86	-4.97	-4.95	-5.21	-6.23	-6.38	-15.06	-15.55	-18.73	-19.37	-16.67	-17.44
8	-4.82	-4.90	-4.99	-5.14	-6.18	-6.39	-15.55	-15.93	-19.23	-19.51	-17.44	-18.19
9	-4.61	-7.47	-4.88	-5.08	-6.04	-6.31	-15.81	-16.13	-16.26	-19.60	-17.94	-18.73
10	-5.33	-7.53	-4.73	-5.00	-6.17	-6.32	-16.13	-16.55	-14.54	-16.26	-17.86	-18.47
11	-5.16	-5.33	-4.66	-4.92	-6.29	-6.50	-16.08	-16.71	-13.63	-14.54	-17.91	-18.67
12	-2.77	-5.16	-4.56	-4.81	-6.44	-6.65	-16.17	-16.73	-12.85	-13.63	-17.95	-18.72
13	-1.12	-2.77	-4.72	-5.08	-6.37	-6.68	-16.36	-16.97	-12.53	-12.95	-15.65	-18.70
14	-.08	-1.12	-4.74	-5.08	-6.49	-6.66	-15.67	-17.18	-12.06	-12.55	-14.00	-15.65
15	.67	-.08	-4.79	-5.01	-6.43	-6.64	-16.64	-17.17	-11.76	-12.07	-13.05	-14.00
16	1.34	.67	-4.97	-5.11	-6.55	-6.78	-16.70	-17.40	-11.69	-11.84	-12.78	-13.06
17	1.55	1.34	-5.11	-5.39	-6.78	-7.01	-17.40	-17.76	-11.32	-11.71	-12.20	-12.78
18	1.80	1.53	-5.00	-5.39	-6.67	-7.02	-17.76	-18.07	-11.12	-11.94	-11.77	-12.20
19	2.15	1.80	-4.75	-5.06	-6.83	-7.07	-17.51	-18.10	-11.06	-11.44	-11.50	-11.80
20	2.35	2.15	-4.80	-5.14	-6.84	-7.11	-17.05	-17.91	-10.90	-11.16	-11.28	-11.63
21	2.71	2.34	-5.14	-5.44	-6.85	-7.14	-17.78	-18.21	-10.86	-11.04	-10.92	-11.30
22	2.84	2.71	-5.30	-5.48	-5.73	-7.04	-17.88	-18.32	-10.78	-11.05	-10.72	-11.04
23	2.88	2.79	-5.47	-5.65	-5.63	-6.74	-18.24	-18.51	-10.73	-10.99	-10.56	-10.84
24	2.99	2.82	-5.30	-5.65	-6.71	-6.97	-17.71	-18.56	-10.67	-10.87	-10.58	-10.68
25	3.22	2.99	-5.52	-5.72	-6.86	-7.15	-17.64	-18.41	-10.66	-10.83	-10.31	-10.66
26	3.33	-1.14	-5.72	-5.88	-6.99	-7.25	-17.62	-18.46	-10.80	-10.93	-10.28	-10.35
27	-1.14	-5.20	-5.88	-6.01	-7.14	-7.36	-17.69	-18.27	-10.88	-11.00	-10.32	-13.69
28	-5.03	-6.96	-5.99	-6.13	-7.24	-7.47	-18.27	-18.64	-10.91	-11.04	-13.53	-15.11
29	-6.69	-8.12	-5.81	-6.07	-7.38	-7.68	-17.67	-18.70	-10.88	-11.03	-14.92	-15.91
30	-7.56	-8.94	-5.75	-6.14	-7.64	-7.85	-17.78	-18.74	-10.84	-13.53	-14.98	-16.14
31	---	---	-5.72	-5.98	---	---	-18.29	-18.84	-12.72	-14.12	---	---
MONTH	3.33	-8.94	-4.56	-10.84	-5.63	-7.85	-7.77	-18.84	-10.66	-19.60	-10.28	-18.73
YEAR	3.33	-19.60										

Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## 115

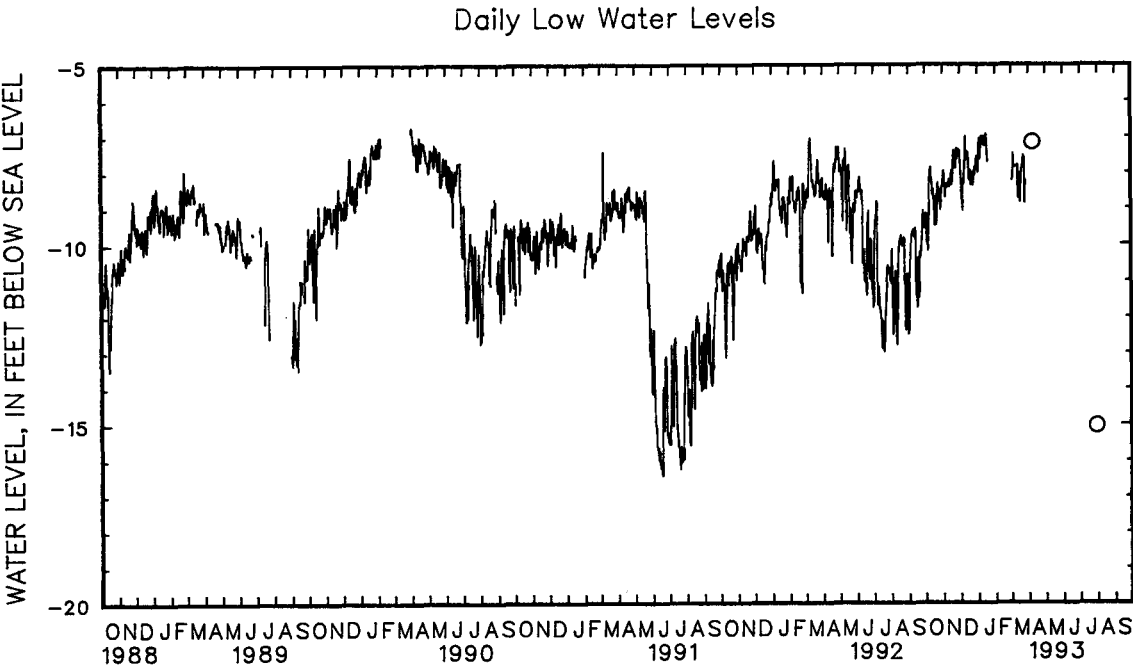
## ANNE ARUNDEL COUNTY--Continued

**WATER LEVEL, IN FEET BELOW SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993**

DATE	WATER LEVEL		DATE	WATER LEVEL											
APR 8	-7.16		JUL 30	-15.06											
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN			
OCTOBER			NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH				
1	-8.85	-9.45	-8.00	-8.38	-7.09	-7.40	-7.11	-7.60	---	---	---	---			
2	-8.75	-9.14	-7.31	-8.11	-6.97	-7.68	-7.30	-8.00	---	---	---	---			
3	-8.75	-9.17	-7.24	-7.96	-6.99	-8.00	-6.88	-7.35	---	---	-7.78	-8.22			
4	-8.90	-9.96	-7.57	-8.11	-7.44	-8.31	-6.45	-7.07	---	---	-6.98	-8.14			
5	-8.20	-9.16	-7.52	-8.39	-7.40	-8.84	-6.43	-7.26	---	---	-6.92	-7.48			
6	-8.04	-10.18	-8.32	-8.71	-7.79	-9.09	-7.03	-7.63	---	---	-7.34	-7.82			
7	-8.98	-9.58	-8.06	-8.46	-7.54	-8.21	-6.52	-7.26	---	---	-7.33	-7.86			
8	-8.19	-8.98	-7.93	-8.37	-7.82	-8.33	-6.58	-7.00	---	---	---	---			
9	-7.53	-8.24	-7.85	-8.34	-7.51	-8.09	-6.77	-7.21	---	---	-7.31	-7.84			
10	-7.51	-7.94	-7.96	-8.40	-6.62	-7.74	-6.46	-7.08	---	---	-7.16	-7.83			
11	-7.23	-7.86	-7.88	-8.40	-6.36	-7.00	-6.61	-7.00	---	---	-7.09	-7.83			
12	-7.69	-8.22	-7.47	-8.35	-7.00	-7.66	-6.86	-7.24	---	---	-7.53	-7.85			
13	-7.77	-8.17	-7.35	-8.21	-7.17	-7.62	-6.73	-7.22	---	---	-6.44	-7.80			
14	-8.05	-8.52	-7.93	-8.39	-7.05	-7.43	-6.81	-7.26	---	---	-6.56	-8.49			
15	-8.17	-8.65	-7.97	-8.32	-7.14	-7.46	-6.69	-7.22	---	---	-8.25	-8.72			
16	-7.97	-8.48	-7.82	-8.35	-7.24	-7.62	-6.53	-6.92	---	---	-7.73	-8.26			
17	-8.09	-9.04	-7.54	-7.96	-7.41	-7.87	-6.59	-7.11	---	---	-7.50	-8.03			
18	-8.07	-9.49	-7.57	-8.34	-7.64	-8.22	-6.87	-7.52	---	---	-8.03	-8.84			
19	-8.07	-8.73	-7.44	-8.11	-7.70	-8.20	-7.31	-7.70	---	---	-7.72	-8.28			
20	-8.06	-8.70	-7.10	-7.56	-7.33	-7.96	---	---	---	---	-7.51	-7.92			
21	-8.20	-9.48	-6.92	-7.39	-7.80	-8.34	---	---	---	---	-7.52	-7.88			
22	-8.63	-9.13	-6.95	-7.48	-7.75	-8.16	---	---	---	---	-7.41	-7.76			
23	-8.07	-8.65	-6.97	-7.63	-7.26	-8.02	---	---	---	---	-7.02	-7.54			
24	-7.55	-8.29	-7.40	-7.89	-7.45	-8.35	---	---	---	---	-6.86	-7.67			
25	-8.05	-8.63	-6.92	-7.55	-7.18	-8.36	---	---	---	---	-7.28	-7.61			
26	-7.84	-8.60	-6.88	-7.33	-7.37	-7.98	---	---	---	---	-7.16	-8.88			
27	-8.00	-8.51	-7.17	-7.62	-7.54	-8.07	---	---	---	---	-7.16	-8.25			
28	-8.13	-9.06	-7.10	-7.45	-7.51	-7.87	---	---	---	---	---	---			
29	-8.28	-8.86	-7.10	-7.37	-7.54	-7.92	---	---	---	---	---	---			
30	-8.18	-8.59	-7.07	-7.44	-7.30	-7.68	---	---	---	---	---	---			
31	-8.06	-8.41	---	---	-7.11	-7.57	---	---	---	---	---	---			
MONTH	-7.23	-10.18	-6.88	-8.71	-6.36	-9.09	-6.43	-8.00	---	---	-6.44	-8.88			
YEAR	-6.83	-15.06													

GROUND-WATER LEVELS  
MARYLAND--Continued  
ANNE ARUNDEL COUNTY--Continued  
AA Df 19--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

117

## MARYLAND--Continued

## ANNE ARUNDEL COUNTY--Continued

WELL NUMBER.--AA Df 20. SITE ID.--385916076270702.

LOCATION.--Lat 38°59'16", long 76°27'07", Hydrologic Unit 02060004, off Hooper Rd., 400 ft from McLean Rd.

Owner: U.S. Navy.

AQUIFER.--Magothy Formation of Upper Cretaceous age. Aquifer code: 211MGTY.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 255 ft; casing diameter 10 in., to 233 ft; screen diameter 8 in. from 233 to 253 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

Equipped with graphic water-level recorder from June 1969 to December 1977. Equipped with digital

water-level recorder--30-minute recorder interval from December 1977 to current year.

DATUM.--Elevation of land surface is 21.62 ft above National Geodetic Vertical Datum of 1929.

Measuring Point: Top of recorder platform, 3.0 ft above land surface.

REMARKS.--Anne Arundel Co. observation well network. Missing data due to recorder malfunction.

PERIOD OF RECORD.--June 1969 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.91 ft below sea level, June 20, 1980; lowest measured, 13.77 ft below sea level, July 25, 1988.

## WATER LEVEL, IN FEET BELOW SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	-8.66	-8.68	-7.81	-7.84	-7.24	-7.25	-7.46	-7.49	-7.33	-7.38	-7.28	-7.35
2	-8.60	-8.67	-7.57	-7.81	-7.14	-7.28	-7.48	-7.69	-7.38	-7.77	-6.96	-7.28
3	-8.52	-8.60	-7.23	-7.57	-7.09	-7.19	-7.51	-7.69	-6.90	-7.76	-6.96	-7.18
4	-8.52	-8.56	-7.27	-7.37	-7.19	-7.34	-7.21	-7.51	-6.87	-6.99	-6.85	-7.25
5	-8.40	-8.56	-7.33	-7.44	-7.22	-7.56	-6.98	-7.21	-6.99	-7.07	-6.67	-6.85
6	-7.98	-8.40	-7.44	-7.78	-7.56	-8.04	---	---	-7.02	-7.15	-6.68	-6.87
7	-7.99	-8.07	-7.78	-7.80	-7.65	-7.98	---	---	-7.10	-7.19	-6.87	-7.01
8	-8.07	-8.23	-7.80	-7.82	-7.67	-7.75	-6.85	-6.97	-7.04	-7.10	-7.01	-7.12
9	-8.23	-8.27	-7.82	-7.84	-7.55	-7.74	-6.84	-6.86	-7.06	-7.17	-7.12	-7.37
10	-8.27	-8.37	-7.79	-7.83	-6.76	-7.55	-6.74	-6.84	-7.13	-7.16	-7.37	-7.44
11	-8.37	-8.42	-7.66	-7.79	-6.37	-6.76	-6.72	-6.74	-7.13	-7.18	-7.36	-7.42
12	-8.41	-8.48	-7.55	-7.68	-6.38	-6.81	-6.72	-6.77	-6.92	-7.21	-7.37	-7.46
13	-8.44	-8.48	-7.34	-7.55	-6.81	-6.96	-6.74	-6.79	-6.73	-6.92	-6.93	-7.47
14	-8.36	-8.44	-7.45	-7.63	-6.85	-6.95	-6.74	-6.75	-6.73	-7.11	-6.78	-7.37
15	-8.28	-8.36	-7.63	-7.69	-6.74	-6.85	-6.75	-6.78	-7.11	-7.40	-7.37	-8.12
16	-8.14	-8.28	-7.69	-7.81	-6.74	-6.80	-6.70	-6.75	-6.97	-7.40	-7.83	-8.12
17	-8.11	-8.29	-7.59	-7.80	-6.80	-6.95	-6.67	-6.72	-6.96	-7.29	-7.61	-7.83
18	-8.20	-8.30	-7.55	-7.61	-6.95	-7.28	-6.67	-6.91	-7.29	-7.57	-7.61	-8.01
19	-8.06	-8.20	-7.61	-7.65	-7.28	-7.43	-6.91	-7.14	-7.57	-7.79	-7.56	-8.01
20	-8.12	-8.21	-7.65	-7.69	-7.39	-7.43	-7.14	-7.23	-7.32	-7.79	-7.19	-7.56
21	-7.72	-8.12	-7.59	-7.69	-7.40	-7.62	-7.22	-7.26	-7.02	-7.32	-7.14	-7.19
22	-7.75	-8.04	-7.51	-7.59	-7.60	-7.62	-6.70	-7.24	-6.92	-7.02	-7.16	-7.26
23	-8.03	-8.05	-7.44	-7.51	-7.50	-7.61	-6.70	-6.76	-6.93	-7.01	-7.24	-7.27
24	-7.73	-8.03	-7.45	-7.53	-7.50	-7.80	-6.75	-6.79	-7.01	-7.55	-7.05	-7.24
25	-7.73	-7.97	-7.14	-7.51	-7.70	-7.90	-6.75	-7.01	-7.55	-7.87	-7.05	-7.07
26	-7.89	-8.03	-7.04	-7.14	-7.69	-7.86	-7.01	-7.21	-7.59	-7.86	-6.99	-7.06
27	-7.86	-7.90	-7.04	-7.14	-7.86	-8.06	-7.14	-7.20	-7.55	-7.59	-6.99	-7.02
28	-7.87	-7.91	-7.14	-7.19	-7.83	-8.05	-6.81	-7.14	-7.35	-7.55	-6.88	-7.00
29	-7.85	-7.87	-7.19	-7.22	-7.76	-7.83	-6.76	-7.03	---	---	-6.81	-6.88
30	-7.84	-7.85	-7.22	-7.26	-7.57	-7.76	-7.03	-7.32	---	---	-6.75	-6.81
31	-7.84	-7.84	---	---	-7.49	-7.57	-7.31	-7.34	---	---	-6.70	-6.76
MONTH	-7.72	-8.68	-7.04	-7.84	-6.37	-8.06	-6.67	-7.69	-6.73	-7.87	-6.67	-8.12

## GROUND-WATER LEVELS

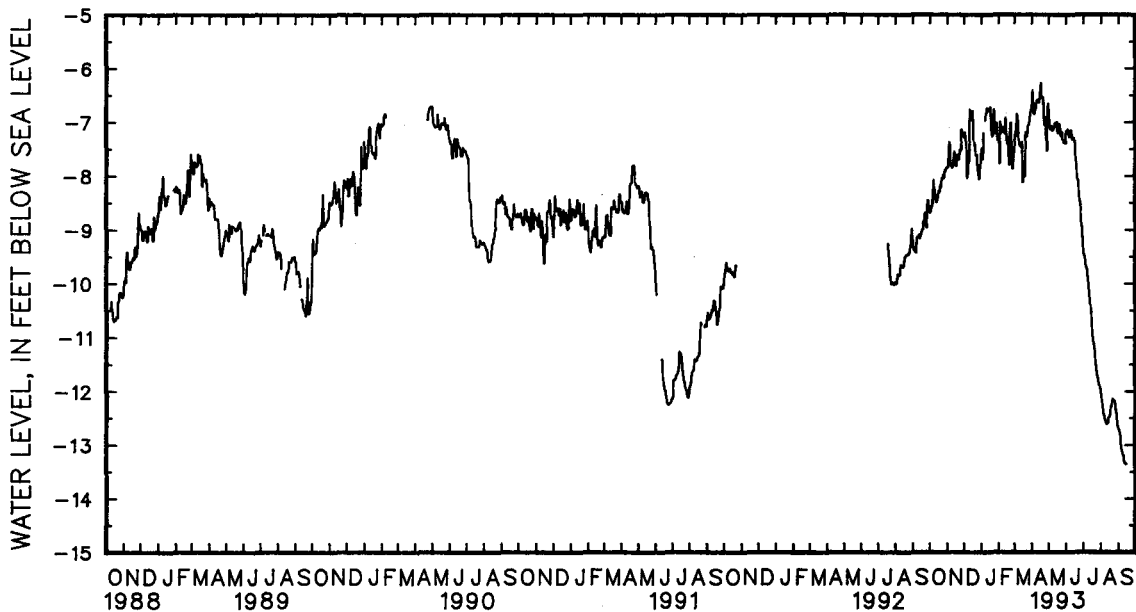
MARYLAND--Continued

ANNE ARUNDEL COUNTY--Continued

AA Df 20--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	-6.40	-6.70	-6.66	-6.78	-6.94	-7.18	-9.33	-9.45	-12.05	-12.12	-12.68	-12.71
2	-6.39	-6.40	-6.78	-6.96	-7.18	-7.20	-9.45	-9.48	-12.12	-12.18	-12.71	-12.74
3	-6.40	-6.63	-6.96	-7.11	-7.08	-7.20	-9.48	-9.51	-12.18	-12.26	-12.74	-12.77
4	-6.63	-6.83	-7.11	-7.14	-7.09	-7.14	-9.51	-9.60	-12.26	-12.34	-12.77	-12.84
5	-6.83	-6.85	-7.04	-7.14	-7.05	-7.16	-9.60	-9.69	-12.34	-12.42	-12.84	-13.00
6	-6.76	-6.84	-7.03	-7.08	-7.05	-7.24	-9.69	-9.72	-12.42	-12.45	-13.00	-13.07
7	-6.72	-6.77	-7.08	-7.13	-7.24	-7.28	-9.72	-9.75	-12.45	-12.51	-13.07	-13.10
8	-6.62	-6.73	-7.13	-7.16	-7.20	-7.25	-9.75	-9.83	-12.51	-12.54	-13.10	-13.15
9	-6.58	-6.64	-7.07	-7.15	-7.15	-7.20	-9.83	-9.92	-12.54	-12.58	-13.15	-13.20
10	-6.45	-6.59	-7.07	-7.10	-7.14	-7.16	-9.92	-10.00	-12.58	-12.61	-13.20	-13.20
11	-6.45	-6.61	-7.03	-7.11	-7.16	-7.26	-10.00	-10.13	-12.61	-12.61	-13.20	-13.31
12	-6.52	-6.62	-7.00	-7.03	-7.26	-7.32	-10.13	-10.26	-12.60	-12.61	-13.31	-13.34
13	-6.52	-6.63	-6.99	-7.03	-7.29	-7.32	-10.26	-10.40	-12.50	-12.60	-13.34	-13.35
14	-6.49	-6.63	-6.99	-7.02	-7.28	-7.30	-10.40	-10.52	-12.49	-12.50	-13.35	-13.36
15	-6.35	-6.49	-6.96	-7.01	-7.27	-7.30	-10.52	-10.71	-12.46	-12.49	-13.36	-13.36
16	-6.09	-6.35	-6.93	-7.00	-7.26	-7.46	-10.71	-10.88	-12.44	-12.46	---	---
17	-6.01	-6.27	-7.00	-7.18	-7.46	-7.67	-10.88	-11.00	-12.28	-12.44	---	---
18	-6.27	-6.54	-7.09	-7.20	-7.67	-7.73	-11.00	-11.09	-12.28	-12.29	---	---
19	-6.54	-6.55	-7.04	-7.09	-7.73	-7.89	-11.09	-11.13	-12.20	-12.29	---	---
20	-6.51	-6.54	-6.98	-7.04	-7.89	-8.04	-11.13	-11.22	-12.12	-12.20	---	---
21	-6.50	-6.54	-7.03	-7.06	-8.04	-8.07	-11.22	-11.32	-12.12	-12.15	---	---
22	-6.54	-6.75	-7.06	-7.18	-8.04	-8.10	-11.32	-11.44	-12.15	-12.17	---	---
23	-6.75	-6.97	-7.18	-7.26	-8.10	-8.32	-11.44	-11.53	-12.17	-12.18	---	---
24	-6.97	-7.05	-7.13	-7.26	-8.32	-8.44	-11.53	-11.62	-12.18	-12.18	---	---
25	-6.90	-7.06	-7.13	-7.19	-8.44	-8.48	-11.62	-11.70	-12.18	-12.21	---	---
26	-6.89	-6.92	-7.19	-7.34	-8.48	-8.52	-11.70	-11.75	-12.21	-12.31	---	---
27	-6.92	-7.54	-7.34	-7.38	-8.52	-8.89	-11.75	-11.77	-12.31	-12.37	---	---
28	-6.76	-7.53	-7.35	-7.38	-8.89	-9.02	-11.77	-11.84	-12.37	-12.42	---	---
29	-6.63	-6.76	-7.33	-7.38	-9.02	-9.15	-11.84	-11.89	-12.42	-12.55	---	---
30	-6.62	-6.66	-7.38	-7.40	-9.15	-9.34	-11.89	-11.95	-12.55	-12.65	---	---
31	---	---	-7.08	-7.40	---	---	-11.95	-12.05	-12.65	-12.68	---	---
MONTH	-6.01	-7.54	-6.66	-7.40	-6.94	-9.34	-9.33	-12.05	-12.05	-12.68	-12.68	-13.36
YEAR	-6.01	-13.36										

## Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

119

## MARYLAND--Continued

## ANNE ARUNDEL COUNTY--Continued

WELL NUMBER.--AA Df 79. SITE ID.--385905076293601. PERMIT NUMBER.--AA-03-7867.  
 LOCATION.--Lat 38°59'05", long 76°29'36", Hydrologic Unit 02060004, off Creek Rd., 500 ft north of MD Rt. 450.  
 Owner: U.S. Navy.  
 AQUIFER.--Magothy Formation of Upper Cretaceous age. Aquifer code: 211MGTY.  
 WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 705 ft; casing diameter 6 in., to 300 ft;  
 screen diameter 6 in. from 300 to 320 ft.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 Equipped with graphic water-level recorder from May 20, 1969 to Dec. 19, 1977. Equipped with digital  
 water-level recorder--60-- minute recorder interval from Dec. 19, 1977 to current year.  
 DATUM.--Elevation of land surface is 5.17 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
 Measuring Point: Top of recorder platform, 2.8 ft above land surface.  
 REMARKS.--Anne Arundel Co. observation well network. Missing data due to recorder malfunction.  
 PERIOD OF RECORD.--May 1969 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.12 ft below sea level, Jan. 4, 1982;  
 lowest measured, 13.67 ft below sea level, Aug. 21 and 23, 1987.

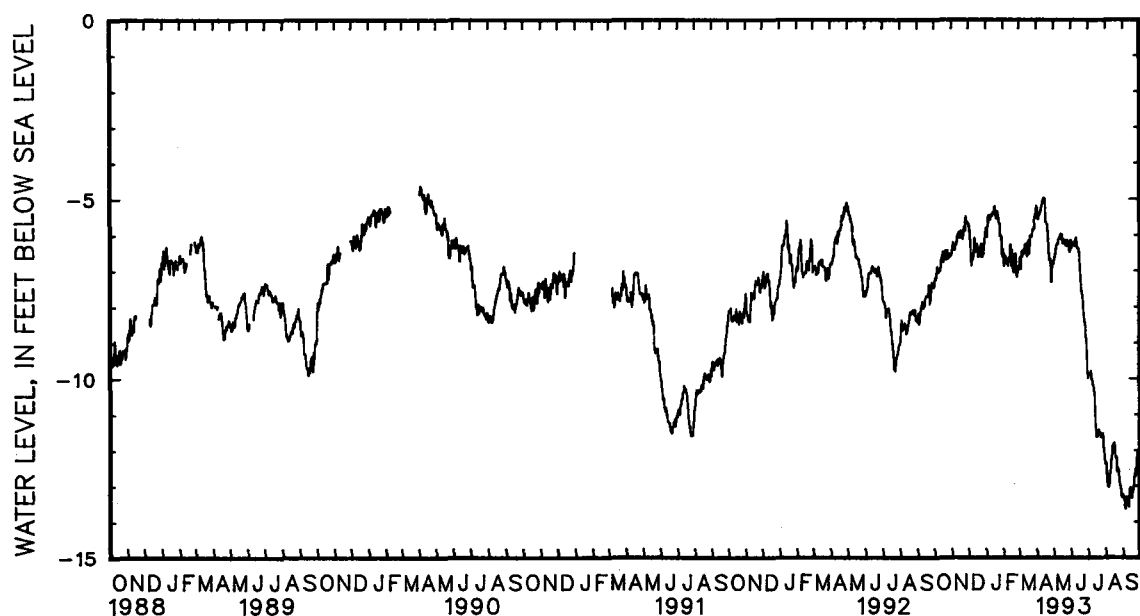
## WATER LEVEL, IN FEET BELOW SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	-7.08	-7.44	-6.28	-6.45	-5.51	-5.72	-5.56	-5.86	-6.18	-6.57	-6.57	-6.88
2	-7.01	-7.26	-5.94	-6.36	-5.49	-5.85	-5.68	-6.04	-6.56	-6.86	-6.38	-6.62
3	-7.01	-7.19	-5.88	-6.20	-5.51	-6.09	-5.48	-5.75	-6.09	-6.56	-6.58	-6.96
4	-7.03	-7.24	-5.89	-6.25	-5.82	-6.23	-5.22	-5.62	-6.17	-6.60	-6.24	-6.93
5	-6.67	-7.10	-5.85	-6.25	-5.80	-6.69	-4.93	-5.46	-6.26	-6.61	-6.21	-6.44
6	-6.60	-6.89	-6.21	-6.42	-6.25	-6.86	-5.34	-5.62	-6.31	-6.79	-6.31	-6.58
7	-6.78	-7.02	-6.08	-6.27	-6.18	-6.54	-5.05	-5.46	-6.34	-6.77	-6.24	-6.53
8	-6.87	-7.05	-6.05	-6.27	-6.42	-6.67	-5.18	-5.56	-6.29	-6.74	-6.10	-6.44
9	-6.72	-6.98	-5.99	-6.25	-6.33	-6.61	-5.31	-5.56	-6.52	-6.85	-6.24	-6.50
10	-6.75	-7.01	-5.84	-6.16	-5.83	-6.45	-5.17	-5.49	-6.40	-6.64	-6.07	-6.50
11	-6.64	-7.01	-5.72	-6.00	-5.66	-6.07	-5.21	-5.42	-6.43	-6.65	-5.96	-6.28
12	-6.59	-6.92	-5.55	-6.01	-6.07	-6.42	-5.25	-5.46	-6.18	-6.65	-6.11	-6.30
13	-6.39	-6.67	-5.47	-5.92	-6.22	-6.46	-5.08	-5.40	-6.04	-6.27	-5.34	-6.24
14	-6.32	-6.65	-5.82	-6.06	-6.14	-6.33	-5.17	-5.36	-6.17	-6.69	-5.33	-6.37
15	-6.29	-6.56	-5.83	-6.01	-6.08	-6.25	-5.09	-5.39	-6.41	-6.86	-6.37	-6.60
16	-6.18	-6.46	-5.79	-6.06	-6.13	-6.34	-5.00	-5.21	-6.05	-6.42	-6.07	-6.38
17	-6.26	-6.76	-5.62	-5.87	-6.17	-6.44	-4.90	-5.19	-6.16	-6.68	-5.89	-6.16
18	-6.18	-6.56	-5.62	-6.00	-6.25	-6.61	-5.00	-5.40	-6.51	-6.94	-6.07	-6.53
19	-6.18	-6.57	-5.82	-6.03	-6.31	-6.59	-5.30	-5.51	-6.80	-7.04	-5.99	-6.35
20	-6.15	-6.62	-5.92	-6.10	-6.08	-6.36	-5.27	-5.53	-6.39	-6.80	-5.76	-6.01
21	-6.08	-6.44	-5.65	-5.97	-6.29	-6.56	-5.27	-5.54	-6.21	-6.63	-5.73	-6.02
22	-6.42	-6.68	-5.52	-5.83	-6.08	-6.32	-4.95	-5.34	-6.18	-6.51	-5.84	-6.05
23	-6.31	-6.59	-5.46	-5.76	-5.96	-6.24	-5.20	-5.53	-6.36	-6.67	-5.71	-6.03
24	-6.04	-6.43	-5.53	-5.87	-6.01	-6.61	-5.24	-5.53	-6.67	-7.12	-5.50	-5.85
25	-6.30	-6.65	-5.26	-5.63	-5.96	-6.61	-5.53	-6.01	-6.97	-7.18	-5.62	-5.86
26	-6.20	-6.64	-5.24	-5.48	-6.08	-6.49	---	---	-6.80	-7.04	-5.52	-5.81
27	-6.29	-6.59	-5.45	-5.66	-6.20	-6.53	-5.88	-6.01	-6.83	-6.97	-5.50	-5.81
28	-6.29	-6.61	-5.48	-5.66	-5.95	-6.27	-5.74	-6.05	-6.71	-6.95	-5.36	-5.58
29	-6.30	-6.53	-5.52	-5.64	-5.83	-6.11	-5.80	-6.52	---	---	-5.31	-5.54
30	-6.35	-6.57	-5.48	-5.66	-5.67	-5.91	-6.24	-6.59	---	---	-5.24	-5.42
31	-6.33	-6.52	---	---	-5.56	-5.80	-6.21	-6.40	---	---	-5.13	-5.44
MONTH	-6.04	-7.44	-5.24	-6.45	-5.49	-6.86	-4.90	-6.59	-6.04	-7.18	-5.13	-6.96

GROUND-WATER LEVELS  
MARYLAND--Continued  
ANNE ARUNDEL COUNTY--Continued  
AA Df 79--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	-4.96	-5.18	-6.46	-6.70	-5.78	-6.35	-9.56	-9.99	-12.14	-12.35	-13.05	-13.27
2	-5.04	-5.22	-6.37	-6.62	-6.05	-6.24	-9.57	-9.88	-12.08	-12.39	-13.11	-13.37
3	-5.11	-5.52	-6.33	-6.55	-5.87	-6.20	-9.49	-9.90	-12.29	-12.69	-13.13	-13.35
4	-5.33	-5.55	-6.20	-6.46	-5.91	-6.24	-9.59	-9.90	-12.50	-12.91	-13.24	-13.60
5	-5.23	-5.47	-5.99	-6.31	-5.86	-6.24	-9.58	-9.89	-12.77	-13.01	-13.37	-13.64
6	-5.14	-5.38	-5.91	-6.26	-6.03	-6.29	-9.40	-9.79	-12.61	-13.04	-13.21	-13.46
7	-5.15	-5.40	-5.97	-6.26	-5.98	-6.29	-9.53	-10.02	-12.61	-12.98	-13.12	-13.31
8	-5.05	-5.36	-5.97	-6.25	-5.88	-6.14	-9.81	-10.01	-12.49	-12.70	-13.21	-13.47
9	-4.98	-5.28	-5.83	-6.12	-5.88	-6.07	-9.86	-10.05	-12.37	-12.62	-13.08	-13.39
10	-4.80	-5.18	-5.89	-6.10	-5.98	-6.19	-9.96	-10.18	-12.14	-12.45	-13.07	-13.35
11	-4.97	-5.15	-5.78	-6.10	-6.07	-6.33	-10.07	-10.36	-12.01	-12.23	-13.29	-13.58
12	-4.72	-5.01	-5.78	-6.02	-6.22	-6.36	-10.16	-10.46	-11.72	-12.10	-12.97	-13.30
13	-4.87	-5.08	-5.71	-5.96	-6.21	-6.36	-10.41	-10.92	-11.68	-11.86	-12.89	-13.07
14	-4.78	-4.97	-5.87	-6.04	-6.22	-6.46	-10.78	-11.30	-11.66	-11.86	-12.82	-13.05
15	-4.78	-5.00	-5.84	-5.98	-6.18	-6.49	-11.12	-11.64	-11.49	-11.82	-12.75	-13.11
16	-4.78	-4.98	-5.81	-6.18	-6.33	-6.87	-11.37	-11.55	-11.48	-11.80	-12.96	-13.33
17	-4.80	-5.60	-5.96	-6.23	-6.70	-7.09	-11.22	-11.62	-11.55	-12.02	-12.94	-13.33
18	-5.40	-5.65	-5.94	-6.20	-6.91	-7.32	-11.30	-11.58	-11.82	-12.20	-12.83	-13.12
19	-5.44	-5.70	-5.92	-6.13	-7.10	-7.56	-11.04	-11.42	-11.86	-12.18	-12.82	-13.11
20	-5.53	-5.87	-5.84	-6.20	-7.31	-7.64	-11.07	-11.48	-11.90	-12.19	-12.63	-12.99
21	-5.68	-6.09	-5.96	-6.20	-7.37	-7.67	-11.20	-11.49	-12.17	-12.60	-12.46	-12.69
22	-5.90	-6.47	-5.96	-6.28	-7.52	-7.94	-11.28	-11.52	-12.11	-12.50	-12.46	-12.73
23	-6.27	-6.68	-6.04	-6.29	-7.90	-8.16	-11.40	-11.63	-12.25	-12.53	-12.23	-12.53
24	-6.45	-6.69	-5.81	-6.14	-8.05	-8.33	-11.41	-11.64	-12.29	-12.60	-12.23	-12.68
25	-6.39	-6.67	-5.91	-6.15	-8.19	-8.42	-11.39	-11.64	-12.41	-12.85	-12.09	-12.38
26	-6.49	-6.89	-6.09	-6.29	-8.21	-8.46	-11.17	-11.54	-12.68	-12.99	-11.89	-12.12
27	-6.88	-7.31	-6.10	-6.28	-8.30	-8.86	-11.16	-11.63	-12.77	-13.00	-11.71	-12.07
28	-6.58	-6.88	-6.06	-6.25	-8.53	-8.88	-11.48	-11.93	-12.78	-13.12	-11.96	-12.15
29	-6.56	-6.78	-6.07	-6.46	-8.76	-9.31	-11.60	-12.01	-12.93	-13.32	-11.86	-12.35
30	-6.60	-6.81	-6.12	-6.39	-9.15	-9.79	-11.77	-12.23	-12.98	-13.24	-11.93	-12.15
31	---	---	-5.86	-6.14	---	---	-12.02	-12.38	-12.99	-13.25	---	---
MONTH	-4.72	-7.31	-5.71	-6.70	-5.78	-9.79	-9.40	-12.38	-11.48	-13.32	-11.71	-13.64
YEAR	-4.72	-13.64										

Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993



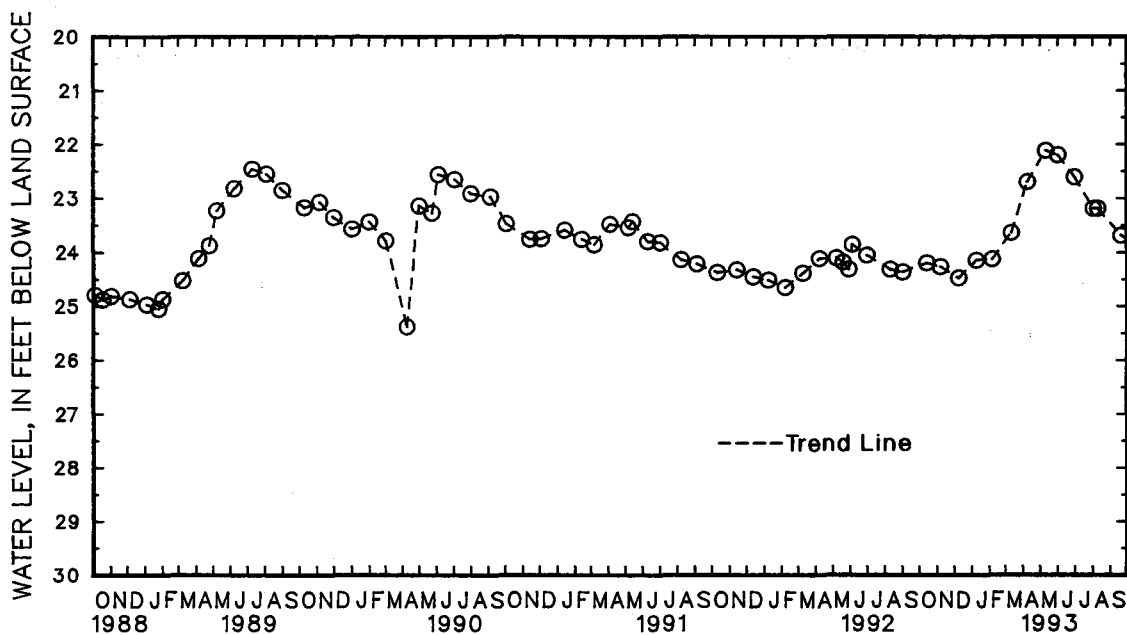
GROUND-WATER LEVELS  
MARYLAND--Continued  
ANNE ARUNDEL COUNTY--Continued

WELL NUMBER.--AA Df 103. SITE ID.--385623076274401. PERMIT NUMBER.--AA-73-3315.  
LOCATION.--Lat 38°56'23", long 76°27'44", Hydrologic Unit 02060004, off West Lake Dr, 900 ft north of intersection with Farragut Rd.  
Owner: Mildred Hudson.  
AQUIFER.--Aquia Formation of Upper Paleocene age. Aquifer code: 125AQUI.  
WELL CHARACTERISTICS.--Drilled, unused, artesian well, depth 46 ft; casing diameter 4 in., to 39 ft; screen diameter 2 in. from 39 to 46 ft.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
DATUM.--Elevation of land surface is 22 ft above National Geodetic Vertical Datum of 1929.  
Measuring Point: Top of casing, 2.57 ft above land surface.  
REMARKS.--Maryland Water-Level Network observation well.  
PERIOD OF RECORD.--May 1987, January 1988 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 22.12 ft below land surface, May 11, 1993; lowest measured, 25.39 ft below land surface, April 9, 1990.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 13	24.20	DEC 8	24.48	FEB 5	24.12	APR 9	22.70	JUN 1	22.20	AUG 2	23.19
NOV 6	24.27	JAN 8	24.15	MAR 12	23.64	MAY 11	22.12	JUN 30	22.61	AUG 10	23.19
									SEP 20	23.69	

WATER YEAR 1993      HIGHEST    22.12    MAY 11, 1993      LOWEST    24.48    DEC 8, 1992



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993



## GROUND-WATER LEVELS

**MARYLAND--Continued**

ANNE ARUNDEL COUNTY--Continued

WELL NUMBER.--AA Fd 43. SITE ID.--384646076352401. PERMIT NUMBER.--AA-74-1004.

LOCATION.--Lat 38°46'46", long. 76°35'24", Hydrologic Unit 02060004 at Tracys Landing Regional Park, 0.2 mi east of Tracys Landing.

**Owner: U.S. Geological Survey.**

**AQUIFER.--**Aquia Formation of Upper Paleocene age. Aquifer code: 125AQUI.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 280 ft, casing diameter 4 in., to 231 ft; casing diameter 2 in. from 231 to 270 ft; screen diameter 2 in. from 270 to 280 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

**DATUM.**--Elevation of land surface is 140 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of coupling, 0.94 ft above land surface.

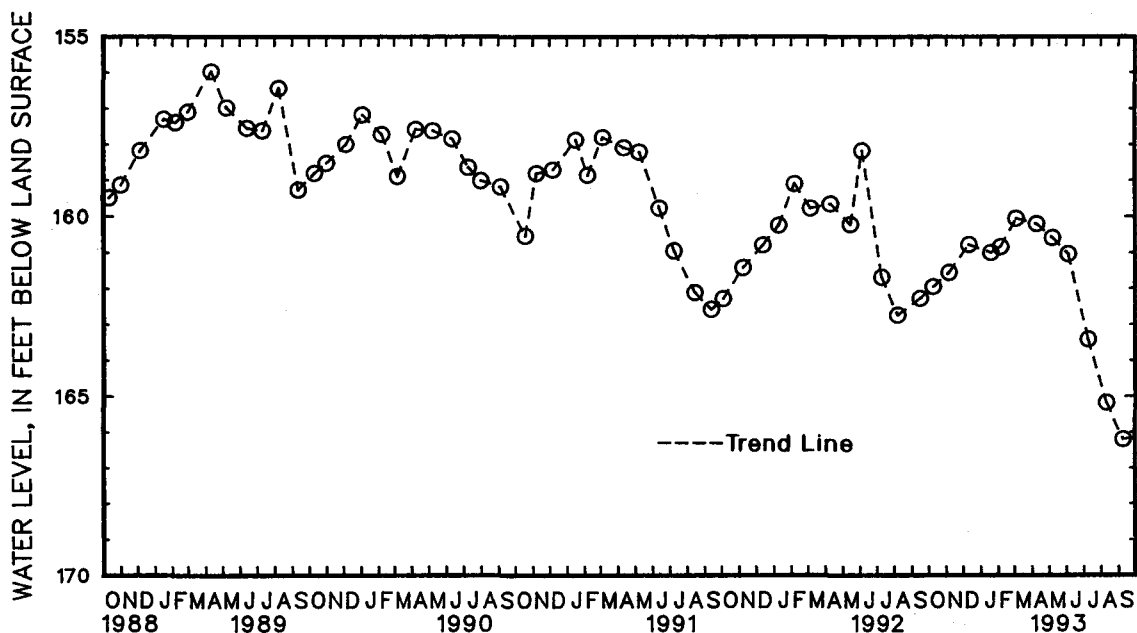
REMARKS.--Maryland Water-Level Network observation well.

PERIOD OF RECORD.--August 1979 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 143.90 ft below land surface, May 6, 1980; lowest measured, 166.21 ft below land surface, Sept. 9, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE		WATER LEVEL		DATE		WATER LEVEL		DATE		WATER LEVEL		DATE		WATER LEVEL								
OCT	9	161.96		DEC	11	160.79		FEB	5	160.85		APR	9	160.21		JUN	4	161.05		AUG	10	165.19
NOV	6	161.56		JAN	19	160.01		MAR	4	160.06		MAY	7	160.60		JUL	9	163.43		SEP	9	166.21
WATER YEAR 1993				HIGHEST		160.06		MAR 4, 1993				LOWEST		166.21		SEP 9, 1993						



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

## BALTIMORE CITY

WELL NUMBER.--2S5E- 1. SITE ID.--391617076322001.

LOCATION.--Lat 39°16'17", long 76°32'20", Hydrologic Unit 02060003, near Holabird Ave. and Pumphrey St. at Holabird Industrial Park.

Owner: City of Baltimore.

AQUIFER.--Patuxent Formation of Lower Cretaceous age. Aquifer code: 217PTXN.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 290 ft; casing diameter 14(?) in. to unknown depth.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 30 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: lip of discharge pipe, 2.0 ft above land surface from April 1943 to April 1966;

top of casing extension, 1.8 ft above land surface from April 1966 to current year.

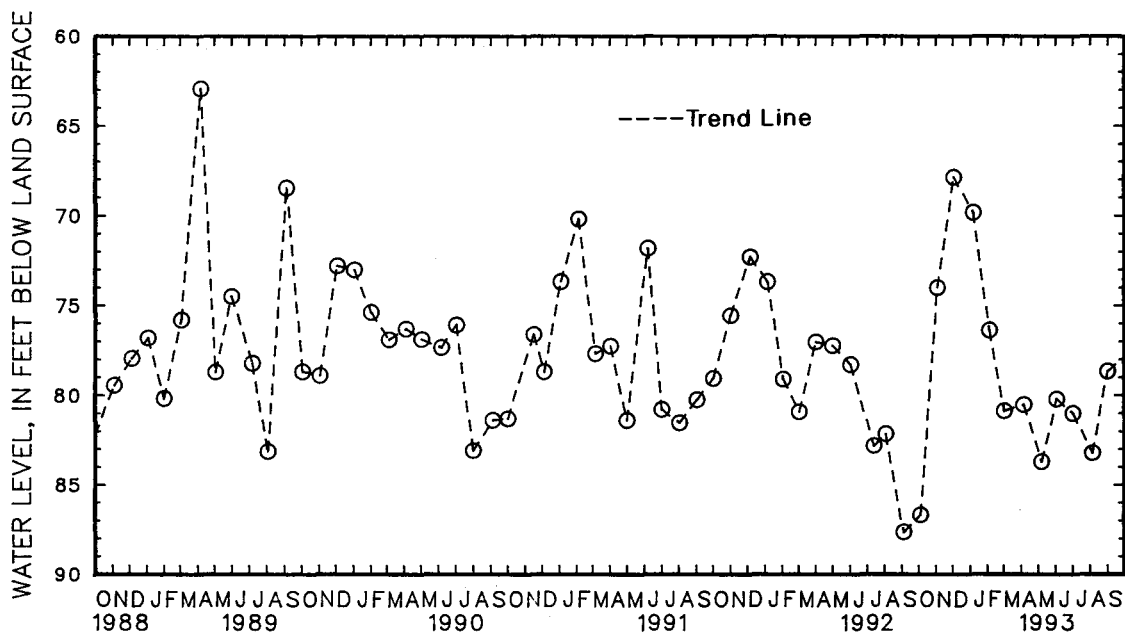
REMARKS.--Maryland Water-Level Network observation well. Water level reported 58 ft below land surface in 1934.

PERIOD OF RECORD.--April 1943 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 43.15 ft below land surface, Sept. 27, 1976; lowest measured, 103.70 ft below land surface, Oct. 15, 1948.

## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 5	86.68	DEC 3	67.86	FEB 4	76.40	APR 6	80.54	JUN 3	80.22	AUG 5	83.24
NOV 4	73.98	JAN 6	69.83	MAR 3	80.89	MAY 7	83.73	JUL 2	81.02	SEP 1	78.67
WATER YEAR 1993		HIGHEST	67.86	DEC 3, 1992	LOWEST	86.68	OCT 5, 1992				



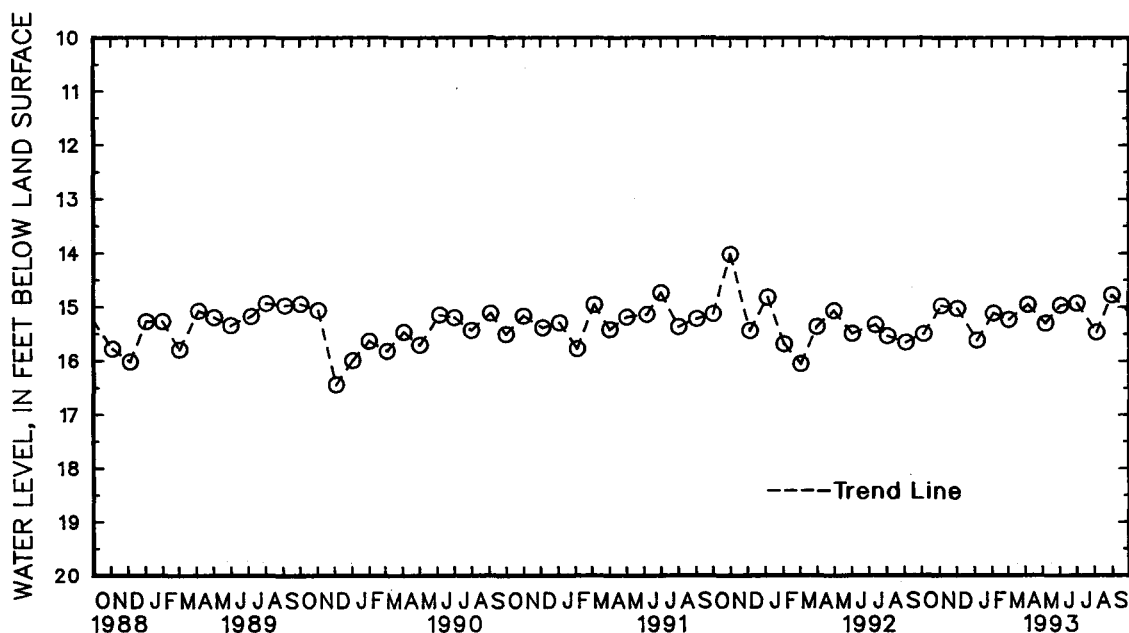
5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
BALTIMORE CITY--Continued

WELL NUMBER.--3S2E- 5. SITE ID.--391600076353301. PERMIT NUMBER.--BC-81-0087.  
LOCATION.--Lat 39°16'00", long 76°35'33", Hydrologic Unit 02060003, at Latrobe Park.  
Owner: U.S. Geological Survey.  
AQUIFER.--Patuxent Formation of Lower Cretaceous age. Aquifer code: 217PTXN.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 136 ft; casing diameter 4 in., to 126 ft; screen diameter 3 in. from 126 to 136 ft.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
DATUM.--Elevation of land surface is 15 ft. above National Geodetic Vertical Datum of 1929, from topographic map.  
Measuring Point: Top of casing, 0.6 ft above land surface.  
REMARKS.--Maryland Water-Level Network observation well.  
PERIOD OF RECORD.--January 1983 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 13.94 ft below land surface, Nov. 5, 1985; lowest measured, 17.71 ft below land surface, Dec. 30, 1983.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 5	15.50	DEC 3	15.03	FEB 4	15.12	APR 6	14.96	JUN 3	14.97	AUG 5	15.47
NOV 5	14.98	JAN 6	15.62	MAR 3	15.24	MAY 7	15.30	JUL 2	14.93	SEP 1	14.78
WATER YEAR 1993		HIGHEST	14.78	SEP 1, 1993	LOWEST	15.62	JAN 6, 1993				



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

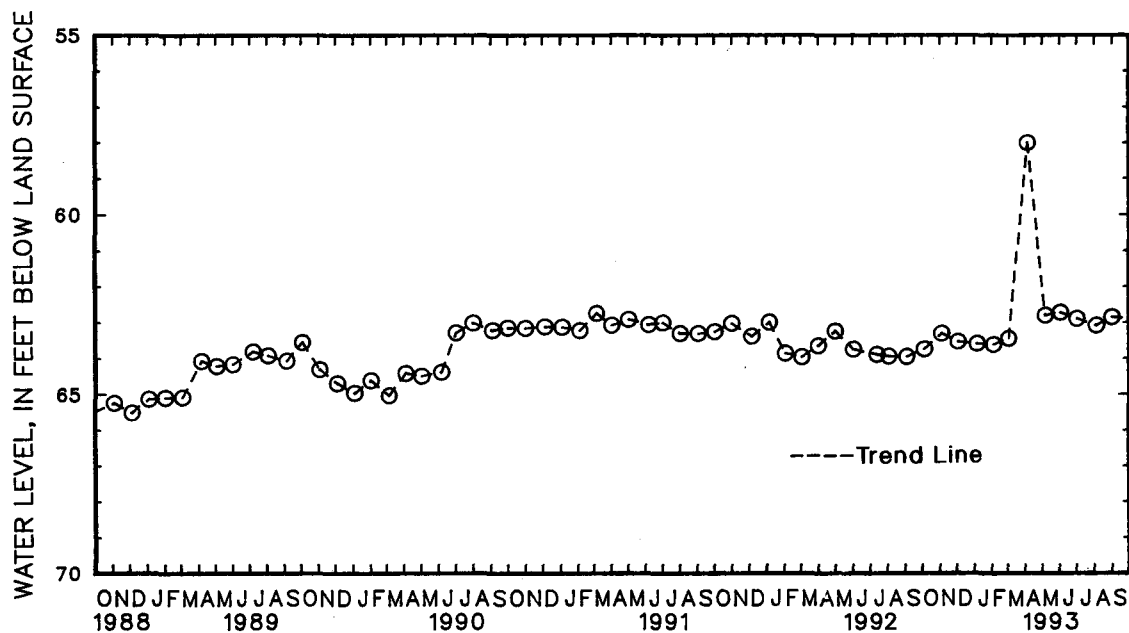
5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
BALTIMORE CITY--Continued

WELL NUMBER.--5S2E- 24. SITE ID.--391349076354501. PERMIT NUMBER.--BC-81-0089.  
LOCATION.--Lat 39°13'49", long 76°35'45", Hydrologic Unit 02060003, at Farrington Park.  
Owner: U.S. Geological Survey.  
AQUIFER.--Patuxent Formation of Lower Cretaceous age. Aquifer code: 217PTXN.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 272 ft; casing diameter 4 in., to 262 ft; screen diameter 3 in. from 262 ft to 272 ft.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
DATUM.--Elevation of land surface is 75 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
Measuring point: Top of casing, 0.35 ft above land surface.  
REMARKS.--Maryland Water-Level Network observation well.  
PERIOD OF RECORD.--January 1983 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 58.00 ft below land surface, April 6, 1993; lowest measured, 66.36 ft below land surface, May 5, 1983.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 5	63.75	DEC 3	63.54	FEB 4	63.64	APR 6	58.00	JUN 3	62.74	AUG 5	63.10
NOV 4	63.31	JAN 6	63.60	MAR 3	63.47	MAY 7	62.82	JUL 2	62.91	SEP 1	62.87
WATER YEAR 1993		HIGHEST 58.00		APR 6, 1993		LOWEST 63.75		OCT 5, 1992			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

## BALTIMORE COUNTY

WELL NUMBER.--BA Cd 26. SITE ID.--393129076384201. PERMIT NUMBER.--BA-02-8527.

LOCATION.--Lat 39°31'29", long 76°38'42", Hydrologic Unit, 02060003, 1.4 mi south of Sparks, nr York Rd.

Owner: Discraft Division, Lieca Inc.

AQUIFER.--Baltimore Gneiss of Precambrian age. Aquifer code: 400BLMR.

WELL CHARACTERISTICS.--Drilled, unused, water-table well, depth 250 ft; casing diameter 6 in., to 19 ft; open hole.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 480 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of casing, 0.30 ft above land surface.

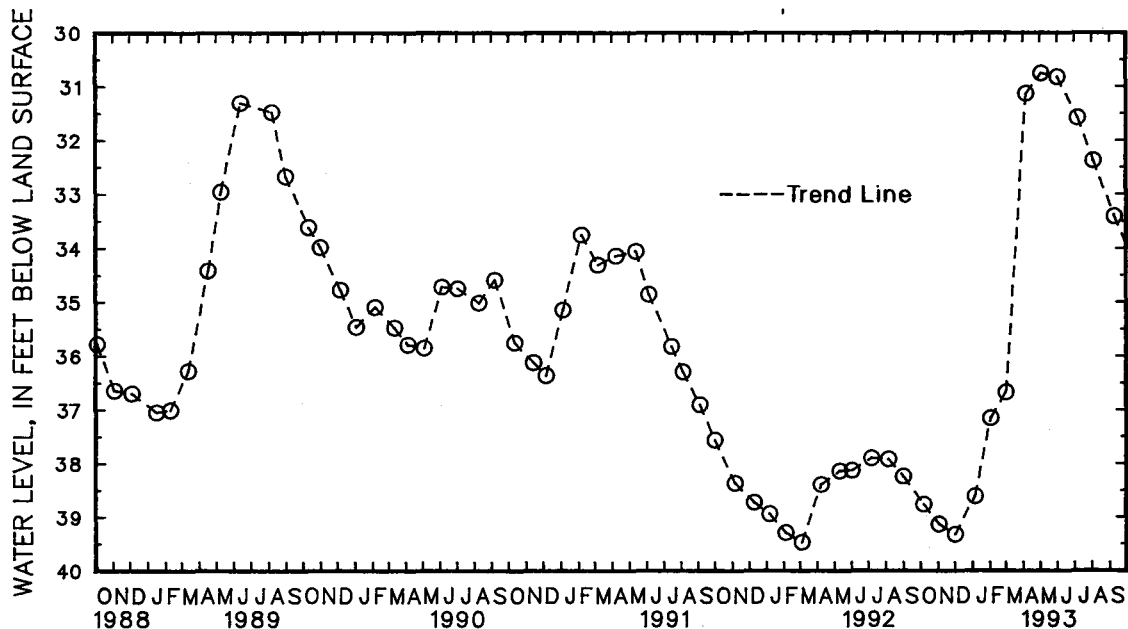
REMARKS.--Maryland Water-Level Network observation well.

PERIOD OF RECORD.--January 1959 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 26.42 ft below land surface, Sept. 9, 1975; lowest measured, 80.20 ft below land surface, Dec. 23, 1969.

## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 7	38.76	DEC 1	39.32	FEB 2	37.15	APR 6	31.13	JUN 2	30.82	AUG 4	32.38
NOV 2	39.13	JAN 6	38.61	MAR 2	36.67	MAY 4	30.75	JUL 7	31.58	SEP 9	33.42
WATER YEAR 1993		HIGHEST	30.75	MAY 4, 1993	LOWEST	39.32	DEC 1, 1992				



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993



## GROUND-WATER LEVELS

MARYLAND--Continued

BALTIMORE COUNTY--Continued

WELL NUMBER.--BA Co. 21. SITE ID.--393102076341801. PERMIT NUMBER.--BA-02-1266.

LOCATION.--Lat 39°31'02", long 76°34'18", Hydrologic Unit 02060003, on Paper Mill Rd., 0.6 mi west of Jacksonville.

Owner: Baltimore County.

AQUIFER.--Loch Raven Schist of Paleozoic Age. Aquifer code: 300LCRV.

WELL CHARACTERISTICS.--Drilled, unused, water-table well, depth 350 ft; casing diameter 10 in., to 12.4 ft; casing diameter 6 in., to 33.1 ft; open hole.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 536 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of casing, 2.0 ft above land surface.

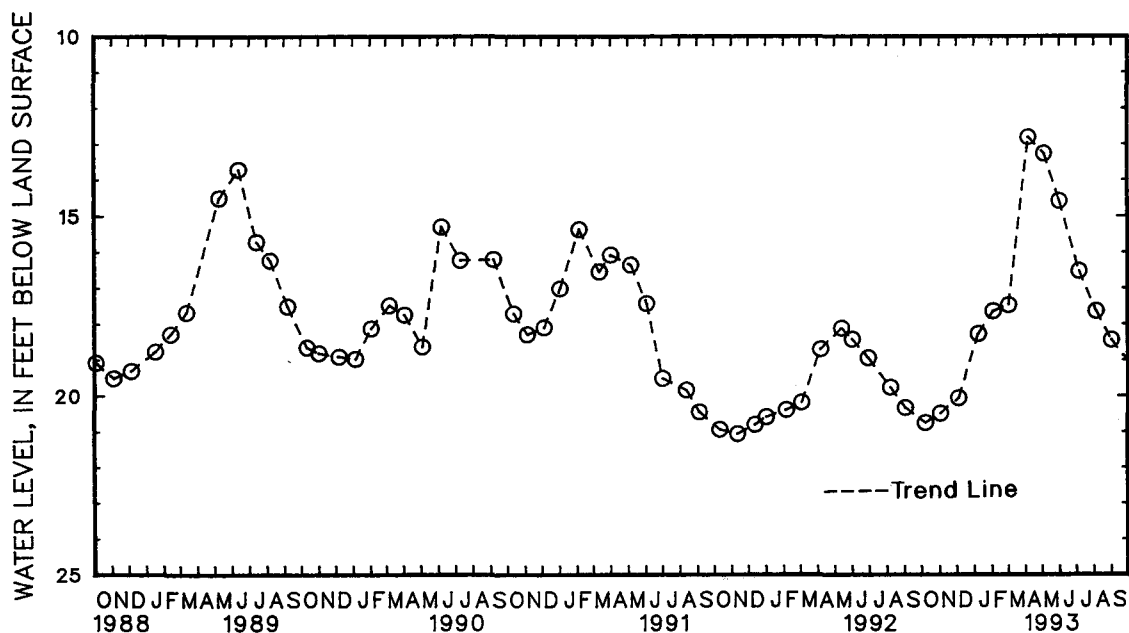
REMARKS.--Maryland Water-Level Network observation well.

PERIOD OF RECORD.--November and December 1955, November 1956 through September 1975, July 1977 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 12.60 ft below land surface, June 23, 1972; lowest measured, 21.54 ft below land surface, Feb. 10, 1966.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 8	20.76	DEC 4	20.07	FEB 3	17.65	APR 7	12.81	JUN 1	14.59	AUG 5	17.66
NOV 3	20.50	JAN 8	18.28	MAR 2	17.48	MAY 5	13.27	JUL 6	16.54	SEP 1	18.46
WATER YEAR 1993		HIGHEST	12.81	APR 7, 1993	LOWEST	20.76	OCT 8, 1992				



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

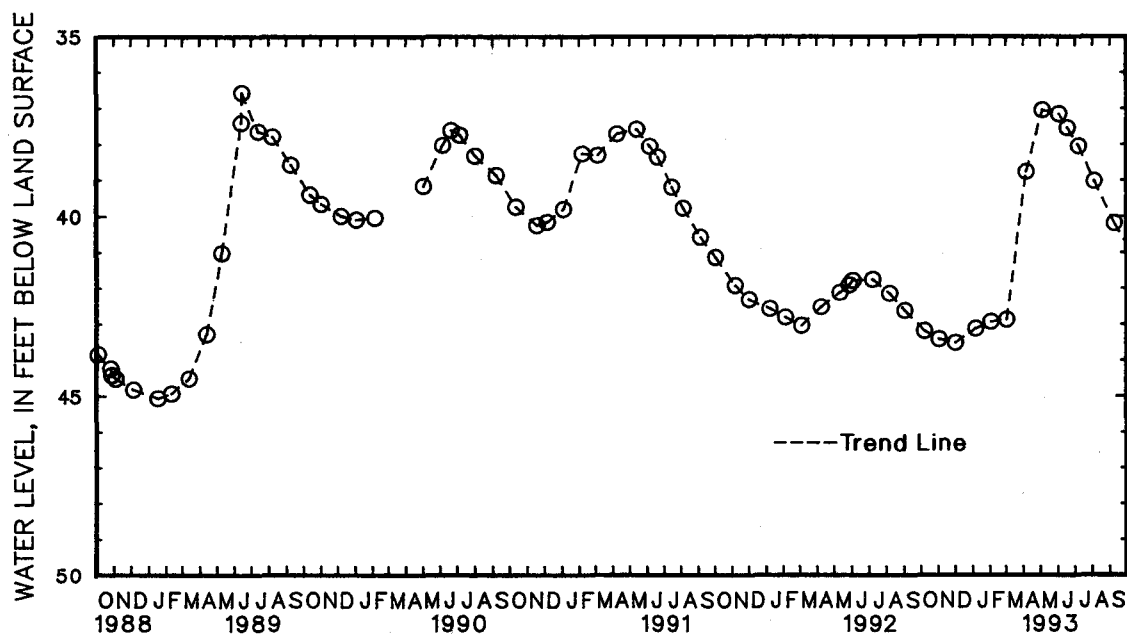
BALTIMORE COUNTY--Continued

WELL NUMBER.--BA Dc 444. SITE ID.--392931076410301. PERMIT NUMBER.--BA-81-4198.  
 LOCATION.--Lat 39°29'31", long 76°41'03", Hydrologic Unit 02060003, at Oregon Ridge Park.  
 Owner: Baltimore County Parks and Recreation.  
 AQUIFER.--Cockeysville Marble of Paleozoic age. Aquifer code: 300CCKV.  
 WELL CHARACTERISTICS.--Drilled, unused, water-table well, depth 300 ft; casing diameter 6 in., to 88 ft; open hole.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 DATUM.--Elevation of land surface is 390 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
 Measuring Point: Top of casing, 1.11 ft above land surface.  
 REMARKS.--Maryland Water-Level Network observation well.  
 PERIOD OF RECORD.--September 1988 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 36.56 ft below land surface, June 14, 1989; lowest measured, 45.07 ft below land surface, Jan. 17, 1989.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 7	43.20	DEC 1	43.53	FEB 2	42.94	APR 6	38.76	JUN 2	37.15	JUL 7	38.05
NOV 2	43.43	JAN 6	43.13	MAR 2	42.88	MAY 4	37.04	JUN 17	37.54	AUG 4	39.03
										SEP 9	40.20

WATER YEAR 1993      HIGHEST    37.04    MAY 4, 1993      LOWEST    43.53    DEC 1, 1992



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
BALTIMORE COUNTY--Continued

WELL NUMBER.--BA Ea 18. SITE ID.--392045076512501. PERMIT NUMBER.--BA-01-8151.

LOCATION.--Lat 39°20'45", long 76°51'25", Hydrologic Unit 02060003, at Granite.

Owner: Maryland National Guard (U.S. Army).

AQUIFER.--Woodstock Granite of Paleozoic age. Aquifer code: 300WDCK.

WELL CHARACTERISTICS.--Drilled, unused, water-table well, depth 250 ft; casing diameter 10 in., to 50.7 ft; casing diameter 6 in. with depth to 71.3 ft; open hole.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 491 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of casing, 1.5 ft above land surface.

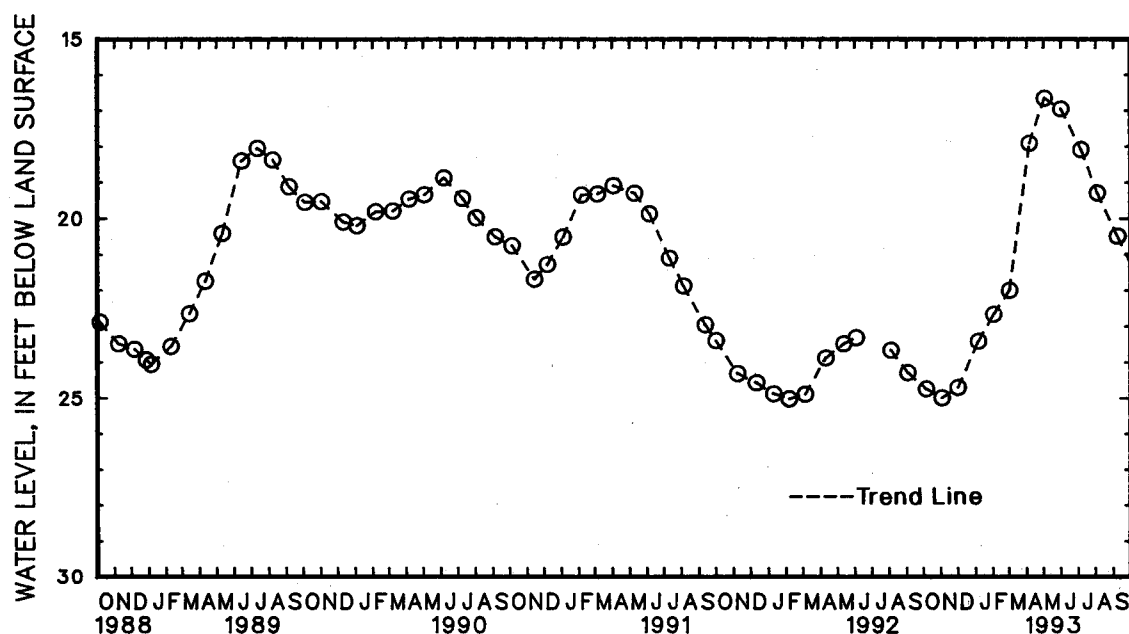
REMARKS.--Maryland Water-Level Network observation well.

PERIOD OF RECORD.-- November 1956 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 13.94 ft below land surface, June 24, 1972; lowest measured, 27.57 ft below land surface, Sept. 13, 1966.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 6	24.75	DEC 1	24.71	FEB 2	22.67	APR 6	17.91	JUN 1	16.95	AUG 4	19.30
NOV 3	25.00	JAN 6	23.42	MAR 2	22.00	MAY 3	16.65	JUL 6	18.09	SEP 8	20.50
WATER YEAR 1993		HIGHEST	16.65	MAY 3, 1993	LOWEST	25.00	NOV 3, 1992				



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993



## GROUND-WATER LEVELS

MARYLAND--Continued

BALTIMORE COUNTY--Continued

**WELL NUMBER.--BA Fe 19. SITE ID.--391607076312901.**

LOCATION: --Lat 39°16'07", long 76°31'29". Hydrologic Unit 02060003, 0.2 mi east of Willow Spring Rd., at Seagrams warehouse facility, Dundalk.

Owner: Seagrams Distillery.

**AQUIFER.--**Patuxent Formation of Lower Cretaceous age. Aquifer code: 217PTXN.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, depth 402 ft; casing diameter 8 in., to unknown depth; screen length 35 ft.

**INSTRUMENTATION.**--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 30 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of casing, 0.5 ft above land surface.

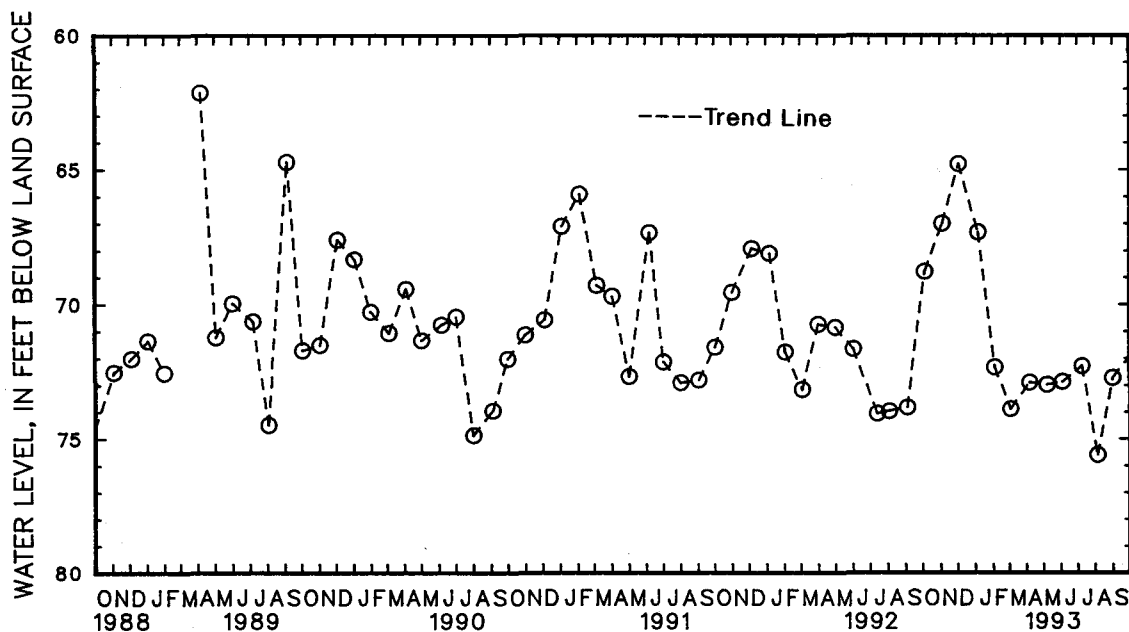
REMARKS.--Maryland Water-Level Network observation well.

**PERIOD OF RECORD.**--January 1952 to March 1954, January 1983 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 57.34 ft below land surface, Jan. 3, 1983;  
lowest measured, 95.88 ft below land surface, Oct. 6, 1952.

WATER LEVEL, IN FEET BELOW LAND SURFACE WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE		WATER LEVEL		DATE		WATER LEVEL		DATE		WATER LEVEL		DATE		WATER LEVEL			
OCT	5	68.78	DEC	3	64.79	FEB	4	72.35	APR	6	72.91	JUN	3	72.88	AUG	5	75.61
NOV	4	66.99	JAN	6	67.32	MAR	3	73.90	MAY	7	72.99	JUL	9	72.30	SEP	1	72.73
WATER YEAR 1993			HIGHEST			64.79			DEC 3, 1992			LOWEST			75.61		
									AUG 5, 1993								



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

BALTIMORE COUNTY--Continued

WELL NUMBER.--BA Gf 11. SITE ID.--391356076293501.

LOCATION.--Lat 39°13'56", long 76°29'35", Hydrologic Unit 02060003, nr Tin Mill Rd., Sparrows Point.

Owner: Bethlehem Steel Co.

AQUIFER.-- Patuxent Formation of Lower Cretaceous age. Aquifer code: 217PTXN.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, depth 645 ft; casing diameter 14 in., to 422.7 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 13.6 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of casing 2.55 ft above land surface.

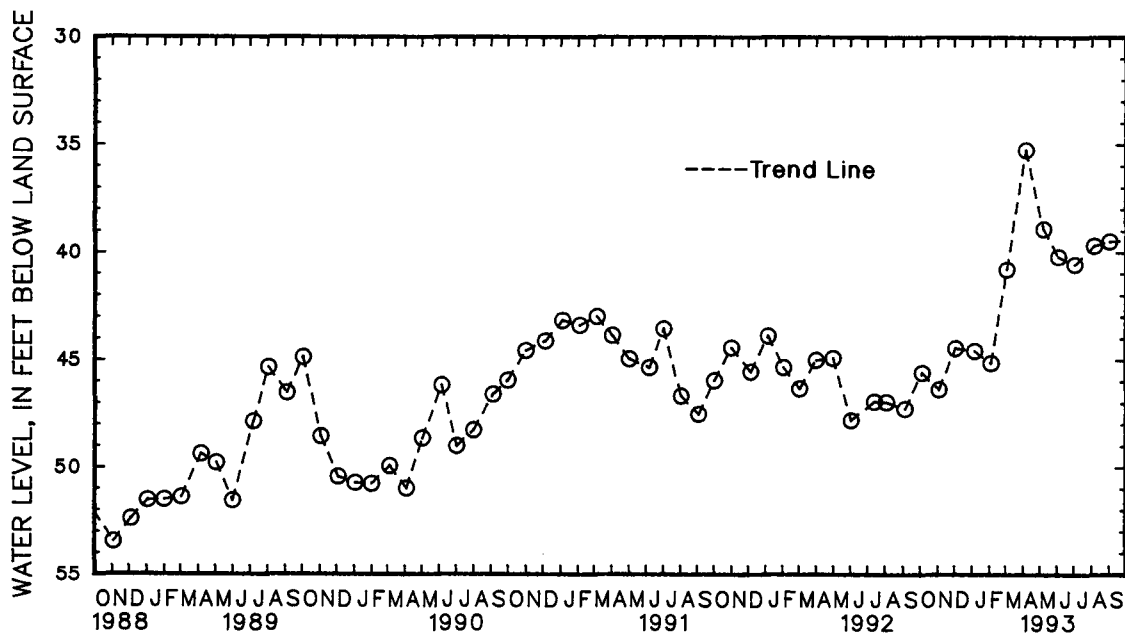
REMARKS.--Maryland Water-Level Network observation well.

PERIOD OF RECORD.--September 1981, March 1982, September 1982, January 1983 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 31.25 ft below land surface, June 3, 1983;  
lowest measured, 53.47 ft below land surface, Nov. 4, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 5	45.59	DEC 3	44.45	FEB 4	45.14	APR 6	35.25	JUN 3	40.21	AUG 5	39.70
NOV 4	46.37	JAN 6	44.58	MAR 3	40.79	MAY 7	38.92	JUL 2	40.58	SEP 1	39.49
WATER YEAR 1993		HIGHEST	35.25	APR 6, 1993		LOWEST	46.37	NOV 4, 1992			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
BALTIMORE COUNTY--Continued

WELL NUMBER.--BA Gf 168. SITE ID.--391257076282501.

LOCATION.--Lat 39°12'57", long 76°28'25", Hydrologic Unit 02060003, at Sparrows Point.

Owner: Bethlehem Steel Co.

AQUIFER.--Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSC.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, depth 304 ft; casing diameter 10 to 6 in., to 283 ft; screened from 283 to 304 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 10 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of casing, 0.60 ft above land surface.

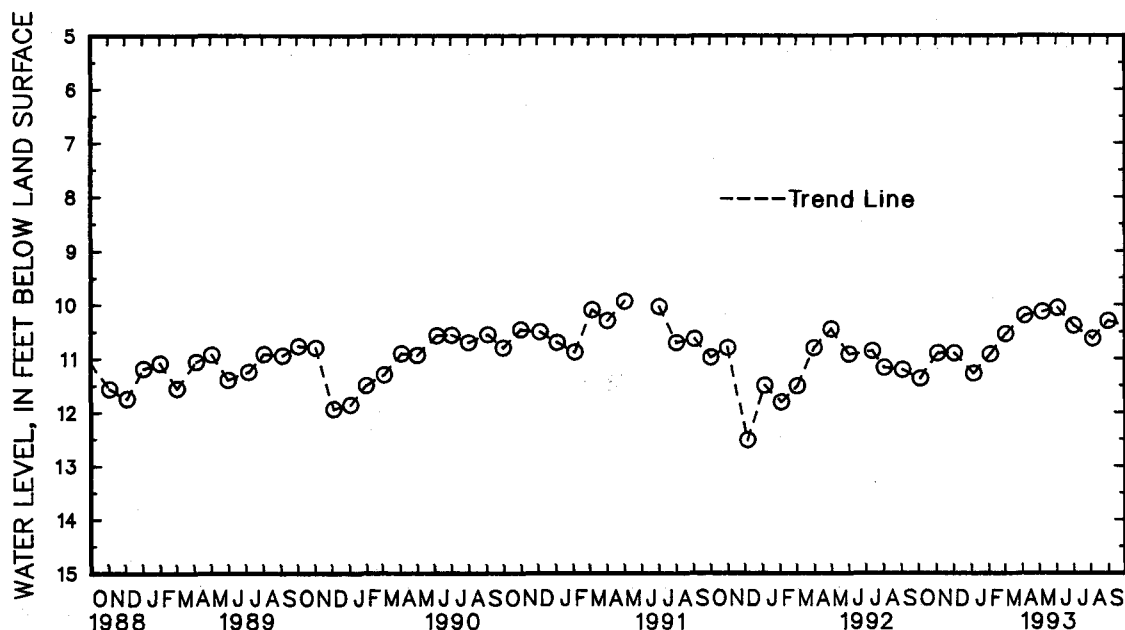
REMARKS.--Maryland Water-Level Network observation well.

PERIOD OF RECORD.--September 1943 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.01 ft below land surface, July 6, 1983;  
lowest measured, 109.54 ft below land surface, July 18, 1955.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 5	11.37	DEC 3	10.90	FEB 4	10.92	APR 6	10.20	JUN 3	10.06	AUG 5	10.63
NOV 4	10.90	JAN 6	11.28	MAR 3	10.54	MAY 7	10.13	JUL 2	10.39	SEP 1	10.30
WATER YEAR 1993		HIGHEST	10.06	JUN 3, 1993	LOWEST	11.37	OCT 5, 1992				



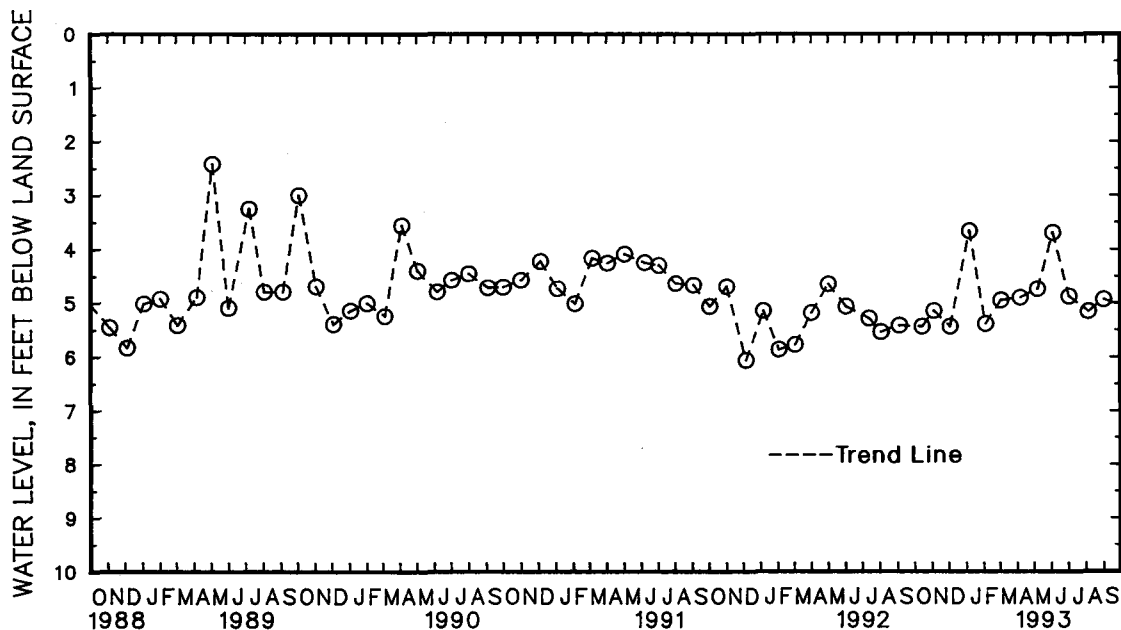
5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
BALTIMORE COUNTY--Continued

WELL NUMBER.--BA Gf 178. SITE ID.--391226076253401.  
LOCATION.--Lat 39°12'26", long 76°25'34", Hydrologic Unit 02060003, at North Point State Park.  
Owner: Maryland Department of Natural Resources.  
AQUIFER.--Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSC.  
WELL CHARACTERISTICS.--Drilled, unused, artesian well, depth 339.5 ft; casing diameter 8 in. to unknown depth; screen at unknown depth.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
DATUM.--Elevation of land surface is 6 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
Measuring point: Top of casing, 1.00 ft above land surface.  
REMARKS.--Maryland Water-Level Network observation well.  
PERIOD OF RECORD.--October 1945 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.32 ft below land surface, April 6, 1984;  
lowest measured, 61.97 ft below land surface, Dec. 2, 1957.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 14	5.44	DEC 3	5.44	FEB 4	5.39	APR 6	4.90	JUN 3	3.69	AUG 5	5.16
NOV 4	5.15	JAN 6	3.66	MAR 3	4.95	MAY 7	4.74	JUL 2	4.88	SEP 1	4.94
WATER YEAR 1993		HIGHEST	3.66	JAN 6, 1993		LOWEST	5.44	OCT 14, 1992		DEC 3, 1992	



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993



## GROUND-WATER LEVELS

MARYLAND--Continued

**CALVERT COUNTY**

WELL NUMBER.--CA Bb 27. SITE ID.--384333076394701. PERMIT NUMBER.--CA-73-3303.

LOCATION.--Lat 38°43'33", long 76°39'47", Hydrologic Unit 02060006, at Dunkirk Regional Park, Dunkirk.

Owner: U.S. Geological Survey.

AQUIFER.--Aquia Formation of Upper Paleocene age. Aquifer code: 125AQUI.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 320 ft; casing diameter 4 in., to 250 ft; casing diameter 2 in. from 250 to 310 ft; screen diameter 2 in. from 310 to 320 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 138.40 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of casing, 1.80 ft above land surface.

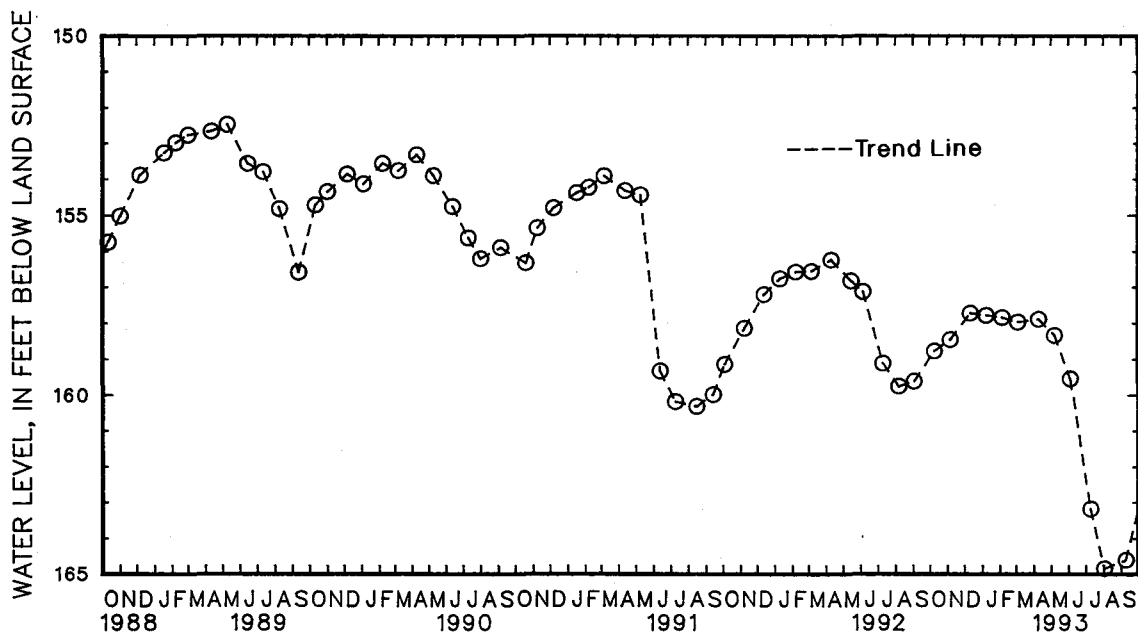
REMARKS.--Maryland Water-Level Network observation well.

PERIOD OF RECORD.--August 1979 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 133.82 ft below land surface, May 6, 1980; lowest measured, 164.84 ft below land surface, Aug. 2, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE			WATER LEVEL			DATE			WATER LEVEL			DATE			WATER LEVEL			DATE			WATER LEVEL		
OCT	9	158.78	DEC	11	157.72	FEB	5	157.84	APR	9	157.89	JUN	4	159.55	AUG	2	164.84						
NOV	6	158.46	JAN	8	157.78	MAR	4	157.97	MAY	7	158.34	JUL	9	163.18	SEP	9	164.60						
WATER YEAR 1993			HIGHEST 157.72			DEC 11, 1992			LOWEST 164.84			AUG 2, 1993											



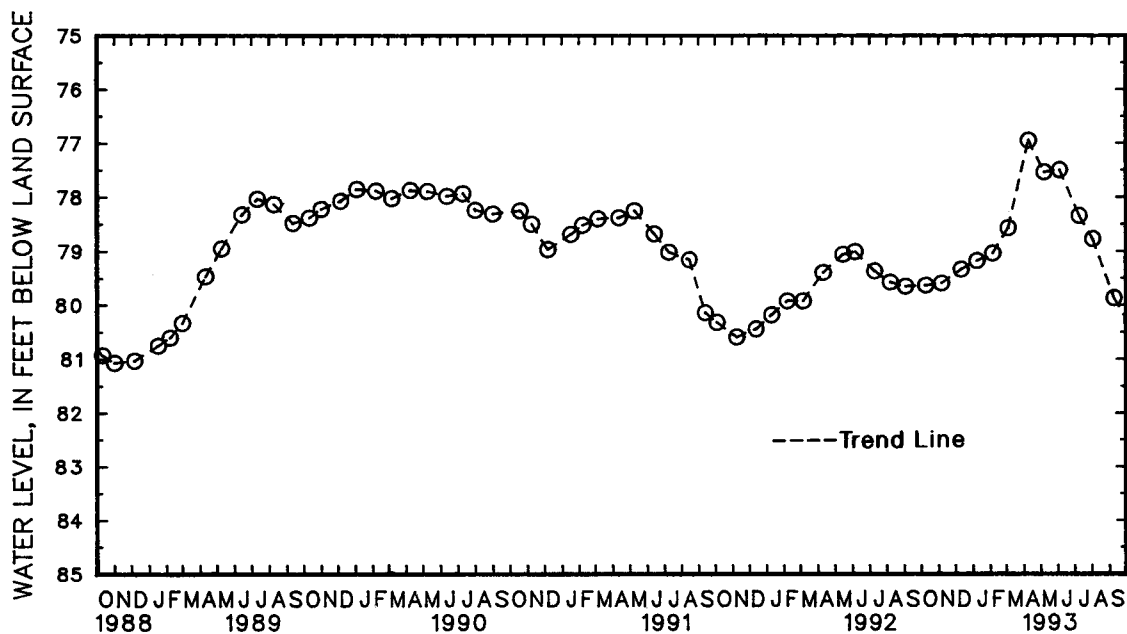
5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
CALVERT COUNTY--Continued

WELL NUMBER.--CA Bb 28. SITE ID.--384333076394702. PERMIT NUMBER.--CA-73-3721.  
LOCATION.--Lat 38°43'33", long 76°39'47", Hydrologic Unit 02060006, at Dunkirk Regional Park, Dunkirk.  
Owner: U.S. Geological Survey.  
AQUIFER.--Nanjemoy Formation of Lower Eocene age. Aquifer code: 124NNJM.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 170 ft; casing diameter 4 in., to 147 ft;  
casing diameter 2 in. from 147 to 160 ft; screen diameter 2 in. from 160 to 170 ft.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
DATUM.--Elevation of land surface is 140 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
Measuring point: Top of casing, 1.60 ft above land surface.  
REMARKS.--Maryland Water-Level Network observation well.  
PERIOD OF RECORD.--July 1980 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 76.95 ft below land surface, April 9, 1993;  
lowest measured, 81.18 ft below land surface, Jan. 5, 1982.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE			WATER LEVEL			DATE			WATER LEVEL			DATE			WATER LEVEL		
OCT	9	79.64	DEC	11	79.34	FEB	5	79.04	APR	9	76.95	JUN	4	77.50	AUG	2	78.78
NOV	6	79.60	JAN	8	79.18	MAR	4	78.57	MAY	7	77.54	JUL	9	78.35	SEP	9	79.88
WATER YEAR 1993			HIGHEST			76.95			APR 9, 1993			LOWEST			79.88 SEP 9, 1993		



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
CALVERT COUNTY--Continued

WELL NUMBER.--CA Cc 18. SITE ID.--383940076314801.

LOCATION.--Lat 38°39'40", long 76°31'48", Hydrologic Unit 02060006, at Naval Research Laboratory, Randle Cliff.  
Owner: U.S. Navy.

AQUIFER.--Aquia Formation of Upper Paleocene age. Aquifer code: 125AQUI.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 476 ft; casing diameter 6 in., to 462 ft; screened from 462 to 476 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel. Equipped with water-level recorder Sept. 15, 1958 to Dec. 7, 1962.

DATUM.--Elevation of land surface is 111.31 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of casing, 0.3 ft above land surface.

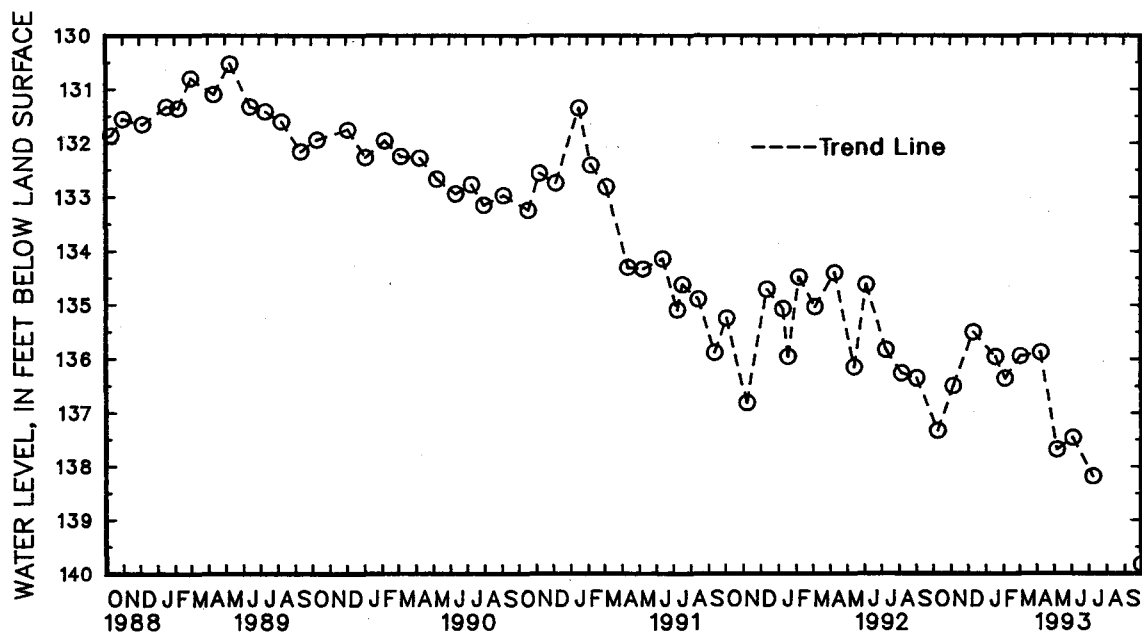
REMARKS.--Maryland Water-Level Network observation well. Water level measured 76.68 ft below land surface, Sept. 10, 1952.

PERIOD OF RECORD.--September 1958 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 103.63 ft below land surface, May 14, 1961; lowest measured, 139.82 ft below land surface, Sept. 30, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL		
OCT 9	137.34	DEC 11	135.50	FEB 5	136.36	APR 9	135.88	JUN 4	137.47	SEP 30	139.82		
NOV 6	136.50	JAN 19	135.96	MAR 4	135.94	MAY 7	137.69	JUL 9	138.19				
WATER YEAR 1993		HIGHEST	135.36	JAN 19, 1993		LOWEST	139.82	SEP 30, 1993					



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

CALVERT COUNTY--Continued

WELL NUMBER.--CA Cc 39. SITE ID.--383934076320202. PERMIT NUMBER.--CA-01-2070.  
 LOCATION.--Lat 38°39'34", long 76°32'02", Hydrologic Unit 02060004, at Naval Research Laboratory, Randle Cliff.  
 Owner: U.S. Navy.  
 AQUIFER.--Aquia Formation of Paleocene age. Aquifer code: 125AQUI.  
 WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 540 ft; casing diameter 8 in., to 520 ft; screen diameter 8 in. from 520 to 540 ft.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel. Equipped with graphic water-level recorder from Dec. 6, 1977 to Jan. 2, 1980. Equipped with digital water-level recorder--60-minute recorder interval from Feb. 8, 1980 to current year.  
 DATUM.--Elevation of land surface is 93.74 ft above National Geodetic Vertical Datum of 1929.  
 Measuring Point: Top of recorder platform, 1.70 ft above land surface.  
 REMARKS.--Southern Maryland Observation Well Network. Water levels are affected by nearby pumping.  
 PERIOD OF RECORD.--December 1977 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.72 ft below sea level, Jan. 26, 1978; lowest measured, 46.15 ft below sea level, Feb. 2, 1980.

## WATER LEVEL, IN FEET BELOW SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	-25.73	-26.20	-25.53	-27.90	-25.54	-25.68	-25.88	-26.99	-25.96	-27.49	-25.59	-27.63
2	-25.65	-27.95	-25.28	-25.89	-25.26	-25.62	-25.84	-26.03	-25.99	-26.22	-25.40	-25.89
3	-25.76	-26.90	-25.21	-25.38	-25.26	-27.96	-25.62	-25.85	-25.71	-28.04	-25.41	-27.66
4	-25.67	-25.81	-25.36	-27.87	-25.45	-26.40	-25.61	-28.12	-25.81	-25.98	-25.15	-26.78
5	-25.59	-27.94	-25.36	-25.52	-25.43	-26.06	-25.36	-25.67	-25.55	-27.97	-25.00	-25.15
6	-25.66	-26.22	-25.51	-25.70	-25.70	-26.21	-25.56	-28.09	-26.00	-27.97	-25.05	-27.27
7	-25.60	-28.04	-25.55	-28.09	-25.59	-28.01	-25.56	-27.00	-25.60	-26.05	-25.44	-26.14
8	-25.75	-26.40	-25.78	-26.13	-25.93	-26.17	-25.26	-25.56	-25.44	-28.07	-25.23	-25.47
9	-25.58	-27.89	-25.72	-25.90	-25.70	-28.14	-25.24	-27.76	-25.85	-26.46	-25.37	-27.55
10	-25.57	-25.91	-25.70	-28.20	-25.06	-27.79	-25.47	-26.53	-25.60	-25.89	-25.49	-26.07
11	-25.29	-25.62	-25.63	-26.20	-24.81	-25.06	-25.31	-25.51	-25.89	-28.10	-25.42	-27.72
12	-25.38	-25.55	-25.26	-25.71	-24.98	-25.28	-25.28	-27.84	-25.19	-25.97	-25.83	-26.38
13	-25.34	-27.88	-25.17	-27.98	-25.25	-27.81	-25.27	-26.04	-25.05	-27.44	-24.73	-26.75
14	-25.60	-26.02	-25.73	-26.17	-25.24	-25.73	-25.31	-27.67	-25.67	-25.88	-25.74	-26.75
15	-25.51	-27.77	-25.69	-25.79	-25.02	-25.27	-25.45	-27.77	-25.69	-25.98	-26.14	-26.36
16	-25.52	-26.67	-25.71	-25.89	-25.03	-27.49	-25.21	-25.46	-25.60	-27.90	-26.14	-28.12
17	-25.55	-28.09	-25.75	-28.15	-25.23	-25.58	-25.10	-27.62	-25.64	-25.84	-25.86	-26.46
18	-25.62	-26.59	-25.75	-25.85	-25.26	-25.55	-25.76	-25.94	-25.70	-28.17	-25.88	-28.65
19	-25.59	-25.84	-25.67	-28.18	-25.49	-27.80	-25.74	-25.88	-26.00	-26.74	-26.02	-27.47
20	-25.77	-28.25	-25.75	-27.06	-25.30	-25.62	-25.78	-28.20	-25.57	-28.38	-25.65	-26.02
21	-25.70	-26.28	-25.43	-25.75	-25.52	-25.73	-25.67	-26.36	-25.50	-27.56	-25.54	-27.96
22	-25.83	-26.00	-25.26	-25.49	-25.45	-27.88	-25.22	-25.67	-25.67	-27.56	-25.84	-26.25
23	-25.76	-28.06	-25.19	-27.54	-25.38	-25.79	-25.32	-28.03	-25.54	-25.73	-25.57	-28.02
24	-25.44	-26.08	-25.58	-25.87	-25.34	-25.90	-25.34	-25.97	-25.68	-27.79	-25.67	-27.64
25	-25.51	-25.77	-25.26	-25.58	-25.76	-28.21	-25.54	-25.82	-26.08	-26.39	-25.48	-25.75
26	-25.67	-28.14	-25.21	-27.73	-25.79	-26.06	-25.77	-28.24	-25.81	-27.95	-25.35	-27.77
27	-25.75	-26.03	-25.51	-25.76	-25.88	-26.10	-25.58	-26.06	-25.86	-26.36	-25.38	-26.00
28	-25.52	-25.82	-25.41	-25.55	-25.58	-27.75	-25.27	-26.72	-25.59	-25.86	-25.17	-27.54
29	-25.58	-27.92	-25.40	-25.50	-25.77	-28.02	-25.97	-27.74	---	---	-25.32	-27.48
30	-25.62	-25.87	-25.46	-27.95	-25.45	-25.77	-25.68	-26.13	---	---	-25.20	-25.33
31	-25.53	-25.63	---	---	-25.39	-27.81	-25.52	-27.94	---	---	-25.23	-27.52
MONTH	-25.29	-28.25	-25.17	-28.20	-24.81	-28.21	-25.10	-28.24	-25.05	-28.38	-24.73	-28.65

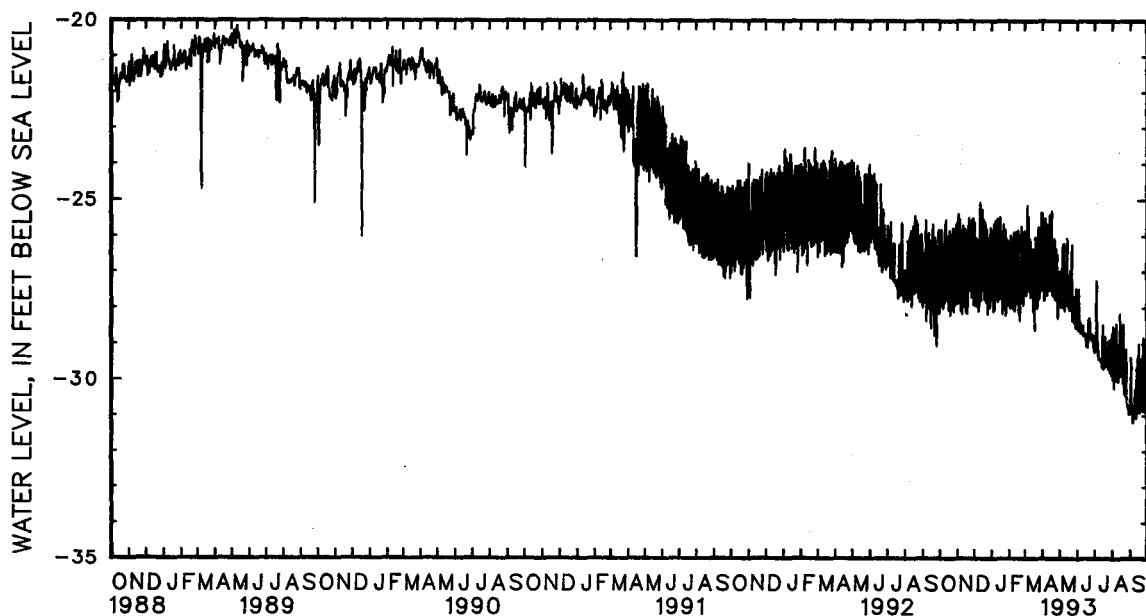
## 141

CALVERT COUNTY--Continued

CA Cc 39--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	-24.94	-25.36	-25.31	-27.62	-25.87	-28.48	-27.11	-29.24	-27.96	-30.01	-28.48	-30.67
2	-24.91	-27.33	-25.66	-27.62	-26.13	-28.64	-26.92	-29.24	-27.96	-28.53	-28.54	-29.38
3	-25.38	-25.66	-25.55	-28.01	-26.16	-27.49	-26.70	-28.81	-28.07	-29.94	-28.58	-30.82
4	-25.34	-27.80	-25.68	-26.96	-26.01	-28.22	-26.84	-27.25	-28.17	-30.27	-28.57	-30.72
5	-25.50	-27.36	-25.45	-27.77	-26.03	-28.36	-26.94	-28.78	-28.31	-29.48	-28.78	-31.22
6	-25.28	-25.50	-25.61	-26.24	-26.27	-28.71	-26.92	-29.02	-28.13	-29.98	-28.85	-31.11
7	-25.19	-27.55	-25.48	-28.02	-26.28	-28.71	-27.08	-29.20	-28.11	-28.45	-28.73	-30.75
8	-25.29	-25.69	-25.66	-26.19	-26.26	-28.70	-27.36	-29.44	-28.03	-29.32	-28.78	-30.93
9	-25.14	-27.68	-25.52	-27.84	-26.27	-28.62	-27.46	-29.43	-28.28	-30.04	-28.38	-30.57
10	-25.01	-25.68	-25.75	-28.10	-26.28	-28.49	-27.50	-29.42	-28.12	-29.03	-28.61	-30.27
11	-25.13	-26.15	-25.60	-27.73	-26.41	-28.77	-27.66	-29.42	-28.23	-30.07	-28.62	-31.11
12	-25.36	-27.50	-25.62	-27.71	-26.49	-28.79	-27.69	-29.52	-28.05	-29.15	-28.70	-29.66
13	-25.26	-25.43	-25.40	-27.78	-26.30	-28.75	-27.67	-29.54	-28.17	-29.88	-28.56	-30.91
14	-25.26	-27.54	-25.52	-26.06	-26.39	-28.72	-27.74	-29.68	-28.05	-28.17	-28.70	-29.42
15	-25.06	-25.39	-25.48	-27.86	-26.40	-28.76	-27.82	-28.47	-27.92	-29.91	-28.52	-30.91
16	-25.00	-27.40	-25.58	-27.96	-26.60	-28.96	-27.89	-29.71	-28.06	-28.51	-28.69	-29.01
17	-24.97	-25.30	-25.88	-27.12	-26.73	-29.07	-27.70	-29.07	-27.85	-29.87	-28.72	-30.94
18	-25.24	-27.67	-25.69	-28.07	-26.67	-29.07	-27.64	-29.64	-28.14	-28.67	-28.25	-30.22
19	-25.31	-27.15	-25.55	-28.03	-26.72	-29.10	-27.52	-28.79	-28.00	-30.14	-28.57	-30.70
20	-25.46	-27.68	-25.79	-26.96	-26.65	-28.36	-27.86	-29.47	-27.95	-28.46	-28.46	-30.73
21	-25.23	-27.60	-25.64	-28.07	-26.50	-28.52	-27.59	-29.09	-28.01	-30.23	-28.32	-29.41
22	-25.39	-26.08	-25.87	-26.24	-26.46	-28.28	-27.81	-29.61	-28.19	-30.40	-28.33	-30.89
23	-25.35	-27.79	-25.80	-28.36	-26.52	-28.69	-27.71	-29.28	-28.20	-29.87	-28.39	-30.77
24	-25.62	-26.36	-25.83	-28.30	-26.55	-28.79	-27.87	-29.70	-28.13	-30.48	-28.59	-28.83
25	-25.33	-27.56	-25.98	-28.41	-26.58	-28.90	-27.72	-28.90	-28.35	-29.16	-28.49	-30.91
26	-25.53	-26.52	-26.17	-27.70	-26.54	-28.75	-27.74	-29.66	-28.32	-30.70	-28.24	-30.58
27	-25.60	-28.15	-26.11	-28.31	-26.74	-28.77	-27.57	-29.80	-28.59	-30.75	-28.30	-28.95
28	-25.63	-28.30	-26.08	-28.50	-26.81	-28.90	-27.93	-28.91	-28.47	-30.72	-28.37	-30.83
29	-25.32	-27.70	-26.15	-28.57	-26.93	-29.10	-27.83	-29.77	-28.64	-30.97	-28.63	-28.87
30	-25.45	-26.98	-26.12	-27.47	-27.05	-29.13	-27.94	-29.88	-28.71	-30.97	-28.69	-30.96
31	---	---	-26.00	-28.26	---	---	-28.13	-28.73	-28.45	-30.82	---	---
MONTH	-24.91	-28.30	-25.31	-28.57	-25.87	-29.13	-26.70	-29.88	-27.85	-30.97	-28.24	-31.22
YEAR	-24.73	-31.22										

### Daily Low Water Levels



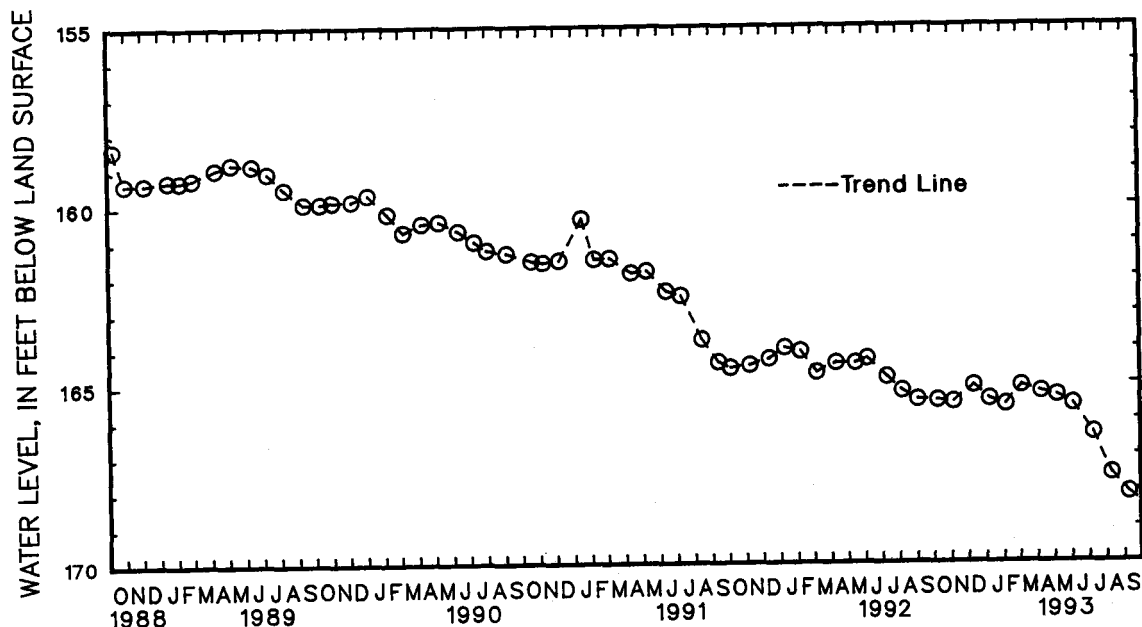
5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
CALVERT COUNTY--Continued

WELL NUMBER.--CA Co 57. SITE ID.--383605076344601. PERMIT NUMBER.--CA-73-2893.  
LOCATION.--Lat 38°36'05", long 76°34'46", Hydrologic Unit 02060006, Cox Rd. nr MD Rt. 263, Huntingtown.  
Owner: U.S. Geological Survey.  
AQUIFER.--Aquia Formation of Upper Paleocene age. Aquifer code: 125AQUI.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 579 ft; casing diameter 4 in., to 211 ft; casing diameter 2 in. from 211 to 511 ft, and 521 to 579 ft; screen diameter 3 in. from 511 to 521 ft.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
DATUM.--Elevation of land surface is 135 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
Measuring point: Top of casing, 1.66 ft above land surface.  
REMARKS.--Maryland Water-Level Network observation well.  
PERIOD OF RECORD.--December 1978 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 140.00 ft below land surface, March 7, 1979; lowest measured, 168.10 ft below land surface, Sept. 9, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 9	165.48	DEC 11	165.08	FEB 5	165.61	APR 9	165.25	JUN 4	165.61	AUG 10	167.56
NOV 6	165.53	JAN 8	165.45	MAR 4	165.09	MAY 7	165.36	JUL 9	166.43	SEP 9	168.10
WATER YEAR 1993		HIGHEST	165.08	DEC 11, 1992	LOWEST	168.10	SEP 9, 1993				



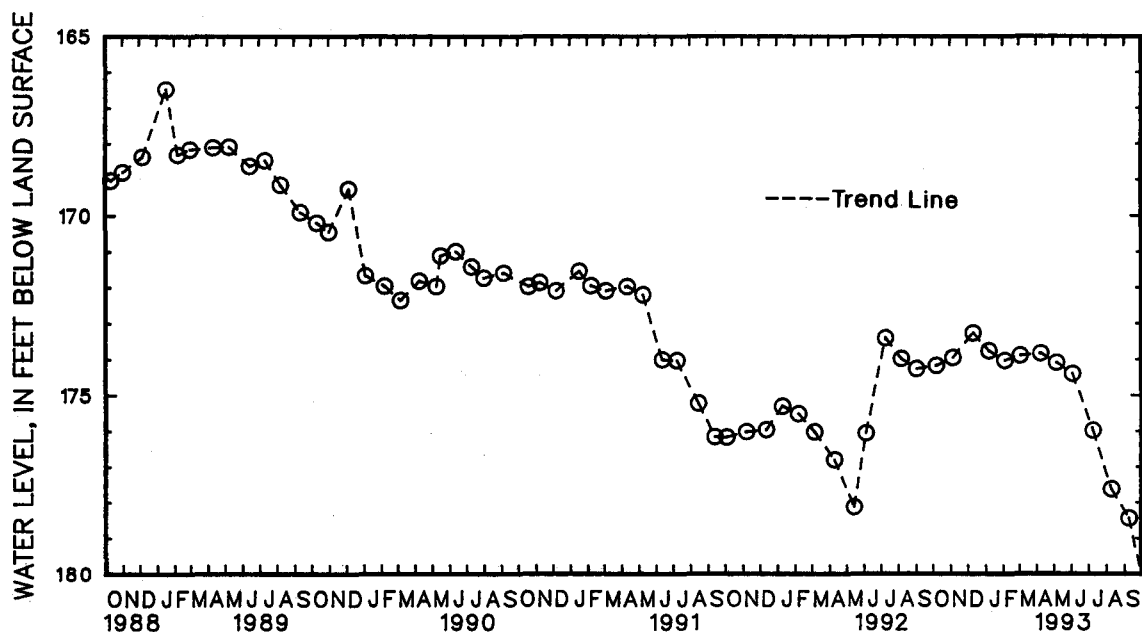
5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
CALVERT COUNTY--Continued

WELL NUMBER.--CA Db 47. SITE ID.--383239076354201. PERMIT NUMBER.--CA-73-3304.  
LOCATION.--Lat 38°32'39", long 76°35'42", Hydrologic Unit 02060006, near Prince Frederick.  
Owner: U.S. Geological Survey.  
AQUIFER.--Aquia Formation of Upper Paleocene age. Aquifer code: 125AQUI.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 570 ft; casing diameter 4 in., to 483 ft; casing diameter 2 in. from 483 to 560 ft; screen diameter 2 in. from 560 to 570 ft.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
DATUM.--Elevation of land surface is 140 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
Measuring point: Top of casing, 1.20 ft above land surface.  
REMARKS.--Maryland Water-Level Network observation well.  
PERIOD OF RECORD.--July 1979 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 148.54 ft below land surface, July 31, 1979; lowest measured, 178.44 ft below land surface, Sept. 9, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 8	174.17	DEC 11	173.26	FEB 5	174.03	APR 9	173.83	JUN 4	174.40	AUG 10	177.63
NOV 6	173.95	JAN 8	173.76	MAR 4	173.87	MAY 7	174.09	JUL 9	175.99	SEP 9	178.44
WATER YEAR 1993		HIGHEST	173.26	DEC 11, 1992	LOWEST	178.44	SEP 9, 1993				



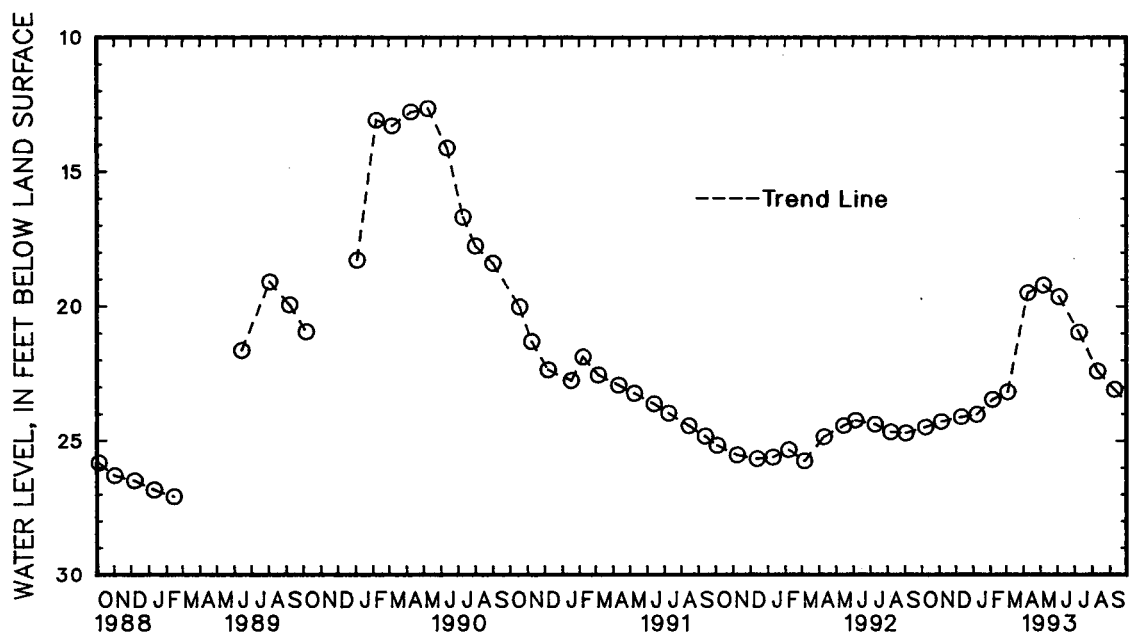
5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
CALVERT COUNTY--Continued

WELL NUMBER.--CA Db 65. SITE ID.--383216076351401. PERMIT NUMBER.--CA-81-2415.  
LOCATION.--Lat 38°32'16", long 76°35'14", Hydrologic Unit 02060006, at St. Pauls Episcopal Church parking lot, Prince Frederick.  
Owner: U.S. Geological Survey.  
AQUIFER.--Upland Deposit of Peistocene age. Aquifer code: 112UPLD.  
WELL CHARACTERISTICS.--Drilled, water-table, observation well, depth 49 ft; casing diameter 3 in., to 22 ft, and 32 to 49 ft; screen diameter 3 in. from 22 to 32 ft.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
DATUM.--Elevation of land surface is 159.33 ft above National Geodetic Vertical Datum of 1929.  
Measuring Point: Top of protective casing, 2.56 ft above land surface.  
REMARKS.--Maryland Water-Level Network observation well,  
PERIOD OF RECORD.--August 1986, October 1988 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 12.64 ft below land surface, May 9, 1990;  
lowest measured, 27.09 ft below land surface, Feb. 14, 1989.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 8	24.50	DEC 11	24.11	FEB 5	23.46	APR 9	19.49	JUN 4	19.64	AUG 10	22.41
NOV 5	24.29	JAN 8	24.02	MAR 4	23.18	MAY 7	19.21	JUL 9	20.96	SEP 9	23.09
WATER YEAR 1993		HIGHEST	19.21	MAY 7, 1993		LOWEST	24.50	OCT 8, 1992			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993



## GROUND-WATER LEVELS

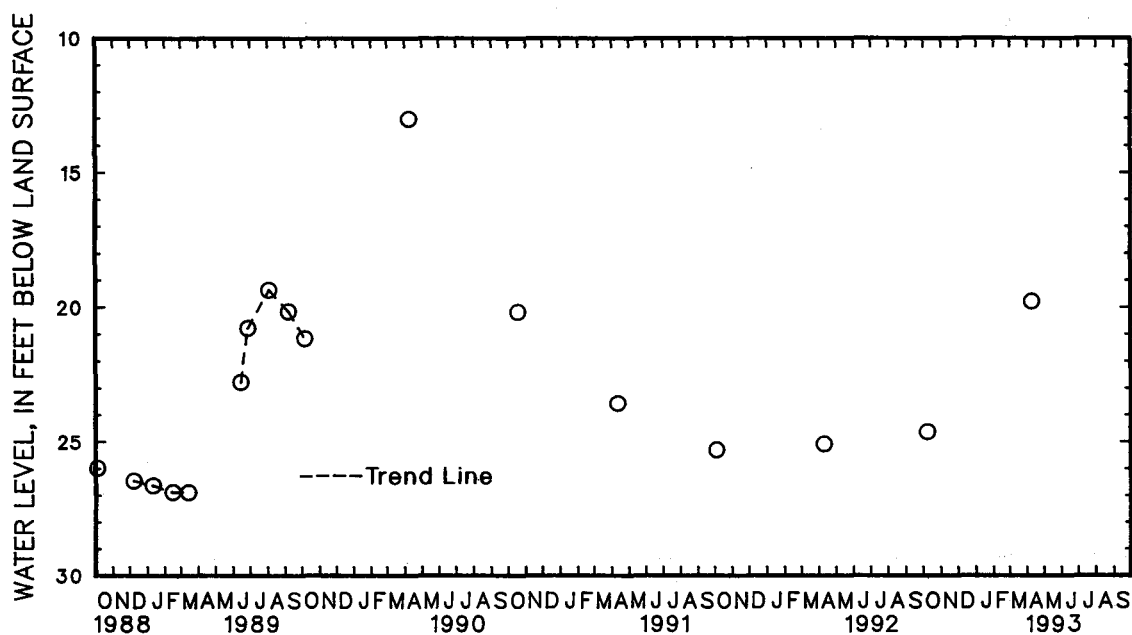
MARYLAND--Continued

CALVERT COUNTY--Continued

WELL NUMBER.--CA Db 66. SITE ID.--383216076351402. PERMIT NUMBER.--CA-81-2415.  
 LOCATION.--Lat 38°32'16", long 76°35'14", Hydrologic Unit 02060006, at St. Pauls Episcopal Church parking lot, Prince Frederick.  
 Owner: U.S. Geological Survey.  
 AQUIFER.--Upland Deposit of Peistocene age. Aquifer code: 112UPLD.  
 WELL CHARACTERISTICS.--Drilled, water-table, observation well, depth 34 ft; casing diameter 3 in., to 21 ft, and 31 to 34 ft; screen diameter 3 in. from 21 to 31 ft.  
 INSTRUMENTATION.--Twice yearly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 DATUM.--Elevation of land surface is 159.59 ft above National Geodetic Vertical Datum of 1929.  
 Measuring Point: Top of protective casing, 2.64 ft above land surface.  
 REMARKS.--Maryland Water-Level Network observation well,  
 PERIOD OF RECORD.--July 1986 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 13.01 ft below land surface, April 9, 1990;  
 lowest measured, 26.89 ft below land surface, Feb. 14, 1989 and March 14, 1989.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

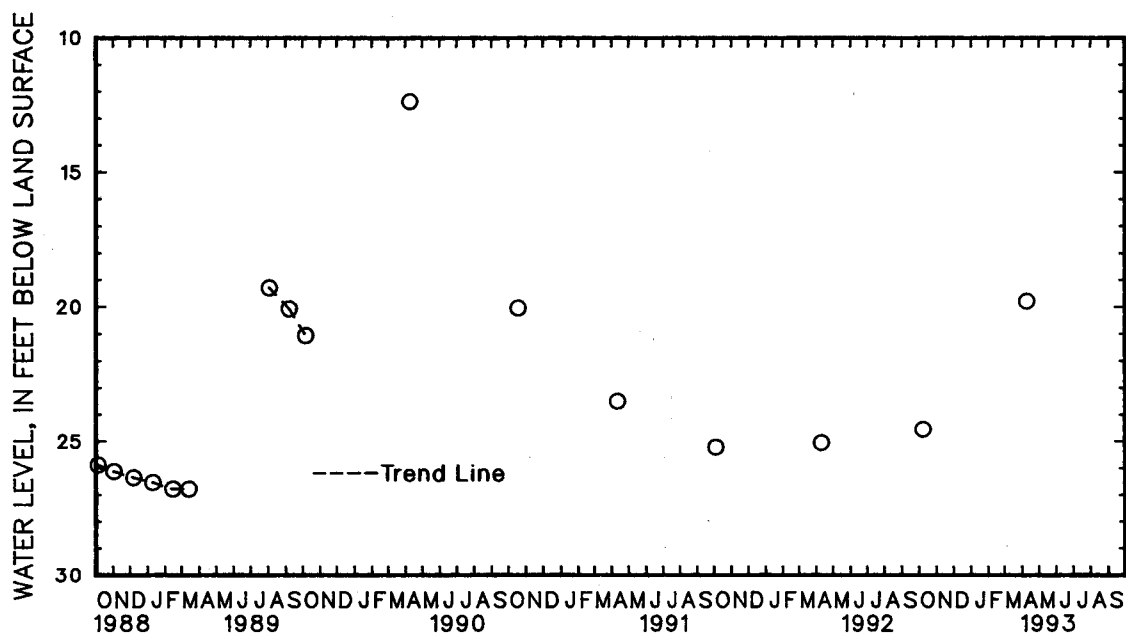
DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 8	24.65	APR 9	19.78
WATER YEAR 1993      HIGHEST   19.78   APR 9, 1993      LOWEST   24.65   OCT 8, 1992			



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

WELL NUMBER.--CA Db 67. SITE ID.--383216076351403. PERMIT NUMBER.--CA-81-2415.  
LOCATION.--Lat 38°32'16", long 76°35'14", Hydrologic Unit 02060006, at St. Pauls Epicopal Church parking lot,  
Prince Frederick.  
Owner: U.S. Geological Survey.  
AQUIFER.--Upland Deposit of Peistocene age. Aquifer code: 112UPLD.  
WELL CHARACTERISTICS.--Drilled, water-table, observation well, depth 31 ft; casing diameter 3 in., to 18 ft,  
and 28 to 31 ft; screen diameter 3 in. from 18 to 28 ft.  
INSTRUMENTATION.--Twice yearly measurements with chalked steel tape by U.S. Geological Survey personnel.  
DATUM.--Elevation of land surface is 159.59 ft above National Geodetic Vertical Datum of 1929.  
Measuring Point: Top of protective casing, 2.70 ft above land surface.  
REMARKS.--Maryland Water-Level Network observation well.  
PERIOD OF RECORD.--July 1986 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 12.37 ft below land surface, April 9, 1990;  
lowest measured, 26.79 ft below land surface, Feb. 14, 1989 and March 14, 1989.

DATE	WATER LEVEL	DATE	WATER LEVEL				
OCT 8	24.57	APR 9	19.79				
WATER YEAR 1993		HIGHEST	19.79	APR 9, 1993	LOWEST	24.57	OCT 8, 1992



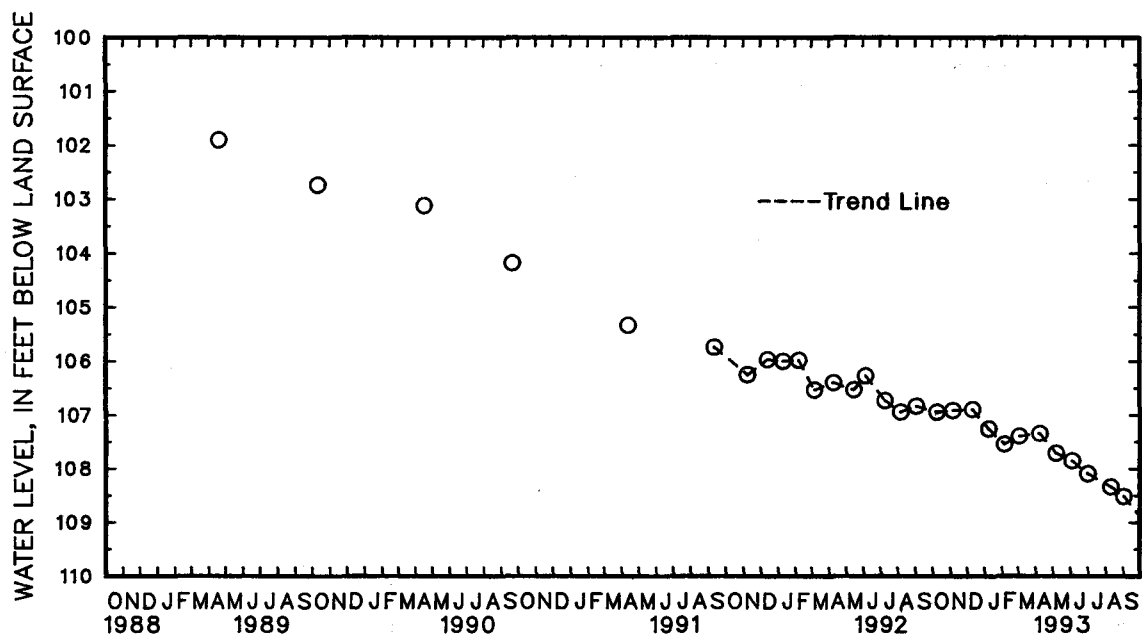
5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
CALVERT COUNTY--Continued

WELL NUMBER.--CA Dc 35. SITE ID.--383050076305501. PERMIT NUMBER.--CA-73-0718.  
LOCATION.--Lat 38°30'50", long 76°30'55", Hydrologic Unit 02060004, 5.1 mi. southeast of Prince Frederick.  
at Scientist Cliff community.  
Owner: U.S. Geological Survey.  
AQUIFER.--Magothy Formation of Upper Cretaceous age. Aquifer code: 211MGTY.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 760 ft; casing diameter 4 in., to 750 ft;  
screen diameter 2 in. from 750 to 760 ft.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel from  
November 1991 to current year.  
DATUM.--Elevation of land surface is 91.60 ft above National Geodetic Vertical Datum of 1929.  
Measuring Point: Top of casing, 1.9 ft above land surface.  
REMARKS.--Maryland Water-Level Network observation well,  
PERIOD OF RECORD.--October 1974 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 82.30 ft below land surface, Sept. 12, 1975.  
lowest measured, 108.52 ft below land surface, Sept. 2, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 8	106.95	DEC 10	106.90	FEB 5	107.55	APR 8	107.35	JUN 4	107.86	AUG 10	108.34
NOV 5	106.92	JAN 8	107.26	MAR 3	107.40	MAY 7	107.72	JUL 1	108.10	SEP 2	108.52
WATER YEAR 1993		HIGHEST	106.90	DEC 10, 1992	LOWEST	108.52	SEP 2, 1993				



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

## MARYLAND--Continued

## CALVERT COUNTY--Continued

WELL NUMBER.--CA Ed 47. SITE ID.--382549076260101. PERMIT NUMBER.--CA-81-0754.  
 LOCATION.--Lat 38°25'49", long 76°26'01", Hydrologic Unit 020600004, at Calvert Cliffs Nuclear Power Plant, 4.3 mi. southeast of St. Leonard.  
 Owner: Baltimore Gas and Electric Co.  
 AQUIFER.--Aquia Formation of Paleocene age. Aquifer code: 125AQUI.  
 WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 523 ft; casing diameter 4 in., to 455 ft; casing diameter 2 in. from 455 to 477 ft, 482 to 503 ft, and 508 to 518 ft; screen diameter 2 in. from 477 to 482 ft, 503 to 508 ft, and 518 to 523 ft.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel. Equipped with graphic water-level recorder from April 11, 1984 to June 6, 1984, and Nov. 13, 1985 to Dec. 17, 1985. Equipped with digital water-level recorder--30-minute recorder interval from June 6, 1984 to Nov. 13, 1985, and Dec. 17, 1985 to current year.  
 DATUM.--Elevation of land surface is 10 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring Point: Top of recorder platform, 4.0 ft above land surface.  
 REMARKS.--Southern Maryland Observation Well Network. Water levels are affected by nearby pumping. Well was destroyed on June 9, 1993.  
 PERIOD OF RECORD.--April 1984 to June 9, 1993.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 37.11 ft below sea level, May 4, 1987; lowest measured, 67.79 ft below sea level, Feb. 24, 1993.

## WATER LEVEL, IN FEET BELOW SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	-60.30	-62.28	-57.48	-58.30	-56.51	-57.74	-57.55	-58.25	-58.52	-60.07	-62.28	-63.40
2	-59.48	-60.71	-57.11	-58.13	-56.25	-57.57	-57.47	-58.01	-58.92	-60.24	-61.93	-62.98
3	-58.24	-59.53	-56.93	-58.31	-55.40	-57.42	-56.84	-57.56	-57.57	-60.44	-62.50	-64.45
4	-57.60	-58.72	-55.94	-57.86	-57.02	-59.74	-56.84	-57.85	-58.54	-60.51	-61.57	-63.91
5	-57.35	-58.36	-56.38	-57.84	-59.29	-60.70	-56.96	-58.02	-58.31	-59.47	-61.09	-61.88
6	-57.31	-58.40	-57.22	-58.01	-57.86	-59.74	-55.95	-57.53	-58.26	-59.22	-61.23	-62.14
7	-57.59	-60.03	-56.95	-57.84	-57.83	-58.80	-57.15	-57.84	-56.69	-58.71	-61.59	-62.36
8	-58.25	-59.59	-56.99	-57.48	-57.97	-59.26	-57.01	-58.36	-56.81	-58.45	-60.75	-62.77
9	-57.82	-59.22	-57.28	-58.69	-58.37	-59.71	-56.49	-58.21	-58.34	-61.18	-61.95	-63.13
10	-57.44	-58.14	-57.90	-58.68	-57.95	-59.27	-56.66	-57.23	-59.31	-60.34	-61.99	-62.98
11	-57.10	-57.61	-57.47	-58.28	-57.64	-59.13	-56.69	-58.43	-58.77	-60.29	-61.70	-64.38
12	-57.24	-59.17	-57.48	-58.34	-58.17	-59.16	-58.43	-59.95	-58.59	-61.10	-62.81	-64.79
13	-57.49	-58.67	-57.24	-59.62	-57.89	-58.71	-57.78	-58.70	-60.30	-61.19	-61.44	-64.79
14	-57.90	-59.21	-59.43	-60.61	-57.82	-58.92	-57.51	-58.82	-60.34	-62.44	-61.24	-62.39
15	-58.95	-60.57	-58.52	-59.76	-57.98	-59.43	-57.84	-59.41	-60.59	-61.95	-61.11	-63.75
16	-59.22	-60.39	-58.66	-59.71	-57.87	-59.14	-57.77	-58.85	-59.83	-60.96	-61.83	-63.35
17	-58.31	-59.41	-58.45	-59.24	-57.33	-58.83	-57.14	-57.99	-59.79	-62.01	-61.05	-62.07
18	-57.84	-59.05	-57.22	-58.49	-58.57	-60.02	-57.13	-58.80	-62.01	-63.79	-61.94	-63.21
19	-57.73	-58.61	-58.21	-62.10	-57.97	-59.57	-58.10	-60.05	-62.70	-63.74	-61.85	-62.99
20	-57.79	-58.80	-58.08	-60.60	-57.25	-58.44	-57.13	-58.13	-61.91	-63.31	-60.97	-62.04
21	-57.70	-59.14	-56.32	-58.22	-57.64	-59.03	-57.73	-58.94	-61.19	-62.79	-60.45	-60.97
22	-58.39	-59.23	-56.69	-57.43	-57.75	-59.10	-57.57	-59.80	-62.57	-64.62	-60.25	-61.61
23	-58.02	-58.91	-56.64	-58.19	-57.80	-59.00	-57.87	-59.37	-62.91	-64.26	-60.79	-62.00
24	-58.25	-58.93	-57.54	-58.29	-57.89	-58.57	-57.49	-58.58	-64.26	-67.79	-61.12	-62.36
25	-58.43	-59.50	-58.04	-58.94	-57.41	-58.55	-57.97	-59.10	-65.65	-67.18	-60.83	-61.93
26	-57.44	-59.04	-57.02	-58.29	-57.23	-58.34	-58.98	-60.23	-65.73	-66.86	-61.16	-62.29
27	-58.42	-59.65	-57.10	-57.93	-57.69	-58.34	-58.98	-60.29	-63.52	-66.46	-60.45	-61.76
28	-57.88	-58.64	-56.46	-57.47	-57.45	-58.80	-59.13	-60.96	-62.56	-63.93	-59.76	-60.45
29	-57.86	-58.90	-55.40	-56.76	-57.68	-58.34	-59.35	-60.89	---	---	-59.43	-60.45
30	-58.10	-59.31	-56.15	-57.51	-57.30	-58.14	-58.56	-60.79	---	---	-60.00	-61.25
31	-58.06	-58.86	---	---	-57.63	-58.34	-58.76	-59.48	---	---	-60.44	-61.94
MONTH	-57.10	-62.28	-55.40	-62.10	-55.40	-60.70	-55.95	-60.96	-56.69	-67.79	-59.43	-64.79

## GROUND-WATER LEVELS

149

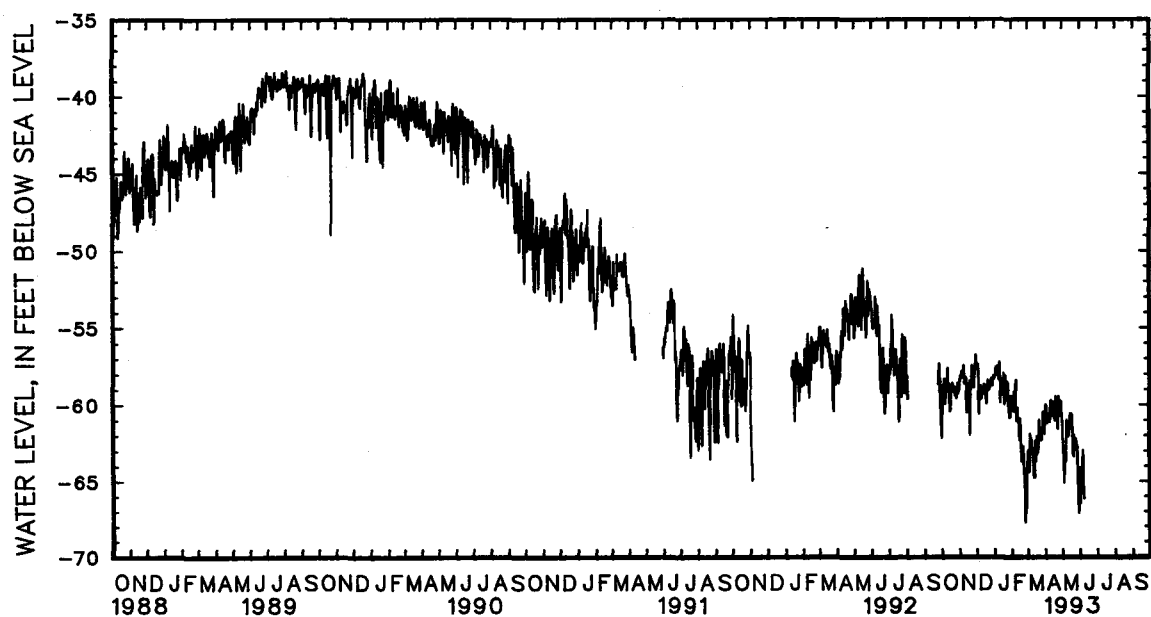
MARYLAND--Continued

CALVERT COUNTY--Continued

CA Ed 47--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	-59.92	-60.86	-60.28	-61.10	-62.56	-64.11	---	---	---	---	---	---
2	-59.03	-60.01	-60.49	-62.85	-63.10	-66.47	---	---	---	---	---	---
3	-59.79	-60.78	-61.76	-63.27	-63.49	-64.44	---	---	---	---	---	---
4	-59.91	-60.57	-62.99	-65.16	-63.95	-65.33	---	---	---	---	---	---
5	-60.09	-61.20	-62.94	-64.31	-62.78	-64.22	---	---	---	---	---	---
6	-60.13	-61.09	-61.98	-63.23	-62.11	-62.96	---	---	---	---	---	---
7	-59.90	-60.86	-62.19	-63.73	-62.87	-65.87	---	---	---	---	---	---
8	-60.00	-60.91	-60.83	-62.51	-64.54	-66.15	---	---	---	---	---	---
9	-60.07	-61.12	-59.99	-60.97	---	---	---	---	---	---	---	---
10	-59.08	-60.32	-59.67	-61.18	---	---	---	---	---	---	---	---
11	-58.87	-59.72	-60.34	-61.58	---	---	---	---	---	---	---	---
12	-58.45	-59.77	-60.84	-62.11	---	---	---	---	---	---	---	---
13	-59.27	-60.61	-60.48	-61.68	---	---	---	---	---	---	---	---
14	-59.54	-60.76	-60.07	-61.51	---	---	---	---	---	---	---	---
15	-59.23	-60.38	-59.79	-60.57	---	---	---	---	---	---	---	---
16	-59.07	-59.86	-59.89	-60.91	---	---	---	---	---	---	---	---
17	-59.17	-60.63	-60.07	-61.58	---	---	---	---	---	---	---	---
18	-60.11	-61.05	-59.89	-60.62	---	---	---	---	---	---	---	---
19	-58.28	-60.73	-59.56	-61.56	---	---	---	---	---	---	---	---
20	-57.78	-59.42	-60.44	-63.35	---	---	---	---	---	---	---	---
21	-58.59	-59.85	-61.87	-63.43	---	---	---	---	---	---	---	---
22	-58.90	-60.56	-61.01	-62.01	---	---	---	---	---	---	---	---
23	-59.93	-61.59	-61.48	-62.82	---	---	---	---	---	---	---	---
24	-58.46	-60.04	-60.45	-62.24	---	---	---	---	---	---	---	---
25	-58.52	-59.43	-60.84	-62.36	---	---	---	---	---	---	---	---
26	-58.41	-59.69	-61.47	-62.95	---	---	---	---	---	---	---	---
27	-59.34	-60.73	-61.47	-62.75	---	---	---	---	---	---	---	---
28	-58.67	-59.91	-62.02	-64.66	---	---	---	---	---	---	---	---
29	-58.58	-59.78	-63.37	-66.45	---	---	---	---	---	---	---	---
30	-59.18	-60.75	-64.99	-67.15	---	---	---	---	---	---	---	---
31	---	---	-64.05	-66.25	---	---	---	---	---	---	---	---
MONTH	-57.78	-61.59	-59.56	-67.15	-62.11	-66.47	---	---	---	---	---	---
YEAR	-55.40	-67.79										

## Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

## MARYLAND--Continued

## CALVERT COUNTY--Continued

WELL NUMBER.--CA Fc 13. SITE ID.--382343076302901. PERMIT NUMBER.--CA-81-2391.  
 LOCATION.--Lat 38°23'41", Long 76°30'29", Hydrologic Unit 02060006, Jefferson Patterson State Park and Museum.  
 Owner: U.S. Geological Survey.  
 AQUIFER.--Chesapeake Group of Miocene age. Aquifer code: 122CSFK.  
 WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 34 ft; casing diameter 3.5 in., to 29 ft; screen diameter 3.5 in. from 29 to 34 ft.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 Equipped with digital water-level recorder--60-minute recorder interval from Oct. 2, 1986 to current year.  
 DATUM.--Elevation of land surface is 47.44 ft above National Geodetic Vertical Datum of 1929.  
 Measuring Point: Top of recorder platform, 2.10 ft above land surface.  
 REMARKS.--Maryland Water-Level Network observation well, Maryland Water Quality Network observation well and Best Management Practices Project observation well.  
 PERIOD OF RECORD.--October 1986 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 24.20 ft below land surface, May 31, 1993; lowest measured, 30.69 ft below land surface, Feb. 27 and 28, 1989.

## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	28.50	28.48	28.90	28.88	29.25	29.23	28.64	28.50	27.52	27.34	27.51	27.45
2	28.51	28.45	28.90	28.83	29.25	29.22	28.65	28.64	27.57	27.52	27.45	27.43
3	28.46	28.45	28.90	28.82	29.35	29.25	28.64	28.54	27.56	27.47	27.47	27.44
4	28.47	28.45	28.90	28.85	29.35	29.24	28.54	28.42	27.57	27.47	27.47	27.02
5	28.56	28.47	28.92	28.85	29.38	29.22	28.49	28.37	27.57	27.47	27.05	26.98
6	28.61	28.56	29.00	28.92	29.39	29.31	28.49	28.44	27.58	27.47	26.98	26.90
7	28.60	28.58	29.01	29.00	29.33	29.29	28.44	28.39	27.58	27.53	26.90	26.75
8	28.58	28.57	29.08	29.01	29.41	29.33	28.39	28.34	27.59	27.50	26.75	26.69
9	28.57	28.51	29.11	29.08	29.44	29.41	28.35	28.28	27.66	27.59	26.71	26.69
10	28.57	28.51	29.11	29.07	29.43	29.10	28.28	28.17	27.65	27.59	26.69	26.53
11	28.56	28.52	29.07	29.00	29.12	29.07	28.17	27.99	27.63	27.59	26.61	26.55
12	28.58	28.56	29.00	28.85	29.20	29.12	27.99	27.83	27.63	27.45	26.61	26.54
13	28.64	28.58	29.09	28.85	29.18	29.17	27.83	27.71	27.52	27.45	26.54	25.79
14	28.67	28.64	29.14	29.09	29.17	29.09	---	---	27.68	27.52	25.94	25.84
15	28.68	28.65	29.18	29.13	29.09	28.96	27.74	27.66	27.72	27.68	25.89	25.72
16	28.66	28.61	29.19	29.17	28.96	28.89	27.66	27.59	27.71	27.51	25.72	25.54
17	28.72	28.63	29.17	29.10	28.89	28.78	27.59	27.54	27.67	27.52	25.54	25.36
18	28.72	28.68	29.18	29.12	28.91	28.84	27.64	27.56	27.67	27.64	25.36	25.23
19	28.75	28.67	29.23	29.18	28.90	28.77	27.64	27.63	27.70	27.66	25.23	25.07
20	28.78	28.75	29.30	29.18	28.80	28.73	27.63	27.54	27.66	27.62	25.07	24.95
21	28.78	28.74	29.18	29.09	28.81	28.75	27.54	27.38	27.63	27.49	24.95	24.92
22	28.80	28.78	29.09	29.02	28.75	28.72	27.38	27.37	27.56	27.48	24.92	24.86
23	28.79	28.73	29.16	28.99	28.72	28.66	27.43	27.38	27.61	27.56	24.87	24.79
24	28.73	28.63	29.21	29.16	28.79	28.66	27.42	27.35	27.66	27.61	24.79	24.77
25	28.74	28.65	29.23	29.19	28.78	28.63	27.51	27.41	---	---	24.80	24.78
26	28.76	28.74	29.21	29.15	28.74	28.62	27.50	27.40	27.61	27.53	24.78	24.75
27	28.80	28.75	29.23	29.16	28.75	28.68	27.40	27.34	27.54	27.53	24.76	24.71
28	28.80	28.79	29.23	29.21	28.68	28.62	27.42	27.38	27.54	27.51	24.71	24.69
29	28.81	28.80	29.25	29.23	28.62	28.56	27.51	27.37	---	---	24.69	24.66
30	28.85	28.81	29.25	29.23	28.56	28.52	27.51	27.40	---	---	24.68	24.66
31	28.88	28.84	---	---	28.52	28.50	27.40	27.28	---	---	24.69	24.60
MONTH	28.88	28.45	29.30	28.82	29.44	28.50	28.65	27.28	27.72	27.34	27.51	24.60

## GROUND-WATER LEVELS

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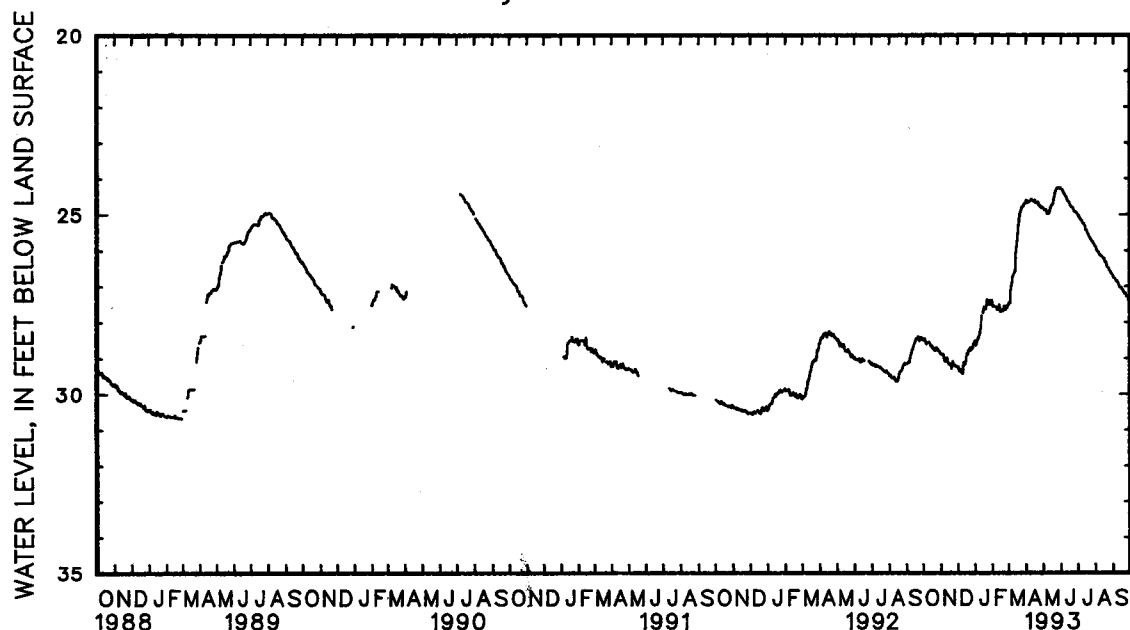
MARYLAND--Continued

CALVERT COUNTY--Continued

CA Fc 13--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	24.60	24.55	24.81	24.80	24.28	24.21	25.03	25.00	25.90	25.89	26.74	26.69
2	24.64	24.59	24.85	24.81	24.30	24.28	25.03	25.03	25.93	25.90	26.77	26.74
3	24.68	24.64	24.88	24.85	24.30	24.29	25.09	25.03	26.00	25.93	26.77	26.76
4	24.67	24.65	24.87	24.85	24.33	24.29	25.09	25.09	26.00	26.00	26.79	26.76
5	24.66	24.62	24.87	24.85	24.37	24.31	25.14	25.09	26.03	26.00	26.84	26.79
6	24.63	24.62	24.87	24.86	24.41	24.37	25.14	25.14	26.04	26.01	26.85	26.84
7	24.63	24.61	24.94	24.87	24.42	24.41	25.17	25.14	26.10	26.04	26.85	26.85
8	24.63	24.59	24.98	24.94	24.47	24.39	25.18	25.17	26.12	26.10	26.88	26.85
9	24.61	24.55	24.98	24.97	24.49	24.45	25.23	25.18	26.12	26.12	26.89	26.88
10	24.57	24.46	24.98	24.97	24.51	24.47	25.25	25.23	26.15	26.12	26.93	26.89
11	24.59	24.57	24.98	24.93	24.56	24.51	25.25	25.25	26.16	26.15	26.97	26.93
12	24.60	24.57	24.95	24.86	24.61	24.56	25.30	25.25	26.16	26.16	27.03	26.97
13	24.62	24.60	24.86	24.79	24.62	24.61	25.30	25.30	26.19	26.16	27.03	27.03
14	24.63	24.60	24.80	24.77	24.64	24.62	25.42	25.30	26.22	26.19	27.03	27.03
15	24.62	24.60	24.77	24.73	24.65	24.63	25.42	25.42	26.22	26.22	27.03	27.03
16	24.60	24.56	24.73	24.69	24.71	24.65	25.44	25.42	26.22	26.22	27.09	27.03
17	24.67	24.57	24.72	24.70	24.74	24.71	25.50	25.44	26.29	26.22	27.11	27.09
18	24.68	24.66	24.70	24.59	24.75	24.74	25.54	25.50	26.33	26.29	27.11	27.11
19	24.68	24.66	24.60	24.52	24.79	24.75	25.55	25.54	26.33	26.33	27.15	27.11
20	24.68	24.65	24.52	24.44	24.80	24.78	25.60	25.55	26.33	26.33	27.20	27.15
21	24.66	24.62	24.44	24.38	24.80	24.76	25.63	25.60	26.43	26.33	27.20	27.20
22	24.65	24.60	24.38	24.34	24.81	24.76	25.65	25.63	26.47	26.43	27.20	27.20
23	24.74	24.65	24.34	24.30	24.88	24.81	25.69	25.65	26.48	26.47	27.20	27.20
24	24.77	24.73	24.30	24.26	24.92	24.88	25.71	25.69	26.50	26.48	27.29	27.20
25	24.75	24.72	24.26	24.26	24.91	24.91	25.75	25.71	26.54	26.50	27.29	27.29
26	24.77	24.70	24.27	24.26	24.93	24.91	25.76	25.75	26.57	26.54	27.29	27.29
27	24.80	24.77	24.26	24.26	24.93	24.93	25.77	25.76	26.58	26.57	27.33	27.29
28	24.82	24.80	24.26	24.23	24.96	24.93	25.80	25.77	26.61	26.58	27.40	27.33
29	24.80	24.78	24.26	24.23	24.97	24.96	25.81	25.80	26.66	26.61	27.43	27.40
30	24.80	24.78	24.28	24.25	25.00	24.97	25.86	25.81	26.68	26.66	27.46	27.43
31	---	---	24.25	24.20	---	---	25.89	25.86	26.69	26.68	---	---
MONTH	24.82	24.46	24.98	24.20	25.00	24.21	25.89	25.00	26.69	25.89	27.46	26.69
YEAR	29.44	24.20										

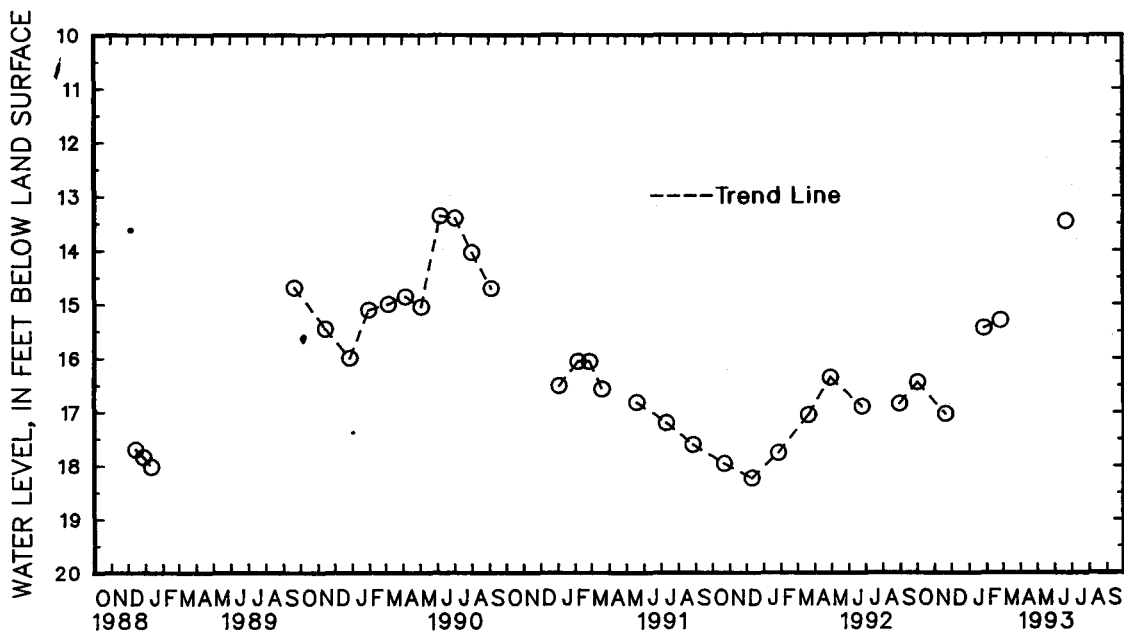
Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

WELL NUMBER.--CA Fc 15. SITE ID.--382340076303001. PERMIT NUMBER.--CA-81-2389.  
LOCATION.--Lat 38°23'39", long 76°30'35", Hydrologic Unit 02060006, Jefferson Patterson State Park and Museum.  
Owner: U.S. Geological Survey.  
AQUIFER.--Chesapeake Group of Miocene age. Aquifer code: 122CSFK.  
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 36 ft; casing diameter 3.5 in., to 31 ft;  
screen diameter 3.5 in. from 31 to 36 ft.  
INSTRUMENTATION.--Periodic measurements with chalked steel tape by U.S. Geological Survey personnel. Equipped  
with digital water-level recorder--15-minute recorder interval from Oct. 2, 1986 to Sept. 5, 1990.  
DATUM.--Elevation of land surface is 30.56 ft above National Geodetic Vertical Datum of 1929.  
Measuring Point: Top of recorder platform, 1.78 ft above land surface.  
REMARKS.--Best Management Practices Project observation well.  
PERIOD OF RECORD.--October 1986 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 13.36 ft below land surface, June 6, 1990;  
lowest measured, 18.25 ft below land surface, Feb. 19, 20, and 21, 1989.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 2	16.45	NOV 20	17.04	JAN 27	15.44	FEB 25	15.30	JUN 21	13.46
WATER YEAR 1993		HIGHEST	13.46	JUN 21, 1993		LOWEST	17.04	NOV 20, 1992	



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993



## MARYLAND--Continued

## CALVERT COUNTY--Continued

WELL NUMBER.--CA Fc 16. SITE ID.--382340076303002. PERMIT NUMBER.--CA-81-2392.  
 LOCATION.--Lat 38°23'40", long 76°30'35", Hydrologic Unit 02060006, Jefferson Patterson Park and Museum.  
 Owner: U. S. Geological Survey.  
 AQUIFER.--Chesapeake Group of Miocene age. Aquifer code: 122CSFK.  
 WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 23 ft; casing diameter 3.5 in., to 18 ft; screen diameter 3.5 in. from 18 to 23 ft.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 Equipped with digital water-level recorder--30-minute recorder interval from Dec. 24, 1986 to Sept. 3, 1987, and Jan. 11, 1989 to current year.  
 DATUM.--Elevation of land surface is 30.75 ft above National Geodetic Vertical Datum of 1929.  
 Measuring Point: Top of recorder platform, 1.72 ft above land surface.  
 REMARKS.--Best Management Practices Project observation well. Missing data due to recorder malfunction.  
 PERIOD OF RECORD.--October 1986 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 13.17 ft below land surface, May 24, 1993; lowest measured, 19.34 ft below land surface, Jan. 27, 1989.

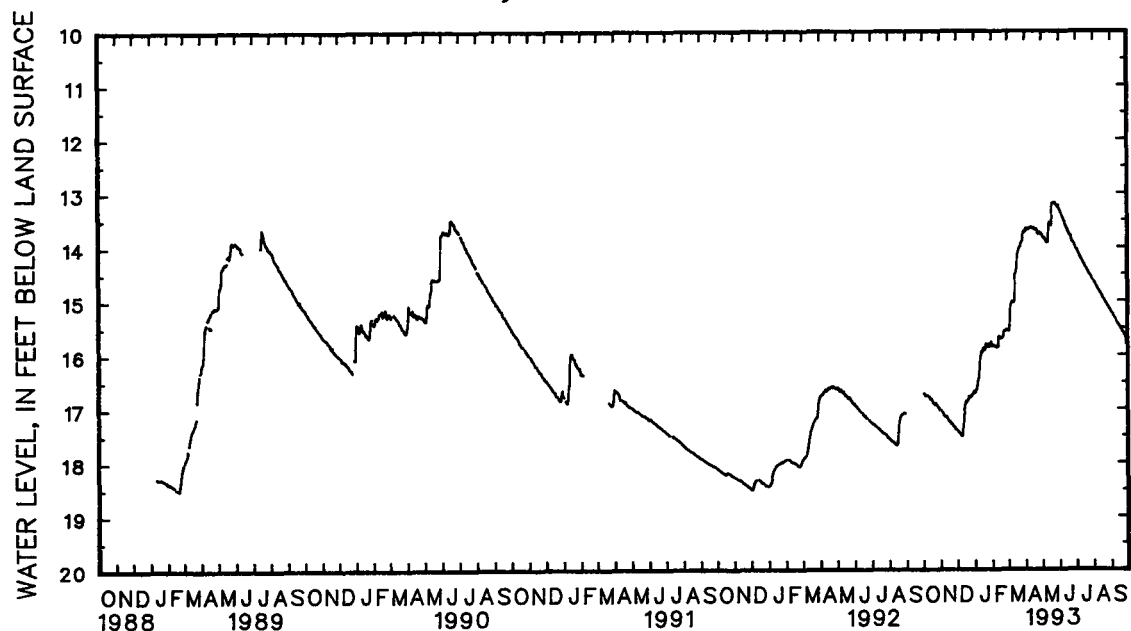
## WATER LEVEL, IN FEET BELOW LAND SURFACE, YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	17.04	17.03	17.41	17.40	16.71	16.67	15.84	15.75	15.54	15.52
2	---	---	17.04	17.03	17.42	17.40	16.71	16.69	15.85	15.83	15.54	15.52
3	16.72	16.72	17.06	17.02	17.45	17.42	16.69	16.66	15.83	15.77	15.56	15.54
4	16.73	16.72	17.06	17.04	17.45	17.42	16.66	16.63	15.84	15.78	15.55	14.74
5	16.76	16.72	17.09	17.04	17.47	17.42	16.63	16.53	15.83	15.77	15.15	15.06
6	16.77	16.76	17.11	17.08	17.47	17.46	16.59	16.51	15.85	15.77	15.08	15.04
7	16.77	16.76	17.13	17.11	17.49	17.45	16.51	16.46	15.85	15.80	15.05	14.99
8	16.76	16.76	17.14	17.13	17.51	17.49	16.46	16.39	15.85	15.78	15.02	14.97
9	16.76	16.74	17.16	17.14	17.52	17.51	16.39	16.17	15.87	15.84	15.02	15.01
10	16.77	16.75	17.16	17.16	17.52	17.27	16.17	16.05	15.85	15.81	15.02	14.93
11	16.77	16.75	17.16	17.15	17.39	17.25	16.05	15.98	15.85	15.81	15.03	14.98
12	16.78	16.77	17.15	17.10	17.30	17.12	15.99	15.94	15.85	15.65	15.03	14.97
13	16.81	16.78	17.19	17.10	17.12	17.01	15.94	15.89	15.66	15.63	14.97	14.04
14	16.83	16.80	17.20	17.19	17.01	16.94	15.96	15.93	15.68	15.64	14.53	14.46
15	16.82	16.81	17.23	17.20	16.94	16.90	15.93	15.88	15.69	15.66	14.50	14.45
16	16.82	16.80	17.24	17.23	16.90	16.87	15.88	15.85	15.67	15.56	14.45	14.39
17	16.85	16.81	17.24	17.22	16.87	16.84	15.88	15.84	15.70	15.61	14.39	14.08
18	16.85	16.84	17.26	17.24	16.89	16.87	15.92	15.88	15.68	15.65	14.16	14.11
19	16.89	16.84	17.28	17.26	16.87	16.83	15.90	15.87	15.70	15.66	14.11	14.06
20	16.90	16.89	17.30	17.28	16.86	16.80	15.87	15.83	15.67	15.65	14.06	14.02
21	16.91	16.89	17.30	17.28	16.85	16.79	15.83	15.77	15.68	15.54	14.02	14.00
22	16.93	16.91	17.29	17.28	16.79	16.77	15.80	15.76	15.57	15.51	14.01	13.99
23	16.92	16.90	17.33	17.27	16.77	16.75	15.83	15.79	15.56	15.53	14.00	13.95
24	16.90	16.86	17.34	17.33	16.80	16.75	15.83	15.74	15.57	15.55	13.95	13.90
25	16.93	16.88	17.36	17.33	16.79	16.73	15.86	15.82	---	---	13.92	13.89
26	16.93	16.92	17.36	17.33	16.78	16.73	15.83	15.76	15.54	15.52	13.90	13.87
27	16.96	16.93	17.38	17.35	16.78	16.74	15.80	15.74	15.55	15.53	13.88	13.76
28	16.97	16.96	17.38	17.37	16.74	16.71	15.80	15.75	15.55	15.53	13.76	13.72
29	16.98	16.97	17.40	17.38	16.73	16.70	15.84	15.75	---	---	13.72	13.70
30	17.01	16.98	17.40	17.40	16.70	16.67	15.83	15.76	---	---	13.73	13.70
31	17.03	17.00	---	---	16.68	16.67	15.76	15.70	---	---	13.73	13.67
MONTH	17.03	16.72	17.40	17.02	17.52	16.67	16.71	15.70	15.87	15.51	15.56	13.67

GROUND-WATER LEVELS  
MARYLAND--Continued  
CALVERT COUNTY--Continued  
CA Fc 16--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	13.68	13.61	13.78	13.76	13.30	13.23	14.04	14.02	14.64	14.63	15.22	15.19
2	13.66	13.63	13.82	13.78	13.32	13.30	14.05	14.04	14.67	14.64	15.23	15.22
3	13.69	13.66	13.84	13.82	13.33	13.31	14.07	14.05	14.69	14.67	15.24	15.23
4	13.69	13.66	13.83	13.82	13.36	13.33	14.10	14.07	14.71	14.69	15.26	15.24
5	13.67	13.65	13.84	13.82	13.41	13.35	14.12	14.10	14.73	14.71	15.29	15.26
6	13.66	13.64	13.85	13.83	13.45	13.41	14.14	14.12	14.74	14.70	15.30	15.29
7	13.67	13.65	13.88	13.85	13.46	13.44	14.16	14.14	14.77	14.74	15.32	15.30
8	13.66	13.64	13.91	13.88	13.49	13.43	14.18	14.16	14.79	14.77	15.33	15.32
9	13.65	13.61	13.91	13.90	13.51	13.47	14.20	14.18	14.81	14.79	15.34	15.33
10	13.64	13.58	13.92	13.91	13.53	13.50	14.22	14.20	14.82	14.81	15.37	15.34
11	13.63	13.59	13.92	13.89	13.58	13.53	14.23	14.22	14.84	14.82	15.40	15.37
12	13.64	13.60	13.91	13.63	13.61	13.58	14.25	14.23	14.85	14.84	15.42	15.40
13	13.65	13.63	13.63	13.54	13.63	13.61	14.28	14.25	14.87	14.85	15.43	15.42
14	13.66	13.64	13.55	13.54	13.65	13.63	14.30	14.28	14.89	14.87	15.44	15.43
15	13.66	13.64	13.56	13.55	13.67	13.64	14.32	14.29	14.90	14.89	15.46	15.44
16	13.65	13.60	13.58	13.55	13.71	13.67	14.33	14.32	14.92	14.90	15.48	15.46
17	13.66	13.60	13.60	13.57	13.73	13.71	14.36	14.33	14.95	14.92	15.49	15.48
18	13.68	13.66	13.60	13.25	13.74	13.73	14.38	14.36	14.97	14.94	15.51	15.49
19	13.68	13.66	13.28	13.19	13.77	13.74	14.39	14.38	14.98	14.97	15.54	15.51
20	13.69	13.66	13.19	13.18	13.79	13.76	14.41	14.39	14.99	14.98	15.55	15.54
21	13.67	13.65	13.19	13.19	13.79	13.78	14.44	14.41	15.02	14.99	15.57	15.55
22	13.68	13.63	13.19	13.19	13.83	13.79	14.45	14.44	15.04	15.02	15.59	15.57
23	13.75	13.68	13.20	13.18	13.88	13.83	14.48	14.45	15.05	15.04	15.59	15.59
24	13.77	13.73	13.18	13.17	13.91	13.88	14.50	14.48	15.07	15.05	15.62	15.59
25	13.75	13.72	13.19	13.18	13.91	13.90	14.52	14.50	15.09	15.07	15.64	15.62
26	13.73	13.70	13.21	13.19	13.92	13.91	14.53	14.52	15.11	15.09	15.65	15.63
27	13.76	13.73	13.22	13.21	13.94	13.92	14.54	14.53	15.12	15.11	15.68	15.65
28	13.77	13.75	13.22	13.20	13.96	13.94	14.56	14.54	15.14	15.12	15.69	15.68
29	13.75	13.74	13.25	13.20	13.99	13.96	14.58	14.56	15.16	15.14	15.71	15.69
30	13.76	13.74	13.27	13.24	14.02	13.99	14.61	14.58	15.17	15.16	15.73	15.71
31	---	---	13.24	13.22	---	---	14.63	14.61	15.19	15.17	---	---
MONTH	13.77	13.58	13.92	13.17	14.02	13.23	14.63	14.02	15.19	14.63	15.73	15.19
YEAR	17.52	13.17										

Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

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## MARYLAND--Continued

## CALVERT COUNTY--Continued

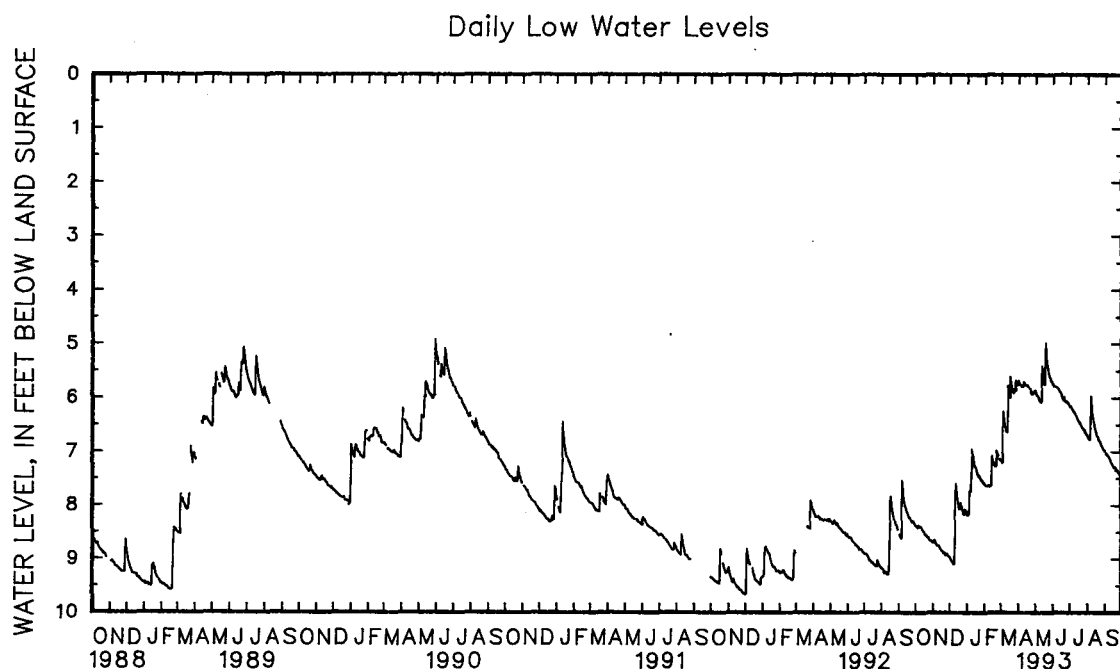
WELL NUMBER.--CA Fc 18. SITE ID.--382340076303801. PERMIT NUMBER.--CA-81-2387.  
 LOCATION.--Lat 38°23'39", long 76°30'39", Hydrologic Unit 02060006, Jefferson Patterson Park and Museum.  
 Owner: U.S. Geological Survey.  
 AQUIFER.--Chesapeake Group of Miocene age. Aquifer code: 122CSFK.  
 WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 23 ft; casing diameter 3.5 in., to 18 ft;  
 screen diameter 3.5 in. from 18 to 23 ft.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 Equipped with digital water-level recorder--15-minute recorder interval from Oct. 2, 1986 to current year.  
 DATUM.--Elevation of land surface is 15.56 ft above National Geodetic Vertical Datum of 1929.  
 Measuring Point: Top of recorder platform, 2.81 ft above land surface.  
 REMARKS.--Best Management Practices Project observation well. Missing data due to recorder malfunction.  
 PERIOD OF RECORD.--October 1986 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.47 ft below land surface, March 13, 1993;  
 lowest measured, 9.67 ft below land surface, Dec. 2, 1991.

## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	8.38	8.37	8.69	8.69	8.97	8.95	8.16	8.11	7.61	7.58	7.16	7.10
2	8.38	8.37	8.69	8.66	8.98	8.97	8.18	8.16	7.63	7.61	7.15	7.14
3	8.39	8.37	8.66	8.62	9.00	8.97	8.18	8.17	7.63	7.59	7.20	7.15
4	8.42	8.39	8.65	8.63	9.01	8.99	8.18	8.15	7.63	7.59	7.19	5.53
5	8.41	8.38	8.67	8.63	9.04	8.99	8.16	7.63	7.63	7.60	6.25	5.92
6	8.38	8.36	8.71	8.67	9.05	9.04	7.73	7.70	7.64	7.59	6.36	6.23
7	8.40	8.37	8.72	8.71	9.07	9.05	7.74	7.72	7.64	7.61	6.41	6.36
8	8.41	8.39	8.74	8.72	9.09	9.07	7.74	7.32	7.64	7.59	6.49	6.39
9	8.40	8.38	8.75	8.74	9.10	9.09	7.32	6.88	7.65	7.64	6.54	6.49
10	8.41	8.38	8.75	8.74	9.09	8.12	6.95	6.87	7.64	7.62	6.56	6.51
11	8.41	8.38	8.75	8.74	8.16	7.57	7.07	6.95	7.64	7.63	6.62	6.56
12	8.44	8.41	8.76	8.75	7.59	7.49	7.15	7.07	7.64	6.99	6.63	6.62
13	8.46	8.44	8.78	8.75	7.73	7.59	7.21	7.14	7.07	6.99	6.63	4.47
14	8.47	8.46	8.80	8.78	7.80	7.73	7.26	7.21	7.17	7.07	5.77	4.88
15	8.49	8.47	8.82	8.80	7.86	7.80	7.27	7.26	7.20	7.17	5.93	5.77
16	8.50	8.48	8.83	8.82	7.92	7.86	7.29	7.27	7.20	7.15	5.98	5.93
17	8.53	8.50	8.84	8.83	7.97	7.92	7.32	7.29	7.21	7.15	5.99	5.20
18	8.54	8.53	8.86	8.83	8.03	7.97	7.38	7.32	7.25	7.21	5.60	5.27
19	8.56	8.53	8.87	8.86	8.07	8.03	7.42	7.38	7.27	7.25	5.70	5.60
20	8.57	8.56	8.89	8.86	8.07	7.86	7.44	7.42	7.27	7.24	5.75	5.70
21	8.57	8.55	8.88	8.86	7.96	7.91	7.46	7.43	7.26	6.91	5.83	5.75
22	8.60	8.57	8.88	8.87	8.00	7.95	7.44	7.41	6.98	6.91	5.89	5.83
23	8.60	8.59	8.91	8.87	8.02	7.99	7.47	7.44	7.01	6.98	5.91	5.88
24	8.60	8.56	8.93	8.91	8.09	8.02	7.49	7.44	7.07	7.01	5.89	5.75
25	8.64	8.60	8.92	8.88	8.09	8.07	7.53	7.49	---	---	5.84	5.81
26	8.64	8.63	8.90	8.88	8.15	8.09	7.54	7.52	7.13	7.12	5.86	5.83
27	8.66	8.63	8.92	8.89	8.17	8.15	7.53	7.51	7.15	7.13	5.86	5.64
28	8.66	8.65	8.93	8.91	8.17	8.05	7.54	7.51	7.15	7.15	5.68	5.63
29	8.67	8.66	8.94	8.93	8.08	8.06	7.58	7.51	---	---	5.69	5.68
30	8.68	8.67	8.95	8.94	8.09	8.08	7.58	7.57	---	---	5.76	5.69
31	8.69	8.68	---	---	8.11	8.09	7.58	7.56	---	---	5.76	5.71
MONTH	8.69	8.36	8.95	8.62	9.10	7.49	8.18	6.87	7.65	6.91	7.20	4.47

GROUND-WATER LEVELS  
MARYLAND--Continued  
CALVERT COUNTY--Continued  
CA Fc 18--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	5.71	5.59	5.89	5.86	5.74	5.68	6.17	6.14	6.71	6.68	6.99	6.97
2	5.68	5.64	5.93	5.89	5.75	5.73	6.16	6.15	6.73	6.70	7.04	6.99
3	5.73	5.68	5.95	5.93	5.76	5.73	6.18	6.15	6.74	6.72	7.03	7.00
4	5.75	5.73	5.96	5.95	5.79	5.75	6.20	6.16	6.77	6.74	7.05	7.03
5	5.76	5.73	5.98	5.95	5.79	5.75	6.22	6.19	6.78	6.76	7.07	7.05
6	5.77	5.73	6.00	5.97	5.80	5.75	6.23	6.21	6.78	5.12	7.08	7.06
7	5.79	5.75	6.03	5.99	5.80	5.79	6.25	6.21	5.97	5.26	7.09	7.08
8	5.79	5.75	6.05	6.03	5.81	5.77	6.27	6.24	6.13	5.97	7.11	7.09
9	5.79	5.75	6.06	6.04	5.81	5.78	6.28	6.27	6.24	6.13	7.12	7.11
10	5.77	5.66	6.08	6.06	5.83	5.81	6.30	6.28	6.32	6.24	7.15	7.12
11	5.71	5.64	6.08	6.05	5.86	5.83	6.32	6.30	6.38	6.32	7.19	7.15
12	5.73	5.69	6.07	4.66	5.88	5.86	6.34	6.32	6.44	6.38	7.21	7.19
13	5.76	5.73	5.41	4.84	5.89	5.88	6.36	6.34	6.50	6.44	7.23	7.20
14	5.76	5.75	5.55	5.41	5.91	5.89	6.38	6.36	6.55	6.50	7.24	7.22
15	5.76	5.75	5.62	5.55	5.92	5.91	6.40	6.37	6.60	6.55	7.26	7.23
16	5.76	5.66	5.70	5.62	5.96	5.92	6.42	6.40	6.63	6.60	7.29	7.26
17	5.76	5.66	5.74	5.69	6.00	5.96	6.45	6.41	6.67	6.62	7.29	7.26
18	5.78	5.76	5.75	4.81	6.00	5.99	6.47	6.45	6.70	6.66	7.28	7.26
19	5.80	5.77	4.98	4.73	6.04	6.00	6.46	6.44	6.72	6.69	7.30	7.28
20	5.81	5.79	5.18	4.98	6.03	5.94	6.50	6.45	6.73	6.70	7.35	7.30
21	5.82	5.80	5.29	5.18	5.99	5.97	6.52	6.49	6.78	6.73	7.32	7.31
22	5.85	5.78	5.38	5.29	6.07	5.99	6.54	6.50	6.79	6.77	7.35	7.32
23	5.92	5.85	5.43	5.38	6.07	6.04	6.56	6.53	6.80	6.79	7.35	7.34
24	5.93	5.89	5.48	5.43	6.08	6.02	6.57	6.55	6.82	6.80	7.39	7.35
25	5.93	5.90	5.55	5.48	6.09	6.08	6.59	6.56	6.85	6.82	7.39	7.38
26	5.93	5.78	5.59	5.55	6.08	6.08	6.60	6.58	6.88	6.85	7.40	7.38
27	5.90	5.85	5.62	5.59	6.10	6.08	6.60	6.58	6.90	6.88	7.42	7.40
28	5.90	5.87	5.63	5.62	6.11	6.10	6.64	6.60	6.92	6.89	7.46	7.42
29	5.87	5.85	5.68	5.63	6.13	6.10	6.64	6.62	6.95	6.92	7.48	7.46
30	5.86	5.85	5.70	5.68	6.15	6.12	6.67	6.64	6.96	6.94	7.50	7.48
31	---	---	5.69	5.68	---	---	6.69	6.66	6.97	6.96	---	---
MONTH	5.93	5.59	6.08	4.66	6.15	5.68	6.69	6.14	6.97	5.12	7.50	6.97
YEAR	9.10	4.47										



## GROUND-WATER LEVELS

157

## MARYLAND--Continued

## CALVERT COUNTY--Continued

WELL NUMBER.--CA Fc 33. SITE ID.--382339076304201.

LOCATION.--Lat 38°23'39", long 76°30'41", Hydrologic Unit 02060006, Jefferson Patterson State Park and Museum.

Owner: U.S. Geological Survey.

AQUIFER.--Lowland deposits of Pleistocene age. Aquifer code: 111LLND.

WELL CHARACTERISTICS.--Driven, observation, water-table well, depth 13.7 ft; casing diameter 2 in., to 11.7 ft; screen diameter 2 in. from 11.7 to 13.7 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

Equipped with digital water level recorder--60-minute recorder interval from September 5, 1990 to

September 20, 1990 and a 15-minute recorder interval from September 20, 1990 to current year.

DATUM.--Elevation of land surface is 12.17 ft above National Geodetic Vertical Datum of 1929.

Measuring Point: Top of recorder platform, 3.31 ft above land surface.

REMARKS.--Best Management Practices Project observation well. Missing data due to recorder malfunctions.

PERIOD OF RECORD.--March 1989 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.88 ft below land surface, Jan. 11, and 12, 1991; lowest measured, 9.25 ft below land surface, Nov. 28, and Dec. 1, 1991.

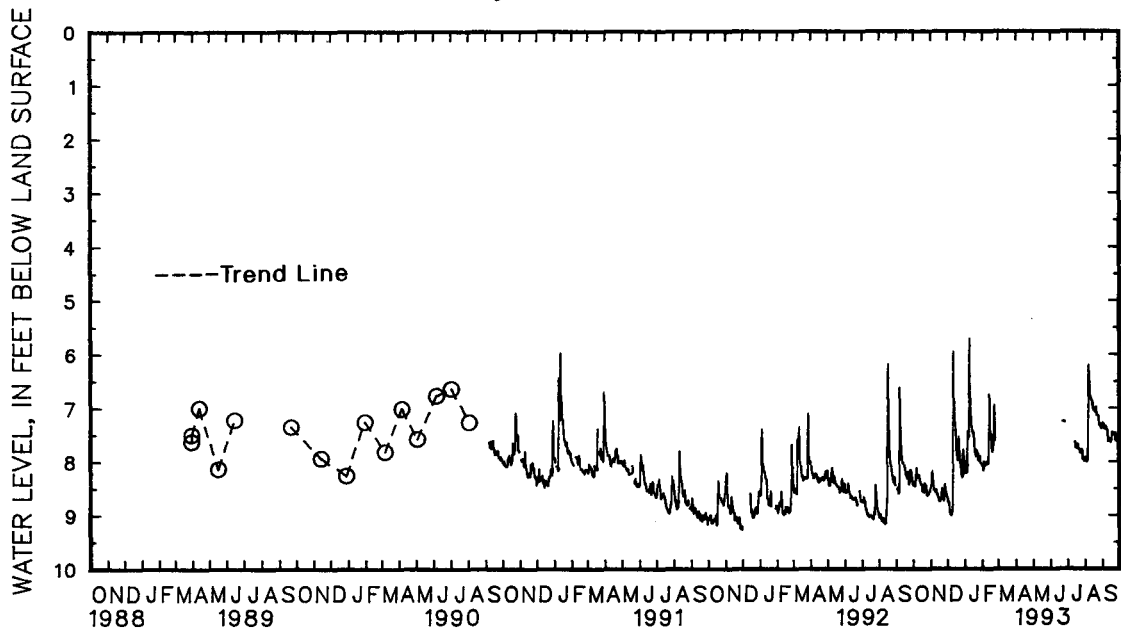
## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	8.45	8.28	8.47	8.36	8.69	8.58	8.11	7.95	8.09	8.02	---	---
2	8.38	8.26	8.43	8.16	8.76	8.52	8.22	8.11	8.17	8.09	---	---
3	8.42	8.26	8.18	7.88	8.75	8.52	8.21	8.10	8.11	7.77	---	---
4	8.46	8.33	8.31	8.11	8.82	8.59	8.20	8.04	8.01	7.77	---	---
5	8.33	7.98	8.39	8.10	8.94	8.59	8.07	5.44	8.04	7.86	---	---
6	8.13	7.93	8.53	8.38	8.99	8.87	7.44	6.87	8.07	7.86	---	---
7	8.27	8.03	8.51	8.36	8.95	8.82	7.57	7.40	8.05	7.82	---	---
8	8.30	8.18	8.54	8.41	9.00	8.92	7.53	5.71	8.02	7.76	---	---
9	8.25	8.07	8.57	8.42	8.96	8.80	5.71	5.15	8.05	7.89	---	---
10	8.29	8.04	8.56	8.38	8.82	4.62	6.72	5.58	8.01	7.84	---	---
11	8.27	8.07	8.53	8.33	5.95	4.66	7.05	6.65	8.04	7.89	---	---
12	8.35	8.16	8.62	8.44	6.68	5.38	7.27	6.99	8.03	4.84	---	---
13	8.39	8.23	8.62	8.32	7.16	6.68	7.35	7.17	6.75	4.89	---	---
14	8.43	8.27	8.67	8.55	7.29	7.09	7.43	7.29	7.37	6.75	---	---
15	8.43	8.28	8.69	8.57	7.40	7.20	7.48	7.35	7.53	7.37	---	---
16	8.44	8.29	8.74	8.65	7.64	7.40	7.46	7.34	7.49	6.98	---	---
17	8.56	8.36	8.70	8.47	7.78	7.30	7.56	7.44	7.57	6.98	---	---
18	8.52	8.31	8.74	8.50	7.83	7.31	7.73	7.46	7.75	7.55	---	---
19	8.50	8.30	8.71	8.50	7.97	7.83	7.83	7.71	7.82	7.75	---	---
20	8.57	8.26	8.61	8.39	7.98	6.21	7.86	7.78	7.78	7.56	---	---
21	8.41	8.17	8.50	8.29	7.54	6.86	7.91	7.79	7.69	5.82	---	---
22	8.57	8.35	8.54	8.35	7.81	7.54	7.79	7.55	6.95	5.82	---	---
23	8.52	8.33	8.65	8.40	7.88	7.75	7.85	7.66	7.27	6.92	---	---
24	8.45	8.23	8.74	8.53	8.11	7.82	7.85	7.69	7.61	7.27	---	---
25	8.63	8.34	8.56	8.24	8.13	8.02	7.98	7.80	---	---	---	---
26	8.63	8.40	8.43	8.24	8.26	8.04	7.99	7.92	---	---	---	---
27	8.62	8.41	8.54	8.33	8.30	8.25	7.93	7.83	---	---	---	---
28	8.62	8.43	8.57	8.43	8.26	6.84	7.90	7.73	---	---	---	---
29	8.58	8.43	8.63	8.51	7.78	7.26	8.04	7.72	---	---	---	---
30	8.57	8.43	8.67	8.58	7.90	7.78	8.06	7.99	---	---	---	---
31	8.50	8.40	---	---	8.01	7.90	8.06	8.00	---	---	---	---
MONTH	8.63	7.93	8.74	7.88	9.00	4.62	8.22	5.15	8.17	4.84	---	---

GROUND-WATER LEVELS  
MARYLAND--Continued  
CALVERT COUNTY--Continued  
CA Fc 33--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	---	---	---	---	---	---	7.99	7.79	7.28	7.23
2	---	---	---	---	---	---	---	---	7.94	7.75	7.29	7.19
3	---	---	---	---	---	---	---	---	7.94	7.79	7.31	7.29
4	---	---	---	---	---	---	---	---	8.01	7.84	7.39	7.31
5	---	---	---	---	---	---	---	---	8.01	7.89	7.39	7.39
6	---	---	---	---	---	---	---	---	7.97	4.87	7.39	7.33
7	---	---	---	---	---	---	---	---	6.21	5.00	7.35	7.35
8	---	---	---	---	---	---	---	---	6.39	6.21	7.40	7.35
9	---	---	---	---	---	---	---	---	6.59	6.39	7.40	7.33
10	---	---	---	---	---	---	---	---	6.76	6.59	7.45	7.31
11	---	---	---	---	---	---	---	---	6.84	6.72	7.63	7.45
12	---	---	---	---	---	---	---	---	6.86	6.72	7.63	7.58
13	---	---	---	---	---	---	---	---	6.90	6.72	7.58	7.53
14	---	---	---	---	---	---	7.64	7.55	7.00	6.84	7.60	7.58
15	---	---	---	---	---	---	7.75	7.56	7.04	6.85	7.64	7.60
16	---	---	---	---	---	---	7.75	7.61	7.04	6.88	7.64	7.60
17	---	---	---	---	---	---	7.76	7.61	7.02	6.83	7.60	7.46
18	---	---	---	---	---	---	7.75	7.63	7.07	6.88	7.46	7.29
19	---	---	---	---	---	---	7.68	7.51	7.07	6.87	7.46	7.36
20	---	---	---	---	---	---	7.77	7.51	6.99	6.81	7.48	7.46
21	---	---	---	---	---	---	7.77	7.61	7.13	6.91	7.49	7.39
22	---	---	---	---	7.25	7.06	7.78	7.65	7.14	7.05	7.47	7.39
23	---	---	---	---	7.25	7.18	7.83	7.67	7.14	6.99	7.47	7.44
24	---	---	---	---	7.25	7.25	7.85	7.68	7.15	7.03	7.61	7.44
25	---	---	---	---	7.25	7.25	7.84	7.65	7.22	7.15	7.61	7.53
26	---	---	---	---	7.26	7.25	7.79	7.66	7.32	7.22	7.53	7.53
27	---	---	---	---	---	---	7.81	7.59	7.30	7.24	7.53	7.53
28	---	---	---	---	---	---	7.97	7.71	7.34	7.24	7.70	7.53
29	---	---	---	---	---	---	7.94	7.76	7.38	7.30	7.80	7.65
30	---	---	---	---	---	---	7.94	7.74	7.38	7.33	7.80	7.72
31	---	---	---	---	---	---	8.00	7.79	7.33	7.22	---	---
MONTH	---	---	---	---	7.26	7.06	8.00	7.51	8.01	4.87	7.80	7.19
YEAR	9.00	4.62										

Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

159

## MARYLAND--Continued

## CALVERT COUNTY--Continued

WELL NUMBER.--CA Fc 34. SITE ID.--382339076304202.

LOCATION.--Lat 38°23'39", long 76°30'41", Hydrologic Unit 02060006, Jefferson Patterson State Park and Museum.

Owner: U. S. Geological Survey.

AQUIFER.--Lowland deposits of Pleistocene age. Aquifer code: 111LLND.

WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 17.8 ft; casing diameter 2 in., to 15.8 ft; screen diameter 2 in. from 15.8 to 17.8 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

Equipped with digital water-level recorder--1-hour recorder interval from September 1990 to current year.

DATUM.--Elevation of land surface is 12.01 ft above National Geodetic Vertical Datum of 1929.

Measuring Point: Top of recorder platform, 3.54 ft above land surface.

REMARKS.--Best Management Practices Project observation well. Missing data due to recorder malfunction.

PERIOD OF RECORD.--May 1989 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.17 ft below land surface, March 13, 1993; lowest measured, 9.25 ft below land surface, Nov. 27, 1991.

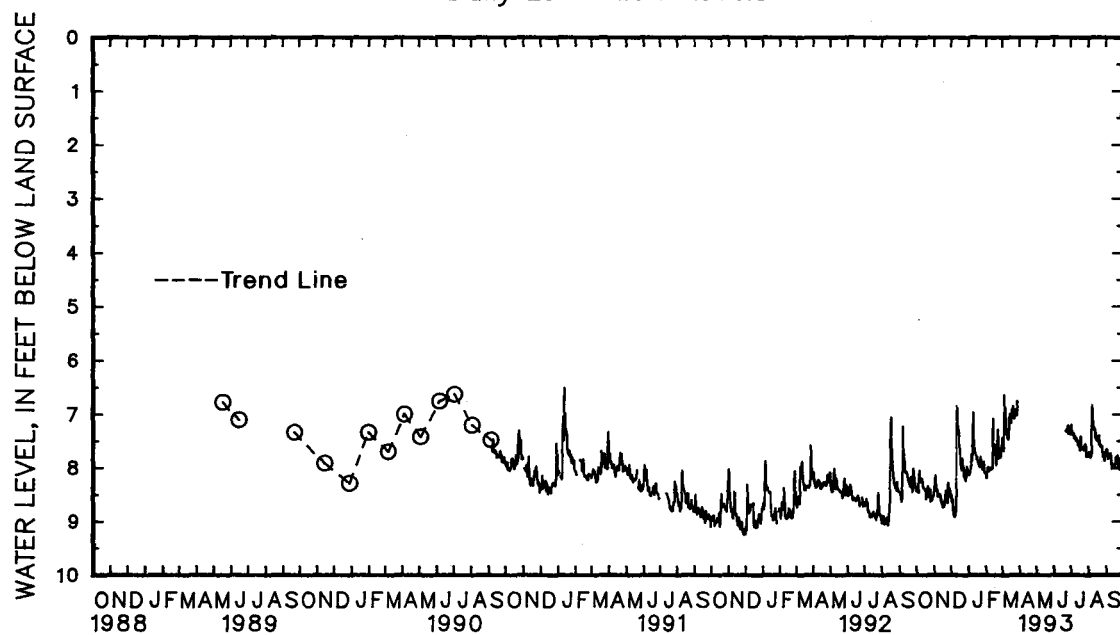
## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	8.44	8.15	8.41	8.19	8.51	8.34	8.10	7.91	8.10	7.93	7.61	7.34
2	8.36	8.11	8.35	7.95	8.63	8.26	8.14	8.05	8.19	8.06	7.44	7.15
3	8.41	8.14	8.14	7.68	8.58	8.26	8.08	7.94	8.06	7.57	7.69	7.37
4	8.46	8.23	8.30	7.93	8.71	8.34	8.09	7.94	7.99	7.57	7.62	5.22
5	8.24	7.73	8.38	7.93	8.85	8.34	8.00	6.69	8.03	7.72	6.64	5.88
6	8.05	7.69	8.54	8.31	8.90	8.68	7.75	7.37	8.06	7.71	6.90	6.31
7	8.24	7.86	8.48	8.21	8.85	8.62	7.86	7.67	8.00	7.62	7.06	6.66
8	8.26	8.03	8.51	8.27	8.91	8.74	7.76	6.97	8.00	7.55	7.24	6.76
9	8.20	7.91	8.53	8.26	8.83	8.55	6.97	6.50	8.03	7.71	7.37	7.01
10	8.25	7.84	8.52	8.22	8.60	6.08	7.22	6.72	8.01	7.64	7.37	7.09
11	8.22	7.87	8.50	8.16	6.84	5.84	7.50	6.99	8.02	7.74	7.44	7.08
12	8.35	8.01	8.61	8.30	7.10	6.26	7.69	7.29	8.01	6.30	7.46	7.27
13	8.35	8.05	8.60	8.09	7.27	7.03	7.73	7.48	7.08	6.30	7.46	5.17
14	8.40	8.10	8.67	8.42	7.29	7.01	7.77	7.56	7.60	7.08	6.99	5.72
15	8.39	8.12	8.66	8.42	7.34	7.01	7.84	7.61	7.75	7.48	7.13	6.99
16	8.43	8.12	8.74	8.53	7.61	7.20	7.80	7.61	7.57	7.14	7.16	7.08
17	8.58	8.27	8.66	8.29	7.75	7.38	7.87	7.64	7.77	7.14	7.16	5.91
18	8.48	8.13	8.73	8.39	7.91	7.44	7.92	7.64	7.88	7.63	6.92	6.05
19	8.46	8.12	8.66	8.32	8.00	7.79	7.95	7.86	7.95	7.80	6.90	6.70
20	8.55	8.06	8.53	8.19	8.04	7.15	7.98	7.86	7.80	7.45	6.85	6.64
21	8.34	7.95	8.43	8.10	7.83	7.38	7.99	7.79	7.67	6.71	7.00	6.65
22	8.55	8.20	8.43	8.16	7.98	7.72	7.79	7.51	7.28	6.63	7.08	6.85
23	8.48	8.17	8.55	8.18	7.99	7.82	7.90	7.65	7.48	7.10	7.05	6.84
24	8.40	8.04	8.66	8.31	8.16	7.90	7.90	7.65	7.82	7.44	6.95	6.55
25	8.64	8.18	8.35	7.98	8.16	7.98	8.03	7.80	---	---	6.91	6.70
26	8.61	8.22	8.28	7.98	8.19	8.02	8.03	7.89	7.80	7.45	7.01	6.63
27	8.61	8.23	8.43	8.11	8.24	8.13	7.93	7.72	7.64	7.44	7.01	6.35
28	8.61	8.22	8.38	8.21	8.16	7.54	7.89	7.56	7.65	7.36	6.76	6.34
29	8.54	8.25	8.48	8.26	7.98	7.78	8.08	7.55	---	---	6.77	6.54
30	8.53	8.24	8.55	8.35	8.03	7.90	8.10	7.95	---	---	---	---
31	8.44	8.22	---	---	8.06	7.97	8.10	8.00	---	---	---	---
MONTH	8.64	7.69	8.74	7.68	8.91	5.84	8.14	6.50	8.19	6.30	7.69	5.17

GROUND-WATER LEVELS  
MARYLAND--Continued  
CALVERT COUNTY--Continued  
CA Fc 34--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	---	---	---	---	7.32	6.99	7.79	7.41	7.66	7.33
2	---	---	---	---	---	---	7.20	6.92	7.71	7.35	7.66	7.29
3	---	---	---	---	---	---	7.33	6.81	7.75	7.37	7.68	7.32
4	---	---	---	---	---	---	7.38	6.98	7.80	7.46	7.84	7.39
5	---	---	---	---	---	---	7.37	7.04	7.81	7.55	7.84	7.59
6	---	---	---	---	---	---	7.35	7.02	7.75	5.51	7.77	7.47
7	---	---	---	---	---	---	7.38	6.96	6.83	5.95	7.75	7.45
8	---	---	---	---	---	---	7.45	7.15	7.01	6.65	7.81	7.48
9	---	---	---	---	---	---	7.43	7.15	7.18	6.90	7.74	7.39
10	---	---	---	---	---	---	7.42	7.10	7.24	6.98	7.83	7.40
11	---	---	---	---	---	---	7.50	7.20	7.29	7.04	8.02	7.70
12	---	---	---	---	---	---	7.46	7.16	7.28	6.99	7.93	7.57
13	---	---	---	---	---	---	7.50	7.21	7.33	6.99	7.96	7.56
14	---	---	---	---	---	---	7.53	7.18	7.45	7.10	7.99	7.63
15	---	---	---	---	---	---	7.61	7.18	7.48	7.09	8.01	7.59
16	---	---	---	---	---	---	7.56	7.20	7.46	7.10	8.02	7.69
17	---	---	---	---	---	---	7.67	7.18	7.47	7.02	7.93	7.45
18	---	---	---	---	---	---	7.54	7.25	7.51	7.13	7.80	7.37
19	---	---	---	---	---	---	7.41	7.08	7.40	7.01	7.90	7.52
20	---	---	---	---	---	---	7.65	7.09	7.40	6.99	7.90	7.52
21	---	---	---	---	---	---	7.61	7.23	7.60	7.12	7.78	7.43
22	---	---	---	---	7.31	6.88	7.62	7.20	7.59	7.23	7.96	7.64
23	---	---	---	---	7.32	7.02	7.67	7.28	7.57	7.20	7.83	7.47
24	---	---	---	---	7.33	7.00	7.67	7.31	7.59	7.21	8.03	7.52
25	---	---	---	---	7.27	6.98	7.67	7.27	7.68	7.30	7.85	7.49
26	---	---	---	---	7.21	6.87	7.58	7.17	7.79	7.40	7.84	7.48
27	---	---	---	---	7.36	7.04	7.56	7.14	7.76	7.40	7.89	7.59
28	---	---	---	---	7.30	6.95	7.79	7.29	7.79	7.39	8.04	7.70
29	---	---	---	---	7.34	6.95	7.72	7.34	7.87	7.45	8.10	7.82
30	---	---	---	---	7.37	7.01	7.75	7.33	7.74	7.42	8.08	7.88
31	---	---	---	---	---	---	7.79	7.41	7.70	7.33	---	---
MONTH	---	---	---	---	7.37	6.87	7.79	6.81	7.87	5.51	8.10	7.29
YEAR	8.91	5.17										

Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993



GROUND-WATER LEVELS  
MARYLAND--Continued  
CALVERT COUNTY--Continued

WELL NUMBER.--CA Fd 51. SITE ID.--382408076260401. PERMIT NUMBER.--CA-73-1449.

LOCATION.--Lat 38°24'08", long 76°26'04", Hydrologic Unit 02060004, at Calvert Cliffs State Park.

Owner: U.S. Geological Survey.

AQUIFER.--Piney Point Formation of Middle Eocene age. Aquifer code: 124PNPN.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 352 ft; casing diameter 6 in., to 140 ft; casing diameter 2 in. from 140 to 342 ft; screen diameter 2 in. from 342 to 352 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 120 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of protective casing, 3.63 ft above land surface.

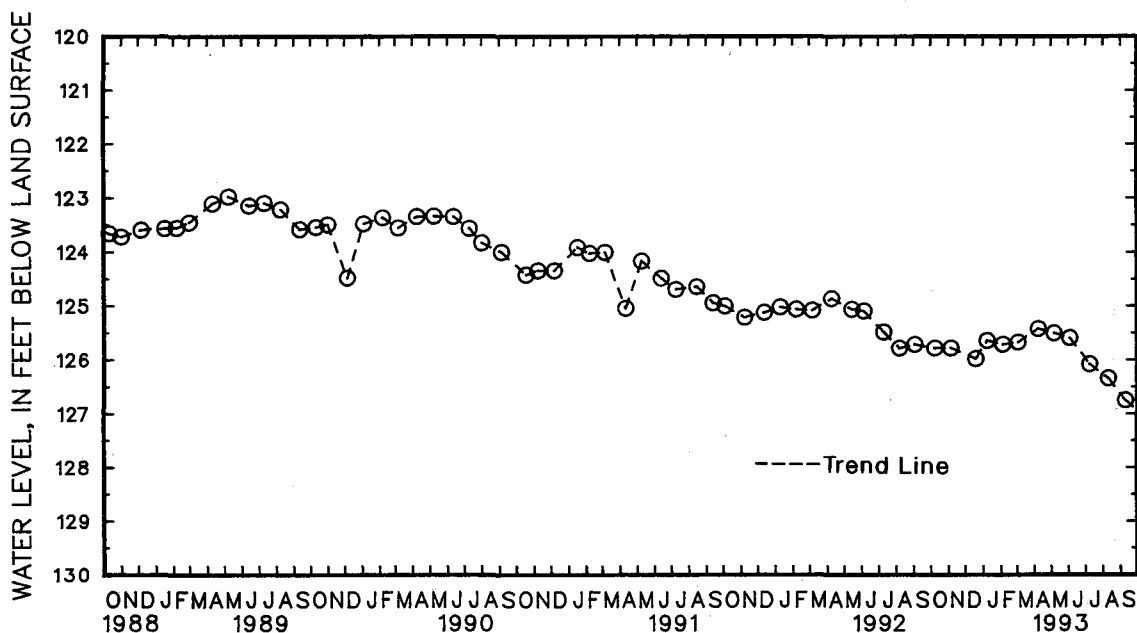
REMARKS.--Maryland Water-Level Network observation well.

PERIOD OF RECORD.--February 1977 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 116.36 ft below land surface, Jan. 8, 1980; lowest measured, 126.76 ft below land surface, Sept. 9, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 8	125.79	DEC 19	125.99	FEB 4	125.72	APR 8	125.43	JUN 3	125.60	AUG 10	126.35
NOV 5	125.79	JAN 8	125.65	MAR 3	125.68	MAY 6	125.51	JUL 8	126.09	SEP 9	126.76
WATER YEAR 1993		HIGHEST	125.43	APR 8, 1993		LOWEST	126.76	SEP 9, 1993			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

**MARYLAND--Continued**

**CALVERT COUNTY--Continued**

WELL NUMBER.--CA Fd 54. SITE ID.--382407076260301. PERMIT NUMBER.--CA-73-2892.

LOCATION.--Lat 38°24'07", long 76°26'03", Hydrologic Unit 02060006, at Calvert Cliffs State Park.

Owner: U.S. Geological Survey.

**AQUIFER.--**Aquia Formation of Upper Paleocene age. Aquifer code: 125AQUI.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 698 ft; casing diameter 4 in., to 234 ft; casing diameter 2 in. from 234 to 641 ft, and 651 to 698 ft; screen diameter 2 in. from 641 to 651 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 120 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of casing, 1.92 ft above land surface.

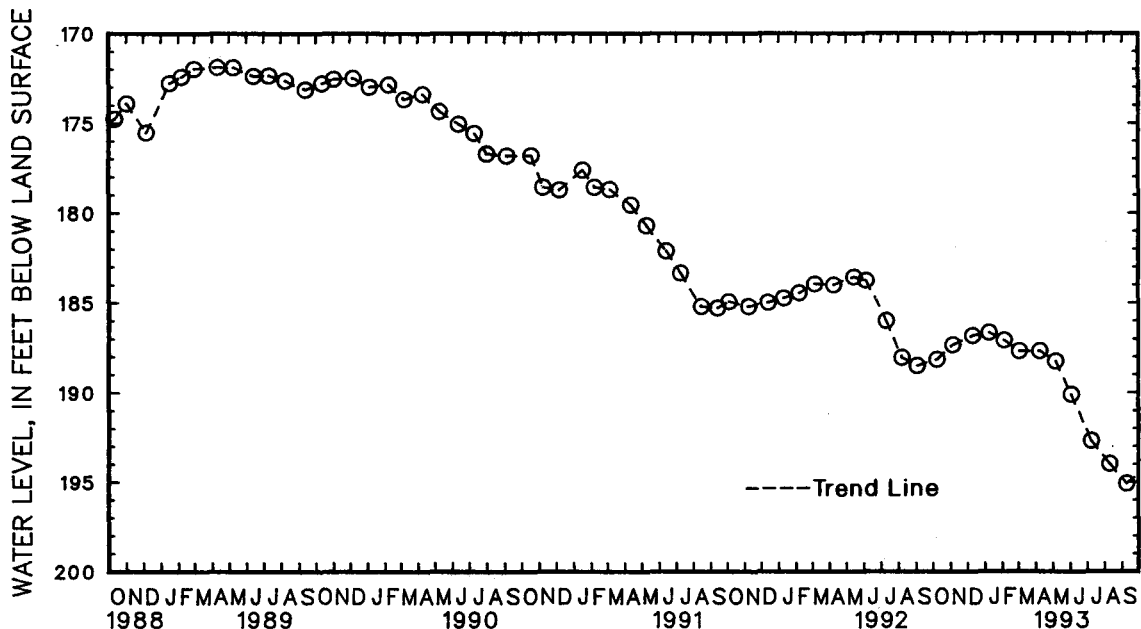
REMARKS.--Maryland Water-Level Network observation well.

PERIOD OF RECORD.--October 1978 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 142.69 ft below land surface, April 21, 1980; lowest measured, 195.10 ft below land surface, Sept. 9, 1993.

**WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993**

DATE		WATER LEVEL		DATE		WATER LEVEL		DATE		WATER LEVEL		DATE		WATER LEVEL			
OCT	8	188.18	DEC	10	186.88	FEB	4	187.11	APR	8	187.70	JUN	3	190.13	AUG	10	194.01
NOV	5	187.36	JAN	8	186.68	MAR	3	187.71	MAY	6	188.28	JUL	8	192.73	SEP	9	195.10
WATER YEAR 1993			HIGHEST			186.68			JAN 8, 1993			LOWEST			195.10 SEP 9, 1993		



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

CALVERT COUNTY--Continued

WELL NUMBER.--CA Fe 22. SITE ID.--382318076242401. PERMIT NUMBER.--CA-73-1386.

LOCATION.--Lat 38°23'18", long 76°24'24", Hydrologic Unit 02060004, at Columbia LNG Plant, Cove Point.

Owner: U.S. Geological Survey.

AQUIFER.--Piney Point Formation of Middle Eocene age. Aquifer code: 124PNPN.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 350 ft; casing diameter 6 in., to 10 ft; casing diameter 2 in. from 10 to 340 ft; screen diameter 2 in. from 340 to 350 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 113.89 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of casing, 2.82 ft above land surface.

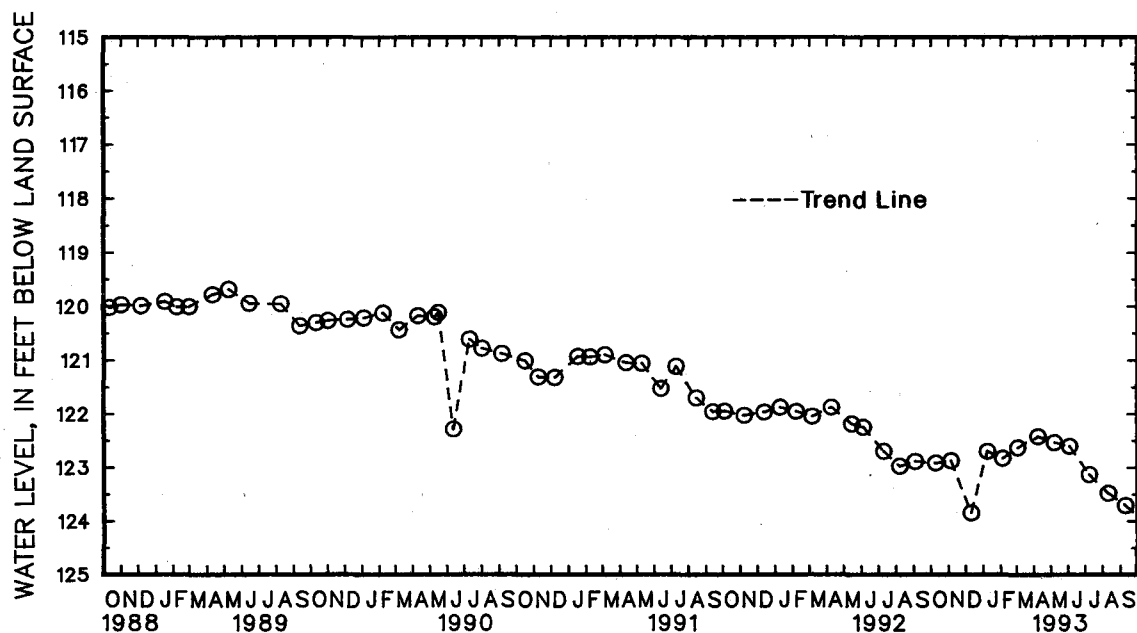
REMARKS.--Maryland Water-Level Network observation well.

PERIOD OF RECORD.--June 1976 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 111.50 ft below land surface, Oct. 5, 1976; lowest measured, 123.85 ft below land surface, Dec. 10, 1992.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 9	122.92	DEC 10	123.85	FEB 4	122.83	APR 8	122.42	JUN 3	122.60	AUG 10	123.48
NOV 5	122.88	JAN 8	122.70	MAR 3	122.64	MAY 7	122.53	JUL 8	123.13	SEP 9	123.71
WATER YEAR 1993		HIGHEST 122.42 APR 8, 1993		LOWEST 123.85 DEC 10, 1992							



5 YEAR HYDROGRAPH

OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

CALVERT COUNTY--Continued

WELL NUMBER.--CA Gd 6. SITE ID.--381952076270901.

LOCATION.--Lat 38°19'52", long 76°27'09", Hydrologic Unit 02060006, at the Lord Calvert Yacht Club, 0.5 mi northeast of Solomons.

Owner: Calvert Marina.

AQUIFER.--Aquia Formation of Upper Paleocene age. Aquifer code: 125AQUI.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 493 ft; casing diameter 8 in., to 272 ft; casing diameter 6 in. from 272 to 472 ft; screened from 469 to 493 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel. Equipped with water-level recorder from Oct. 19, 1949 to Feb. 25, 1960.

DATUM.--Elevation of land surface is 12.58 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of sanitary seal, 1.59 ft above land surface.

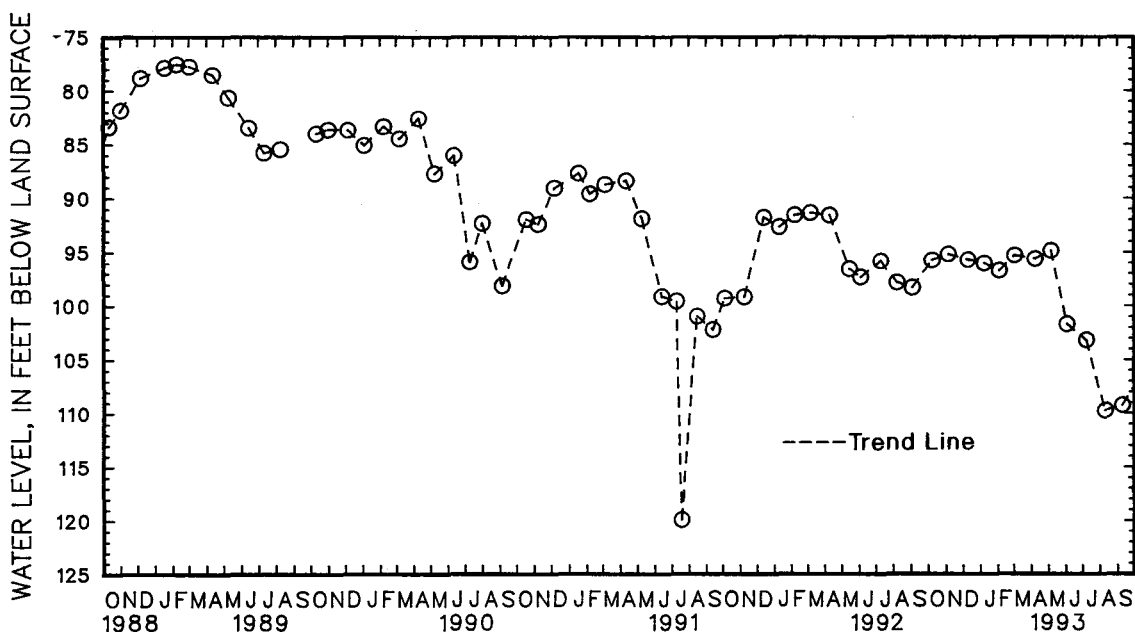
REMARKS.--Maryland Water-Level Network observation well. Water level reported at land surface 1942; water-level measured 58.9 ft below land surface, Jan. 13, 1944. Well not measured from April through July 1988 during building construction at well site. Water levels are affected by pumping. On July 18, 1991 the water-level measured, 119.93 ft below land surface during an extended pumping period.

PERIOD OF RECORD.-- October 1949 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 26.15 ft below land surface, May 18, 1950; lowest measured, 119.93 ft below land surface, July 18, 1991.

## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 8	95.75	DEC 10	95.71	FEB 4	96.69	APR 8	95.64	JUN 3	101.72	AUG 10	109.77
NOV 5	95.18	JAN 8	96.03	MAR 3	95.31	MAY 6	94.87	JUL 8	103.21	SEP 9	109.28
WATER YEAR 1993		HIGHEST	94.87	MAY 6, 1993	LOWEST	109.77	AUG 10, 1993				



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

## CAROLINE COUNTY

WELL NUMBER.--CO Bc 1. SITE ID.--390333075504501.

LOCATION.--Lat 39°03'33", long 75°50'45", Hydrologic Unit 02060005, at Baltimore Corner.

Owner: Maryland State Highway Administration.

AQUIFER.--Pleistocene Series of Pleistocene age. Aquifer code: 112PLSC.

WELL CHARACTERISTICS.--Driven, observation, water-table well, depth 20.5 ft; well point diameter 1.25 in., to 20.5 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 50 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of casing, 0.1 ft above land surface.

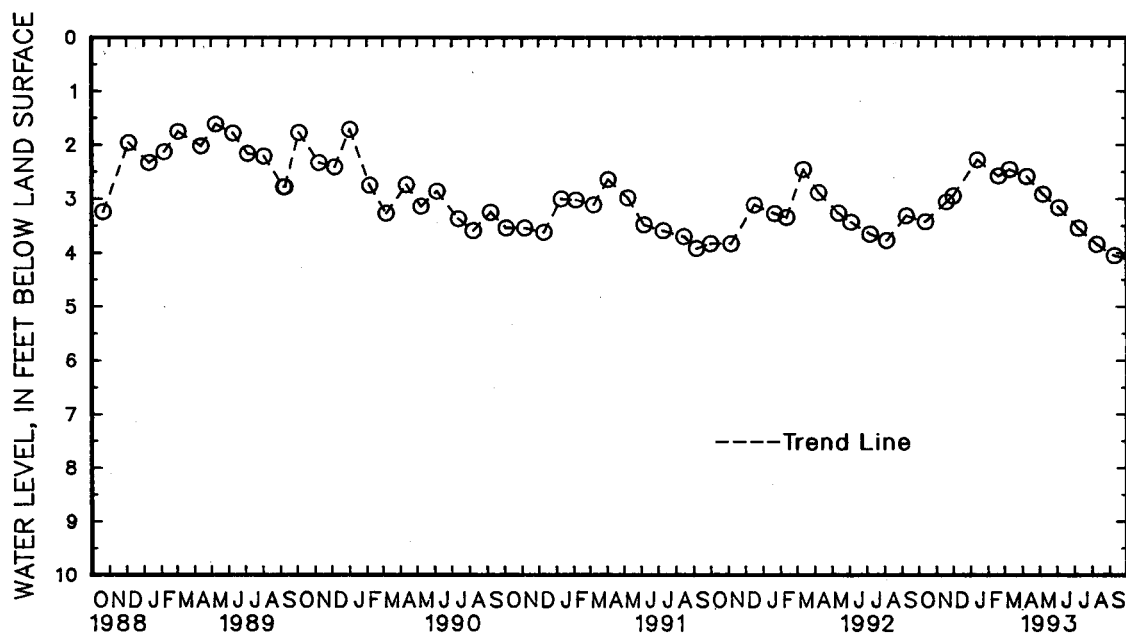
REMARKS.--Maryland Water-Level Network observation well.

PERIOD OF RECORD.--August 1949 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.25 ft above land surface, Nov. 27, 1951; lowest measured, 4.37 ft below land surface, Oct. 11, 1957.

## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 13	3.43	DEC 1	2.95	FEB 19	2.58	APR 9	2.59	JUN 4	3.17	AUG 9	3.85
NOV 19	3.06	JAN 13	2.28	MAR 10	2.46	MAY 7	2.92	JUL 8	3.55	SEP 9	4.06
WATER YEAR 1993		HIGHEST	2.28	JAN 13, 1993		LOWEST	4.06	SEP 9, 1993			



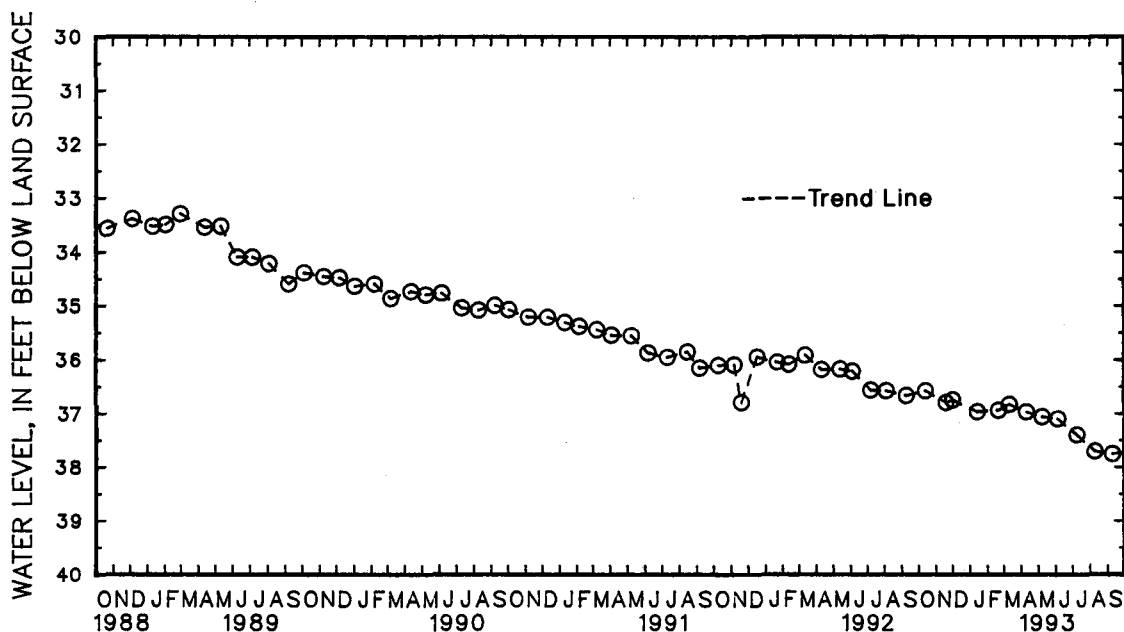
5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
CAROLINE COUNTY--Continued

WELL NUMBER.--CO Bd 53. SITE ID.--390227075470201. PERMIT NUMBER.--CO-73-0541.  
LOCATION.--Lat 39°02'27", long 75°47'02", Hydrologic Unit 02060005, near MD Rt. 311, Goldsboro.  
Owner: U.S. Geological Survey.  
AQUIFER.--Piney Point Formation of Middle Eocene age. Aquifer code: 124PNPN.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 312 ft; casing diameter 6 in., to 70 ft; casing diameter 2 in. from 70 to 300 ft; screen diameter 2 in. from 300 to 312 ft.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
DATUM.--Elevation of land surface is 60 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
Measuring point: Top of casing, 1.45 ft above land surface.  
REMARKS.--Maryland Water-Level Network observation well.  
PERIOD OF RECORD.--February 1976 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 28.64 ft below land surface, Dec. 10, 1976; lowest measured, 37.76 ft below land surface, Sept. 9, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 13	36.58	DEC 1	36.75	FEB 19	36.94	APR 9	36.97	JUN 4	37.10	AUG 9	37.71
NOV 19	36.80	JAN 13	36.97	MAR 10	36.83	MAY 7	37.06	JUL 8	37.40	SEP 9	37.76
WATER YEAR 1993		HIGHEST	36.58	OCT 13, 1992		LOWEST	37.76	SEP 9, 1993			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

CAROLINE COUNTY--Continued

WELL NUMBER.--CO Dc 129. SITE ID.--385310075503601. PERMIT NUMBER.--CO-02-3881.  
LOCATION.--Lat 38°53'10", long 75°50'36", Hydrologic Unit 02060005, at West Denton.  
Owner: Wilson Laurel Farms, Inc.

Owner: Wilson Laurel Farms, Inc.

**AQUIFER.**--Choptank Formation of Miocene age. Aquifer code: 122CPNK.

**WELL CHARACTERISTICS.**--Drilled, unused, artesian well, depth 229 ft; casing diameter 4 in., to 137.5 ft; open hole.

**INSTRUMENTATION.**--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

**INSTRUMENTATION.**--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

Equipped with water level recorder from Aug. 1, 1956 to June 8, 1957.

DATUM.--Elevation of land surface is 20 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of casing, 0.4 ft below land surface.

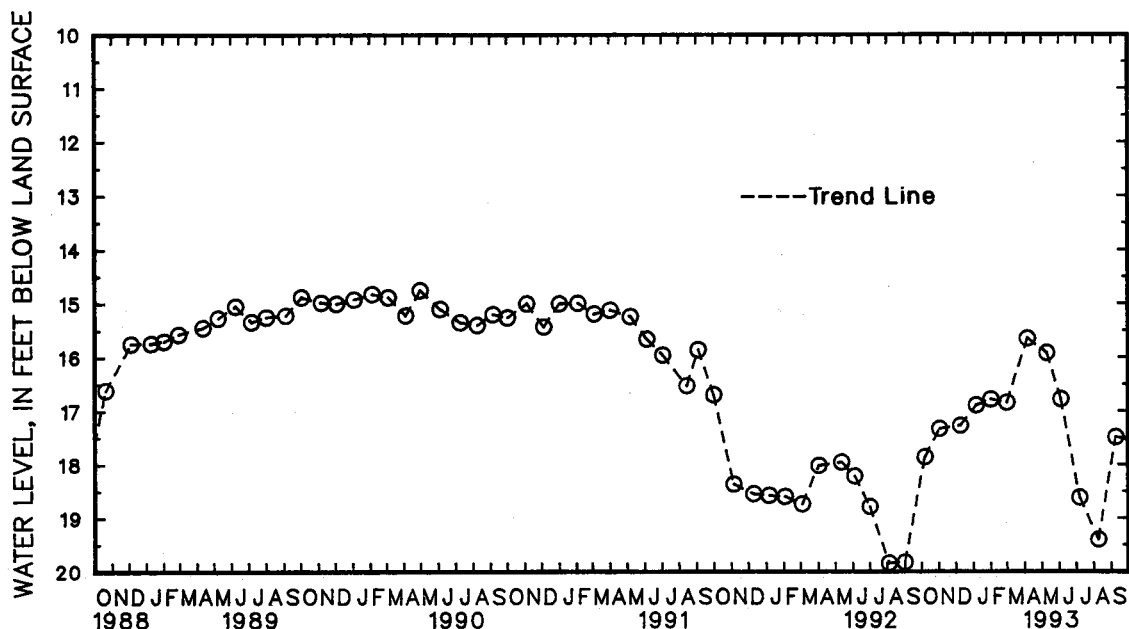
REMARKS.--Maryland Water-Level Network observation well.

PERIOD OF RECORD.--August 1956 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 13.63 ft below land surface, April 5, 1973;  
lowest measured, 56.09 ft below land surface, Nov. 5, 1965.

**WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993**

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 7	17.86	DEC 9	17.27	FEB 1	16.78	APR 6	15.65	JUN 4	16.78	AUG 9	19.40
NOV 2	17.33	JAN 6	16.89	MAR 1	16.84	MAY 10	15.92	JUL 7	18.62	SEP 9	17.49
WATER YEAR 1993		HIGHEST	15.65	APR 6, 1993		LOWEST	19.40	AUG 9, 1993			



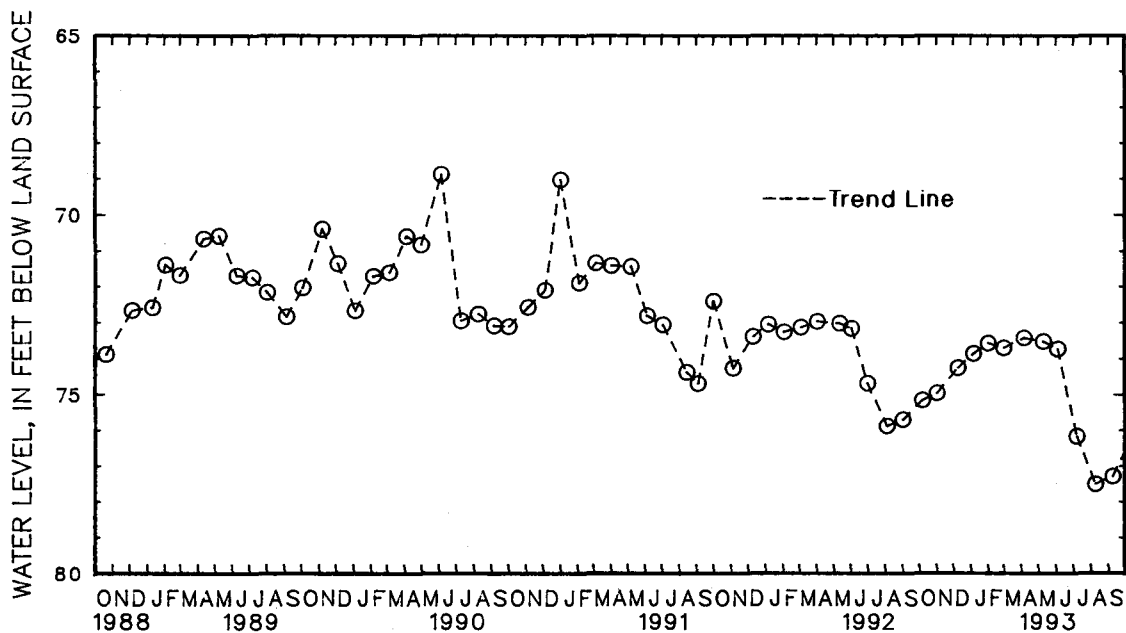
5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
CAROLINE COUNTY--Continued

WELL NUMBER.--CO Dd 47. SITE ID.--385217075490601. PERMIT NUMBER.--CO-73-0486.  
LOCATION.--Lat 38°52'17", long 75°49'06", Hydrologic Unit 02060005, at Denton Sewage Lagoon.  
Owner: U.S. Geological Survey.  
AQUIFER.--Piney Point Formation of Middle Eocene age. Aquifer code: 124PNPN.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 380 ft; casing diameter 4 in., to 100 ft; casing diameter 2 in. from 100 to 370 ft; screen diameter 2 in. from 370 to 380 ft.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
DATUM.--Elevation of land surface is 46 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
Measuring point: Top of casing, 2.4 ft above land surface.  
REMARKS.--Maryland Water-Level Network observation well.  
PERIOD OF RECORD.--April 1976 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 62.78 ft below land surface, May 27, 1976;  
lowest measured, 77.51 ft below land surface, Aug. 9, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 7	75.16	DEC 9	74.26	FEB 1	73.57	APR 6	73.42	JUN 4	73.73	AUG 9	77.51
NOV 2	74.96	JAN 6	73.86	MAR 1	73.70	MAY 10	73.52	JUL 7	76.17	SEP 9	77.29
WATER YEAR 1993		HIGHEST	73.42	APR 6, 1993		LOWEST	77.51	AUG 9, 1993			





## GROUND-WATER LEVELS

MARYLAND--Continued

CARROLL COUNTY

WELL NUMBER.--CL Ad 47. SITE ID.--394008077005601. PERMIT NUMBER.--CL-73-3178.

LOCATION.--Lat 39°40'08", long 77°00'56", Hydrologic Unit 02070009, at Union Mills Homestead Park.

Owner: U.S. Geological Survey.

AQUIFER.--Marburg Formation of Paleozoic age. Aquifer code: 300MRBG.

WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 310 ft; casing diameter 6 in., to 35 ft.; open hole.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 540 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of casing 2.97 ft above land surface.

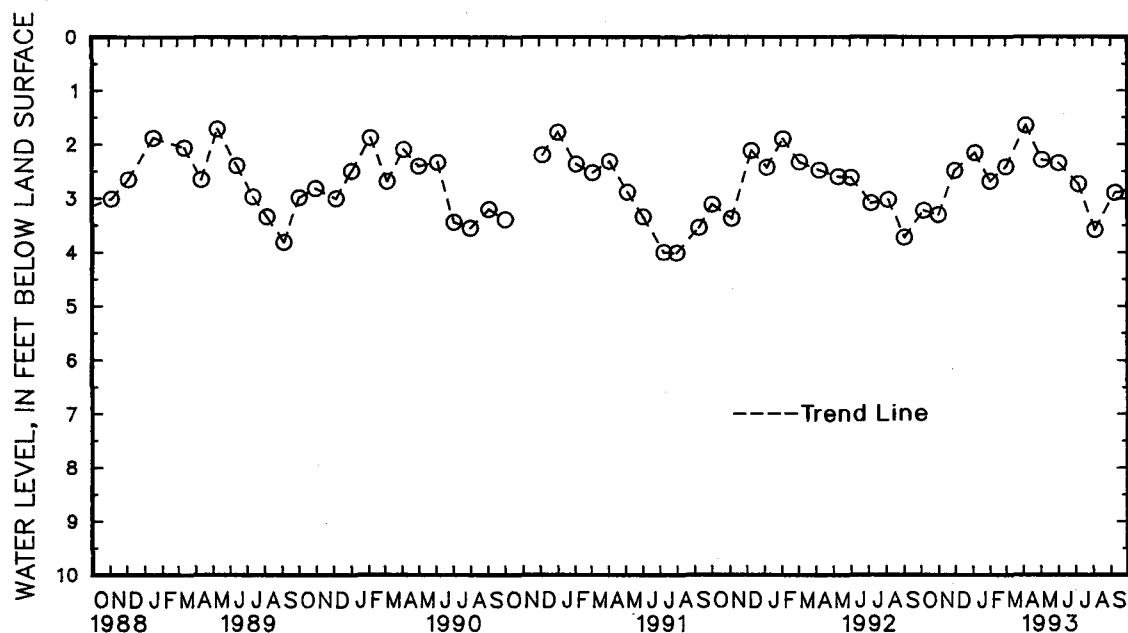
REMARKS.--Maryland Water-Level Network observation well.

PERIOD OF RECORD.--August 1985 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.65 ft below land surface, April 6, 1993; lowest measured, 4.17 ft below land surface, July 3, 1986.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 7	3.23	DEC 1	2.49	FEB 2	2.69	APR 6	1.65	JUN 2	2.35	AUG 4	3.59
NOV 2	3.31	JAN 6	2.16	MAR 2	2.42	MAY 4	2.29	JUL 7	2.74	SEP 9	2.90
WATER YEAR 1993		HIGHEST	1.65	APR 6, 1993		LOWEST	3.59	AUG 4, 1993			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

## MARYLAND--Continued

**CARROLL COUNTY**

WELL NUMBER.--CL Bf 1. SITE ID.--393638076510001.

LOCATION.--Lat 39°36'38", long 76°51'00", Hydrologic Unit 02060003, on Hillcrest St., Hampstead.

Owner: Town of Hampstead.

**AQUIFER.--** Prettyboy Schist of Paleozoic age. Aquifer code: 300PRTB.

WELL CHARACTERISTICS.--Drilled, unused, water-table well, depth 407 ft; casing diameter 8 in., to approximately 65 ft; open hole.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

Equipped with water-level recorder from July 1, 1952, to Nov. 7, 1962.

DATUM.--Elevation of land surface is 933 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of 2 in. casing extension, 2.35 ft above land surface.

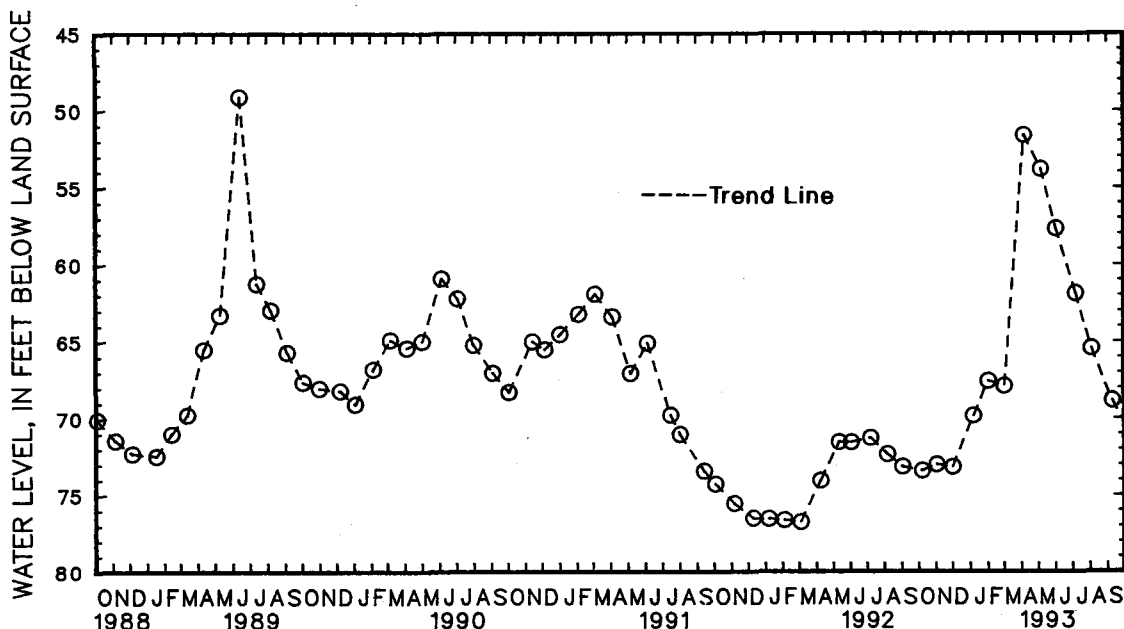
REMARKS.--Maryland Water-Level Network observation well.

**PERIOD OF RECORD.**--September and December 1946, April and September 1947, February 1949 to current year.

**EXTREMES FOR PERIOD OF RECORD.**--Highest water level measured, 49.10 ft below land surface, June 13, 1989; lowest measured, 76.76 ft below land surface, March 4, 1992.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE		WATER LEVEL		DATE		WATER LEVEL		DATE		WATER LEVEL		DATE		WATER LEVEL	
OCT 7	73.41	DEC 1	73.17	FEB 2	67.55	APR 6	51.62	JUN 2	57.69	AUG 4	65.48	NOV 2	73.01	JAN 6	69.82
				MAR 2	67.87	MAY 6	53.82	JUL 7	61.92	SEP 9	68.86				
WATER YEAR 1993				HIGHEST	51.62	APR 6, 1993		LOWEST	73.41	OCT 7, 1992					



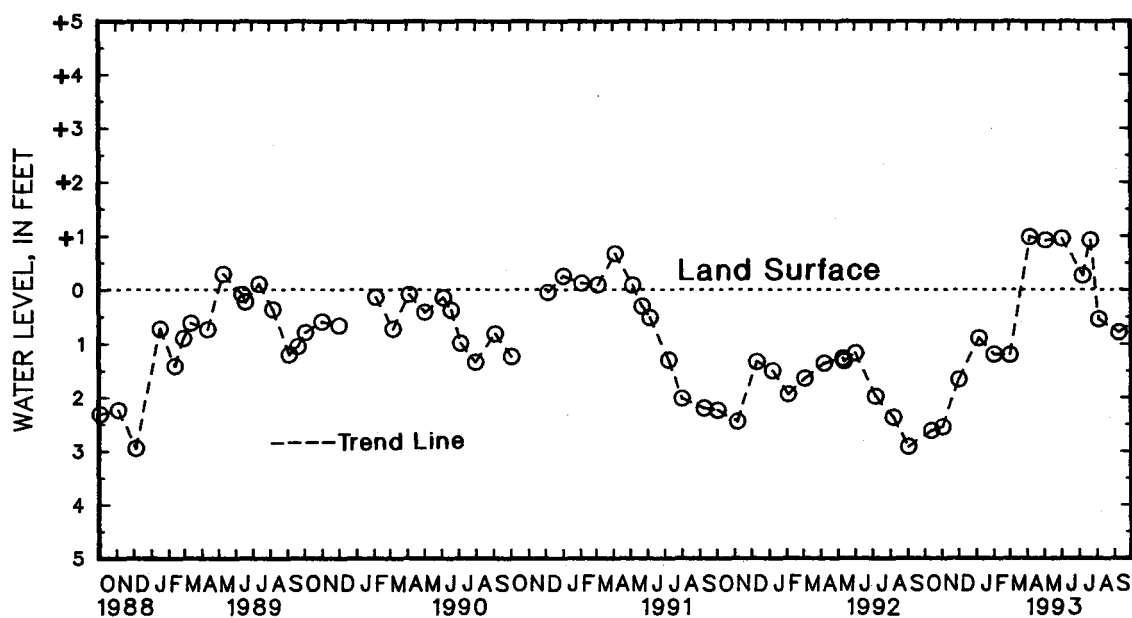
5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
CARROLL COUNTY--Continued

WELL NUMBER.--CL Bf 184. SITE ID.--393754076512401. PERMIT NUMBER.--CL-73-6466.  
LOCATION.--Lat 39°37'54", long 76°51'24", Hydrologic Unit 02060003, near Utz Rd., Greenmount.  
Owner: U.S. Geological Survey.  
AQUIFER.--Prettyboy Schist of Paleozoic age. Aquifer code: 300FRTB.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 340 ft; casing diameter 6 in., to 50 ft; open hole.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
DATUM.--Elevation of land surface is 785 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 1.81 ft above land surface.  
REMARKS.--Maryland Water-Level Network observation well.  
PERIOD OF RECORD.--August 1985 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.99 ft above land surface, April 6, 1993; lowest measured, 3.24 ft below land surface, Oct. 3, 1986.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
(READINGS ABOVE LAND SURFACE INDICATED BY "+")

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 13	2.62	DEC 1	1.66	FEB 2	1.19	APR 6	+0.99	JUN 2	+0.97	AUG 4	.54
NOV 2	2.55	JAN 6	.89	MAR 2	1.19	MAY 4	+0.93	JUL 7	+0.27	SEP 9	.79
WATER YEAR 1993		HIGHEST	+0.99	APR 6, 1993		LOWEST	2.62	OCT 13, 1992			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

CARROLL COUNTY--Continued

WELL NUMBER.--CL Ec 75. SITE ID.--392259077052401. PERMIT NUMBER.--CL-73-2722.

LOCATION.--Lat 39°22'59", long 77°05'24", Hydrologic Unit 02060003, 2.3 mi northwest of Woodbine.

Owner: U.S. Geological Survey.

AQUIFER.--Prettyboy Schist of Paleozoic age. Aquifer code: 300PRTB.

WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 248 ft; casing diameter 6 in., to 21 ft; open hole.

INSTRUMENTATION.--Twice yearly measurements with chalked steel tape by U.S. Geological Survey personnel.

Equipped with graphic recorder December 26, 1974 to July 19, 1980.

DATUM.--Elevation of land surface is 550 ft above National Geodetic Vertical Datum of 1929.

from topographic map.

Measuring point: Top of casing, 2.31 ft above land surface.

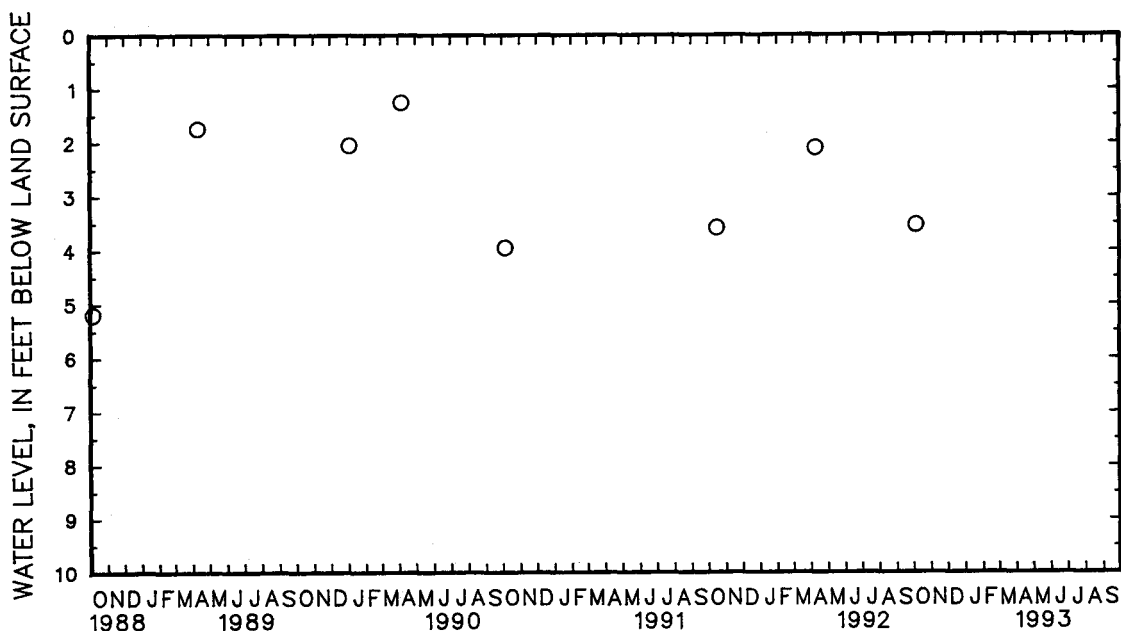
REMARKS.--Maryland Water-Level Network observation well.

PERIOD OF RECORD.--December 1974 to July 1980, August 1985 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.25 ft below land surface, April 6, 1990;  
lowest measured, 5.20 ft below land surface, Oct. 6, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL
OCT 6	3.54



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

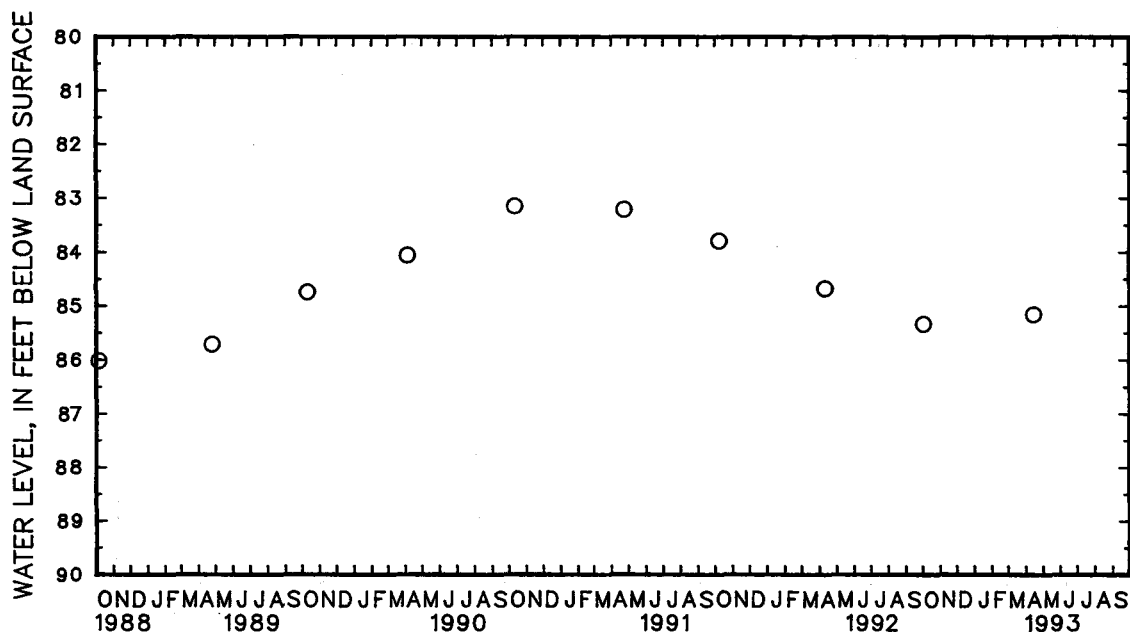
MARYLAND--Continued

## CECIL COUNTY

WELL NUMBER.--CE Be 73. SITE ID.--393637075535001. PERMIT NUMBER.--CE-81-0464.  
 LOCATION.--Lat 39°36'37", long 75°53'50", Hydrologic Unit 02060002, 2 mi west of Elkton nr US Rt. 40.  
 Owner: U.S. Geological Survey.  
 AQUIFER.--Potomac Group of Lower Cretaceous age. Aquifer code: 217PTMC.  
 WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 152 ft; casing diameter 2 in., to 147 ft; screen diameter 2 in. from 147 to 152 ft.  
 INSTRUMENTATION.--Twice yearly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 DATUM.--Elevation of land surface is 162 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
 Measuring Point: Top of casing, 1.95 ft above land surface.  
 REMARKS.--Maryland Water-Level Network observation well. Measured twice yearly since April 1988.  
 PERIOD OF RECORD.--November 1982 to November 1984, April 1988 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 82.06 ft below land surface, July 31, 1984; lowest measured, 86.06 ft below land surface, April 29, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR, OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 2	85.34	APR 14	85.16
WATER YEAR 1993      HIGHEST   85.16   APR 14, 1993      LOWEST   85.34   OCT 2, 1992			



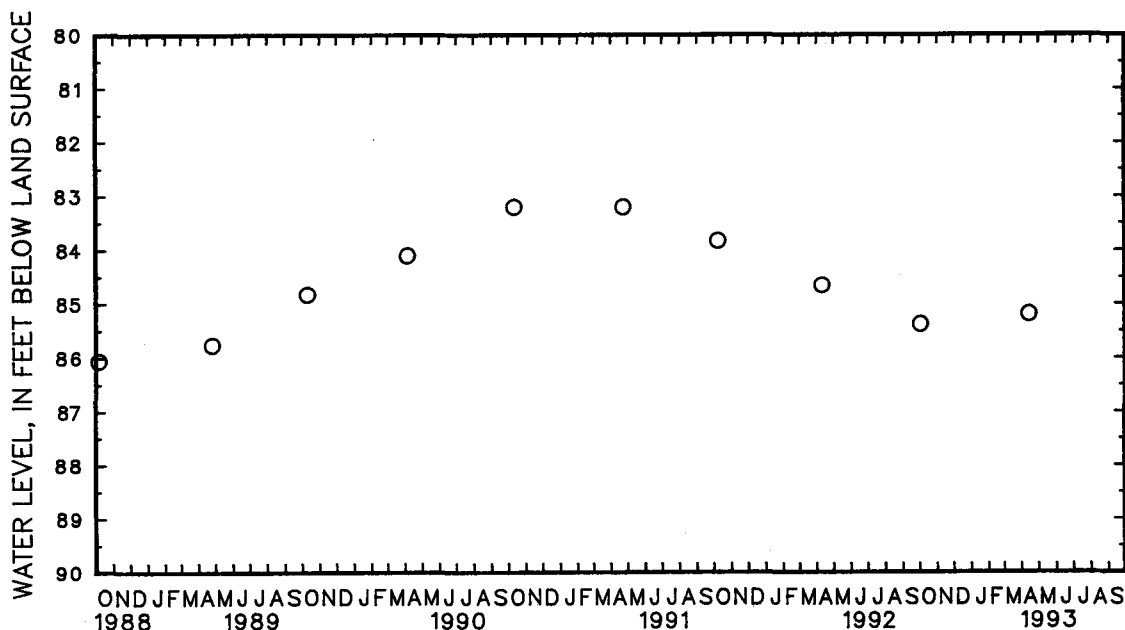
5 YEAR HYDROGRAPH  
 OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
CECIL COUNTY--Continued

WELL NUMBER.--CE Be 74. SITE ID.--393637075535002. PERMIT NUMBER.--CE-81-0464.  
LOCATION.--Lat 39°36'37", long 75°53'50", Hydrologic Unit 02060002, 2 mi west of Elkton nr US Rt. 40.  
Owner: U.S. Geological Survey.  
AQUIFER.--Potomac Group of Lower Cretaceous age. Aquifer code: 217PTMC.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 115 ft; casing diameter 2 in., to 110 ft; screen diameter 2 in. from 110 to 115 ft.  
INSTRUMENTATION.--Twice yearly measurements with chalked steel tape by U.S. Geological Survey personnel.  
DATUM.--Elevation of land surface is 162 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
Measuring Point: Top of casing, 2.00 ft above land surface.  
REMARKS.--Maryland Water-Level Network observation well. Measured twice yearly since April 1988.  
PERIOD OF RECORD.--November 1982 to November 1984, April 1988 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 82.12 ft below land surface, July 31, 1984; lowest measured, 86.10 ft below land surface, April 29, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 2	85.39	APR 14	85.20
WATER YEAR 1993      HIGHEST    85.20    APR 14, 1993      LOWEST    85.39    OCT 2, 1992			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

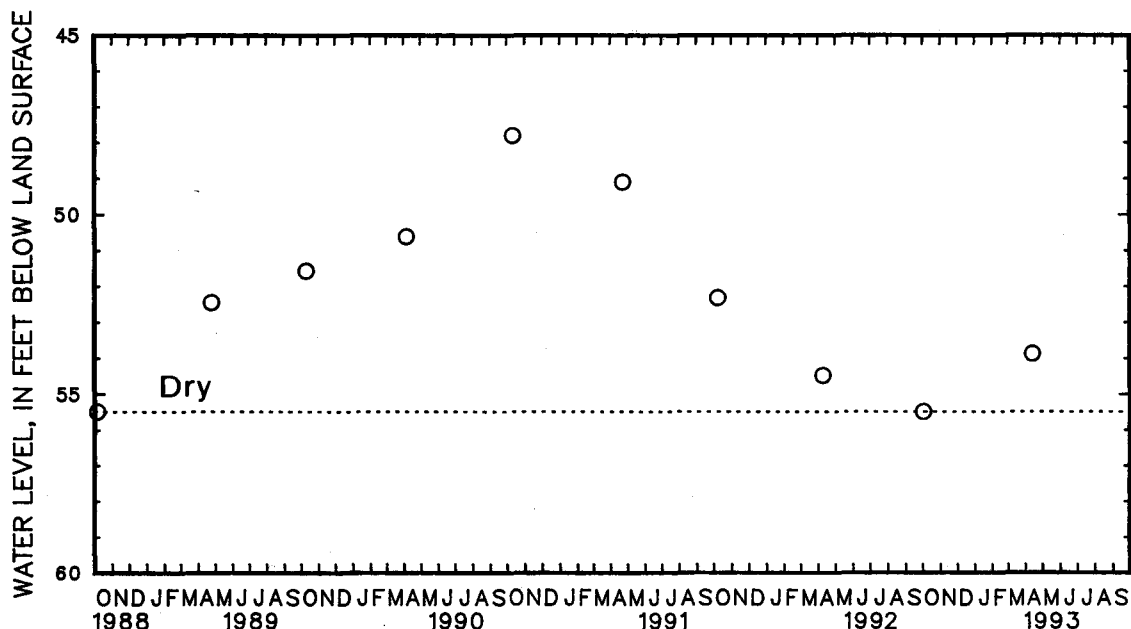
**MARYLAND--Continued**

**CECIL COUNTY--Continued**

WELL NUMBER.--CE Bf 81. SITE ID.--393615075475901. PERMIT NUMBER.--CE-81-0537.  
LOCATION.--Lat 39°36'15", long 75°47'59", Hydrologic Unit 02060002, at Thompson Estates Elementary  
School, Elkton.  
Owner: U.S. Geological Survey.  
AQUIFER.--Potomac Group of Lower Cretaceous age. Aquifer code: 217PTMC.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 55.5 ft; casing diameter 4 in., to 50 ft;  
screen diameter 2 in. from 50 to 55 ft.  
INSTRUMENTATION.--Twice yearly measurements with chalked steel tape by U.S. Geological Survey personnel.  
DATUM.--Elevation of land surface is 90 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
Measuring Point: Top of casing, 2.0 ft above land surface.  
REMARKS.--Maryland Water-Level Network observation well. Measured twice yearly starting October 1988.  
PERIOD OF RECORD.--March 1983 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 31.26 ft below land surface, July 9, 1983;  
lowest measured, dry, Nov. 6, 1985, May 12, 1986, May 10, 1988, June 21, 1988 and Oct. 6, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL				
OCT 2	DRY	APR 14	53.88				
WATER YEAR 1993		HIGHEST	53.88	APR 14. 1993	LOWEST	53.88	APR 14. 1993



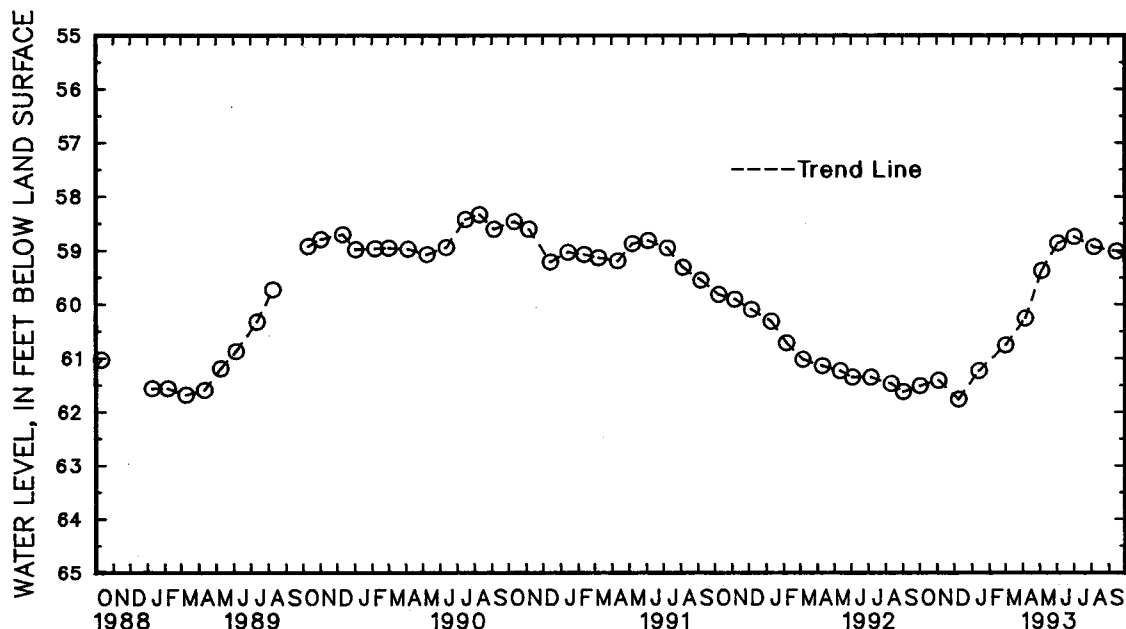
5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
CECIL COUNTY--Continued

WELL NUMBER.--CE Bf 82. SITE ID.--393537075492001. PERMIT NUMBER.--CE-81-0470.  
LOCATION.--Lat 39°35'37", long 75°49'20", Hydrologic Unit 02060002, at Holly Hall Elementary School, Elkton.  
Owner: U.S. Geological Survey.  
AQUIFER.--Potomac Group of Lower Cretaceous age. Aquifer code: 217PTMC.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 125 ft; casing diameter 4 in., to 120 ft; screen diameter 2 in. from 120 to 125 ft.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
Equipped with water-level recorder July 1, 1983 to Nov. 6, 1984.  
DATUM.--Elevation of land surface is 70 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
Measuring point: Top of casing, 1.6 ft above land surface.  
REMARKS.--Maryland Water-Level Network observation well.  
PERIOD OF RECORD.--February 1983 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 53.13 ft below land surface, July 1, 1983; lowest measured, 62.34 ft below land surface, Feb. 8, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	
OCT 2	61.52	DEC 9	61.77	MAR 2	60.76	MAY 5	59.37	JUL 2	58.74	SEP 15	59.01	
NOV 4	61.42	JAN 14	61.24	APR 6	60.26	JUN 3	58.86	AUG 6	58.93			
WATER YEAR 1993		HIGHEST	58.74	JUL 2, 1993	LOWEST	61.77	DEC 9, 1992					



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

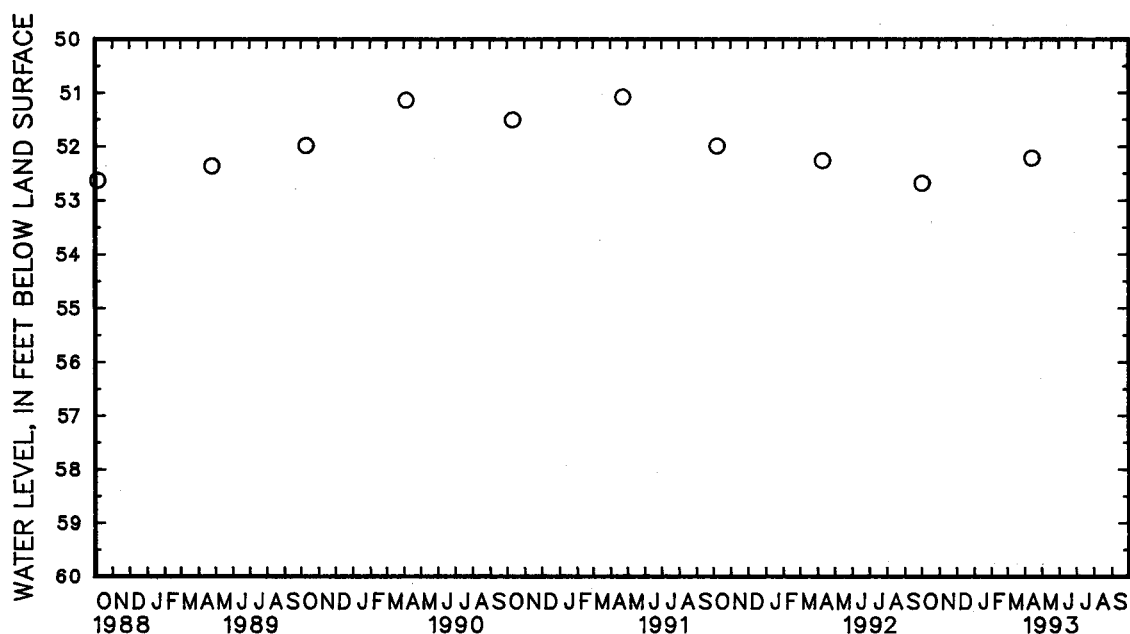


GROUND-WATER LEVELS  
MARYLAND--Continued  
CECIL COUNTY--Continued

WELL NUMBER.--CE Cd 51. SITE ID.--393432075593601. PERMIT NUMBER.--CE-81-0440.  
LOCATION.--Lat 39°34'32", long 75°59'36", Hydrologic Unit 02060002, nr intersection of  
MD Rts. 7 and 267, 1 mi west of Charlestown.  
Owner: U.S. Geological Survey.  
AQUIFER.--Potomac Group of Lower Cretaceous age. Aquifer code: 217PTMC.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 125 ft; casing diameter 4 in., to 120 ft;  
screen diameter 2 in. from 120 to 125 ft.  
INSTRUMENTATION.--Twice yearly measurements with chalked steel tape by U.S. Geological Survey personnel.  
DATUM.--Elevation of land surface is 70 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
Measuring Point: Top of casing, 3.12 ft above land surface.  
REMARKS.--Maryland Water-Level Network observation well. Measured twice yearly since April 1988.  
PERIOD OF RECORD.--November 1982 to November 1984, April 1988 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 50.80 ft below land surface, April 6, 1984;  
lowest measured, 53.17 ft below land surface, Dec. 8, 1982.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 2	52.69	APR 14	52.22
WATER YEAR 1993      HIGHEST    52.22    APR 14, 1993      LOWEST    52.69    OCT 2, 1992			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

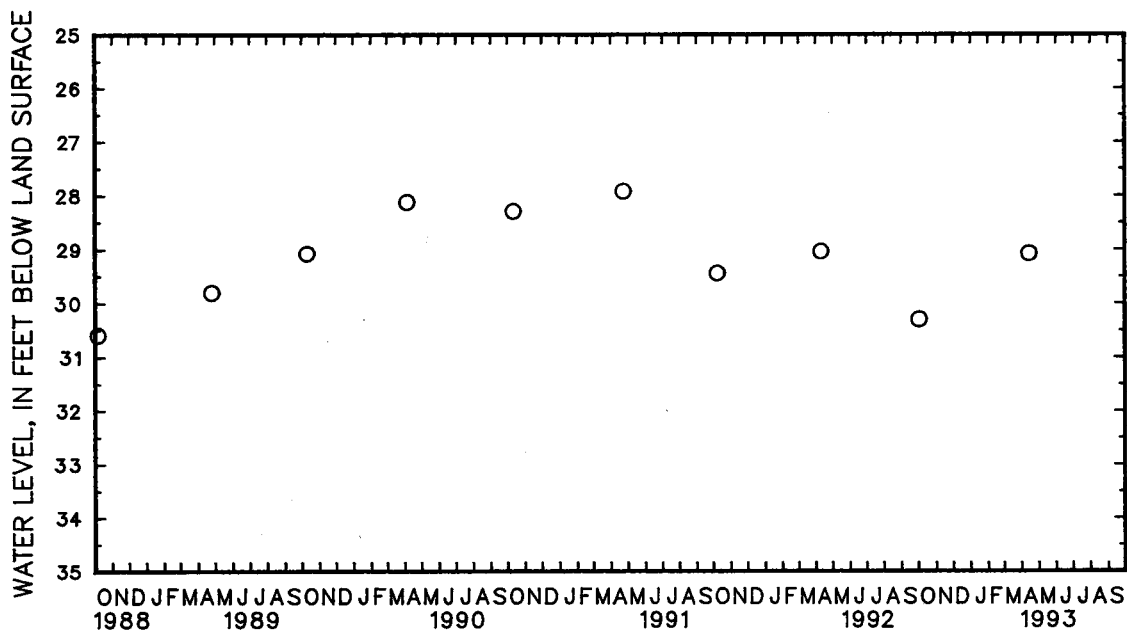
MARYLAND--Continued

CECIL COUNTY--Continued

WELL NUMBER.--CE Cd 52. SITE ID.--393432075593602. PERMIT NUMBER.--CE-81-0440.  
 LOCATION.--Lat 39°34'32", long 75°59'36", Hydrologic Unit 02060002, nr intersection of  
 MD Rts. 7 and 267, 1 mi west of Charlestown.  
 Owner: U.S. Geological Survey.  
 AQUIFER.--Potomac Group of Lower Cretaceous age. Aquifer code: 217PTMC.  
 WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 48 ft; casing diameter 4 in., to 43 ft;  
 screen diameter 2 in. from 43 to 48 ft.  
 INSTRUMENTATION.--Twice yearly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 DATUM.--Elevation of land surface is 70 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
 Measuring Point: Top of casing, 3.18 ft above land surface.  
 REMARKS.--Maryland Water-Level Network observation well. Measured twice yearly starting April 1988.  
 PERIOD OF RECORD.--November 1982 to November 1984, April 1988 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 27.75 ft below land surface, July 5, 1983;  
 lowest measured, 30.60 ft below land surface, Oct. 6, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 2	30.31	APR 14	29.08
WATER YEAR 1993      HIGHEST   29.08   APR 14, 1993      LOWEST   30.31   OCT 2, 1992			



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

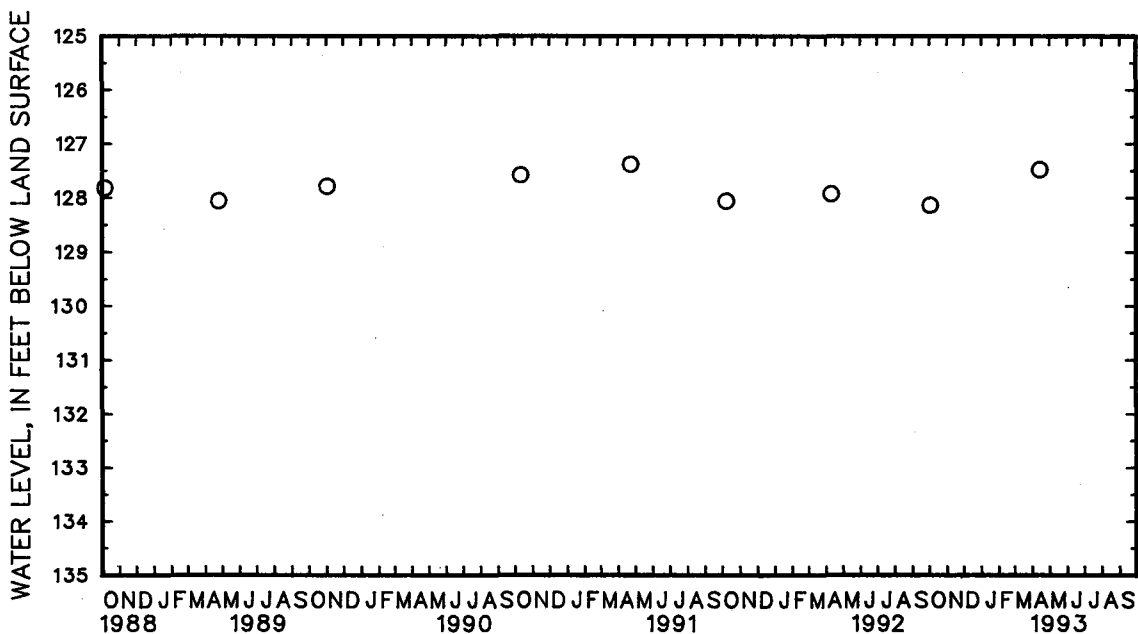
MARYLAND--Continued

CECIL COUNTY--Continued

WELL NUMBER.--CE Cd 53. SITE ID.--393216075564201. PERMIT NUMBER.--CE-81-0463.  
 LOCATION.--Lat 39°32'16", long 75°56'42", Hydrologic Unit 02060002, Elk Neck State Forest, 0.5 mi north of  
 Black Hill Lookout Tower.  
 Owner: U.S. Geological Survey.  
 AQUIFER.--Potomac Group of Lower Cretaceous age. Aquifer code 217PTMC.  
 WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 350 ft; casing diameter 4 in., to 345 ft;  
 screen diameter 2 in. from 345 to 350 ft.  
 INSTRUMENTATION.--Twice yearly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 Equipped with graphic water-level recorder from July 22, 1983 to Oct. 24, 1984.  
 DATUM.--Elevation of land surface is 135 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
 Measuring Point: Top of casing, 2.0 ft above land surface.  
 REMARKS.--Maryland Water-Level Network observation well. Measured twice yearly since October 1988.  
 PERIOD OF RECORD.--March 1983 to October 1984, October 1988 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 126.65 ft below land surface, April 6, 1984;  
 lowest measured, 128.15 ft below land surface, Oct. 2, 1992.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 2	128.15	APR 14	127.49
WATER YEAR 1993      HIGHEST 127.49 APR 14, 1993      LOWEST 128.15 OCT 2, 1992			



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

CECIL COUNTY--Continued

WELL NUMBER.--CE Cc 54. SITE ID.--393433075544901. PERMIT NUMBER.--CE-81-0461.

LOCATION.--Lat 39°34'33", long 75°54'49", Hydrologic Unit 02060002, Elk Neck State Forest near Irishtown Rd.

Owner: U.S. Geological Survey.

AQUIFER.--Potomac Group of Lower Cretaceous age. Aquifer code: 217PTMC.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 250 ft; casing diameter 4 in., to 245 ft.; screen diameter 2 in. from 245 to 250 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

Equipped with graphic water-level recorder July 21, 1983 to Nov. 6, 1984.

DATUM.--Elevation of land surface is 180 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of casing, 2.0 ft above land surface.

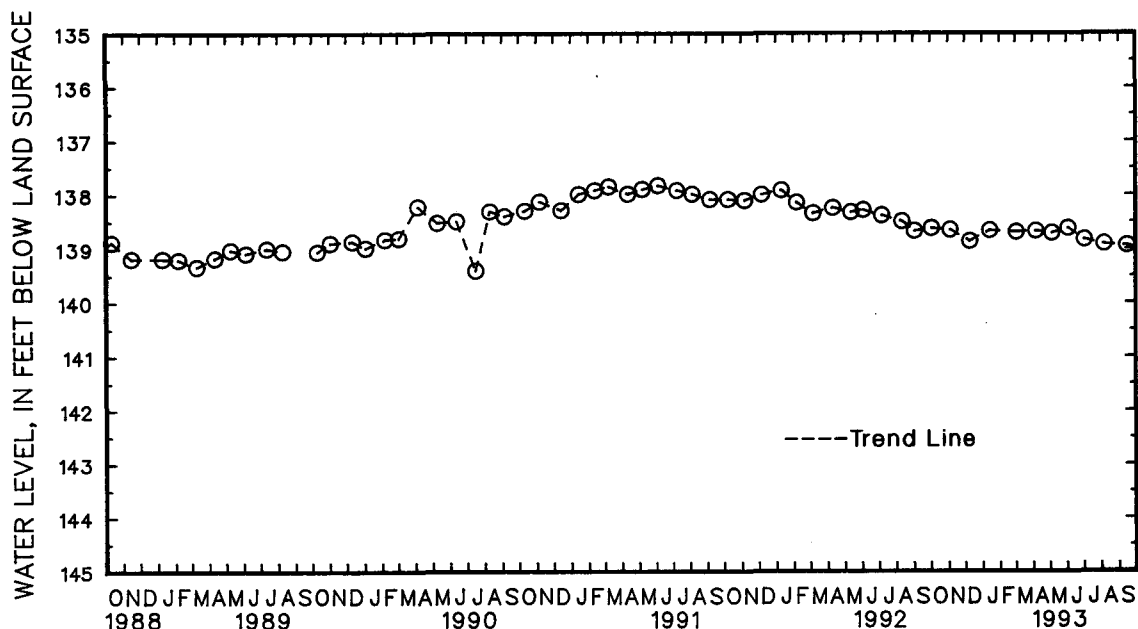
REMARKS.--Maryland Water-Level Network observation well.

PERIOD OF RECORD.--March 1983 to November 1984, July 1985 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 136.10 ft below land surface, March 29, 1984, April 6, 1984 and Nov. 6, 1984; lowest measured, 139.41 ft below land surface, July 16, 1990.

## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 2	138.63	DEC 9	138.87	MAR 2	138.70	MAY 5	138.72	JUL 2	138.83	SEP 15	138.95
NOV 4	138.66	JAN 14	138.67	APR 6	138.68	JUN 3	138.63	AUG 6	138.92		
WATER YEAR 1993		HIGHEST	138.63	OCT 2, 1992	JUN 3, 1993	LOWEST	138.95	SEP 15, 1993			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

**CECIL COUNTY--Continued**

WELL NUMBER.--CE C# 55. SITE ID.--393241075500201. PERMIT NUMBER.--CE-81-0465.

LOCATION.--Lat 39°32'41", long 75°50'02", Hydrologic Unit 02060002, Canal National Wildlife Refuge near Elk Forest Rd.

Owner: U.S. Geological Survey.

**AQUIFER.--**Potomac Group of Lower Cretaceous age. Aquifer code: 217PTMC.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 375 ft; casing diameter 4 in., to 370 ft; screen diameter 2 in. from 370 to 375 ft.

**INSTRUMENTATION.**--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

Equipped with graphic water-level recorder from July 21, 1983 to Nov. 6, 1984.

DATUM.--Elevation of land surface is 55 ft above National Geodetic Vertical Datum of 1929, from topographic map.

**Measuring point:** Top of casing 2.40 ft above land surface.

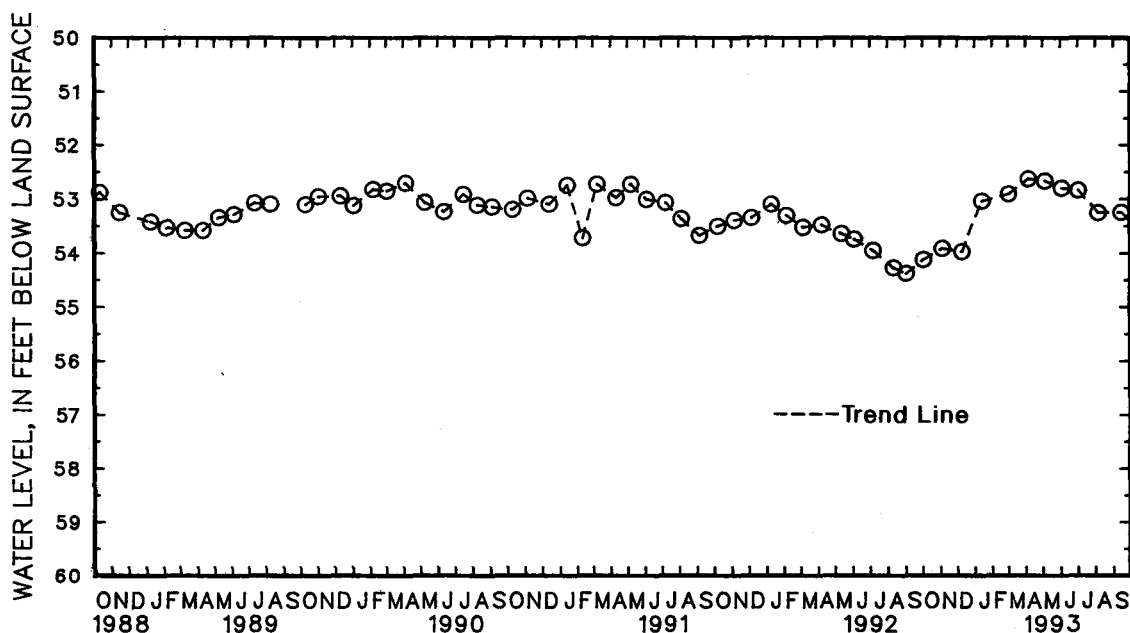
REMARKS.--Maryland Water-Level Network observation well.

PERIOD OF RECORD.--March 1983 to November 1984 July 1985 to current year.

**EXTREMES FOR PERIOD OF RECORD.**--Highest water level measured, 50.56 ft below land surface, April 17, 1984; lowest measured, 54.38 ft below land surface, Sept. 2, 1992.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE		WATER LEVEL		DATE		WATER LEVEL		DATE		WATER LEVEL		DATE		WATER LEVEL	
OCT 2	54.13	DEC 9	53.98	MAR 2	52.91	MAY 5	52.67	JUL 2	52.83	SEP 15	53.25				
NOV 4	53.92	JAN 14	53.04	APR 6	52.63	JUN 3	52.80	AUG 6	53.26						
WATER YEAR 1993				HIGHEST		52.63		APR 6, 1993		LOWEST		54.13		OCT 2, 1992	



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

CECIL COUNTY--Continued

WELL NUMBER.--CE Ce 56. SITE ID.--393026075523101. PERMIT NUMBER.--CE-81-0466.

LOCATION.--Lat 39°30'26", long 75°52'31", Hydrologic Unit 02060002, 1.2 mi east of Courthouse Point.

Owner: U.S. Geological Survey.

AQUIFER.--Potomac Group of Lower Cretaceous age. Aquifer code: 217PTMC.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 121 ft; casing diameter 4 in., to 116 ft; screen diameter 2 in. from 116 to 121 ft.

INSTRUMENTATION.--Twice yearly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 38 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring Point: Top of casing, 2.0 ft above land surface.

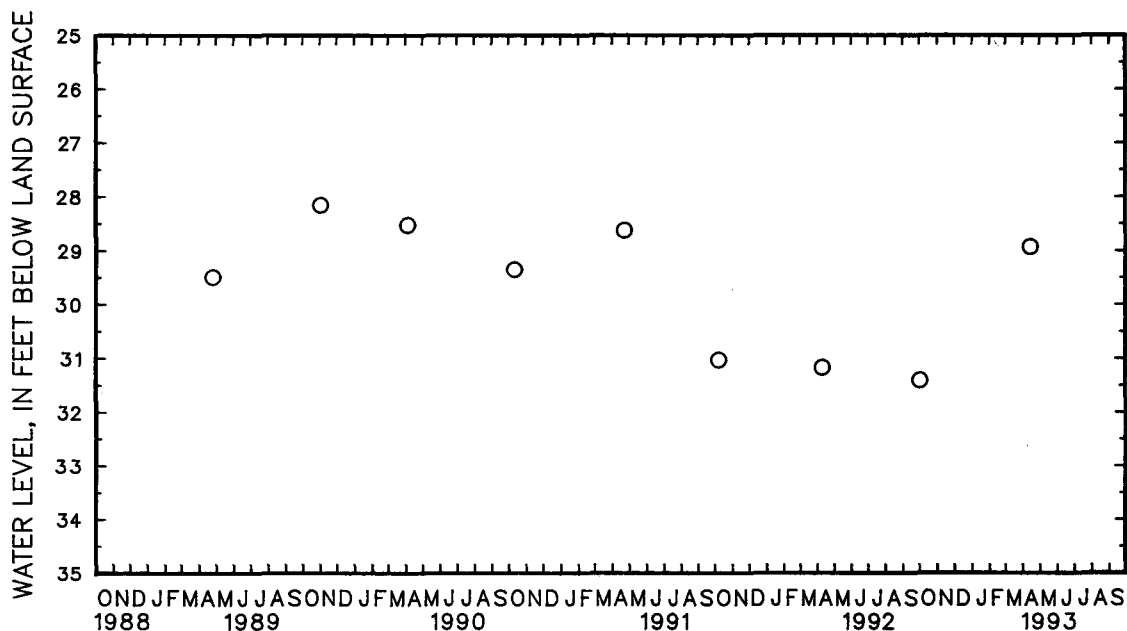
REMARKS.--Maryland Water-Level Network observation well. Measured twice yearly since April 1988.

PERIOD OF RECORD.--April 1983 to September 1984, April 1988 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 28.16 ft below land surface, Nov. 2, 1989; lowest measured, 34.48 ft below land surface, Nov. 19, 1983.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 2	31.42	APR 14	28.93
WATER YEAR 1993      HIGHEST    28.93    APR 14, 1993      LOWEST    31.42    OCT 2, 1992			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993



## GROUND-WATER LEVELS

MARYLAND--Continued

CECIL COUNTY--Continued

WELL NUMBER.--CE Ee 29. SITE ID.--392403075521801. PERMIT NUMBER.--CE-73-2266.

LOCATION.--Lat 39°24'03", long 75°52'18", Hydrologic Unit 02060002, 0.3 mi southwest of MD Rts. 213 and 282, Cecilton.

Owner: U.S. Geological Survey.

AQUIFER.--Potomac Group of Lower Cretaceous age. Aquifer code: 217FTMC.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 547 ft; casing diameter 10 in., to 158 ft; casing diameter 4 in., to 515 ft and 525 to 547 ft; screen diameter 4 in. from 515 to 525 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

Equipped with a digital water-level recorder from Aug. 22, 1979 to Dec. 4, 1979.

DATUM.--Elevation of land surface is 75 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of casing, 2.35 ft above land surface.

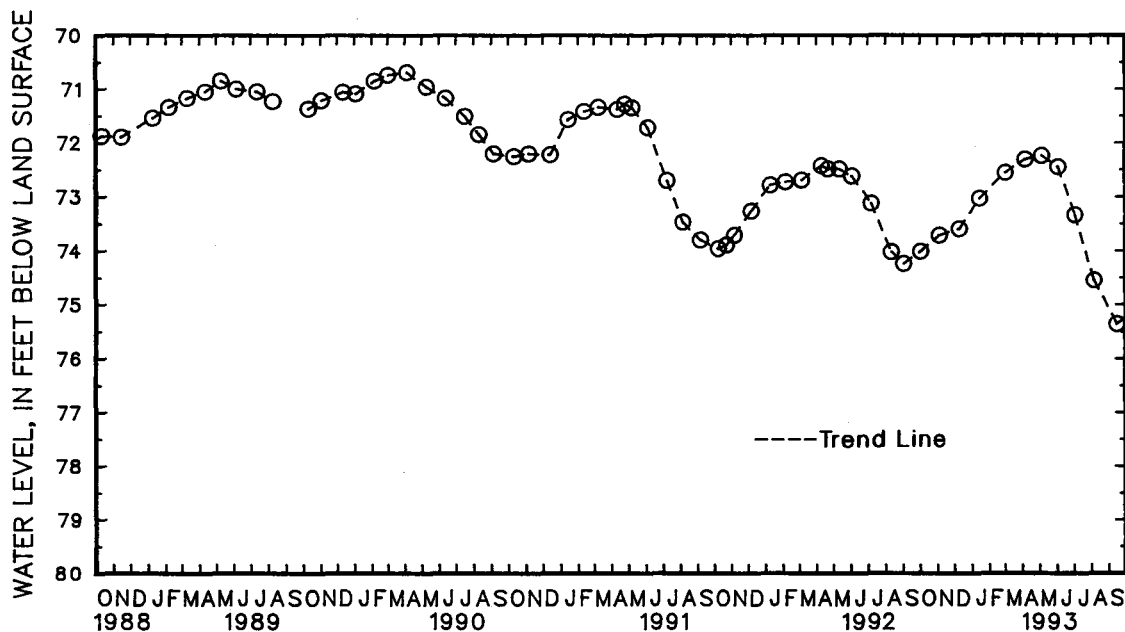
REMARKS.--Maryland Water-Level Network observation well.

PERIOD OF RECORD.--August 1978 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 67.99 ft below land surface, March 25, 1979; lowest measured, 75.37 ft below land surface, Sept. 15, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 2	74.02	DEC 9	73.60	MAR 2	72.56	MAY 5	72.24	JUL 2	73.34	SEP 15	75.37
NOV 4	73.72	JAN 14	73.03	APR 6	72.31	JUN 3	72.45	AUG 6	74.56		
WATER YEAR 1993		HIGHEST	72.24	MAY 5, 1993	LOWEST	75.37	SEP 15, 1993				



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993



## GROUND-WATER LEVELS

185

## MARYLAND--Continued

## CHARLES COUNTY

WELL NUMBER.--CH Bb 17, SITE ID.--383524077111802.

LOCATION.--Lat 38°35'24", long 77°11'18", Hydrologic Unit 02070011, at Farnum Rd.;  
U.S. Naval Ordnance Station.

Owner: U.S. Navy.

AQUIFER.--Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PFSC.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 294 ft; casing diameter 16 in., to 230 ft;  
casing diameter 10 in. to 240 ft; screen diameter 10 in. from 240 to 294 ft.

INSTRUMENTATION.--Periodic measurements with chalked steel tape by U.S. Geological Survey personnel.

Equipped with digital water-level recorder--60-minute recorder interval, May 29, 1988 to current year.

DATUM.--Elevation of land surface is 52 ft above National Geodetic Vertical Datum of 1929.

Measuring Point: Top of recorder shelf, 3.0 ft above land surface.

REMARKS.--Indian Head Project observation well. Missing data due to recorder malfunction.

PERIOD OF RECORD.--May 1988 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 109.55 ft below land surface, April 29, 1992;  
lowest measured, 121.22 ft below land surface, Dec. 22, 1989.

## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	114.91	113.55	112.13	111.59	111.60	111.04	113.36	112.78	113.34	112.67	112.69	112.16
2	114.85	114.21	111.80	110.82	111.78	111.23	113.52	113.28	113.41	113.09	112.67	112.06
3	114.67	114.18	111.28	110.70	112.00	111.21	113.37	112.88	113.25	112.41	113.62	112.63
4	115.12	114.41	111.48	111.05	112.02	111.58	113.19	112.67	112.89	112.43	113.50	112.60
5	114.93	114.57	112.01	111.07	113.20	111.46	113.04	112.49	112.85	112.14	113.27	112.70
6	115.00	114.30	112.49	111.99	113.21	112.50	113.29	112.85	112.84	112.29	113.17	112.70
7	115.14	114.68	112.46	111.77	112.54	111.99	113.25	112.55	112.82	111.99	113.21	112.69
8	115.27	114.82	112.60	112.04	112.69	112.12	112.91	112.38	112.48	111.87	113.66	112.92
9	115.17	114.43	112.64	112.09	112.58	111.67	112.86	112.20	112.80	112.08	114.15	113.44
10	115.15	114.74	112.66	112.04	111.99	110.47	112.78	112.05	112.82	112.17	114.31	113.83
11	115.22	114.59	112.63	112.06	112.00	110.65	112.80	112.22	112.83	112.27	114.52	113.97
12	115.27	114.78	112.68	111.87	112.21	111.78	112.95	112.46	112.69	111.91	114.87	114.30
13	115.12	114.63	112.51	111.93	112.66	112.10	112.95	112.48	112.23	111.65	114.97	114.09
14	115.48	114.92	112.53	111.97	112.76	111.98	113.04	112.48	112.72	111.69	116.45	114.19
15	115.43	114.92	112.49	111.99	112.43	111.83	113.15	112.69	112.69	112.10	117.26	116.45
16	115.49	115.01	112.67	112.04	112.65	111.83	112.97	112.59	112.14	111.20	117.08	116.46
17	115.71	115.03	112.43	111.89	112.87	112.26	113.21	112.67	112.13	111.49	116.70	116.20
18	115.38	114.19	112.66	111.85	113.24	112.66	113.00	112.64	112.23	111.83	117.41	116.56
19	114.30	114.02	112.31	111.60	113.27	112.81	112.95	112.50	112.66	112.01	117.40	116.57
20	114.08	113.25	111.88	111.29	113.12	112.24	113.26	112.77	112.08	111.26	116.87	116.46
21	113.35	112.89	111.80	111.16	113.07	112.64	113.34	112.77	111.70	110.79	117.17	116.59
22	113.50	113.04	111.80	111.15	112.99	112.58	112.88	111.79	111.28	110.80	117.30	116.82
23	113.47	112.83	111.48	110.90	112.97	112.18	112.20	111.74	111.68	111.19	117.27	116.78
24	113.24	112.25	111.61	110.93	113.27	112.30	112.01	111.59	112.26	111.68	117.36	116.80
25	113.22	112.78	111.27	110.63	113.26	112.64	112.53	111.97	112.78	112.26	117.59	117.14
26	113.10	112.27	111.07	110.63	113.21	112.77	112.57	112.00	112.70	112.16	117.61	117.18
27	112.89	112.48	111.31	110.81	113.39	112.93	112.47	111.96	112.54	112.05	117.50	116.79
28	113.01	112.49	111.29	110.90	113.26	112.79	112.59	112.01	112.45	111.96	117.26	116.76
29	112.95	112.35	111.38	110.93	113.08	112.78	112.88	112.02	---	---	117.59	117.05
30	112.82	111.97	111.34	111.02	113.02	112.68	113.05	112.71	---	---	117.75	117.32
31	112.28	111.79	---	---	113.03	112.75	113.04	112.69	---	---	117.62	117.19
MONTH	115.71	111.79	112.68	110.63	113.39	110.47	113.52	111.59	113.41	110.79	117.75	112.06

## GROUND-WATER LEVELS

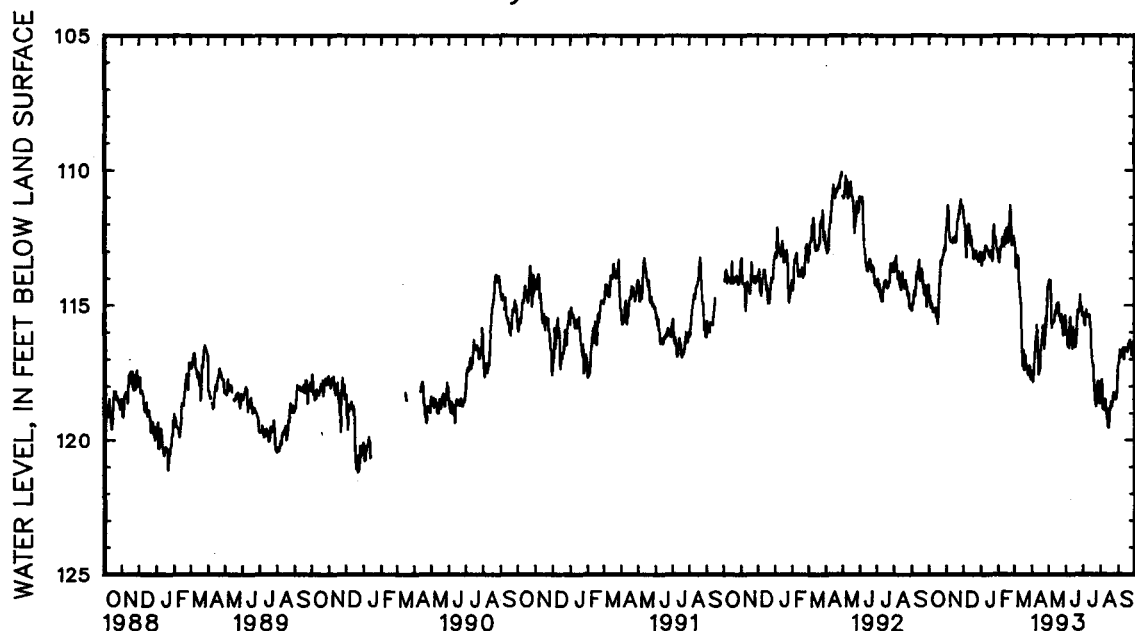
MARYLAND--Continued

CHARLES COUNTY

CH Bb 17--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	117.46	117.01	114.14	113.57	115.84	114.77	115.37	114.83	118.55	117.56	117.17	116.68
2	117.63	117.15	114.05	113.45	115.93	115.35	115.30	114.70	117.83	117.14	117.13	116.28
3	117.85	117.38	114.07	113.40	116.42	115.49	115.41	114.71	117.77	117.22	116.66	116.25
4	117.67	116.95	114.07	113.34	116.53	115.94	115.72	115.13	118.20	117.64	116.68	116.19
5	117.23	116.37	114.61	113.40	116.45	115.77	115.75	115.04	118.83	118.16	116.94	116.41
6	116.74	115.96	115.50	114.51	116.58	115.97	115.37	114.85	118.89	117.97	116.86	116.35
7	116.40	115.76	115.84	115.27	116.14	115.36	115.17	114.70	118.91	118.04	116.69	116.18
8	116.15	115.46	115.71	115.19	115.65	114.95	115.38	114.86	118.55	117.99	116.65	116.18
9	116.05	115.41	115.58	115.07	115.45	114.90	115.37	114.93	118.49	117.99	116.58	116.19
10	115.74	115.14	115.64	115.16	115.83	115.17	115.38	115.01	118.76	118.11	116.57	116.09
11	116.63	115.66	115.61	115.04	116.48	115.56	115.46	115.04	119.16	118.48	117.02	116.48
12	116.98	116.26	115.57	115.04	116.61	116.19	115.37	115.05	119.26	118.74	116.72	116.18
13	117.58	116.84	115.24	114.74	116.23	115.71	115.38	114.89	119.48	118.88	116.59	116.07
14	117.32	116.86	115.33	114.75	115.83	115.50	115.77	115.08	119.55	119.08	116.59	116.09
15	117.44	116.97	115.14	114.75	116.17	115.44	116.58	115.36	119.33	118.56	116.58	116.07
16	117.01	116.08	114.94	114.53	116.46	115.82	116.76	116.28	118.86	118.28	116.66	116.11
17	116.48	115.81	115.09	114.59	116.57	116.09	117.11	116.28	118.88	118.29	116.72	115.91
18	116.48	116.06	114.90	114.12	116.47	115.90	117.17	116.66	118.87	118.29	116.41	115.92
19	116.20	115.60	115.00	114.38	116.19	115.57	117.24	116.50	118.72	117.95	116.56	115.96
20	115.99	115.37	115.41	114.72	115.96	115.19	117.80	117.11	118.58	117.94	116.46	115.85
21	115.77	115.26	115.41	114.82	115.54	114.82	118.02	117.34	118.76	118.06	116.28	115.72
22	116.37	115.66	115.47	114.79	115.18	114.59	118.50	117.90	118.59	117.81	116.56	115.72
23	116.61	116.06	115.62	115.09	115.30	114.81	118.59	117.97	118.31	117.65	116.46	116.07
24	116.25	115.55	115.34	114.76	115.26	114.64	118.76	118.13	118.25	117.60	116.85	115.98
25	115.79	115.16	115.47	114.89	115.20	114.32	118.56	117.59	118.27	117.73	116.67	116.05
26	115.48	115.10	116.12	115.32	114.62	114.13	117.98	117.45	118.38	117.84	116.38	115.85
27	115.82	115.18	115.76	115.16	115.14	114.16	117.83	117.32	118.50	117.96	116.59	116.05
28	115.18	114.20	115.91	115.20	115.19	114.74	118.31	117.48	118.45	117.96	116.97	116.42
29	114.44	113.90	116.08	115.45	115.07	114.53	118.63	117.80	118.45	117.81	117.10	116.64
30	114.26	113.84	115.73	115.24	115.41	114.64	118.62	118.11	118.11	116.97	117.15	116.74
31	---	---	115.39	114.99	---	---	118.65	117.98	117.29	116.49	---	---
MONTH	117.85	113.84	116.12	113.34	116.61	114.13	118.76	114.70	119.55	116.49	117.17	115.72
YEAR	119.55	110.47										

Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

187

## MARYLAND--Continued

## CHARLES COUNTY--Continued

WELL NUMBER.--CH Bc 5. SITE ID.--383524077094401.

LOCATION.--Lat 38°35'24", Long 77°09'44", Hydrologic Unit 02070011, at Benson Rd.; U.S. Naval Ordnance Station.  
Owner: U.S. Navy.

AQUIFER.--Patuxent Formation of Lower Cretaceous age. Aquifer code: 217PTXN.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 430 ft; casing diameter 8 in. to unknown depth; screen diameter 8 in, depth unknown.

INSTRUMENTATION.--Periodic measurements with chalked steel tape by U.S. Geological Survey personnel.

Equipped with digital water-level recorder--60-minute recorder interval, April 28, 1988 to current year.

DATUM.--Elevation of land surface is 38.2 ft above National Geodetic Vertical Datum of 1929.

Measuring Point: Top of recorder shelf, 2.5 ft above land surface.

REMARKS.--Indian Head Project observation well. Missing data due to recorder malfunction. Water levels affected by nearby pumping.

PERIOD OF RECORD.--April 1988 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 107.81 ft below land surface, May 9, 1993; lowest measured, 126.78 ft below land surface, Jan. 11, 1989.

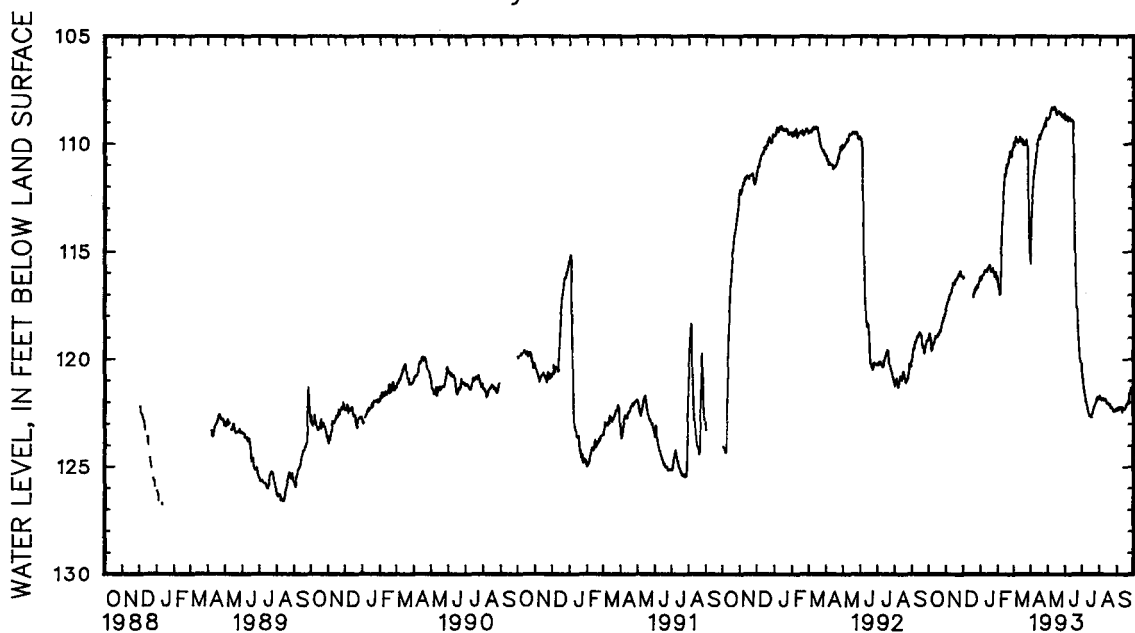
## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	118.99	118.49	117.70	117.27	116.16	115.83	116.31	115.83	116.53	115.96	110.10	109.61
2	118.84	118.40	117.55	116.92	116.23	115.80	116.29	116.04	116.64	116.46	109.88	109.41
3	118.82	118.40	117.42	116.88	---	---	116.15	115.77	116.60	116.07	110.06	109.67
4	119.01	118.59	117.36	116.86	---	---	116.10	115.63	116.97	116.31	109.89	108.79
5	119.16	118.79	117.19	116.76	---	---	116.10	115.53	116.97	115.92	109.69	108.98
6	119.62	118.91	117.22	116.95	---	---	116.10	115.67	116.01	114.62	109.81	109.35
7	119.60	119.05	117.05	116.59	---	---	116.02	115.42	114.83	113.50	109.89	109.34
8	119.44	118.99	116.97	116.58	---	---	115.88	115.37	113.78	112.95	109.80	109.32
9	119.34	118.77	116.97	116.49	---	---	115.88	115.35	113.32	112.38	109.93	109.44
10	119.25	118.78	116.91	116.34	---	---	115.88	115.32	112.75	111.98	109.92	109.28
11	119.21	118.58	116.75	116.21	---	---	115.91	115.45	112.36	111.70	109.82	109.31
12	119.04	118.60	116.65	115.87	---	---	115.91	115.42	111.89	111.12	109.86	109.46
13	118.94	118.49	116.46	116.02	---	---	115.78	115.25	111.41	110.89	109.68	108.73
14	118.98	118.45	116.52	116.08	---	---	115.78	115.27	111.47	110.97	109.80	108.86
15	118.92	118.45	116.44	116.11	---	---	115.72	115.24	111.38	110.94	109.89	109.77
16	118.91	118.35	116.50	116.01	---	---	115.63	115.16	110.96	110.35	109.80	109.56
17	118.94	118.47	116.31	115.86	---	---	115.63	115.11	111.09	110.71	109.79	109.42
18	118.83	118.27	116.33	115.83	---	---	115.82	115.33	110.95	110.63	110.04	109.67
19	118.86	118.27	116.26	115.84	117.12	116.60	115.92	115.54	110.94	110.53	110.03	109.58
20	118.75	118.18	116.27	115.79	116.91	116.33	115.92	115.54	110.68	110.13	109.90	109.51
21	118.65	118.07	116.15	115.61	116.94	116.47	115.93	115.53	110.57	109.90	109.99	109.54
22	118.73	118.30	116.15	115.55	116.75	116.28	115.77	115.27	110.34	109.89	110.05	109.68
23	118.55	117.98	116.03	115.53	116.68	116.08	115.91	115.53	110.41	110.02	110.03	109.47
24	118.40	117.66	116.10	115.55	116.78	116.17	115.92	115.47	110.57	110.33	109.82	109.40
25	118.29	118.02	115.92	115.40	116.69	116.12	116.13	115.78	110.58	110.17	109.86	109.41
26	118.23	117.55	115.92	115.49	116.56	116.21	116.14	115.76	110.31	109.89	110.57	109.30
27	118.07	117.67	116.09	115.70	116.66	116.27	115.97	115.62	110.18	109.84	112.10	110.57
28	118.08	117.48	116.09	115.76	116.52	116.10	115.96	115.56	110.09	109.70	113.37	112.10
29	117.95	117.46	116.14	115.83	116.41	116.01	116.27	115.60	---	---	114.32	113.37
30	117.89	117.36	116.16	115.86	116.26	115.88	116.24	115.95	---	---	115.19	114.17
31	117.72	117.33	---	---	116.18	115.84	116.15	115.95	---	---	115.58	114.34
MONTH	119.62	117.33	117.70	115.40	117.12	115.80	116.31	115.11	116.97	109.70	115.58	108.73

GROUND-WATER LEVELS  
MARYLAND--Continued  
CHARLES COUNTY--Continued  
CH Bc 5--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	114.34	113.32	108.85	108.34	108.86	108.15	120.72	120.09	121.77	121.33	122.34	121.89
2	113.32	112.63	108.83	108.31	108.78	108.29	120.91	120.25	121.72	121.26	122.36	121.83
3	112.75	112.25	108.82	108.29	108.75	108.20	121.12	120.47	121.84	121.36	122.25	121.85
4	112.43	111.71	108.73	108.16	108.83	108.28	121.30	120.76	121.85	121.49	122.34	121.92
5	112.02	111.18	108.57	108.02	108.70	108.14	121.50	120.99	121.89	121.49	122.32	121.89
6	111.54	110.84	108.45	107.93	108.93	108.50	121.64	121.12	121.84	121.11	122.24	121.85
7	111.28	110.64	108.33	107.83	108.80	108.34	121.78	121.31	121.85	121.29	122.31	121.88
8	111.03	110.38	108.29	107.83	108.76	108.28	121.96	121.56	121.82	121.37	122.32	121.92
9	110.76	110.04	108.30	107.81	108.77	108.36	122.01	121.64	121.90	121.48	122.24	121.78
10	110.42	109.79	108.38	107.94	108.85	108.42	122.12	121.64	121.88	121.48	122.28	121.72
11	110.37	109.75	108.37	107.91	108.91	108.49	122.24	121.83	121.89	121.48	122.45	122.07
12	110.00	109.47	108.35	107.91	108.90	108.55	122.40	121.90	121.84	121.45	122.26	121.89
13	110.04	109.63	108.26	107.90	108.90	108.47	122.49	122.07	121.91	121.42	122.32	121.84
14	109.79	109.33	108.40	107.90	108.94	108.55	122.57	122.14	122.03	121.62	122.34	121.88
15	109.75	109.34	108.38	108.02	108.97	108.55	122.65	122.15	122.04	121.53	122.29	121.82
16	109.58	109.12	108.56	108.06	110.58	108.55	122.62	122.24	122.06	121.55	122.31	121.84
17	109.76	109.10	108.63	108.23	112.73	110.58	122.70	122.16	122.03	121.50	122.25	121.57
18	109.76	109.29	108.52	107.96	114.38	112.68	122.70	122.17	122.11	121.63	122.11	121.52
19	109.55	109.11	108.50	108.02	115.59	114.29	122.58	121.99	122.09	121.48	122.11	121.62
20	109.51	109.02	108.50	107.97	116.45	115.50	122.50	122.02	122.09	121.55	122.05	121.50
21	109.39	108.92	108.48	108.03	117.05	116.30	122.41	121.88	122.25	121.78	121.96	121.45
22	109.35	108.99	108.57	108.10	117.64	117.00	122.28	121.82	122.23	121.72	122.06	121.28
23	109.27	108.86	108.57	108.17	118.18	117.62	122.21	121.74	122.21	121.71	121.59	121.14
24	109.17	108.68	108.54	108.02	118.75	118.07	122.12	121.58	122.25	121.71	121.62	121.07
25	109.04	108.64	108.65	108.25	119.12	118.48	122.07	121.52	122.32	121.78	121.45	121.03
26	109.09	108.65	108.72	108.29	119.50	118.74	122.00	121.38	122.42	121.97	121.36	120.92
27	109.17	108.70	108.67	108.29	119.95	119.18	121.87	121.33	122.38	121.99	121.37	120.90
28	108.81	108.31	108.64	108.28	120.06	119.60	121.93	121.43	122.38	121.94	121.46	121.04
29	108.80	108.34	108.77	108.24	120.20	119.62	121.76	121.32	122.42	122.01	121.44	121.12
30	108.82	108.34	108.73	108.35	120.50	119.77	121.80	121.27	122.42	121.90	121.44	121.07
31	---	---	108.58	108.18	---	---	121.84	121.35	122.31	121.86	---	---
MONTH	114.34	108.31	108.85	107.81	120.50	108.14	122.70	120.09	122.42	121.11	122.45	120.90
YEAR	122.70	107.81										

Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

189

## MARYLAND--Continued

## CHARLES COUNTY--Continued

WELL NUMBER.--CH Bc 24. SITE ID.--383633077083001. PERMIT NUMBER.--CH-02-0874.  
 LOCATION.--Lat 38°36'33", long 77°08'30", Hydrologic Unit 0207001, at Cedar Lane, Potomac Heights.  
 Owner: Potomac Heights Mutual Home Owners Association.  
 AQUIFER.--Patuxent Formation of Lower Cretaceous age. Aquifer code: 217PTXN.  
 WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 435 ft; casing diameter 10 in., to 383.5 ft; and 398.5 to 415 ft; screen diameter 10 in. from 383.5 to 398.5 ft and 415 to 435 ft.  
 INSTRUMENTATION.--Periodic measurements with chalked steel tape by U.S. Geological Survey personnel.  
 Equipped with digital water-level recorder--60-minute recorder interval, April 30, 1988 to current year.  
 DATUM.--Elevation of land surface is 72 ft above National Geodetic Vertical Datum of 1929.  
 Measuring Point: Top of recorder shelf, 1.6 ft above land surface.  
 REMARKS.--Indian Head Project observation well. Water levels affected by nearby pumping. Missing data due to recorder malfunction.  
 PERIOD OF RECORD.--May 1988 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 142.26 ft below land surface, April 30, 1988; lowest measured, 173.77 ft below land surface, May 30, 1991.

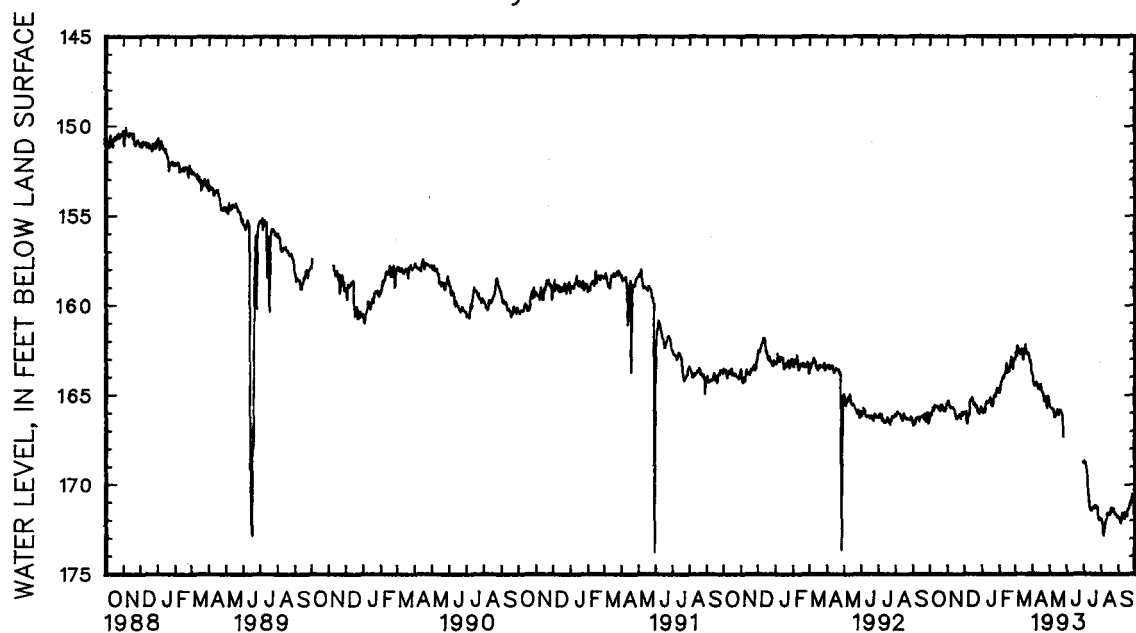
## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	166.22	165.72	165.48	165.14	165.92	165.60	165.86	165.37	164.82	164.34	162.97	162.61
2	166.00	165.68	165.34	164.79	165.94	165.49	165.98	165.74	164.84	164.50	162.64	162.28
3	165.98	165.62	165.28	164.71	165.90	165.42	165.91	165.49	164.60	163.68	162.82	162.49
4	166.09	165.75	165.39	164.99	165.90	165.47	165.82	165.41	164.22	163.74	162.81	161.69
5	165.86	165.50	165.48	164.93	166.55	165.35	165.76	165.30	164.23	163.64	162.24	161.64
6	165.73	165.28	165.71	165.47	166.58	165.92	165.94	165.50	164.05	163.65	162.27	161.94
7	165.84	165.47	165.62	165.20	166.06	165.65	165.84	165.14	164.06	163.48	162.42	162.02
8	165.84	165.43	165.63	165.29	166.17	165.80	165.53	165.01	163.89	163.47	162.48	162.09
9	165.67	165.14	165.67	165.30	166.12	165.50	165.43	164.91	164.03	163.47	162.68	162.27
10	165.55	165.17	165.69	165.27	165.78	164.45	165.32	164.82	163.83	163.33	162.72	162.13
11	165.61	165.04	165.65	165.29	165.34	164.52	165.35	164.93	163.78	163.38	162.58	162.13
12	165.63	165.22	165.78	165.19	165.24	164.93	165.42	164.99	163.57	162.96	162.68	162.26
13	165.58	165.22	165.82	165.20	165.32	164.83	165.38	164.88	163.21	162.80	162.45	161.56
14	165.67	165.22	165.96	165.56	165.22	164.71	165.35	164.88	163.68	162.94	162.82	161.56
15	165.60	165.22	166.08	165.65	165.10	164.71	165.30	164.86	163.71	163.29	163.03	162.74
16	165.62	165.14	166.28	165.89	165.23	164.72	165.11	164.71	163.42	162.80	162.82	162.34
17	165.81	165.14	166.16	165.78	165.33	164.86	165.20	164.76	163.52	163.16	162.46	162.04
18	165.67	165.20	166.30	165.75	165.53	165.08	165.50	164.98	163.48	163.22	162.66	162.27
19	165.86	165.11	166.24	165.85	165.51	165.05	165.59	165.25	163.65	163.24	162.66	161.98
20	165.80	165.29	166.17	165.74	165.44	164.93	165.61	165.18	163.33	162.71	162.19	161.84
21	165.53	165.04	166.11	165.55	165.68	165.26	165.52	165.01	163.09	162.47	162.47	161.97
22	165.71	165.34	166.04	165.57	165.56	165.17	165.18	164.51	162.87	162.49	162.68	162.33
23	165.68	165.14	166.04	165.62	165.57	165.03	164.98	164.65	162.99	162.67	162.75	162.30
24	165.54	164.96	166.30	165.78	165.94	165.18	164.99	164.48	163.37	162.95	162.65	162.26
25	165.85	165.37	166.07	165.51	165.93	165.30	165.05	164.59	163.51	163.06	162.78	162.50
26	165.85	165.26	165.93	165.55	165.80	165.37	165.05	164.57	163.15	162.70	162.95	162.55
27	165.80	165.43	166.09	165.64	166.03	165.61	164.74	164.36	162.95	162.65	163.14	162.78
28	165.86	165.29	166.07	165.72	165.92	165.48	164.59	164.09	162.91	162.58	163.08	162.75
29	165.70	165.27	166.05	165.72	165.79	165.45	164.76	164.09	---	---	163.21	162.90
30	165.66	165.20	166.00	165.69	165.68	165.33	164.83	164.46	---	---	163.64	163.06
31	165.47	165.19	---	---	165.64	165.36	164.62	164.43	---	---	163.80	163.51
MONTH	166.22	164.96	166.30	164.71	166.58	164.45	165.98	164.09	164.84	162.47	163.80	161.56

GROUND-WATER LEVELS  
MARYLAND--Continued  
CHARLES COUNTY--Continued  
CH Bc 24--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	163.80	163.47	165.32	164.90	---	---	168.81	168.40	171.95	171.54	171.85	171.46
2	163.95	163.62	165.52	165.00	---	---	168.81	168.30	171.95	171.54	171.91	171.38
3	164.34	163.82	165.68	165.21	---	---	168.68	168.22	172.19	171.73	171.87	171.51
4	164.45	164.03	165.73	165.31	---	---	168.88	168.43	172.23	171.83	172.10	171.65
5	164.46	164.02	165.71	165.26	---	---	168.99	168.55	172.78	172.14	172.16	171.69
6	164.34	163.97	165.77	165.32	---	---	169.19	168.75	172.84	171.99	171.97	171.48
7	164.42	163.97	165.81	165.38	---	---	169.48	168.91	172.54	171.92	171.81	171.43
8	164.27	163.93	165.78	165.37	---	---	169.97	169.28	172.24	171.77	171.73	171.35
9	164.38	163.97	165.93	165.44	---	---	170.29	169.73	172.12	171.66	171.57	171.16
10	164.35	163.89	166.21	165.71	---	---	170.61	169.99	171.95	171.61	171.58	171.02
11	164.64	164.21	166.22	165.78	---	---	170.92	170.40	171.90	171.54	171.89	171.52
12	164.48	164.03	166.14	165.75	---	---	171.22	170.65	171.70	171.40	171.63	171.21
13	164.67	164.34	166.02	165.70	---	---	171.35	170.93	171.59	171.24	171.56	171.13
14	164.48	164.08	165.97	165.58	---	---	171.45	171.03	171.65	171.29	171.58	171.15
15	164.43	164.08	165.80	165.48	---	---	171.46	171.06	171.63	171.18	171.56	171.12
16	164.39	163.99	165.96	165.50	---	---	171.46	170.93	171.67	171.21	171.75	171.28
17	164.73	163.96	166.08	165.71	---	---	171.32	170.79	171.58	171.13	171.70	170.92
18	164.78	164.53	166.01	165.39	---	---	171.33	170.85	171.66	171.16	171.39	170.76
19	164.83	164.44	165.86	165.46	---	---	171.25	170.79	171.55	170.83	171.31	170.85
20	164.89	164.51	165.81	165.40	---	---	171.34	170.85	171.30	170.80	171.32	170.79
21	164.99	164.59	165.86	165.47	---	---	171.32	170.78	171.48	170.87	171.13	170.64
22	165.24	164.83	165.93	165.52	---	---	171.18	170.71	171.45	170.89	171.16	170.62
23	165.36	164.92	166.02	165.63	---	---	171.21	170.78	171.33	170.88	170.89	170.50
24	165.20	164.80	166.13	165.61	---	---	171.24	170.80	171.34	170.86	170.93	170.40
25	165.10	164.77	166.74	165.98	---	---	171.30	170.80	171.51	170.90	170.81	170.31
26	165.29	164.82	167.29	166.68	---	---	171.27	170.81	171.63	171.19	170.56	170.15
27	165.70	165.27	---	---	---	---	171.78	170.83	171.58	171.23	170.58	170.14
28	165.29	164.72	---	---	---	---	171.97	171.48	171.68	171.23	170.84	170.44
29	165.05	164.70	---	---	---	---	171.88	171.46	171.81	171.34	170.88	170.54
30	165.17	164.78	---	---	168.77	168.25	171.95	171.44	171.83	171.35	170.91	170.57
31	---	---	---	---	---	---	171.99	171.55	171.74	171.35	---	---
MONTH	165.70	163.47	167.29	164.90	168.77	168.25	171.99	168.22	172.84	170.80	172.16	170.14
YEAR	172.84	161.56										

Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

191

## MARYLAND--Continued

## CHARLES COUNTY--Continued

WELL NUMBER.--CH Be 43. SITE ID.--38381907655501. PERMIT NUMBER.--CH-71-0066.  
 LOCATION.--Lat 38°38'19", long 76°55'55", Hydrologic Unit 02070011, at Sun Valley housing  
 development, 1.5 mi. northwest of Waldorf.  
 Owner: Lennart Larson.

AQUIFER.--Magothy Formation of Upper Cretaceous age. Aquifer code: 211MGTY.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 459 ft; casing diameter 6 in., to 428 ft;  
 screen diameter 5 in. from 433 to 459 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 Equipped with graphic water-level recorder from Feb. 10, 1977 to Jan. 27, 1978. Equipped with digital  
 water-level recorder--60-minute recorder interval from Feb. 27, 1978 to current year.

DATUM.--Elevation of land surface is 216.79 ft above National Geodetic Vertical Datum of 1929.

Measuring Point: Top of casing, 2.0 ft above land surface.

REMARKS.--Southern Maryland Observation Well Network. Water levels are affected by nearby pumping.

PERIOD OF RECORD.--February 1977 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.05 ft above sea level, Feb. 22, 1977;  
 lowest measured, 54.99 ft below sea level, Aug. 8, 1993.

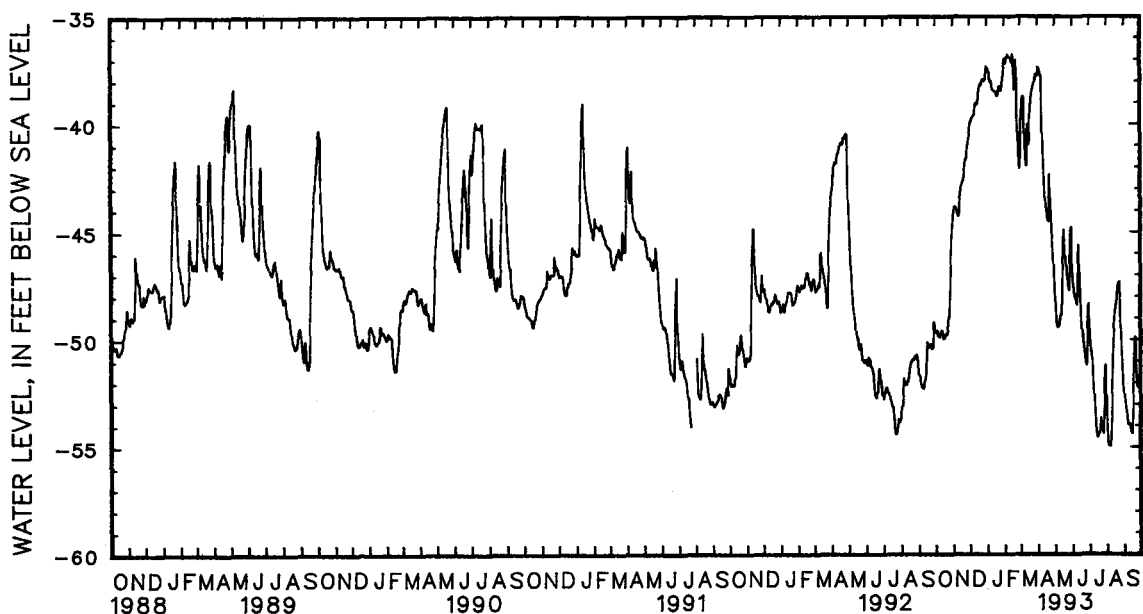
## WATER LEVEL, IN FEET BELOW SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	-49.52	-49.67	-44.03	-44.20	-40.06	-40.35	-37.18	-37.32	-36.95	-37.04	-40.49	-41.63
2	-49.65	-49.70	-43.76	-44.03	-39.75	-40.06	-37.32	-37.44	-36.87	-36.95	-39.84	-40.49
3	-49.59	-49.65	-43.74	-43.83	-39.73	-39.88	-37.44	-37.50	-36.75	-37.19	-39.40	-39.84
4	-49.58	-49.59	-43.83	-43.84	-39.76	-39.90	-37.50	-37.55	-37.05	-37.19	-38.84	-39.40
5	-49.58	-49.83	-43.84	-43.87	-39.70	-39.76	-37.43	-37.66	-36.89	-37.05	-38.72	-38.84
6	-49.83	-49.87	-43.81	-43.85	-39.68	-39.72	-37.66	-37.94	-36.85	-36.89	-38.73	-38.74
7	-49.85	-49.90	-43.82	-43.91	-39.64	-39.68	-37.94	-38.03	-36.78	-36.90	-38.45	-38.73
8	-49.84	-49.90	-43.91	-44.03	-39.57	-39.64	-37.93	-38.03	-36.70	-36.78	-38.28	-38.96
9	-49.71	-49.84	-44.03	-44.10	-39.55	-39.57	-37.94	-38.00	-36.73	-36.87	-38.96	-40.36
10	-49.63	-49.71	-44.10	-44.25	-39.14	-39.55	-38.00	-38.17	-36.86	-36.90	-40.36	-41.02
11	-49.55	-49.63	-44.14	-44.26	-39.02	-39.14	-38.17	-38.37	-36.87	-36.91	-41.02	-41.63
12	-49.55	-49.58	-43.51	-44.14	-39.02	-39.03	-38.37	-38.42	-36.78	-36.91	-41.63	-41.95
13	-49.53	-49.68	-43.35	-43.51	-39.03	-39.08	-38.30	-38.42	-36.78	-36.96	-40.69	-41.96
14	-49.68	-49.89	-43.12	-43.35	-39.07	-39.09	-38.33	-38.47	-36.96	-37.08	-40.00	-40.69
15	-49.89	-49.97	-42.92	-43.12	-38.92	-39.07	-38.47	-38.48	-37.08	-37.12	-39.71	-40.04
16	-49.92	-49.97	-42.82	-42.92	-38.67	-38.92	-38.42	-38.48	-36.75	-37.10	-40.04	-40.99
17	-49.87	-49.94	-42.74	-42.82	-38.41	-38.67	-38.42	-38.50	-36.60	-36.75	-39.78	-40.83
18	-49.76	-49.87	-42.64	-42.74	-38.26	-38.41	-38.50	-38.62	-36.52	-37.48	-39.45	-39.78
19	-49.73	-49.76	-42.60	-42.64	-38.13	-38.26	-38.62	-38.70	-37.48	-38.38	-39.09	-39.45
20	-49.76	-49.79	-42.43	-42.61	-38.04	-38.15	-38.63	-38.70	-37.46	-38.07	-38.72	-39.09
21	-49.72	-49.78	-41.90	-42.43	-38.15	-38.20	-38.45	-38.63	-37.00	-37.46	-38.51	-38.72
22	-49.52	-49.72	-41.56	-41.90	-38.03	-38.18	-38.26	-38.45	-36.94	-37.00	-38.38	-38.51
23	-49.19	-49.52	-41.51	-41.67	-37.88	-38.03	-38.25	-38.26	-36.97	-37.91	-38.24	-38.38
24	-48.95	-49.19	-41.60	-41.69	-37.82	-37.93	-38.14	-38.25	-37.91	-39.62	-38.12	-38.24
25	-48.91	-48.95	-41.29	-41.60	-37.86	-37.93	-38.23	-38.41	-39.62	-40.58	-38.06	-38.12
26	-48.13	-48.95	-41.04	-41.29	-37.86	-37.98	-38.41	-38.45	-40.58	-41.21	-37.96	-38.06
27	-46.88	-48.13	-40.90	-41.04	-37.97	-38.00	-38.24	-38.42	-41.21	-41.82	-37.77	-37.96
28	-45.89	-46.88	-40.70	-40.90	-37.89	-37.97	-37.92	-38.24	-41.63	-42.08	-37.69	-37.77
29	-45.18	-45.89	-40.56	-40.70	-37.65	-37.89	-37.78	-37.92	---	---	-37.67	-37.70
30	-44.68	-45.18	-40.35	-40.56	-37.37	-37.65	-37.39	-37.78	---	---	-37.70	-37.77
31	-44.20	-44.68	---	---	-37.19	-37.37	-37.04	-37.39	---	---	-37.67	-37.78
MONTH	-44.20	-49.97	-40.35	-44.26	-37.19	-40.35	-37.04	-38.70	-36.52	-42.08	-37.67	-41.96

GROUND-WATER LEVELS  
MARYLAND--Continued  
CHARLES COUNTY--Continued  
CH Be 43--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	-37.36	-37.67	-47.35	-47.95	-46.27	-47.06	-48.35	-49.54	-52.66	-53.35	-52.24	-52.52
2	-37.23	-37.36	-47.95	-48.22	-47.06	-47.44	-49.54	-50.10	-53.35	-54.00	-52.52	-52.74
3	-37.24	-37.41	-48.22	-48.64	-47.44	-47.60	-50.10	-50.41	-54.00	-54.56	-52.74	-52.95
4	-37.41	-37.50	-48.64	-49.12	-47.60	-47.85	-50.41	-50.57	-54.56	-54.87	-52.95	-53.22
5	-37.50	-37.65	-49.12	-49.35	-47.85	-47.99	-50.57	-50.73	-54.87	-54.95	-53.22	-53.36
6	-37.65	-37.75	-49.35	-49.44	-47.99	-48.10	-50.73	-50.95	-54.82	-54.95	-53.36	-53.46
7	-37.67	-37.75	-49.42	-49.44	-48.10	-48.17	-50.95	-51.45	-54.83	-54.97	-53.46	-53.73
8	-37.67	-38.71	-49.30	-49.42	-48.17	-48.31	-51.45	-51.87	-54.55	-54.99	-53.73	-53.96
9	-38.71	-40.16	-49.17	-49.30	-47.64	-48.40	-51.87	-52.33	-53.87	-54.67	-53.96	-53.98
10	-40.16	-40.93	-49.03	-49.17	-46.09	-47.64	-52.33	-52.85	-52.16	-53.87	-53.87	-53.96
11	-40.93	-41.65	-48.83	-49.03	-45.18	-46.09	-52.85	-53.25	-50.95	-52.16	-53.87	-53.95
12	-41.65	-42.28	-48.83	-48.84	-44.97	-45.62	-53.25	-53.67	-50.00	-50.95	-53.95	-54.04
13	-42.28	-42.88	-48.35	-48.86	-45.62	-46.94	-53.67	-54.11	-49.44	-50.00	-54.04	-54.17
14	-42.88	-43.51	-46.52	-48.35	-46.94	-47.64	-54.11	-54.36	-49.04	-49.44	-54.17	-54.31
15	-43.51	-43.89	-45.34	-46.52	-47.64	-48.14	-54.36	-54.52	-48.73	-49.04	-54.31	-54.37
16	-43.89	-43.95	-44.90	-45.34	-48.14	-48.71	-54.50	-54.56	-48.59	-48.73	-53.42	-54.38
17	-43.91	-44.16	-44.47	-44.90	-48.71	-49.17	-54.36	-54.50	-48.39	-48.59	-51.77	-53.42
18	-44.16	-44.40	-44.90	-45.75	-49.17	-49.54	-54.33	-54.36	-48.19	-48.39	-50.61	-51.77
19	-44.40	-44.50	-45.75	-46.19	-49.54	-49.81	-54.26	-54.37	-47.82	-48.19	-49.89	-50.61
20	-43.64	-44.55	-45.78	-46.14	-49.81	-50.12	-53.15	-54.26	-47.53	-47.82	-49.34	-49.89
21	-42.36	-43.64	-46.14	-46.60	-50.12	-50.30	-53.25	-53.68	-47.40	-47.53	-49.16	-49.92
22	-41.89	-42.36	-46.60	-46.95	-50.30	-50.51	-53.68	-53.83	-47.36	-47.40	-49.92	-51.05
23	-42.21	-43.30	-46.95	-47.17	-50.51	-50.66	-53.83	-53.97	-47.33	-47.36	-51.05	-51.55
24	-43.30	-44.06	-47.17	-47.33	-50.66	-50.93	-53.97	-54.09	-47.30	-47.33	-51.55	-52.01
25	-44.06	-44.64	-47.33	-47.66	-50.93	-51.12	-54.09	-54.28	-47.23	-47.96	-52.01	-52.18
26	-44.64	-45.15	-46.98	-47.74	-50.85	-51.21	-53.62	-54.38	-47.96	-49.23	-51.92	-52.22
27	-45.15	-45.70	-45.64	-46.98	-49.33	-50.85	-52.19	-53.62	-49.23	-50.01	-50.90	-51.92
28	-45.70	-46.10	-44.85	-45.64	-48.48	-49.33	-51.39	-52.19	-50.01	-50.74	-51.19	-51.99
29	-46.10	-46.63	-44.47	-44.85	-48.06	-48.48	-50.92	-51.39	-50.74	-51.22	-51.99	-52.46
30	-46.63	-47.35	-44.32	-44.79	-47.83	-48.35	-50.69	-51.20	-51.22	-51.74	-52.46	-52.67
31	---	---	-44.79	-46.27	---	---	-51.20	-52.66	-51.74	-52.24	---	---
MONTH	-37.23	-47.35	-44.32	-49.44	-44.97	-51.21	-48.35	-54.56	-47.23	-54.99	-49.16	-54.38
YEAR	-36.52	-54.99										

Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993



## GROUND-WATER LEVELS

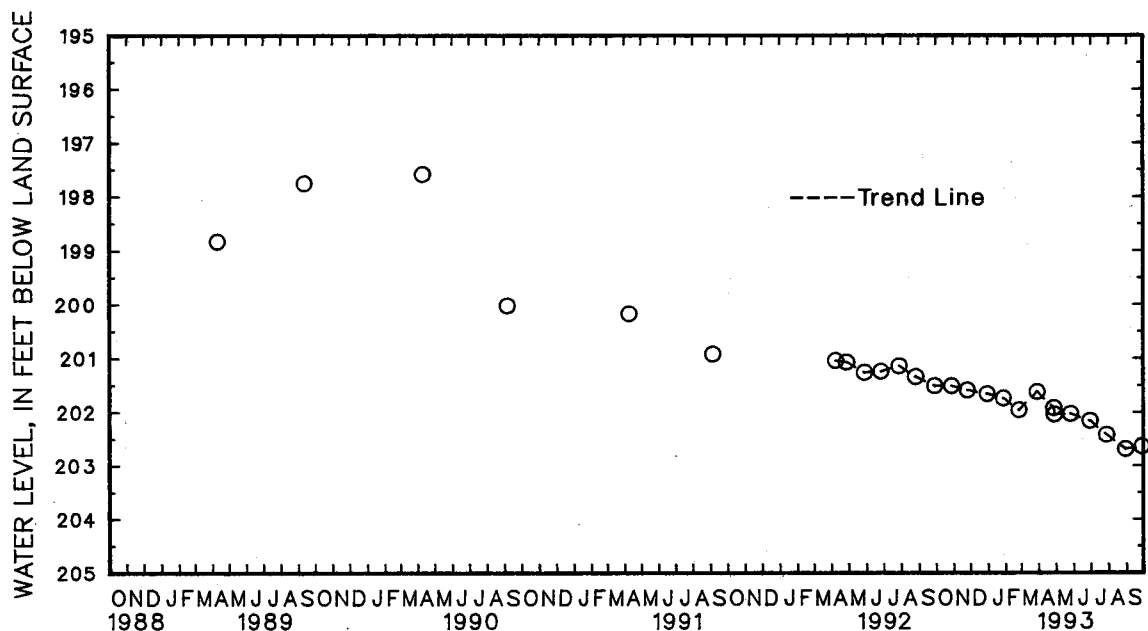
MARYLAND--Continued

CHARLES COUNTY--Continued

WELL NUMBER.--CH Be 57. SITE ID.--383706076575601. PERMIT NUMBER.--CH-81-1194.  
 LOCATION.--Lat 38°37'06", long 76°57'56", Hydrologic Unit 02070011, St. John's pumping station, St. Charles.  
 Owner: Charles County Department of Public Works.  
 AQUIFER.--Patuxant Formation of Upper Cretaceous age. Aquifer code: 217PTXN.  
 WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 1,696 ft; casing diameter 6 in., to 400 ft; casing diameter 4 in. from 400 to 1,660 ft, screen diameter 4 in. from 1,660 to 1,696 ft.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel from April 1992 to current year.  
 DATUM.--Elevation of land surface is 210 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
 Measuring Point: Top of recorder platform, 2.0 ft above land surface.  
 REMARKS.--Maryland Water-Level Network observation well.  
 PERIOD OF RECORD.--April 1986 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 196.10 ft below land surface, April 3, 1986; lowest measured, 202.70 ft below land surface, Aug. 30, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	201.52	JAN 28	201.75	APR 27	201.93	JUN 29	202.17	SEP 28	202.65
NOV 25	201.60	FEB 25	201.97	MAY 28	202.05	JUL 28	202.43		
DEC 30	201.67	MAR 29	201.63	MAY 26	202.04	AUG 30	202.70		
WATER YEAR 1993		HIGHEST	201.52	OCT 28, 1992	LOWEST	202.70	AUG 30, 1993		

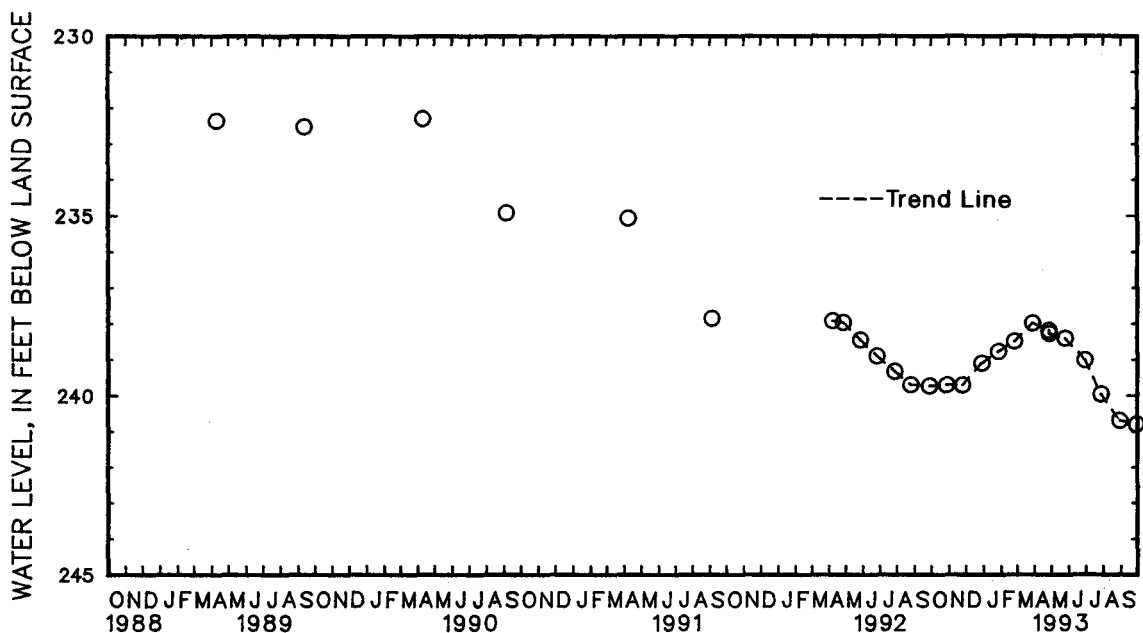


5 YEAR HYDROGRAPH  
 OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

WELL NUMBER.--CH Be 60. SITE ID.--383706076575604. PERMIT NUMBER.--CH-81-1468.  
LOCATION.--Lat 38°37'06", long 76°57'56", Hydrologic Unit 02070011, St. John's pumping station, St. Charles.  
Owner: U.S. Geological Survey.  
AQUIFER.--Patapsco Formation of Upper Cretaceous age. Aquifer code: 217PPSC.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 625 ft; casing diameter 6 in., to 401 ft;  
casing diameter 4 in. from 401 ft to 610 ft, and 625 to 635 ft; screen diameter 4 in. from 610 to 625 ft.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel  
from April 1992 to current year.  
DATUM.--Elevation of land surface is 210.0 ft above National Geodetic Vertical Datum of 1929.  
Measuring Point: Top of recorder platform, 2.2 ft above land surface.  
REMARKS.--Maryland Water-Level Network observation well,  
PERIOD OF RECORD.--November 1986 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 227.10 ft below land surface, April 10, 1987;  
lowest measured, 240.81 ft below land surface, Sept. 28, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE		WATER LEVEL		DATE		WATER LEVEL		DATE		WATER LEVEL	
OCT 28	239.71	JAN 28	238.78	APR 27	238.19	JUN 29	239.02	SEP 28	240.81		
NOV 25	239.72	FEB 25	238.48		28	238.28	JUL 28	239.97			
DEC 30	239.11	MAR 29	237.99	MAY 26	238.41	AUG 30	240.70				
WATER YEAR 1993		HIGHEST	237.99	MAR 29, 1993		LOWEST	240.81	SEP 28, 1993			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

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## MARYLAND--Continued

## CHARLES COUNTY--Continued

WELL NUMBER.--CH Bf 101. SITE ID.--383853076532601. PERMIT NUMBER.--CH-01-1882.  
 LOCATION.--Lat 38°38'53", long 76°53'26", Hydrologic Unit 02070011, at Waldorf, 1.7 mi. northwest  
 of MD Rt 5 and US Rt 301.  
 Owner: Sam's Club.  
 AQUIFER.--Magothy Formation of Upper Cretaceous age. Aquifer code: 211MGTY.  
 WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 465 ft; casing diameter 6 in., to 423 ft,  
 and from 438 to 449 ft; screen diameter 6 in. from 423 to 438 ft, and 449 to 465 ft.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 Equipped with graphic water-level recorder from Nov. 20, 1976 to Feb. 6, 1978. Equipped with digital  
 water-level recorder--60-minute recorder interval from Feb. 26, 1978 to current year. Recorder removed from  
 May 14, 1991 to November 19, 1991 during construction at the site.  
 DATUM.--Elevation of land surface is 216.45 ft above National Geodetic Vertical Datum of 1929.  
 Measuring Point: Top of casing, 1.18 ft above land surface.  
 REMARKS.--Southern Maryland Observation Well Network. Water levels are affected by nearby pumping.  
 Recorder removed May 14, 1991 to Nov. 19, 1991 during building construction.  
 PERIOD OF RECORD.--November 1976 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.60 ft above sea level, Jan. 16, 1977;  
 lowest measured, 49.42 ft below sea level, July 25, 1993.

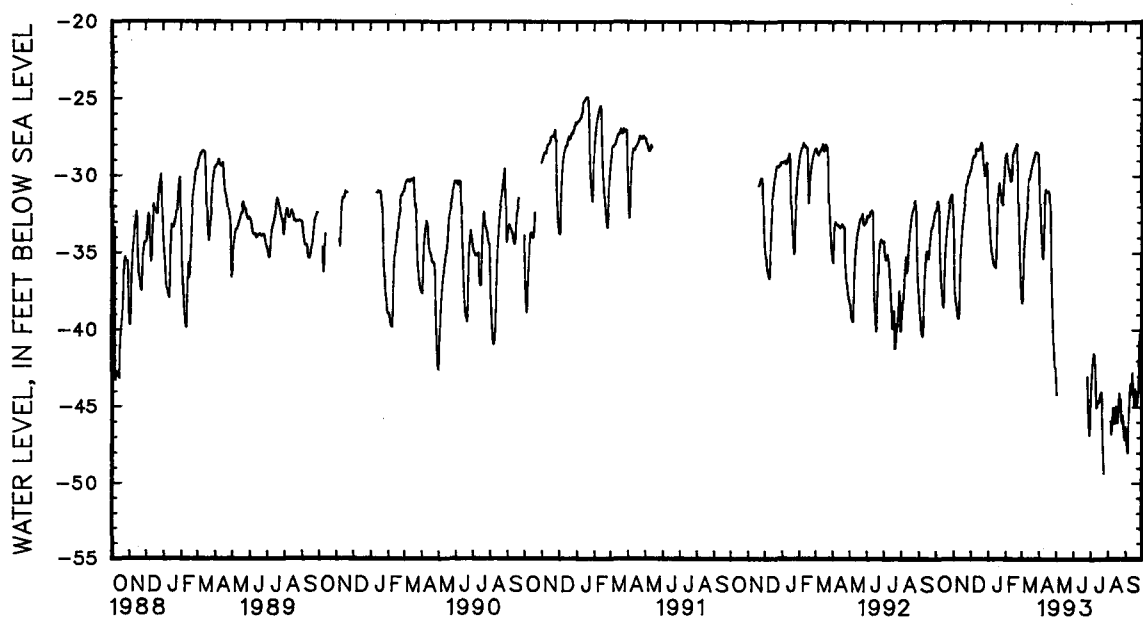
WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
 (READINGS BELOW SEA LEVEL INDICATED BY "-")

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	-32.05	-32.18	-32.87	-34.20	-29.51	-29.70	-30.74	-32.15	-28.52	-28.63	-37.44	-38.15
2	-31.83	-32.05	-34.20	-36.73	-29.23	-29.51	-32.15	-32.97	-28.38	-28.61	-38.10	-38.38
3	-31.64	-31.83	-36.73	-37.79	-29.13	-29.23	-32.97	-33.46	-28.34	-28.51	-36.18	-38.10
4	-31.52	-31.64	-37.79	-38.01	-28.88	-29.13	-33.46	-34.05	-28.51	-29.06	-34.74	-36.18
5	-31.52	-31.66	-38.01	-38.41	-28.72	-28.88	-34.05	-34.46	-29.06	-29.24	-34.10	-34.74
6	-31.66	-32.38	-38.41	-38.65	-28.54	-28.77	-34.46	-34.77	-29.24	-29.55	-33.55	-34.10
7	-32.38	-34.47	-38.65	-38.86	-28.50	-28.68	-34.77	-35.12	-29.55	-29.62	-33.09	-33.55
8	-34.47	-35.66	-38.86	-39.25	-28.68	-28.74	-35.12	-35.21	-29.62	-29.90	-32.79	-33.09
9	-35.66	-36.47	-39.25	-39.37	-28.66	-28.74	-35.21	-35.53	-29.90	-30.08	-32.70	-32.81
10	-36.47	-37.17	-39.08	-39.39	-28.22	-28.67	-35.53	-35.76	-30.08	-30.36	-32.07	-32.70
11	-37.17	-37.66	-36.81	-39.08	-28.10	-28.22	-35.76	-35.92	-29.95	-30.35	-31.57	-32.07
12	-37.66	-38.04	-35.23	-36.81	-28.16	-28.22	-35.92	-35.95	-29.08	-29.95	-31.09	-31.57
13	-38.04	-38.48	-34.50	-35.23	-28.22	-28.24	-35.92	-35.95	-28.56	-29.08	-30.10	-31.09
14	-38.12	-38.67	-33.91	-34.50	-28.24	-28.30	-35.45	-36.07	-28.43	-28.56	-30.11	-30.18
15	-36.25	-38.12	-33.31	-33.91	-28.29	-28.31	-33.43	-35.45	-28.42	-28.48	-30.15	-30.18
16	-35.25	-36.25	-32.95	-33.31	-28.20	-28.29	-32.24	-33.43	-28.21	-28.48	-29.88	-30.15
17	-34.53	-35.25	-32.50	-32.95	-28.05	-28.20	-31.55	-32.24	-28.16	-28.24	-29.50	-29.88
18	-33.92	-34.53	-32.20	-32.50	-28.02	-28.09	-31.20	-31.55	-28.02	-28.16	-29.50	-29.52
19	-33.44	-33.92	-31.85	-32.20	-27.68	-28.02	-30.84	-31.20	-27.91	-28.03	-29.27	-29.50
20	-33.06	-33.44	-31.46	-31.85	-27.57	-27.84	-30.44	-30.84	-27.70	-27.91	-29.12	-29.27
21	-32.75	-33.06	-31.04	-31.46	-27.84	-27.93	-30.42	-30.48	-27.71	-27.93	-28.89	-29.12
22	-32.42	-32.75	-30.49	-31.04	-27.93	-28.32	-30.48	-30.92	-27.93	-29.57	-28.88	-28.91
23	-32.11	-32.42	-30.43	-30.57	-28.32	-28.76	-30.92	-31.16	-29.57	-32.12	-28.70	-28.91
24	-31.64	-32.11	-30.49	-30.58	-28.76	-29.24	-31.16	-31.35	-32.12	-33.75	-28.52	-28.70
25	-31.53	-31.64	-30.28	-30.49	-29.24	-29.57	-31.35	-31.75	-33.75	-34.98	-28.43	-28.53
26	-31.35	-31.53	-30.02	-30.28	-29.57	-29.98	-31.75	-31.89	-34.98	-35.93	-28.31	-28.43
27	-31.27	-31.36	-30.02	-30.04	-29.53	-29.99	-31.29	-31.85	-35.93	-36.91	-28.32	-28.47
28	-31.11	-31.27	-29.91	-30.04	-29.21	-29.53	-30.46	-31.29	-36.91	-37.44	-28.43	-28.47
29	-31.11	-31.20	-29.72	-29.91	-28.82	-29.21	-30.02	-30.46	---	---	-28.42	-28.45
30	-31.20	-31.97	-29.70	-29.72	-28.47	-29.14	-29.24	-30.02	---	---	-28.45	-28.53
31	-31.97	-32.87	---	---	-29.14	-30.74	-28.63	-29.24	---	---	-28.39	-28.54
MONTH	-31.11	-38.67	-29.70	-39.39	-27.57	-30.74	-28.63	-36.07	-27.70	-37.44	-28.31	-38.38

GROUND-WATER LEVELS  
MARYLAND--Continued  
CHARLES COUNTY--Continued  
CH Bf 101--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	-28.31	-29.39	-43.05	-43.53	---	---	-43.86	-44.73	---	---	-45.63	-46.41
2	-29.39	-31.20	-43.53	-44.31	---	---	-43.08	-43.86	---	---	-46.12	-47.02
3	-31.20	-32.48	---	---	---	---	-42.29	-43.08	---	---	-47.02	-47.50
4	-32.48	-33.41	---	---	---	---	-41.88	-42.29	---	---	-47.50	-47.92
5	-33.41	-34.05	---	---	---	---	-41.55	-41.88	---	---	-47.27	-48.09
6	-34.05	-34.74	---	---	---	---	-41.49	-41.55	-45.10	-45.99	-45.59	-47.27
7	-34.74	-35.31	---	---	---	---	-41.52	-41.62	-45.99	-46.88	-44.58	-45.59
8	-34.60	-35.49	---	---	---	---	-41.62	-41.97	-45.67	-46.49	-44.01	-44.58
9	-32.88	-34.60	---	---	---	---	-41.97	-42.29	-45.06	-45.67	-43.54	-44.01
10	-31.72	-32.88	---	---	---	---	-42.29	-43.38	-44.61	-45.06	-43.04	-43.54
11	-31.16	-31.72	---	---	---	---	-43.38	-45.19	-45.02	-46.11	-43.34	-44.21
12	-30.90	-31.16	---	---	---	---	-44.60	-45.13	-44.98	-45.86	-42.44	-43.92
13	-30.81	-30.91	---	---	---	---	-44.60	-44.68	-45.26	-46.12	-42.06	-42.80
14	-30.91	-31.04	---	---	---	---	-44.68	-44.82	-44.59	-45.88	-42.80	-44.02
15	-31.04	-31.06	---	---	---	---	-44.79	-44.82	-44.26	-44.98	-43.35	-43.91
16	-30.92	-31.05	---	---	---	---	-44.51	-44.79	-44.98	-45.87	-43.82	-45.06
17	-30.93	-30.99	---	---	---	---	-44.27	-44.51	-44.89	-45.59	-43.87	-44.95
18	-30.96	-30.99	---	---	---	---	-44.17	-44.27	-45.32	-46.09	-43.33	-43.87
19	-30.99	-31.12	---	---	---	---	-44.09	-44.17	-44.57	-45.67	-43.71	-44.68
20	-31.12	-31.22	---	---	---	---	-43.90	-44.09	-43.90	-44.57	-43.78	-44.32
21	-31.22	-32.36	---	---	---	---	-43.90	-44.55	-43.42	-44.13	-44.30	-44.94
22	-32.36	-34.83	---	---	---	---	-44.55	-46.39	-44.13	-44.89	-43.65	-44.38
23	-34.83	-36.64	---	---	---	---	-46.39	-47.78	-43.81	-44.53	-43.88	-44.38
24	-36.64	-38.03	---	---	---	---	-47.78	-48.82	-44.27	-45.25	-42.21	-43.88
25	-38.03	-39.09	---	---	-41.09	-43.15	-48.82	-49.42	-45.25	-45.88	-41.07	-42.21
26	-39.09	-40.21	---	---	-43.15	-44.29	---	---	-45.63	-46.12	-40.29	-41.07
27	-40.21	-41.03	---	---	-44.29	-45.48	---	---	-44.77	-45.63	-40.04	-40.31
28	-41.03	-41.70	---	---	-45.48	-46.39	---	---	-45.12	-46.07	-39.68	-40.30
29	-41.70	-42.25	---	---	-46.39	-47.00	---	---	-46.07	-46.67	-39.03	-39.68
30	-42.25	-43.05	---	---	-44.73	-46.40	---	---	-46.67	-47.10	-38.64	-39.03
31	---	---	---	---	---	---	---	---	-46.41	-47.26	---	---
MONTH	-28.31	-43.05	-43.05	-44.31	-41.09	-47.00	-41.49	-49.42	-43.42	-47.26	-38.64	-48.09
YEAR	-27.57	-49.42										

Daily Low Water Levels



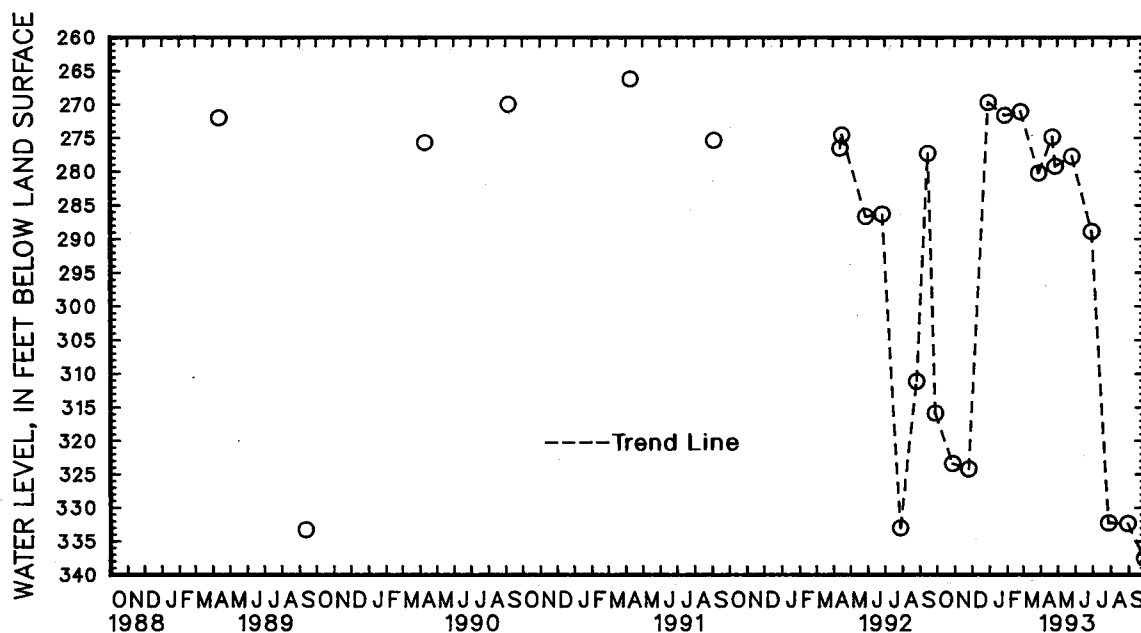
5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## MARYLAND--Continued

**CHARLES COUNTY--Continued**

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	323.44	JAN 28	271.59	APR 22	274.88	JUN 29	288.94	SEP 28	337.54
NOV 25	324.24	FEB 25	271.03	27	279.24	JUL 28	332.27		
DEC 30	269.66	MAR 29	280.23	MAY 26	277.78	AUG 30	332.36		
WATER YEAR 1993		HIGHEST	269.66	DEC 30, 1992		LOWEST	337.54	SEP 28, 1993	



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

## MARYLAND--Continued

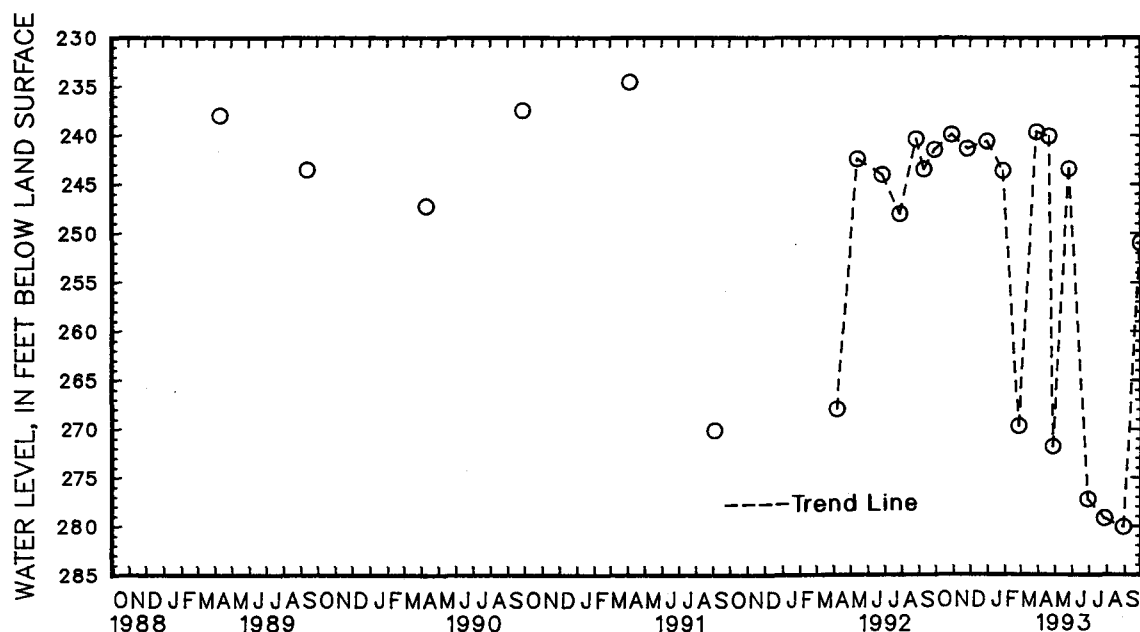
## CHARLES COUNTY--Continued

WELL NUMBER.--CH Bf 134. SITE ID.--383728076531701. PERMIT NUMBER.--CH-70-0067.  
 LOCATION.--Lat 38°37'28", long 76°53'17", Hydrologic Unit 02070011, at John Hansen Middle School parking lot, at Waldorf.  
 Owner: Charles County Department of Public Works.  
 AQUIFER.--Magothy Formation of Upper Cretaceous age. Aquifer code: 211MGTY.  
 WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 546 ft; casing diameter 6 in., to 402 ft; casing diameter 4 in. from 422 to 485 ft; screen diameter 4 in. from 402 to 422 ft and 485 to 546 ft.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 DATUM.--Elevation of land surface is 202.09 ft above National Geodetic Vertical Datum of 1929.  
 Measuring point: Top of casing, 1.51 ft above land surface.  
 REMARKS.--Maryland Water-Level Network observation well,  
 PERIOD OF RECORD.--April 1974 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 188.87 ft below land surface, April 26, 1974; lowest measured, 280.08 ft below land surface, Aug. 30, 1993.

## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	239.87	JAN 28	243.60	APR 20	240.05	JUN 29	277.23	SEP 28	250.96
NOV 25	241.33	FEB 25	269.69	27	271.79	JUL 28	279.19		
DEC 30	240.58	MAR 29	239.62	MAY 26	243.39	AUG 30	280.08		

WATER YEAR 1993      HIGHEST 239.62 MAR 29, 1993      LOWEST 280.08 AUG 30, 1993



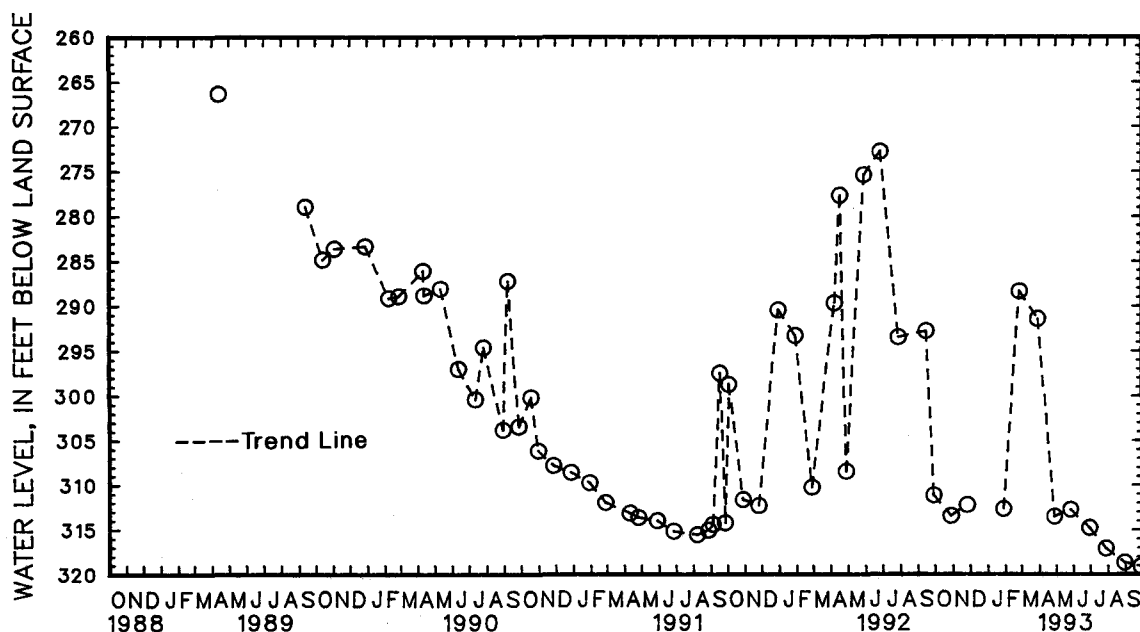
5 YEAR HYDROGRAPH  
 OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
CHARLES COUNTY--Continued

WELL NUMBER.--CH Bf 146. SITE ID.--383508076540701. PERMIT NUMBER.--CH-81-0593.  
LOCATION.--Lat 38°35'08", long 76°54'07", Hydrologic Unit 02070011, 0.3 mi south of St. Pauls Dr., Waldorf.  
Owner: U.S. Geological Survey.  
AQUIFER.--La Plata Aquifer of the Patapsco Formation of Lower Cretaceous age. Aquifer code: 217LPLT.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 1,427 ft; casing diameter 6 in., to 1,059 ft, 1,069 to 1,077 ft, 1,082 to 1,161 ft, 1,166 to 1,170 ft, 1,180 to 1,184 ft, 1,189 to 1,195 ft, 1,205 to 1,244 ft, 1,249 to 1,252 ft, 1,262 to 1,298 ft, 1,328 to 1,342 ft, and 1,417 to 1,427 ft;  
screen diameter 10 in. from 1,059 to 1,069 ft, 1,077 to 1,082 ft, 1,161 to 1,166 ft, 1,170 to 1,180 ft, 1,184 to 1,189 ft, 1,195 to 1,205 ft, 1,244 to 1,249 ft, 1,252 to 1,262 ft, 1,298 to 1,328 ft, and 1,342 to 1,417 ft.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
DATUM.--Elevation of land surface is 192.80 ft above National Geodetic Vertical Datum of 1929.  
Measuring Point: Top of casing, 2.10 ft above land surface.  
REMARKS.--Southern Maryland Observation Well Network. Water levels are affected by nearby pumping.  
PERIOD OF RECORD.--June 1984 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 195.70 ft below land surface, April 4, 1985;  
lowest measured, 319.08 land surface, Sept. 28, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	313.48	JAN 28	312.71	MAR 29	291.45	MAY 26	312.79	JUL 28	317.10	SEP 28	319.08
NOV 25	312.26	FEB 25	288.38	APR 27	313.56	JUN 29	314.80	AUG 30	318.66		
WATER YEAR 1993		HIGHEST	288.38	FEB 25, 1993	LOWEST	319.08	SEP 28, 1993				



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

## MARYLAND--Continued

## CHARLES COUNTY--Continued

WELL NUMBER.--CH Bf 151 . SITE ID.--383508076540703 . PERMIT NUMBER.--CH-81-1265.  
 LOCATION.--Lat 38°35'08", long 76°54'07", Hydrologic Unit 02070011, 0.3 mi south of St. Pauls Dr., Waldorf.  
 Owner: U.S. Geological Survey.  
 AQUIFER.--Lower Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSC.  
 WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 660 ft; casing diameter 6 in., to 399 ft; casing diameter 4 in. from 399 to 645 ft; screen diameter 4 in. from 645 to 660 ft.  
 INSTRUMENTATION.--Measurements with chalked steel tape by U.S. Geological Survey personnel.  
 Equipped with digital water-level recorder--60-minute recorder interval from August 18, 1987 to current year.  
 DATUM.--Elevation of land surface is 192.80 ft above National Geodetic Vertical Datum of 1929.  
 Measuring Point: Top of casing, 2.20 ft above land surface.  
 REMARKS.--Southern Maryland Observation Well Network.  
 PERIOD OF RECORD.--August 1987 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 32.39 ft below sea level, March 27, 1988;  
 lowest measured, 53.45 ft below sea level, June 3, 1986.

## WATER LEVEL, IN FEET BELOW SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	-41.94	-41.98	-40.85	-40.86	-41.60	-41.68	-40.74	-41.11	-40.52	-40.80	-39.18	-39.27
2	-41.86	-41.96	-40.79	-40.86	-41.52	-41.70	-41.11	-41.37	-40.80	-40.96	-39.10	-39.18
3	-41.78	-41.86	-40.78	-40.93	-41.50	-41.56	-41.24	-41.43	-40.80	-40.96	-39.10	-39.11
4	-41.78	-41.82	-40.93	-41.12	-41.38	-41.56	-41.27	-41.41	-40.69	-40.80	-38.69	-39.11
5	-41.82	-42.02	-41.12	-41.32	-41.33	-41.42	-41.29	-41.41	-40.41	-40.69	-38.76	-38.81
6	-42.02	-42.12	-41.32	-41.51	-41.32	-41.42	-41.26	-41.41	-40.30	-40.41	-38.81	-38.92
7	-42.02	-42.13	-41.51	-41.67	-41.28	-41.39	-41.15	-41.26	-40.08	-40.31	-38.86	-38.92
8	-41.87	-42.02	-41.67	-41.84	-41.35	-41.39	-40.90	-41.15	-39.94	-40.08	-38.78	-38.91
9	-41.72	-41.87	-41.84	-41.99	-41.32	-41.39	-40.80	-40.90	-39.94	-39.98	-38.91	-39.18
10	-41.60	-41.72	-41.99	-42.10	-40.82	-41.32	-40.77	-40.81	-39.83	-39.94	-39.18	-39.23
11	-41.42	-41.60	-42.10	-42.33	-40.77	-40.83	-40.70	-40.77	-39.75	-39.83	-39.19	-39.22
12	-41.26	-41.43	-42.23	-42.36	-40.83	-40.94	-40.59	-40.70	-39.45	-39.75	-39.06	-39.22
13	-41.20	-41.26	-42.22	-42.35	-40.94	-41.08	-40.45	-40.59	-39.41	-39.46	-38.30	-39.06
14	-41.22	-41.23	-42.32	-42.37	-41.08	-41.11	-40.48	-40.54	-39.46	-39.63	-38.36	-38.74
15	-41.22	-41.25	-42.26	-42.33	-41.07	-41.09	-40.48	-40.54	-39.63	-39.86	-38.74	-38.85
16	-41.12	-41.22	-42.21	-42.30	-40.96	-41.09	-40.36	-40.48	-39.80	-39.86	-38.81	-38.85
17	-41.14	-41.20	-42.08	-42.21	-40.85	-40.96	-40.31	-40.39	-39.85	-40.11	-38.60	-38.81
18	-41.02	-41.18	-42.06	-42.09	-40.93	-40.97	-40.39	-40.52	-40.11	-40.23	-38.64	-38.78
19	-40.98	-41.09	-42.07	-42.12	-40.72	-40.94	-40.52	-40.56	-40.13	-40.24	-38.78	-38.82
20	-41.06	-41.14	-42.12	-42.26	-40.57	-40.72	-40.52	-40.67	-39.91	-40.13	-38.70	-38.79
21	-41.04	-41.23	-42.20	-42.26	-40.69	-40.78	-40.50	-40.67	-39.79	-39.91	-38.66	-38.70
22	-41.23	-41.48	-41.96	-42.20	-40.73	-40.78	-40.32	-40.50	-39.80	-39.87	-38.68	-38.80
23	-41.40	-41.52	-41.88	-42.03	-40.55	-40.73	-40.29	-40.34	-39.87	-39.89	-38.73	-38.81
24	-41.04	-41.40	-42.03	-42.11	-40.46	-40.55	-40.10	-40.29	-39.89	-39.94	-38.65	-38.73
25	-40.94	-41.04	-41.99	-42.10	-40.30	-40.55	-40.10	-40.30	-39.87	-39.97	-38.67	-38.72
26	-40.87	-40.97	-41.81	-42.00	-40.28	-40.36	-40.05	-40.11	-39.68	-39.87	-38.68	-38.70
27	-40.89	-40.93	-41.76	-41.82	-40.27	-40.37	-39.98	-40.05	-39.57	-39.68	-38.64	-38.78
28	-40.89	-40.93	-41.66	-41.76	-40.23	-40.33	-40.05	-40.13	-39.27	-39.57	-38.71	-38.77
29	-40.87	-40.90	-41.58	-41.66	-40.33	-40.42	-40.13	-40.47	---	---	-38.72	-38.92
30	-40.87	-40.90	-41.58	-41.60	-40.42	-40.67	-40.47	-40.51	---	---	-38.92	-39.11
31	-40.85	-40.89	---	---	-40.67	-40.74	-40.45	-40.52	---	---	-39.11	-39.39
MONTH	-40.85	-42.13	-40.78	-42.37	-40.23	-41.70	-39.98	-41.43	-39.27	-40.96	-38.30	-39.39



## GROUND-WATER LEVELS

201

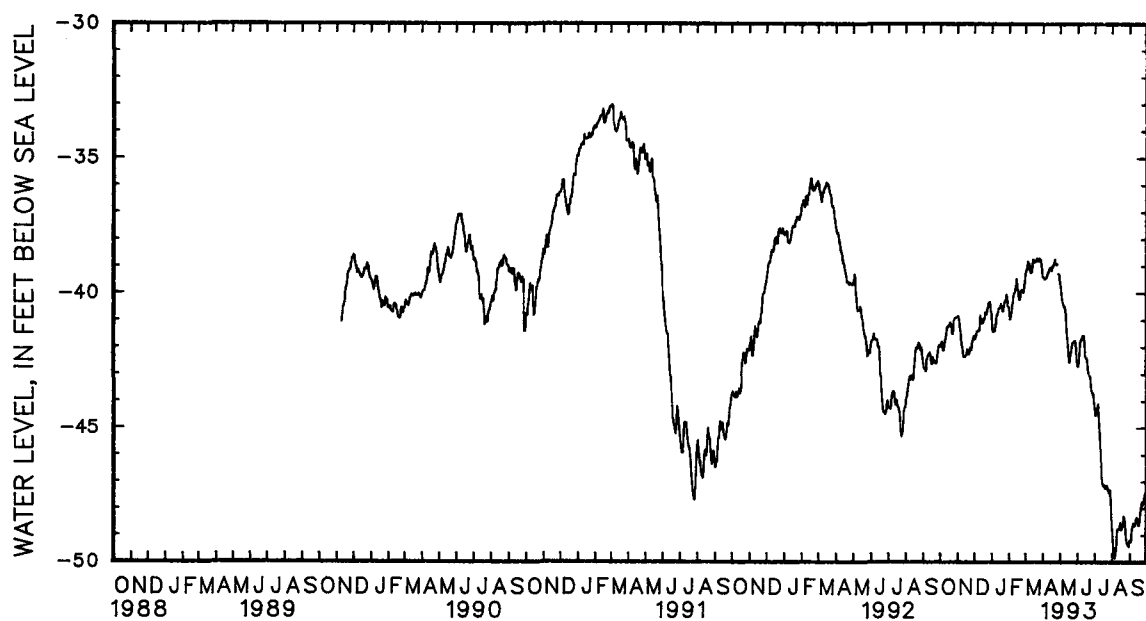
MARYLAND--Continued

CHARLES COUNTY--Continued

CH Bf 151--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	-39.39	-39.39	-39.50	-39.65	-42.48	-42.71	-44.24	-44.52	-48.56	-48.80	-49.19	-49.23
2	-39.38	-39.42	-39.57	-39.79	-42.48	-42.71	-44.45	-44.55	-48.80	-49.16	-49.17	-49.24
3	-39.42	-39.46	-39.79	-40.00	-42.20	-42.48	-44.30	-44.45	-49.16	-49.46	-48.86	-49.17
4	-39.44	-39.47	-40.00	-40.19	-41.82	-42.20	-44.21	-44.30	-49.46	-49.71	-48.70	-48.86
5	-39.42	-39.45	-40.19	-40.32	-41.73	-41.82	-44.12	-44.21	-49.71	-49.82	-48.65	-48.70
6	-39.41	-39.43	-40.28	-40.40	-41.71	-41.76	-44.06	-44.12	-49.65	-49.83	-48.55	-48.65
7	-39.34	-39.42	-40.40	-40.48	-41.66	-41.71	-44.12	-44.45	-49.42	-49.65	-48.50	-48.55
8	-39.27	-39.34	-40.48	-40.52	-41.59	-41.72	-44.45	-44.81	-49.08	-49.42	-48.51	-48.61
9	-39.23	-39.27	-40.46	-40.49	-41.57	-41.60	-44.81	-45.16	-48.76	-49.08	-48.61	-48.65
10	-39.14	-39.23	-40.47	-40.60	-41.56	-41.58	-45.16	-45.53	-48.64	-48.76	-48.55	-48.63
11	-39.09	-39.14	-40.60	-40.78	-41.55	-41.57	-45.53	-45.96	-48.64	-48.75	-48.40	-48.55
12	-39.04	-39.09	-40.78	-41.25	-41.56	-41.72	-45.96	-46.34	-48.75	-48.76	-48.25	-48.40
13	-39.04	-39.05	-41.25	-41.58	-41.72	-42.01	-46.34	-46.85	-48.71	-48.76	-48.25	-48.33
14	-39.05	-39.12	-41.58	-41.80	-42.01	-42.37	-46.85	-47.05	-48.53	-48.71	-48.33	-48.42
15	-39.12	-39.15	-41.80	-42.00	-42.37	-42.40	-47.05	-47.15	-48.50	-48.53	-48.42	-48.53
16	-38.98	-39.15	-42.00	-42.25	-42.23	-42.44	-47.06	-47.15	-48.50	-48.68	-48.53	-48.60
17	-38.97	-39.01	-42.25	-42.55	-42.25	-42.42	-47.06	-47.13	-48.68	-48.77	-48.50	-48.62
18	-38.98	-39.01	-42.35	-42.56	-42.42	-42.65	-47.13	-47.22	-48.64	-48.76	-48.19	-48.50
19	-38.93	-38.99	-42.20	-42.35	-42.65	-42.84	-47.22	-47.25	-48.52	-48.64	-48.02	-48.19
20	-38.83	-38.93	-42.04	-42.20	-42.82	-42.94	-47.23	-47.25	-48.27	-48.52	-47.82	-48.02
21	-38.74	-38.84	-41.91	-42.04	-42.94	-43.09	-47.11	-47.23	-48.21	-48.27	-47.64	-47.82
22	-38.70	-38.74	-41.83	-41.91	-43.09	-43.12	-47.11	-47.15	-48.21	-48.34	-47.63	-47.75
23	-38.74	-38.90	-41.78	-41.83	-43.12	-43.37	-47.15	-47.22	-48.34	-48.45	-47.67	-47.88
24	-38.90	-38.94	-41.78	-41.82	-43.37	-43.59	-47.22	-47.29	-48.45	-48.68	-47.67	-47.78
25	-38.91	-38.94	-41.78	-41.81	-43.59	-43.66	-47.29	-47.35	-48.68	-49.05	-47.65	-47.78
26	-38.87	-38.93	-41.74	-41.78	-43.66	-43.74	-47.35	-47.42	-49.05	-49.24	-47.51	-47.65
27	---	---	-41.72	-41.76	-43.68	-43.73	-47.17	-47.40	-49.24	-49.28	-47.37	-47.52
28	-39.22	-39.28	-41.76	-41.83	-43.68	-43.86	-47.17	-47.32	-49.28	-49.31	-47.40	-47.44
29	-39.26	-39.30	-41.81	-42.02	-43.86	-44.12	-47.32	-47.67	-49.31	-49.36	-47.42	-47.44
30	-39.30	-39.52	-42.02	-42.43	-44.12	-44.24	-47.67	-48.15	-49.15	-49.41	-47.37	-47.43
31	---	---	-42.43	-42.56	---	---	-48.15	-48.56	-49.16	-49.20	---	---
MONTH	-38.70	-39.52	-39.50	-42.56	-41.55	-44.24	-44.06	-48.56	-48.21	-49.83	-47.37	-49.24
YEAR	-38.30	-49.83										

Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

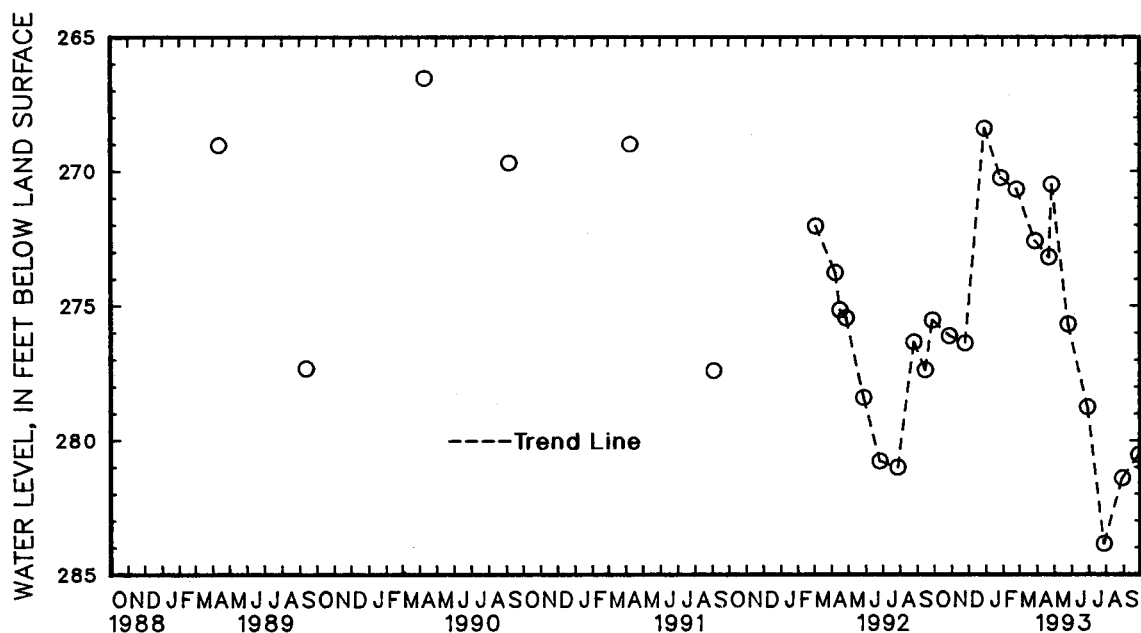
CHARLES COUNTY--Continued

WELL NUMBER.--CH Bf 157. SITE ID.--383637076545803. PERMIT NUMBER.--CH-81-1846.  
 LOCATION.--Lat 38°36'40", long 76°54'59", Hydrologic Unit 02070011, at St. Charles, Copely Rd. pumping station.  
 Owner: U.S. Geological Survey.  
 AQUIFER.--Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSC.  
 WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 623 ft; casing diameter 6 in., to 396 ft; casing diameter 4 in. from 396 to 608 ft; screen diameter 4 in. from 608 to 623 ft.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 DATUM.--Elevation of land surface is 225 ft above National Geodetic Vertical Datum of 1929.  
 Measuring point: Top of casing, 1.7 ft above land surface.  
 REMARKS.--Maryland Water-Level Network observation well,  
 PERIOD OF RECORD.--November 1986 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 262.27 ft below land surface, April 5, 1988;  
 lowest measured, 286.86 ft below land surface, July 28, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	276.11	JAN 28	270.25	APR 22	273.20	JUN 29	278.77	SEP 28	280.54
NOV 25	276.38	FEB 25	270.68	27	270.50	JUL 28	283.86		
DEC 30	268.40	MAR 29	272.60	MAY 26	275.70	AUG 30	281.41		

WATER YEAR 1993      HIGHEST 268.40 DEC 30, 1992      LOWEST 283.86 JUL 28, 1993



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## MARYLAND--Continued

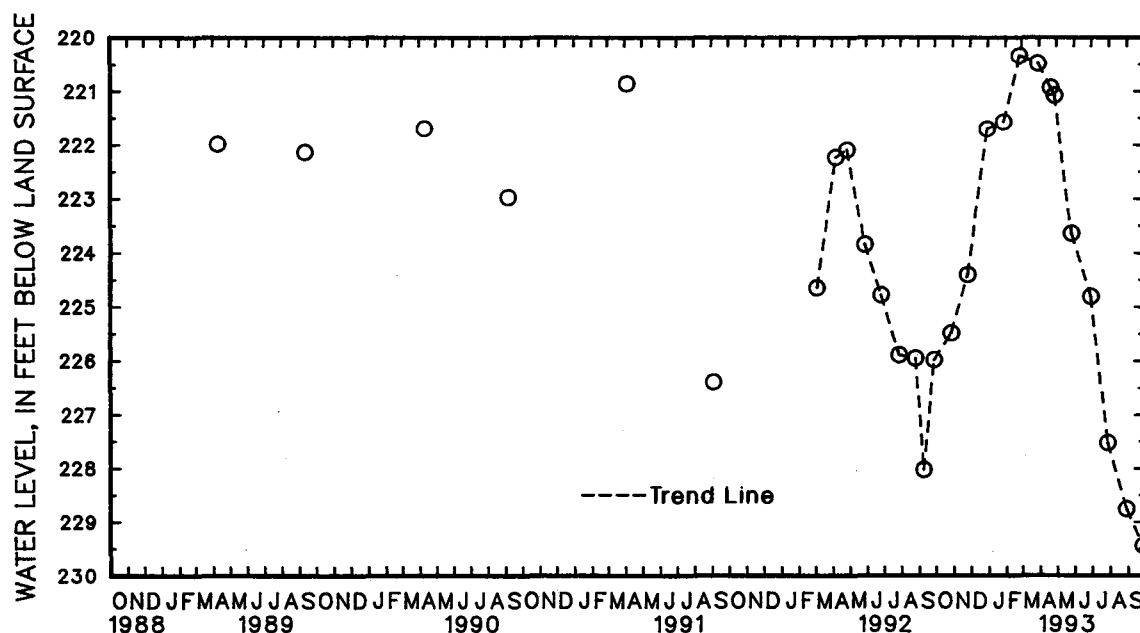
**CHARLES COUNTY--Continued**

WELL NUMBER.--CH Bf 158. SITE ID.--383732076531902. PERMIT NUMBER.--CH-81-1847.  
LOCATION.--Lat 38°37'32", long 76°53'19", Hydrologic Unit 02070011, at John Hansen Middle School pumping station,  
Waldorf.  
Owner: U.S. Geological Survey.  
AQUIFER.--Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSC.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 645 ft; casing diameter 6 in., to 398 ft;  
casing diameter 4 in. from 398 to 630 ft; screen diameter 4 in. from 630 to 645 ft.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
DATUM.--Elevation of land surface is 193 ft above National Geodetic Vertical Datum of 1929.  
Measuring point: Top of casing, 2.0 ft above land surface.  
REMARKS.--Maryland Water-Level Network observation well.  
PERIOD OF RECORD.--November 1986 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 216.70 ft below land surface, April 10, 1987;  
lowest measured, 229.44 ft below land surface, Sept. 28, 1993.

**WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993**

DATE		WATER LEVEL		DATE		WATER LEVEL		DATE		WATER LEVEL	
OCT 28	225.48	JAN 28	221.57	APR 20	220.93	JUN 29	224.82	SEP 28	229.44		
NOV 25	224.40	FEB 25	220.34	27	221.08	JUL 28	227.53				
DEC 30	221.70	MAR 29	220.48	MAY 26	223.65	AUG 30	228.76				

**WATER YEAR 1993      HIGHEST 220.34   FEB 25, 1993      LOWEST 229.44   SEP 28, 1993**



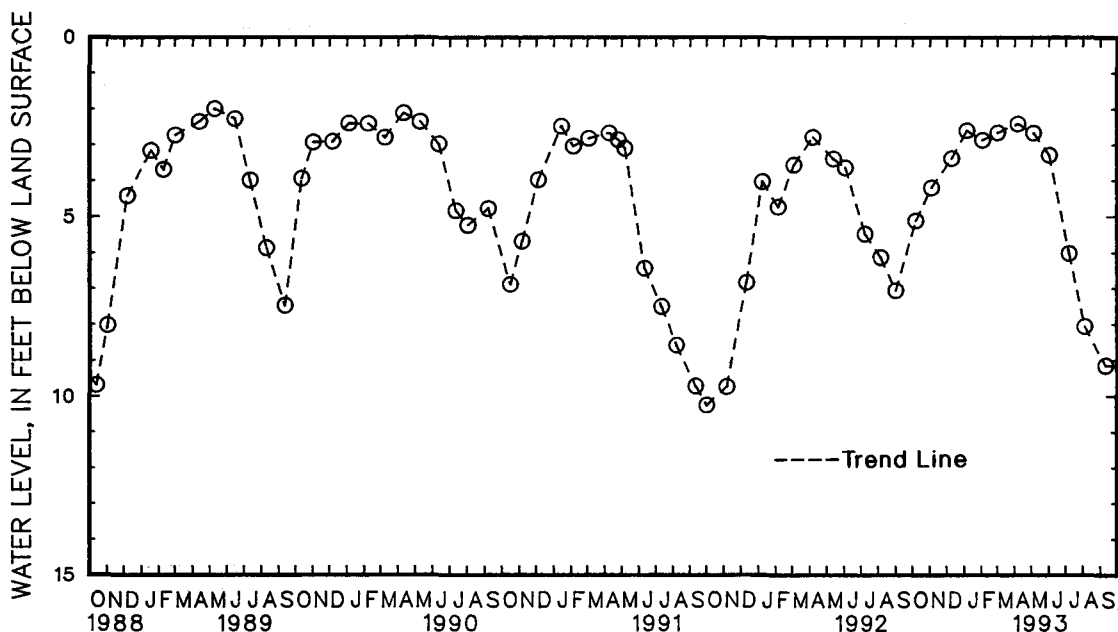
5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
CHARLES COUNTY--Continued

WELL NUMBER.--CH Bg 12. SITE ID.--383746076482901. PERMIT NUMBER.--CH-81-0600.  
LOCATION.--Lat 38°37'46", long 76°48'29", Hydrologic Unit 02070011, Cedarville State Forest, near Forest Rd.  
Owner: U.S. Geological Survey.  
AQUIFER.--Calvert Formation of Miocene age. Aquifer code: 122CLVR.  
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 24.5 ft; casing diameter 4 in., co 13.5 ft; perforated casing diameter 2 in. from 13.5 to 18.5 ft.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
DATUM.--Elevation of land surface is 149.69 ft above National Geodetic Vertical Datum of 1929.  
Measuring Point: Top of casing, 2.00 ft above land surface.  
REMARKS.--Maryland Water-Level Network observation well.  
PERIOD OF RECORD.--August 1983 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.99 ft below land surface, May 10, 1989;  
lowest measured, 10.26 ft below land surface, Oct. 2, 1991.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 7	5.12	DEC 10	3.38	FEB 3	2.87	APR 7	2.41	JUN 2	3.29	AUG 4	8.07
NOV 4	4.20	JAN 6	2.60	MAR 2	2.66	MAY 5	2.67	JUL 7	6.03	SEP 10	9.16
WATER YEAR 1993		HIGHEST	2.41	APR 7, 1993		LOWEST	9.16	SEP 10, 1993			



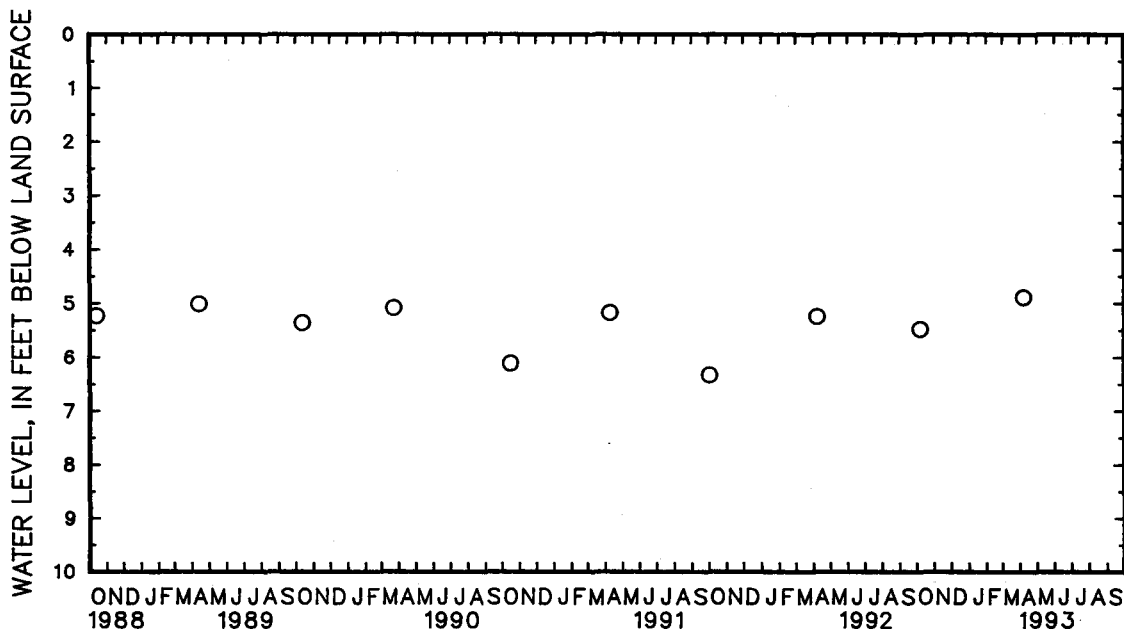
5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
CHARLES COUNTY--Continued

WELL NUMBER.--CH Bg 13. SITE ID.--383652076495701. PERMIT NUMBER.--CH-81-0601.  
LOCATION.--Lat 38°36'52", long 76°49'57", Hydrologic Unit 02070011, southside of MD Rt. 382,  
4.1 mi east of Waldorf at Zekiah Swamp.  
Owner: U.S. Geological Survey.  
AQUIFER.--Calvert Formation of Miocene age. Aquifer code: 122CLVR.  
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 22.6 ft; casing diameter 4 in., to 12.6 ft;  
casing diameter 2 in. from 17.6 to 22.6 ft; screen diameter 2 in. from 12.6 to 17.6.  
INSTRUMENTATION.--Measured twice yearly with chalked steel tape by U.S. Geological Survey personnel.  
DATUM.--Elevation of land surface is 126.27 ft above National Geodetic Vertical Datum of 1929.  
Measuring Point: Top of casing, 2.07 ft above land surface.  
REMARKS.--Maryland Water-Level Network observation well.  
PERIOD OF RECORD.--August 1983 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.64 ft below land surface, Dec. 13, 1984;  
lowest measured, 7.53 ft below land surface, April 23, 1986.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 7	5.48	APR 7	4.89
WATER YEAR 1993      HIGHEST      4.89      APR 7, 1993      LOWEST      5.48      OCT 7, 1992			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

## MARYLAND--Continued

## CHARLES COUNTY--Continued

WELL NUMBER.--CH Cb 7. SITE ID.--383422077114601. PERMIT NUMBER.--CH-01-1908.

LOCATION.--Lat 38°34'22", Long 77°11'46", Hydrologic Unit 02070011, at Caffee and Greenslade Rds., U.S. Naval Ordnance Station, about 2.5 mi southwest of Indian Head.

Owner: U.S. Navy.

AQUIFER.--Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PFSC.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 400 ft; casing diameter 8 in., to 400 ft; screen diameter 6 in. from 154.1 to 167 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel. Equipped with graphic water-level recorder Sept. 21, 1953 to July 8, 1965 and digital water-level recorder--60-minute recorder interval, April 28, 1988 to current year.

DATUM.--Elevation of land surface is 36.0 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of recorder shelf, 1.1 ft above land surface.

REMARKS.--Maryland Water-Level Network observation well. Indian Head Project observation well. Water levels affected by nearby pumping. Missing data due to recorder malfunction.

PERIOD OF RECORD.--March and April 1952, August 1953 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 57.35 ft below land surface, April 18, 1952; lowest measured, 89.33 ft below land surface, Aug. 12 and 14, 1989.

## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

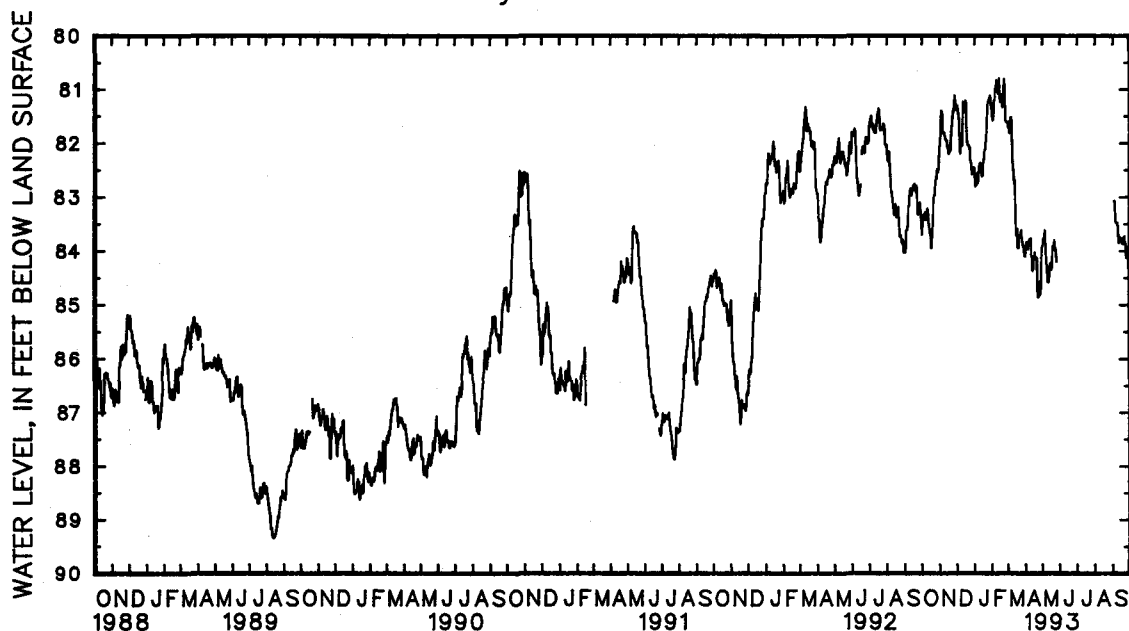
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	83.71	83.41	82.01	81.85	81.31	81.22	82.67	82.40	81.51	81.26	81.71	81.57
2	83.52	83.29	81.85	81.40	81.39	81.22	82.81	82.67	81.58	81.51	81.61	81.47
3	83.34	83.24	81.40	81.26	81.50	81.20	82.79	82.62	81.54	81.11	81.82	81.55
4	83.43	83.30	81.42	81.29	81.57	81.44	82.68	82.52	81.20	81.07	81.81	81.36
5	83.41	83.24	81.52	81.24	82.00	81.38	82.57	82.38	81.20	80.91	81.53	81.35
6	83.30	83.15	81.82	81.52	82.20	81.99	82.74	82.57	80.99	80.88	81.52	81.44
7	83.40	83.28	81.82	81.65	81.99	81.86	82.71	82.48	80.99	80.75	81.61	81.42
8	83.43	83.35	81.81	81.67	82.05	81.97	82.55	82.36	80.83	80.70	81.95	81.61
9	83.41	83.15	81.85	81.79	82.05	81.81	82.44	82.31	81.00	80.83	82.34	81.95
10	83.22	83.13	81.92	81.81	81.83	81.06	82.39	82.23	80.99	80.87	82.49	82.34
11	83.27	83.18	81.93	81.83	81.23	81.01	82.37	82.25	81.07	80.95	82.60	82.44
12	83.45	83.27	81.96	81.75	81.33	81.23	82.50	82.33	81.02	80.76	82.76	82.60
13	83.54	83.43	81.96	81.75	81.42	81.28	82.52	82.40	80.80	80.67	82.70	82.22
14	83.63	83.49	82.08	81.93	81.37	81.17	82.62	82.44	81.16	80.68	83.23	82.23
15	83.71	83.55	82.11	81.98	81.22	81.03	82.59	82.33	81.23	81.15	83.69	83.23
16	83.74	83.63	82.20	82.07	81.26	81.03	82.35	82.23	81.15	80.76	83.72	83.58
17	83.96	83.63	82.12	81.98	81.56	81.25	82.31	82.10	81.10	80.84	83.60	83.47
18	83.95	83.65	82.16	81.96	81.90	81.56	82.15	82.05	81.16	81.05	83.95	83.60
19	83.65	83.49	82.14	81.89	82.03	81.89	82.14	81.96	81.33	81.16	83.95	83.74
20	83.52	83.09	81.89	81.67	82.03	81.80	82.00	81.88	81.23	80.92	83.74	83.54
21	83.09	82.87	81.70	81.46	82.04	81.90	81.95	81.69	80.98	80.66	83.72	83.54
22	82.97	82.88	81.56	81.38	82.07	81.97	81.70	81.30	80.81	80.63	83.74	83.65
23	82.97	82.74	81.41	81.24	82.08	81.90	81.34	81.21	81.00	80.81	83.74	83.55
24	82.78	82.38	81.44	81.29	82.31	81.90	81.24	81.01	81.37	81.00	83.63	83.52
25	82.64	82.44	81.32	81.07	82.34	82.17	81.20	81.04	81.60	81.37	83.79	83.63
26	82.67	82.43	81.11	80.96	82.42	82.18	81.24	81.11	81.60	81.50	83.84	83.75
27	82.49	82.39	81.19	80.98	82.58	82.42	81.15	81.03	81.62	81.52	83.91	83.79
28	82.54	82.41	81.25	81.14	82.57	82.40	81.12	80.91	81.62	81.52	83.90	83.79
29	82.51	82.34	81.33	81.20	82.49	82.39	81.17	80.91	---	---	83.98	83.87
30	82.39	82.12	81.38	81.25	82.46	82.36	81.29	81.17	---	---	84.09	83.94
31	82.12	81.98	---	---	82.46	82.36	81.36	81.22	---	---	84.11	83.96
MONTH	83.96	81.98	82.20	80.96	82.58	81.01	82.81	80.91	81.62	80.63	84.11	81.35

GROUND-WATER LEVELS  
 MARYLAND--Continued  
 CHARLES COUNTY--Continued  
 CH Cb 7--Continued

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DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	83.96	83.80	83.91	83.75	---	---	---	---	---	---	---	---
2	83.85	83.75	83.78	83.67	---	---	---	---	---	---	---	---
3	83.97	83.77	83.77	83.65	---	---	---	---	---	---	83.07	82.99
4	83.98	83.89	83.76	83.60	---	---	---	---	---	---	83.11	83.04
5	83.98	83.78	83.62	83.47	---	---	---	---	---	---	83.38	83.10
6	83.87	83.73	83.87	83.58	---	---	---	---	---	---	83.47	83.32
7	83.81	83.71	84.07	83.87	---	---	---	---	---	---	83.48	83.38
8	83.79	83.65	84.21	84.07	---	---	---	---	---	---	83.48	83.36
9	83.82	83.71	84.30	84.16	---	---	---	---	---	---	83.48	83.40
10	83.78	83.60	84.50	84.27	---	---	---	---	---	---	83.58	83.36
11	84.10	83.76	84.59	84.48	---	---	---	---	---	---	83.85	83.58
12	84.14	83.99	84.58	84.47	---	---	---	---	---	---	83.83	83.68
13	84.38	84.14	84.48	84.24	---	---	---	---	---	---	83.75	83.58
14	84.35	84.11	84.29	84.19	---	---	---	---	---	---	83.76	83.65
15	84.14	84.07	84.24	84.17	---	---	---	---	---	---	83.82	83.68
16	84.12	83.79	84.25	84.17	---	---	---	---	---	---	83.82	83.72
17	84.04	83.74	84.35	84.22	---	---	---	---	---	---	83.86	83.70
18	84.16	84.04	84.30	83.86	---	---	---	---	---	---	83.77	83.63
19	84.16	84.03	83.91	83.80	---	---	---	---	---	---	83.86	83.69
20	84.13	84.00	83.97	83.78	---	---	---	---	---	---	83.81	83.70
21	84.14	84.01	83.98	83.77	---	---	---	---	---	---	83.73	83.61
22	84.61	84.12	83.81	83.66	---	---	---	---	---	---	83.87	83.60
23	84.87	84.61	83.93	83.81	---	---	---	---	---	---	83.87	83.79
24	84.87	84.67	83.97	83.89	---	---	---	---	---	---	84.13	83.78
25	84.70	84.48	84.05	83.96	---	---	---	---	---	---	84.11	83.91
26	84.59	84.44	84.20	84.02	---	---	---	---	---	---	83.93	83.79
27	84.82	84.59	---	---	---	---	---	---	---	---	84.04	83.87
28	84.71	84.14	---	---	---	---	---	---	---	---	84.32	84.04
29	84.14	83.93	---	---	---	---	---	---	---	---	84.51	84.30
30	83.94	83.86	---	---	---	---	---	---	---	---	84.62	84.50
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	84.87	83.60	84.59	83.47	---	---	---	---	---	---	84.62	82.99
YEAR	84.87	80.63										

Daily Low Water Levels



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

## MARYLAND--Continued

## CHARLES COUNTY--Continued

WELL NUMBER.--CH Ce 37. SITE ID.--383236076563901. PERMIT NUMBER.--CH-73-0219.  
 LOCATION.--Lat 38°32'36", long 76°56'39", Hydrologic Unit 02070011, at LaPlata Water Treatment Plant,  
 2.0 mi. northeast of La Plata.  
 Owner: Town of La Plata.  
 AQUIFER.--Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSC.  
 WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 1340 ft; casing diameter 6 in., to 300 ft;  
 casing diameter 4 in. from 300 to 1,174 ft, 1,184 to 1,250 ft, and 1,260 to 1,330 ft; screen diameter 4 in.  
 from 1,174 to 1,184 ft, 1,250 to 1,260 ft, and 1,330 to 1,340 ft.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 Equipped with graphic water-level recorder from Nov. 23, 1973 to Dec. 10, 1975. Equipped with digital  
 water-level recorder--15-minute recorder interval from July 12, 1976 to current year.  
 DATUM.--Elevation of land surface is 185.37 ft above National Geodetic Vertical Datum of 1929.  
 Measuring Point: Top of casing, 3.20 ft above land surface.  
 REMARKS.--Southern Maryland Observation Well Network. Water levels affected by nearby pumping.  
 PERIOD OF RECORD.--November 1973 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.44 ft below sea level, Sept. 8, 1976;  
 lowest measured, 110.14 ft below sea level, Sept. 5, 1993.

## WATER LEVEL, IN FEET BELOW SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	-76.89	-87.92	-76.89	-77.14	-76.10	-86.32	-76.22	-76.22	-81.37	-94.37	-77.29	-77.58
2	-77.01	-88.08	-76.80	-87.40	-76.29	-87.61	-76.22	-76.22	-79.78	-81.37	-77.12	-77.29
3	-77.00	-89.02	-77.06	-88.48	-76.40	-77.12	-76.22	-76.22	-78.88	-79.78	-77.05	-77.12
4	-76.94	-78.63	-77.27	-87.52	-76.23	-88.03	-76.09	-76.22	-78.43	-78.88	-76.65	-77.05
5	-76.83	-87.64	-77.15	-88.28	-76.55	-77.32	-75.97	-86.89	-78.25	-87.53	-76.62	-76.65
6	-77.08	-87.60	-77.39	-88.37	-76.16	-76.55	-76.63	-87.70	-78.00	-90.30	-76.61	-76.62
7	-77.15	-88.16	-77.08	-78.05	-76.08	-87.34	-76.87	-87.60	-78.81	-91.28	-76.59	-76.61
8	-77.71	-88.38	-76.81	-77.08	-76.66	-87.62	-76.94	-87.60	-79.91	-92.79	-76.49	-76.59
9	-77.33	-88.46	-76.73	-87.61	-76.90	-87.31	-76.80	-77.53	-82.61	-94.00	-76.49	-76.49
10	-77.34	-88.70	-77.07	-87.59	-76.69	-87.09	-76.58	-76.80	-83.42	-94.55	-76.43	-76.49
11	-77.18	-89.33	-76.66	-77.52	-76.42	-86.66	-76.46	-86.95	-84.79	-95.05	-76.43	-76.43
12	-83.37	-92.20	-76.45	-87.27	-76.43	-77.02	-76.79	-88.40	-85.28	-95.11	-76.43	-76.43
13	-79.31	-90.04	-76.64	-87.89	-76.29	-76.43	-77.05	-88.57	-84.48	-95.19	-75.80	-76.43
14	-79.00	-90.08	-76.54	-77.54	-76.25	-86.89	-77.35	-88.48	-84.11	-95.01	-75.80	-76.02
15	-78.40	-88.67	-76.28	-76.54	-76.65	-87.67	-77.40	-88.08	-83.95	-95.16	-76.02	-76.18
16	-78.01	-88.30	-76.21	-86.59	-76.63	-85.29	-76.90	-77.92	-81.88	-95.34	-76.18	-76.18
17	-77.50	-78.22	-76.49	-88.06	-76.40	-86.76	-76.66	-76.90	-80.27	-81.88	-76.18	-76.18
18	-77.09	-77.50	-76.89	-88.26	-76.68	-87.48	-76.65	-87.69	-79.46	-80.27	-76.18	-76.18
19	-77.04	-86.88	-77.00	-86.86	-76.46	-77.33	-77.67	-88.79	-78.91	-79.46	-76.18	-76.18
20	-77.26	-87.10	-76.81	-87.19	-76.19	-76.46	-77.62	-88.92	-78.68	-89.72	-76.18	-76.18
21	-77.35	-89.06	-76.40	-77.32	-76.19	-88.03	-77.71	-88.76	-78.84	-89.99	-76.18	-76.18
22	-77.85	-88.10	-75.95	-76.40	-76.85	-87.88	-77.56	-88.86	-78.88	-92.34	-76.18	-76.18
23	-77.74	-88.22	-75.86	-87.26	-76.91	-87.87	-77.64	-88.91	-80.47	-92.72	-76.18	-76.18
24	-77.15	-78.18	-76.61	-87.90	-77.07	-88.71	-77.38	-78.74	-79.20	-80.47	-76.18	-76.18
25	-76.91	-77.15	-76.69	-84.91	-76.91	-78.19	-77.27	-91.11	-78.60	-79.20	-76.18	-76.18
26	-76.81	-87.42	-76.16	-76.80	-76.72	-76.91	-81.39	-92.68	-78.12	-78.60	-76.18	-76.18
27	-77.19	-88.26	-75.97	-76.16	-76.54	-76.72	-83.59	-93.40	-77.83	-78.12	-76.12	-76.18
28	-77.48	-89.18	-75.86	-75.97	-76.32	-76.54	-83.27	-94.01	-77.58	-77.83	-76.09	-76.12
29	-77.53	-85.67	-75.81	-75.86	-76.16	-76.32	-83.44	-94.04	---	---	-76.09	-76.09
30	-77.26	-87.85	-75.79	-86.33	-76.11	-86.09	-87.67	-94.76	---	---	-76.09	-76.09
31	-77.14	-77.90	---	---	-76.22	-76.79	-83.88	-94.79	---	---	-76.09	-76.09
MONTH	-76.81	-92.20	-75.79	-88.48	-76.08	-88.71	-75.97	-94.79	-77.58	-95.34	-75.80	-77.58

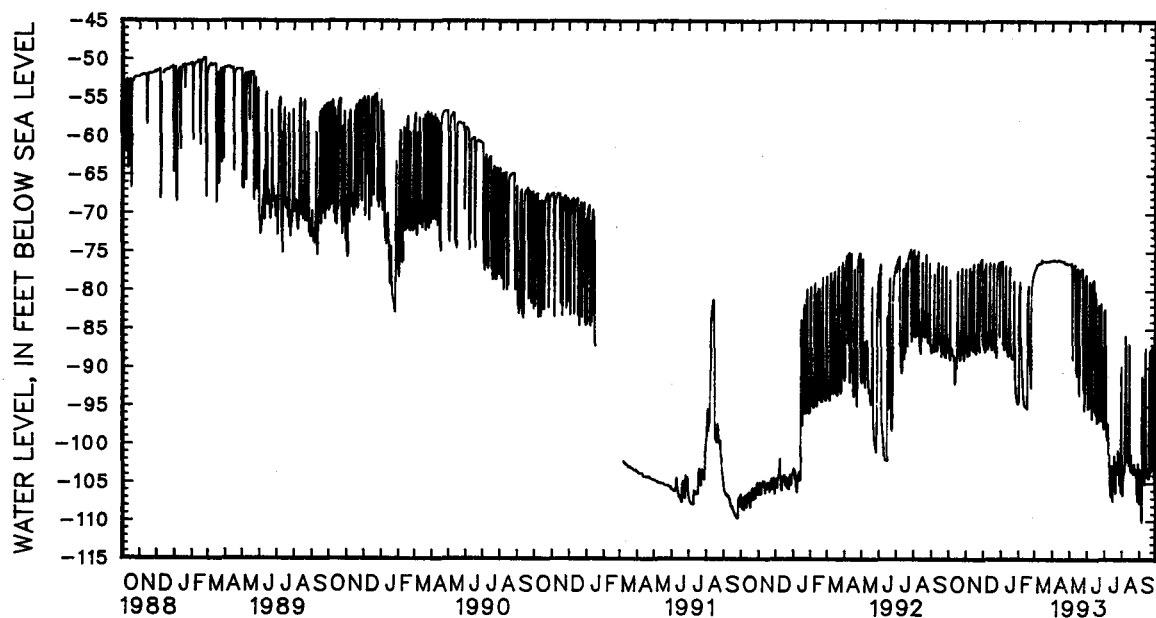


GROUND-WATER LEVELS  
MARYLAND--Continued  
CHARLES COUNTY--Continued  
CH Ce 37--Continued

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DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	-76.04	-76.09	-76.46	-76.48	-77.58	-87.06	-81.22	-82.65	-86.20	-105.13	-88.75	-103.21
2	-76.04	-76.04	-76.47	-76.50	-77.77	-95.40	-80.98	-97.25	-90.10	-106.67	-87.96	-103.71
3	-76.04	-76.04	-76.50	-76.54	-78.89	-94.70	-81.09	-82.38	-88.32	-103.92	-87.61	-106.88
4	-76.04	-76.04	-76.42	-76.50	-78.97	-95.24	-80.93	-95.98	-87.50	-103.57	-106.88	-109.61
5	-76.04	-76.04	-76.32	-76.43	-78.81	-79.81	-81.32	-98.86	-87.14	-103.44	-91.19	-110.14
6	-76.04	-76.04	-76.32	-89.02	-78.56	-78.81	-82.46	-99.42	-86.84	-102.34	-88.61	-91.19
7	-76.04	-76.08	-76.80	-77.13	-78.49	-95.04	-82.69	-97.37	-85.82	-87.30	-88.11	-104.97
8	-76.08	-76.08	-76.74	-76.80	-78.61	-79.31	-82.74	-99.27	-85.18	-85.82	-88.49	-104.38
9	-76.08	-76.08	-76.69	-76.74	-78.52	-96.69	-84.46	-102.41	-84.95	-101.46	-88.36	-105.13
10	-76.04	-76.08	-76.64	-76.69	-78.97	-80.01	-102.41	-104.95	-85.56	-102.24	-88.33	-105.19
11	-76.04	-76.04	-76.55	-76.64	-78.71	-78.97	-104.95	-106.29	-85.84	-101.67	-87.48	-89.47
12	-76.04	-76.04	-76.54	-90.61	-78.61	-78.71	-90.18	-106.90	-85.88	-101.81	-86.65	-87.48
13	-76.04	-76.04	-76.81	-87.20	-78.51	-78.61	-88.18	-102.79	-85.83	-102.70	-86.49	-103.29
14	-76.04	-76.04	-76.90	-91.10	-78.49	-95.72	-86.95	-105.37	-85.20	-86.88	-87.31	-104.21
15	-76.04	-76.08	-77.10	-77.73	-79.04	-80.08	-89.95	-107.40	-84.92	-103.55	-87.49	-103.72
16	-76.08	-76.08	-76.92	-77.10	-78.97	-96.16	-88.16	-103.80	-86.00	-101.28	-87.54	-103.57
17	-76.08	-76.11	-76.90	-91.30	-79.50	-80.84	-87.21	-102.86	-85.84	-102.53	-87.48	-104.46
18	-76.11	-76.14	-77.32	-93.68	-79.33	-97.20	-86.44	-101.52	-86.01	-103.59	-87.69	-103.82
19	-76.14	-76.17	-77.53	-78.61	-80.16	-93.51	-85.69	-103.81	-86.21	-103.14	-86.61	-87.84
20	-76.17	-76.17	-77.29	-77.53	-79.81	-92.46	-88.37	-106.37	-86.16	-103.69	-86.39	-103.58
21	-76.17	-76.17	-77.19	-77.29	-79.63	-97.16	-87.11	-103.54	-86.43	-103.92	-86.20	-87.64
22	-76.17	-76.17	-77.15	-77.19	-79.92	-81.91	-86.58	-103.55	-86.35	-102.55	-86.00	-103.34
23	-76.14	-76.38	-77.12	-77.15	-79.79	-96.19	-86.43	-103.11	-85.90	-103.71	-85.97	-87.39
24	-76.38	-76.44	-77.09	-77.12	-80.75	-94.64	-86.33	-101.75	-86.23	-103.23	-85.84	-102.67
25	-76.39	-76.41	-77.08	-92.83	-80.43	-96.95	-85.80	-100.82	-86.25	-103.37	-86.54	-103.29
26	-76.35	-76.41	-77.75	-78.60	-80.40	-81.65	-85.36	-104.13	-86.41	-103.68	-85.82	-87.04
27	-76.41	-76.53	-77.69	-95.60	-80.24	-94.01	-87.45	-105.36	-86.49	-106.08	-85.58	-104.41
28	-76.53	-76.56	-78.51	-92.67	-80.36	-96.65	-86.45	-101.13	-88.74	-107.41	-90.11	-106.47
29	-76.48	-76.54	-78.17	-78.91	-81.15	-97.19	-86.04	-104.62	-87.55	-102.45	-88.45	-103.83
30	-76.45	-76.48	-77.91	-78.17	-81.38	-98.00	-89.79	-106.40	-86.45	-106.27	-86.71	-88.61
31	---	---	-77.59	-77.91	---	---	-86.75	-89.79	-90.39	-107.70	---	---
MONTH	-76.04	-76.56	-76.32	-95.60	-77.58	-98.00	-80.93	-107.40	-84.92	-107.70	-85.58	-110.14
YEAR	-75.79	-110.14										

Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

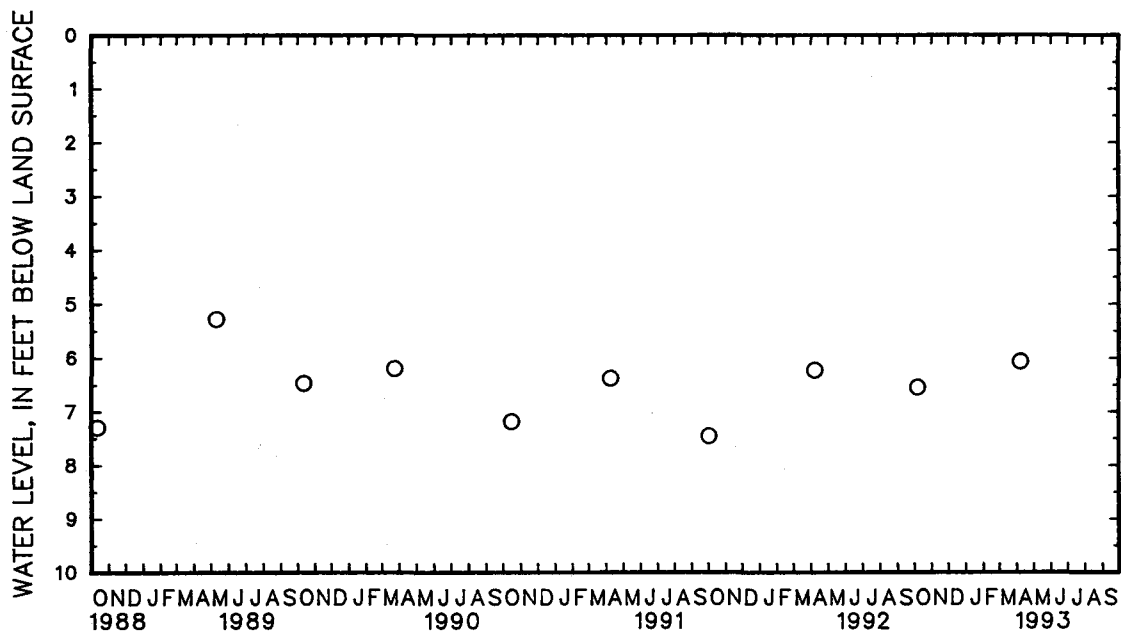
MARYLAND--Continued

CHARLES COUNTY--Continued

WELL NUMBER.--CH Cf 33. SITE ID.--383340076511601. PERMIT NUMBER.--CH-81-0602.  
 LOCATION.--Lat 38°33'40", long 76°51'16", Hydrologic Unit 02070011, north side of MD Rt. 5,  
 5.5 mi southeast of Waldorf at Zekiah Swamp.  
 Owner: U.S. Geological Survey.  
 AQUIFER.--Alluvium of Quaternary. Aquifer code: 110ALVM.  
 WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 22.2 ft; casing diameter 4 in.,  
 to 14.7 ft; casing diameter 2 in. from 19.7 to 22.2 ft; screen diameter 2 in. from 14.7 to 19.7 ft.  
 INSTRUMENTATION.--Measured twice yearly with chalked steel tape by U.S. Geological Survey personnel.  
 DATUM.--Elevation of land surface is 89.88 ft above National Geodetic Vertical Datum of 1929.  
 Measuring Point: Top of casing, 2.51 ft above land surface.  
 REMARKS.--Maryland Water-Level Network observation well.  
 PERIOD OF RECORD.--August 1983 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.00 ft below land surface, Dec. 29, 1983;  
 lowest measured, 8.13 ft below land surface, April 23, 1986.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 7	6.55	APR 7	6.07
WATER YEAR 1993      HIGHEST      6.07      APR 7, 1993      LOWEST      6.55      OCT 7, 1992			



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

CHARLES COUNTY--Continued

WELL NUMBER.--CH Dd 33. SITE ID.--382607077002601. PERMIT NUMBER.--CH-02-6769.

LOCATION.--Lat 38°26'07", long 77°00'26", Hydrologic Unit 02070011, 1.8 mi southwest of Faulkner off Popes Creek Rd.

Owner: Jesuit Order (Loyola Retreat House).

AQUIFER.--Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSC.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, depth 694 ft; casing diameter 6 in., to 564 ft; casing diameter 4 in. from 532 to 688 ft; screen diameter 4 in. from 687 to 694 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 99.8 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of casing, 1.0 ft above land surface.

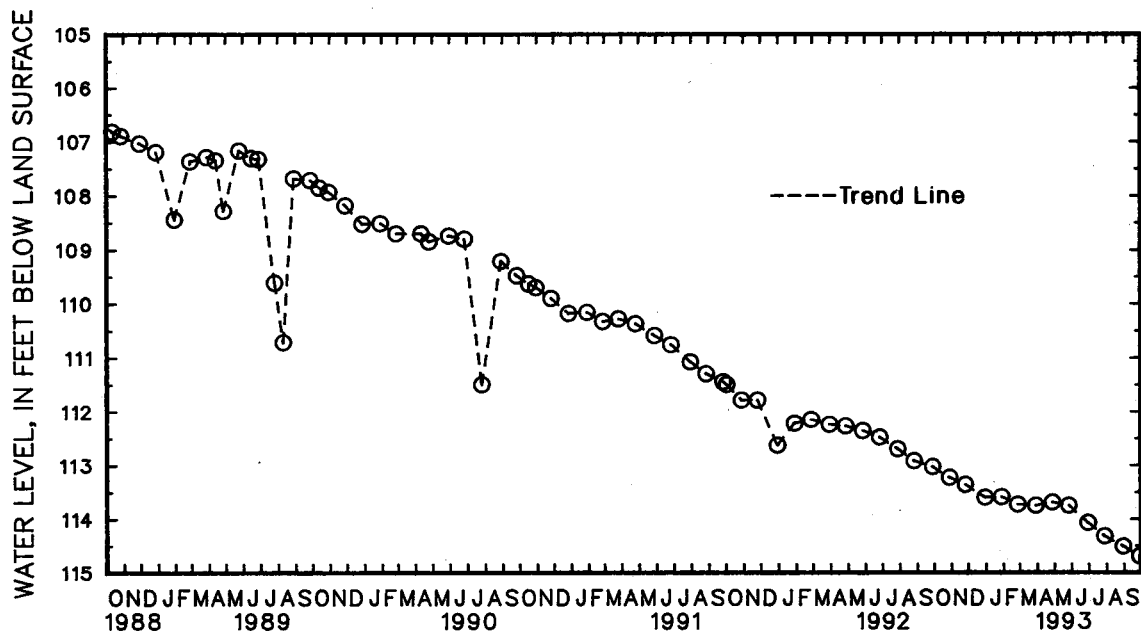
REMARKS.--Maryland Water-Level Network observation well. Water level reported 104 ft below land surface, June 27, 1957. Water levels maybe affected by nearby pumping.

PERIOD OF RECORD.--March 1962 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 88.28 ft below land surface, March 14, 1962; lowest measured, 114.69 ft below land surface, Sept. 28, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	113.23	DEC 30	113.60	FEB 25	113.73	APR 27	113.69	JUN 29	114.07	AUG 30	114.51
NOV 25	113.36	JAN 28	113.59	MAR 29	113.75	MAY 26	113.75	JUL 28	114.32	SEP 28	114.69
WATER YEAR 1993		HIGHEST	113.23	OCT 28, 1992	LOWEST	114.69	SEP 28, 1993				



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

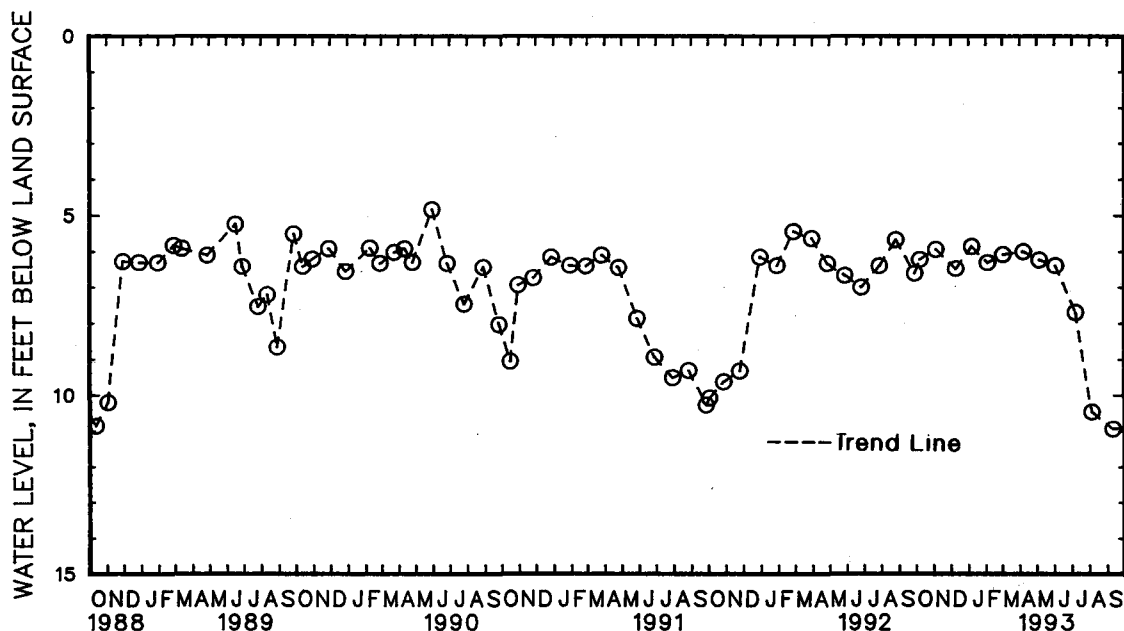
5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
CHARLES COUNTY--Continued

WELL NUMBER.--CH De 45. SITE ID.--382927076552301. PERMIT NUMBER.--CH-81-0604.  
LOCATION.--Lat 38°29'27", long 76°55'23", Hydrologic Unit 02070011, north side of MD Rt. 6,  
4.1 mi southeast of La Plata.  
Owner: U.S. Geological Survey.  
AQUIFER.--Alluvium of Pleistocene age and Nanjemoy Formation of Eocene age. Aquifer codes: 112ALVM, 124NNJM.  
WELL CHARACTERISTICS.--Drilled, observation, water-table well; depth 25.5 ft; casing diameter 4 in., to 15.5 ft,  
casing diameter 2 in. from 20.5 to 25.5 ft; screen diameter 2 in. from 15.5 to 20.5 ft.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
DATUM.--Elevation of land surface is 44.77 ft above National Geodetic Vertical Datum of 1929.  
Measuring Point: Top of casing, 2.35 ft above land surface.  
REMARKS.--Maryland Water-Level Network observation well.  
PERIOD OF RECORD.--August 1983 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.83 ft below land surface, May 30, 1990;  
lowest measured, 10.95 ft below land surface, Sept. 10, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 7	6.22	DEC 9	6.48	FEB 3	6.31	APR 7	6.00	JUN 2	6.39	AUG 4	10.47
NOV 4	5.94	JAN 6	5.86	MAR 2	6.08	MAY 5	6.23	JUL 7	7.70	SEP 10	10.95
WATER YEAR 1993		HIGHEST	5.86	JAN 6, 1993		LOWEST	10.95	SEP 10, 1993			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
CHARLES COUNTY--Continued

WELL NUMBER.--CH Ee 16. SITE ID.--382103076560201.

LOCATION.--Lat 38°21'03", long 76°56'02", Hydrologic Unit 02070010, near Wayside.

Owner: Harry Ferris.

AQUIFER.--Park Hall Formation of Upper Pliocene age. Aquifer code: 112TLBT.

WELL CHARACTERISTICS.--Dug, unused, water-table well, measured depth 20.7 ft; casing diameter 42 in.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

Equipped with water-level recorder from March 29, 1966 to Oct. 11, 1967.

DATUM.--Elevation of land surface is 40 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 1.80 ft above land surface.

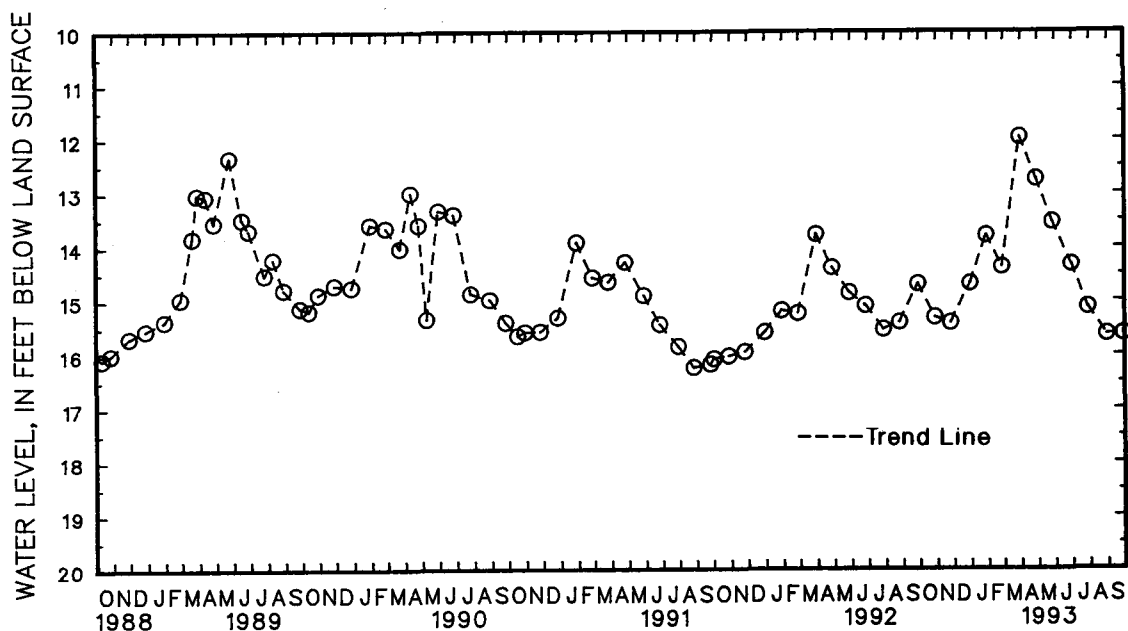
REMARKS.--Maryland Water-Level Network observation well and Maryland Water Quality Network observation well.

PERIOD OF RECORD.--May 1946, 1947, March 1949 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.60 ft below land surface, March 30, 1984; lowest measured, 20.65 ft below land surface, Dec. 20, 1949.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	15.32	DEC 30	14.69	FEB 25	14.38	APR 27	12.75	JUN 29	14.34	AUG 30	15.64
NOV 25	15.42	JAN 28	13.79	MAR 29	11.97	MAY 26	13.55	JUL 28	15.14	SEP 28	15.63
WATER YEAR 1993		HIGHEST	11.97	MAR 29, 1993	LOWEST	15.64	AUG 30, 1993				

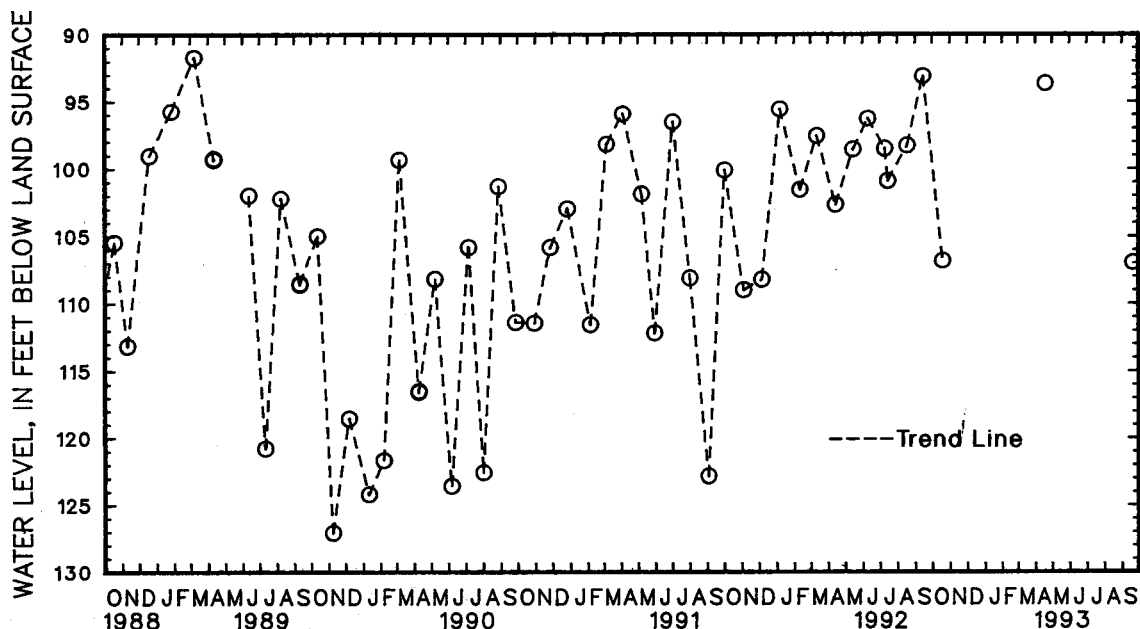


GROUND-WATER LEVELS  
MARYLAND--Continued  
CHARLES COUNTY--Continued

WELL NUMBER.--CH Ee 70. SITE ID.--382154076574801. PERMIT NUMBER.--CH-67-0081.  
LOCATION.--Lat 38°21'54", long 76°57'48", Hydrologic Unit 02070011, at the Morgantown Power Plant, 1.5 mi. north of Morgantown.  
Owner: Potomac Edison Power Co.  
AQUIFER.--Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSC.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 1,132 ft; casing diameter 2 in., to 1,090 ft, 1,100 to 1,105 ft, and 1,115 to 1,132 ft; screen diameter 2 in. from 1,090 to 1,100 ft, and 1,105 to 1,115 ft.  
INSTRUMENTATION.--Periodic measurements with chalked steel tape by U.S. Geological Survey personnel. Equipped with graphic water-level recorder from May 12, 1982 to Jan. 6, 1983. Equipped with digital water-level recorder--15 and 30-minute recorder intervals from June 1, 1978 to October 1986. Equipped with electronic water level recorder (transducer)--15-minute recorder interval from October 1986 to current year.  
DATUM.--Elevation of land surface is 22.83 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 3.43 ft above land surface.  
REMARKS.--Southern Maryland Observation Well Network. Water levels are affected by nearby pumping.  
PERIOD OF RECORD.--October 1974 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 72.57 ft below land surface, April 14, 1981; lowest measured, 127.05 ft below sea level, Nov. 8, 1989.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL
APR 19	93.64	SEP 20	107.00
WATER YEAR 1993      HIGHEST    93.64    APR 19, 1993      LOWEST    107.00    SEP 20, 1993			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993





5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

DORCHESTER COUNTY--Continued

WELL NUMBER.--DO Cd 1. SITE ID.--383151076080801.

LOCATION.--Lat 38°31'51", long 76°08'08", Hydrologic Unit 02060005, near Christs Rock.

Owner: Harold E. Fee.

AQUIFER.--Piney Point Formation of Middle Eocene age. Aquifer code: 124PNPN.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 390 ft; casing diameter 2 in., to unknown depth.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 4 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of casing, 0.50 ft above land surface.

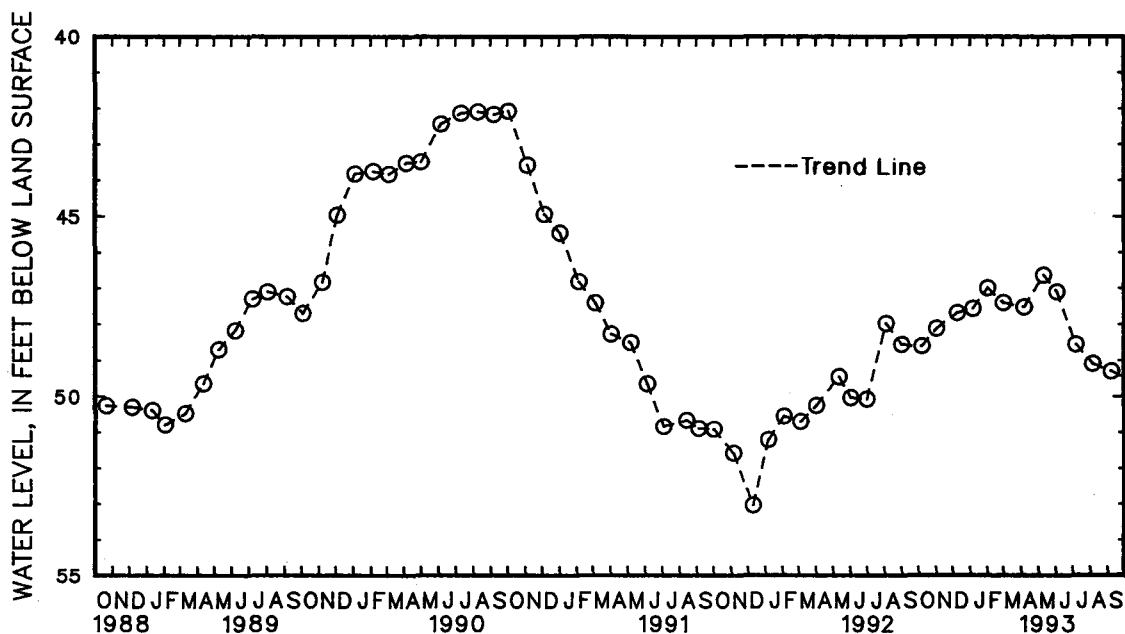
REMARKS.--Maryland Water-Level Network observation well.

PERIOD OF RECORD.--October 1966 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 42.07 ft below land surface, Oct. 2, 1990;  
lowest measured, 80.32 ft below land surface, Oct. 16, 1970.

## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 7	48.60	DEC 9	47.68	FEB 1	46.99	APR 6	47.52	JUN 3	47.10	AUG 6	49.10
NOV 2	48.11	JAN 6	47.56	MAR 1	47.40	MAY 10	46.63	JUL 7	48.56	SEP 8	49.31
WATER YEAR 1993		HIGHEST	46.63	MAY 10, 1993		LOWEST	49.31	SEP 8, 1993			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
DORCHESTER COUNTY--Continued

WELL NUMBER.--DO Ce 5. SITE ID.--383340076041601.

LOCATION.--Lat 38°33'40", long 76°04'16", Hydrologic Unit 02060005, at Cambridge Pumping Station.

Owner: Municipal Utilities Commission.

AQUIFER.--Piney Point Formation of Middle Eocene age. Aquifer code: 124PNPN.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, depth 405 ft; casing diameter 12 in., to 385 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 18 ft above National Geodetic Vertical Datum of 1929, from topographic map.

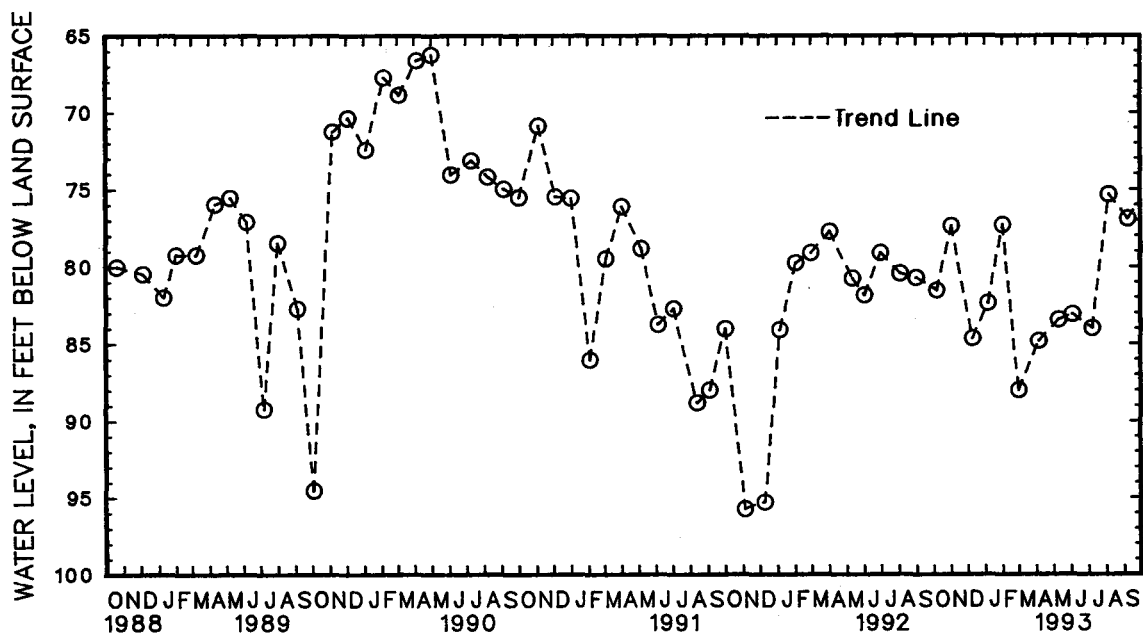
Measuring point: Top of casing, 4.00 ft above land surface.

PERIOD OF RECORD.--October 1977 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured 66.23 ft below land surface, May 1, 1990;  
lowest measured, 115.06 ft below land surface, Aug. 29, 1978.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 7	81.54	DEC 9	84.66	FEB 1	77.28	APR 6	84.83	JUN 3	83.10	AUG 6	75.32
NOV 2	77.35	JAN 6	82.37	MAR 1	88.02	MAY 10	83.45	JUL 7	83.99	SEP 8	76.90
WATER YEAR 1993		HIGHEST	75.32	AUG 6, 1993		LOWEST	88.02	MAR 1, 1993			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

DORCHESTER COUNTY--Continued

WELL LOCATION.--DO Ce 15. SITE ID.--383408076042402. PERMIT NUMBER.--DO-00-1220.

LOCATION.--Lat 38°34'08", long 76°04'23", Hydrologic Unit 02060005, near Cambridge Creek, near Trenton St., Cambridge.

Owner: Carroll W. Thomas &amp; Sons., Inc.

AQUIFER.--Magothy Formation of Upper Cretaceous age. Aquifer code: 211MGTY.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 970.5 ft; casing diameter 10 in., to 25 ft.; casing diameter 8 in. from 25 to 236.5 ft; casing diameter 6 in. from 230 to 513.5 ft; casing diameter 4 in. from 468 to 911.5 ft; casing diameter 3 in. from 902.5 to 950.5 ft; screen diameter 3 in. (?) from 950.5 to 970.5 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 6 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of casing, 1.50 ft above land surface.

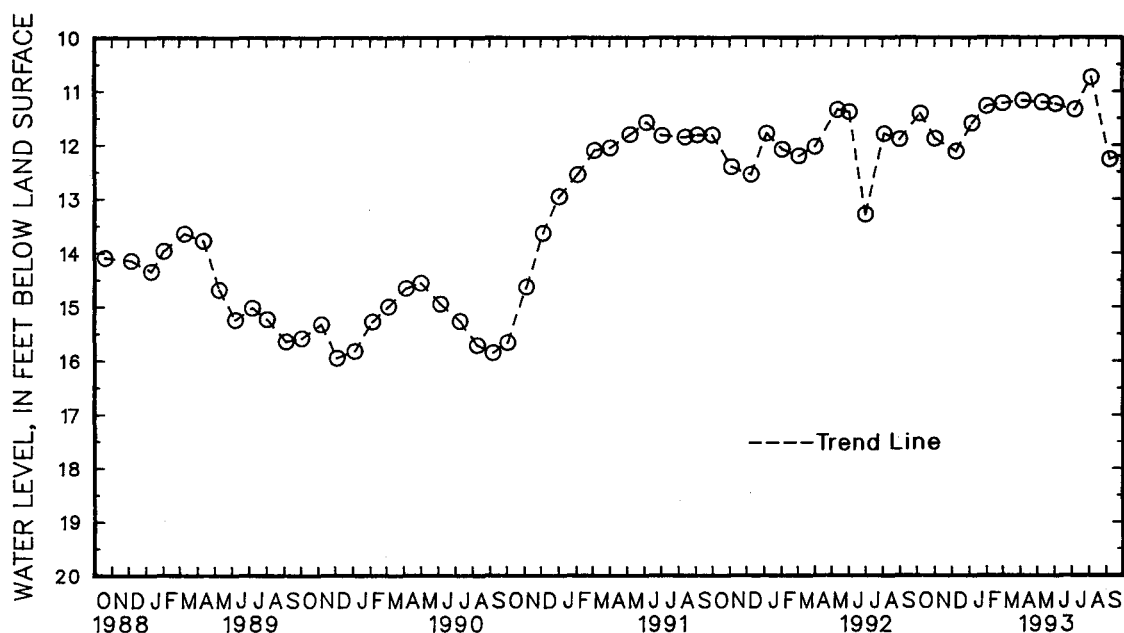
REMARKS.--Maryland Water-Level Network observation well. Water level reported 68 ft below land surface Aug. 30, 1947.

PERIOD OF RECORD.--June 1958 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.41 ft below land surface, March 1, 1960; lowest measured, 41.12 ft below land surface, Aug. 7, 1959.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 7	11.41	DEC 9	12.12	FEB 1	11.27	APR 6	11.17	JUN 3	11.23	AUG 6	10.74
NOV 2	11.88	JAN 6	11.59	MAR 1	11.22	MAY 10	11.20	JUL 7	11.34	SEP 8	12.27
WATER YEAR 1993		HIGHEST	10.74	AUG 6, 1993		LOWEST	12.27	SEP 8, 1993			

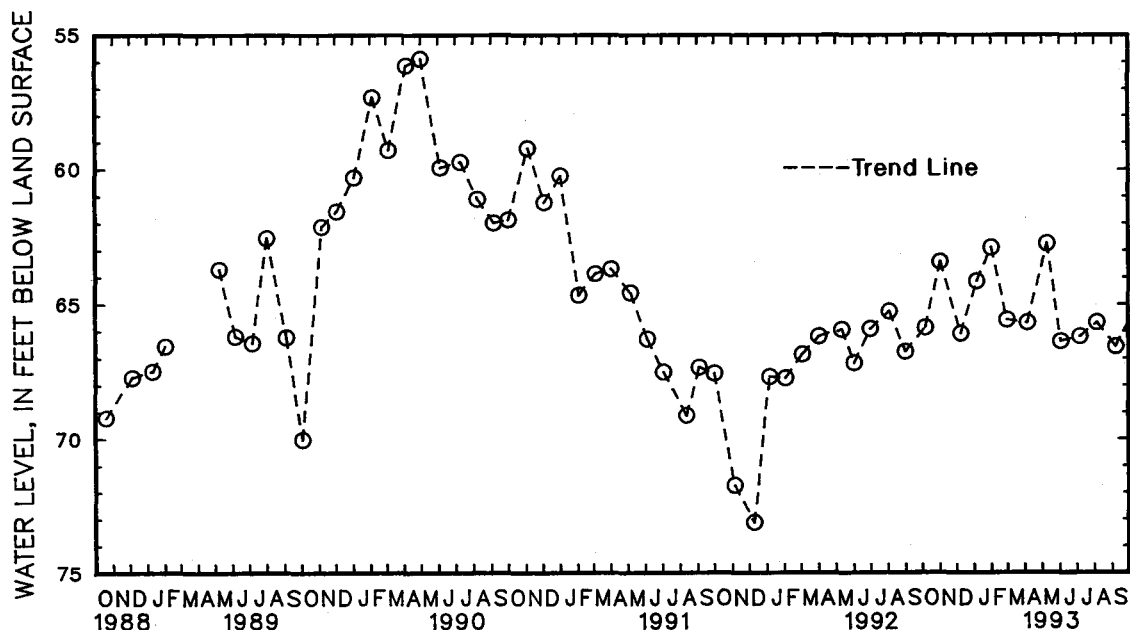


5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## DORCHESTER COUNTY--Continued

EXTREMES FOR PERIOD OF RECORD.--Highest water level reported, 14.00 ft below land surface, August 1914; highest water level measured, 55.88 ft below land surface, May 1, 1990; lowest measured, 132.95 ft, below land surface, Sept. 6, 1956.

DATE		WATER LEVEL		DATE		WATER LEVEL		DATE		WATER LEVEL	
OCT 7	65.86	DEC 9	66.09	FEB 1	62.89	APR 6	65.69	JUN 3	66.38	AUG 6	65.68
NOV 2	63.42	JAN 6	64.15	MAR 1	65.58	MAY 10	62.75	JUL 7	66.20	SEP 8	66.58
WATER YEAR 1993		HIGHEST	62.75	MAY 10, 1993		LOWEST	66.58	SEP 8, 1993			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
DORCHESTER COUNTY--Continued

WELL NUMBER.--DO Ce 78. SITE ID.--383243076042301. PERMIT NUMBER.--DO-66-0026.

LOCATION.--Lat 38°32'43", long 76°04'23", Hydrologic Unit 02060005, at Woods Rd. water tower, Cambridge.

Owner: City of Cambridge.

AQUIFER.--Piney Point Formation of Middle Eocene age. Aquifer code: 124PNPN.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, depth 503 ft; casing diameter 28 in., to 363 ft; casing diameter 22 in. from 323 to 503 ft; casing diameter 12 in. from 363.7 to 368 ft, 400 to 405 ft, 420 to 425 ft, 440 to 445 ft, 460 to 465 ft, and 480 to 485 ft; screen diameter 12 in. from 360.3 to 363.7 ft, 368 to 380 ft, 385 to 400 ft, 405 to 420 ft, 425 to 440 ft, 445 to 460 ft, 465 to 480 ft, and 485 to 500 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 15 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of casing, 1.10 ft above land surface.

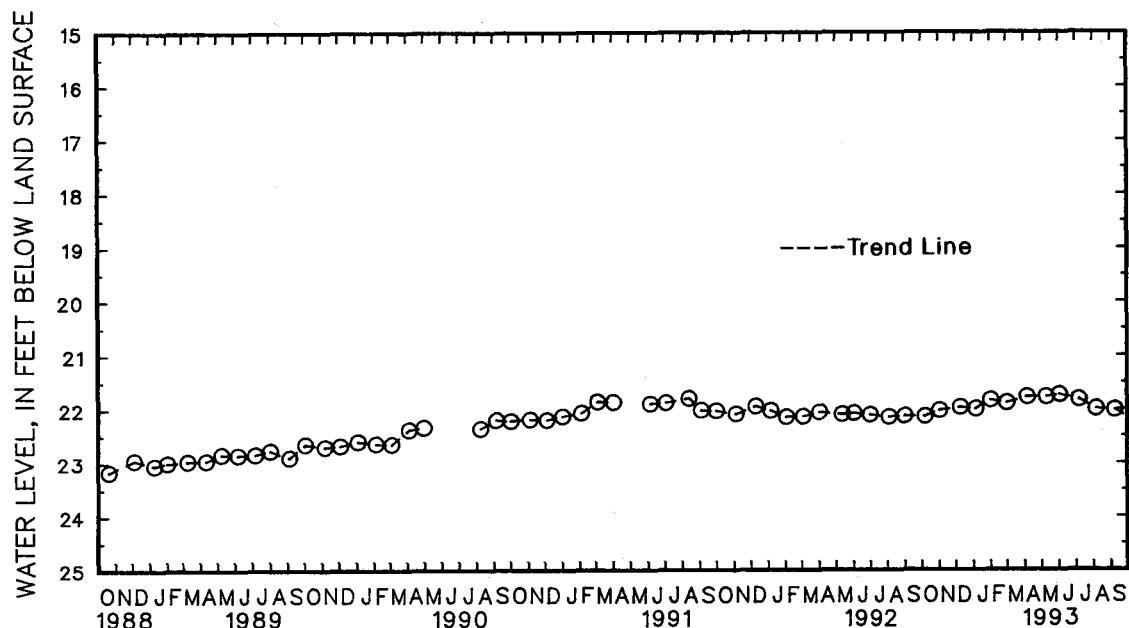
REMARKS.--Maryland Water-Level Network observation well.

PERIOD OF RECORD.--October 1977 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 21.74 ft below land surface, June 3, 1993;  
lowest measured, 26.39 ft below land surface, Oct. 4, 1977.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 7	22.14	DEC 9	21.97	FEB 1	21.83	APR 6	21.78	JUN 3	21.74	AUG 6	22.00
NOV 2	22.03	JAN 6	22.00	MAR 1	21.88	MAY 10	21.78	JUL 7	21.83	SEP 8	22.02
WATER YEAR 1993		HIGHEST	21.74	JUN 3, 1993		LOWEST	22.14	OCT 7, 1992			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

## MARYLAND--Continued

## DORCHESTER COUNTY--Continued

WELL NUMBER.--DO Co 88. SITE ID.--383401076032001. PERMIT NUMBER.--DO-73-1369.

LOCATION.--Lat 38°34'01", long 76°03'20", Hydrologic Unit 02060005, at Eastern Shore State Hospital, Cambridge.

Owner: U.S. Geological Survey.

AQUIFER.--Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSC.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 1427.4 ft; casing diameter 12 in., to 103 ft; casing diameter 4 in., to 1427.4 ft; perforated casing diameter 4 in. from 1417.4 to 1427.4 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 4.4 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of casing, 1.18 ft above land surface.

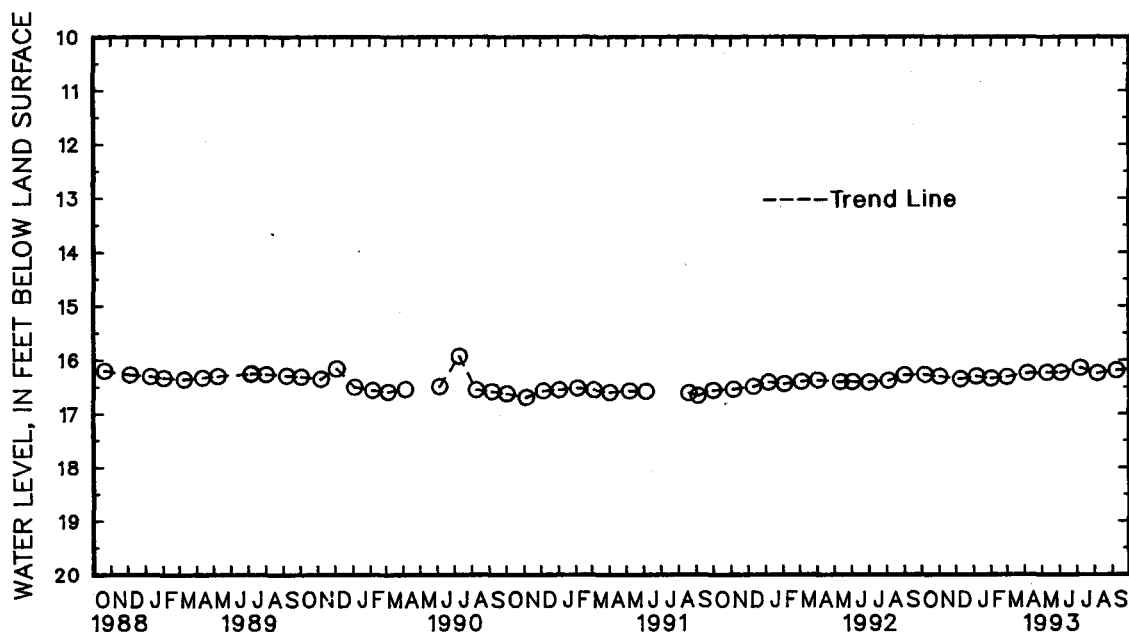
REMARKS.--Maryland Water-Level Network observation well.

PERIOD OF RECORD.--October 1981 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 13.51 ft below land surface, July 20, 1983; lowest measured, 22.22 ft below land surface, Nov. 13, 1981.

## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 7	16.28	DEC 9	16.36	FEB 1	16.35	APR 6	16.25	JUN 3	16.24	AUG 6	16.25
NOV 2	16.31	JAN 6	16.31	MAR 1	16.32	MAY 10	16.24	JUL 7	16.15	SEP 8	16.20
WATER YEAR 1993		HIGHEST	16.15	JUL 7, 1993	LOWEST	16.36	DEC 9, 1992				



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

DORCHESTER COUNTY--Continued

WELL NUMBER.--DO Db 17. SITE ID.--382800076180701. PERMIT NUMBER.--DO-73-0557.

LOCATION.--Lat 38°28'00", long 76°18'07", Hydrologic Unit 02060005, near MD Rt. 16, Taylors Island.

Owner: U.S. Geological Survey.

AQUIFER.--Piney Point Formation of Middle Eocene age. Aquifer code: 124PNPN.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 320 ft; casing diameter 6 in., to 55 ft; casing diameter 2 in. from 55 to 270 ft; screen diameter 2 in. from 270 to 280 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 4 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 1.65 ft above land surface.

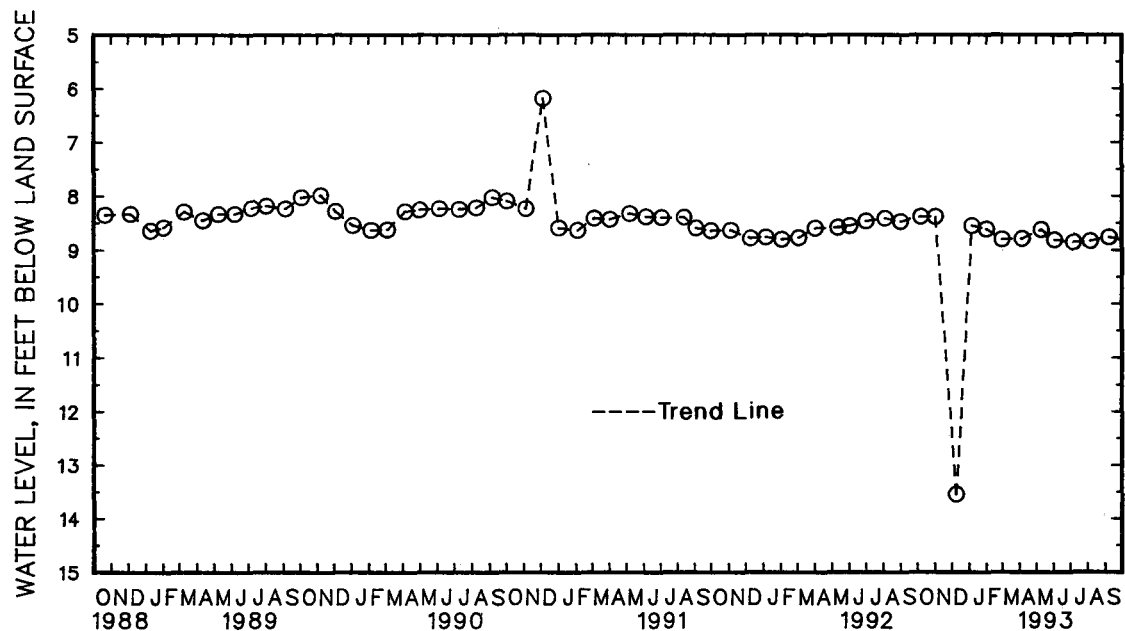
REMARKS.--Maryland Water-Level Network observation well. The Dec. 9, 1992 water level measurement is affected by recent pumping in the area or by use of the observation well?

PERIOD OF RECORD.--April 1977 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.18 ft below land surface, Dec. 5, 1990; lowest measured, 13.55 ft below land surface, Dec. 9, 1992.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 7	8.39	DEC 9	13.55	FEB 1	8.62	APR 6	8.79	JUN 3	8.81	AUG 6	8.83
NOV 2	8.39	JAN 6	8.56	MAR 1	8.80	MAY 10	8.62	JUL 7	8.85	SEP 8	8.76
WATER YEAR 1993		HIGHEST	8.39	OCT 7, 1992,	NOV 2, 1992	LOWEST	13.55	DEC 9, 1992			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993



## GROUND-WATER LEVELS

MARYLAND--Continued

DORCHESTER COUNTY--Continued

WELL NUMBER.--DO Db 18. SITE ID.--382807076175801. PERMIT NUMBER.--DO-81-1314.

LOCATION.-- Lat 38°28'07", long 76°17'58", Hydrologic Unit 02060005, Taylors Island.

Owner: Eleanor Polley.

AQUIFER.--Aquia Formation of Upper Paleocene age. Aquifer code: 125AQUI.

WELL CHARACTERISTICS.--Drilled, domestic, artesian well, depth 540 ft; casing diameter 4 in., to 140 ft; casing diameter 2 in. from 140 to 520 ft; screen diameter 2 in. from 520 to 540 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 2 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of casing, 1.50 ft above land surface.

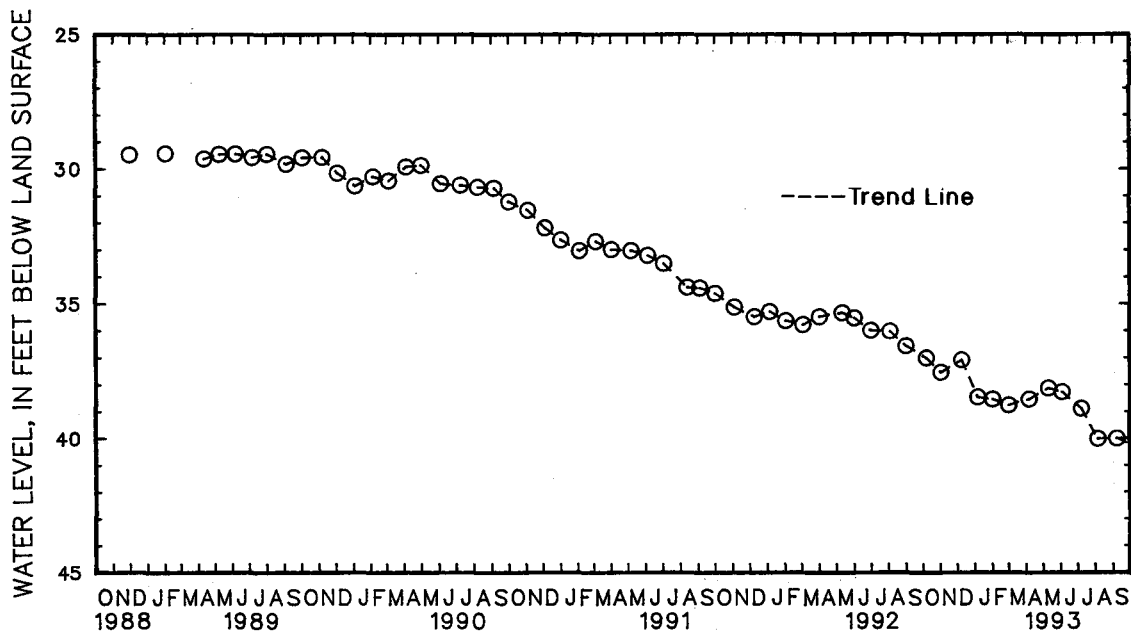
REMARKS.--Maryland Water-Level Network observation well.

PERIOD OF RECORD.--November 1988 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 29.44 ft below land surface, Feb. 2, 1989; lowest measured, 40.03 ft below land surface, Aug. 6, 1993.

## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 7	37.03	DEC 9	37.10	FEB 1	38.56	APR 6	38.55	JUN 3	38.28	AUG 6	40.03
NOV 2	37.56	JAN 6	38.48	MAR 1	38.78	MAY 10	38.14	JUL 7	38.90	SEP 8	40.02
WATER YEAR 1993		HIGHEST	37.03	OCT 7, 1992		LOWEST	40.03	AUG 6, 1993			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

DORCHESTER COUNTY--Continued

WELL NUMBER.--DO Db 19. SITE ID.--382847076190901. PERMIT NUMBER.--DO-81-1164.

LOCATION.--Lat 38°28'47", long 76°19'09", Hydrologic Unit 02060005, Taylors Island.

Owner: Elmer Wiley.

AQUIFER.--Aquia Formation of Upper Paleocene age. Aquifer code: 125AQUI.

WELL CHARACTERISTICS.--Drilled, domestic, artesian well, depth 540 ft; casing diameter 4 in. to 140 ft; casing diameter 2 in. from 140 to 520 ft; screen diameter 2 in. from 520 to 540 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 4 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of casing, 2.50 ft above land surface.

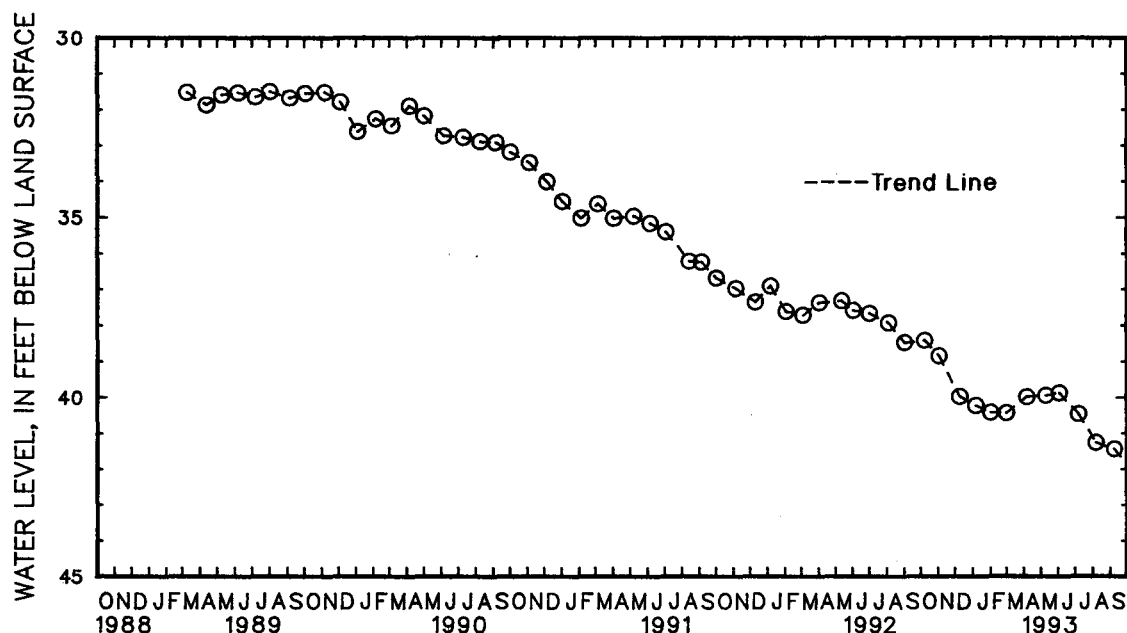
REMARKS.--Maryland Water-Level Network observation well.

PERIOD OF RECORD.--March 1989 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 31.50 ft below land surface, Aug. 2, 1989; lowest measured, 41.45 ft below land surface, Sept. 8, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 7	38.43	DEC 9	39.98	FEB 1	40.41	APR 6	39.99	JUN 3	39.88	AUG 6	41.27
NOV 2	38.86	JAN 6	40.23	MAR 1	40.42	MAY 10	39.95	JUL 7	40.47	SEP 8	41.45
WATER YEAR 1993		HIGHEST	38.43	OCT 7, 1992	LOWEST	41.45	SEP 8, 1993				



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

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## MARYLAND--Continued

## DORCHESTER COUNTY--Continued

WELL NUMBER.--DO Dh 27. SITE ID.--382916075491702. PERMIT NUMBER.--DO-71-0001.  
 LOCATION.--Lat 38°29'16", long 75°49'17", Hydrologic Unit 02060008, Vienna power plant.  
 Owner: Delmarva Power and Light Co.  
 AQUIFER.--Beaverdam Sand of Pliocene age. Aquifer code: 121EVDN.  
 WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 63 ft; casing diameter 12 in., to 20 ft and 8 in., to 33 ft; screen diameter 6 in. from 33 to 63 ft.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 Equipped with digital water-level recorder--30-minute recorder interval from May 1990 to current year.  
 DATUM.--Elevation of land surface is 9.10 ft above National Geodetic Vertical Datum of 1929.  
 Measuring Point: Top of recorder platform, 2.69 ft above land surface.  
 REMARKS.--Southern Maryland observation well network. Water levels affected by nearby pumping at powerplant.  
 PERIOD OF RECORD.--April 1990 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 7.39 ft above sea level, April 29, 1992.  
 lowest measured, 18.21 ft below sea level, Dec. 27, 1990.

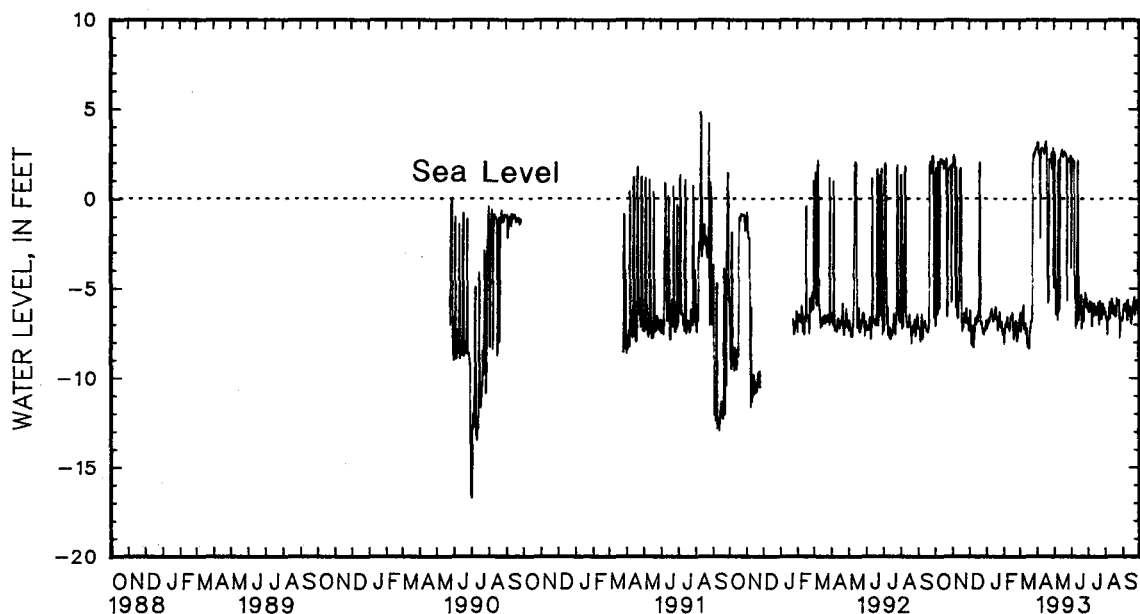
WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
 (READINGS BELOW SEA LEVEL INDICATED BY "-")

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	2.24	-7.04	2.38	1.91	1.77	-7.32	1.88	-7.07	1.48	-7.43	2.01	-7.10
2	1.93	-7.09	2.72	2.00	1.89	-6.25	1.59	-7.22	.84	-8.12	2.10	-6.35
3	2.25	1.73	2.97	2.47	1.95	-7.43	1.42	-7.00	.95	-7.27	2.13	-7.46
4	2.25	1.69	2.83	2.26	1.57	-7.10	1.60	-6.72	1.62	-6.97	1.46	-7.00
5	2.13	-6.48	2.90	2.18	1.78	-8.13	2.06	-6.79	1.65	-7.15	2.17	-6.59
6	2.70	2.10	2.43	-6.08	.37	-8.18	1.40	-6.88	1.67	-6.89	2.29	-6.21
7	2.75	-4.38	2.08	-5.75	.71	-7.11	1.70	-6.60	1.72	-6.60	2.72	-6.13
8	2.41	-6.14	2.32	1.76	.99	-8.24	2.07	-6.50	2.03	-7.05	2.77	-5.94
9	2.29	-4.86	2.25	-6.29	.54	-8.32	2.24	-6.26	1.66	-7.10	2.60	-7.30
10	2.68	2.21	2.01	-6.64	.64	-7.43	2.44	-6.14	1.72	-7.20	1.73	-7.13
11	2.89	2.25	2.07	-6.67	2.04	-6.64	2.78	-6.43	1.94	-7.36	2.12	-6.96
12	2.73	2.16	2.02	-5.21	1.77	-6.99	2.32	-6.76	1.74	-7.07	1.80	-7.44
13	2.68	2.19	2.56	-5.68	1.64	-7.01	2.11	-6.83	2.07	-6.54	1.99	-7.54
14	2.61	2.00	2.23	1.53	2.16	-6.66	2.50	-6.74	2.11	-6.55	2.78	-7.29
15	2.58	2.07	2.28	1.73	2.35	-6.49	2.29	-6.67	1.72	-6.71	.60	-8.31
16	2.69	2.11	2.17	1.65	2.24	-6.86	2.42	-6.15	1.90	-6.36	.38	-8.12
17	2.56	1.68	2.10	-6.75	2.29	-6.27	2.36	-6.04	2.19	-6.83	.93	-7.80
18	2.44	1.72	1.27	-7.44	2.18	-6.58	2.40	-6.53	1.70	-7.35	.87	-8.40
19	2.50	1.92	1.48	-7.08	2.27	1.55	1.89	-6.75	1.20	-7.84	.75	-7.50
20	2.56	1.73	1.60	-7.13	2.73	2.08	1.77	-6.60	1.20	-7.30	1.58	-7.28
21	2.83	2.25	1.72	-6.40	2.42	-6.91	1.78	-7.33	1.67	-7.03	1.83	-6.82
22	2.46	-6.62	2.04	-6.40	1.76	-6.97	1.89	-6.61	2.37	-6.82	2.21	-6.86
23	1.80	-6.04	2.12	-6.60	1.74	-6.87	2.16	-7.03	2.00	-6.83	2.21	-6.65
24	2.57	1.69	1.74	-6.93	1.81	-7.18	2.17	-6.34	1.90	-7.93	2.79	1.78
25	2.45	1.62	2.02	-6.11	1.49	-7.47	2.22	-6.92	.82	-7.94	2.91	2.31
26	2.37	1.63	2.32	-6.77	1.97	-7.33	1.79	-7.18	1.11	-7.70	3.10	2.54
27	2.38	1.76	2.30	-6.92	1.30	-7.59	2.02	-7.05	1.69	-7.33	2.97	2.45
28	2.36	1.71	2.03	-6.97	1.64	-7.26	2.10	-6.88	1.79	-6.73	3.18	2.62
29	2.37	1.84	2.08	-6.68	1.88	-7.34	2.38	-7.27	---	---	3.23	2.75
30	2.28	-5.79	1.77	-7.35	1.48	-7.32	1.13	-7.55	---	---	3.30	2.84
31	2.29	1.66	---	---	1.91	-6.81	1.47	-7.29	---	---	3.34	2.79
MONTH	2.89	-7.09	2.97	-7.44	2.73	-8.32	2.78	-7.55	2.37	-8.12	3.34	-8.40

GROUND-WATER LEVELS  
MARYLAND--Continued  
DORCHESTER COUNTY--Continued  
DO Dh 27--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	3.62	3.10	3.07	2.59	3.17	-3.89	2.27	-5.87	2.00	-6.29	1.83	-6.58
2	3.61	3.17	3.13	2.46	2.73	2.20	2.43	-6.29	2.16	-6.56	2.11	-5.97
3	3.57	2.77	2.99	-6.00	2.90	2.26	2.62	-6.33	2.10	-6.74	2.30	-5.94
4	3.18	2.55	2.48	-6.49	2.83	2.15	2.42	-5.74	1.97	-6.58	2.35	-5.86
5	3.15	2.62	2.50	-6.20	2.86	2.14	2.27	-5.76	1.71	-7.60	1.71	-6.22
6	3.22	-2.24	2.59	-4.79	2.79	2.11	2.38	-6.24	1.72	-6.61	1.87	-6.07
7	3.21	2.51	2.65	-6.80	2.71	-5.62	2.38	-5.81	1.82	-6.62	1.89	-6.31
8	3.37	2.79	2.55	1.35	2.66	-4.32	2.28	-7.09	2.02	-5.78	1.89	-5.68
9	3.40	2.84	2.79	2.16	2.40	-7.26	2.05	-6.21	2.01	-6.69	1.90	-6.75
10	3.58	2.83	2.80	-6.25	2.02	-6.47	2.16	-5.87	1.77	-6.13	1.99	-5.65
11	3.46	2.72	2.50	-5.51	1.94	-6.96	2.21	-6.53	1.88	-5.89	1.88	-6.33
12	3.33	2.73	2.72	2.23	2.39	1.54	2.07	-5.85	1.97	-5.59	1.71	-6.37
13	3.21	2.49	2.96	2.47	2.57	2.16	2.13	-6.24	2.17	-5.77	1.99	-6.01
14	3.24	2.71	2.93	2.52	2.66	-6.77	2.14	-6.10	2.06	-6.45	1.94	-6.49
15	3.40	3.06	3.12	2.76	2.10	-6.20	2.20	-6.33	2.10	-5.99	1.96	-6.58
16	3.62	3.20	3.24	2.57	2.34	-6.11	1.98	-6.51	2.19	-6.48	1.85	-6.98
17	3.75	2.76	2.94	2.33	2.09	-6.40	2.11	-6.00	2.33	-5.97	1.69	-6.38
18	3.10	2.52	2.94	2.51	2.22	-5.91	2.15	-6.23	2.19	-6.14	2.07	-5.98
19	3.10	-4.38	3.10	2.65	2.35	-5.37	2.39	-5.81	2.20	-6.57	2.00	-6.34
20	3.10	-5.82	3.18	2.56	2.04	-7.30	2.56	-6.17	2.39	-6.49	1.95	-5.78
21	2.97	-5.36	3.13	2.57	2.28	-6.82	2.26	-7.05	2.07	-5.56	2.18	-5.49
22	2.89	2.20	3.13	2.40	2.40	-6.03	1.97	-5.69	2.01	-5.88	2.07	-6.49
23	2.88	2.19	2.93	2.37	2.23	-6.86	2.15	-6.54	2.08	-5.93	1.83	-6.10
24	2.66	2.07	3.11	-5.69	2.12	-5.63	2.00	-5.83	2.11	-5.73	1.94	-5.89
25	2.98	2.18	2.84	2.18	2.24	-6.04	2.14	-6.72	2.10	-5.65	1.82	-6.16
26	3.03	2.56	2.70	2.10	2.54	-5.23	1.94	-6.39	1.96	-6.33	2.14	-5.64
27	2.62	1.69	2.71	2.17	2.55	-5.52	2.13	-5.85	1.86	-7.79	2.18	-6.07
28	3.09	2.31	2.83	2.26	2.29	-5.54	2.15	-6.35	1.30	-6.80	2.02	-6.26
29	3.27	2.85	2.84	2.07	2.50	-5.98	1.98	-6.06	1.81	-6.68	1.81	-6.86
30	3.28	-5.01	2.60	2.04	2.33	-6.16	2.08	-6.42	1.77	-6.80	1.55	-7.15
31	---	---	2.92	2.43	---	---	2.03	-6.37	1.91	-6.77	---	---
MONTH	3.75	-5.82	3.24	-6.80	3.17	-7.30	2.62	-7.09	2.39	-7.79	2.35	-7.15
YEAR	3.75	-8.40										

Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

## FREDERICK COUNTY

WELL NUMBER.--FR Af 27. SITE ID.--394200077190701. PERMIT NUMBER.--FR-73-7155.

LOCATION.--Lat 39°42'00", long 77°19'07", Hydrologic Unit 02070009, 0.3 mi southwest of U.S. Rt. 15 and MD Rt. 140, Emmitsburg.

Owner: City of Emmitsburg.

AQUIFER.--Gettysburg Shale of Upper Triassic age. Aquifer code: 231GBRG.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 365 ft; casing diameter 6 in., to 41 ft; open hole.

DATUM.--Elevation of land surface is 385 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of casing, 0.81 ft above land surface.

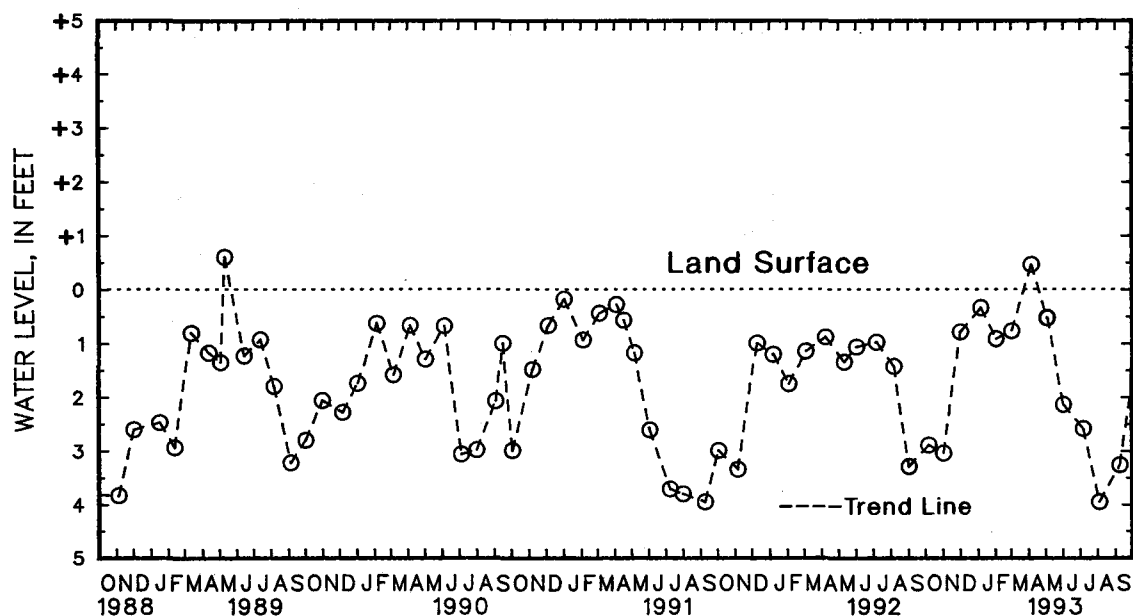
REMARKS.--Maryland Water-Level Network observation well.

PERIOD OF RECORD.--April 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.62 ft above land surface, May 23, 1983; lowest measured, 5.43 ft below land surface, June 2, 1987.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
(READINGS ABOVE LAND SURFACE INDICATED BY "+")

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 7	2.89	DEC 1	.78	FEB 2	.91	APR 6	+.47	JUN 2	2.14	AUG 4	3.95
NOV 2	3.04	JAN 6	.33	MAR 2	.76	MAY 4	.52	JUL 7	2.59	SEP 9	3.26
WATER YEAR 1993		HIGHEST	+.47	APR 6, 1993	LOWEST	3.95	AUG 4, 1993				



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
FREDERICK COUNTY--Continued

WELL NUMBER.--FR Bd 96. SITE ID.--393733077274801.

LOCATION.--Lat 39°37'33", long 77°27'48", Hydrologic Unit 02070009, 0.4 mi west of Hunting Creek Lake, Cunningham Falls State Park.

Owner: Cunningham Falls State Park.

AQUIFER.--Catoclin Metabasalt of Precambrian age. Aquifer code: 400CTCN.

WELL CHARACTERISTICS.--Drilled, unused, water-table well, depth 189 ft; casing diameter 6 in., to 22 ft; open hole.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

Equipped with water-level recorder April 5, 1982 to Feb. 21, 1984, and a digital water-level

recorder--15-minute recorder interval from June 23, 1991 to May 4, 1993.

DATUM--Elevation of land surface is 1,150 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of casing at land surface.

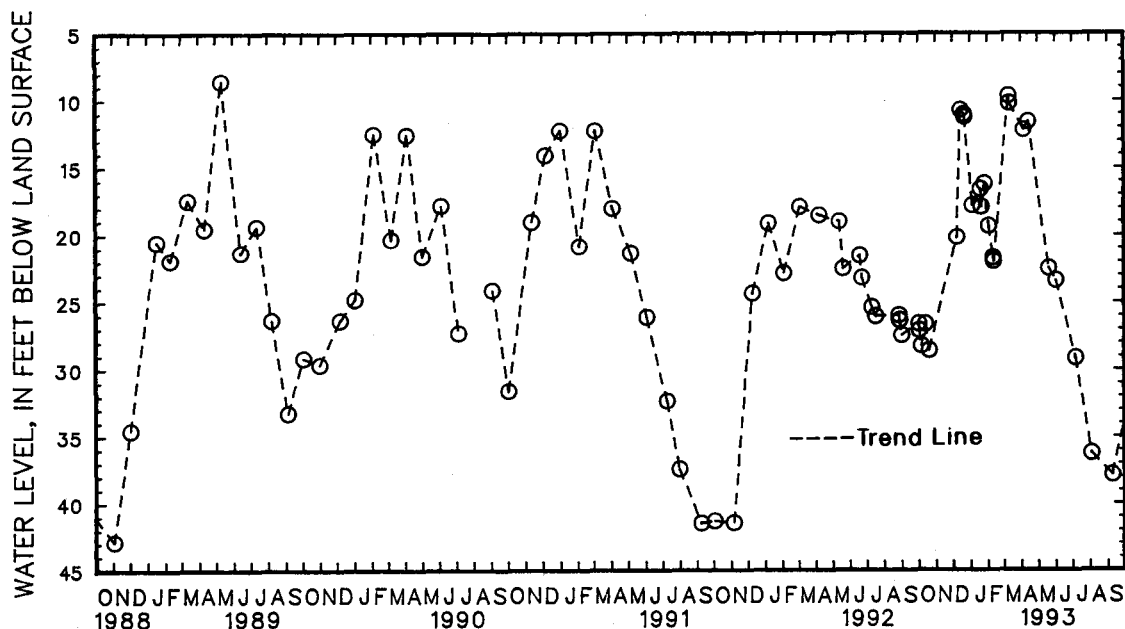
REMARKS.--Maryland Water-Level Network observation well.

PERIOD OF RECORD.--April 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.54 ft below land surface, May 11, 1989; lowest measured, 46.46 ft below land surface, Nov. 3, 1986.

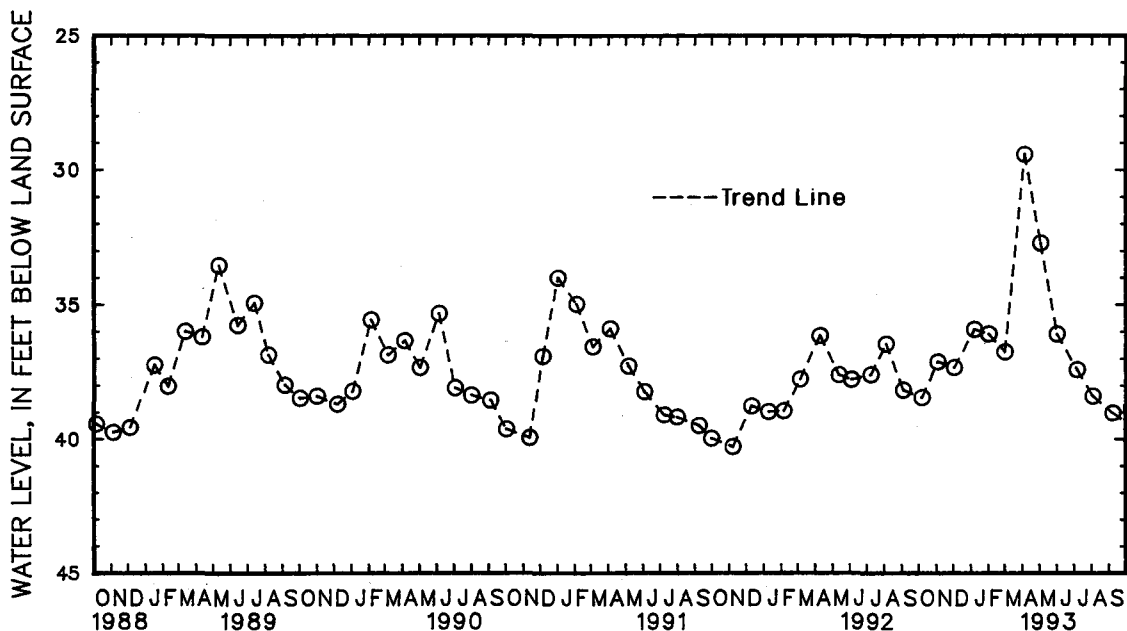
WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE LEVEL	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 1	26.60	DEC 8	20.20	JAN 19	16.63	FEB 11	22.01	MAY 20	22.54
2	27.09	15	10.73	21	17.95	MAR 10	9.69	JUN 2	23.45
6	28.24	21	11.06	26	16.22	MAR 11	10.24	JUL 7	29.19
13	26.60	22	11.25	FEB 2	19.37	APR 6	12.22	AUG 4	36.29
20	28.59	JAN 5	17.84	10	21.74	14	11.61	SEP 9	37.89
WATER YEAR 1993		HIGHEST	9.69	MAR 10, 1993	LOWEST	37.89	SEP 9, 1993		



WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE		WATER LEVEL		DATE		WATER LEVEL		DATE		WATER LEVEL	
OCT 6	38.45	DEC 2	37.33	FEB 1	36.08	APR 5	29.42	JUN 1	36.10	AUG 3	38.41
NOV 3	37.12	JAN 7	35.91	MAR 1	36.75	MAY 3	32.71	JUL 6	37.43	SEP 8	39.04
WATER YEAR 1993		HIGHEST	29.42	APR 5, 1993		LOWEST	39.04	SEP 8, 1993			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

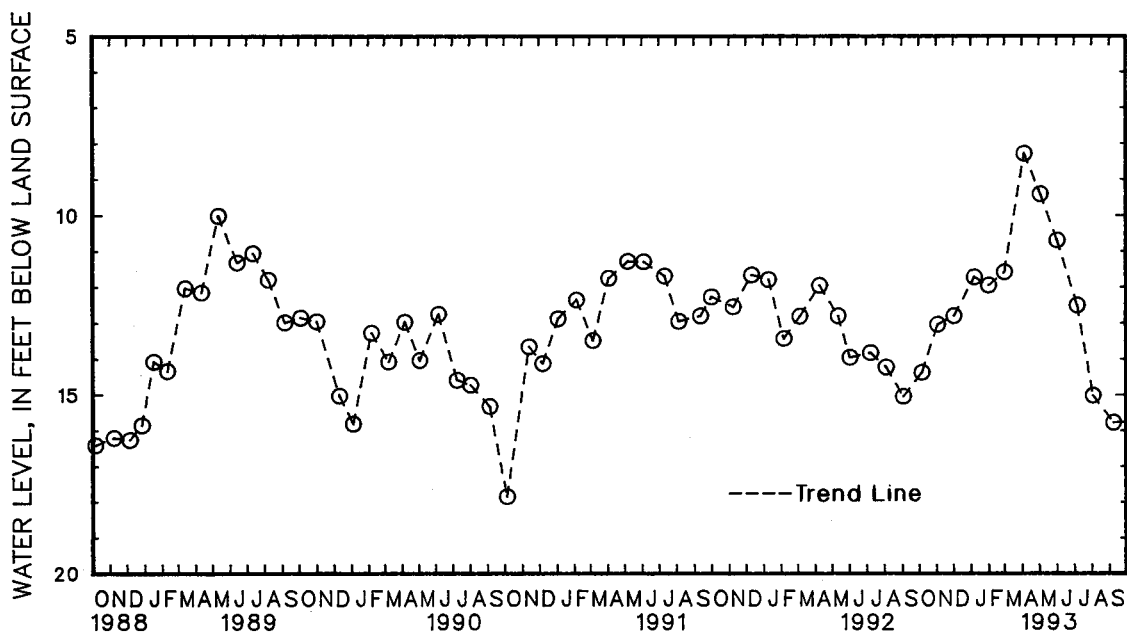


GROUND-WATER LEVELS  
MARYLAND--Continued  
FREDERICK COUNTY--Continued

WELL NUMBER.--FR Eh 11. SITE ID.--392257077095601. PERMIT NUMBER.--FR-81-0088.  
LOCATION.--Lat 39°22'57", long 77°09'56", Hydrologic Unit 02070009. 0.5 mi west of Mount Airy.  
Owner: Town of Mount Airy.  
AQUIFER.--Marburg Formation of Paleozoic age. Aquifer code: 300MRBG.  
WELL CHARACTERISTICS.--Drilled, unused, water-table well, depth 103 ft; casing diameter 6 in., to 22 ft; open hole.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
DATUM.-- Elevation of land surface is 650 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
Measuring point: Top of casing, 1.85 ft above land surface.  
REMARKS.--Maryland Water-Level Network observation well.  
PERIOD OF RECORD.-- November 1981 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.28 ft below land surface, April 5, 1993; lowest measured, 17.91 ft below land surface, Oct. 10, 1986.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 6	14.38	DEC 2	12.80	FEB 1	11.95	APR 5	8.28	JUN 1	10.70	AUG 3	15.03
NOV 3	13.04	JAN 7	11.72	MAR 1	11.58	MAY 3	9.41	JUL 6	12.52	SEP 8	15.79
WATER YEAR 1993		HIGHEST	8.28	APR 5, 1993	LOWEST	15.79	SEP 8, 1993				



## GROUND-WATER LEVELS

MARYLAND--Continued

## GARRETT COUNTY

WELL NUMBER.--GA Ag 1. SITE ID.--394017078581701.

LOCATION.--Lat 39°40'17", long 78°58'17", Hydrologic Unit 02070002, in the Savage River Valley, 2.5 mi northwest of Frostburg.

Owner: Town of Frostburg.

AQUIFER.--Pocono Formation of Lower Mississippian age. Aquifer code: 337POCN.

WELL CHARACTERISTICS.--Drilled, unused, water-table well, Reported depth 30 ft, measured depth 14 ft; casing diameter 8 in., to unknown depth; open hole.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 2,530 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of casing at land surface.

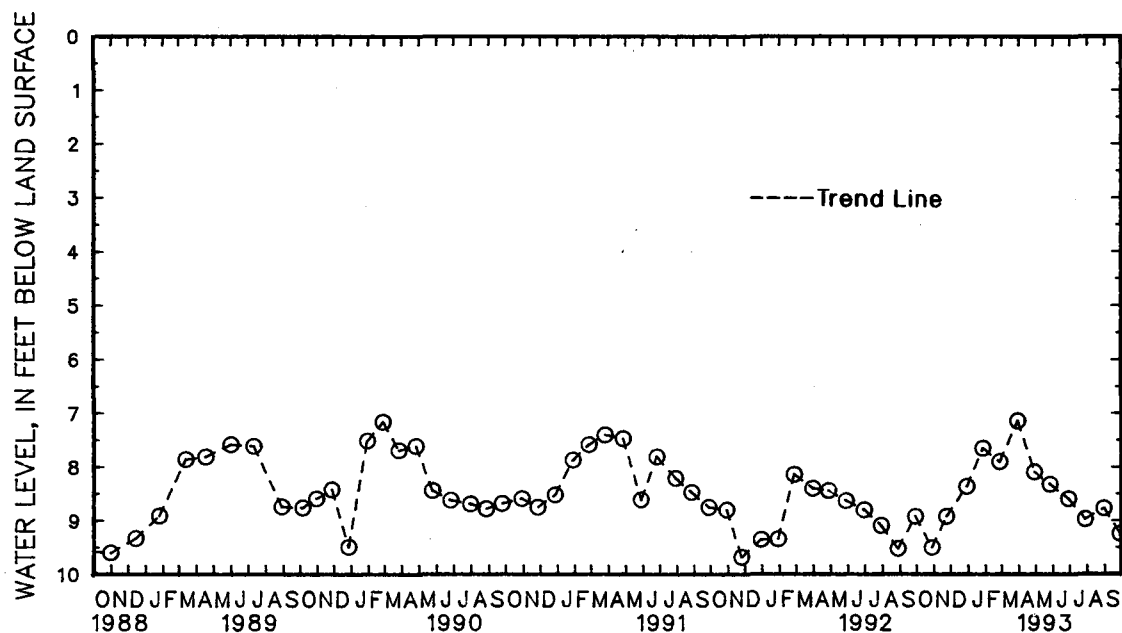
REMARKS.--Maryland Water-Level Network observation well. Water levels affected by nearby pumping.

PERIOD OF RECORD.--October 1946 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.71 ft below land surface, Jan. 14, 1950; lowest measured, 14.59 ft below land surface, Jan. 28, 1985.

## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	9.50	DEC 29	8.36	FEB 25	7.90	APR 28	8.09	JUN 28	8.59	AUG 30	8.77
NOV 23	8.92	JAN 26	7.65	MAR 29	7.14	MAY 26	8.32	JUL 28	8.97	SEP 28	9.24
WATER YEAR 1993		HIGHEST	7.14	MAR 29, 1993	LOWEST	9.50	OCT 28, 1992				



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993



## GROUND-WATER LEVELS

MARYLAND--Continued

GARRETT COUNTY--Continued

WELL NUMBER.--GA Cb 79. SITE ID.--393121079200401. PERMIT NUMBER.--GA-88-0248.

LOCATION.--Lat 39°31'21", long 79°20'04", Hydrologic Unit 05020006, 0.5 mi south of McHenry.

Owner: Suncove Association.

AQUIFER.--Mauch Chunk Formation of Upper Mississippian age. Aquifer code: 331MCKK.

WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 370 ft; casing diameter 8 in., to 80 ft; open hole.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 2,485 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of casing, 2.2 ft above land surface.

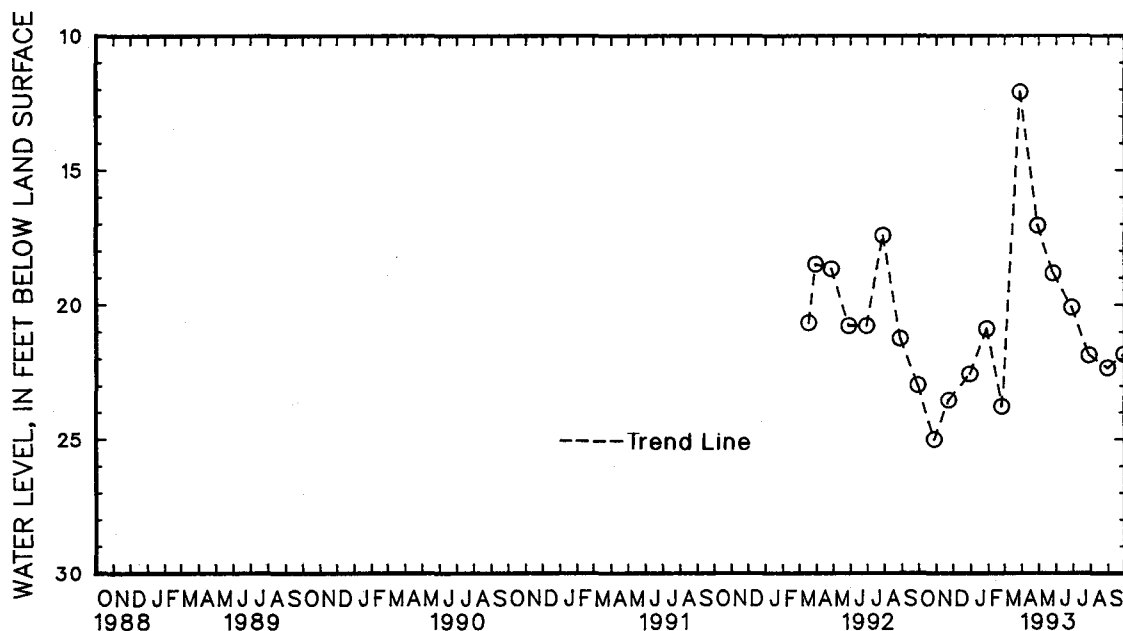
REMARKS.--Maryland Water-Level Network observation well.

PERIOD OF RECORD.--March 1992 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 14.29 ft below land surface, March 29, 1993; lowest measured, 25.99 ft below land surface, Feb. 24, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	25.02	DEC 29	22.57	FEB 24	23.79	APR 28	17.07	JUN 28	20.12	AUG 30	22.36
NOV 23	23.55	JAN 28	20.89	MAR 29	12.09	MAY 26	18.85	JUL 28	21.89	SEP 28	21.85
WATER YEAR 1993		HIGHEST	14.29	MAR 29, 1993		LOWEST	25.99	FEB 24, 1993			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

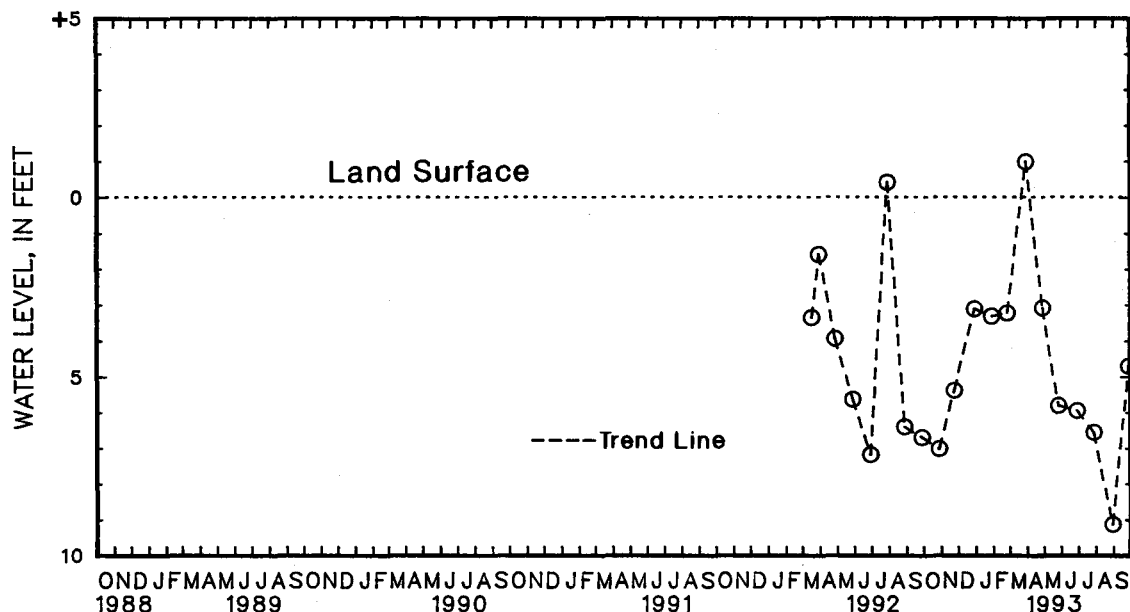
MARYLAND--Continued

GARRETT COUNTY--Continued

WELL NUMBER.--GA Eb 78. SITE ID.--392439079231801. PERMIT NUMBER.--GA-88-0611.  
 LOCATION.--Lat 39°24'39", long 79°23'18", Hydrologic Unit 05020006, at Southern Pines, nr Broadford Rd.  
 and Southern Pines Drive, Mountain Lake Park.  
 Owner: Jonathan Kessler.  
 AQUIFER.--Jennings Formation of Upper Devonian age. Aquifer code: 341JNGS.  
 WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 307 ft; casing diameter 6 in., to 40 ft;  
 open hole.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 DATUM.--Elevation of land surface is 2,500 ft above National Geodetic Vertical Datum of 1929.  
 Measuring point: Top of casing 1.0 ft above land surface.  
 REMARKS.--Maryland Water-Level Network observation well.  
 PERIOD OF RECORD.--March 1992 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, flowing on March 29, 1993;  
 lowest measured, 9.12 ft below land surface, Aug. 30, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	7.00	DEC 29	3.10	FEB 24	3.21	APR 28	3.08	JUN 28	5.95	AUG 30	9.12
NOV 23	5.38	JAN 28	3.30	MAR 29	FLOWING	MAY 26	5.81	JUL 28	6.56	SEP 28	4.69
WATER YEAR 1993		HIGHEST FLOWING		MAR 29, 1993		LOWEST		9.12 AUG 30, 1993			



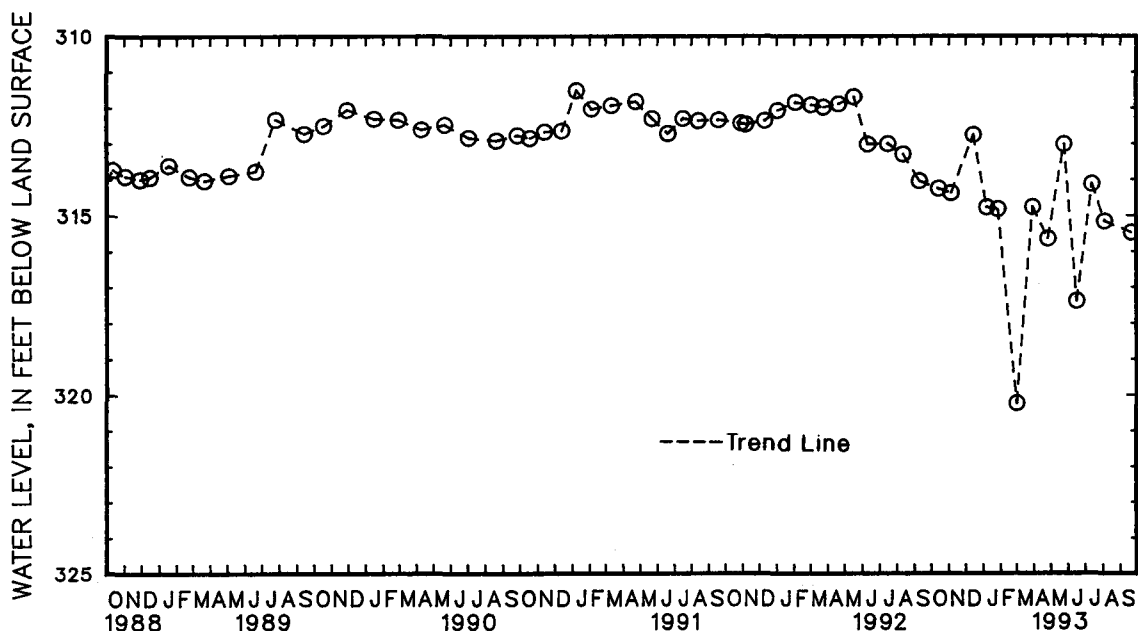
5 YEAR HYDROGRAPH  
 OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
GARRETT COUNTY--Continued

WELL NUMBER.--GA Fa 28. SITE ID.--391512079270901. PERMIT NUMBER.--GA-73-1697.  
LOCATION.--Lat 39°15'12", long 79°27'09", Hydrologic Unit 02070002, on south side of Red Oak Rd., 0.6 mi west from the intersection with Kempton Rd., 2.6 mi west of Wilson.  
Owner: Mettiki Coal Co.  
AQUIFER.--Conemaugh Formation of Upper Pennsylvanian age. Aquifer code: 321CNMG.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 341 ft; casing diameter 6 in., to 317 ft; open hole.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
DATUM.--Elevation of land surface is 2,890 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring Point: Top of casing, 1.5 ft above land surface.  
REMARKS.--Hydrologic Effects of Mining, Phase III Project observation well. Water levels affected by coal mining operations.  
PERIOD OF RECORD.--June 1978 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 100.60 ft below land surface, Dec. 14, 1978; lowest measured, 332.43 ft below land surface, May 16, 1985.

## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE		WATER LEVEL		DATE		WATER LEVEL		DATE		WATER LEVEL	
OCT 14	314.27	JAN 7	314.79	MAR 30	314.77	JUN 16	317.40	SEP 21	315.48		
NOV 5	314.39	27	314.84	APR 26	315.65	JUL 13	314.13				
DEC 15	312.77	MAR 1	320.24	MAY 25	313.02	AUG 4	315.17				
WATER YEAR 1993		HIGHEST	312.77	DEC 15, 1992		LOWEST	320.24	MAR 1, 1993			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
GARRETT COUNTY--Continued

WELL NUMBER.--GA Pa 29. SITE ID.--391512079270902. PERMIT NUMBER.--GA-73-1698.

LOCATION.--Lat 39°15'12", long 79°27'09", Hydrologic Unit 02070002, on south side of Red Oak Rd., 0.9 mi west from intersection with Kempton Rd., 2.6 mi west of Wilson.

Owner: Mettiki Coal Co.

AQUIFER.--Conemaugh Formation of Upper Pennsylvanian age. Aquifer code: 321CNMG.

WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 226 ft; casing diameter 6 in., to 203 ft; open hole.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 2,890 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of casing, 2.0 ft above land surface.

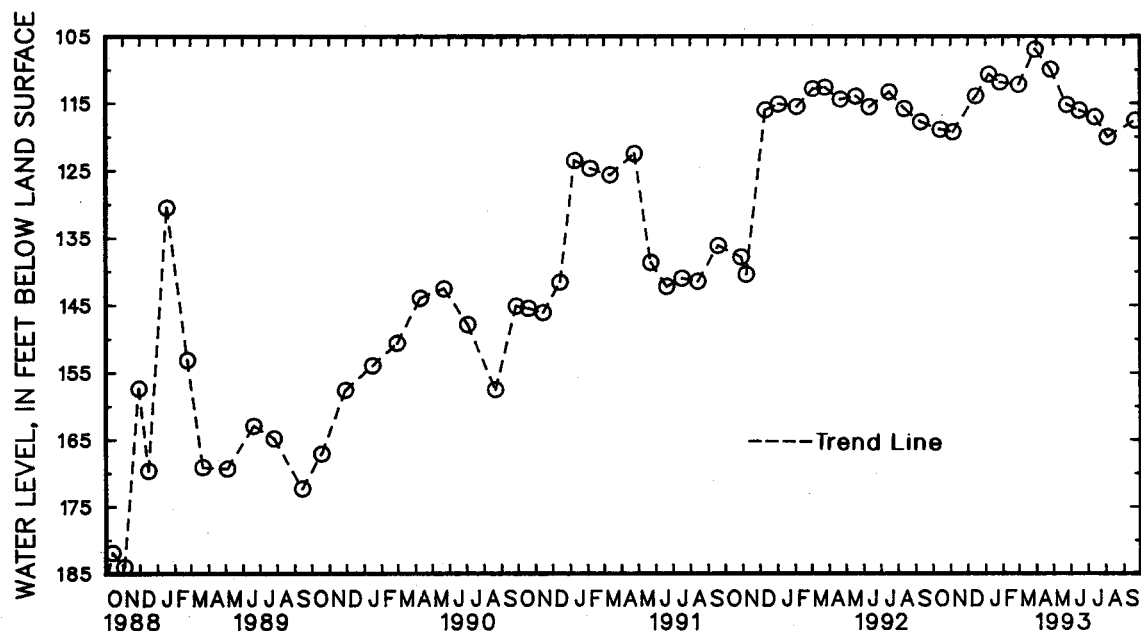
REMARKS.--Hydrologic Effects of Mining, Phase III Project observation well. Water levels affected by coal mining operations.

PERIOD OF RECORD.--June 1978 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 106.95 ft below land surface, March 30, 1993; lowest water level measured, dry on Nov. 17, and 18, 1982, Dec. 28, 1982 and Feb. 18, 1983.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 14	118.91	JAN 7	110.66	MAR 30	106.95	JUN 16	116.09	SEP 21	117.58
NOV 5	119.27	27	111.83	APR 26	109.92	JUL 13	117.07		
DEC 15	113.91	MAR 1	112.18	MAY 25	115.25	AUG 4	120.04		
WATER YEAR 1993		HIGHEST	106.95	MAR 30, 1993		LOWEST	120.04	AUG 4, 1993	



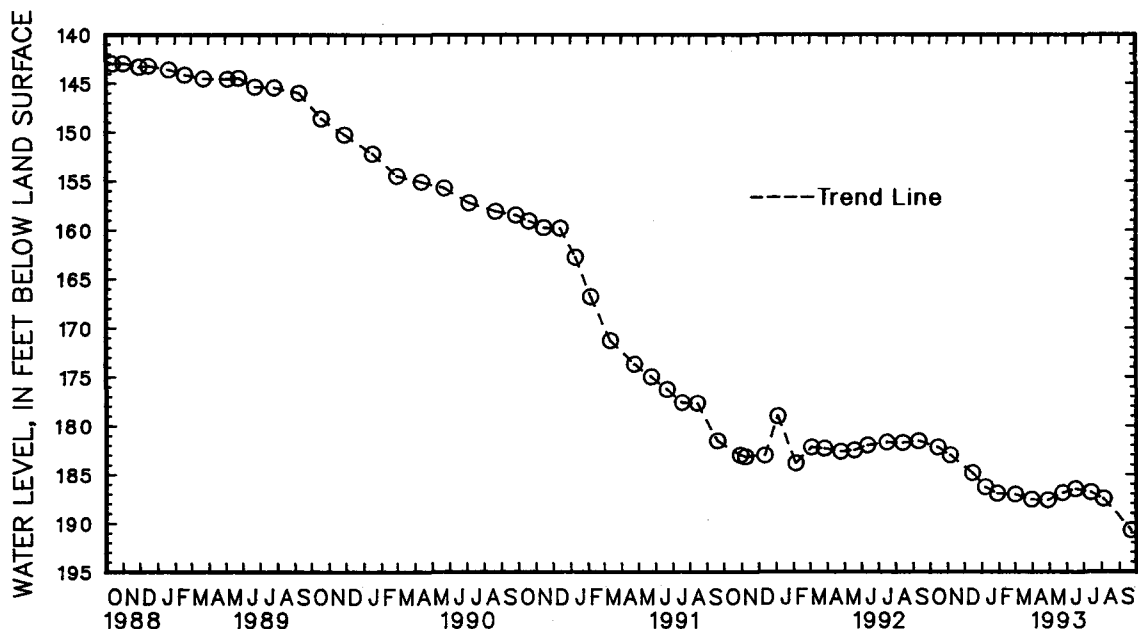
5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
GARRETT COUNTY--Continued

WELL NUMBER.--GA Fa 31. SITE ID.--391539079254601. PERMIT NUMBER.--GA-73-2142.  
LOCATION.--Lat 39°15'37", long 79°25'45", Hydrologic Unit 02070002, on north side of coal conveyor belt, 450 ft west of Table Rock Rd., 1.7 mi west of Wilson.  
Owner: U.S. Geological Survey.  
AQUIFER.--Allegheny Formation of Middle Pennsylvanian age. Aquifer code: 324ALGN.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 606 ft; casing diameter 8 in., to 25.5 ft; casing diameter 4 in., to 470 ft; open hole.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel. Equipped with digital water-level recorder--60-minute recorder interval.  
DATUM.--Elevation of land surface is 2,618 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 2.6 ft above land surface.  
REMARKS.--Hydrologic Effects of Mining, Phase III Project observation well. Water levels affected by coal mining operations.  
PERIOD OF RECORD.--August 1980 to to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.31 ft below land surface, April 8, 1980; lowest measured, 190.73 ft below land surface, Sept. 21, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 14	182.22	JAN 7	186.30	MAR 30	187.56	JUN 16	186.48	SEP 21	190.73
NOV 5	183.02	28	186.95	APR 28	187.62	JUL 13	186.78		
DEC 15	184.85	MAR 1	187.04	MAY 24	186.89	AUG 4	187.43		
WATER YEAR 1993		HIGHEST	182.22	OCT 14, 1992	LOWEST	190.73	SEP 21, 1993		



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

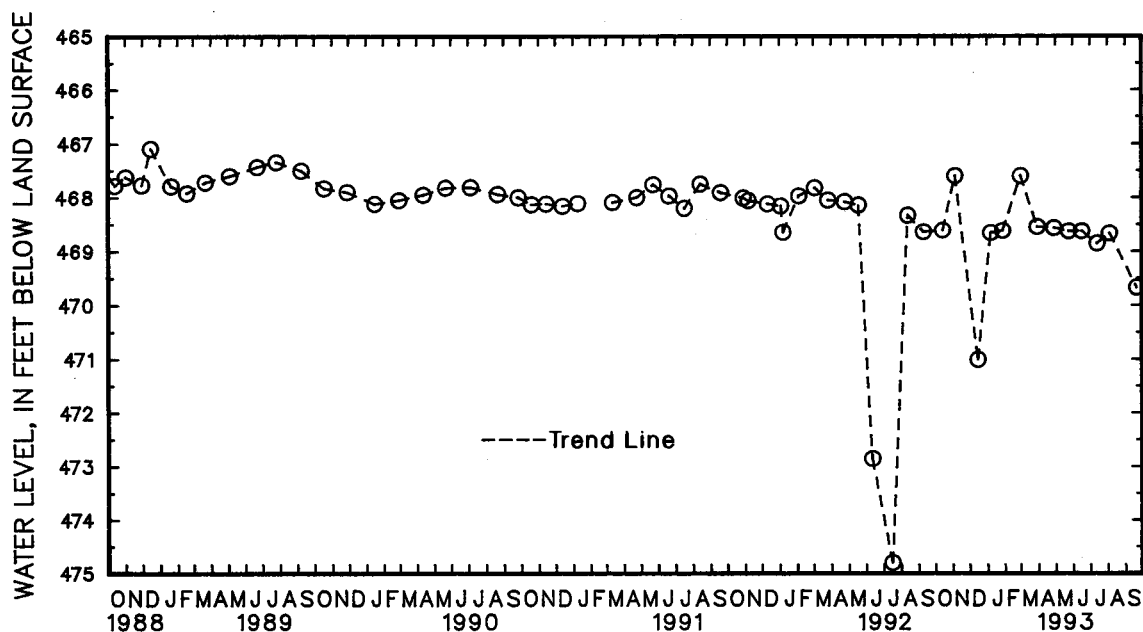


GROUND-WATER LEVELS  
MARYLAND--Continued  
GARRETT COUNTY--Continued

WELL NUMBER.--GA Fa 32. SITE ID.--391539079254602. PERMIT NUMBER.--GA-73-2143.  
LOCATION.--Lat 39°15'39", long 79°25'46", Hydrologic Unit 02070002, on north side of coal conveyor belt, 450 ft west of Table Rock Rd., 1.7 mi west of Wilson.  
Owner: U.S. Geological Survey.  
AQUIFER.--Conemaugh Formation of Upper Pennsylvanian age. Aquifer code: 321CNMG.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 473 ft; casing diameter 8 in., to 23 ft; casing diameter 4 in., to 430 ft; open hole.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
Equipped with digital water-level recorder--60-minute recorder interval from July 21, 1980 to April 8, 1981.  
DATUM.--Elevation of land surface is 2,618 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
Measuring point: Top of casing, 3.15 ft above land surface.  
REMARKS.--Hydrologic Effects of Mining, Phase III Project observation well. Water levels affected by coal mining operations.  
PERIOD OF RECORD.--February 1980 to to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 14.55 ft below land surface, Feb. 27, 1980; lowest measured, 474.80 ft below land surface, July 16, 1992.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 14	468.61	JAN 7	468.66	MAR 30	468.55	JUN 16	468.63	SEP 21	469.68
NOV 5	467.60	28	468.62	APR 28	468.57	JUL 13	468.86		
DEC 15	471.02	MAR 1	467.60	MAY 24	468.63	AUG 4	468.67		
WATER YEAR 1993		HIGHEST 467.60 NOV 5, 1992		MAR 1, 1993		LOWEST 471.02 DEC 15, 1992			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

GARRETT COUNTY--Continued

WELL NUMBER.--GA Fa 33. SITE ID.--391539079254603. PERMIT NUMBER.--GA-73-2144.

LOCATION.--Lat 39°15'39", long 79°25'46", Hydrologic Unit 02070002, on north side of coal conveyor belt, 450 ft west of Table Rock Rd., 1.7 mi west of Wilson.

Owner: U.S. Geological Survey.

AQUIFER.--Conemaugh Formation of Upper Pennsylvanian age. Aquifer code: 321CNMG.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 391 ft; casing diameter 8 in., to 23 ft; casing diameter 4 in., to 318 ft; open hole.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

Equipped with digital recorder--60-minute recorder interval from July 21, 1980 to Oct. 14, 1982.

DATUM.--Elevation of land surface is 2,618 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of recorder shelf, 3.9 ft above land surface.

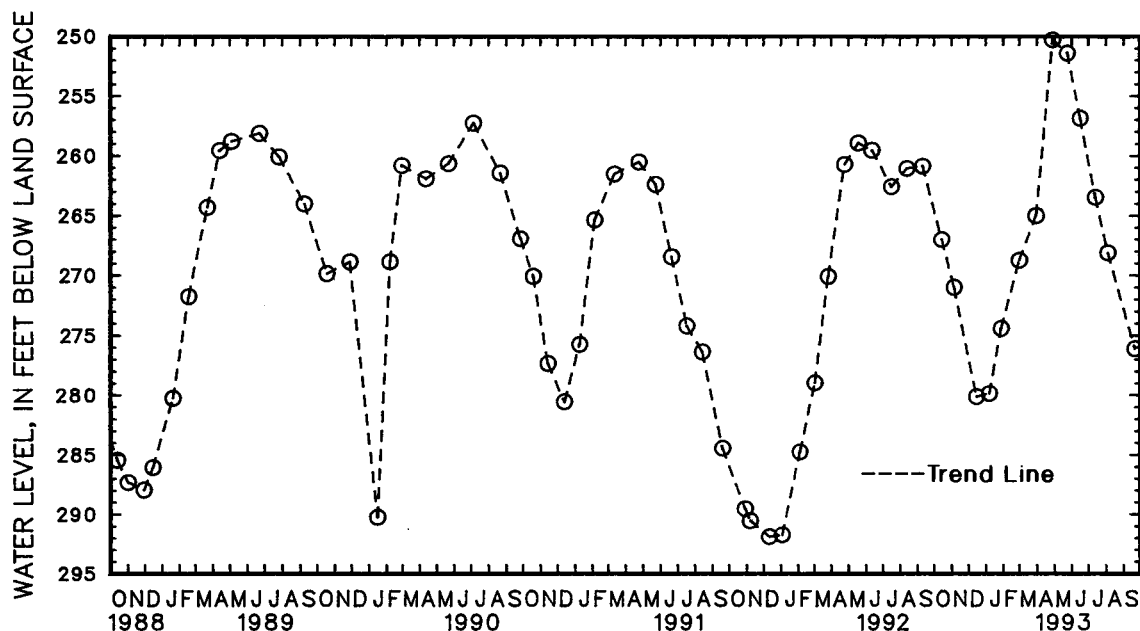
REMARKS.--Hydrologic Effects of Mining, Phase III Project observation well. Water levels affected by coal mining operations.

PERIOD OF RECORD.--February 1980 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 14.31 ft below land surface, Feb. 27, 1978; lowest measured, 291.88 ft below land surface, Dec. 11, 1991.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 14	267.02	JAN 7	279.89	MAR 30	264.99	JUN 16	256.88	SEP 21	276.15
NOV 5	271.03	28	274.43	APR 28	250.28	JUL 13	263.52		
DEC 15	280.16	MAR 1	268.74	MAY 24	251.40	AUG 4	268.17		
WATER YEAR 1993		HIGHEST	250.28	APR 28, 1993	LOWEST	280.16	DEC 15, 1992		



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

**MARYLAND--Continued**

**GARRETT COUNTY--Continued**

WELL NUMBER.--GA Fa 34. SITE ID.--391539079254604. PERMIT NUMBER.--GA-73-2145.

LOCATION.--Lat 39°15'39", long 79°25'46", Hydrologic Unit 02070002, on north side of coal conveyor belt, 450 ft west of Table Rock Rd., 1.7 mi west of Wilson.

**Owner: U.S. Geological Survey.**

**AQUIFER.--**Conemaugh Formation of Upper Pennsylvanian age. Aquifer code: 321CNMG.

WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 115 ft; casing diameter 8 in., to 23.5 ft; casing diameter 4 in., to 96 ft; open hole.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel. Equipped with digital water-level recorder--60-minute recorder interval, from July 21, 1980 to Oct 19, 1990.

DATUM.--Elevation of land surface is 2,618 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
Measuring point: Top of recorder shelf, 3.3 ft above land surface.

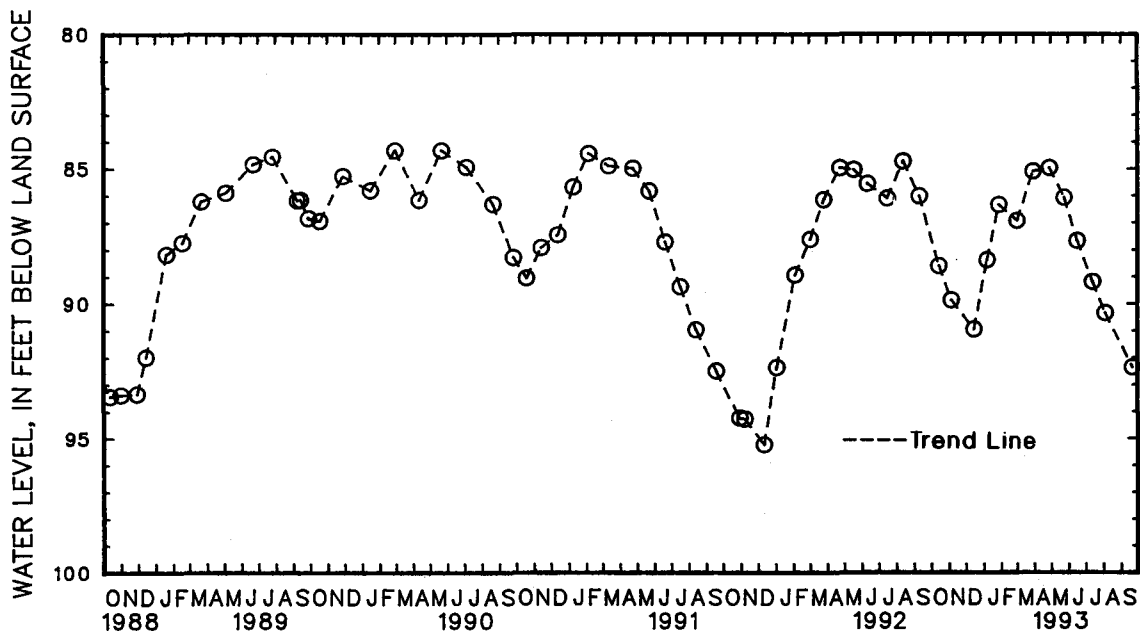
REMARKS.--Hydrologic Effects of Mining, Phase III Project observation well.

PERIOD OF RECORD.--February 1980 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 14.05 ft below land surface, Feb. 26, 1980; lowest measured, 95.25 ft below land surface, Dec. 11, 1991.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 14	88.61	JAN 7	88.39	MAR 30	85.10	JUN 16	87.67	SEP 21	92.37
NOV 5	89.89	28	86.34	APR 28	84.97	JUL 13	89.20		
DEC 15	90.97	MAR 1	86.93	MAY 24	86.07	AUG 4	90.36		
WATER YEAR 1993		HIGHEST	84.97	APR 28, 1993		LOWEST	92.37	SEP 21, 1993	



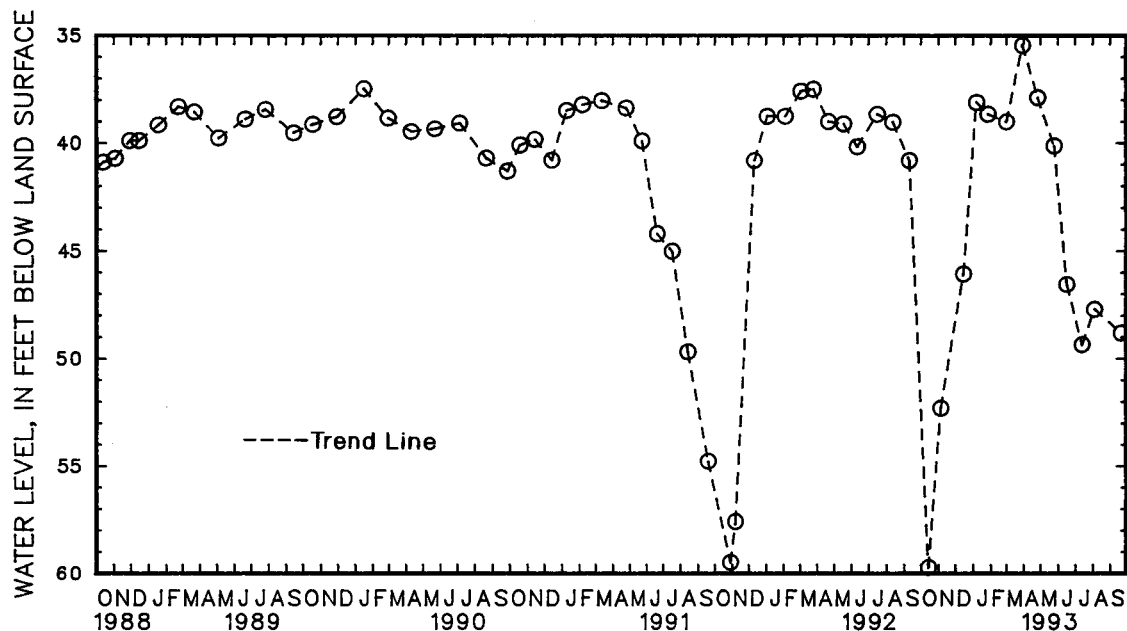
5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
GARRETT COUNTY--Continued

WELL NUMBER.--GA Fa 38. SITE ID.--391501079260001. PERMIT NUMBER.--GA-73-2125.  
LOCATION.--Lat 39°15'01", long 79°26'00", Hydrologic Unit 02070002, at intersection of Kempton Rd.,  
and Dobin Rd., 3.6 mi south of Table Rock.  
Owner: Curtis Glotfelty.  
AQUIFER.--Conemaugh Formation of Upper Pennsylvanian age. Aquifer code: 321CNMG.  
WELL CHARACTERISTICS.--Drilled, domestic, water-table well, depth 118 ft, casing diameter 6 in., to 39 ft;  
open hole.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
DATUM.--Elevation of land surface is 2,680 ft above National Geodetic Vertical Datum of 1929,  
from topographic map.  
Measuring point: Top of casing, 1.0 ft above land surface.  
REMARKS.--Hydrologic Effects of Mining, Phase III Project observation well. Water levels affected by nearby  
mining operations.  
PERIOD OF RECORD.--February 1988 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 35.46 ft below land surface, March 30, 1993;  
lowest measured, 59.72 ft below land surface, Oct. 14, 1992.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 14	59.72	JAN 7	38.10	MAR 30	35.46	JUN 16	46.58	SEP 21	48.83
NOV 5	52.29	27	38.65	APR 26	37.89	JUL 13	49.37		
DEC 15	46.06	MAR 1	39.01	MAY 25	40.15	AUG 4	47.73		
WATER YEAR 1993		HIGHEST	35.46	MAR 30, 1993		LOWEST	59.72	OCT 14, 1992	



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

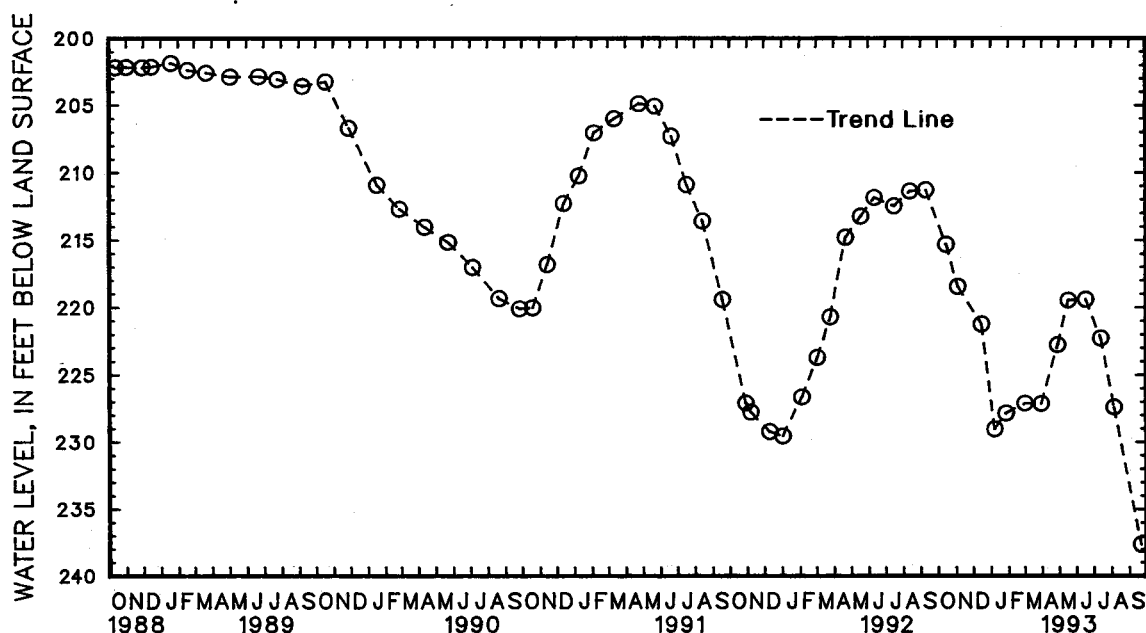
GROUND-WATER LEVELS  
MARYLAND--Continued  
GARRETT COUNTY--Continued

WELL NUMBER.--GA Fb 22. SITE ID.--391530079244401. PERMIT NUMBER.--GA-73-2146.  
LOCATION.--Lat 39°15'30", long 79°24'44", Hydrologic Unit 02070002, south side of Wilson Rd., 500 ft west of the intersection with Wilson-Coronna Rd., 0.4 mi northwest of Wilson.  
Owner: U.S. Geological Survey.  
AQUIFER.--Allegheny Formation of Middle Pennsylvanian age. Aquifer code: 324ALGN.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 640 ft; casing diameter 4 in., to 517 ft; open hole.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel. Equipped with digital water-level recorder--60-minute recorder interval, from May 15, 1980 to Oct 1990.  
DATUM.--Elevation of land surface is 2,530 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
Measuring point: Top of casing, 3.0 ft above land surface.  
REMARKS.--Hydrologic Effects of Mining, Phase III Project observation well. Water levels affected by coal mining operations.  
PERIOD OF RECORD.--May 1980 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 63.59 ft below land surface, April 8, 1980; lowest measured, 237.63 ft below land surface, Sept. 21, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15	215.32	JAN 7	229.07	MAR 30	227.16	JUN 17	219.41	SEP 21	237.63
NOV 4	218.47	27	227.88	APR 28	222.78	JUL 13	222.28		
DEC 15	221.27	MAR 1	227.13	MAY 17	219.47	AUG 5	227.42		

WATER YEAR 1993      HIGHEST 215.32 OCT 15, 1992      LOWEST 237.63 SEP 21, 1993



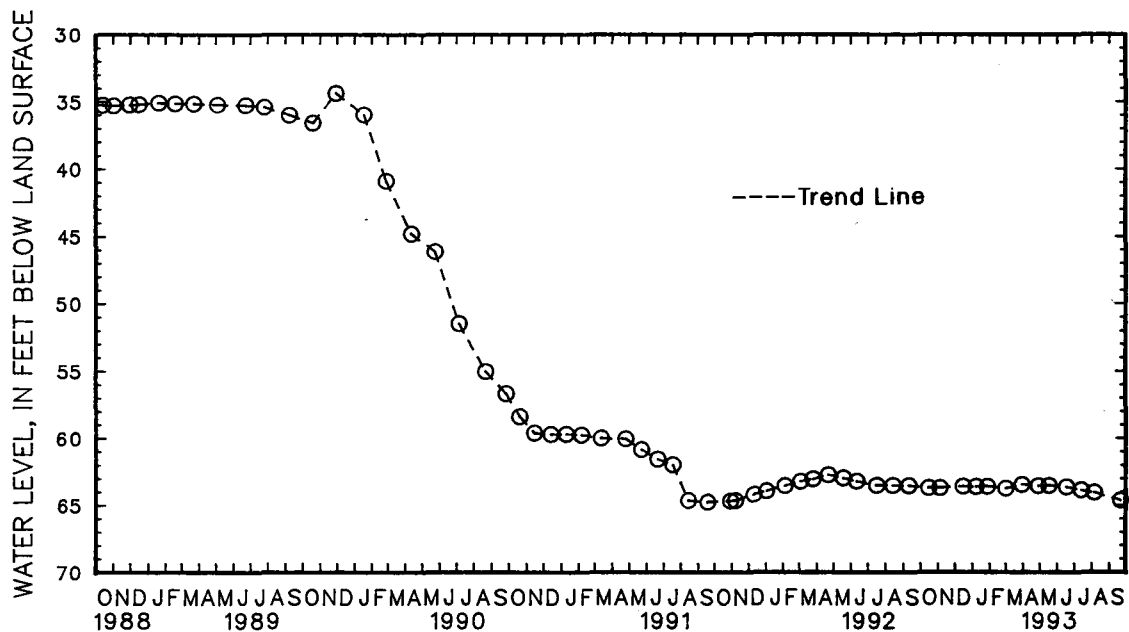
5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
GARRETT COUNTY--Continued

WELL NUMBER.--GA Fb 24. SITE ID.--391530079244403. PERMIT NUMBER.--GA-73-2177.  
LOCATION.--Lat 39°15'30", long 79°24'44", Hydrologic Unit 02070002, south side of Wilson Rd., 500 ft west of the intersection with Wilson-Coronna Rd., 0.4 mi northwest of Wilson.  
Owner: U.S. Geological Survey.  
AQUIFER.--Conemaugh Formation of Upper Pennsylvanian age. Aquifer code: 321CNMG.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 400 ft; casing diameter 4 in., to 340 ft; open hole.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel. Equipped with digital water-level recorder--60-minute recorder interval, from May 15, 1980 to Oct. 19, 1990.  
DATUM.--Elevation of land surface is 2,530 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 3.0 ft above land surface.  
REMARKS.--Hydrologic Effects of Mining, Phase III Project observation well. Water levels affected by coal mining operations.  
PERIOD OF RECORD.--April 1980 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 18.08 ft below land surface, Jan. 12, 1981; lowest measured, 92.29 ft below land surface, April 28, 1981.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15	63.70	JAN 7	63.61	MAR 30	63.46	JUN 17	63.64	SEP 21	64.64
NOV 4	63.70	27	63.60	APR 28	63.55	JUL 13	63.85		
DEC 15	63.59	MAR 1	63.74	MAY 17	63.53	AUG 5	64.01		
WATER YEAR 1993		HIGHEST	63.46	MAR 30, 1993		LOWEST	64.64	SEP 21, 1993	

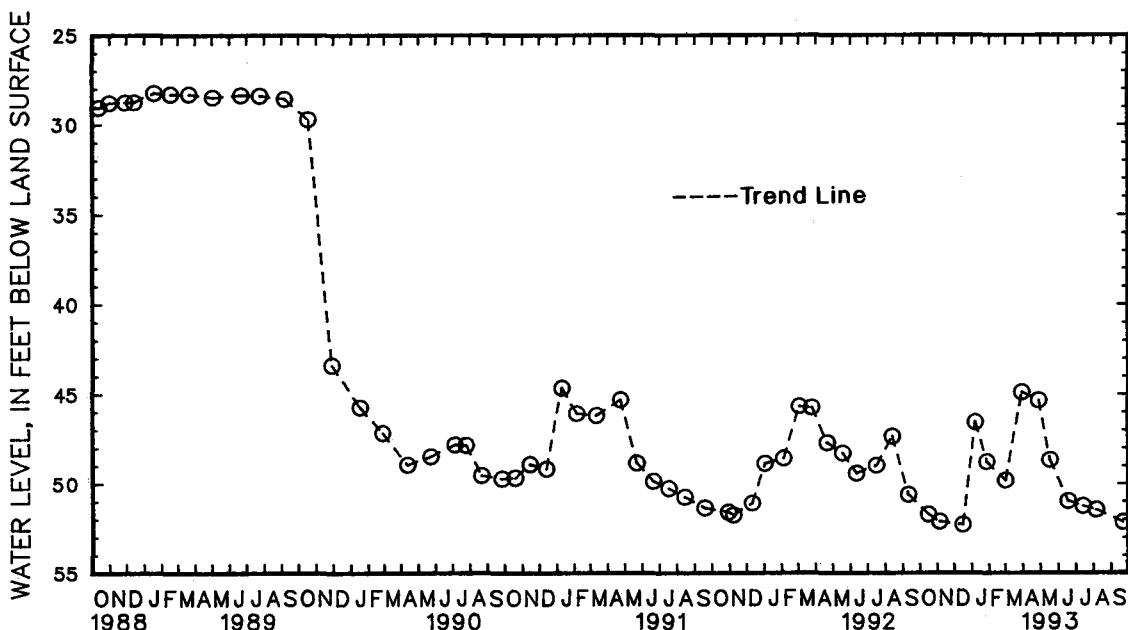


GROUND-WATER LEVELS  
MARYLAND--Continued  
GARRETT COUNTY--Continued

WELL NUMBER.--GA Fb 25. SITE ID.--391530079244404. PERMIT NUMBER.--GA-73-2178.  
LOCATION.--Lat 39°15'30", long 79°24'44", Hydrologic Unit 02070002, south side of Wilson Rd., 500 ft west of the intersection with Wilson-Coronna Rd., 0.4 mi northwest of Wilson.  
Owner: U.S. Geological Survey.  
AQUIFER.--Conemaugh Formation of Upper Pennsylvanian age. Aquifer code: 321CNMG.  
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 180 ft; casing diameter 4 in., to 120 ft; open hole  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel. Equipped with digital water-level recorder--60-minute recorder interval from June 4, 1980 to Oct. 1990.  
DATUM.--Elevation of land surface is 2,530 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 3.0 ft above land surface.  
REMARKS.--Hydrologic Effects of Mining, Phase III Project observation well. Water levels affected by coal mining operations.  
PERIOD OF RECORD.--April 1980 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 27.89 ft below land surface, May 11, 1981; lowest measured, 54.18 ft below land surface, May 14, 1985.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

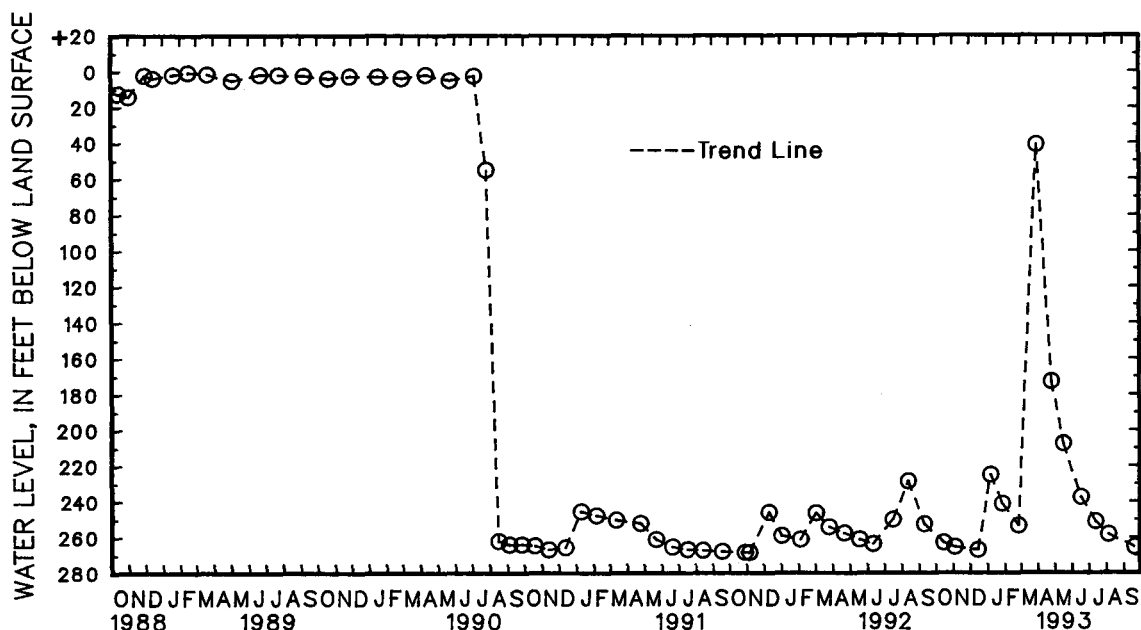
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15	51.72	JAN 7	46.57	MAR 30	44.87	JUN 17	50.97	SEP 21	52.15
NOV 4	52.12	27	48.78	APR 28	45.33	JUL 13	51.25		
DEC 15	52.29	MAR 1	49.81	MAY 17	48.67	AUG 5	51.46		
WATER YEAR 1993		HIGHEST	44.87	MAR 30, 1993	LOWEST	52.29	DEC 15, 1992		



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

WELL NUMBER.--GA Fb 27. SITE ID.--391513079243602. PERMIT NUMBER.--GA-73-2182.  
LOCATION.--Lat 39°15'13", long 79°24'36", Hydrologic Unit 02070002, 0.6 mi west of Wilson.  
Owner: U.S. Geological Survey.  
AQUIFER.--Conemaugh Formation of Upper Pennsylvanian age. Aquifer code: 321CNMG.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 656 ft; casing diameter 4 in.,  
to 590 ft; open hole.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
Equipped with digital water-level recorder--60-minute recorder interval from June 11, 1980,  
to July 26, 1990.  
DATUM.--Elevation of land surface is 2,755 ft above National Geodetic Vertical Datum of 1929,  
from topographic map.  
Measuring point: Top of casing, 3.0 ft above land surface.  
REMARKS.--Hydrologic Effects of Mining, Phase III Project observation well.  
PERIOD OF RECORD.--June 1980 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.32 ft below land surface, March 6, 1989;  
lowest measured, 268.43 ft below land surface, Nov. 6, 1991.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15	262.93	JAN 7	224.97	MAR 30	40.90	JUN 17	237.65	SEP 21	265.44
NOV 4	265.36	27	241.22	APR 26	173.06	JUL 13	251.12		
DEC 15	267.01	FEB 25	253.30	MAY 17	207.78	AUG 5	258.13		
WATER YEAR 1993		HIGHEST	40.90	MAR 30, 1993		LOWEST	267.01	DEC 15, 1992	



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993



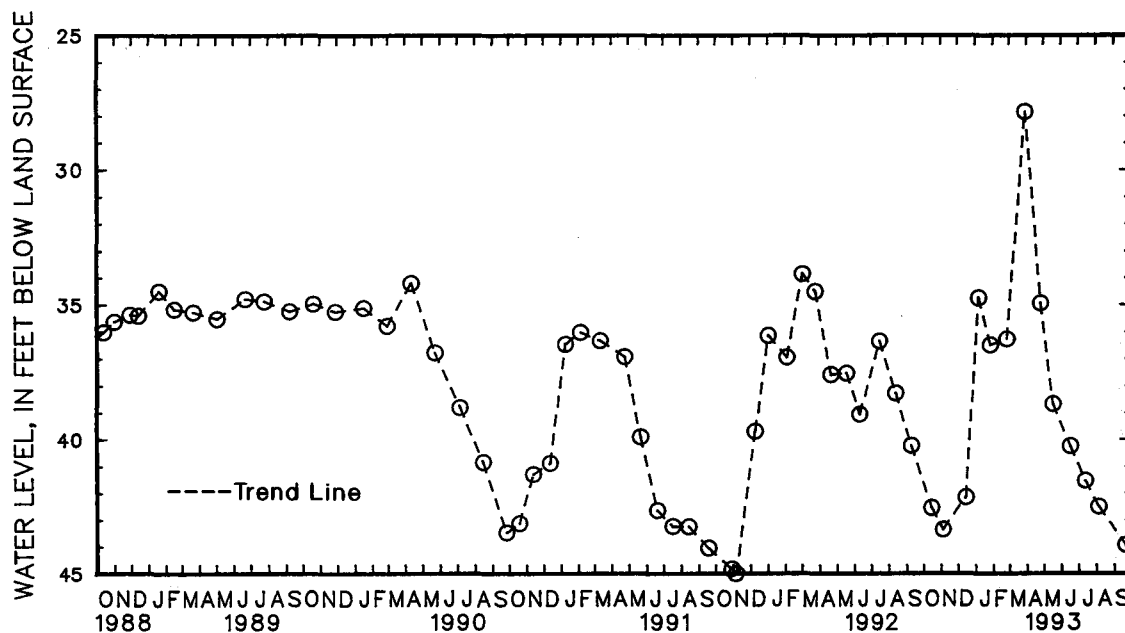
GROUND-WATER LEVELS  
MARYLAND--Continued  
GARRETT COUNTY--Continued

WELL NUMBER.--GA Fb 30. SITE ID.--391513079243605. PERMIT NUMBER.--GA-73-2185.  
LOCATION.--Lat 39°15'13", long 79°24'36", Hydrologic Unit 02070002, 0.6 mi west of Wilson.  
Owner: U.S. Geological Survey.  
AQUIFER.--Conemaugh Formation of Upper Pennsylvanian age. Aquifer code: 321CNMG.  
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 85 ft; casing diameter 4 in., to 82 ft; open hole.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel. Equipped with digital water-level recorder--60-minute recorder interval.  
DATUM.--Elevation of land surface is 2,755 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of shelter floor, 2.0 ft above land surface.  
REMARKS.--Hydrologic Effects of Mining, Phase III Project observation well. Water levels affected by coal mining operations.  
PERIOD OF RECORD.--June 1980 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 26.58 ft below land surface, April 16, 1981; lowest measured, 45.00 ft below land surface, Nov. 6, 1991.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15	42.55	JAN 7	34.74	MAR 30	27.83	JUN 17	40.26	SEP 21	43.93
NOV 4	43.35	27	36.49	APR 26	34.96	JUL 13	41.55		
DEC 15	42.15	FEB 25	36.27	MAY 17	38.69	AUG 5	42.51		

WATER YEAR 1993      HIGHEST    27.83    MAR 30, 1993      LOWEST    43.93    SEP 21, 1993



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

GARRETT COUNTY--Continued

WELL NUMBER.--GA Fb 31. SITE ID.--391602079240301. PERMIT NUMBER.--GA-81-1332.

LOCATION.--Lat 39°16'02", long 79°24'03", Hydrologic Unit 02070002, east side of Wilson-Coronna Rd., 500 ft northeast of intersection with Fairview Rd., 1.0 mile north of Wilson.

Owner: Mettiki Coal Corp.

AQUIFER.-- Allegheny Formation of Middle Pennsylvanian age. Aquifer code: 324ALGN.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth to 795 ft; casing diameter 6 in., to 760 ft; open hole.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

Equipped with digital water-level recorder--60-minute recorder interval.

DATUM.--Elevation of land surface is 2,676.51 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of casing, 2.2 ft above land surface.

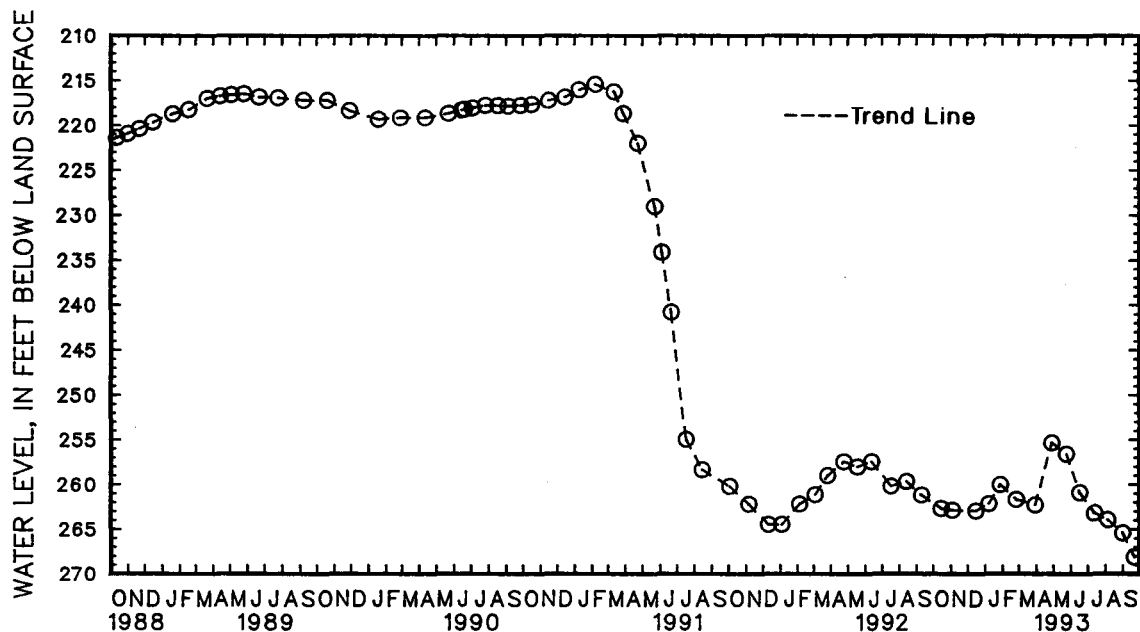
REMARKS.--Hydrologic Effects of Mining, Phase III Project observation well. Water levels affected by coal mining operations.

PERIOD OF RECORD.--March 1988 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 215.43 ft below land surface, Feb. 7, 1991; lowest measured, 268.10 ft below land surface, Sept. 21, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15	262.68	JAN 8	262.09	MAR 30	262.29	JUN 17	260.90	AUG 31	265.41
NOV 4	262.87	28	260.01	APR 28	255.33	JUL 13	263.17	SEP 21	268.10
DEC 16	262.95	FEB 25	261.68	MAY 24	256.60	AUG 5	263.94		
WATER YEAR 1993		HIGHEST	255.33	APR 28, 1993	LOWEST	268.10	SEP 21, 1993		



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

GARRETT COUNTY--Continued

WELL NUMBER.--GA Fb 34, SITE ID.--391602079240304. PERMIT NUMBER.--GA-81-1331.

LOCATION.--Lat 39°16'02", long 79°24'03", Hydrologic Unit 02070002, east side of Wilson-Coronna Rd., 500 ft northeast of intersection with Fairview Road, 1.0 mile north of Wilson.

Owner: Mettiki Coal Corp.

AQUIFER.--Conemaugh Formation of Upper Pennsylvanian age. Aquifer code: 321CNMG.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 390 ft; casing diameter 6 in., to 370 ft; open hole.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

Equipped with digital water-level recorder--60-minute recorder interval.

DATUM.--Elevation of land surface is 2,677 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of casing, 3.2 ft above land surface.

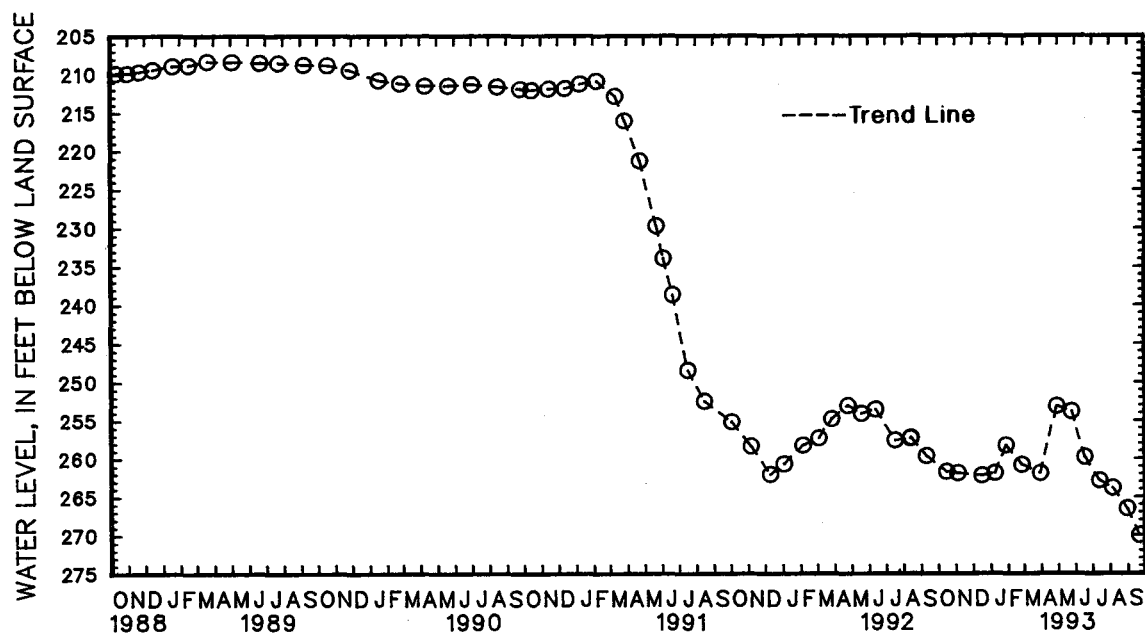
REMARKS.--Hydrologic Effects of Mining, Phase III Project observation well. Water levels affected by coal mining operations.

PERIOD OF RECORD.--March 1988 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 202.64 ft below land surface, March 25, 1989; lowest measured, 270.02 ft below land surface, Sept. 21, 1993.

## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15	261.72	JAN 8	261.91	MAR 30	261.92	JUN 17	259.78	AUG 31	266.55
NOV 4	261.91	28	258.29	APR 28	253.15	JUL 13	262.89	SEP 21	270.02
DEC 16	262.23	FEB 25	260.85	MAY 24	253.86	AUG 5	263.84		
WATER YEAR 1993		HIGHEST	253.15	APR 28, 1993	LOWEST	270.02	SEP 21, 1993		



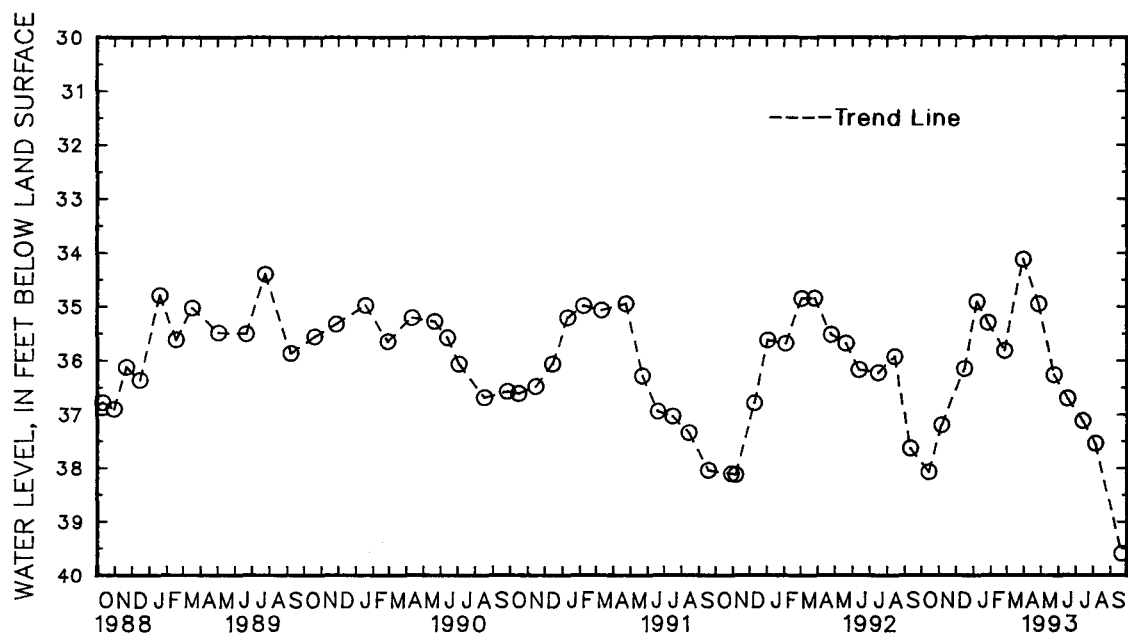
5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
GARRETT COUNTY--Continued

WELL NUMBER.--GA Fb 39. SITE ID.--391715079223105. PERMIT NUMBER.--GA-81-1344.  
LOCATION.--Lat 39°17'15", long 79°22'31", Hydrologic Unit 02070002, east side of Wilson-Coronna Rd.,  
0.6 mi. southwest of intersection with U.S. Route 50, 0.6 mi. southwest of Ft. Pendleton.  
Owner: Mettiki Coal Corp.  
AQUIFER.--Conemaugh Formation of Upper Pennsylvanian age. Aquifer code: 321CNMG.  
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 97 ft; casing diameter 6 in., to 42 ft;  
open hole.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
DATUM.--Elevation of land surface is 2,570 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
Measuring point: Top of casing, 3.2 ft above land surface.  
REMARKS.--Hydrologic Effects of Mining, Phase III Project observation well. Water levels affected by coal mining  
operations.  
PERIOD OF RECORD.--June 1988 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 34.12 ft below land surface, March 30, 1993;  
lowest measured, 39.59 ft below land surface, Sept. 21, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 14	38.08	JAN 7	34.91	MAR 30	34.12	JUN 17	36.71	SEP 21	39.59
NOV 5	37.20	27	35.30	APR 27	34.95	JUL 13	37.13		
DEC 16	36.15	FEB 25	35.82	MAY 24	36.27	AUG 5	37.55		
WATER YEAR 1993		HIGHEST	34.12	MAR 30, 1993		LOWEST	39.59	SEP 21, 1993	



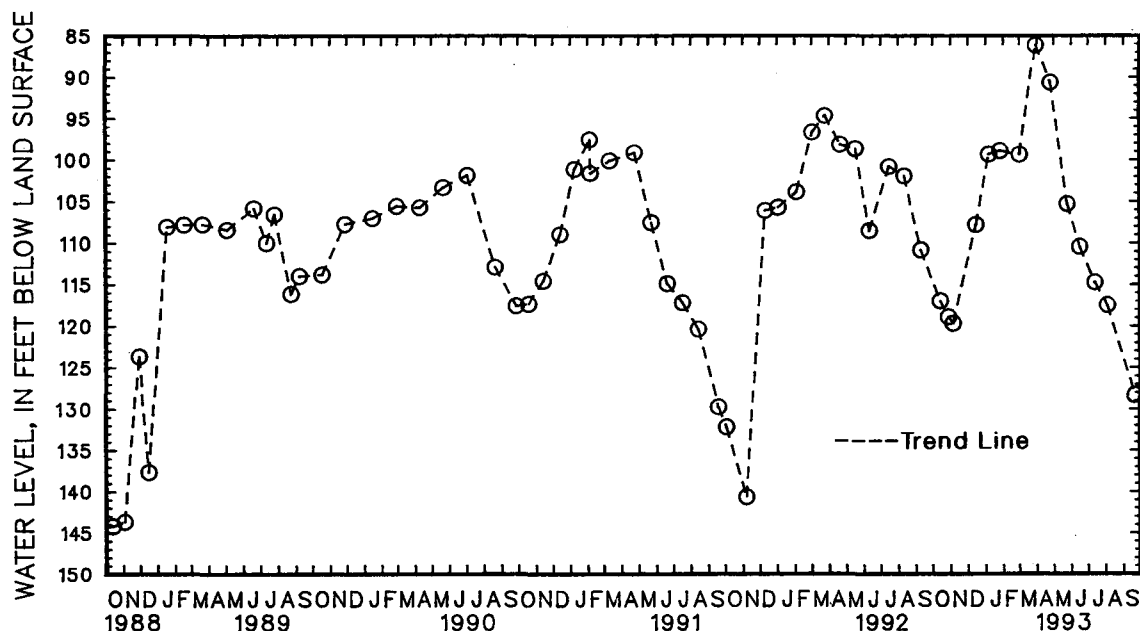
5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

**MARYLAND--Continued**

**GARRETT COUNTY--Continued**

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 14	117.03	DEC 15	107.80	MAR 2	99.34	MAY 25	105.37	AUG 4	117.54
28	118.96	JAN 7	99.32	30	86.13	JUN 16	110.51	SEP 21	128.35
NOV 5	119.74	27	98.90	APR 26	90.65	JUL 13	114.82		
WATER YEAR 1993		HIGHEST	86.13	MAR 30, 1993		LOWEST	128.35	SEP 21, 1993	



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

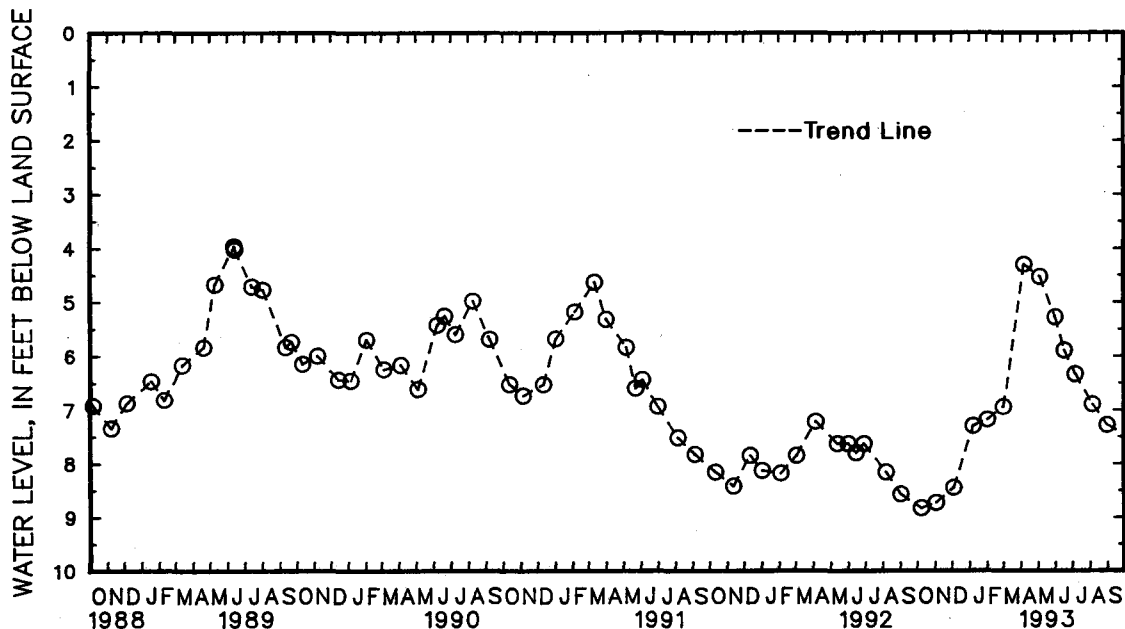
5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
HARFORD COUNTY--Continued

WELL NUMBER.--HA Ca 23. SITE ID.--393158076302601. PERMIT NUMBER.--HA-73-1630.  
LOCATION.--Lat 39°31'58", long 76°30'26", Hydrologic Unit 02060003, at Gunpowder State Park, Hess.  
Owner: U.S. Geological Survey.  
AQUIFER.--Loch Raven Schist of Paleozoic age. Aquifer code: 300LCRV.  
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 200 ft; casing diameter 6 in., to 24 ft;  
open hole.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
Equipped with graphic water-level recorder from July 10, 1974 to Sept. 13, 1976.  
DATUM.--Elevation of land surface is 470 ft above National Geodetic Vertical Datum of 1929,  
from topographic map.  
Measuring point: Top of casing, 1.60 ft above land surface.  
REMARKS.--Maryland Water-Level Network observation well.  
PERIOD OF RECORD.--July 1974 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.59 ft below land surface, Sept. 27, 1975;  
lowest measured, 9.03 ft below land surface, Dec. 15, 1981.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE		WATER LEVEL		DATE		WATER LEVEL		DATE		WATER LEVEL	
OCT	3	8.83	JAN	8	7.30	APR	7	4.30	JUN	17	5.90
NOV	8	8.73	FEB	2	7.18	MAY	5	4.53	JUL	6	6.34
DEC	4	8.45	MAR	2	6.95	JUN	1	5.28	AUG	5	6.90
WATER YEAR 1993			HIGHEST		4.30	APR 7, 1993		LOWEST		8.83	OCT 8, 1992



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

HARFORD COUNTY--Continued

WELL NUMBER.--HA Dd 89. SITE ID.--392529076180901. PERMIT NUMBER.--HA-81-4130.

LOCATION.--Lat 39°25'29", long 76°18'09", Hydrologic Unit 02060003, at Edgewood Elementary School on Cedar Drive, Edgewood.

Owner: Maryland Geological Survey.

AQUIFER.--Potomac Group of Lower Cretaceous age. Aquifer code: 271PTMC.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 150 ft; casing diameter 4 in., to 96 ft, 106 to 120 ft, and 130 to 150 ft (?); screen diameter 4 in. from 96 to 106 ft, and 120 to 130 ft.

INSTRUMENTATION.--Twice yearly measurements with chalked steel tape by U.S. Geological Survey personnel.

Equipped with digital water-level recorder--15-minute recorder interval from Jan. 1, 1988 to July 11, 1989.

DATUM.--Elevation of land surface is 99.05 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of recorder platform, 1.80 ft above land surface.

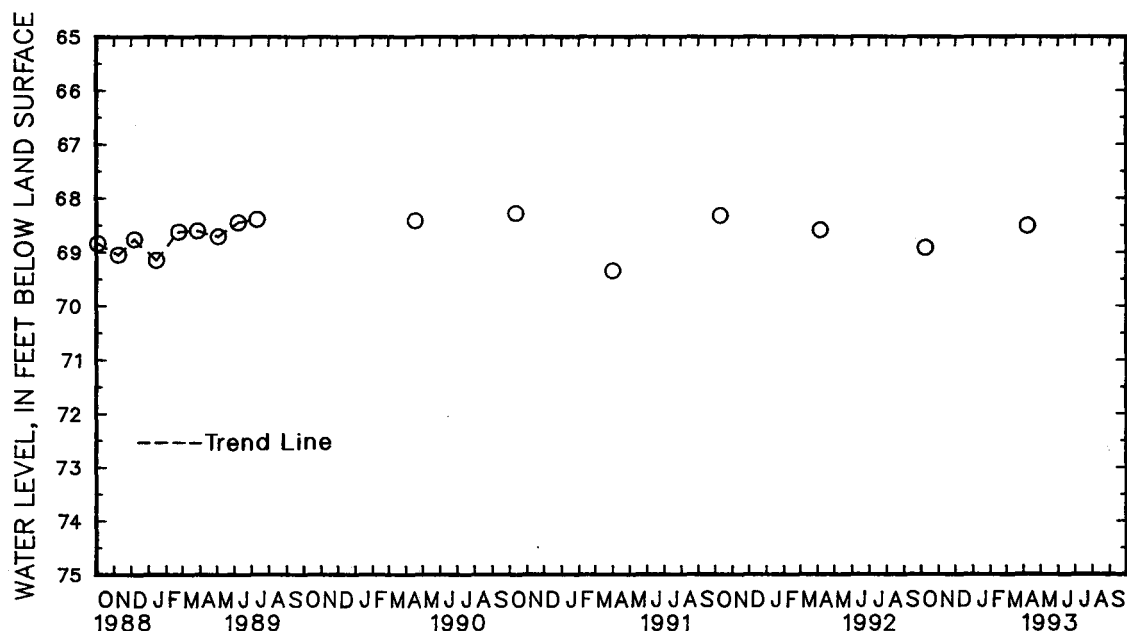
REMARKS.--Maryland Water-Level Network observation well.

PERIOD OF RECORD.--January 1988 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 68.29 ft below land surface, Oct. 12, 1990; lowest measured, 69.58 ft below land surface, Feb. 3, 1988

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 8	68.93	APR 8	68.52
WATER YEAR 1993      HIGHEST   68.52   APR 8, 1993      LOWEST   68.93   OCT 8, 1992			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993



## GROUND-WATER LEVELS

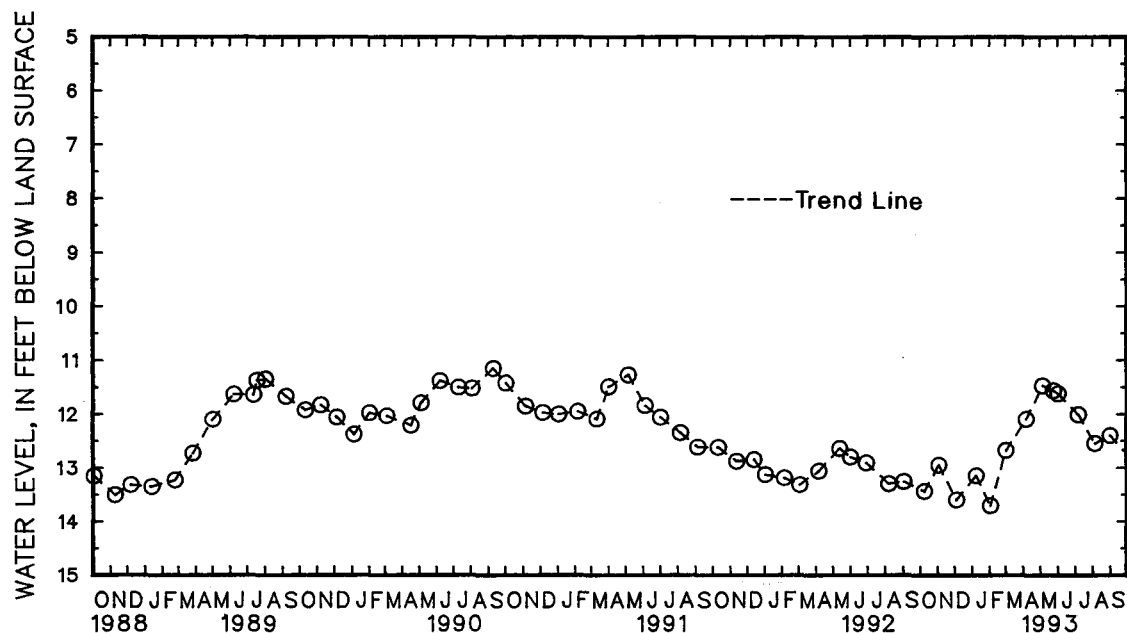
MARYLAND--Continued

HARFORD COUNTY--Continued

WELL NUMBER.--HA Dd 91. SITE ID.--392721076150301. PERMIT NUMBER.--HA-81-4136.  
LOCATION.--Lat 39°27'21", long 76°15'03", Hydrologic Unit 02060003, at William Longley Park,  
near intersection of Long Bar Harbor and Longley Rds., Long Bar Harbor.  
Owner: Maryland Geological Survey.  
AQUIFER.--Talbot Formation of Pleistocene age. Aquifer code: 112TLBT.  
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 78 ft; casing diameter 4 in., to 58 ft,  
and 68 to 78 ft; screen diameter 4 in. from 58 to 68 ft.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
DATUM.--Elevation of land surface is 19.73 ft above National Geodetic Vertical Datum of 1929.  
Measuring Point: Top of casing, 1.90 ft above land surface.  
REMARKS.--Maryland Water-Level Network observation well.  
PERIOD OF RECORD.--May 1988 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 11.15 ft below land surface, Sept. 10, 1990;  
lowest measured, 13.71 ft below land surface, Feb. 2, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE			WATER LEVEL			DATE			WATER LEVEL			DATE			WATER LEVEL			DATE			WATER LEVEL		
OCT	8	13.44	JAN	8	13.15	APR	7	12.09	JUN	1	11.62	SEP	1	12.40									
NOV	3	12.95	FEB	2	13.71	MAY	5	11.47	JUL	6	12.01												
DEC	4	13.60	MAR	2	12.68		24	11.56	AUG	5	12.55												
WATER YEAR 1993			HIGHEST			11.47			MAY 5, 1993			LOWEST			13.71			FEB 2, 1993					



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

HARFORD COUNTY--Continued

WELL NUMBER.--HA Dd 106. SITE ID.--392557076161601. PERMIT NUMBER.--HA-81-4522.

LOCATION.--Lat 39°25'57", long 76°16'16", Hydrologic Unit 02060003, 0.1 mi southeast from intersection with Freys and Willoughby Beach Rds, behind Willoughby Beach Swim Club, Edgewood.

Owner: U.S. Geological Survey.

AQUIFER.--Potomac Group of Lower Cretaceous age. Aquifer code: 217PTMC.

WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 210 ft; casing diameter 4 in., to 190 ft, and 200 to 210 ft; screen diameter 4 in. from 190 to 200 ft.

INSTRUMENTATION.--Twice yearly measurements with chalked steel tape by U.S. Geological Survey personnel.

Measured monthly from May 1988 to July 1989.

DATUM.--Elevation of land surface is 33.89 ft above National Geodetic Vertical Datum of 1929.

Measuring Point: Top of casing, 2.95 ft above land surface.

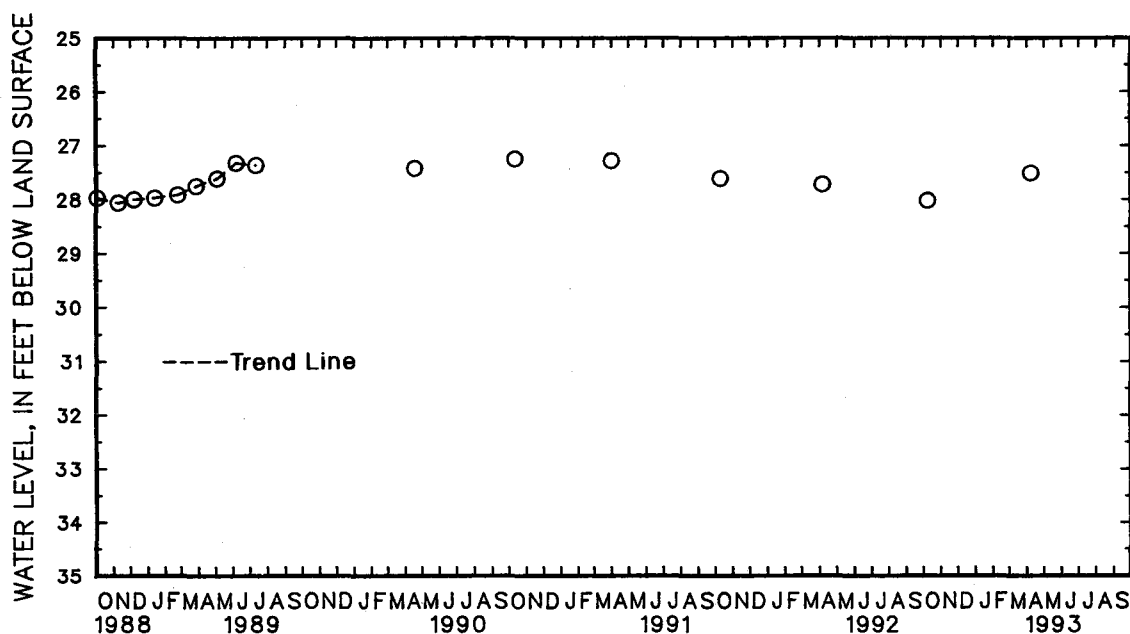
REMARKS.--Maryland Water-Level Network observation well.

PERIOD OF RECORD.--July 1988 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 27.25 ft below land surface, Oct. 12, 1990; lowest measured, 28.90 ft below land surface, Sept. 8, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 8	28.03	APR 8	27.52
WATER YEAR 1993      HIGHEST    27.52    APR 8, 1993      LOWEST    28.03    OCT 8, 1992			



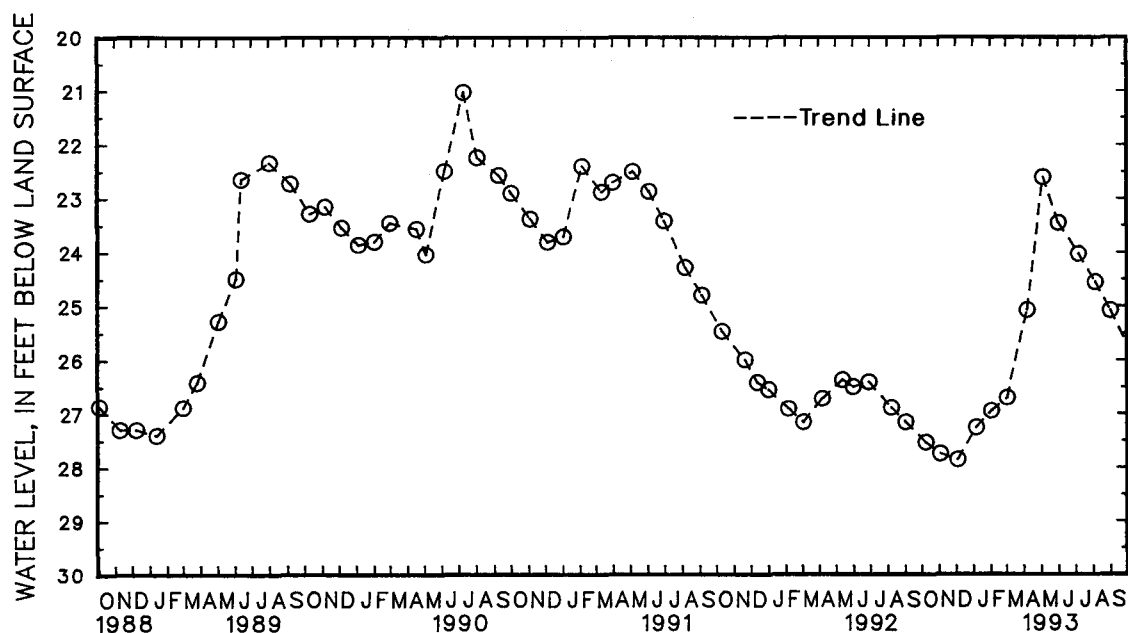
5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
HARFORD COUNTY--Continued

WELL NUMBER.--HA De 66. SITE ID.--392921076100401. PERMIT NUMBER.--HA-69-0394.  
LOCATION.--Lat 39°29'21", long 76°10'04", Hydrologic Unit 02060003, at Short Lane, near Aberdeen.  
Owner: Harford County Metropolitan Commission.  
AQUIFER.--Talbot Formation of Pleistocene age. Aquifer code: 112TLBT.  
WELL CHARACTERISTICS.--Drilled, unused, artesian well, depth 66 ft; casing diameter 4 in., to 45 ft; screen diameter 4 in. from 45 to 66 ft.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
Equipped with digital water-level recorder--60-minute recorder interval from Dec. 12, 1986 to July 11, 1989.  
DATUM.--Elevation of land surface is 67.75 ft above National Geodetic Vertical Datum of 1929.  
Measuring point: Top of casing, 1.61 ft above land surface.  
PERIOD OF RECORD.--October 1973 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 18.31 ft below land surface, July 28, 1975; lowest measured, 29.07 ft below land surface, Jan. 21, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 8	27.55	DEC 4	27.86	FEB 2	26.95	APR 7	25.07	JUN 1	23.45	AUG 5	24.56
NOV 3	27.75	JAN 6	27.26	MAR 2	26.70	MAY 5	22.60	JUL 6	24.03	SEP 1	25.09
WATER YEAR 1993		HIGHEST	22.60	MAY 5, 1993		LOWEST	27.86	DEC 4, 1992			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

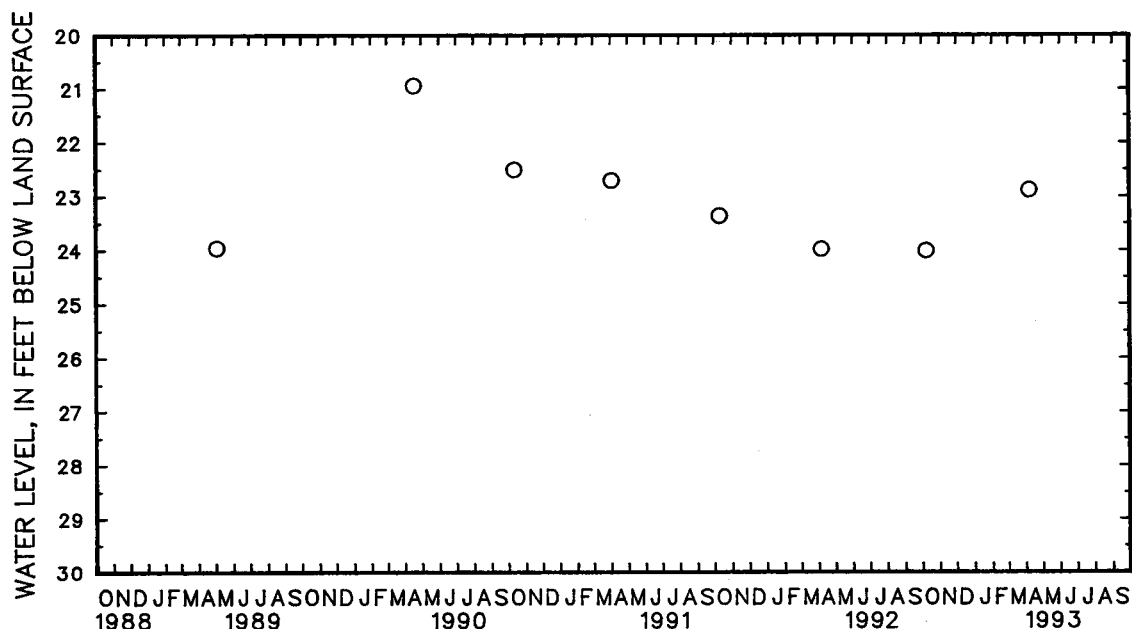
MARYLAND--Continued

HARFORD COUNTY--Continued

WELL NUMBER.--HA De 151. SITE ID.--392628076133101. PERMIT NUMBER.--HA-81-0952.  
 LOCATION.--Lat 39°26'28", long 76°13'31", Hydrologic Unit 02060003, 2.1 mi. south of Perryman,  
 0.5 mi. west of Chelsea Rd.  
 Owner: Baltimore Gas & Electric.  
 AQUIFER.--Potomac Group of Lower Cretaceous age. Aquifer code: 217PTMC.  
 WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 180 ft; casing diameter 4 in., to 168 ft,  
 and 178 to 180 ft (?); screen diameter 4 in. from 168 to 178 ft.  
 INSTRUMENTATION.--Twice yearly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 Equipped with digital water-level recorder--15-minute recorder interval from March 1, 1987 to July 11, 1989.  
 DATUM.--Elevation of land surface is 31.74 ft above National Geodetic Vertical Datum of 1929.  
 Measuring point: Top of casing, 3.45 ft above land surface.  
 REMARKS.--Maryland Water-Level Network observation well.  
 PERIOD OF RECORD.--August 1986, March 1987 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 20.94 ft below land surface, April 18, 1990;  
 lowest measured, 25.00 ft below land surface, Aug. 13, 1986.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER LEVEL YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 8	24.02	APR 7	22.89
WATER YEAR 1993      HIGHEST   22.89   APR 7, 1993      LOWEST   24.02   OCT 8, 1992			



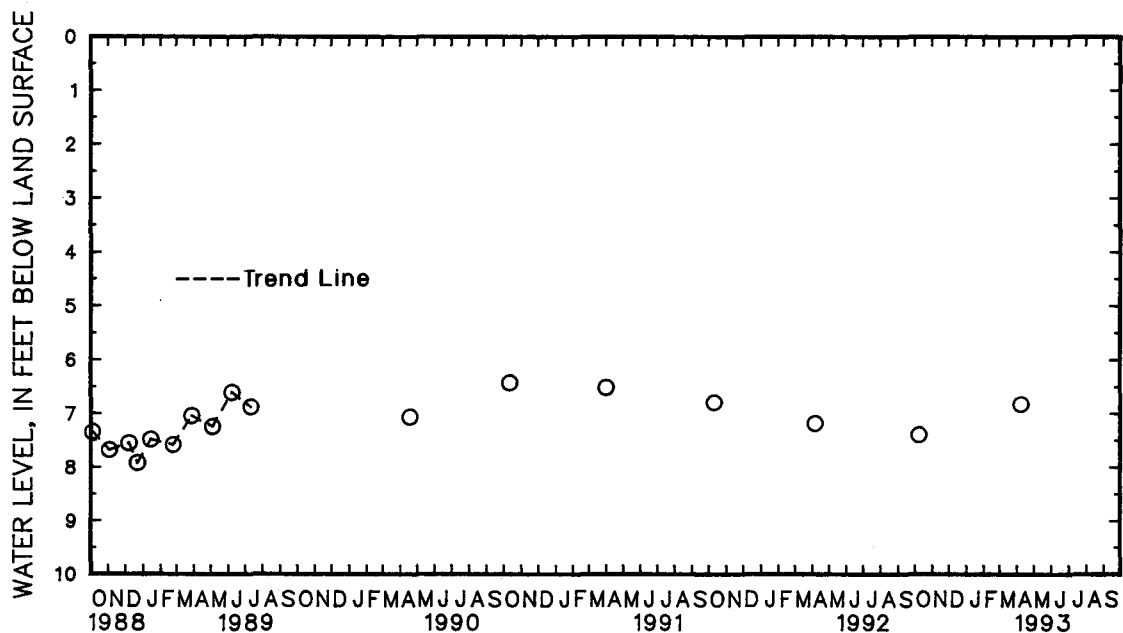
5 YEAR HYDROGRAPH  
 OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
HARFORD COUNTY--Continued

WELL NUMBER.--HA De 181. SITE ID.--392606076145801. PERMIT NUMBER.--HA-81-4134.  
LOCATION.--Lat 39°26'06", long 76°14'58", Hydrologic Unit 02060003, northeast end of Kennard Ave.,  
at Willoughby Beach, Crestwood.  
Owner: U.S. Geological Survey.  
AQUIFER.--Potomac Group of Lower Cretaceous age. Aquifer code: 217PTMC.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 290 ft; casing diameter 4 in., to 264 ft,  
269 to 275 ft, and 280 to 290 ft; screen diameter 4 in. from 264 to 269 ft, and 275 to 280 ft.  
INSTRUMENTATION.--Twice yearly measurements with chalked steel tape by U.S. Geological Survey personnel.  
Equipped with digital water-level recorder--15-minute recorder interval from May 24, 1988  
to July 11, 1989.  
DATUM.--Elevation of land surface is 12.22 ft above National Geodetic Vertical Datum of 1929.  
Measuring point: Top of casing, 2.10 ft above land surface.  
REMARKS.--Maryland Water-Level Network observation well.  
PERIOD OF RECORD.--May 1988 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.43 ft below land surface, Oct. 12 1990;  
lowest measured, 7.93 ft below land surface, Dec. 22, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER LEVEL YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 8	7.40	APR 8	6.83
WATER YEAR 1993      HIGHEST      6.83      APR 8, 1993      LOWEST      7.40      OCT 8, 1992			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

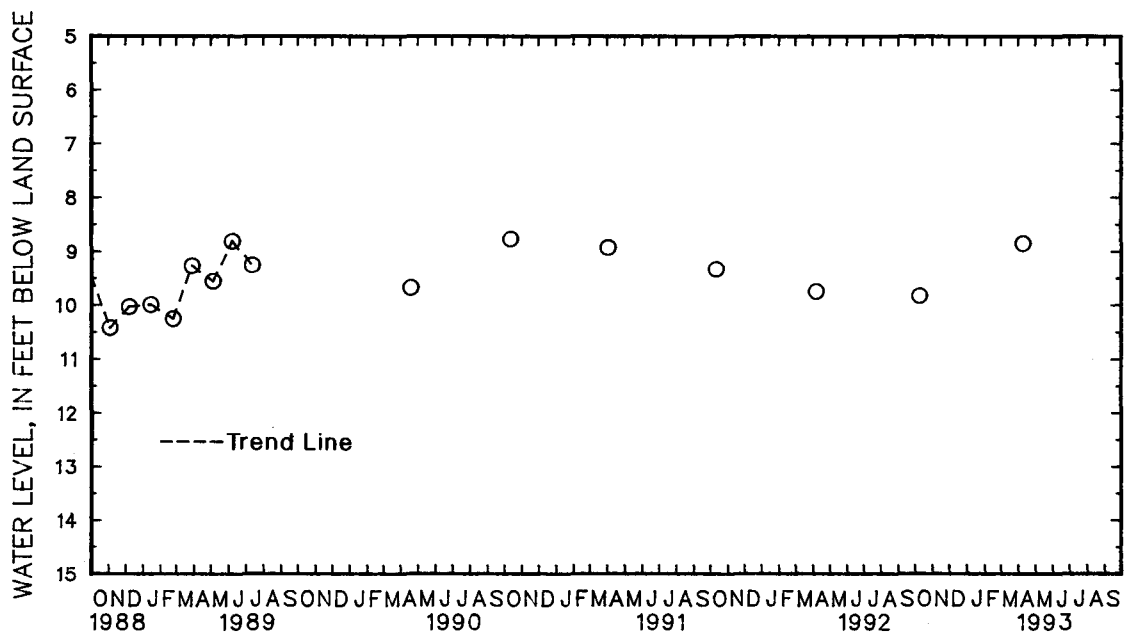


GROUND-WATER LEVELS  
MARYLAND--Continued  
HARFORD COUNTY--Continued

WELL NUMBER.--HA De 183. SITE ID.--392606076145803. PERMIT NUMBER.--HA-81-4577.  
LOCATION.--Lat 39°26'06", long 76°14'58", Hydrologic Unit 02060003, northeast end of Kennard Ave.,  
at Willoughby Beach, Crestwood.  
Owner: U.S. Geological Survey.  
AQUIFER.--Potomac Group of Lower Cretaceous age. Aquifer code: 217PTMC.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 175 ft; casing diameter 4 in., to 155 ft,  
and 165 to 175 ft; screen diameter 4 in. from 155 to 165 ft.  
INSTRUMENTATION.--Twice yearly measurements with chalked steel tape by U.S. Geological Survey personnel.  
Equipped with digital water-level recorder--15-minute recorder interval from May 24, 1988  
to July 11, 1989.  
DATUM.--Elevation of land surface is 12.53 ft above National Geodetic Vertical Datum of 1929.  
Measuring point: Top of casing, 2.54 ft above land surface.  
REMARKS.--Maryland Water-Level Network observation well.  
PERIOD OF RECORD.--May 1988 to July 1989, April 1990 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.77 ft below land surface, Oct. 12, 1990;  
lowest measured, 10.43 ft below land surface, Nov. 3, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 8	9.83	APR 8	8.85
WATER YEAR 1993      HIGHEST      8.85    APR 8, 1993      LOWEST      9.83    OCT 8, 1992			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993



## GROUND WATER LEVELS

MARYLAND--Continued

HARFORD COUNTY--Continued

WELL NUMBER.--HA De 195. SITE ID.--392914076110301. PERMIT NUMBER.--HA-81-4142.

LOCATION.--Lat 39°29'14", long 76°11'03", Hydrologic Unit 02060003, 0.2 mi east on Cranberry Run Dr., near Perryman.

Owner: U.S. Geological Survey.

**AQUIFER.--**Talbot Formation of Pleistocene age. Aquifer code: 112TBLT.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 55 ft; casing diameter 4 in., to 35 ft; and 45 to 55 ft; screen diameter 4 in. from 35 to 45 ft.

INSTRUMENTATION.--Twice yearly measurements with chalked steel tape by U.S. Geological Survey personnel. Measured monthly from May 1988 to July 1989.

DATUM.--Elevation of land surface is 52.70 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of casing, 1.53 ft above land surface.

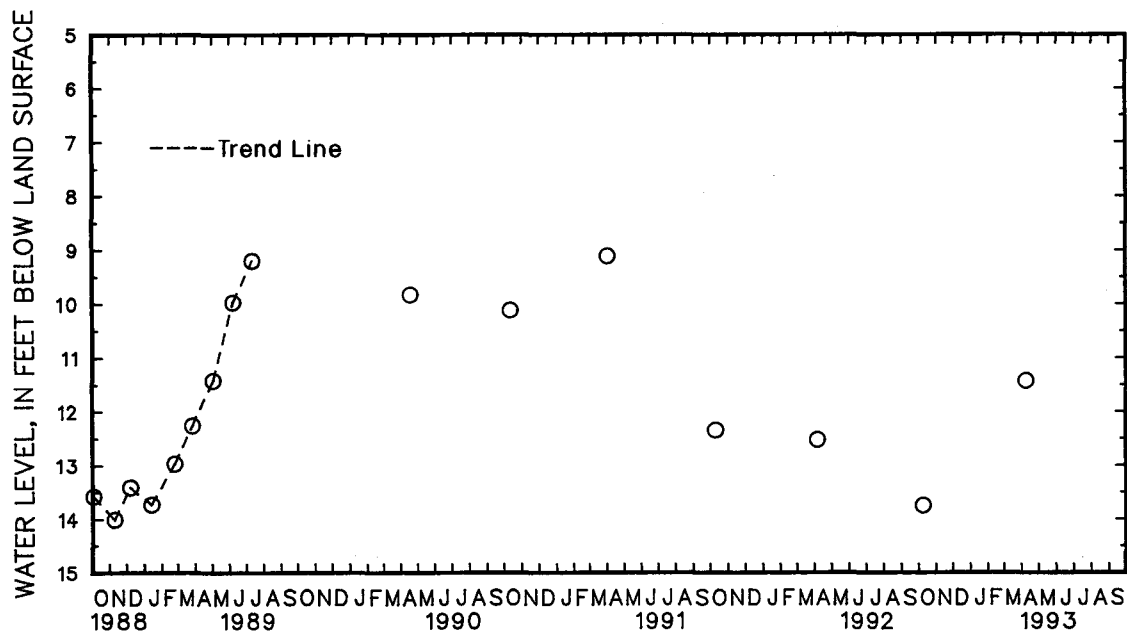
REMARKS.--Maryland Water-Level Network observation well.

PERIOD OF RECORD.--May 1988 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.11 ft below land surface, April 2, 1991;  
lowest measured, 14.01 ft below land surface, Nov. 9, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

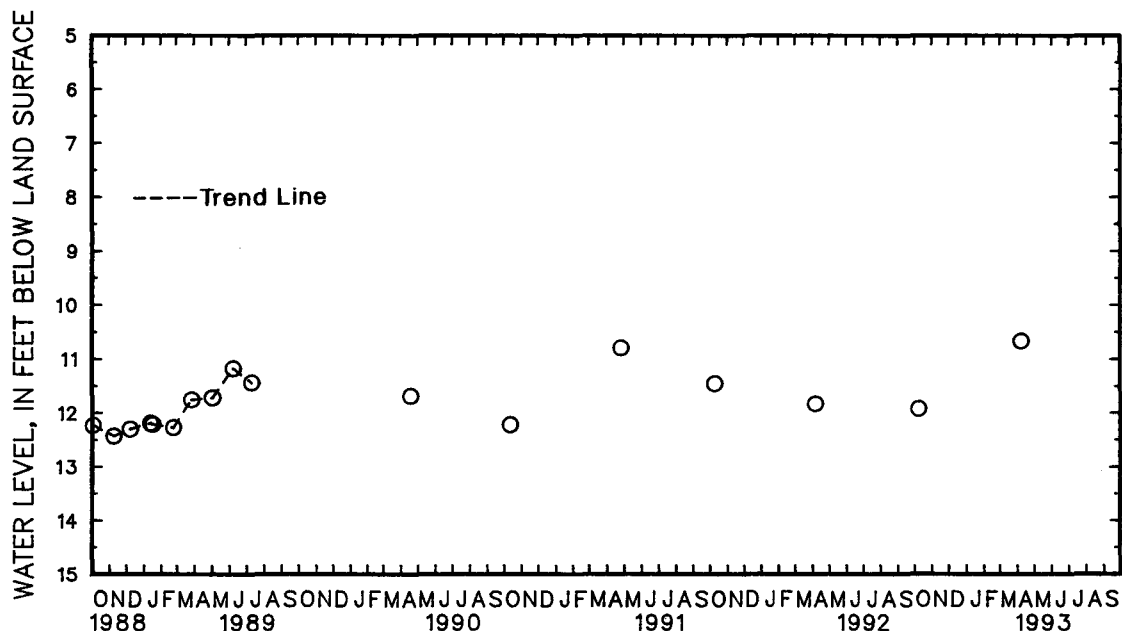
DATE	WATER LEVEL	DATE	WATER LEVEL				
OCT 8	13.75	APR 8	11.42				
WATER YEAR 1993		HIGHEST	11.42	APR 8, 1993	LOWEST	13.75	OCT 8, 1992



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

WELL NUMBER.--HA De 197. SITE ID.--392819076130901. PERMIT NUMBER.--HA-81-4140.  
LOCATION.--Lat 39°28'19", long 76°13'09", Hydrologic Unit 02060003, northwest end of Fords Lane, Perryman.  
Owner: U.S. Geological Survey.  
AQUIFER.--Potomac Group of Lower Cretaceous age. Aquifer code: 217PTMC.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 85 ft; casing diameter 4 in., to 75 ft;  
screen diameter 4 in. from 75 to 85 ft.  
INSTRUMENTATION.--Twice yearly measurements with chalked steel tape by U.S. Geological Survey personnel.  
Equipped with digital water-level recorder--15-minute recorder interval from Jan. 17, 1989 to July 11, 1989.  
DATUM.--Elevation of land surface is 19.08 ft above National Geodetic Vertical Datum of 1929.  
Measuring Point: Top of casing, 1.88 ft above land surface.  
REMARKS.--Maryland Water-Level Network observation well.  
PERIOD OF RECORD.--May 1988 to July 1989.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.67 ft below land surface, April 8, 1993;  
lowest measured, 12.44 ft below land surface, Nov. 9, 1988.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 8	11.93	APR 8	10.67
WATER YEAR 1993		HIGHEST	10.67 APR 8, 1993
		LOWEST	11.93 OCT 8, 1992



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND WATER LEVELS

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## MARYLAND--Continued

## HARFORD COUNTY--Continued

WELL NUMBER.--HA De 198. SITE ID.--392819076130902. PERMIT NUMBER.--HA-81-4141.  
 LOCATION.--Lat 39°28'19", long 76°13'09", Hydrologic Unit 02060003, northwest end of Fords Lane, Perryman.  
 Owner: Maryland Geological Survey.  
 AQUIFER.--Talbot Formation of Pleistocene age. Aquifer code: 112TLBT.  
 WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 19 ft; casing diameter 4 in., to 9 ft;  
 screen diameter 4 in. from 9 to 19 ft.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 Equipped with digital water-level recorder--30-minute recorder interval from Jan. 3, 1991 to current year.  
 Measured monthly from July 1988 to July 1989.  
 DATUM.--Elevation of land surface is 18.92 ft above National Geodetic Vertical Datum of 1929.  
 Measuring Point: Top of casing, 1.50 ft above land surface.  
 REMARKS.--Maryland Water-Level Network observation well.  
 PERIOD OF RECORD.--May 1988 to August 1989, July 1991 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 13.75 ft above sea level, April 17, 1993;  
 lowest measured, 8.92 ft above sea level, Nov. 2 and 3, 1992.

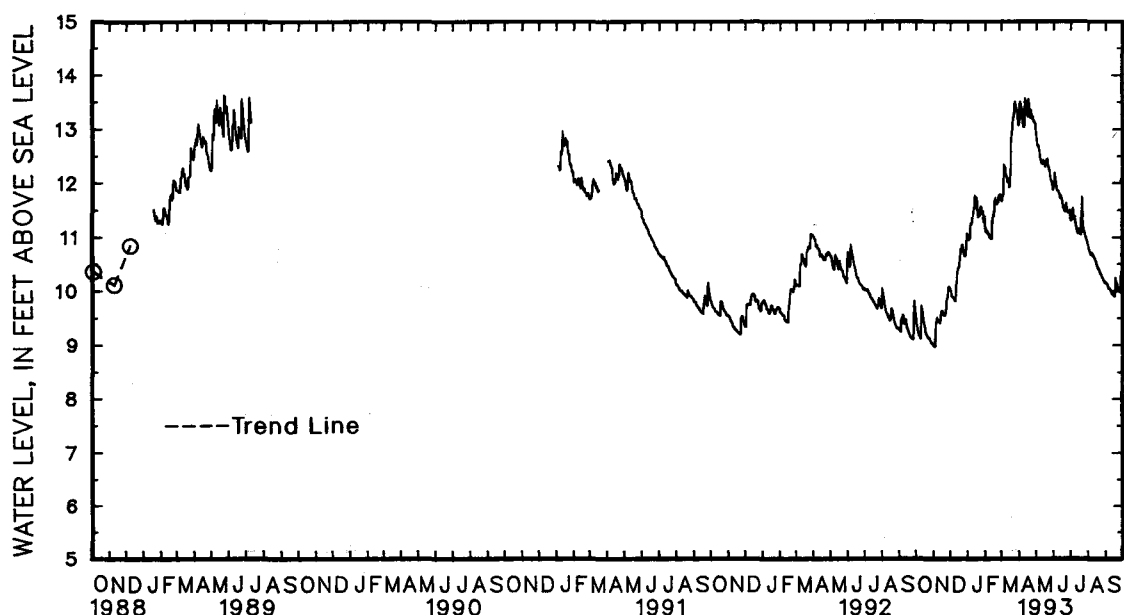
## WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	9.53	9.43	8.94	8.93	10.03	9.99	11.08	10.97	11.37	11.15	11.72	11.66
2	9.43	9.33	8.93	8.92	9.99	9.97	10.97	10.95	11.15	11.08	11.80	11.72
3	9.33	9.26	9.54	8.92	9.97	9.88	10.96	10.95	11.22	11.11	11.80	11.77
4	9.26	9.20	9.37	9.22	9.92	9.87	10.98	10.96	11.21	11.09	12.52	11.80
5	9.20	9.14	9.41	9.37	9.93	9.86	11.21	10.98	11.17	11.09	12.45	12.35
6	9.14	9.12	9.48	9.41	9.87	9.85	11.32	11.21	11.17	11.04	12.40	12.31
7	9.12	9.11	9.48	9.48	9.87	9.85	11.30	11.26	11.09	11.04	12.34	12.30
8	9.11	9.07	9.48	9.45	9.85	9.80	11.29	11.24	11.10	11.01	12.38	12.25
9	9.81	9.08	9.45	9.41	9.80	9.79	11.46	11.27	11.01	10.97	12.25	12.13
10	10.08	9.70	9.41	9.39	10.09	9.79	11.54	11.46	11.00	10.97	12.32	12.11
11	9.70	9.65	9.39	9.38	10.16	10.09	11.55	11.53	11.00	10.95	12.30	12.01
12	9.65	9.58	9.43	9.37	10.31	10.14	11.76	11.54	11.23	10.95	12.07	12.00
13	9.58	9.49	9.66	9.43	10.37	10.31	11.89	11.76	11.47	11.23	12.73	12.07
14	9.49	9.40	9.60	9.55	10.42	10.37	11.78	11.71	11.48	11.41	12.48	11.91
15	9.40	9.33	9.62	9.60	10.45	10.42	11.75	11.73	11.44	11.37	12.15	11.94
16	9.33	9.32	9.60	9.59	10.45	10.44	11.75	11.71	11.79	11.43	12.32	12.15
17	9.32	9.21	9.62	9.59	10.56	10.44	11.73	11.51	11.79	11.67	13.02	12.32
18	9.21	9.19	9.60	9.55	10.67	10.56	11.51	11.38	11.79	11.72	12.94	12.84
19	9.19	9.14	9.55	9.52	10.80	10.67	11.39	11.36	11.72	11.67	13.00	12.90
20	9.14	9.12	9.52	9.51	10.84	10.77	11.43	11.37	11.70	11.62	13.17	13.00
21	9.12	9.10	9.55	9.51	10.86	10.77	11.50	11.39	11.72	11.60	13.25	13.17
22	9.10	9.09	9.62	9.55	10.88	10.85	11.61	11.50	11.72	11.64	13.30	13.23
23	9.09	9.08	9.80	9.62	10.86	10.84	11.61	11.55	11.77	11.64	13.51	13.28
24	9.09	9.08	9.84	9.80	10.86	10.72	11.69	11.55	11.78	11.76	13.72	13.51
25	9.08	9.05	9.88	9.84	10.82	10.72	11.55	11.42	11.78	11.72	13.57	13.49
26	9.05	9.03	10.00	9.88	10.82	10.64	11.56	11.44	11.80	11.78	13.49	13.41
27	9.03	9.00	10.08	10.00	10.65	10.63	11.59	11.47	11.79	11.71	13.41	13.36
28	9.00	8.99	10.08	10.07	10.76	10.65	11.49	11.39	11.71	11.68	13.42	13.34
29	8.99	8.98	10.07	10.05	10.97	10.76	11.49	11.27	---	---	13.34	13.30
30	8.98	8.96	10.05	10.03	11.07	10.97	11.36	11.27	---	---	13.30	13.09
31	8.96	8.94	---	---	11.09	11.07	11.50	11.36	---	---	13.12	13.06
MONTH	10.08	8.94	10.08	8.92	11.09	9.79	11.89	10.95	11.80	10.95	13.72	11.66

GROUND-WATER LEVELS  
MARYLAND--Continued  
HARFORD COUNTY--Continued  
HA De 198--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	13.50	13.12	12.94	12.85	12.40	11.92	11.33	11.28	10.84	10.79	10.12	10.10
2	13.57	13.50	12.85	12.72	12.33	12.18	11.44	11.28	10.79	10.74	10.10	10.09
3	13.57	13.51	12.73	12.67	12.18	12.10	11.58	11.44	10.74	10.71	10.09	10.09
4	13.51	13.44	12.72	12.69	12.10	12.01	11.58	11.51	10.71	10.69	10.09	10.07
5	13.44	13.36	12.71	12.66	12.01	11.93	11.51	11.38	10.69	10.64	10.07	10.03
6	13.36	13.21	12.66	12.58	11.93	11.85	11.38	11.31	10.66	10.63	10.03	10.01
7	13.21	13.12	12.58	12.47	11.85	11.84	11.44	11.30	10.69	10.66	10.01	10.00
8	13.12	13.04	12.49	12.43	11.85	11.82	11.43	11.34	10.69	10.66	10.00	9.99
9	13.09	13.03	12.47	12.38	11.82	11.80	11.34	11.27	10.66	10.62	9.99	9.98
10	13.65	13.09	12.38	12.35	11.80	11.76	11.27	11.21	10.62	10.60	9.98	9.95
11	13.68	13.57	12.44	12.35	11.76	11.70	11.21	11.16	10.60	10.58	9.95	9.92
12	13.69	13.53	12.42	12.34	11.76	11.75	11.16	11.10	10.58	10.56	9.92	9.90
13	13.53	13.42	12.48	12.41	11.75	11.71	11.10	11.05	10.56	10.53	9.91	9.90
14	13.42	13.32	12.45	12.39	11.71	11.69	11.05	11.03	10.53	10.51	9.90	9.88
15	13.32	13.27	12.39	12.35	11.69	11.63	11.21	11.05	10.51	10.46	9.88	9.87
16	13.69	13.23	12.35	12.29	11.63	11.56	11.21	11.12	10.46	10.44	9.87	9.86
17	13.75	13.55	12.37	12.31	11.56	11.52	11.12	11.06	10.44	10.42	10.39	9.86
18	13.55	13.47	12.41	12.33	11.52	11.51	11.06	11.02	10.42	10.38	10.27	10.21
19	13.47	13.35	12.45	12.41	11.51	11.46	12.74	11.02	10.38	10.37	10.23	10.14
20	13.35	13.27	12.45	12.43	11.46	11.44	12.50	11.73	10.37	10.36	10.14	10.09
21	13.34	13.20	12.44	12.36	11.60	11.44	11.73	11.45	10.36	10.32	10.09	10.05
22	13.56	13.34	12.36	12.28	11.73	11.60	11.45	11.28	10.32	10.29	10.05	10.00
23	13.56	13.25	12.28	12.24	11.63	11.50	11.28	11.16	10.29	10.28	10.00	9.99
24	13.26	13.20	12.24	12.20	11.50	11.45	11.16	11.10	10.28	10.26	9.99	9.95
25	13.28	13.22	12.20	12.10	11.45	11.43	11.10	11.05	10.26	10.22	9.95	9.94
26	13.24	13.14	12.10	12.04	11.44	11.42	11.05	11.04	10.22	10.20	10.03	9.94
27	13.19	13.14	12.04	12.00	11.53	11.44	11.04	10.99	10.20	10.19	10.88	10.03
28	13.18	13.11	12.01	12.00	11.53	11.46	10.99	10.96	10.19	10.16	10.54	10.32
29	13.18	13.09	12.00	11.88	11.46	11.38	10.96	10.93	10.16	10.14	10.32	10.27
30	13.09	12.94	11.90	11.85	11.38	11.33	10.93	10.89	10.14	10.12	10.27	10.19
31	---	---	11.94	11.90	---	---	10.89	10.84	10.12	10.12	---	---
MONTH	13.75	12.94	12.94	11.85	12.40	11.33	12.74	10.84	10.84	10.12	10.88	9.86
YEAR	13.75	8.92										

Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

## MARYLAND--Continued

## HARFORD COUNTY--Continued

WELL NUMBER.--HA Ec 11. SITE ID.--392435076203301. PERMIT NUMBER.--HA-04-7211.

LOCATION.--Lat 39°24'35", Long 76°20'33", Hydrologic Unit 02060003, off Trimble Rd., Joppatowne.

Owner: Joppatowne Utilities Corp.

AQUIFER.--Patuxent Formation of Lower Cretaceous age. Aquifer code: 217PTXN.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 68 ft; diameter of casing 6 in., to 63 ft; screen diameter 2 in. from 63 to 68 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

Equipped with water-level recorder from May 23, 1962 to Dec. 17, 1983.

DATUM.--Elevation of land surface is 11.7 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of casing, 3.50 ft above land surface.

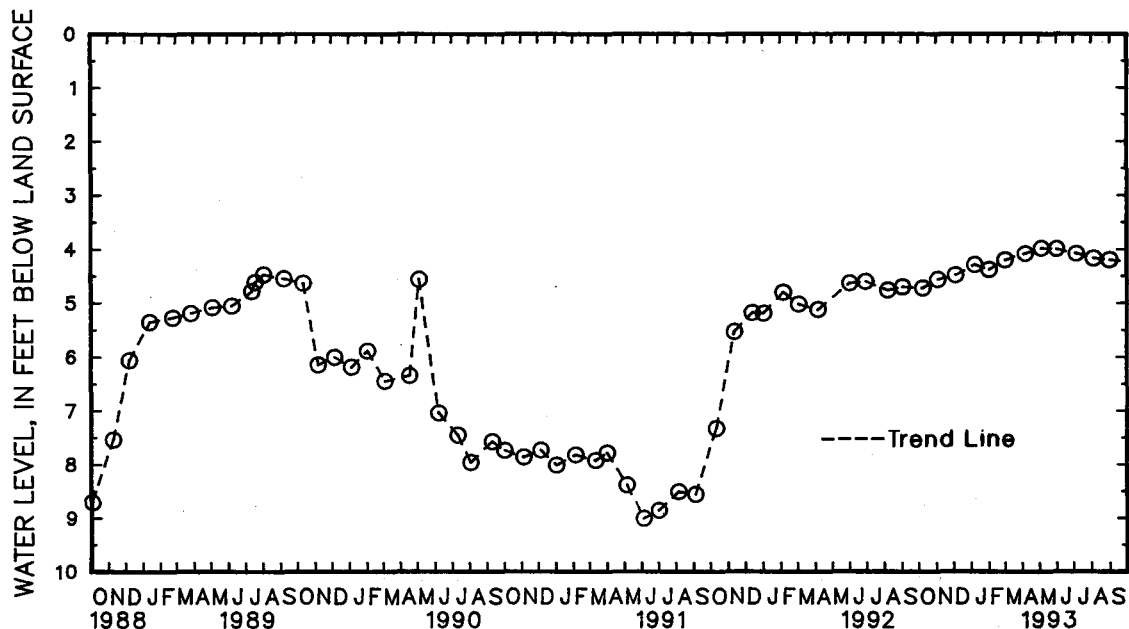
REMARKS.--Maryland Water-Level Network observation well.

PERIOD OF RECORD.--May 1962 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, at land surface, May 24, 1962;  
lowest measured, 12.80 ft below land surface, May 26, 1972.

## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 8	4.72	DEC 4	4.47	FEB 2	4.38	APR 7	4.08	JUN 1	3.98	AUG 5	4.17
NOV 3	4.56	JAN 8	4.29	MAR 2	4.20	MAY 5	3.98	JUL 6	4.08	SEP 1	4.20
WATER YEAR 1993		HIGHEST	3.98	MAY 5, 1993	JUN 1, 1993	LOWEST		4.72	OCT 8, 1992		



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993



## GROUND-WATER LEVELS

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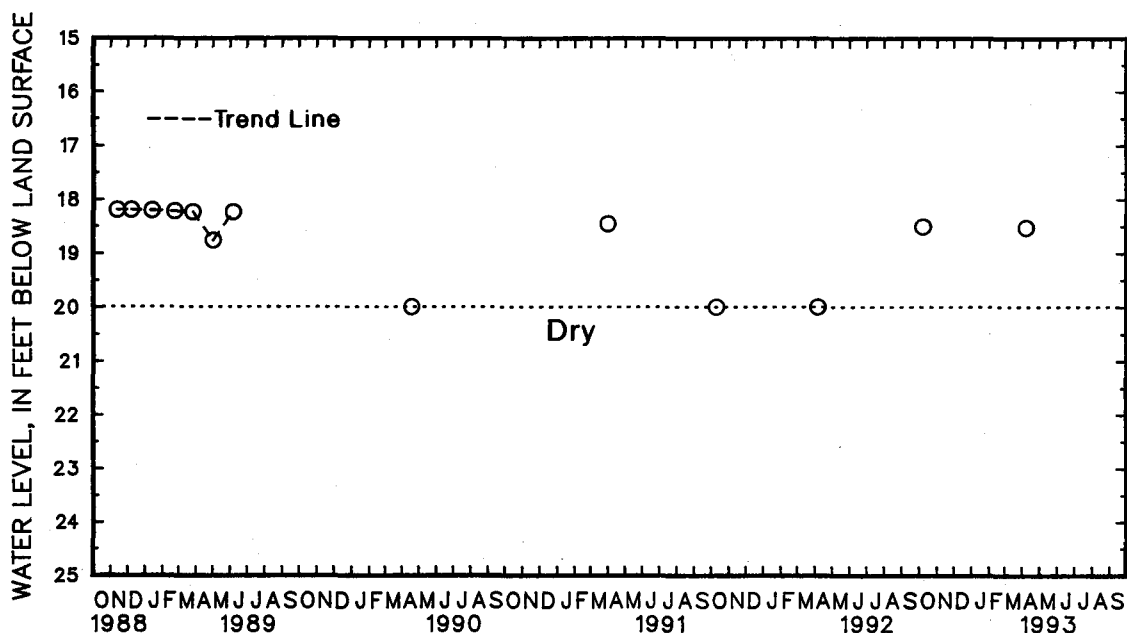
MARYLAND--Continued

HARFORD COUNTY--Continued

WELL NUMBER.--HA Ec 47. SITE ID.--392408076210102. PERMIT NUMBER.--HA-81-4125.  
 LOCATION.--Lat 39°24'08", long 76°21'01", Hydrologic Unit 02060003, in park on Kearney Dr., Joppatowne.  
 Owner: U.S. Geological Survey.  
 AQUIFER.--Potomac Group of Lower Cretaceous age. Aquifer code: 217PTMC.  
 WELL CHARACTERISTICS.--Drilled, observation well, depth 20 ft; casing diameter 4 in., to 3 ft,  
 and 13 to 20 ft; screen diameter 4 in. from 3 to 13 ft.  
 INSTRUMENTATION.--Measured twice yearly with chalked steel tape by U.S. Geological Survey personnel.  
 Measured monthly from May 1988 to June 1989.  
 DATUM.--Elevation of land surface is 23.30 ft above National Geodetic Vertical Datum of 1929,  
 from topographic map.  
 Measuring point: Top of casing, 2.15 ft above land surface.  
 REMARKS.--Maryland Water-Level Network observation well.  
 PERIOD OF RECORD.--May 1988 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 18.16 ft below land surface, July 14, 1988;  
 lowest measured, dry, on April 4, 1990, Oct. 10, 1991, and April 6, 1992.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 8	18.50	APR 8	18.52
WATER YEAR 1993      HIGHEST 18.50    OCT 8, 1992      LOWEST 18.52    APR 8, 1993			



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

HARFORD COUNTY--Continued

WELL NUMBER.--HA Ed 24. SITE ID.--392343076161901.

LOCATION.--Lat 39°23'43", long 76°16'19", Hydrologic Unit 02060003, at Bush River Rd. and 29th St., about 2 mi southeast of Edgewood.

Owner: U.S. Army.

AQUIFER.--Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSC.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 135 ft; casing diameter 18 in., to 73 ft; casing diameter 10 in. from 65 to 120 ft; screen diameter 10 in. from 120 to 135 ft.

INSTRUMENTATION.--Periodic measurements with chalked steel tape by U.S. Geological Survey personnel.

Equipped with graphic water-level recorder from Jan. 24, 1950, to June 6, 1961.

DATUM.--Elevation of land surface is 12.8 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of casing, 1.15 ft above land surface.

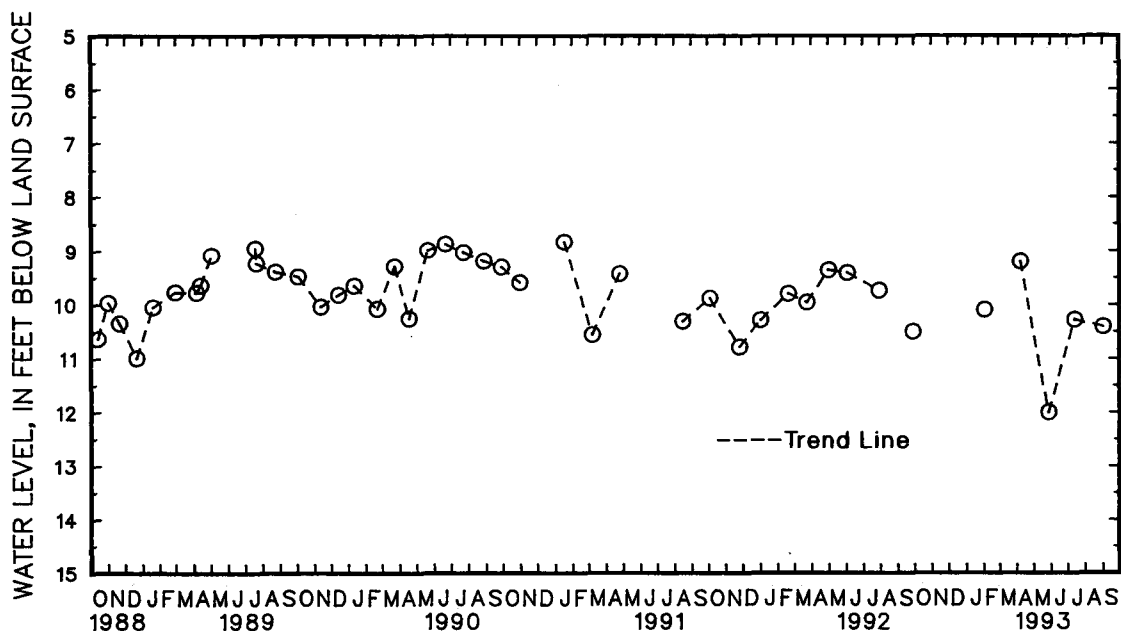
REMARKS.--Maryland Water-Level Network observation well. Water level measured, 8.24 ft below land surface, April 13, 1944.

PERIOD OF RECORD.-- September 1949, January 1950 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.41 ft below land surface, Sept. 17, 1984; lowest measured, 42.55 ft below land surface, June 26, 1955.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
FEB 3	10.10	APR 8	9.20	MAY 28	12.01	JUL 14	10.28	SEP 2	10.41
WATER YEAR 1993		HIGHEST	9.20	APR 8, 1993		LOWEST	12.01	MAY 28, 1993	



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

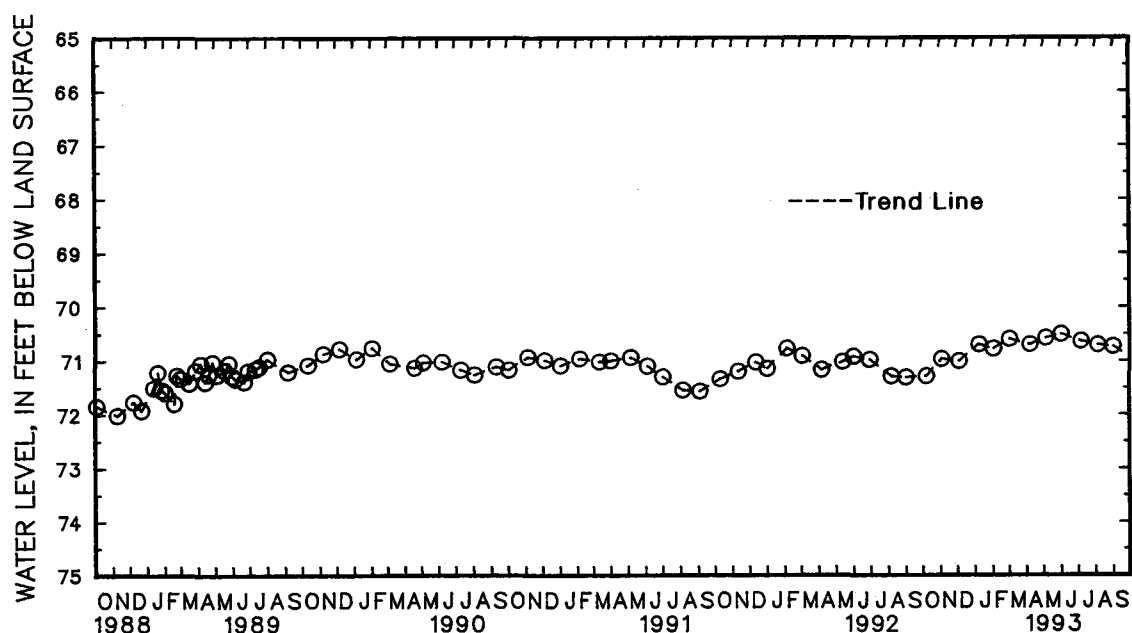


GROUND-WATER LEVELS  
MARYLAND--Continued  
HARFORD COUNTY--Continued

WELL NUMBER.--HA Ed 47. SITE ID.--392455076192101. PERMIT NUMBER.--HA-81-4128.  
LOCATION.--Lat 39°24'55", long 76°19'21", Hydrologic Unit 02060003, 0.2 mi east of intersection of MD Rt. 152 and Trimble Rd., Edgewood Park.  
Owner: U.S. Geological Survey.  
AQUIFER.--Potomac Group of Lower Cretaceous age. Aquifer code: 217PTMC.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 210 ft; casing diameter 4 in., to 190 ft, and 200 to 210 ft; screen diameter 4 in. from 190 to 200 ft.  
INSTRUMENTATION.--Monthly measurement with chalked steel tape by U.S. Geological Survey personnel.  
DATUM.--Elevation of land surface is 90.50 ft above National Geodetic Vertical Datum of 1929.  
Measuring point: Top of casing, 2.36 ft above land surface.  
REMARKS.--Maryland Water-Level Network observation well.  
PERIOD OF RECORD.--May 1988 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 70.51 ft below land surface, June 1, 1993; lowest measured, 72.02 ft below land surface, Nov. 9, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 8	71.29	DEC 4	71.01	FEB 2	70.78	APR 7	70.70	JUN 1	70.51	AUG 5	70.71
NOV 3	70.97	JAN 8	70.70	MAR 2	70.60	MAY 5	70.58	JUL 6	70.64	SEP 1	70.74
WATER YEAR 1993		HIGHEST	70.51	JUN 1, 1993	LOWEST	71.29	OCT 8, 1992				



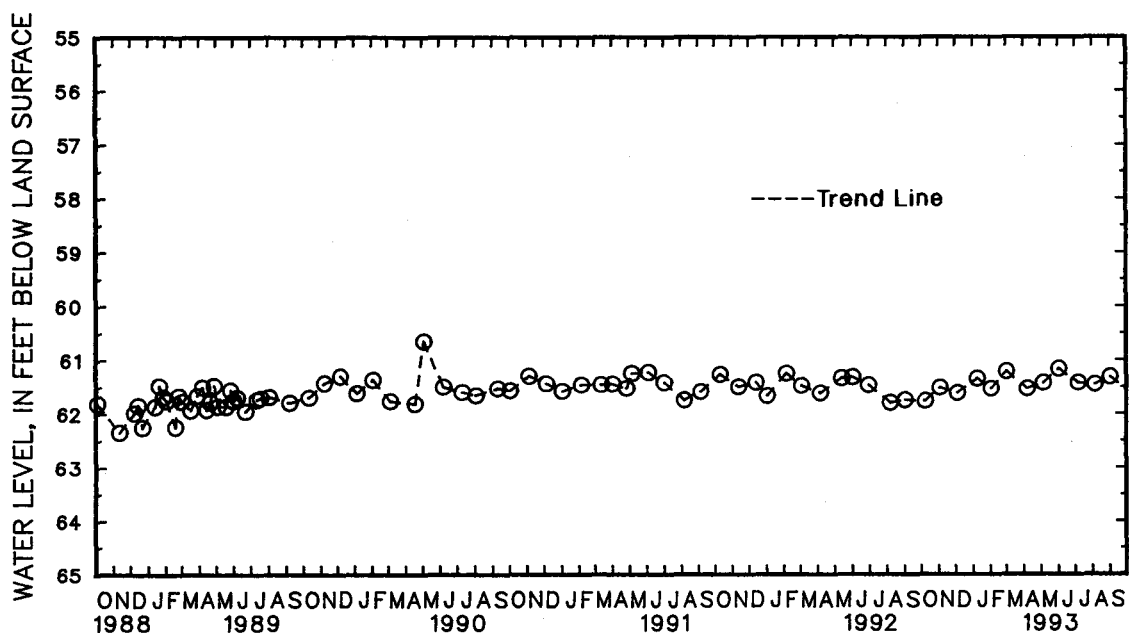
5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
HARFORD COUNTY--Continued

WELL NUMBER.--HA Ed 48. SITE ID.--392455076192102. PERMIT NUMBER.--HA-81-4178.  
LOCATION.--Lat 39°24'55", long 76°19'21", Hydrologic Unit 02060003, 0.2 mi east of intersection of MD Rt. 152 and Trimble Rd., Edgewood Park.  
Owner: U.S. Geological Survey.  
AQUIFER.--Potomac Group of Lower Cretaceous age. Aquifer code: 217PTMC.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 133 ft; casing diameter 4 in., to 118 ft, and 128 to 133 ft; screen diameter 4 in. from 118 to 128 ft.  
INSTRUMENTATION.--Monthly measurement with chalked steel tape by U.S. Geological Survey personnel.  
DATUM.--Elevation of land surface is 91.20 ft above National Geodetic Vertical Datum of 1929.  
Measuring point: Top of PVC casing, 2.58 ft above land surface.  
REMARKS.--Maryland Water-Level Network observation well.  
PERIOD OF RECORD.--May 1988 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 60.65 ft below land surface, May 4, 1990; lowest measured, 63.00 ft below land surface, May 12, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 8	61.77	DEC 4	61.62	FEB 2	61.54	APR 7	61.54	JUN 1	61.17	AUG 5	61.46
NOV 3	61.52	JAN 8	61.35	MAR 2	61.22	MAY 5	61.43	JUL 6	61.44	SEP 1	61.32
WATER YEAR 1993		HIGHEST	61.17	JUN 1, 1993	LOWEST	61.77	OCT 8, 1992				



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

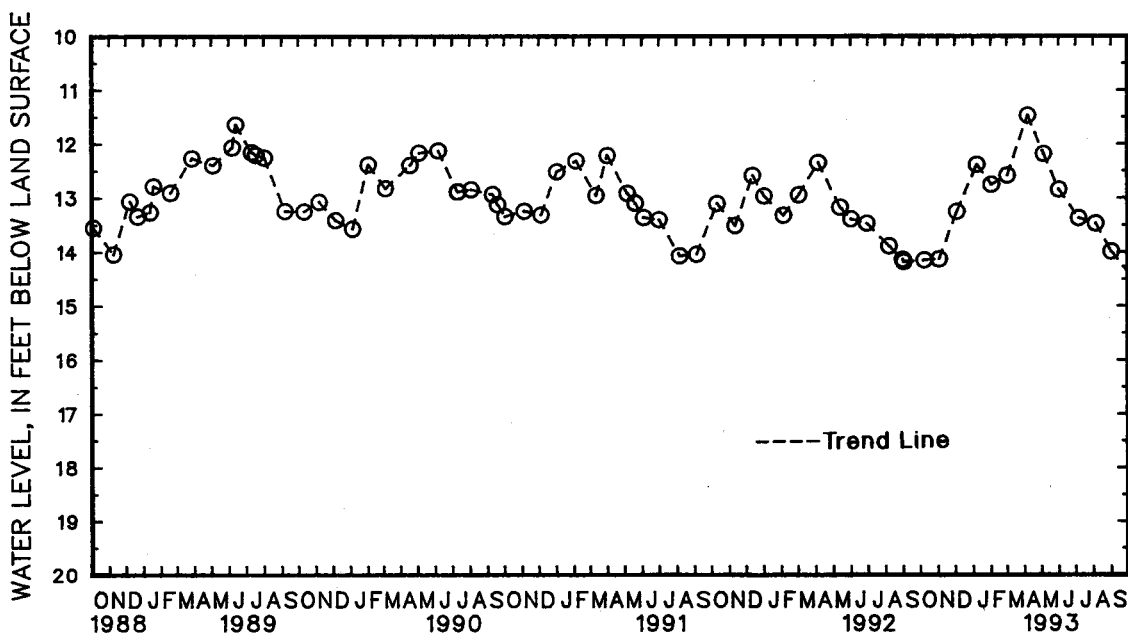
HARFORD COUNTY--Continued

WELL NUMBER.--HA Ed 49. SITE ID.--392455076192103. PERMIT NUMBER.--HA-81-4129.  
 LOCATION.--Lat 39°24'55", long 76°19'21", Hydrologic Unit 02060003, 0.2 mi east of the intersection of MD Rt. 152 and Trimble Rd., Edgewood Park.  
 Owner: U.S. Geological Survey.  
 AQUIFER.--Talbot Formation of Pleistocene age. Aquifer code: 112TLBT.  
 WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 28 ft; casing diameter 4 in., to 13 ft, and 23 to 28 ft; screen diameter 4 in. from 13 to 23 ft.  
 INSTRUMENTATION.--Monthly measurement with chalked steel tape by U.S. Geological Survey personnel.  
 Equipped with digital water-level recorder--15-minute recorder interval from June 3, 1988 to July 11, 1989.  
 DATUM.--Elevation of land surface is 91.89 ft above National Geodetic Vertical Datum of 1929.  
 Measuring point: Top of recorder shelf, 2.19 ft above land surface.  
 REMARKS.--Maryland Water-Level Network observation well.  
 PERIOD OF RECORD.--May 1988 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 11.47 ft below land surface, April 7, 1993;  
 lowest measured, 14.19 ft below land surface, Sept. 2, 1992.

## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 8	14.16	DEC 4	13.26	FEB 2	12.76	APR 7	11.47	JUN 1	12.85	AUG 5	13.48
NOV 3	14.14	JAN 8	12.39	MAR 2	12.59	MAY 5	12.19	JUL 6	13.38	SEP 1	14.00

WATER YEAR 1993      HIGHEST    11.47    APR 7, 1993      LOWEST    14.16    OCT 8, 1992



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

HARFORD COUNTY--Continued

WELL NUMBER.--HA Ed 59. SITE ID.--392035076172203. PERMIT NUMBER.--HA-81-2985.

LOCATION.--Lat 39°20'35", long 76°17'22", Hydrologic Unit 02060003, at Edgewood Arsenal.

Owner: U.S. Army.

AQUIFER.--Potomac Group of Lower Cretaceous age. Aquifer code: 217PTMC.

WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 72 ft; casing diameter 4 in., to 67 ft; screen diameter 4 in. from 67 to 72 ft.

INSTRUMENTATION.--Monthly measurements with electronic tape by U.S. Geological Survey personnel.

Equipped with digital water-level recorder--15-minute recorder interval from July 6, 1987 to current year.

DATUM.--Elevation of land surface is 8.3 ft above National Geodetic Vertical Datum of 1929.

Measuring Point: Top of casing, 2.61 ft above land surface.

REMARKS.--Canal Creek Hydrologic Assessment Project observation well CC-1C.

Missing data due to recorder malfunction.

PERIOD OF RECORD.--July 1987 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.21 ft above sea level, June 9, 1989; lowest measured, 5.39 ft above sea level, Sept. 4, 1987; Nov. 15 and 16, 1987.

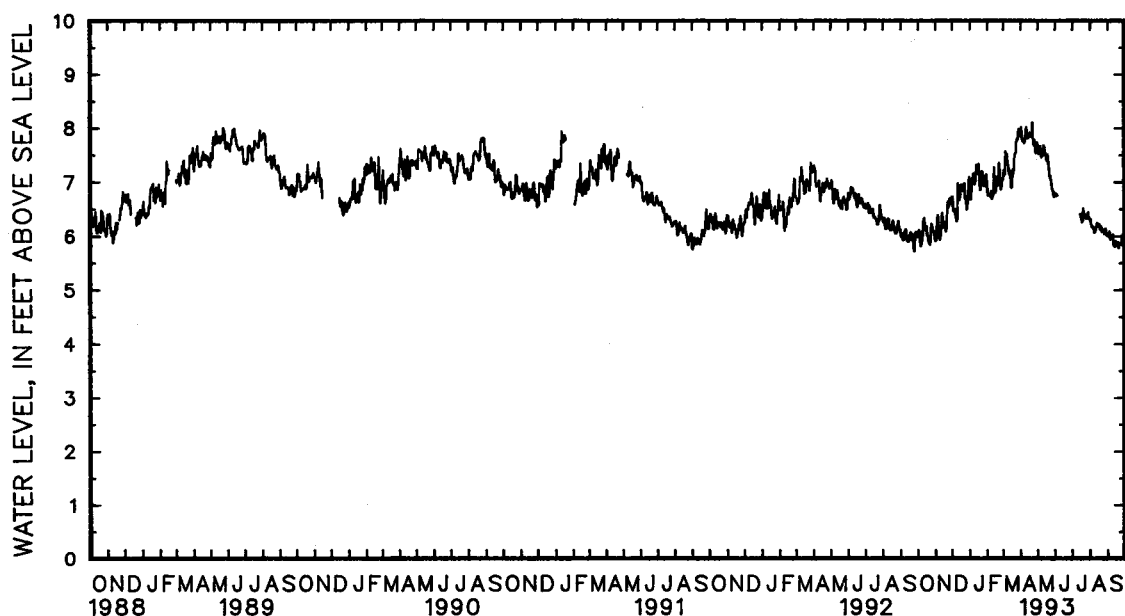
## WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	6.03	5.97	5.94	5.90	6.77	6.72	7.15	6.77	7.35	6.90	7.21	7.07
2	6.11	6.02	6.15	5.90	6.80	6.72	6.77	6.67	6.90	6.75	7.29	7.21
3	6.15	6.10	6.27	6.15	6.77	6.46	6.81	6.67	6.93	6.75	7.27	7.14
4	6.13	6.06	6.42	6.20	6.74	6.46	7.07	6.81	6.93	6.74	7.67	7.14
5	6.06	5.88	6.46	6.38	6.77	6.48	7.32	7.07	6.98	6.75	7.63	7.57
6	5.88	5.80	6.38	6.18	6.56	6.40	7.11	7.05	7.02	6.75	7.57	7.43
7	5.90	5.84	6.18	6.11	6.60	6.49	7.17	7.08	6.90	6.73	7.52	7.41
8	5.98	5.90	6.11	6.01	6.49	6.33	7.25	7.15	6.96	6.82	7.65	7.52
9	6.29	5.98	6.01	5.92	6.33	6.26	7.15	7.02	6.82	6.68	7.54	7.32
10	6.28	6.17	6.09	5.97	6.98	6.29	7.02	6.95	6.86	6.71	7.53	7.31
11	6.40	6.28	6.26	6.09	7.26	6.98	7.11	7.00	6.86	6.77	7.53	7.21
12	6.36	6.32	6.71	6.26	7.12	6.87	7.31	7.11	7.27	6.77	7.21	7.13
13	6.33	6.19	6.77	6.42	6.87	6.69	7.53	7.31	7.38	7.27	8.28	7.20
14	6.19	6.10	6.42	6.32	6.72	6.66	7.43	7.22	7.31	6.95	8.18	7.15
15	6.16	6.11	6.33	6.21	6.86	6.72	7.29	7.22	6.95	6.80	7.15	6.89
16	6.30	6.16	6.24	6.15	6.94	6.86	7.44	7.29	7.30	6.80	7.06	6.89
17	6.24	6.03	6.41	6.24	7.20	6.94	7.46	7.33	7.29	7.08	7.46	7.06
18	6.14	6.00	6.38	6.25	7.06	6.84	7.33	6.99	7.11	7.02	7.39	7.22
19	6.17	5.97	6.25	6.13	7.04	6.84	6.99	6.85	7.02	6.93	7.25	7.15
20	5.97	5.87	6.16	6.08	7.16	6.94	6.95	6.85	7.10	7.00	7.47	7.25
21	6.02	5.91	6.44	6.16	6.94	6.82	7.20	6.95	7.42	7.06	7.57	7.47
22	5.91	5.83	6.70	6.44	7.01	6.93	7.35	7.20	7.45	7.35	7.57	7.52
23	6.10	5.87	6.86	6.63	7.09	6.97	7.32	7.16	7.35	7.23	7.72	7.52
24	6.40	6.10	6.63	6.52	7.11	6.69	7.42	7.18	7.23	6.98	7.92	7.72
25	6.36	6.21	6.59	6.55	6.95	6.69	7.25	6.94	6.98	6.85	7.85	7.79
26	6.26	6.17	6.78	6.57	6.95	6.60	7.10	6.92	7.04	6.91	7.83	7.78
27	6.24	6.10	6.76	6.69	6.60	6.48	7.28	7.10	7.06	7.02	7.95	7.82
28	6.12	6.09	6.72	6.69	6.72	6.58	7.24	7.08	7.07	7.02	7.99	7.95
29	6.12	6.07	6.69	6.66	6.93	6.72	7.28	6.92	---	---	8.04	7.98
30	6.10	6.00	6.73	6.65	7.09	6.93	7.14	6.92	---	---	8.04	7.90
31	6.03	5.94	---	---	7.18	7.09	7.44	7.14	---	---	7.96	7.85
MONTH	6.40	5.80	6.86	5.90	7.26	6.26	7.53	6.67	7.45	6.68	8.28	6.89

GROUND-WATER LEVELS  
MARYLAND--Continued  
HARFORD COUNTY--Continued  
HA Ed 59--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	8.19	7.96	7.74	7.69	6.99	6.79	---	---	6.35	6.30	6.11	6.01
2	8.16	8.01	7.70	7.59	6.79	6.73	---	---	6.35	6.30	6.02	5.98
3	8.01	7.82	7.59	7.51	6.81	6.77	---	---	6.30	6.21	6.12	6.02
4	7.82	7.76	7.62	7.54	6.82	6.76	---	---	6.23	6.18	6.12	6.07
5	7.80	7.76	7.69	7.61	6.80	6.74	---	---	6.18	6.15	6.07	5.97
6	7.81	7.75	7.70	7.66	---	---	---	---	6.29	6.16	5.97	5.93
7	7.77	7.72	7.67	7.53	---	---	---	---	6.26	6.15	5.96	5.94
8	7.80	7.73	7.53	7.45	---	---	---	---	6.15	6.08	6.00	5.95
9	7.95	7.78	7.51	7.47	---	---	---	---	6.08	6.05	6.10	6.00
10	8.24	7.95	7.50	7.48	---	---	---	---	6.13	6.07	6.19	6.02
11	8.13	8.01	7.69	7.49	---	---	---	---	6.17	6.12	6.02	5.84
12	8.03	7.94	7.78	7.68	---	---	---	---	6.24	6.16	5.84	5.81
13	7.94	7.85	7.76	7.64	---	---	---	---	6.26	6.23	5.82	5.80
14	7.85	7.81	7.64	7.56	---	---	---	---	6.23	6.20	5.89	5.82
15	7.89	7.83	7.56	7.52	---	---	6.43	6.40	6.21	6.17	5.97	5.89
16	8.12	7.89	7.55	7.49	---	---	6.41	6.35	6.21	6.17	5.91	5.81
17	8.13	7.91	7.51	7.39	---	---	6.39	6.31	6.31	6.21	5.87	5.81
18	7.91	7.85	7.54	7.39	---	---	6.31	6.25	6.24	6.14	5.96	5.87
19	7.90	7.84	7.55	7.50	---	---	6.65	6.27	6.16	6.11	5.94	5.84
20	7.93	7.85	7.50	7.39	---	---	6.53	6.50	6.40	6.16	5.86	5.77
21	8.13	7.90	7.39	7.28	---	---	6.50	6.42	6.31	6.14	5.96	5.86
22	8.14	8.09	7.28	7.15	---	---	6.44	6.39	6.14	6.07	5.93	5.84
23	8.11	7.81	7.15	7.07	---	---	6.42	6.37	6.13	6.09	5.99	5.84
24	7.81	7.69	7.14	7.10	---	---	6.37	6.34	6.13	6.10	5.98	5.84
25	7.83	7.75	7.13	7.02	---	---	6.35	6.32	6.12	6.07	5.93	5.83
26	7.93	7.77	7.02	6.90	---	---	6.39	6.31	6.08	6.03	6.06	5.93
27	7.77	7.57	6.90	6.85	---	---	6.48	6.39	6.13	6.06	6.20	6.01
28	7.62	7.53	6.91	6.85	---	---	6.46	6.41	6.18	6.13	6.09	6.01
29	7.74	7.62	6.92	6.76	---	---	6.47	6.43	6.13	6.04	6.01	5.93
30	7.77	7.74	6.79	6.72	---	---	6.45	6.35	6.04	6.00	5.93	5.85
31	---	---	6.99	6.79	---	---	6.35	6.30	6.11	6.01	---	---
MONTH	8.24	7.53	7.78	6.72	6.99	6.73	6.65	6.25	6.40	6.00	6.20	5.77
YEAR	8.28	5.77										

Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

## MARYLAND--Continued

## HARFORD COUNTY--Continued

WELL NUMBER.--HA Ed 60. SITE ID.--392035076172204. PERMIT NUMBER.--HA-81-2986.  
 LOCATION.--Lat 39°20'35", long 76°17'22", Hydrologic Unit 02060003, at Edgewood Arsenal.

Owner: U.S. Army.

AQUIFER.--Potomac Group of Lower Cretaceous age. Aquifer code: 217PTMC.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 154 ft; casing diameter 4 in., to 149 ft;  
 screen diameter 4 in. from 149 to 154 ft.

INSTRUMENTATION.--Monthly measurements with electronic tape by U.S. Geological Survey personnel.

Equipped with digital water-level recorder--15-minute recorder interval from July 14, 1987 to current year.

DATUM.--Elevation of land surface is 8.3 ft above National Geodetic Vertical Datum of 1929.

Measuring Point: Top of casing, 2.78 ft above land surface.

REMARKS.--Canal Creek Hydrologic Assessment Project observation well CC-1D.

Missing data due to recorder malfunction.

PERIOD OF RECORD.--July 1987 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 7.98 ft above sea level, Sept. 10, 1993;  
 lowest measured, 5.89 ft above sea level, Sept. 28, 1987.

## WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	6.52	6.50	6.57	6.56	6.86	6.84	6.87	6.76	7.09	6.93	7.05	6.98
2	6.53	6.50	6.69	6.56	6.86	6.86	6.76	6.69	6.93	6.80	7.11	7.05
3	6.56	6.53	6.77	6.69	6.86	6.77	6.73	6.69	6.86	6.80	7.11	7.08
4	6.56	6.53	6.82	6.75	6.82	6.75	6.85	6.73	6.89	6.85	7.29	7.08
5	6.53	6.44	6.87	6.82	6.85	6.73	7.03	6.85	6.94	6.85	7.29	7.23
6	6.47	6.43	6.84	6.71	6.73	6.66	6.91	6.88	6.98	6.89	7.28	7.23
7	6.51	6.47	6.71	6.65	6.68	6.64	6.90	6.88	6.94	6.88	7.27	7.23
8	6.53	6.51	6.65	6.59	6.64	6.55	6.98	6.90	6.99	6.94	7.34	7.27
9	6.74	6.53	6.59	6.55	6.55	6.53	6.96	6.91	6.95	6.90	7.29	7.20
10	6.73	6.70	6.57	6.55	6.86	6.53	6.91	6.89	6.97	6.90	7.26	7.19
11	6.77	6.71	6.66	6.57	7.00	6.86	6.97	6.89	6.97	6.95	7.26	7.14
12	6.77	6.73	6.86	6.66	6.96	6.84	7.05	6.97	7.17	6.95	7.14	7.09
13	6.73	6.68	6.90	6.79	6.85	6.76	7.12	7.04	7.23	7.17	7.60	7.10
14	6.68	6.65	6.79	6.71	6.80	6.75	7.10	7.05	7.22	7.09	7.56	7.20
15	6.65	6.65	6.71	6.65	6.91	6.80	7.07	7.05	7.09	6.98	7.20	6.99
16	6.70	6.65	6.65	6.61	6.99	6.91	7.15	7.07	7.16	6.98	6.99	6.96
17	6.68	6.59	6.68	6.61	7.08	6.99	7.18	7.15	7.16	7.08	7.10	6.97
18	6.59	6.55	6.68	6.65	7.03	6.91	7.15	7.01	7.08	7.00	7.00	6.84
19	6.59	6.53	6.65	6.59	6.92	6.89	7.01	6.91	7.00	6.94	6.84	6.78
20	6.53	6.47	6.59	6.57	6.98	6.90	6.92	6.91	6.98	6.94	6.90	6.79
21	6.56	6.49	6.71	6.58	6.90	6.85	6.99	6.91	7.19	6.97	6.98	6.90
22	6.53	6.48	6.84	6.71	6.89	6.85	7.07	6.99	7.23	7.19	6.97	6.95
23	6.54	6.48	6.97	6.84	6.92	6.86	7.07	7.05	7.19	7.15	7.04	6.95
24	6.70	6.54	6.85	6.78	6.93	6.77	7.14	7.05	7.15	7.05	7.10	7.04
25	6.70	6.64	6.79	6.78	6.82	6.76	7.09	6.99	7.05	6.93	7.08	7.07
26	6.64	6.63	6.91	6.79	6.82	6.70	6.99	6.97	6.96	6.93	7.11	7.08
27	6.63	6.60	6.90	6.88	6.70	6.64	7.06	6.99	6.96	6.95	7.20	7.11
28	6.61	6.59	6.88	6.86	6.68	6.64	7.07	7.01	6.98	6.95	7.26	7.20
29	6.61	6.59	6.86	6.84	6.75	6.68	7.09	7.00	---	---	7.32	7.26
30	6.61	6.59	6.84	6.83	6.83	6.75	7.02	7.00	---	---	7.32	7.31
31	6.59	6.57	---	---	6.87	6.83	7.12	7.02	---	---	7.38	7.30
MONTH	6.77	6.43	6.97	6.55	7.08	6.53	7.18	6.69	7.23	6.80	7.60	6.78

## GROUND-WATER LEVELS

279

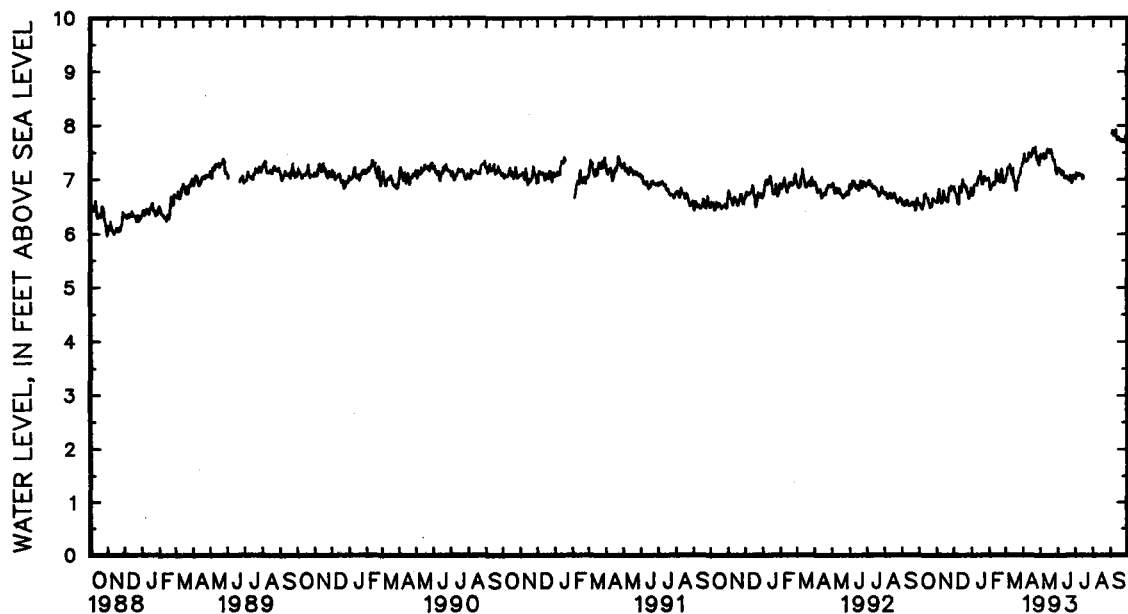
MARYLAND--Continued

HARFORD COUNTY--Continued

HA Ed 60--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	7.51	7.38	7.49	7.47	7.28	7.21	7.05	7.01	---	---	---	---
2	7.51	7.48	7.49	7.45	7.21	7.17	7.13	7.01	---	---	---	---
3	7.48	7.39	7.45	7.41	7.20	7.18	7.13	7.12	---	---	7.91	7.85
4	7.39	7.34	7.45	7.41	7.21	7.19	7.13	7.11	---	---	7.92	7.91
5	7.36	7.33	7.49	7.44	7.20	7.18	7.11	7.08	---	---	7.91	7.84
6	7.36	7.35	7.50	7.49	7.19	7.12	7.08	7.07	---	---	7.84	7.82
7	7.36	7.34	7.50	7.43	7.12	7.09	7.12	7.07	---	---	7.82	7.82
8	7.39	7.36	7.43	7.39	7.16	7.10	7.11	7.11	---	---	7.85	7.82
9	7.49	7.39	7.42	7.40	7.17	7.15	7.11	7.09	---	---	7.93	7.85
10	7.60	7.49	7.42	7.42	7.17	7.15	7.09	7.09	---	---	7.98	7.93
11	7.57	7.49	7.51	7.42	7.15	7.09	7.09	7.08	---	---	7.93	7.79
12	7.50	7.48	7.58	7.51	7.09	7.03	7.09	7.09	---	---	7.79	7.74
13	7.48	7.43	7.58	7.57	7.03	7.02	7.09	7.05	---	---	7.75	7.74
14	7.44	7.42	7.57	7.54	7.04	7.02	7.08	7.01	---	---	7.78	7.75
15	7.50	7.44	7.56	7.54	7.09	7.04	7.08	7.07	---	---	7.81	7.78
16	7.65	7.50	7.59	7.55	7.09	7.06	7.07	7.03	---	---	7.79	7.74
17	7.66	7.57	7.58	7.50	7.06	7.02	---	---	---	---	7.75	7.72
18	7.57	7.51	7.57	7.50	7.02	7.01	---	---	---	---	7.80	7.75
19	7.53	7.50	7.57	7.56	7.02	7.01	---	---	---	---	7.78	7.72
20	7.56	7.51	7.57	7.53	7.01	6.99	---	---	---	---	7.72	7.70
21	7.69	7.55	7.53	7.48	7.10	6.99	---	---	---	---	7.78	7.72
22	7.69	7.61	7.48	7.41	7.09	7.08	---	---	---	---	7.78	7.74
23	7.61	7.45	7.41	7.36	7.08	6.98	---	---	---	---	7.78	7.73
24	7.45	7.37	7.38	7.37	6.98	6.94	---	---	---	---	7.78	7.71
25	7.43	7.39	7.38	7.36	6.96	6.93	---	---	---	---	7.74	7.70
26	7.52	7.43	7.36	7.27	7.07	6.96	---	---	---	---	7.82	7.74
27	7.45	7.30	7.27	7.23	7.07	7.07	---	---	---	---	7.96	7.81
28	7.33	7.27	7.23	7.19	7.07	7.07	---	---	---	---	7.88	7.80
29	7.43	7.33	7.21	7.14	7.07	7.07	---	---	---	---	7.80	7.73
30	7.48	7.43	7.14	7.10	7.07	7.05	---	---	---	---	7.73	7.65
31	---	---	7.27	7.12	---	---	---	---	---	---	---	---
MONTH	7.69	7.27	7.59	7.10	7.28	6.93	7.13	7.01	---	---	7.98	7.65
YEAR	7.98	6.43										

Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

## MARYLAND--Continued

## HARFORD COUNTY--Continued

WELL NUMBER.--HA Ed 80. SITE ID.--392334076171303. PERMIT NUMBER.--HA-81-3008.

LOCATION.--Lat 39°23'34", long 76°17'13", Hydrologic Unit 02060003, at Edgewood Arsenal.

Owner: U.S. Army.

AQUIFER.--Potomac Group of Lower Cretaceous age. Aquifer code: 217PTMC.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 95 ft; casing diameter 4 in., to 90 ft; screen diameter 4 in. from 90 to 95 ft.

INSTRUMENTATION.--Monthly measurements with electronic tape by U.S. Geological Survey personnel.

Equipped with digital water-level recorder--15-minute recorder interval from April 14, 1987 to current year.

DATUM.--Elevation of land surface is 18.1 ft above National Geodetic Vertical Datum of 1929.

Measuring Point: Top of casing, 2.65 ft above land surface.

REMARKS.--Canal Creek Hydrologic Assessment Project observation well CC-8C.

Missing data due to recorder malfunction.

PERIOD OF RECORD.--April 1987 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.91 ft above sea level, March 13, 1993; lowest measured, 4.63 ft above sea level, Sept. 4, 1987.

## WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH		
1	5.10	4.90	4.94	4.87	5.52	5.42	5.78	5.29	6.12	5.59	5.89	5.63
2	5.22	5.03	5.41	4.90	5.62	5.42	5.29	5.14	5.59	5.33	6.09	5.89
3	5.24	5.13	5.31	5.07	---	---	5.37	5.17	5.81	5.35	5.95	5.75
4	5.21	5.02	5.45	5.13	5.55	5.14	5.75	5.37	5.76	5.48	6.33	5.75
5	5.04	4.94	5.39	5.14	5.61	5.12	6.00	5.59	5.82	5.47	6.32	6.07
6	4.99	4.88	5.14	4.96	5.25	4.98	5.64	5.50	5.81	5.44	6.10	5.88
7	5.00	4.89	4.99	4.86	5.35	5.18	5.79	5.56	5.73	5.42	6.05	5.86
8	5.18	4.94	4.87	4.73	5.18	5.01	5.85	5.72	5.80	5.59	6.17	6.03
9	5.38	5.17	4.78	4.67	5.04	4.92	5.72	5.54	5.59	5.43	6.03	5.78
10	5.35	5.17	4.98	4.74	5.91	5.02	5.58	5.45	5.68	5.51	6.09	5.74
11	5.47	5.31	5.14	4.98	6.14	5.81	5.69	5.52	5.68	5.49	6.08	5.71
12	5.37	5.29	5.81	5.12	5.81	5.39	5.89	5.65	6.15	5.55	5.72	5.61
13	5.31	5.05	5.49	5.10	5.39	5.18	6.17	5.89	6.34	6.14	6.91	5.72
14	5.17	5.04	5.10	5.03	5.36	5.16	6.06	5.75	6.14	5.59	6.89	5.57
15	5.18	5.06	5.06	4.84	5.56	5.30	5.94	5.76	5.59	5.38	5.57	5.17
16	5.34	5.05	5.04	4.81	5.60	5.47	6.08	5.90	6.07	5.44	5.39	5.17
17	5.05	4.90	5.25	5.04	5.90	5.58	6.23	5.97	5.95	5.63	5.75	5.39
18	5.19	4.89	5.12	4.95	5.63	5.27	5.97	5.54	5.66	5.49	5.55	5.15
19	5.13	4.78	4.95	4.84	5.52	5.27	5.54	5.37	5.49	5.35	5.29	5.12
20	5.11	4.73	5.06	4.78	5.74	5.42	5.57	5.37	5.72	5.48	5.63	5.29
21	5.08	4.78	5.36	5.06	5.45	5.25	5.83	5.50	6.13	5.61	5.72	5.61
22	4.83	4.69	5.71	5.34	5.57	5.45	6.13	5.83	6.18	5.99	5.67	5.61
23	5.25	4.81	5.71	5.25	5.71	5.52	6.03	5.83	5.99	5.81	5.85	5.60
24	5.55	5.25	5.30	5.16	5.71	5.15	6.21	5.88	5.81	5.40	6.03	5.85
25	5.31	5.15	5.39	5.23	5.64	5.15	6.02	5.59	5.40	5.20	5.94	5.87
26	5.36	5.15	5.61	5.37	5.63	5.09	5.79	5.50	5.53	5.34	5.99	5.91
27	5.19	5.09	5.43	5.34	5.09	4.91	5.98	5.79	5.56	5.50	6.23	5.97
28	5.19	5.09	5.40	5.33	5.27	5.09	6.11	5.80	5.66	5.55	6.33	6.23
29	5.19	5.06	5.38	5.31	5.51	5.25	6.11	5.58	---	---	6.43	6.30
30	5.06	4.98	5.51	5.30	5.70	5.49	5.86	5.58	---	---	6.43	6.26
31	5.00	4.91	---	---	5.81	5.70	6.24	5.86	---	---	6.44	6.21
MONTH	5.55	4.69	5.81	4.67	6.14	4.91	6.24	5.14	6.34	5.20	6.91	5.12



## GROUND-WATER LEVELS

281

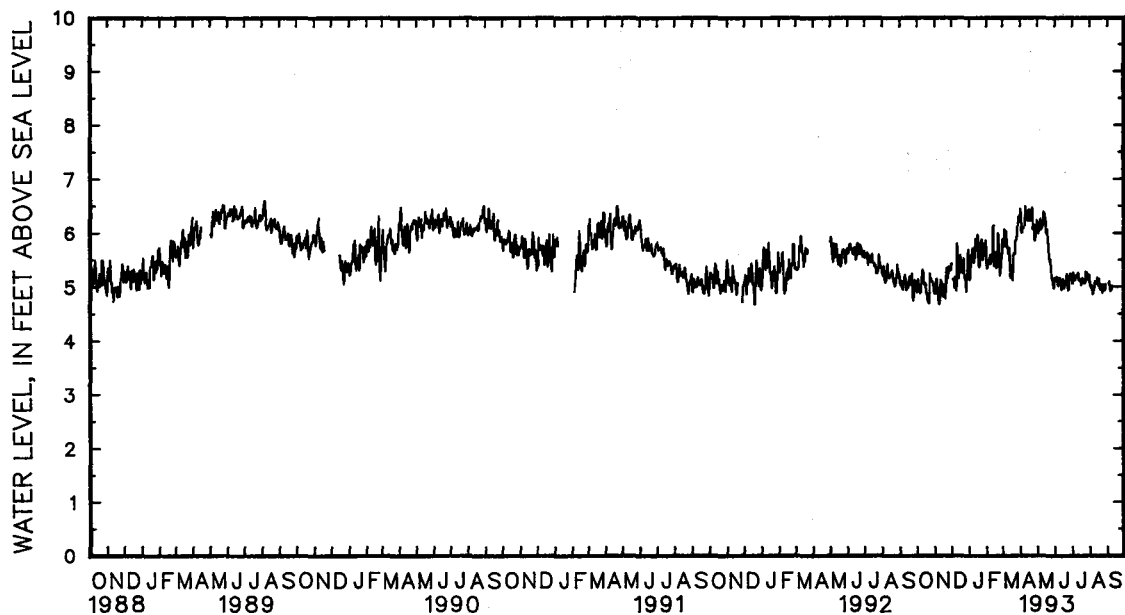
## MARYLAND--Continued

## HARFORD COUNTY--Continued

## HA Ed 80--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	6.70	6.44	6.33	6.19	5.47	5.12	5.20	5.06	5.21	5.07	---	---
2	6.62	6.37	6.28	6.07	5.20	5.11	5.31	5.06	5.10	5.01	---	---
3	6.38	6.06	6.13	5.99	5.29	5.16	5.36	5.26	5.03	4.98	5.20	5.06
4	6.12	6.01	6.21	6.03	5.29	5.18	5.29	5.20	5.16	5.02	5.19	5.09
5	6.17	6.01	6.33	6.14	5.32	5.17	5.20	5.13	5.07	4.95	5.09	4.96
6	6.20	6.10	6.33	6.26	5.20	5.03	5.23	5.12	4.95	4.86	5.00	4.92
7	6.18	6.09	6.26	6.13	5.12	5.01	5.25	5.20	4.95	4.88	5.00	4.94
8	6.25	6.12	6.13	6.07	5.19	5.10	5.24	5.19	5.02	4.94	5.03	4.94
9	6.49	6.23	6.18	6.08	5.25	5.16	5.27	5.18	5.13	4.99	5.27	5.01
10	6.83	6.49	6.18	6.10	5.25	5.16	5.27	5.21	5.23	5.09	---	---
11	6.61	6.40	6.48	6.15	5.19	5.04	5.35	5.20	5.18	5.08	---	---
12	6.54	6.35	6.53	6.39	5.04	4.94	5.39	5.25	5.18	5.06	---	---
13	6.35	6.24	6.54	6.38	5.02	4.95	5.28	5.12	5.19	5.05	---	---
14	6.39	6.23	6.43	6.31	5.13	5.01	5.23	5.11	5.30	5.16	---	---
15	6.45	6.32	6.41	6.28	5.23	5.13	5.28	5.13	5.26	5.07	---	---
16	6.73	6.43	6.38	6.17	5.21	5.00	5.21	5.10	5.16	5.02	---	---
17	6.74	6.28	6.17	5.99	5.03	4.97	5.11	5.03	5.37	5.14	---	---
18	6.33	6.23	6.15	5.99	5.13	5.00	5.33	5.07	5.37	5.04	---	---
19	6.40	6.26	6.20	6.07	5.17	5.06	5.37	5.15	5.04	4.94	---	---
20	6.48	6.33	6.12	5.89	5.13	5.06	5.19	5.12	5.05	4.97	---	---
21	6.58	6.42	5.89	5.77	5.36	5.12	5.19	5.10	5.13	5.03	---	---
22	6.65	6.46	5.77	5.57	5.37	5.23	5.14	5.06	5.16	4.98	---	---
23	6.51	6.15	5.57	5.47	5.23	5.04	5.16	5.07	5.01	4.89	---	---
24	6.15	6.07	5.61	5.50	5.04	4.93	5.27	5.07	5.07	4.93	---	---
25	6.32	6.14	5.54	5.38	5.18	4.95	5.40	5.27	5.16	5.03	---	---
26	6.41	6.12	5.38	5.20	5.28	5.16	5.34	5.19	5.10	4.95	---	---
27	6.12	5.85	5.21	5.12	5.30	5.19	5.36	5.25	5.03	4.93	---	---
28	6.09	5.91	5.28	5.14	5.33	5.24	5.36	5.17	5.13	4.96	---	---
29	6.29	6.09	5.31	5.03	5.39	5.19	5.22	5.13	5.13	5.04	---	---
30	6.37	6.23	5.15	4.97	5.29	5.13	5.24	5.12	---	---	---	---
31	---	---	5.50	5.15	---	---	5.31	5.21	---	---	---	---
MONTH	6.83	5.85	6.54	4.97	5.47	4.93	5.40	5.03	5.37	4.86	5.27	4.92
YEAR	6.91	4.67										

Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

## MARYLAND--Continued

## HARFORD COUNTY--Continued

WELL NUMBER.--HA Ed 121. SITE ID.--392343076183302. PERMIT NUMBER.--HA-81-3062.  
 LOCATION.--Lat 39°23'43", long 76°18'33", Hydrologic Unit 02060003, at Edgewood Arsenal.

Owner: U.S. Army.

AQUIFER.--Potomac Group of Lower Cretaceous age. Aquifer code: 217PTMC.

WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 40 ft; casing diameter 4 in., to 35 ft; screen diameter 4 in. from 35 to 40 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

Equipped with digital water-level recorder--60-minute recorder interval from Aug. 14, 1992 to current year.

DATUM.--Elevation of land surface is 11.2 ft above National Geodetic Vertical Datum of 1929.

Measuring Point: Top of plastic casing, 2.35 ft above land surface.

REMARKS.--Canal Creek Hydrologic Assessment Project observation well 27B.

Missing data due to recorder malfunction.

PERIOD OF RECORD.--August 14, 1992 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.88 ft above sea level, Sept. 23 and 24, 1992; lowest measured, 7.01 ft above sea level, Aug. 25, 1987.

## WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	4.37	4.11	4.30	4.19	4.67	4.47	4.84	4.52	4.69	4.34	5.15	4.87
2	4.41	4.26	4.75	4.27	4.72	4.43	4.57	4.41	4.43	4.30	5.44	5.10
3	4.47	4.21	5.04	4.50	4.73	4.28	4.84	4.57	5.11	4.43	5.10	4.84
4	4.28	4.04	4.88	4.49	4.68	4.28	5.05	4.75	4.93	4.61	5.63	4.84
5	4.38	3.99	4.83	4.35	4.72	4.15	5.15	4.86	5.07	4.61	5.83	5.35
6	4.60	4.30	4.35	4.19	4.42	4.12	4.87	4.69	4.95	4.56	5.45	5.19
7	4.46	4.25	4.41	4.25	4.51	4.24	5.17	4.79	5.05	4.54	5.48	5.17
8	4.41	4.23	4.38	4.26	4.24	4.15	5.10	4.94	5.01	4.67	5.42	5.09
9	4.74	4.31	4.44	4.24	4.42	4.20	4.98	4.81	4.86	4.53	5.09	4.87
10	4.64	4.48	4.60	4.32	5.17	4.41	5.24	4.85	4.92	4.76	5.15	4.83
11	4.77	4.51	4.65	4.48	5.40	4.99	5.22	5.01	4.86	4.61	5.11	4.84
12	4.61	4.38	5.21	4.44	4.99	4.59	5.19	4.97	5.15	4.66	4.96	4.77
13	4.50	4.36	5.21	4.40	4.95	4.62	5.31	5.04	5.40	5.09	5.44	4.96
14	4.53	4.27	4.43	4.31	5.26	4.80	5.21	4.92	5.12	4.58	5.35	4.56
15	4.52	4.33	4.41	4.28	5.39	5.03	5.26	4.95	4.75	4.49	4.60	4.50
16	4.60	4.39	4.46	4.20	5.39	4.91	5.28	5.04	5.44	4.75	4.95	4.60
17	4.55	4.03	4.70	4.46	5.20	4.85	5.33	4.97	5.20	4.77	5.27	4.92
18	4.46	4.14	4.59	4.23	4.89	4.65	4.98	4.68	4.82	4.60	5.16	4.90
19	4.50	4.01	4.37	4.23	4.90	4.66	4.73	4.60	4.70	4.54	5.19	4.89
20	4.52	4.01	4.57	4.30	4.98	4.69	4.86	4.68	5.06	4.70	5.49	5.19
21	4.80	4.22	4.87	4.46	4.77	4.52	4.93	4.70	5.35	4.86	5.46	5.30
22	4.22	4.06	4.83	4.55	4.87	4.72	5.29	4.93	5.30	5.08	5.30	5.23
23	4.51	4.15	4.85	4.55	4.96	4.75	5.10	4.83	5.09	4.99	5.45	5.20
24	4.78	4.40	4.71	4.39	4.88	4.37	5.16	4.91	5.00	4.62	5.73	5.44
25	4.47	4.10	4.99	4.61	5.08	4.40	4.99	4.62	4.74	4.52	5.51	5.36
26	4.50	4.07	5.04	4.75	4.98	4.39	4.84	4.56	4.94	4.74	5.62	5.44
27	4.40	4.13	4.96	4.55	4.58	4.32	4.87	4.74	4.88	4.78	5.52	5.36
28	4.37	4.15	4.68	4.56	4.75	4.55	5.19	4.72	5.05	4.84	5.67	5.48
29	4.37	4.22	4.67	4.53	4.83	4.69	5.19	4.50	---	---	5.70	5.46
30	4.35	4.13	4.66	4.52	4.91	4.77	4.76	4.50	---	---	5.67	5.44
31	4.28	4.14	---	---	4.92	4.80	4.87	4.69	---	---	5.76	5.42
MONTH	4.80	3.99	5.21	4.19	5.40	4.12	5.33	4.41	5.44	4.30	5.83	4.50

## GROUND-WATER LEVELS

283

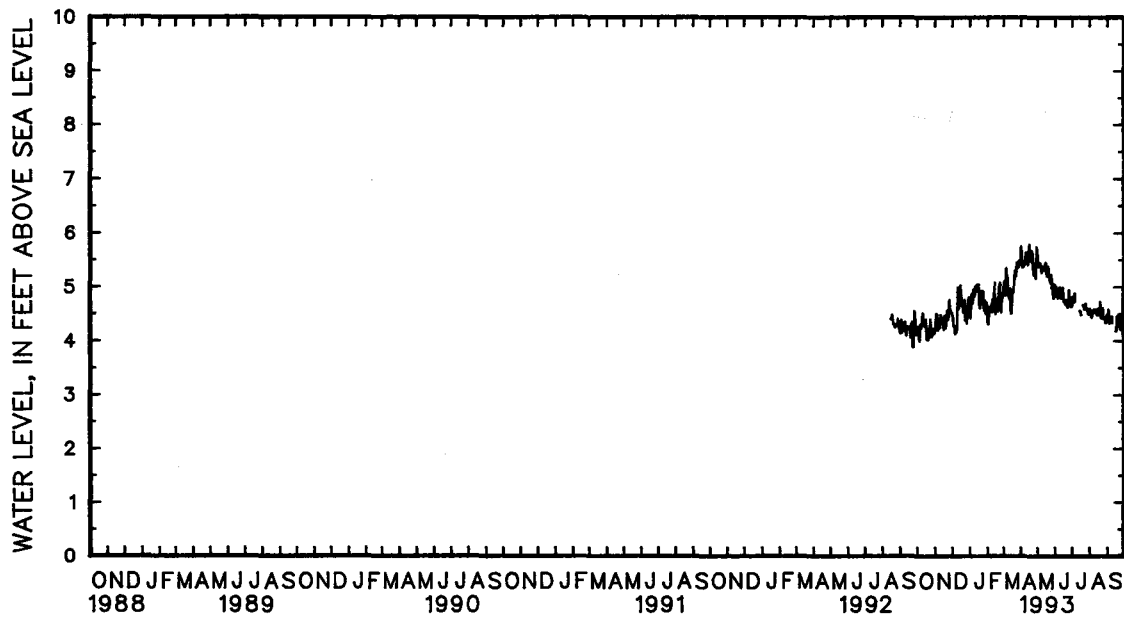
MARYLAND--Continued

HARFORD COUNTY--Continued

HA Ed 121--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	6.13	5.75	5.83	5.56	5.42	4.83	4.85	4.64	4.68	4.50	4.63	4.48
2	5.93	5.63	5.77	5.38	5.11	4.83	5.08	4.67	4.83	4.59	4.67	4.46
3	5.77	5.38	5.61	5.38	5.33	4.99	5.20	4.82	4.66	4.54	4.78	4.57
4	5.52	5.36	5.63	5.38	5.17	4.95	5.00	4.76	4.59	4.48	4.71	4.40
5	5.64	5.36	5.81	5.44	5.31	4.93	4.90	4.73	4.56	4.43	4.40	4.32
6	5.66	5.43	5.68	5.37	5.00	4.79	4.98	4.72	4.74	4.50	4.57	4.36
7	5.62	5.41	5.51	5.31	5.08	4.82	5.07	4.87	4.82	4.52	4.57	4.42
8	5.80	5.42	5.51	5.26	5.14	4.93	---	---	4.83	4.57	4.56	4.36
9	5.92	5.55	5.67	5.37	5.19	4.99	---	---	4.71	4.52	4.80	4.45
10	6.07	5.64	5.53	5.33	5.12	4.92	---	---	4.68	4.53	4.92	4.33
11	5.70	5.49	5.66	5.34	4.99	4.79	---	---	4.71	4.54	---	---
12	5.94	5.58	5.65	5.37	4.96	4.79	---	---	4.78	4.58	---	---
13	5.58	5.41	5.58	5.36	5.06	4.91	---	---	4.84	4.52	---	---
14	5.88	5.55	5.47	5.31	5.12	4.96	---	---	4.67	4.48	---	---
15	5.95	5.70	5.68	5.45	5.29	4.99	4.88	4.55	4.71	4.47	---	---
16	6.25	5.79	5.71	5.28	5.18	4.73	4.67	4.55	4.72	4.47	4.33	4.17
17	6.30	5.48	5.33	5.20	4.85	4.73	4.77	4.48	4.90	4.59	4.61	4.22
18	5.60	5.48	5.54	5.20	5.02	4.75	4.72	4.48	4.61	4.51	4.62	4.44
19	5.83	5.54	5.58	5.37	4.99	4.68	---	---	4.89	4.49	4.55	4.28
20	5.92	5.67	5.58	5.23	4.86	4.67	---	---	4.95	4.72	4.71	4.28
21	5.92	5.62	5.41	5.21	5.07	4.75	4.84	4.66	4.90	4.42	4.74	4.48
22	5.73	5.40	5.36	5.12	5.07	4.73	4.76	4.64	4.70	4.41	4.61	4.26
23	5.51	5.25	5.25	5.07	4.73	4.63	4.71	4.59	4.82	4.54	4.69	4.40
24	5.43	5.22	5.58	5.23	4.81	4.62	4.77	4.59	4.87	4.61	4.59	4.20
25	5.78	5.43	5.38	5.13	5.18	4.76	4.80	4.59	4.88	4.46	4.56	4.24
26	5.72	5.33	5.13	4.98	5.21	4.94	4.95	4.68	4.58	4.40	4.77	4.45
27	5.36	5.16	5.14	5.00	5.08	4.71	---	---	4.59	4.40	4.74	4.44
28	5.99	5.36	5.23	5.05	4.94	4.80	4.88	4.60	4.69	4.42	4.51	4.39
29	6.10	5.75	5.18	4.79	5.09	4.67	4.84	4.58	4.46	4.33	4.42	4.30
30	5.97	5.62	5.04	4.79	4.88	4.63	4.81	4.50	4.54	4.33	4.34	4.23
31	---	---	5.53	5.04	---	---	4.64	4.49	4.66	4.47	---	---
MONTH	6.30	5.16	5.83	4.79	5.42	4.62	5.20	4.48	4.95	4.33	4.92	4.17
YEAR	6.30	3.99										

Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

## MARYLAND--Continued

## HARFORD COUNTY--Continued

WELL NUMBER.--HA Ed 128. SITE ID.--392350076184301. PERMIT NUMBER.--HA-81-4076.  
 LOCATION.--Lat 39°23'50", long 76°18'43", Hydrologic Unit 02060003, at Edgewood Arsenal.

Owner: U.S. Army.

AQUIFER.--Potomac Group of Lower Cretaceous age. Aquifer code: 217PTMC.

WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 30 ft; casing diameter 4 in., to 25 ft; screen diameter 4 in. from 25 to 30 ft.

INSTRUMENTATION.--Monthly measurements with electronic tape by U.S. Geological Survey personnel.

Equipped with digital water-level recorder--15-minute recorder interval from Sept. 30, 1992 to current year.

DATUM.--Elevation of land surface is 9.1 ft above National Geodetic Vertical Datum of 1929.

Measuring Point: Top of plastic casing, 2.5 ft above land surface.

REMARKS.--Canal Creek Hydrologic Assessment Project observation well West Branch 31.

Missing data due to recorder malfunction.

PERIOD OF RECORD.--September 30, 1992 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.82 ft above sea level, July 19, 1989; lowest measured, 7.89 ft below land surface, October 19, 1992.

## WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

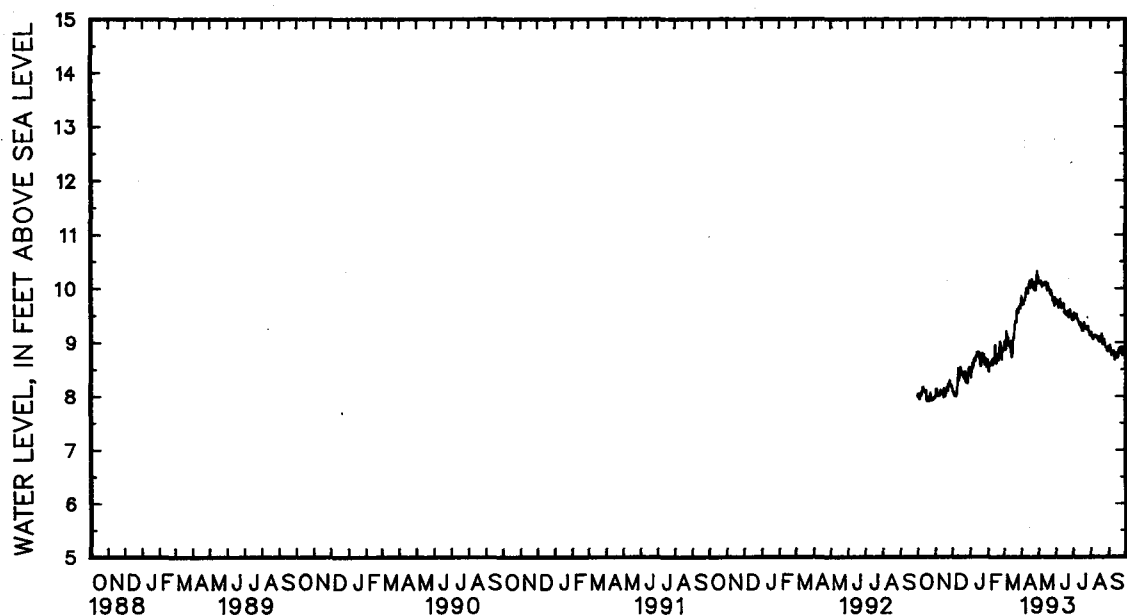
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	8.15	7.99	8.06	7.97	8.30	8.16	8.59	8.40	8.68	8.47	9.06	8.88
2	8.17	8.04	8.28	8.00	8.33	8.13	8.45	8.33	8.54	8.45	9.23	9.01
3	8.20	8.01	8.50	8.13	8.34	8.07	8.61	8.45	8.94	8.54	9.02	8.86
4	8.08	7.94	8.36	8.13	8.28	8.07	8.72	8.52	8.81	8.61	9.41	8.86
5	8.15	7.93	8.34	8.07	8.31	8.00	8.86	8.62	8.92	8.62	9.53	9.21
6	8.27	8.05	8.07	7.99	8.15	7.99	8.68	8.53	8.82	8.58	9.30	9.12
7	8.17	8.01	8.13	8.03	8.21	8.03	8.86	8.60	8.91	8.58	9.33	9.11
8	8.13	8.00	8.11	8.01	8.07	7.99	8.83	8.69	8.87	8.67	9.29	9.09
9	8.34	8.05	8.14	8.00	8.17	8.02	8.75	8.64	8.80	8.58	9.10	8.95
10	8.29	8.16	8.21	8.03	8.62	8.13	8.91	8.66	8.82	8.70	9.15	8.93
11	8.36	8.17	8.23	8.11	8.72	8.52	8.89	8.73	8.78	8.62	9.13	8.93
12	8.26	8.11	8.54	8.07	8.54	8.29	8.88	8.74	8.99	8.66	9.03	8.90
13	8.22	8.10	8.61	8.08	8.55	8.33	8.98	8.81	9.14	8.94	9.34	9.03
14	8.22	8.06	8.14	8.03	8.70	8.43	8.93	8.73	8.97	8.64	9.31	8.76
15	8.21	8.07	8.13	8.03	8.76	8.53	8.96	8.75	8.78	8.60	8.80	8.72
16	8.24	8.10	8.14	7.98	8.77	8.48	8.97	8.81	9.21	8.76	9.04	8.80
17	8.23	7.91	8.26	8.14	8.71	8.46	9.01	8.77	9.05	8.77	9.35	9.01
18	8.15	7.98	8.20	7.99	8.53	8.38	8.77	8.59	8.85	8.69	9.24	9.09
19	8.18	7.89	8.11	7.99	8.56	8.39	8.66	8.55	8.78	8.66	9.30	9.08
20	8.18	7.90	8.20	8.03	8.61	8.42	8.75	8.61	8.98	8.78	9.49	9.28
21	8.35	7.98	8.35	8.11	8.49	8.32	8.79	8.63	9.15	8.84	9.49	9.39
22	8.00	7.90	8.35	8.15	8.54	8.44	9.01	8.79	9.13	9.01	9.43	9.36
23	8.16	7.95	8.39	8.21	8.62	8.45	8.90	8.72	9.03	8.95	9.61	9.37
24	8.30	8.06	8.32	8.10	8.55	8.25	8.95	8.77	8.97	8.74	9.82	9.61
25	8.12	7.91	8.47	8.22	8.68	8.28	8.84	8.61	8.85	8.68	9.66	9.55
26	8.18	7.91	8.50	8.29	8.61	8.27	8.79	8.58	8.96	8.84	9.73	9.60
27	8.11	7.92	8.45	8.19	8.41	8.23	8.79	8.70	8.91	8.84	9.69	9.55
28	8.10	7.95	8.30	8.21	8.54	8.36	8.98	8.69	9.02	8.88	9.80	9.66
29	8.09	7.97	8.30	8.19	8.57	8.47	8.98	8.53	---	---	9.82	9.65
30	8.08	7.93	8.28	8.18	8.62	8.52	8.74	8.54	---	---	9.82	9.64
31	8.05	7.94	---	---	8.62	8.53	8.79	8.67	---	---	9.86	9.63
MONTH	8.36	7.89	8.61	7.97	8.77	7.99	9.01	8.33	9.21	8.45	9.86	8.72

GROUND-WATER LEVELS  
MARYLAND--Continued  
HARFORD COUNTY--Continued  
HA Ed 128--Continued

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DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	10.10	9.86	10.39	10.21	10.08	9.71	9.57	9.41	9.27	9.13	9.02	8.89
2	10.02	9.83	10.35	10.10	9.90	9.71	9.76	9.43	9.35	9.18	9.02	8.88
3	9.93	9.70	10.25	10.10	10.01	9.79	9.79	9.56	9.24	9.10	9.07	8.94
4	9.82	9.70	10.27	10.10	9.93	9.77	9.68	9.51	9.19	9.07	9.01	8.84
5	9.91	9.71	10.38	10.14	10.00	9.76	9.60	9.45	9.15	9.05	8.85	8.76
6	9.93	9.78	10.31	10.12	9.80	9.65	9.63	9.46	9.29	9.10	8.94	8.80
7	9.91	9.78	10.20	10.06	9.84	9.68	9.69	9.53	9.33	9.11	8.94	8.79
8	10.02	9.79	10.18	10.03	9.87	9.74	9.59	9.44	9.33	9.13	8.92	8.78
9	10.12	9.89	10.27	10.09	9.93	9.80	9.54	9.43	9.25	9.09	9.04	8.84
10	10.27	9.99	10.19	10.06	9.89	9.72	9.55	9.40	9.22	9.09	9.17	8.75
11	10.07	9.92	10.27	10.07	9.78	9.64	9.50	9.38	9.24	9.10	8.77	8.67
12	10.24	10.01	10.27	10.11	9.71	9.64	9.53	9.34	9.27	9.11	8.90	8.70
13	10.03	9.91	10.24	10.09	9.80	9.68	9.44	9.32	9.31	9.06	8.97	8.79
14	10.22	10.01	10.17	10.06	9.82	9.71	9.50	9.36	9.19	9.03	8.91	8.79
15	10.25	10.09	10.25	10.12	9.92	9.72	9.50	9.27	9.21	9.01	8.95	8.79
16	10.47	10.14	10.26	10.03	9.84	9.54	9.36	9.27	9.20	9.01	8.81	8.71
17	10.49	10.02	10.07	9.96	9.65	9.54	9.41	9.21	9.30	9.10	9.03	8.74
18	10.14	10.01	10.19	9.97	9.75	9.56	9.36	9.21	9.14	9.02	9.02	8.88
19	10.27	10.09	10.23	10.10	9.72	9.51	9.67	9.29	9.30	9.04	8.98	8.80
20	10.32	10.17	10.22	10.00	9.64	9.50	9.59	9.37	9.35	9.15	9.06	8.81
21	10.33	10.13	10.11	9.98	9.77	9.54	9.47	9.32	9.29	8.96	9.07	8.90
22	10.30	10.09	10.07	9.91	9.77	9.58	9.39	9.28	9.14	8.98	9.02	8.80
23	10.19	9.99	9.99	9.87	9.58	9.47	9.36	9.25	9.21	9.04	9.06	8.90
24	10.11	9.97	10.17	9.96	9.56	9.47	9.36	9.24	9.26	9.05	9.01	8.76
25	10.33	10.11	10.05	9.90	9.73	9.53	9.39	9.23	9.25	8.94	8.98	8.80
26	10.32	10.07	9.90	9.78	9.79	9.61	9.50	9.29	9.06	8.90	9.10	8.90
27	10.12	9.97	9.89	9.77	9.72	9.49	9.66	9.30	9.06	8.91	9.14	8.90
28	10.47	10.12	9.97	9.83	9.64	9.51	9.42	9.22	9.10	8.90	8.97	8.89
29	10.55	10.32	9.95	9.68	9.72	9.44	9.40	9.20	8.98	8.84	8.94	8.84
30	10.47	10.24	9.82	9.68	9.59	9.41	9.36	9.13	8.99	8.83	8.90	8.81
31	---	---	10.11	9.82	---	---	9.26	9.12	9.05	8.91	---	---
MONTH	10.55	9.70	10.39	9.68	10.08	9.41	9.79	9.12	9.35	8.83	9.17	8.67
YEAR	10.55	7.89										

Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## [BACKGROUND-WATER LEVELS

## MARYLAND--Continued

## HARFORD COUNTY--Continued

WELL NUMBER.--HA Ed 201. SITE ID.--392437076183101. PERMIT NUMBER.--HA-88-0969.

LOCATION.--Lat 39°23'50", long 76°18'43", Hydrologic Unit 02060003, at Edgewood Arsenal.

Owner: U. S. Army.

AQUIFER.--Potomac Group of Lower Cretaceous age. Aquifer code: 217PTMC.

WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 66 ft; casing diameter 4 in., to 61 ft; screen diameter 4 in. from 61 to 66 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

Equipped with digital water-level recorder--15-minute recorder interval from Dec. 6, 1988 to current year.

DATUM.--Elevation of land surface is 29.00 ft above National Geodetic Vertical Datum of 1929.

Measuring Point: Top of recorder platform, 3.07 ft above land surface.

REMARKS.--Canal Creek Hydrologic Assessment Project observation well CC-1. Missing data due to recorder malfunction.

PERIOD OF RECORD.--Dec. 6, 1988 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 13.64 ft above sea level, July 19, 1993; lowest measured, 12.24 ft above sea level, Oct. 9, 1991.

## WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	12.62	12.57	12.76	12.73	13.10	13.09	13.19	13.08	13.50	13.33	---	---
2	12.61	12.57	12.86	12.74	13.18	13.10	13.08	13.00	13.33	13.23	---	---
3	12.63	12.60	12.95	12.86	13.16	13.03	13.03	12.99	13.27	13.23	---	---
4	12.66	12.62	13.00	12.88	13.11	13.02	13.14	13.03	13.28	13.19	---	---
5	12.64	12.56	13.04	12.96	13.14	13.03	13.30	13.14	---	---	---	---
6	12.56	12.53	13.02	12.88	13.03	13.00	13.20	13.19	---	---	---	---
7	12.57	12.54	12.89	12.82	13.07	13.01	13.25	13.19	---	---	---	---
8	12.60	12.56	12.82	12.75	13.01	12.92	13.28	13.22	---	---	---	---
9	12.78	12.60	12.75	12.70	12.92	12.87	13.25	13.19	---	---	---	---
10	12.79	12.74	12.76	12.70	13.26	12.87	13.19	13.14	---	---	---	---
11	12.83	12.76	12.81	12.73	13.33	13.20	13.19	13.14	---	---	---	---
12	12.87	12.81	13.05	12.81	13.27	13.15	13.28	13.19	---	---	---	---
13	12.86	12.77	13.10	12.96	13.15	13.04	13.42	13.28	---	---	---	---
14	12.78	12.74	12.96	12.90	13.04	13.01	13.38	13.31	---	---	---	---
15	12.74	12.74	12.90	12.84	13.08	13.02	13.35	13.31	---	---	---	---
16	12.80	12.74	12.84	12.81	13.15	13.08	13.43	13.34	---	---	---	---
17	12.77	12.70	12.91	12.82	13.25	13.13	13.46	13.42	---	---	---	---
18	12.75	12.68	12.89	12.83	13.20	13.06	13.43	13.28	---	---	---	---
19	12.74	12.68	12.85	12.77	13.12	13.06	13.28	13.18	---	---	---	---
20	12.68	12.63	12.78	12.74	13.20	13.12	13.19	13.18	---	---	---	---
21	12.68	12.64	12.87	12.74	13.12	13.08	13.31	13.19	---	---	---	---
22	12.64	12.60	13.03	12.87	13.12	13.10	13.39	13.28	---	---	---	---
23	12.68	12.61	13.13	13.03	13.16	13.11	13.38	13.35	---	---	---	---
24	12.88	12.68	13.04	12.98	13.18	13.01	13.47	13.35	---	---	---	---
25	12.86	12.81	13.00	12.98	13.09	13.01	13.42	13.29	---	---	---	---
26	12.85	12.81	13.08	12.98	13.10	12.96	13.33	13.28	---	---	---	---
27	12.84	12.80	13.07	13.05	12.96	12.90	13.40	13.33	---	---	---	---
28	12.81	12.80	13.07	13.05	12.96	12.90	13.46	13.36	---	---	---	---
29	12.82	12.80	13.05	13.05	13.08	12.96	13.45	13.29	---	---	---	---
30	12.81	12.78	13.09	13.04	13.17	13.04	13.41	13.29	---	---	---	---
31	12.80	12.76	---	---	13.19	13.13	13.49	13.35	---	---	---	---
MONTH	12.88	12.53	13.13	12.70	13.33	12.87	13.49	12.99	13.50	13.19	---	---

## GROUND-WATER LEVELS

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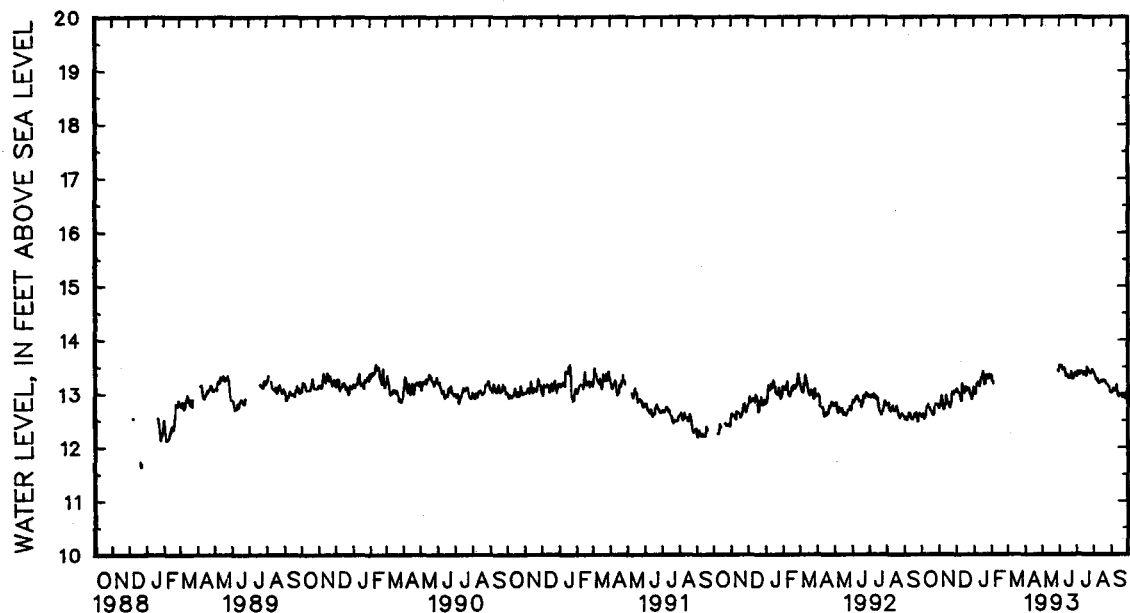
## MARYLAND--Continued

## HARFORD COUNTY--Continued

## HA Ed 201--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	---	---	13.59	13.53	13.36	13.32	13.41	13.38	13.08	13.04
2	---	---	---	---	13.53	13.50	13.45	13.32	13.41	13.38	13.09	13.02
3	---	---	---	---	13.54	13.51	13.45	13.42	13.38	13.33	13.17	13.06
4	---	---	---	---	13.54	13.52	13.44	13.41	13.37	13.30	13.13	13.10
5	---	---	---	---	13.54	13.52	13.41	13.37	13.31	13.26	13.12	13.07
6	---	---	---	---	13.52	13.45	13.37	13.36	13.36	13.26	13.07	13.05
7	---	---	---	---	13.46	13.44	13.44	13.36	13.35	13.28	13.10	13.05
8	---	---	---	---	13.55	13.45	13.46	13.41	13.28	13.22	13.12	13.06
9	---	---	---	---	13.55	13.47	13.44	13.40	13.22	13.20	13.16	13.10
10	---	---	---	---	13.51	13.47	13.45	13.39	13.21	13.19	13.22	13.15
11	---	---	---	---	13.48	13.41	13.43	13.40	13.22	13.20	13.15	13.04
12	---	---	---	---	13.41	13.33	13.44	13.42	13.25	13.22	13.04	12.97
13	---	---	---	---	13.34	13.32	13.42	13.36	13.26	13.25	12.97	12.94
14	---	---	---	---	13.36	13.32	13.44	13.35	13.27	13.24	13.02	12.94
15	---	---	---	---	13.38	13.35	13.45	13.41	13.26	13.23	13.02	12.96
16	---	---	---	---	13.38	13.33	13.43	13.39	13.30	13.22	12.98	12.95
17	---	---	---	---	13.33	13.29	13.41	13.37	13.34	13.24	12.98	12.95
18	---	---	---	---	13.31	13.29	13.38	13.33	13.32	13.26	13.01	12.97
19	---	---	---	---	13.32	13.29	13.64	13.34	13.28	13.24	13.00	12.95
20	---	---	---	---	13.30	13.28	13.62	13.50	13.33	13.23	12.97	12.92
21	---	---	---	---	13.44	13.30	13.52	13.47	13.32	13.24	12.98	12.93
22	---	---	---	---	13.43	13.41	13.50	13.44	13.24	13.20	12.98	12.94
23	---	---	---	---	13.41	13.32	13.45	13.42	13.24	13.18	13.03	12.94
24	---	---	---	---	13.32	13.27	13.42	13.40	13.20	13.18	12.98	12.91
25	---	---	---	---	13.33	13.27	13.40	13.38	13.20	13.17	12.94	12.90
26	---	---	---	---	13.36	13.29	13.40	13.37	13.18	13.14	13.01	12.94
27	---	---	---	---	13.38	13.35	13.46	13.40	13.15	13.13	13.14	12.99
28	---	---	---	---	13.40	13.38	13.46	13.43	13.15	13.12	13.09	13.03
29	---	---	13.51	13.44	13.40	13.39	13.49	13.45	13.12	13.06	13.03	12.97
30	---	---	13.45	13.41	13.39	13.36	13.48	13.44	13.07	13.02	12.98	12.91
31	---	---	13.61	13.45	---	---	13.46	13.40	13.08	13.02	---	---
MONTH	---	---	13.61	13.41	13.59	13.27	13.64	13.32	13.41	13.02	13.22	12.90
YEAR	13.64	12.53										

## Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

## MARYLAND--Continued

## HARFORD COUNTY--Continued

WELL NUMBER.--HA Ed 223. SITE ID.--392024076173001 PERMIT NUMBER.--HA-81-2183.

LOCATION.--Lat 39°20'24", long 76°17'30", Hydrologic Unit 02060003, at Edgewood Arsenal.

Owner: U.S. Army.

AQUIFER.--Talbot Formation of Pleistocene age. Aquifer code: 112TLBT.

WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 11 ft; casing diameter 4 in., to 9 ft; screen diameter 4 in. from 9 to 11 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

Equipped with digital water-level recorder--15-minute recorder interval from December 1990 to current year.

DATUM.--Elevation of land surface is 10.12 ft above National Geodetic Vertical Datum of 1929.

Measuring Point: Top of recorder platform, 3.20 ft above land surface.

REMARKS.--O-Field Hydrologic Assessment project well. Missing data due to recorder malfunction.

Recorder removed from January 8 to February 10, 1993.

PERIOD OF RECORD.--December 1990 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.69 ft above sea level, April 1 and 2, 1993; lowest measured, 3.04 ft above sea level, Sept. 15 and 16, 1993.

## WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	3.82	3.79	3.69	3.68	4.25	4.23	4.62	4.52	---	---	4.93	4.89
2	3.79	3.76	3.83	3.68	4.25	4.23	4.52	4.50	---	---	4.95	4.93
3	3.76	3.73	4.04	3.83	4.24	4.15	4.55	4.52	---	---	4.95	4.90
4	3.73	3.69	4.08	4.04	4.25	4.15	4.60	4.55	---	---	5.19	4.90
5	3.69	3.62	4.10	4.06	4.26	4.16	4.75	4.60	---	---	5.15	5.13
6	3.63	3.61	4.07	4.01	4.21	4.14	4.69	4.67	---	---	5.14	5.10
7	3.64	3.63	4.01	3.98	4.22	4.16	4.68	4.66	---	---	5.12	5.10
8	3.64	3.62	3.99	3.95	4.16	4.12	---	---	---	---	5.13	5.10
9	3.82	3.62	3.95	3.91	4.12	4.10	---	---	---	---	5.10	5.03
10	4.00	3.82	3.95	3.90	4.47	4.11	---	---	4.67	4.62	5.12	5.03
11	4.02	4.00	3.98	3.95	4.57	4.47	---	---	4.66	4.62	5.12	4.99
12	4.03	4.00	4.14	3.98	4.57	4.50	---	---	4.90	4.62	5.00	4.98
13	4.00	3.93	4.24	4.11	4.50	4.44	---	---	4.92	4.89	5.35	5.00
14	3.93	3.91	4.11	4.07	4.49	4.44	---	---	4.89	4.77	5.28	4.99
15	3.92	3.90	4.07	4.02	4.56	4.49	---	---	4.77	4.74	4.99	4.96
16	3.92	3.90	4.02	4.00	4.58	4.56	---	---	4.98	4.76	5.12	4.99
17	3.90	3.82	4.05	4.02	4.66	4.57	---	---	4.96	4.87	5.38	5.12
18	3.84	3.82	4.03	3.97	4.63	4.55	---	---	4.88	4.83	5.34	5.26
19	3.84	3.75	3.98	3.82	4.59	4.55	---	---	4.83	4.79	5.30	5.24
20	3.75	3.72	3.98	3.95	4.62	4.55	---	---	4.83	4.82	5.37	5.30
21	3.77	3.73	4.04	3.97	4.57	4.53	---	---	4.93	4.81	5.41	5.37
22	3.73	3.71	4.16	4.04	4.59	4.56	---	---	4.98	4.93	5.41	5.38
23	3.75	3.71	4.26	4.16	4.59	4.56	---	---	4.97	4.92	5.49	5.38
24	3.81	3.75	4.20	3.98	4.59	4.46	---	---	4.92	4.85	5.61	5.49
25	3.80	3.73	4.19	3.76	4.57	4.46	---	---	4.86	4.82	5.55	5.54
26	3.73	3.72	4.33	4.16	4.57	4.43	---	---	4.89	4.86	5.55	5.54
27	3.72	3.64	4.33	4.31	4.45	4.40	---	---	4.89	4.87	5.58	5.53
28	3.66	3.65	4.31	4.27	4.58	4.45	---	---	4.89	4.87	5.58	5.56
29	3.66	3.65	4.27	4.25	4.61	4.58	---	---	---	---	5.60	5.57
30	3.66	3.63	4.25	4.25	4.63	4.61	---	---	---	---	5.60	5.53
31	3.69	3.64	---	---	4.64	4.62	---	---	---	---	5.55	5.51
MONTH	4.03	3.61	4.33	3.68	4.66	4.10	4.75	4.50	4.98	4.62	5.61	4.89



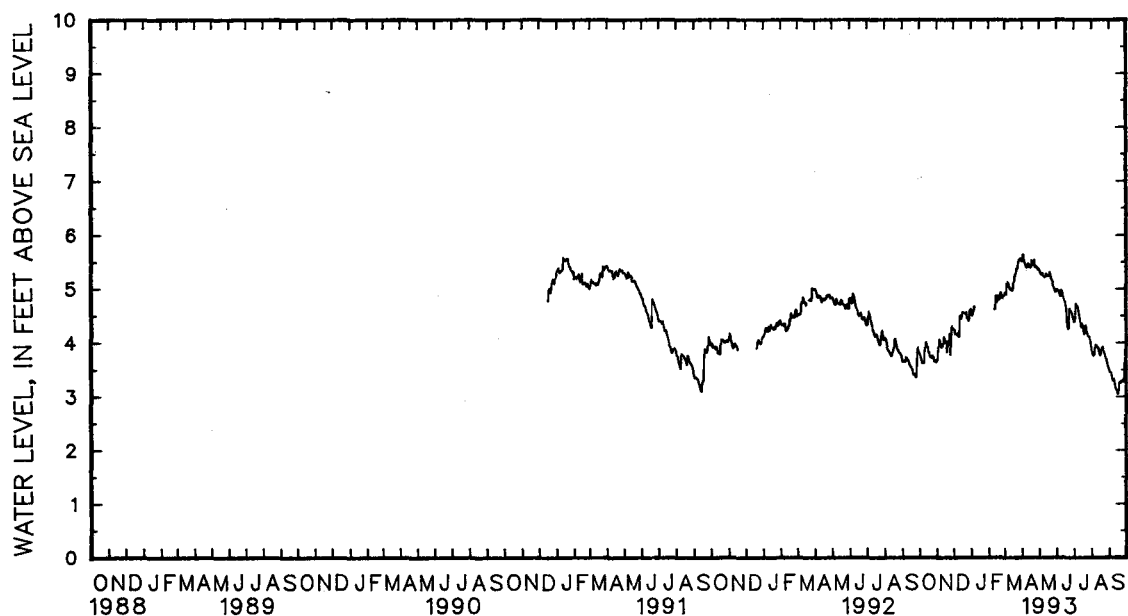
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HARFORD COUNTY--Continued

HA Ed 223--Continued

[illegible]

## Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

## MARYLAND--Continued

## HARFORD COUNTY--Continued

WELL NUMBER.--HA Ed 224. SITE ID.--392024076173002. PERMIT NUMBER.--HA-81-2184.  
 LOCATION.--Lat 39°20'24", long 76°17'30", Hydrologic Unit 02060003, at Edgewood Arsenal.  
 Owner: U.S. Army.  
 AQUIFER.--Talbot Formation of Pleistocene age. Aquifer code: 112TLBT.  
 WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 21 ft; casing diameter 4 in., to 19 ft; screen diameter 4 in. from 19 to 21 ft.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel. Equipped with digital water-level recorder--15-minute recorder interval from December 1990 to current year.  
 DATUM.--Elevation of land surface is 9.96 ft above National Geodetic Vertical Datum of 1929.  
 Measuring Point: Top of recorder platform, 3.24 ft above land surface.  
 REMARKS.--O-Field Hydrologic Assessment project observation well. Missing data due to recorder malfunction. Recorder removed from Jan. 8 1993 to Feb. 10, 1993. Water levels affected by nearby pump test during the period from June 18, 1993 through June 22, 1993.  
 PERIOD OF RECORD.--December 1990 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.07 ft above sea level, April 1, 1993; lowest measured, 1.47 ft above sea level, June 20, 1993.

## WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

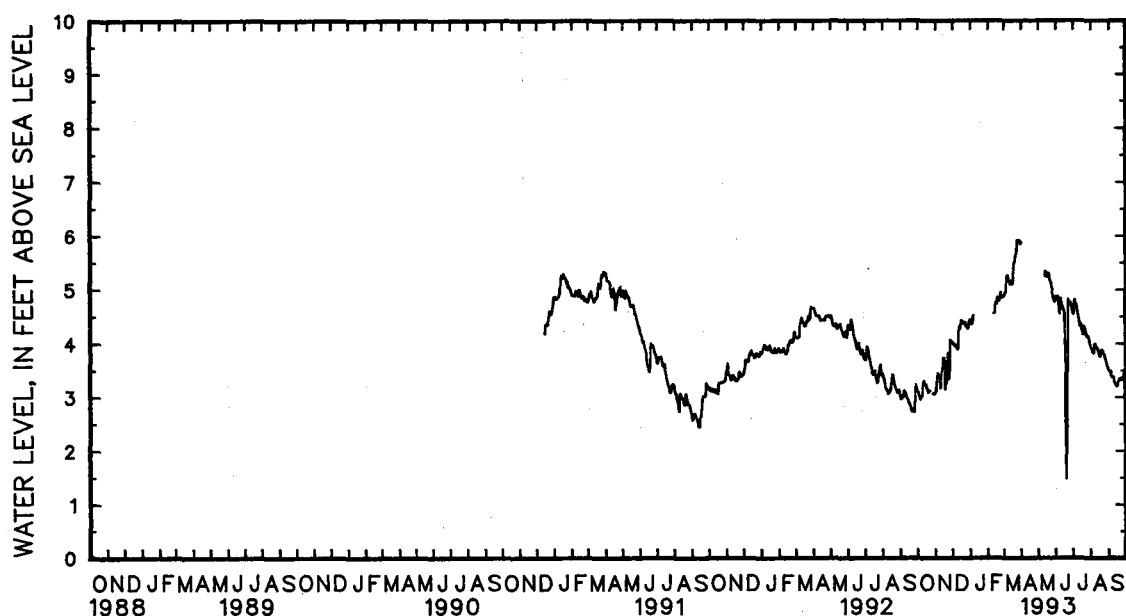
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	3.13	3.09	3.09	3.09	4.01	4.01	4.45	4.38	---	---	4.94	4.89
2	3.09	3.08	3.22	3.09	4.01	4.00	4.38	4.36	---	---	5.01	4.94
3	3.08	3.05	3.40	3.22	4.00	3.97	4.37	4.36	---	---	5.01	4.95
4	3.05	3.02	3.45	3.40	4.01	3.97	4.42	4.37	---	---	5.19	4.95
5	3.03	2.96	3.47	3.45	4.02	3.97	4.56	4.42	---	---	5.30	5.19
6	3.00	2.96	3.45	3.42	3.97	3.95	4.55	4.52	---	---	5.30	5.26
7	3.03	3.00	3.42	3.40	3.98	3.95	4.56	4.52	---	---	5.27	5.25
8	3.03	3.01	3.40	3.37	3.95	3.92	---	---	---	---	5.28	5.26
9	3.20	3.01	3.37	3.30	3.92	3.89	---	---	---	---	5.26	5.18
10	3.28	3.20	3.48	3.16	4.14	3.90	---	---	4.60	4.58	5.20	5.17
11	3.34	3.28	3.58	3.19	4.35	4.14	---	---	4.60	4.58	5.20	5.13
12	3.34	3.31	3.66	3.50	4.35	4.31	---	---	4.77	4.58	5.13	5.10
13	3.31	3.26	3.78	3.53	4.31	4.28	---	---	4.86	4.77	5.40	5.10
14	3.26	3.24	3.78	3.73	4.35	4.28	---	---	4.86	4.78	5.40	5.17
15	3.24	3.23	3.74	3.73	4.44	4.35	---	---	4.78	4.75	5.17	5.11
16	3.23	3.23	3.73	3.71	4.46	4.44	---	---	4.91	4.75	5.18	5.11
17	3.23	3.17	3.78	3.62	4.49	4.43	---	---	4.91	4.87	5.46	5.18
18	3.17	3.15	3.76	3.14	4.47	4.40	---	---	4.87	4.83	5.49	5.46
19	3.15	3.11	3.72	3.14	4.40	4.39	---	---	4.83	4.80	5.52	5.49
20	3.11	3.08	3.71	3.55	4.43	4.40	---	---	4.82	4.81	5.59	5.52
21	3.15	3.09	3.81	3.27	4.40	4.37	---	---	4.93	4.82	5.66	5.59
22	3.14	3.11	3.88	3.81	4.40	4.38	---	---	4.97	4.93	5.66	5.65
23	3.13	3.11	3.99	3.83	4.40	4.39	---	---	4.97	4.96	5.75	5.66
24	---	---	3.95	3.52	4.41	4.33	---	---	4.96	4.89	5.92	5.75
25	---	---	3.96	3.32	4.38	4.33	---	---	4.89	4.86	5.93	5.92
26	---	---	4.08	3.92	4.38	4.31	---	---	4.89	4.87	5.93	5.91
27	---	---	4.08	4.07	4.31	4.28	---	---	4.89	4.88	5.91	5.89
28	3.06	3.06	4.07	4.04	4.37	4.28	---	---	4.89	4.88	5.92	5.91
29	3.06	3.06	4.04	4.02	4.42	4.37	---	---	---	---	5.95	5.92
30	3.06	3.05	4.02	4.01	4.44	4.42	---	---	---	---	5.95	5.88
31	3.09	3.05	---	---	4.45	4.44	---	---	---	---	5.88	5.85
MONTH	3.34	2.96	4.08	3.09	4.49	3.89	4.56	4.36	4.97	4.58	5.95	4.89

GROUND-WATER LEVELS  
MARYLAND--Continued  
HARFORD COUNTY--Continued  
HA Ed 224--Continued

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DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	6.07	5.88	---	---	4.92	4.87	4.60	4.55	3.96	3.92	3.53	3.49
2	---	---	---	---	4.87	4.82	4.71	4.57	3.93	3.90	3.49	3.48
3	---	---	---	---	4.87	4.82	4.81	4.71	3.90	3.86	3.49	3.48
4	---	---	---	---	4.90	4.87	4.84	4.81	3.86	3.83	3.51	3.49
5	---	---	---	---	4.91	4.88	4.81	4.75	3.83	3.82	3.50	3.43
6	---	---	---	---	4.90	4.81	4.75	4.73	3.99	3.83	3.43	3.39
7	---	---	---	---	4.81	4.61	4.76	4.73	4.01	3.99	3.39	3.38
8	---	---	---	---	4.73	4.55	4.74	4.67	4.01	3.99	3.38	3.38
9	---	---	---	---	4.87	4.73	4.67	4.60	3.99	3.94	3.40	3.38
10	---	---	---	---	4.87	4.83	4.60	4.54	3.96	3.94	3.42	3.38
11	---	---	---	---	4.83	4.76	4.54	4.48	3.94	3.91	3.38	3.29
12	---	---	5.34	5.26	4.76	4.70	4.48	4.41	3.93	3.91	3.29	3.26
13	---	---	5.35	5.34	4.70	4.67	4.41	4.33	3.92	3.87	3.26	3.24
14	---	---	5.34	5.25	4.67	4.64	4.37	4.33	3.87	3.82	3.24	3.22
15	---	---	5.31	5.26	4.65	4.62	4.41	4.37	3.82	3.77	3.22	3.20
16	---	---	5.33	5.31	4.63	4.56	4.37	4.30	3.77	3.76	3.22	3.20
17	---	---	5.31	5.24	4.56	4.04	4.30	4.23	3.85	3.76	3.30	3.22
18	---	---	5.31	5.24	4.66	2.33	4.23	4.17	3.89	3.85	3.36	3.30
19	---	---	5.33	5.31	2.33	1.78	4.32	4.17	3.88	3.88	3.36	3.34
20	---	---	5.33	5.25	2.40	1.47	4.37	4.32	3.94	3.88	3.34	3.32
21	---	---	5.25	5.17	4.60	2.40	4.36	4.32	3.94	3.87	3.37	3.32
22	---	---	5.18	5.15	4.85	3.45	4.32	4.26	3.87	3.82	3.37	3.36
23	---	---	5.15	5.12	4.87	4.83	4.26	4.20	3.82	3.80	3.37	3.36
24	---	---	5.12	5.04	4.83	4.79	4.20	4.17	3.80	3.78	3.37	3.33
25	---	---	5.05	5.02	4.79	4.77	4.17	4.13	3.79	3.75	3.33	3.33
26	---	---	5.02	4.97	4.80	4.77	4.13	4.13	3.75	3.70	3.38	3.33
27	---	---	4.97	4.86	4.80	4.76	4.18	4.13	3.70	3.65	3.52	3.38
28	---	---	4.88	4.86	4.76	4.71	4.16	4.11	3.65	3.62	3.53	3.52
29	---	---	4.88	4.81	4.71	4.67	4.11	4.07	3.62	3.56	3.52	3.48
30	---	---	4.81	4.78	4.67	4.60	4.07	4.00	3.56	3.53	3.48	3.45
31	---	---	4.89	4.78	---	---	4.00	3.96	3.53	3.53	---	---
MONTH	6.07	5.88	5.35	4.78	4.92	1.47	4.84	3.96	4.01	3.53	3.53	3.20
YEAR	6.07	1.47										

Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

## MARYLAND--Continued

## HARFORD COUNTY--Continued

WELL NUMBER.--HA Fd 6, SITE ID.--391817076173701

LOCATION.--Lat 39°18'11", long 76°17'39", Hydrologic Unit 02060003, at J-Field, Edgewood Area, Aberdeen Proving Ground.

Owner: U.S. Army.

AQUIFER.--Talbot Formation of Pleistocene age. Aquifer code: 112TLBT

WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 21 ft; casing diameter 4 in., to 6 ft; screen diameter 4 in. from 6 to 21 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by U.S. Geological Survey personnel.

Equipped with digital water-level recorder--15-minute recorder interval from Nov. 16, 1987 to current year.

DATUM.--Elevation of land surface is 9.76 ft above National Geodetic Vertical Datum of 1929.

Measuring Point: Top of casing, 2.68 ft above land surface.

REMARKS.--J-Field Remedial Investigation observation well TH6. Missing data due to recorder malfunction.

PERIOD OF RECORD.--November 1987 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.03 ft above sea level, Jan. 12, 1991; lowest measured, 0.78 ft below sea level, Sept. 30, 1993.

## WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

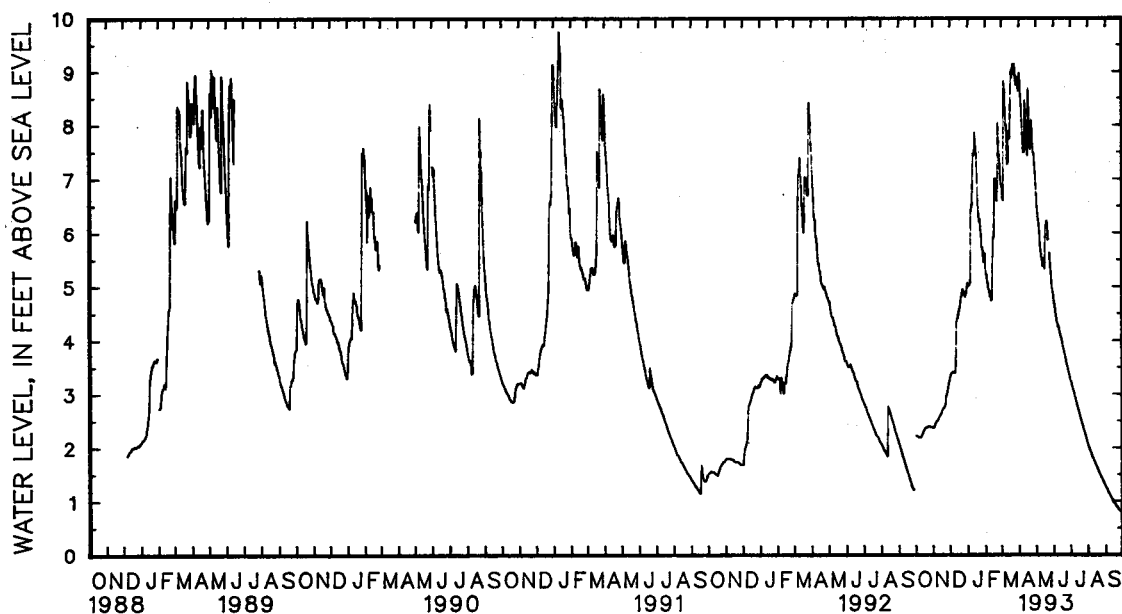
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	2.38	2.37	3.35	3.31	5.12	5.03	5.61	5.28	6.96	6.86
2	2.23	2.22	2.38	2.37	3.39	3.35	5.04	5.01	5.28	5.21	6.94	6.82
3	2.23	2.22	2.40	2.38	3.40	3.39	5.06	5.02	5.30	5.21	6.82	6.60
4	2.22	2.21	2.45	2.40	3.43	3.40	5.08	5.05	5.25	5.06	8.92	6.60
5	2.21	2.20	2.47	2.45	3.44	3.41	6.42	5.08	5.17	5.08	8.97	8.85
6	2.20	2.19	2.48	2.47	3.43	3.41	6.53	6.42	5.16	4.95	8.88	8.70
7	2.19	2.19	2.49	2.48	3.44	3.42	6.53	6.46	5.01	4.93	8.70	8.63
8	2.19	2.18	2.51	2.49	3.42	3.41	6.83	6.51	5.02	4.87	8.70	8.34
9	2.19	2.18	2.52	2.51	3.41	3.40	7.48	6.83	4.87	4.80	8.34	8.00
10	2.20	2.19	2.55	2.52	3.56	3.40	7.58	7.48	4.86	4.82	8.15	7.97
11	2.23	2.20	2.57	2.55	4.31	3.55	7.57	7.44	4.82	4.73	8.07	7.39
12	2.26	2.23	2.60	2.57	4.61	4.31	7.89	7.45	5.09	4.74	7.39	7.27
13	2.28	2.26	2.61	2.59	4.44	4.41	8.31	7.89	5.90	5.09	8.36	7.31
14	2.31	2.28	2.63	2.61	4.48	4.41	8.09	7.74	5.96	5.90	8.31	7.90
15	2.33	2.31	2.65	2.63	4.54	4.48	7.75	7.61	5.95	5.89	7.90	7.75
16	2.35	2.33	2.69	2.65	4.59	4.54	7.61	7.48	7.03	5.94	8.31	7.75
17	2.36	2.35	2.71	2.69	4.66	4.59	7.48	7.06	7.16	6.99	9.32	8.31
18	2.37	2.36	2.73	2.71	4.70	4.62	7.06	6.62	7.18	7.01	9.23	9.02
19	2.38	2.37	2.74	2.73	4.82	4.70	6.62	6.38	7.01	6.86	9.07	8.88
20	2.38	2.37	2.76	2.74	4.86	4.81	6.39	6.29	6.86	6.67	9.16	9.02
21	2.39	2.38	2.78	2.76	4.91	4.82	6.33	6.20	6.89	6.58	9.22	9.13
22	2.39	2.38	2.81	2.78	4.95	4.91	6.38	6.24	8.14	6.88	9.17	9.02
23	2.40	2.39	3.01	2.81	4.99	4.95	6.24	6.05	8.22	8.06	9.19	8.96
24	2.41	2.40	2.99	2.96	5.01	4.87	6.24	5.97	8.07	7.72	9.40	9.15
25	2.41	2.40	3.02	2.99	5.00	4.90	5.97	5.73	7.72	7.45	9.15	8.99
26	2.40	2.40	3.08	3.02	4.98	4.84	5.84	5.71	7.47	7.28	8.99	8.82
27	2.40	2.39	3.14	3.08	4.86	4.81	5.89	5.67	7.28	7.04	8.91	8.74
28	2.39	2.39	3.21	3.14	4.89	4.86	5.68	5.58	7.06	6.92	8.97	8.85
29	2.39	2.39	3.26	3.21	5.00	4.88	5.66	5.44	---	---	9.02	8.90
30	2.39	2.38	3.31	3.26	5.08	4.99	5.65	5.53	---	---	9.00	8.75
31	2.38	2.38	---	---	5.12	5.07	5.79	5.61	---	---	8.75	8.63
MONTH	2.41	2.18	3.31	2.37	5.12	3.31	8.31	5.01	8.22	4.73	9.40	6.60

GROUND-WATER LEVELS  
MARYLAND--Continued  
HARFORD COUNTY--Continued  
HA Fd 6--Continued

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DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	9.13	8.66	6.91	6.73	4.84	4.71	3.27	3.23	2.08	2.05	1.28	1.26
2	9.14	8.99	6.73	6.49	4.72	4.66	3.23	3.21	2.05	2.01	1.26	1.24
3	9.01	8.82	6.49	6.35	4.66	4.59	3.21	3.16	2.01	1.98	1.24	1.22
4	8.82	8.56	6.36	6.25	4.59	4.50	3.16	3.12	1.98	1.94	1.22	1.20
5	8.56	8.38	6.25	6.17	4.51	4.43	3.12	3.08	1.95	1.92	1.20	1.17
6	8.38	8.09	6.17	6.04	4.43	4.35	3.08	3.05	1.92	1.90	1.17	1.15
7	8.09	7.85	6.04	5.86	4.35	4.31	3.07	3.01	1.90	1.86	1.15	1.13
8	7.86	7.57	5.86	5.75	4.33	4.25	3.01	2.96	1.86	1.83	1.13	1.12
9	7.58	7.48	5.75	5.65	4.32	4.26	2.96	2.93	1.83	1.80	1.12	1.10
10	8.50	7.50	5.65	5.53	4.29	4.23	2.93	2.89	1.80	1.79	1.10	1.08
11	8.62	8.47	5.56	5.51	4.23	4.15	2.89	2.85	1.79	1.76	1.08	1.05
12	8.54	8.29	5.51	5.37	4.15	4.11	2.85	2.80	1.76	1.74	1.05	1.04
13	8.29	7.95	5.62	5.51	4.11	4.07	2.80	2.76	1.74	1.71	1.04	1.02
14	7.95	7.67	5.61	5.50	4.07	4.03	2.76	2.72	1.71	1.68	1.02	1.00
15	7.67	7.50	5.50	5.40	4.04	3.99	2.73	2.69	1.68	1.66	1.00	.98
16	8.98	7.42	6.12	5.32	3.99	3.92	2.69	2.65	1.66	1.63	.98	.97
17	9.00	8.68	6.17	6.12	3.92	3.88	2.65	2.61	1.63	1.61	.97	.95
18	8.68	8.37	6.23	6.12	3.88	3.84	2.61	2.56	1.61	1.59	.95	.94
19	8.37	8.07	6.28	6.22	3.84	3.79	2.56	2.53	1.59	1.56	.94	.92
20	8.07	7.78	6.29	6.18	3.79	3.74	2.54	2.49	1.56	1.54	.92	.90
21	7.81	7.54	6.18	6.03	3.75	3.72	2.49	2.45	1.54	1.51	.90	.89
22	8.78	7.81	6.03	5.86	3.72	3.65	2.45	2.42	1.51	1.49	.89	.88
23	8.66	8.09	---	---	3.65	3.58	2.42	2.37	1.49	1.47	.88	.86
24	8.09	7.90	5.73	5.61	3.58	3.54	2.37	2.33	1.47	1.44	.86	.84
25	7.90	7.59	5.61	5.44	3.54	3.51	2.33	2.29	1.44	1.42	.84	.83
26	7.67	7.47	5.44	5.28	3.51	3.46	2.29	2.26	1.42	1.40	.83	.82
27	7.66	7.46	5.28	5.17	3.46	3.42	2.26	2.23	1.40	1.38	.82	.81
28	7.46	7.28	5.17	5.10	3.42	3.37	2.23	2.19	1.38	1.35	.81	.80
29	7.28	7.13	5.10	4.95	3.37	3.32	2.19	2.16	1.35	1.33	.80	.79
30	7.13	6.91	4.95	4.89	3.32	3.27	2.16	2.12	1.33	1.30	.79	.78
31	---	---	4.90	4.84	---	---	2.12	2.08	1.30	1.28	---	---
MONTH	9.14	6.91	6.91	4.84	4.84	3.27	3.27	2.08	2.08	1.28	1.28	.78
YEAR	9.40	.78										

Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
HARFORD COUNTY--Continued

WELL NUMBER.--HA Fd 8. SITE ID.--391816076173801  
LOCATION.--Lat 39°18'16", long 76°17'40", Hydrologic Unit 02060003, at J-Field, Edgewood Area,  
Aberdeen Proving Ground.  
Owner: U.S. Army.  
AQUIFER.--Talbot Formation of Pleistocene age. Aquifer code: 112TLBT.  
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 21 ft; casing diameter 4 in., to 6 ft;  
screen diameter 4 in. from 6 to 21 ft.  
INSTRUMENTATION.--Measurements with chalked steel tape by U.S. Geological Survey personnel.  
Equipped with digital water-level recorder--15-minute recorder interval from Nov. 16, 1987 to current year.  
DATUM.--Elevation of land surface is 6.17 ft above National Geodetic Vertical Datum of 1929.  
Measuring Point: Top of casing, 2.67 ft above land surface.  
REMARKS.--J-Field Remedial Investigation observation well TH8.  
Missing data due to recorder malfunction.  
PERIOD OF RECORD.--November 1987 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.23 ft above sea level, March 24, 1993;  
lowest measured, 0.48 ft above sea level, Sept. 24, 1992.

WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

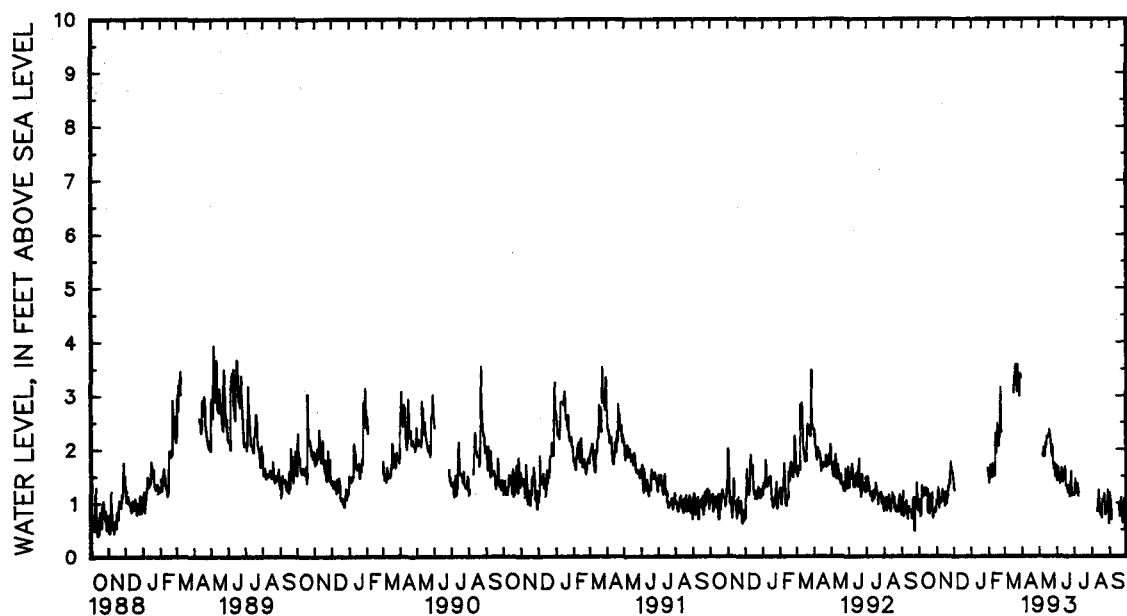
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	1.29	.88	1.22	.98	1.76	1.36	---	---	1.63	1.47	---	---
2	1.40	1.05	1.56	1.07	1.81	1.24	---	---	1.48	1.37	---	---
3	1.50	.99	2.00	1.28	1.88	1.24	---	---	2.09	1.48	---	---
4	1.17	.75	1.79	1.23	---	---	---	---	2.09	1.71	---	---
5	1.53	.77	1.82	1.14	---	---	---	---	2.09	1.63	---	---
6	1.91	1.33	1.14	.90	---	---	---	---	2.07	1.53	---	---
7	1.59	1.15	1.31	1.01	---	---	---	---	2.09	1.48	---	---
8	1.45	1.12	1.32	1.01	---	---	---	---	2.08	1.73	---	---
9	1.77	1.27	1.37	1.00	---	---	---	---	2.00	1.53	---	---
10	1.67	1.27	1.53	1.07	---	---	---	---	2.03	1.67	---	---
11	1.83	1.25	1.58	1.25	---	---	---	---	1.88	1.51	---	---
12	1.70	1.16	1.84	1.04	---	---	---	---	2.30	1.51	---	---
13	1.59	1.27	1.95	1.19	---	---	---	---	3.14	2.30	---	---
14	1.62	1.13	1.36	1.04	---	---	---	---	2.87	2.08	---	---
15	1.62	1.13	1.35	1.06	---	---	---	---	2.28	1.93	---	---
16	1.70	1.24	1.30	.94	---	---	---	---	3.39	2.18	---	---
17	1.70	.82	1.62	1.20	---	---	---	---	3.32	2.48	3.98	3.06
18	1.35	.97	1.52	.98	---	---	---	---	2.57	2.17	3.80	3.35
19	1.47	.82	1.30	.98	---	---	---	---	2.23	2.06	3.69	3.26
20	1.47	.80	1.54	1.12	---	---	---	---	2.66	2.21	3.96	3.54
21	1.94	1.15	1.83	1.31	---	---	---	---	2.87	2.24	3.86	3.58
22	1.15	.87	1.72	1.28	---	---	---	---	3.57	2.68	3.58	3.21
23	1.41	.90	1.92	1.41	---	---	---	---	3.55	3.17	3.59	3.07
24	1.70	1.18	1.89	1.35	---	---	---	---	3.20	2.32	4.23	3.59
25	1.42	.78	2.25	1.66	---	---	---	---	---	---	3.77	3.43
26	1.44	.72	2.34	1.76	---	---	---	---	---	---	3.65	3.20
27	1.39	.81	2.34	1.61	---	---	---	---	---	---	3.32	2.98
28	1.27	.82	1.95	1.60	---	---	---	---	---	---	3.66	3.29
29	1.27	.89	1.87	1.57	---	---	---	---	---	---	3.85	3.40
30	1.24	.83	1.79	1.47	---	---	1.98	1.65	---	---	3.82	3.33
31	1.16	.85	---	---	---	---	1.82	1.59	---	---	---	---
MONTH	1.94	.72	2.34	.90	1.88	1.24	1.98	1.59	3.57	1.37	4.23	2.98

GROUND-WATER LEVELS  
MARYLAND--Continued  
HARFORD COUNTY--Continued  
HA Fd 8--Continued

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DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	---	---	2.43	1.41	1.68	1.13	---	---	1.27	.61
2	---	---	---	---	2.07	1.41	1.86	1.21	---	---	1.61	1.19
3	---	---	---	---	2.31	1.66	2.00	1.44	---	---	1.43	1.04
4	---	---	---	---	2.05	1.55	1.76	1.27	---	---	1.50	1.04
5	---	---	---	---	2.26	1.52	1.64	1.17	---	---	1.25	.69
6	---	---	---	---	1.88	1.36	1.75	1.22	---	---	---	---
7	---	---	2.41	1.90	1.97	1.43	1.82	1.34	---	---	---	---
8	---	---	2.42	1.87	1.96	1.51	1.55	1.12	---	---	---	---
9	---	---	2.59	2.03	2.01	1.65	1.59	1.19	---	---	---	---
10	---	---	2.32	1.86	1.95	1.56	---	---	---	---	---	---
11	---	---	2.43	1.87	1.80	1.38	---	---	1.78	.84	---	---
12	---	---	2.42	2.00	1.66	1.43	---	---	1.33	.93	---	---
13	---	---	2.59	2.12	1.97	1.59	---	---	1.48	1.14	---	---
14	---	---	2.38	2.08	2.01	1.61	---	---	1.78	1.24	---	---
15	---	---	2.67	2.24	2.21	1.66	---	---	1.81	.94	---	---
16	---	---	2.74	2.21	2.16	1.32	---	---	1.33	.79	---	---
17	---	---	2.72	2.25	1.68	1.30	---	---	1.46	.95	---	---
18	---	---	2.86	2.24	1.93	1.32	---	---	1.21	.81	1.42	.98
19	---	---	2.85	2.37	1.82	1.28	---	---	1.27	.72	1.40	.75
20	---	---	2.90	2.28	1.69	1.18	---	---	1.48	1.06	1.39	.86
21	---	---	2.66	2.17	1.91	1.29	---	---	1.41	1.03	1.60	1.09
22	---	---	2.55	1.98	1.84	1.31	---	---	1.54	1.08	1.41	.75
23	---	---	2.32	1.87	1.45	1.10	---	---	1.70	1.11	1.47	.94
24	---	---	2.73	2.08	1.53	1.16	---	---	1.66	1.17	1.42	.62
25	---	---	2.35	1.88	1.80	1.40	---	---	1.17	.78	1.32	.66
26	---	---	1.97	1.63	2.05	1.57	---	---	1.27	.79	1.58	1.08
27	---	---	2.07	1.66	1.87	1.12	---	---	1.47	1.00	1.56	1.04
28	---	---	2.12	1.73	1.65	1.16	---	---	1.46	1.01	1.32	.88
29	---	---	2.07	1.48	1.95	1.17	---	---	1.33	.89	1.10	.75
30	---	---	1.81	1.48	1.67	1.16	---	---	1.91	1.24	.94	.67
31	---	---	2.43	1.70	---	---	---	---	1.33	.63	---	---
MONTH	---	---	2.90	1.48	2.43	1.10	2.00	1.12	1.91	.63	1.61	.61
YEAR	4.23	.61										

Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

## MARYLAND--Continued

## HARFORD COUNTY--Continued

WELL NUMBER.--HA Fd 21. SITE ID.--391814076173801 PERMIT NUMBER.--HA-88-1043.

LOCATION.--Lat 39°18'14", long 76°17'38", Hydrologic Unit 02060003, at J-Field, Edgewood Area, Aberdeen Proving Ground.

Owner: U.S. Army.

AQUIFER.--Talbot Formation of Pleistocene age. Aquifer code: 112TLB1

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 81.3 ft; casing diameter 4 in., to 73.8 ft; screen diameter 4 in. from 73.8 to 81.3 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by U.S. Geological Survey personnel.

Equipped with digital water-level recorder--15-minute recorder interval from Jan. 12, 1990 to current year.

DATUM.--Elevation of land surface is 7.67 ft above National Geodetic Vertical Datum of 1929.

Measuring Point: Top of casing, 3.00 ft above land surface.

REMARKS.--J-Field Remedial Investigation observation well JF31.

PERIOD OF RECORD.--January 1990 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.87 ft above sea level, Nov. 1, 1991; lowest measured, 1.22 ft below sea level, Feb. 2, 1993.

WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
(READINGS BELOW SEA LEVEL INDICATED BY "--")

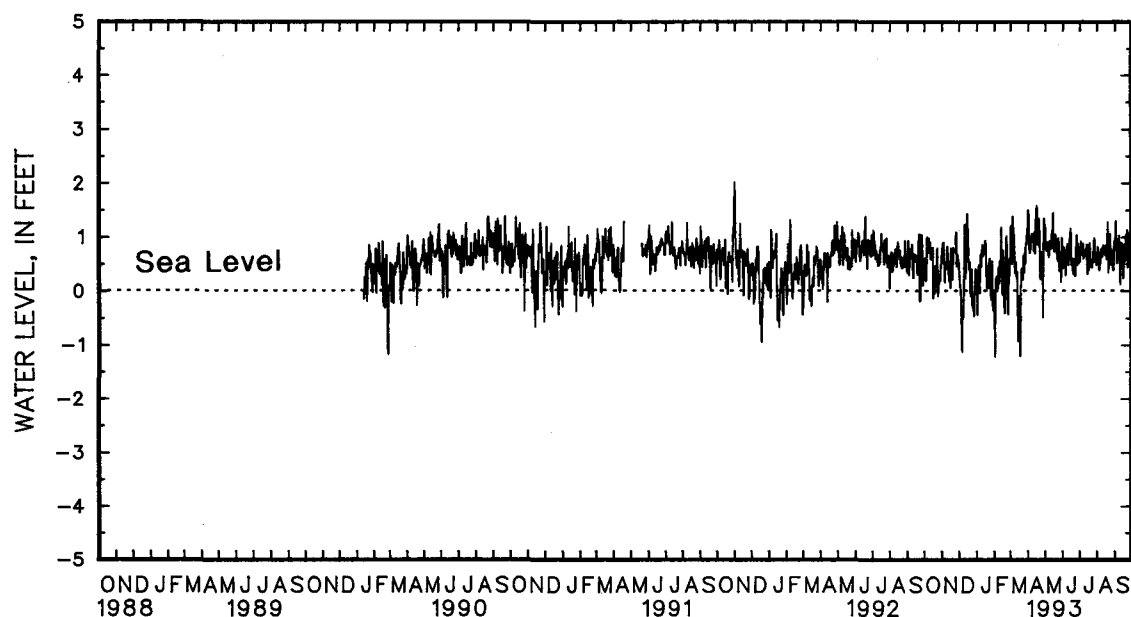
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	1.19	.28	1.11	.66	1.13	.42	.88	.09	.36	-.57	1.35	.62
2	1.25	.61	1.73	.82	1.34	.21	.34	-.45	-.15	-1.22	1.96	1.22
3	1.35	.52	2.22	.88	1.34	.09	.94	.22	1.43	-.15	1.29	.67
4	.97	.18	1.79	.90	1.01	-.03	1.31	.39	1.03	.22	2.12	.50
5	1.52	.27	1.76	.53	1.10	-.76	1.40	.48	1.31	.27	2.56	1.40
6	1.92	1.01	.62	.15	.26	-1.14	.92	-.03	.98	.00	1.80	1.14
7	1.44	.71	1.03	.52	.61	-.36	1.48	.36	1.36	.08	1.82	1.00
8	1.32	.71	1.01	.45	.24	-.49	1.45	.68	1.28	.44	1.67	.93
9	1.80	.99	1.12	.42	.79	-.17	1.17	.45	1.19	.15	1.25	.45
10	1.53	.89	1.32	.55	1.78	.38	1.66	.68	1.23	.56	1.17	.33
11	1.76	.90	1.42	.83	2.08	1.23	1.58	.86	1.07	.34	1.35	.53
12	1.37	.59	1.95	.54	1.48	.23	1.46	.65	1.43	.31	.92	.27
13	1.34	.77	1.96	.35	1.52	.59	1.50	.69	1.93	1.19	1.48	.35
14	1.42	.60	.93	.20	1.98	1.06	1.50	.76	1.51	.13	1.95	-.36
15	1.35	.65	.93	.31	2.15	1.45	1.58	.76	.89	-.07	-.35	-.93
16	1.59	.81	.92	.05	2.18	1.13	1.58	.94	1.78	.76	.57	-.49
17	1.52	-.14	1.30	.80	1.71	.81	1.80	.83	1.34	.23	.64	-.08
18	1.24	.39	1.19	.21	1.25	.47	1.20	.32	.70	-.22	-.08	-1.21
19	1.29	-.05	.92	.21	1.14	.40	.73	.05	.28	-.41	.60	-.77
20	1.40	.12	1.24	.50	1.40	.53	.90	.14	1.22	.23	1.13	.36
21	1.94	.47	1.69	.81	.85	-.09	.84	.06	1.65	.56	1.08	.42
22	.78	.07	1.58	.73	1.05	.38	1.63	.52	1.62	1.03	.81	.22
23	1.27	.36	---	---	1.34	.40	1.26	.51	1.30	.78	.97	.21
24	1.74	.80	---	---	1.00	-.30	1.57	.60	1.06	-.09	1.35	.65
25	1.01	-.10	1.86	.89	1.34	-.22	1.26	.04	.39	-.44	1.14	.35
26	1.43	.10	1.84	1.09	1.19	-.32	.80	-.16	.93	.20	1.40	.70
27	1.16	.19	1.56	.46	.45	-.47	.83	.30	.71	.29	1.16	.51
28	.19	.19	1.18	.68	.79	-.08	1.56	.56	1.25	.60	1.53	.88
29	1.18	.19	1.12	.59	.79	.15	1.56	-.23	---	---	1.61	.87
30	1.18	.44	1.13	.56	.92	.41	.66	-.36	---	---	1.69	1.03
31	1.08	.50	---	---	.88	.36	.54	-.01	---	---	1.78	1.03
MONTH	1.94	-.14	2.22	.05	2.18	-1.14	1.80	-.45	1.93	-1.22	2.56	-1.21



GROUND-WATER LEVELS  
 MARYLAND--Continued  
 HARFORD COUNTY--Continued  
 HA Fd 21--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	2.29	1.51	1.81	1.19	1.85	.42	1.39	.54	1.27	.56	1.60	.85
2	2.07	1.43	1.80	.82	1.45	.45	1.62	.69	1.56	.83	1.60	.96
3	1.87	.85	1.61	.76	1.78	.82	1.82	.92	1.31	.62	1.79	1.30
4	1.37	.71	1.59	.75	1.50	.67	1.55	.77	1.15	.52	1.59	.81
5	1.56	.78	1.92	.91	1.77	.73	1.39	.68	1.12	.39	1.19	.52
6	1.69	.92	1.70	.78	1.10	.29	1.53	.78	1.34	.71	1.52	.83
7	1.71	.93	1.52	.63	1.39	.61	1.59	.88	1.59	.52	1.52	.86
8	2.01	1.07	1.54	.70	1.46	.75	1.27	.60	1.62	.78	1.53	.75
9	2.00	1.05	1.76	.93	1.44	.87	1.33	.76	1.33	.63	1.95	1.03
10	2.04	1.03	1.50	.78	1.35	.72	1.35	.73	1.27	.64	2.15	.61
11	1.58	.75	1.65	.88	1.18	.49	1.27	.65	1.33	.78	.87	.12
12	2.01	1.09	1.67	.82	1.17	.72	1.40	.66	1.51	.85	1.33	.69
13	1.30	.70	1.73	1.07	1.45	.90	1.27	.77	1.70	.74	1.68	.89
14	1.89	1.21	1.50	1.06	1.52	1.02	1.53	.86	1.35	.69	1.46	.88
15	1.96	1.48	1.87	1.46	1.79	1.16	1.45	.32	1.50	.67	1.59	.76
16	2.43	1.59	1.98	.90	1.74	.49	1.09	.38	1.53	.67	1.00	.23
17	2.46	.88	1.35	.74	1.19	.49	1.35	.40	1.89	.85	1.57	.41
18	1.43	.86	1.73	.88	1.47	.61	1.30	.40	1.24	.59	1.53	.85
19	1.80	1.08	1.72	1.05	1.39	.39	1.99	.90	1.85	.77	1.45	.55
20	1.93	1.35	1.78	.91	1.21	.32	1.55	.61	1.97	1.29	1.68	.72
21	1.94	1.08	1.57	.84	1.52	.59	1.39	.56	1.69	.33	1.75	1.03
22	1.48	.26	1.52	.63	1.44	.60	1.23	.50	1.49	.64	1.55	.61
23	1.17	.22	1.31	.56	.99	.29	1.16	.44	1.74	.94	1.62	1.12
24	1.14	.27	1.84	.99	1.09	.42	1.28	.57	1.84	1.06	1.58	.43
25	1.66	.73	1.50	.79	1.59	.80	1.33	.53	1.86	.64	1.46	.77
26	1.46	.52	1.03	.37	1.72	1.03	1.70	.88	1.30	.49	1.81	1.06
27	.83	-.50	1.16	.46	1.57	.49	2.14	.98	1.33	.75	1.73	1.00
28	1.99	.83	1.33	.72	1.32	.88	1.55	.60	1.49	.60	1.18	.58
29	2.12	1.35	1.29	.17	1.73	.52	1.53	.68	1.18	.39	1.05	.37
30	2.00	1.22	1.00	.46	1.37	.54	1.47	.54	1.28	.39	.89	.34
31	---	---	1.80	1.00	---	---	1.23	.49	1.50	.92	---	---
MONTH	2.46	-.50	1.98	.17	1.85	.29	2.14	.32	1.97	.33	2.15	.12
YEAR	2.56	-1.22										

Daily Low Water Levels



## GROUND-WATER LEVELS

MARYLAND--Continued

HARFORD COUNTY--Continued

WELL NUMBER.--HA Fd 23. SITE ID.--391814076173803 PERMIT NUMBER.--HA-88-1045.

LOCATION.--Lat 39°18'14", long 76°17'38", Hydrologic Unit 02060003, at J-Field, Edgewood Area, Aberdeen Proving Ground.

Owner: U.S. Army.

AQUIFER.--Talbot Formation of Pleistocene age. Aquifer code: 112TLBT.

WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 20 ft; casing diameter 4 in., to 15 ft; screen diameter 4 in. from 15 to 20 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by U.S. Geological Survey personnel.

Equipped with digital water-level recorder--15-minute recorder interval from Jan. 12, 1990 to current year.

DATUM.--Elevation of land surface is 7.23 ft above National Geodetic Vertical Datum of 1929.

Measuring Point: Top of casing, 3.00 ft above land surface.

REMARKS.--J-Field Remedial Investigation observation well JF33. Missing data due to recorder malfunction.

PERIOD OF RECORD.--January 1990 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.87 ft above sea level, March 24, 1993; lowest measured, 1.24 ft above sea level, Sept. 24, 1993.

## WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

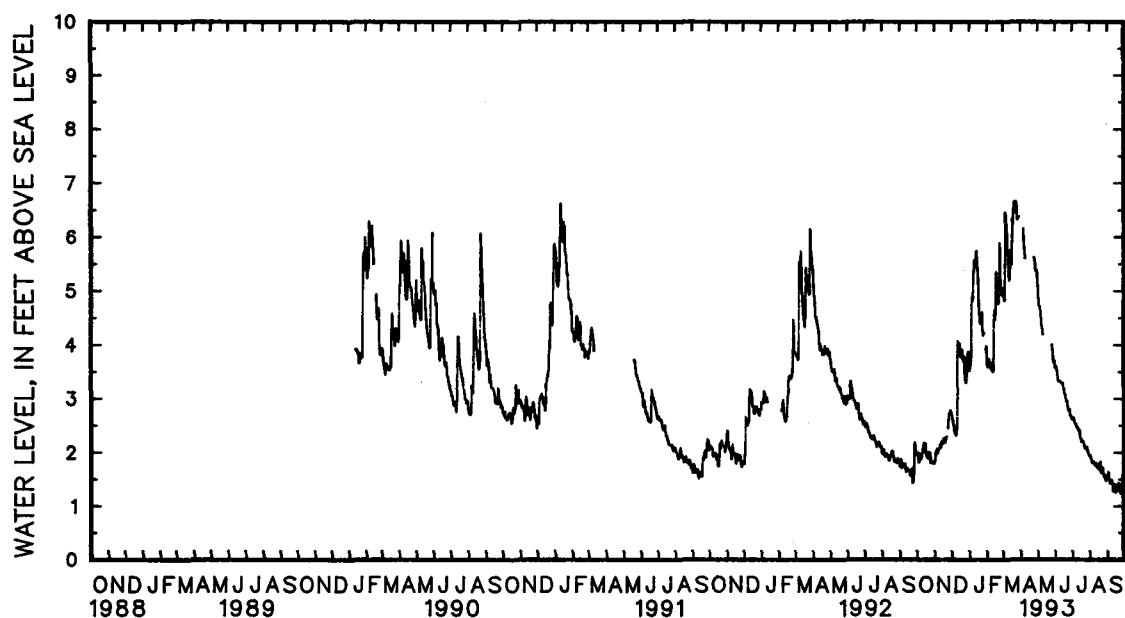
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	2.07	1.95	1.88	1.82	2.84	2.69	3.82	3.52	3.97	3.71	5.06	4.90
2	2.08	1.98	2.00	1.85	2.84	2.63	3.71	3.57	3.71	3.58	5.24	5.06
3	2.09	1.94	2.15	2.00	2.86	2.56	3.79	3.65	4.02	3.60	5.10	4.82
4	1.98	1.82	2.22	2.03	2.72	2.51	5.11	3.79	3.98	3.73	6.47	4.82
5	1.98	1.81	2.25	2.06	2.76	2.42	5.15	4.88	3.91	3.70	6.69	6.47
6	2.10	1.97	2.06	1.98	2.46	2.35	4.98	4.81	3.90	3.61	6.63	6.44
7	2.01	1.89	2.14	2.03	2.56	2.40	5.24	4.85	3.83	3.57	6.44	6.28
8	1.94	1.87	2.14	2.06	2.41	2.31	5.59	5.24	3.83	3.66	6.34	6.05
9	2.05	1.91	2.16	2.06	2.51	2.35	5.73	5.57	3.68	3.53	6.05	5.70
10	2.05	1.97	2.21	2.09	3.09	2.47	5.67	5.47	3.72	3.62	5.74	5.57
11	2.20	2.00	2.24	2.15	4.33	3.09	5.70	5.44	3.68	3.50	5.74	5.36
12	2.23	2.10	2.34	2.09	4.36	4.08	6.05	5.62	4.54	3.51	5.36	5.19
13	2.26	2.17	2.38	2.19	4.12	3.95	6.03	5.74	5.20	4.54	6.05	5.23
14	2.26	2.13	2.28	2.19	4.10	3.99	5.76	5.52	5.12	4.64	6.24	5.77
15	2.26	2.13	2.29	2.22	4.12	4.03	5.64	5.42	4.64	4.47	5.77	5.49
16	2.26	2.16	2.28	2.17	4.14	3.87	5.52	5.24	5.78	4.59	6.02	5.49
17	2.26	1.95	2.40	2.26	4.03	3.78	5.39	4.85	5.78	5.36	6.57	6.02
18	2.09	1.99	2.38	2.18	4.09	3.92	4.85	4.59	5.36	4.98	6.50	6.34
19	2.14	1.90	2.27	2.18	4.00	3.87	4.64	4.50	4.98	4.76	6.57	6.28
20	2.06	1.90	2.33	2.22	4.03	3.90	4.60	4.39	4.90	4.79	6.73	6.56
21	2.22	2.00	2.44	2.28	3.90	3.71	4.89	4.55	5.10	4.76	6.73	6.66
22	2.00	1.88	2.42	2.29	3.90	3.79	4.81	4.59	6.03	5.10	6.66	6.51
23	2.03	1.90	---	---	3.90	3.78	4.74	4.60	6.03	5.89	6.67	6.46
24	2.13	1.98	2.67	2.45	3.89	3.48	4.61	4.29	5.89	5.29	6.87	6.67
25	2.08	1.81	2.84	2.62	3.83	3.48	4.35	4.18	5.29	5.02	6.74	6.63
26	2.00	1.80	2.92	2.73	3.62	3.30	4.35	4.22	5.17	5.06	6.65	6.46
27	2.00	1.80	2.92	2.73	3.45	3.30	4.46	4.22	5.08	4.93	6.46	6.33
28	1.93	1.82	2.87	2.78	3.78	3.45	---	---	5.04	4.93	6.38	6.36
29	1.93	1.82	2.87	2.77	3.94	3.76	---	---	---	---	6.38	6.38
30	1.91	1.79	2.84	2.74	3.96	3.88	4.07	3.91	---	---	6.39	6.38
31	1.88	1.79	---	---	3.96	3.80	4.08	3.97	---	---	---	---
MONTH	2.26	1.79	2.92	1.82	4.36	2.31	6.05	3.52	6.03	3.50	6.87	4.82

GROUND-WATER LEVELS  
MARYLAND--Continued  
HARFORD COUNTY--Continued  
HA Fd 23--Continued

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DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	5.27	5.09	3.72	3.57	2.66	2.61	1.96	1.93	1.66	1.55
2	---	---	5.11	4.87	3.61	3.57	2.67	2.61	1.96	1.94	1.66	1.56
3	---	---	4.90	4.73	3.61	3.59	2.66	2.64	1.95	1.89	1.70	1.63
4	---	---	4.77	4.71	3.60	3.53	2.65	2.60	1.92	1.85	1.68	1.51
5	6.24	6.15	4.76	4.70	3.54	3.50	2.60	2.53	1.86	1.80	1.52	1.42
6	6.15	5.94	4.75	4.62	3.52	3.35	2.57	2.53	1.84	1.82	1.55	1.47
7	5.94	5.79	4.62	4.47	3.39	3.32	2.57	2.53	1.84	1.81	1.58	1.47
8	5.80	5.69	4.47	4.36	3.33	3.31	2.55	2.48	1.84	1.82	1.57	1.43
9	5.70	5.61	4.38	4.35	3.32	3.32	2.49	2.48	1.83	1.79	1.59	1.48
10	---	---	4.36	4.20	3.32	3.32	2.49	2.46	1.84	1.76	1.70	1.40
11	---	---	4.22	4.19	3.32	3.30	2.48	2.44	1.87	1.78	1.41	1.28
12	---	---	---	---	3.30	3.29	2.48	2.42	1.89	1.79	1.47	1.28
13	---	---	---	---	3.30	3.28	2.47	2.39	1.92	1.75	1.55	1.41
14	---	---	---	---	3.29	3.28	2.42	2.40	1.84	1.71	1.49	1.40
15	---	---	---	---	3.29	3.27	2.42	2.27	1.85	1.71	1.51	1.39
16	---	---	---	---	3.28	3.10	2.27	2.25	1.83	1.70	1.39	1.25
17	---	---	---	---	3.11	3.09	2.27	2.19	1.91	1.79	1.50	1.27
18	---	---	---	---	3.11	3.08	2.22	2.19	1.80	1.67	1.51	1.40
19	---	---	---	---	3.10	3.00	2.22	2.21	1.88	1.70	1.51	1.31
20	---	---	---	---	3.00	2.95	2.22	2.20	1.92	1.82	1.46	1.33
21	---	---	---	---	2.98	2.95	2.20	2.17	1.90	1.60	1.55	1.43
22	---	---	---	---	2.97	2.93	2.19	2.13	1.72	1.64	1.50	1.30
23	---	---	---	---	2.93	2.79	2.15	2.08	1.76	1.69	1.51	1.35
24	5.65	5.62	---	---	2.82	2.77	2.10	2.08	1.83	1.71	1.50	1.24
25	5.64	5.60	---	---	2.79	2.78	2.10	2.06	1.84	1.60	1.43	1.25
26	5.60	5.50	4.17	3.99	2.79	2.79	2.10	2.09	1.69	1.54	1.54	1.39
27	5.55	5.37	4.01	3.90	2.79	2.68	2.10	2.09	1.67	1.54	1.65	1.40
28	5.41	5.39	3.93	3.90	2.71	2.68	2.10	2.01	1.70	1.56	1.66	1.58
29	5.41	5.39	3.92	3.68	2.71	2.65	2.05	2.01	1.62	1.48	1.64	1.52
30	5.40	5.25	3.71	3.68	2.69	2.61	2.04	1.96	1.61	1.47	1.54	1.45
31	---	---	3.72	3.70	---	---	1.98	1.94	1.67	1.57	---	---
MONTH	6.24	5.25	5.27	3.68	3.72	2.61	2.67	1.94	1.96	1.47	1.70	1.24
YEAR	6.87	1.24										

Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

HARFORD COUNTY--Continued

WELL NUMBER.--HA Fd 26. SITE ID.--391824076172701 PERMIT NUMBER.--HA-88-1061.

LOCATION.--Lat 39°18'24", long 76°17'27", Hydrologic Unit 02060003, at J-Field, Edgewood Area, Aberdeen Proving Ground.

Owner: U.S. Army.

AQUIFER.--Talbot Formation of Pleistocene age. Aquifer code: 112TLBT.

WELL CHARACTERISTICS.--Drilled, observation, confined aquifer well, depth 79 ft; casing diameter 4 in., to 74 ft; screen diameter 4 in. from 74 to 79 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by U.S. Geological Survey personnel.

Equipped with digital water-level recorder--15-minute recorder interval from Jan. 17, 1990 to current year.

DATUM.--Elevation of land surface is 10.18 ft above National Geodetic Vertical Datum of 1929.

Measuring Point: Top of casing, 2.80 ft above land surface.

REMARKS.--J-Field Remedial Investigation observation well JF91. Missing data due to recorder malfunction.

PERIOD OF RECORD.--January 1990 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.90 ft above sea level, Nov. 1, 1991; lowest measured, 1.12 ft below sea level, Feb. 16, 1990.

WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
(READINGS BELOW SEA LEVEL INDICATED BY "--")

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	1.14	.49	1.20	.85	1.22	.62	.98	.33	.45	-.25	1.37	.82
2	1.30	.79	1.88	.99	1.41	.42	.43	-.21	-.07	-.97	2.05	1.37
3	1.44	.70	2.27	1.09	1.43	.31	1.05	.43	1.53	-.07	1.43	.89
4	1.06	.37	1.86	1.11	1.09	.17	1.41	.60	1.19	.46	2.07	.76
5	1.48	.46	1.86	.74	1.19	-.46	1.49	.97	1.38	.49	2.63	1.61
6	2.00	1.19	.76	.39	.32	-.92	1.00	.19	1.21	.28	1.89	1.38
7	1.53	.95	1.12	.71	.70	-.05	1.55	.58	1.44	.33	1.89	1.26
8	1.40	.90	1.10	.65	.32	-.29	1.53	.88	1.40	.67	1.75	1.17
9	1.86	1.16	1.20	.63	.82	.01	1.47	.69	1.27	.41	1.39	.73
10	1.75	1.08	1.39	.75	1.77	.56	1.74	.89	1.31	.78	1.26	.61
11	1.83	1.10	1.49	1.01	2.11	1.39	1.74	1.06	1.16	.59	1.43	.77
12	1.68	.78	2.05	.74	1.66	.44	1.59	.87	1.49	.55	1.02	.53
13	1.42	.95	2.07	.60	1.54	.75	1.53	.91	2.01	1.36	1.34	.61
14	1.48	.80	1.00	.42	---	---	1.59	.97	1.61	.39	1.95	-.12
15	1.48	.83	1.00	.53	2.10	1.63	1.65	.99	.99	.18	-.12	-.68
16	1.61	.99	1.03	.27	2.28	1.34	1.67	1.15	1.85	.90	.67	-.41
17	1.61	.09	1.37	.95	1.80	1.03	1.89	1.04	1.59	.49	.72	.20
18	1.18	.59	1.26	.39	1.39	.72	1.46	.59	.81	.10	.22	-.98
19	1.38	.18	.99	.51	1.25	.64	.83	.32	.43	-.19	.68	-.60
20	1.30	.23	1.31	.69	1.49	.80	1.00	.38	1.31	.42	1.18	.54
21	2.01	.76	1.74	.97	.99	.17	.94	.28	1.72	.79	1.14	.68
22	.85	.30	1.62	.93	1.14	.61	1.70	.74	1.70	1.24	.85	.43
23	1.33	.57	1.50	.91	1.43	.64	1.61	.75	1.42	1.02	1.03	.42
24	1.77	.98	1.40	.47	1.34	.00	1.57	.82	1.32	.17	1.39	.83
25	1.40	.14	1.92	1.08	1.42	.00	1.54	.30	.51	-.19	1.20	.56
26	1.48	.32	1.90	1.26	1.42	-.06	.87	.09	1.04	.42	1.46	.88
27	1.41	.38	1.78	.68	.54	-.22	.89	.53	.83	.51	1.21	.69
28	1.28	.59	1.29	.85	.84	.14	1.56	.76	1.35	.76	1.58	1.04
29	1.28	.73	1.26	.78	.87	.37	---	---	---	---	1.67	1.04
30	1.24	.64	1.19	.73	1.01	.62	.78	-.13	---	---	1.74	1.19
31	1.19	.69	---	---	.98	.59	.65	.21	---	---	1.85	1.20
MONTH	2.01	.09	2.27	.27	2.28	-.92	1.89	-.21	2.01	-.97	2.63	-.98



## GROUND-WATER LEVELS

## MARYLAND--Continued

## HARFORD COUNTY--Continued

WELL NUMBER.--HA Fd 28. SITE ID.--391824076172703 PERMIT NUMBER.--HA-88-1063.

LOCATION.--Lat 39°18'24", long 76°17'27", Hydrologic Unit 02060003, at J-Field, Edgewood Area, Aberdeen Proving Ground.

Owner: U.S. Army.

AQUIFER.--Talbot Formation of Pleistocene age. Aquifer code: 112TLBT.

WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 25 ft; casing diameter 4 in., to 20 ft; screen diameter 4 in. from 20 to 25 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by U.S. Geological Survey personnel.

Equipped with digital water-level recorder--15-minute recorder interval from Jan. 17, 1990 to current year.

DATUM.--Elevation of land surface is 10.28 ft above National Geodetic Vertical Datum of 1929.

Measuring Point: Top of casing, 2.98 ft above land surface.

REMARKS.--J-Field Remedial Investigation observation well JF93.

PERIOD OF RECORD.--January 1990 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.16 ft above sea level, April 1 and 2, 1993; lowest measured, .44 ft below sea level, Sept. 25, 1993.

WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
(READINGS BELOW SEA LEVEL INDICATED BY "--")

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	.38	.34	.46	.42	1.57	1.52	3.87	3.68	4.75	4.45	5.20	5.11
2	.41	.35	.59	.45	1.55	1.47	3.68	3.51	4.45	4.14	5.38	5.20
3	.45	.39	.77	.59	1.59	1.45	3.64	3.51	4.39	4.14	5.38	5.22
4	.39	.29	.81	.71	---	---	3.84	3.64	4.41	4.26	5.57	5.19
5	.33	.27	.84	.76	---	---	4.28	3.84	4.33	4.22	5.78	5.57
6	.47	.33	.76	.65	---	---	4.48	4.28	4.36	4.18	5.78	5.71
7	.46	.41	.71	.65	---	---	4.69	4.48	4.19	4.11	5.71	5.64
8	.41	.37	.71	.68	---	---	4.88	4.69	4.29	4.19	5.70	5.65
9	.53	.39	.71	.67	---	---	4.98	4.88	4.26	4.07	5.69	5.45
10	.55	.52	.74	.70	1.67	1.36	5.09	4.98	4.15	4.07	5.45	5.38
11	.63	.53	.81	.74	2.28	1.67	5.16	5.09	4.16	4.10	5.46	5.31
12	.64	.58	.84	.76	2.33	2.28	5.30	5.16	4.44	4.09	5.31	5.16
13	.63	.60	.98	.84	2.41	2.33	5.51	5.30	5.07	4.44	5.76	5.16
14	.61	.56	.91	.86	---	---	5.51	5.35	5.10	4.96	5.81	5.37
15	.61	.58	.89	.86	---	---	5.35	5.31	4.96	4.82	5.37	5.12
16	.63	.59	.87	.81	2.71	2.66	5.36	5.34	5.34	4.84	5.34	5.12
17	.64	.44	.97	.82	2.76	2.67	5.36	5.32	5.39	5.27	5.73	5.34
18	.50	.44	.97	.86	2.77	2.75	5.33	4.91	5.27	5.19	5.73	5.60
19	.57	.45	.88	.85	2.86	2.75	4.91	4.73	5.19	4.99	5.67	5.57
20	.49	.40	.95	.88	2.99	2.86	4.73	4.69	5.12	4.99	5.90	5.67
21	.65	.49	1.06	.95	2.99	2.87	4.75	4.70	5.27	5.10	5.96	5.90
22	.60	.44	1.09	1.03	3.03	2.93	5.14	4.75	5.46	5.27	5.96	5.87
23	.53	.44	1.25	1.09	3.13	3.03	5.15	5.03	5.46	5.46	5.89	5.84
24	.64	.53	1.27	1.20	3.15	2.89	5.14	5.03	5.46	5.18	6.08	5.89
25	.64	.42	1.42	1.27	3.12	2.86	5.14	4.82	5.18	4.97	6.08	5.97
26	.49	.40	1.54	1.42	3.16	2.92	4.82	4.72	5.10	4.97	5.97	5.91
27	.51	.42	1.58	1.54	2.92	2.77	4.90	4.75	5.10	5.08	5.91	5.86
28	.45	.42	1.59	1.56	3.05	2.79	4.90	4.83	5.11	5.08	5.98	5.87
29	.47	.45	1.59	1.55	3.45	3.05	4.98	4.67	---	---	6.04	5.98
30	.47	.42	1.57	1.54	3.74	3.45	4.67	4.53	---	---	6.05	5.99
31	.46	.42	---	---	3.87	3.74	4.75	4.60	---	---	5.99	5.90
MONTH	.65	.27	1.59	.42	3.87	1.36	5.51	3.51	5.46	4.07	6.08	5.11

## GROUND-WATER LEVELS

303

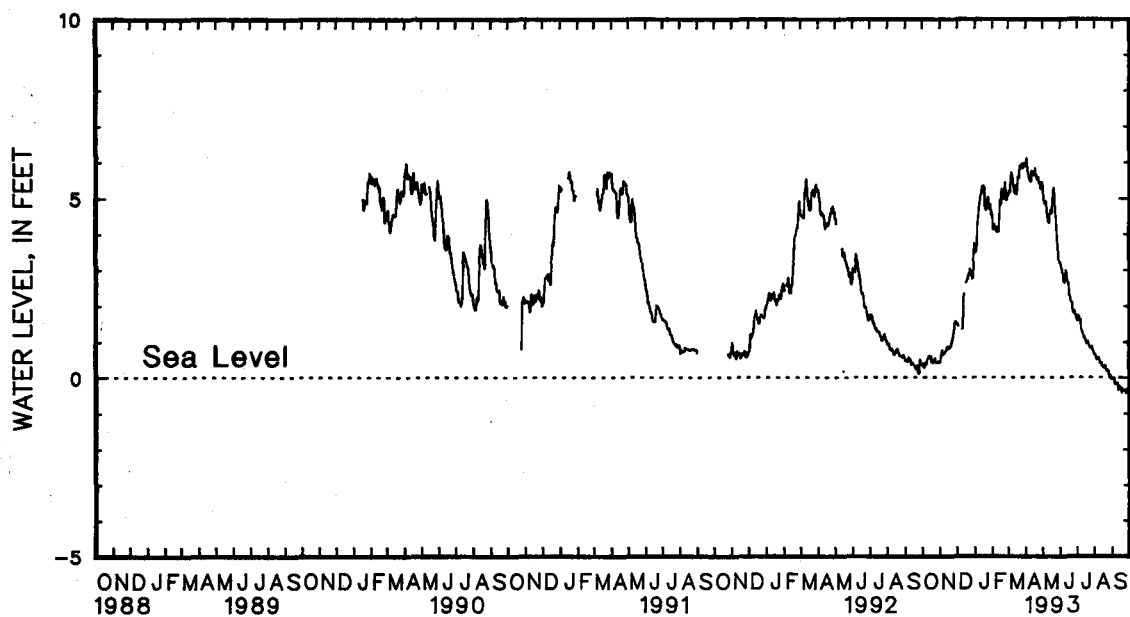
## MARYLAND--Continued

## HARFORD COUNTY--Continued

## HA Fd 28--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	6.16	5.91	5.40	5.25	3.38	3.16	1.62	1.60	.67	.65	.02	-.03
2	6.16	6.12	5.25	5.06	3.16	3.06	1.73	1.59	.69	.65	.00	-.02
3	6.12	5.90	5.06	4.90	3.08	3.04	1.77	1.73	.68	.60	.01	-.02
4	5.90	5.76	4.90	4.87	3.04	2.93	1.75	1.69	.60	.54	.01	-.08
5	5.76	5.70	4.92	4.87	2.96	2.89	1.69	1.61	.55	.51	-.08	-.19
6	5.70	5.63	4.95	4.92	2.96	2.71	1.64	1.60	.62	.51	-.15	-.18
7	5.63	5.54	4.94	4.78	2.71	2.66	1.65	1.61	.63	.55	-.12	-.16
8	5.54	5.51	4.78	4.62	2.69	2.65	1.61	1.36	.62	.56	-.13	-.19
9	5.51	5.48	4.62	4.56	3.00	2.69	1.36	1.32	.59	.52	-.15	-.19
10	5.82	5.48	4.56	4.40	3.08	3.00	1.33	1.28	.55	.41	-.07	-.17
11	5.82	5.76	4.40	4.35	3.04	2.90	1.28	1.21	.44	.40	-.17	-.34
12	5.86	5.76	4.40	4.31	2.90	2.74	1.25	1.19	.45	.40	-.25	-.34
13	5.85	5.68	4.66	4.33	2.76	2.71	1.19	1.12	.45	.40	-.21	-.25
14	5.68	5.65	4.70	4.66	2.71	2.65	1.18	1.13	.40	.33	-.24	-.27
15	5.65	5.65	4.70	4.68	2.68	2.63	1.18	1.07	.34	.31	-.25	-.29
16	5.85	5.65	4.68	4.58	2.63	2.43	1.07	1.04	.31	.29	-.29	-.39
17	5.97	5.85	4.89	4.61	2.43	2.29	1.06	.97	.38	.31	-.33	-.42
18	5.86	5.69	5.12	4.89	2.32	2.27	.99	.95	.38	.27	-.29	-.33
19	5.69	5.66	5.34	5.12	2.29	2.18	1.13	.99	.33	.27	-.27	-.36
20	5.66	5.61	5.37	5.30	2.18	2.11	1.14	1.01	.38	.33	-.34	-.37
21	5.61	5.53	5.30	5.12	2.17	2.10	1.01	.96	.37	.19	-.25	-.36
22	5.73	5.53	5.12	4.81	2.17	2.08	.96	.91	.19	.17	-.28	-.38
23	5.72	5.59	4.81	4.58	2.08	1.89	.91	.85	.21	.17	-.29	-.38
24	5.59	5.42	4.58	4.50	1.89	1.82	.86	.83	.26	.20	-.29	-.43
25	5.46	5.42	4.50	4.25	1.87	1.82	.87	.83	.24	.13	-.34	-.44
26	5.46	5.44	4.25	3.94	1.94	1.86	.86	.83	.13	.04	-.27	-.34
27	5.44	5.27	3.94	3.73	1.91	1.77	.97	.86	.07	.03	-.22	-.32
28	5.46	5.27	3.73	3.64	1.77	1.75	.91	.78	.08	.05	-.22	-.32
29	5.50	5.46	3.64	3.39	1.78	1.70	.82	.77	.05	-.04	-.30	-.36
30	5.50	5.40	3.39	3.22	1.70	1.62	.78	.72	-.01	-.06	-.36	-.39
31	---	---	3.37	3.22	---	---	.72	.66	.02	-.01	---	---
MONTH	6.16	5.27	5.40	3.22	3.38	1.62	1.77	.66	.69	-.06	.02	-.44
YEAR	6.16	---	---	---	---	---	---	---	---	---	---	---

Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

## MARYLAND--Continued

## HARFORD COUNTY--Continued

WELL NUMBER.--HA Fd 29. SITE ID.--391812076173101 PERMIT NUMBER.--HA-88-1046.

LOCATION.--Lat 39°18'12", long 76°17'31", Hydrologic Unit 02060003, at J-Field, Edgewood Area, Aberdeen Proving Ground.

Owner: U.S. Army.

AQUIFER.--Talbot Formation of Pleistocene age. Aquifer code: 112TLBT.

WELL CHARACTERISTICS.--Drilled, observation, confined aquifer well, depth 90 ft; casing diameter 4 in., to 85 ft; screen diameter 4 in. from 85 to 90 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by U.S. Geological Survey personnel.

Equipped with digital water-level recorder--15-minute recorder interval from Jan. 12, 1990 to current year.

DATUM.--Elevation of land surface is 10.22 ft above National Geodetic Vertical Datum of 1929.

Measuring Point: Top of casing, 2.83 ft above land surface.

REMARKS.--J-Field Remedial Investigation observation well JF41.

Missing data due to recorder malfunction.

PERIOD OF RECORD.--January 1990 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.02 ft above sea level, Jan. 30, 1991 and Nov. 1, 1991; lowest measured, 1.11 ft below sea level, March 18, 1993.

WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
(READINGS BELOW SEA LEVEL INDICATED BY "--")

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	1.36	.45	1.27	.81	1.28	.57	---	---	.50	-.42	1.50	.77
2	1.42	.77	1.87	.96	---	---	---	---	-.03	-1.10	2.12	1.38
3	1.54	.68	2.39	1.03	1.50	.23	---	---	1.59	-.03	1.46	.81
4	1.15	.34	1.94	1.06	---	---	---	---	1.17	.36	2.28	.65
5	1.67	.45	1.92	.68	---	---	---	---	1.47	.41	2.73	1.55
6	2.11	1.19	.77	.31	---	---	---	---	1.13	.13	1.96	1.30
7	1.63	.88	1.18	.68	---	---	---	---	1.52	.22	1.97	1.15
8	1.50	.88	1.17	.60	---	---	---	---	1.43	.58	1.82	1.07
9	1.97	1.17	1.27	.57	---	---	---	---	1.35	.30	1.40	.59
10	1.70	1.05	1.48	.69	---	---	---	---	1.39	.70	1.32	.48
11	1.93	1.07	1.59	.96	---	---	---	---	1.22	.50	1.50	.65
12	1.61	.75	2.13	.68	---	---	---	---	1.59	.46	1.04	.41
13	1.52	.92	2.16	.50	---	---	---	---	2.09	1.35	1.62	.49
14	1.60	.76	1.07	.34	---	---	---	---	1.68	.29	2.08	-.25
15	1.55	.78	1.07	.46	---	---	---	---	1.03	.07	-.25	-.83
16	1.76	.95	1.05	.19	---	---	---	---	1.93	.90	.68	-.39
17	1.69	.01	1.45	.93	---	---	---	---	1.51	.39	.75	.02
18	1.38	.56	1.35	.32	---	---	---	---	.85	-.08	.02	-1.11
19	1.47	.09	1.06	.45	---	---	---	---	.44	-.26	.71	-.67
20	1.52	.26	1.39	.65	---	---	---	---	1.39	.39	1.24	.48
21	2.11	.64	1.83	.94	---	---	---	---	1.80	.72	1.19	.54
22	.91	.22	1.72	.86	---	---	---	---	1.78	1.17	.89	.32
23	1.43	.52	1.59	.97	---	---	---	---	1.47	.93	1.06	.31
24	1.89	.94	1.50	.39	---	---	---	---	1.22	.05	1.47	.75
25	1.23	.04	2.01	1.04	---	---	---	---	.54	-.30	1.24	.45
26	1.59	.25	1.99	1.23	---	---	---	---	1.08	.34	1.51	.80
27	1.36	.30	1.91	.61	---	---	---	---	.85	.43	1.26	.60
28	1.38	.54	1.36	.81	---	---	---	---	1.42	.74	1.64	.97
29	1.34	.67	1.33	.72	---	---	---	---	---	---	1.72	.96
30	1.34	.59	1.23	.68	---	---	.79	-.24	---	---	1.79	1.11
31	1.23	.64	---	---	---	---	.67	.10	---	---	1.91	1.12
MONTH	2.11	.01	2.39	.19	1.50	.23	.79	-.24	2.09	-1.10	2.73	-1.11



## GROUND-WATER LEVELS

305

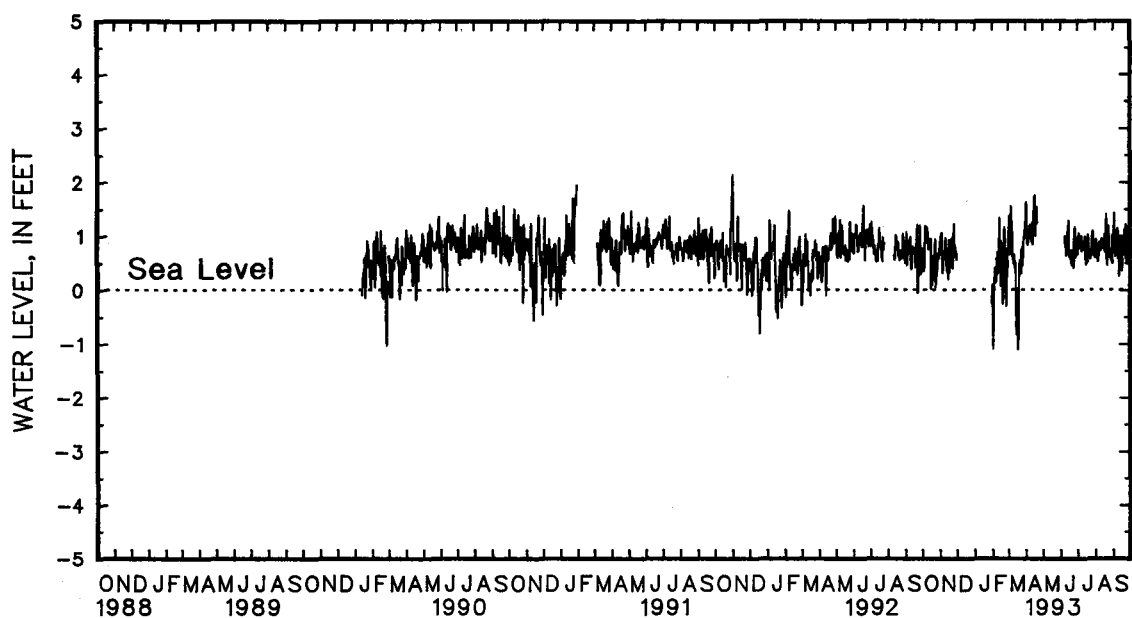
## MARYLAND--Continued

## HARFORD COUNTY--Continued

## HA Pd 29--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	2.45	1.65	---	---	---	---	1.53	.66	1.41	.69	1.72	.96
2	2.21	1.57	---	---	---	---	1.75	.81	1.70	.95	1.72	1.05
3	2.01	.97	---	---	---	---	1.95	1.05	1.45	.74	1.91	1.43
4	1.52	.84	---	---	---	---	1.68	.88	1.29	.66	1.76	.92
5	1.69	.90	---	---	---	---	1.53	.79	1.26	.53	1.31	.63
6	1.82	1.05	---	---	---	---	1.67	.90	1.48	.83	1.64	.94
7	1.84	1.05	---	---	---	---	1.73	1.00	1.72	.63	1.64	.96
8	2.16	1.20	---	---	1.60	.88	1.42	.71	1.75	.89	1.65	.85
9	2.14	1.17	---	---	1.58	1.00	1.46	.87	1.47	.75	1.95	1.15
10	2.18	1.15	---	---	1.49	.84	1.50	.85	1.42	.74	2.28	.73
11	1.74	.89	---	---	1.32	.63	1.42	.76	1.46	.89	.98	.25
12	2.17	1.24	---	---	1.28	.84	1.54	.78	1.63	.95	1.47	.71
13	1.45	.84	---	---	1.59	1.03	1.41	.90	1.81	.84	1.80	1.00
14	2.04	1.36	---	---	1.66	1.14	1.67	.99	1.47	.79	1.59	.98
15	2.11	1.64	---	---	1.93	1.29	1.59	.47	1.63	.77	1.71	.93
16	2.60	1.75	---	---	1.87	.62	1.22	.52	1.64	.77	1.11	.36
17	2.63	1.03	---	---	1.32	.62	1.49	.52	2.01	1.04	1.71	.52
18	1.59	1.01	---	---	1.61	.73	1.45	.52	1.37	.70	1.65	.94
19	1.96	1.24	---	---	1.53	.52	2.13	1.03	1.96	.89	1.46	.65
20	1.67	1.55	---	---	1.35	.46	1.68	.73	2.09	1.42	1.85	.81
21	1.63	1.25	---	---	1.65	.74	1.53	.68	1.86	.45	1.86	1.12
22	---	---	---	---	1.58	.71	1.36	.63	1.58	.76	1.65	.69
23	---	---	---	---	1.12	.41	1.29	.58	1.78	1.05	1.73	1.22
24	---	---	---	---	1.20	.54	1.41	.69	1.95	1.18	1.68	.53
25	---	---	---	---	1.69	.94	1.47	.65	1.98	.75	1.55	1.09
26	---	---	---	---	1.85	1.17	1.82	1.01	1.43	.60	1.88	1.05
27	---	---	---	---	1.70	.60	2.29	1.09	1.45	.75	1.80	1.01
28	---	---	---	---	1.46	.97	1.68	.73	1.61	.70	1.25	.64
29	---	---	---	---	1.86	.66	1.67	.80	1.30	.51	1.10	.44
30	---	---	---	---	1.51	.66	1.61	.67	1.41	.50	.94	.39
31	---	---	---	---	---	---	1.38	.61	1.63	1.03	---	---
MONTH	2.63	.84	---	---	1.93	.41	2.29	.47	2.09	.45	2.28	.25
YEAR	2.73	-1.11										

Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

## MARYLAND--Continued

## HARFORD COUNTY--Continued

WELL NUMBER.--HA Fd 31. SITE ID.--391812076173103 PERMIT NUMBER.--HA-88-1048.  
 LOCATION.--Lat 39°18'12", long 76°17'31", Hydrologic Unit 02060003, at J-Field, Edgewood Area,  
 Aberdeen Proving Ground.  
 Owner: U.S. Army.

AQUIFER.--Talbot Formation of Pleistocene age. Aquifer code: 112TLBT.

WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 35 ft; casing diameter 4 in., to 30 ft;  
 screen diameter 4 in. from 30 to 35 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by U.S. Geological Survey personnel.

Equipped with digital water-level recorder--15-minute recorder interval from Jan. 12, 1990 to current year.

DATUM.--Elevation of land surface is 12.72 ft above National Geodetic Vertical Datum of 1929.

Measuring Point: Top of casing, 2.90 ft above land surface.

REMARKS.--J-Field Remedial Investigation observation well JF43.

Missing data due to recorder malfunction.

PERIOD OF RECORD.--January 1990 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.49 ft above sea level, April 2 and 3, 1993;  
 lowest measured, 0.17 ft above sea level, Sept. 17, 1993.

## WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	1.70	1.68	1.81	1.81	---	---	4.72	4.59	4.80	4.66	5.27	5.27
2	1.68	1.68	1.83	1.81	---	---	4.59	4.44	4.66	4.46	5.30	5.27
3	1.68	1.68	2.01	1.83	---	---	4.44	4.39	4.46	4.42	5.30	5.26
4	1.68	1.66	2.12	2.01	---	---	4.45	4.39	4.45	4.42	5.51	5.24
5	1.66	1.62	2.17	2.12	---	---	4.80	4.45	4.42	4.37	5.97	5.51
6	1.62	1.61	2.17	2.16	---	---	5.09	4.80	4.41	4.36	6.07	5.97
7	1.61	1.60	2.16	2.15	---	---	5.17	5.09	4.36	4.28	6.07	6.02
8	1.60	1.58	2.15	2.14	---	---	5.28	5.17	4.34	4.28	6.02	6.00
9	1.64	1.58	2.14	2.13	2.94	2.90	5.44	5.28	4.34	4.24	6.00	5.83
10	1.78	1.64	2.13	2.13	3.06	2.90	5.50	5.44	4.24	4.23	5.83	5.72
11	1.88	1.78	2.17	2.13	3.64	3.06	5.52	5.50	4.23	4.20	5.72	5.62
12	1.95	1.88	2.22	2.17	4.03	3.64	5.62	5.52	4.33	4.18	5.62	5.44
13	1.97	1.95	2.33	2.22	4.14	4.03	5.80	5.62	4.90	4.33	5.71	5.42
14	1.97	1.96	2.36	2.33	4.18	4.14	5.81	5.75	5.06	4.90	5.82	5.71
15	1.96	1.94	2.37	2.36	4.22	4.18	5.75	5.68	5.05	4.96	5.77	5.61
16	1.95	1.94	2.37	2.35	4.24	4.22	5.68	5.65	5.14	4.95	5.64	5.58
17	1.95	1.91	2.37	2.35	4.32	4.24	5.65	5.59	5.33	5.14	6.04	5.64
18	1.91	1.89	2.38	2.37	4.40	4.32	5.59	5.34	5.35	5.33	6.20	6.04
19	1.89	1.88	2.37	2.36	4.43	4.40	5.34	5.15	5.34	5.21	6.21	6.19
20	1.88	1.84	2.36	2.36	4.52	4.43	5.15	5.07	5.21	5.16	6.26	6.19
21	1.85	1.84	2.41	2.36	4.52	4.47	5.07	5.04	5.16	5.12	6.33	6.26
22	1.85	1.85	2.48	2.41	4.48	4.47	5.22	5.04	5.42	5.16	6.34	6.30
23	1.85	1.84	2.67	2.48	4.49	4.47	5.24	5.21	5.59	5.42	6.30	6.25
24	1.90	1.84	2.75	2.67	4.50	4.40	5.22	5.20	5.59	5.51	6.45	6.25
25	1.90	1.89	2.82	2.75	4.40	4.35	5.22	5.07	5.51	5.34	6.46	6.43
26	1.89	1.86	2.93	2.82	4.37	4.29	5.07	4.97	5.34	5.32	6.43	6.34
27	1.86	1.84	3.07	2.93	4.29	4.12	5.00	4.97	5.32	5.29	6.34	6.26
28	1.84	1.82	3.13	3.07	4.21	4.12	5.00	4.92	5.29	5.27	6.32	6.26
29	1.82	1.82	---	---	4.49	4.21	4.93	4.83	---	---	6.38	6.32
30	1.82	1.81	---	---	4.64	4.49	4.83	4.74	---	---	6.40	6.38
31	1.81	1.81	---	---	4.72	4.64	4.80	4.74	---	---	6.39	6.29
MONTH	1.97	1.58	3.13	1.81	4.72	2.90	5.81	4.39	5.59	4.18	6.46	5.24

## GROUND-WATER LEVELS

307

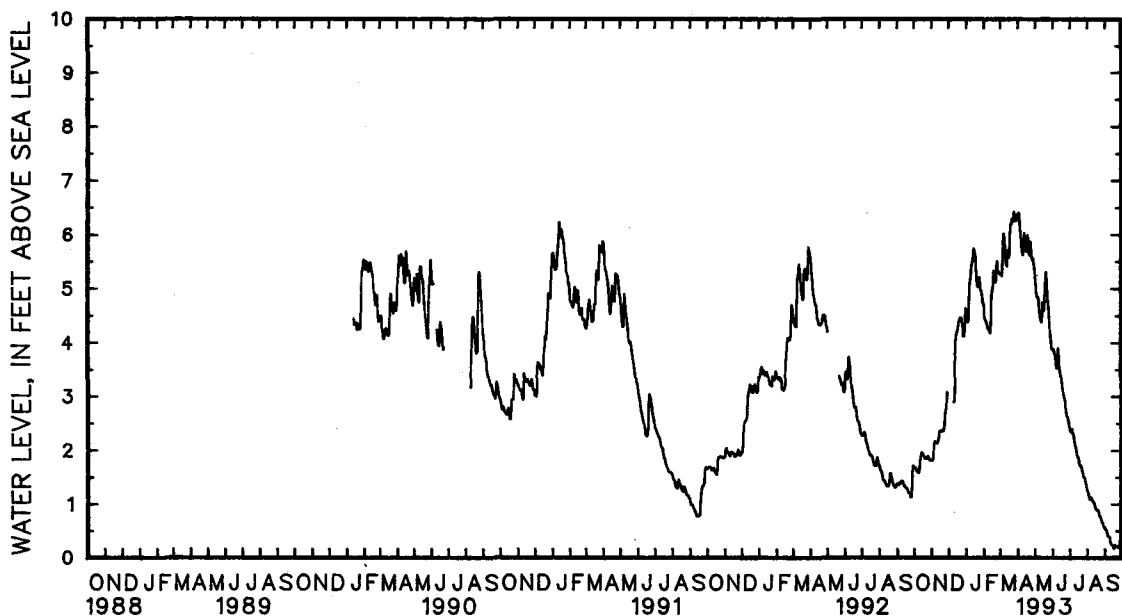
MARYLAND--Continued

HARFORD COUNTY--Continued

HA Fd 31--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	6.41	6.28	5.33	5.20	3.94	3.87	2.40	2.35	1.27	1.24	.57	.55
2	6.49	6.41	5.20	5.07	3.94	3.88	2.36	2.34	1.24	1.22	.55	.53
3	6.49	6.40	5.07	4.92	3.88	3.84	2.40	2.36	1.22	1.18	.53	.51
4	6.40	6.23	4.92	4.85	3.84	3.78	2.41	2.39	1.18	1.12	.51	.50
5	6.23	6.08	4.85	4.83	3.78	3.76	2.39	2.33	1.12	1.09	.50	.45
6	6.08	5.96	4.89	4.84	3.76	3.66	2.33	2.29	1.12	1.08	.45	.42
7	5.96	5.83	4.89	4.79	3.66	3.55	2.29	2.26	1.13	1.12	.42	.40
8	5.83	5.71	4.79	4.63	3.55	3.52	2.26	2.20	1.13	1.11	.40	.39
9	5.71	5.63	4.63	4.53	3.89	3.53	2.20	2.14	1.11	1.08	.39	.39
10	5.86	5.63	4.53	4.45	3.97	3.89	2.14	2.09	1.08	1.06	.39	.38
11	6.03	5.86	4.45	4.41	3.95	3.82	2.09	2.04	1.06	1.04	.38	.29
12	6.07	6.03	4.41	4.38	3.82	3.61	2.04	1.99	1.04	1.03	.29	.26
13	6.07	5.95	4.74	4.40	3.61	3.49	1.99	1.91	1.03	1.01	.26	.25
14	5.95	5.81	4.80	4.74	3.49	3.41	1.91	1.88	1.01	.97	.25	.24
15	5.81	5.72	4.79	4.68	3.41	3.35	1.88	1.87	.97	.93	.24	.23
16	5.77	5.69	4.68	4.59	3.35	3.25	1.87	1.82	.93	.90	.23	.20
17	6.07	5.77	5.03	4.64	3.25	3.15	1.82	1.76	.91	.90	.20	.17
18	6.07	5.99	5.14	5.03	3.15	3.10	1.76	1.71	.91	.90	.24	.20
19	5.99	5.86	5.31	5.14	3.10	3.04	1.71	1.70	.90	.88	.25	.24
20	5.86	5.73	5.33	5.31	3.04	2.98	1.74	1.71	.88	.88	.24	.21
21	5.73	5.62	5.32	5.17	2.98	2.96	1.73	1.68	.88	.85	.22	.21
22	5.88	5.62	5.17	4.97	2.96	2.91	1.68	1.63	.85	.79	.22	.21
23	5.93	5.88	4.97	4.76	2.91	2.78	1.63	1.58	.79	.78	.22	.21
24	5.88	5.67	4.76	4.64	2.78	2.69	1.58	1.52	.78	.76	.23	.20
25	5.67	5.58	4.64	4.51	2.69	2.63	1.52	1.50	.76	.73	.20	.19
26	5.58	5.53	4.51	4.35	2.63	2.62	1.50	1.48	.73	.69	.21	.19
27	5.57	5.55	4.35	4.20	2.62	2.57	1.48	1.47	.69	.66	.29	.21
28	5.55	5.49	4.20	4.12	2.57	2.51	1.47	1.42	.66	.65	.40	.29
29	5.49	5.42	4.12	4.02	2.51	2.46	1.42	1.38	.65	.60	.42	.40
30	5.42	5.33	4.02	3.89	2.46	2.40	1.38	1.33	.60	.57	.43	.42
31	---	---	3.89	3.87	---	---	1.33	1.27	.57	.57	---	---
MONTH	6.49	5.33	5.33	3.87	3.97	2.40	2.41	1.27	1.27	.57	.57	.17
YEAR	6.49	.17										

## Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

## MARYLAND--Continued

## HARFORD COUNTY--Continued

WELL NUMBER.--HA Fd 32. SITE ID.--391809076174301 PERMIT NUMBER.--HA-88-1037.

LOCATION.--Lat 39°18'09", long 76°17'43", Hydrologic Unit 02060003, at J-Field, Edgewood Area, Aberdeen Proving Ground.

Owner: U.S. Army.

AQUIFER.--Talbot Formation of Pleistocene age. Aquifer code: 112TLBT.

WELL CHARACTERISTICS.--Drilled, observation, confined aquifer well, depth 90 ft; casing diameter 4 in., to 85 ft; screen diameter 4 in. from 85 to 90 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by U.S. Geological Survey personnel.

Equipped with digital water-level recorder--15-minute recorder interval from Dec. 21, 1989 to current year.

DATUM.--Elevation of land surface is 7.42 ft above National Geodetic Vertical Datum of 1929.

Measuring Point: Top of casing, 2.75 ft above land surface.

REMARKS.--J-Field Remedial Investigation observation well JF11.

Missing data due to recorder malfunction.

PERIOD OF RECORD.--December 1989 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.02 ft above sea level, Nov. 1, 1991; lowest measured, 1.18 ft below sea level, Feb. 2, 1993.

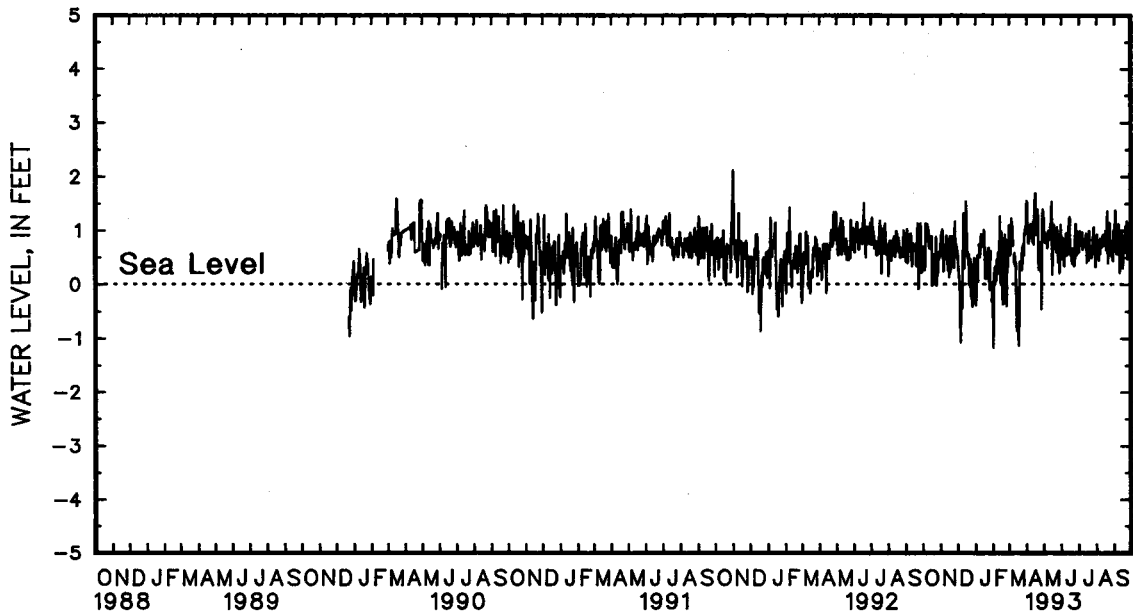
WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
(READINGS BELOW SEA LEVEL INDICATED BY "-")

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	1.36	.35	1.26	.75	1.27	.49	1.02	.17	.46	-.53	1.97	1.11
2	1.41	.70	1.92	.91	1.44	.28	.47	-.39	-.04	-1.18	2.10	.79
3	1.52	.60	2.38	.98	1.47	.16	1.09	.31	1.54	-.04	1.37	.55
4	1.13	.26	1.92	1.02	1.14	.04	1.45	.47	1.15	.27	2.70	.80
5	1.66	.37	1.92	.61	1.24	-.71	1.55	.54	1.45	.33	2.25	1.23
6	2.09	1.13	.74	.24	.38	-1.08	1.06	.05	1.11	.05	1.94	1.13
7	1.62	.81	1.18	.58	.73	-.33	---	---	1.49	.15	1.97	1.08
8	1.48	.81	1.15	.52	.37	-.44	1.58	.74	1.40	.47	1.64	.72
9	1.96	1.11	1.27	.48	.92	-.11	1.30	.51	1.32	.21	---	---
10	1.68	.98	1.47	.62	1.93	.46	1.79	.74	1.35	.60	1.34	.41
11	1.92	1.00	1.58	.91	2.24	1.33	1.65	.93	1.12	.40	1.51	.58
12	1.51	.67	2.14	.61	1.56	.30	1.43	.70	1.56	.36	1.05	.35
13	1.49	.85	2.13	.41	1.66	.66	1.63	.75	2.07	1.28	1.73	.41
14	1.59	.68	1.07	.26	2.14	1.14	1.53	.83	1.63	.20	2.10	-.31
15	1.51	.72	1.05	.38	2.32	1.55	1.70	.85	1.01	-.01	-.31	-.86
16	1.74	.89	1.09	.12	2.33	1.20	1.71	1.02	1.92	.99	.68	-.32
17	1.66	-.04	1.43	.89	1.86	.88	1.93	.92	1.39	.30	.76	-.06
18	1.39	.49	1.33	.24	1.38	.54	1.30	.39	.80	-.24	-.06	-1.15
19	1.46	.03	1.05	.38	1.28	.47	.85	.11	.37	-.37	.70	-.65
20	1.53	.24	1.38	.57	1.53	.56	1.03	.20	1.34	.32	1.26	.43
21	2.09	.56	1.84	.89	.99	-.01	.97	.11	1.77	.61	1.21	.41
22	.92	.15	1.72	.80	1.20	.45	1.77	.59	1.75	.93	.91	.27
23	1.43	.44	1.58	.84	1.49	.47	1.25	.56	1.42	.68	1.09	.27
24	1.90	.89	1.49	.31	1.08	-.22	1.68	.67	.68	-.25	1.48	.69
25	1.13	-.03	2.01	.97	1.50	-.14	1.13	.10	.49	-.40	1.26	.40
26	1.58	.17	1.99	1.17	1.29	-.26	.92	-.10	1.05	.26	1.52	.75
27	1.29	.23	1.83	.53	.58	-.42	.95	.37	1.26	.34	1.26	.55
28	1.37	.46	1.33	.75	.93	.00	1.68	.62	1.37	.69	1.64	.95
29	1.34	.60	1.30	.65	.92	.23	---	---	---	---	1.71	.92
30	1.29	.51	1.25	.60	1.06	.49	.76	-.31	---	---	1.79	1.08
31	1.25	.57	---	---	1.02	.44	.62	.05	---	---	1.89	1.08
MONTH	2.09	-.04	2.38	.12	2.33	-1.08	1.93	-.39	2.07	-1.18	2.70	-1.15

GROUND-WATER LEVELS  
MARYLAND--Continued  
HARFORD COUNTY--Continued  
HA Fd 32--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	2.42	1.56	1.93	1.23	1.98	.47	1.54	.60	1.42	.62	1.75	.93
2	2.19	1.49	1.92	.87	1.58	.52	1.77	.75	1.71	.92	1.74	1.03
3	1.99	.90	1.73	.78	1.92	.87	1.97	.99	1.45	.68	1.94	1.39
4	1.49	.76	1.71	.78	1.64	.69	1.69	.82	1.29	.59	1.74	.89
5	1.67	.82	2.04	.94	1.90	.78	1.54	.73	1.27	.45	1.32	.57
6	1.80	.99	1.82	.82	1.22	.34	1.67	.85	1.47	.79	1.66	.92
7	1.83	.99	1.66	.68	1.52	.66	1.74	.96	1.73	.57	1.66	.94
8	2.14	1.13	1.67	.74	1.60	.82	1.39	.65	1.74	.85	1.67	.82
9	2.13	1.10	1.90	1.00	1.58	.95	1.48	.82	1.47	.69	2.02	1.12
10	2.17	1.08	1.63	.83	1.48	.78	1.50	.79	1.41	.69	2.31	.68
11	1.67	.80	1.78	.95	1.31	.54	1.41	.70	1.47	.85	.99	.21
12	2.14	1.16	1.80	.87	1.30	.79	1.54	.72	1.65	.92	1.47	.73
13	1.40	.75	1.86	1.13	1.58	1.00	1.40	.86	1.84	.80	1.83	.98
14	2.00	1.28	1.62	1.12	1.65	1.10	1.67	.94	1.49	.74	1.61	.96
15	2.07	1.57	2.00	1.54	1.93	1.25	1.60	.40	1.64	.72	1.73	.88
16	2.55	1.70	2.12	.18	1.88	.55	1.22	.48	1.67	.72	1.14	.30
17	2.57	.93	1.48	.78	1.32	.55	1.50	.45	2.04	.99	1.74	.46
18	1.53	.92	1.86	.96	1.61	.66	1.45	.45	1.39	.64	1.67	.89
19	1.92	1.16	1.84	1.11	1.53	.44	2.14	1.00	2.00	.85	1.51	.59
20	2.04	1.40	1.91	.96	1.35	.39	1.70	.66	2.12	1.37	1.84	.76
21	2.06	1.13	1.70	.89	1.66	.66	1.54	.61	1.85	.39	1.87	1.08
22	1.59	.30	1.64	.68	1.58	.64	1.37	.56	1.61	.70	1.67	.63
23	1.27	.27	1.44	.60	1.13	.34	1.30	.50	1.84	1.02	1.73	1.18
24	1.26	.30	1.98	1.07	1.23	.46	1.43	.63	1.99	1.15	1.68	.47
25	1.77	.79	1.63	.82	1.74	.88	1.48	.58	2.01	.70	1.55	.90
26	1.57	.56	1.15	.41	1.87	1.12	1.88	.97	1.44	.54	1.90	1.04
27	.95	-.47	1.28	.49	1.72	.54	2.30	1.06	1.47	.77	1.83	1.01
28	2.10	.95	1.47	.77	1.46	.99	1.69	.67	1.63	.65	1.26	.57
29	2.24	1.41	1.41	.21	1.88	.58	1.67	.74	1.32	.45	1.12	.37
30	2.13	1.26	1.11	.53	1.53	.59	1.62	.32	1.42	.44	.95	.34
31	---	---	1.92	1.11	---	---	1.38	.54	1.64	1.01	---	---
MONTH	2.57	-.47	2.12	.18	1.98	.34	2.30	.32	2.12	.39	2.31	.21
YEAR	2.70	-1.18										

Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

## MARYLAND--Continued

## HARFORD COUNTY--Continued

WELL NUMBER.--HA Fd 34. SITE ID.--391809076174303 PERMIT NUMBER.--HA-88-1039.  
 LOCATION.--Lat 39°18'09", long 76°17'43", Hydrologic Unit 02060003, at J-Field, Edgewood Area,  
 Aberdeen Proving Ground.  
 Owner: U.S. Army.  
 AQUIFER.--Talbot Formation of Pleistocene age. Aquifer code: 112TLET.  
 WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 25.5 ft; casing diameter 4 in.,  
 to 20.5 ft; screen diameter 4 in. from 20.5 to 25.5 ft.  
 INSTRUMENTATION.--Measurements with chalked steel tape by U.S. Geological Survey personnel.  
 Equipped with digital water-level recorder--15-minute recorder interval from Dec. 21, 1989 to current year.  
 DATUM.--Elevation of land surface is 7.18 ft above National Geodetic Vertical Datum of 1929.  
 Measuring Point: Top of casing, 2.95 ft above land surface.  
 REMARKS.--J-Field Remedial Investigation observation well JF13.  
 Missing data due to recorder malfunction.  
 PERIOD OF RECORD.--December 1989 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.38 ft above sea level, April 1, 1993;  
 lowest measured, 0.40 ft below sea level, Sept. 11 and 12, 1993.

WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
 (READINGS BELOW SEA LEVEL INDICATED BY "--")

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	.45	.32	.73	.65	1.49	1.31	2.46	2.19	2.45	2.11	3.30	3.12
2	.55	.42	.99	.69	1.52	1.22	2.19	1.94	2.11	1.85	3.58	3.30
3	.64	.44	1.23	.98	1.58	1.20	2.32	2.05	2.61	1.88	3.47	3.13
4	.50	.25	1.16	.92	1.41	1.07	2.50	2.24	2.61	2.30	3.82	3.11
5	.53	.25	1.21	.87	1.49	.97	2.85	2.50	2.54	2.25	4.19	3.82
6	.82	.53	.87	.64	.97	.79	2.81	2.53	2.54	2.17	4.17	3.98
7	.74	.59	.85	.69	1.20	.97	---	---	2.48	2.11	4.02	3.87
8	.66	.55	.85	.74	1.03	.85	3.13	2.95	2.52	2.33	4.00	3.82
9	.90	.64	.88	.72	1.20	.94	3.13	2.99	2.33	2.14	3.82	3.45
10	.91	.73	.98	.80	1.73	1.19	3.33	3.09	2.41	2.30	3.51	3.33
11	.95	.73	1.06	.94	2.29	1.73	3.35	3.21	2.37	2.15	3.52	3.28
12	.95	.63	1.18	.85	2.29	1.99	3.33	3.22	2.68	2.14	3.28	3.12
13	.81	.69	1.30	.91	2.29	2.09	3.48	3.28	3.25	2.68	3.56	3.15
14	.77	.61	.96	.78	2.51	2.29	3.51	3.29	3.24	2.78	3.77	3.12
15	.79	.64	.92	.80	2.64	2.51	3.45	3.28	2.83	2.60	3.12	2.83
16	.83	.71	.87	.72	2.71	2.44	3.47	3.35	3.46	2.83	3.28	2.83
17	.86	.33	1.13	.81	2.54	2.33	3.47	3.25	3.46	3.06	3.72	3.28
18	.62	.37	1.11	.79	2.47	2.23	3.41	2.91	3.10	2.88	3.71	3.41
19	.75	.37	.94	.79	2.36	2.19	2.91	2.70	2.88	2.67	3.77	3.40
20	.66	.36	1.08	.89	2.48	2.30	2.82	2.67	3.17	2.79	4.03	3.77
21	.99	.66	1.29	1.05	2.40	2.04	2.82	2.61	3.42	3.05	4.05	3.95
22	.76	.48	1.29	1.11	2.32	2.22	3.26	2.80	3.55	3.42	3.96	3.78
23	.78	.53	1.34	1.23	2.45	2.24	3.26	2.91	3.55	3.48	3.91	3.73
24	1.00	.75	1.33	1.07	2.45	1.89	3.14	2.94	3.54	3.01	4.20	3.91
25	.97	.44	1.60	1.33	2.39	1.86	3.14	2.62	3.01	2.82	4.11	3.96
26	.78	.43	1.68	1.51	2.40	1.87	2.65	2.48	3.18	2.90	4.07	3.92
27	.79	.50	1.69	1.36	1.87	1.71	2.73	2.65	3.13	3.03	3.92	3.79
28	.71	.54	1.50	1.41	2.14	1.86	2.92	2.66	3.24	3.03	4.03	3.86
29	.73	.61	1.51	1.39	2.28	2.14	3.00	2.38	---	---	4.09	3.92
30	.74	.56	1.47	1.36	2.45	2.28	2.49	2.24	---	---	4.08	3.95
31	.70	.58	---	---	2.47	2.39	2.52	2.43	---	---	4.02	3.85
MONTH	1.00	.25	1.69	.64	2.71	.79	3.51	1.94	3.55	1.85	4.20	2.83

## GROUND-WATER LEVELS

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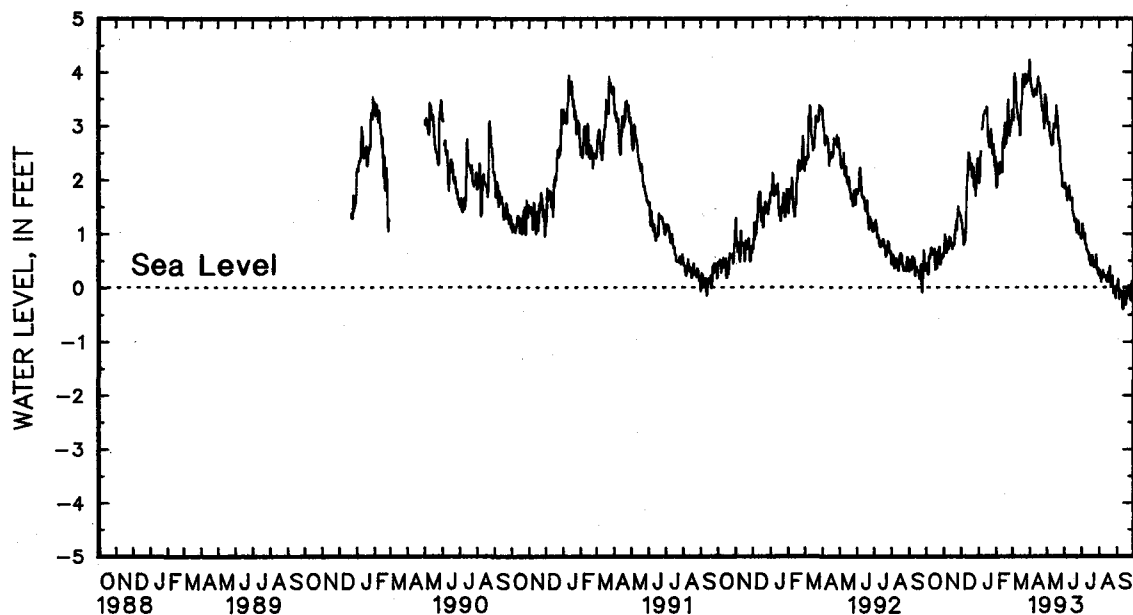
## MARYLAND--Continued

## HARFORD COUNTY--Continued

## HA Fd 34--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	4.38	3.98	3.56	3.43	2.39	1.86	1.08	.90	.39	.22	.15	.02
2	4.34	4.24	3.47	3.20	2.06	1.84	1.28	.95	.50	.32	.15	.04
3	4.26	3.93	3.25	3.09	2.17	1.94	1.36	1.17	.44	.25	.27	.15
4	3.93	3.78	3.17	3.03	2.04	1.86	1.22	1.04	.31	.16	.24	-.02
5	3.83	3.72	3.27	3.05	2.11	1.82	1.10	.93	.21	.10	-.02	-.22
6	3.83	3.68	3.24	3.06	2.02	1.62	1.12	.95	.44	.20	-.01	-.13
7	3.72	3.59	3.06	2.88	1.84	1.65	1.18	1.00	.45	.19	.07	-.06
8	3.76	3.58	2.94	2.80	1.84	1.71	1.03	.81	.49	.31	.08	-.12
9	3.72	3.54	2.98	2.82	2.08	1.80	.91	.81	.41	.21	.11	-.09
10	3.92	3.58	2.82	2.66	2.09	1.88	.94	.77	.36	.19	.34	-.10
11	3.92	3.67	2.82	2.64	1.92	1.67	.88	.68	.35	.20	-.10	-.40
12	3.99	3.68	2.84	2.65	1.72	1.62	.88	.67	.40	.21	-.05	-.40
13	3.82	3.58	3.19	2.68	1.81	1.64	.79	.64	.47	.21	.11	-.07
14	3.80	3.58	3.16	3.03	1.81	1.66	.86	.64	.31	.12	.03	-.09
15	3.83	3.72	3.17	3.03	1.87	1.66	.87	.50	.31	.11	.08	-.08
16	4.22	3.77	3.16	2.97	1.83	1.42	.64	.49	.30	.10	-.08	-.33
17	4.35	3.91	3.21	3.02	1.51	1.37	.72	.42	.47	.27	.07	-.28
18	3.91	3.75	3.43	3.14	1.57	1.35	.64	.40	.34	.11	.12	.00
19	3.89	3.75	3.50	3.37	1.52	1.27	.93	.59	.42	.14	.13	-.16
20	3.88	3.78	3.51	3.24	1.38	1.21	.93	.59	.53	.39	.03	-.11
21	3.81	3.62	3.26	3.13	1.50	1.27	.68	.51	.49	.00	.27	.03
22	3.80	3.54	3.13	2.78	1.50	1.26	.61	.44	.14	.04	.17	-.14
23	3.61	3.38	2.80	2.69	1.26	1.01	.53	.37	.25	.12	.20	-.11
24	3.43	3.28	2.93	2.72	1.15	1.02	.51	.39	.38	.21	.20	-.24
25	3.61	3.36	2.75	2.52	1.29	1.06	.55	.38	.40	.03	.09	-.24
26	3.57	3.37	2.52	2.21	1.47	1.23	.61	.42	.14	-.11	.29	.05
27	3.37	2.95	2.31	2.13	1.37	.98	.89	.60	.11	-.11	.29	.10
28	3.70	3.05	2.29	2.13	1.16	.98	.68	.35	.18	-.01	.24	-.04
29	3.80	3.59	2.26	1.87	1.31	.98	.58	.35	.04	-.17	.06	-.13
30	3.70	3.55	1.95	1.86	1.13	.92	.53	.31	.04	-.20	-.09	-.18
31	---	---	2.36	1.93	---	---	.40	.25	.17	.02	---	---
MONTH	4.38	2.95	3.56	1.86	2.39	.92	1.36	.25	.53	-.20	.34	-.40
YEAR	4.38	---	---	---	---	---	---	---	---	---	---	---

Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

## MARYLAND--Continued

## HARFORD COUNTY--Continued

WELL NUMBER.--HA Fd 37. SITE ID.--391809076174603 PERMIT NUMBER.--HA-88-1042.  
 LOCATION.--Lat 39°18'09", long 76°17'46", Hydrologic Unit 02060003, at J-Field, Edgewood Area,  
 Aberdeen Proving Ground.  
 Owner: U.S. Army.  
 AQUIFER.--Talbot Formation of Pleistocene age. Aquifer code: 112TLBT.  
 WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 19 ft; casing diameter 4 in., to 16 ft;  
 screen diameter 4 in. from 16 to 19 ft.  
 INSTRUMENTATION.--Measurements with chalked steel tape by U.S. Geological Survey personnel.  
 Equipped with digital water-level recorder--15-minute recorder interval from Dec. 21, 1989 to current year.  
 DATUM.--Elevation of land surface is 3.10 ft above National Geodetic Vertical Datum of 1929.  
 Measuring Point: Top of casing, 2.68 ft above land surface.  
 REMARKS.--J-Field Remedial Investigation observation well JF23. Missing data due to recorder malfunction.  
 PERIOD OF RECORD.--December 1989 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.96 ft above sea level, Jan. 22, 1993;  
 lowest measured, 0.44 ft below sea level, Sept. 11, 1993.

WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
 (READINGS BELOW SEA LEVEL INDICATED BY "-")

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	.64	.26	.87	.69	1.36	.98	---	---	1.58	1.16	---	---
2	.78	.46	1.27	.79	1.45	.83	---	---	1.16	.90	---	---
3	.87	.40	1.69	.99	1.52	.76	---	---	3.01	1.06	---	---
4	.61	.12	1.42	.97	1.21	.63	---	---	2.94	1.57	---	---
5	.82	.15	1.46	.75	1.32	.31	---	---	2.55	1.53	---	---
6	1.25	.82	.75	.47	.52	.08	---	---	2.55	1.36	---	---
7	1.05	.68	.95	.65	.81	.31	---	---	2.08	1.32	---	---
8	.91	.64	.93	.66	.40	.07	---	---	2.07	1.63	---	---
9	1.27	.81	1.00	.66	.70	.21	---	---	1.87	1.39	---	---
10	1.24	.83	1.13	.74	---	---	---	---	1.92	1.65	---	---
11	1.28	.83	1.20	.93	---	---	---	---	1.84	1.45	---	---
12	1.23	.60	1.48	.72	---	---	2.76	2.35	---	---	---	---
13	1.01	.71	1.59	.73	---	---	2.81	2.41	---	---	---	---
14	1.02	.59	.94	.59	---	---	2.84	2.43	---	---	---	---
15	1.02	.64	.93	.66	---	---	2.83	2.42	---	---	---	---
16	1.10	.77	.86	.51	---	---	2.83	2.52	---	---	2.28	1.62
17	1.12	.09	1.23	.83	---	---	2.90	2.38	---	---	2.62	2.18
18	.79	.33	1.15	.56	---	---	2.65	2.01	---	---	2.39	1.93
19	.94	.15	.94	.56	---	---	2.08	1.76	---	---	2.70	1.93
20	.88	.15	1.16	.77	---	---	2.15	1.77	---	---	3.04	2.64
21	1.41	.72	1.45	1.00	---	---	2.79	1.68	---	---	3.01	2.74
22	.72	.35	1.40	.97	---	---	4.96	2.75	---	---	2.78	2.53
23	1.00	.50	1.39	1.16	---	---	4.95	2.95	---	---	2.87	2.46
24	1.29	.82	1.40	.81	---	---	4.57	2.97	---	---	3.20	2.81
25	1.11	.21	1.77	1.26	---	---	4.56	1.70	---	---	3.00	2.65
26	1.02	.27	1.80	1.44	---	---	1.96	1.54	---	---	3.14	2.79
27	1.02	.33	1.80	1.07	---	---	2.00	1.82	---	---	2.88	2.59
28	.89	.46	1.44	1.19	---	---	2.47	1.91	---	---	3.13	2.80
29	.89	.58	1.43	1.14	---	---	2.52	1.40	---	---	3.18	2.81
30	.84	.49	1.35	1.08	---	---	1.78	1.27	---	---	3.22	2.89
31	.80	.57	---	---	---	---	1.76	1.50	---	---	3.23	2.84
MONTH	1.41	.09	1.80	.47	1.52	.07	4.96	1.27	3.01	.90	3.23	1.62



## GROUND-WATER LEVELS

313

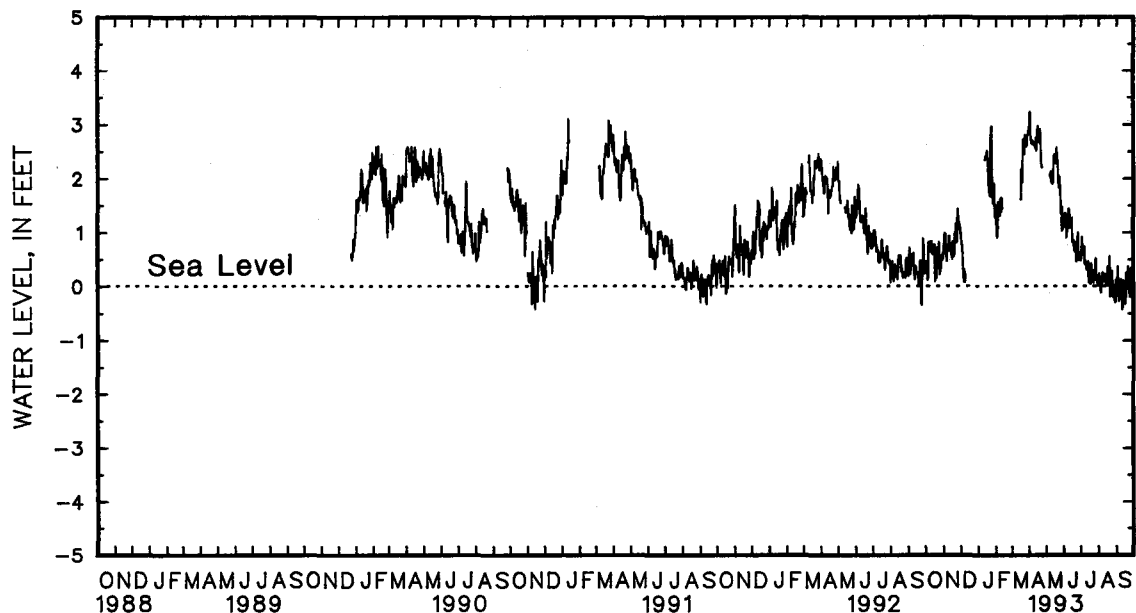
MARYLAND--Continued

HARFORD COUNTY--Continued

HA Fd 37--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	3.65	3.12	---	---	2.09	1.10	.97	.48	.47	.04	.43	.06
2	3.53	3.23	---	---	1.67	1.10	1.19	.62	.67	.23	.45	.08
3	3.39	2.80	---	---	1.88	1.36	1.40	.91	.50	.05	.63	.36
4	2.97	2.66	---	---	1.68	1.23	1.17	.72	.35	-.04	.54	-.01
5	3.00	2.65	---	---	1.82	1.21	1.01	.58	.28	-.12	.07	-.28
6	3.05	2.70	---	---	1.54	.90	1.09	.67	.61	.15	.28	-.07
7	3.00	2.64	2.52	2.07	1.50	1.04	1.17	.72	.64	.06	.36	-.02
8	3.13	2.68	2.45	2.03	1.56	1.18	.90	.41	.74	.25	.39	-.09
9	3.09	2.63	2.56	2.13	1.80	1.44	.75	.47	.57	.09	.50	.12
10	3.23	2.64	2.32	1.93	1.77	1.34	.84	.43	.51	.09	.86	-.10
11	3.11	2.58	2.36	1.95	1.55	1.08	.75	.31	.52	.16	-.03	-.44
12	3.27	2.76	2.36	1.91	1.34	1.15	.81	.31	.62	.22	.26	-.32
13	2.88	2.52	2.72	2.08	1.58	1.24	.68	.35	.74	.11	.56	.09
14	3.13	2.67	2.61	2.37	1.59	1.24	.87	.45	.48	.02	.40	.07
15	3.17	2.89	2.74	2.45	1.72	1.27	.85	.07	.53	.02	.48	.05
16	3.59	2.97	2.77	2.31	1.67	.83	.52	.07	.53	.01	.05	-.34
17	3.69	2.77	2.60	2.29	1.18	.82	.70	.05	.82	.36	.56	-.21
18	2.95	2.68	2.85	2.33	1.37	.85	.63	.04	.40	.02	.59	.24
19	3.13	2.78	2.92	2.58	1.29	.75	1.11	.42	.77	.15	.59	-.06
20	3.18	2.92	2.94	2.39	1.12	.65	.94	.32	.91	.55	.52	.05
21	3.12	2.69	2.67	2.30	1.33	.81	.71	.25	.82	-.20	.78	.36
22	2.93	2.29	2.52	1.96	1.29	.74	.59	.12	.36	-.01	.61	-.03
23	2.68	2.21	2.21	1.84	.84	.45	.47	.06	.50	.18	.65	.18
24	---	---	2.52	2.04	.89	.54	.47	.14	.73	.28	.63	-.21
25	---	---	2.20	1.78	1.15	.79	.59	.12	.75	-.05	.46	-.12
26	---	---	1.84	1.38	1.40	.99	.72	.38	.34	-.21	.76	.33
27	---	---	1.75	1.35	1.22	.48	1.19	.51	.32	-.19	.75	.32
28	---	---	1.79	1.47	.98	.56	.81	.13	.44	-.07	.52	.07
29	---	---	1.76	1.03	1.26	.53	.71	.15	.21	-.27	.31	-.08
30	---	---	1.38	1.04	.98	.50	.64	.08	.23	-.30	.15	-.12
31	---	---	2.02	1.34	---	---	.45	.01	.47	.11	---	---
MONTH	3.69	2.21	2.94	1.03	2.09	.45	1.40	.01	.91	-.30	.86	-.44
YEAR	4.96	-.44										

Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

## MARYLAND--Continued

## HARFORD COUNTY--Continued

WELL NUMBER.--HA Fd 38. SITE ID.--391826076173101. PERMIT NUMBER.--HA-88-1067.

LOCATION.--Lat 39°18'26", long 76°17'31", Hydrologic Unit 02060003, at J-Field, Edgewood Area, Aberdeen Proving Ground.

Owner: U.S. Army.

AQUIFER.--Talbot Formation of Pleistocene age. Aquifer code: 112TLBT.

WELL CHARACTERISTICS.--Drilled, observation, confined aquifer well, depth 75 ft; casing diameter 4 in., to 72 ft; screen diameter 4 in. from 72 to 75 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by U.S. Geological Survey personnel.

Equipped with digital water-level recorder--15-minute recorder interval from Jan. 17, 1990 to current year.

DATUM.--Elevation of land surface is 6.51 ft above National Geodetic Vertical Datum of 1929.

Measuring Point: Top of casing, 3.09 ft above land surface.

REMARKS.--J-Field Remedial Investigation observation well JF111. Missing data due to recorder malfunction.

PERIOD OF RECORD.--January 1990 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.00 ft above sea level, Nov. 1, 1991; lowest measured, 1.12 ft below sea level, Feb. 2, 1993.

WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
(READINGS BELOW SEA LEVEL INDICATED BY "--")

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	1.28	.45	1.22	.81	1.24	.57	.99	.25	.44	-.44	1.43	.75
2	1.36	.79	1.81	.94	1.40	.36	.48	-.28	-.04	-1.12	2.07	1.35
3	1.50	.70	2.36	1.01	1.45	.24	1.08	.41	1.54	-.04	1.38	.80
4	1.12	.36	1.94	1.03	1.13	.11	1.45	.57	1.11	.35	2.26	.63
5	1.63	.46	1.88	.68	1.21	-.59	1.53	.72	1.38	.40	2.70	1.51
6	2.11	1.20	.73	.30	.38	-1.01	1.04	.14	1.06	.15	1.88	1.27
7	1.58	.92	1.14	.68	.72	-.17	1.61	.54	1.44	.23	1.89	1.15
8	1.45	.90	1.12	.61	.34	-.33	1.57	.84	1.34	.57	1.74	1.06
9	1.94	1.16	1.22	.57	.89	-.02	1.35	.63	1.27	.29	1.33	.63
10	1.68	1.05	1.42	.69	1.92	.54	1.78	.85	1.29	.68	1.27	.51
11	1.89	1.08	1.51	.97	2.21	1.37	1.75	1.02	1.14	.49	1.44	.67
12	1.63	.76	2.08	.68	1.65	.40	1.61	.81	1.51	.45	1.00	.43
13	1.47	.95	2.13	.51	1.65	.73	1.60	.85	2.03	1.29	1.51	.50
14	1.55	.77	1.02	.34	2.10	1.21	1.62	.93	1.59	.28	2.06	-.22
15	1.53	.80	1.02	.47	2.27	1.61	1.69	.94	.97	.07	-.22	-.80
16	1.71	.97	.97	.20	---	---	1.69	1.10	1.87	.89	.67	-.42
17	1.67	.03	1.40	.94	1.83	.98	1.94	1.00	1.46	.37	.72	.09
18	1.29	.57	1.29	.34	1.39	.66	1.33	.51	.78	-.06	.09	-1.09
19	1.43	.12	1.00	.44	1.27	.59	.83	.24	.40	-.28	.70	-.65
20	1.45	.22	1.33	.63	1.52	.75	1.01	.32	1.31	.36	1.22	.51
21	2.11	.66	1.79	.94	.97	.09	.95	.22	1.72	.71	1.16	.61
22	.86	.24	1.66	.87	1.18	.56	1.75	.70	1.70	1.16	.87	.37
23	1.37	.53	1.53	.99	1.49	.58	1.47	.69	1.38	.93	1.05	.36
24	1.83	.96	1.43	.40	1.22	-.11	1.63	.77	1.18	.04	1.43	.78
25	1.27	.06	1.97	1.04	1.48	-.04	1.47	.21	.48	-.31	1.22	.50
26	1.53	.28	1.95	1.21	1.39	-.15	.91	.01	1.03	.34	1.49	.82
27	1.39	.32	1.90	.60	.56	-.30	.94	.48	.80	.42	1.25	.63
28	1.32	.56	1.32	.82	.90	.08	1.67	.72	1.34	.72	1.62	1.02
29	1.29	.68	1.27	.74	.90	.33	1.67	-.11	---	---	1.71	1.01
30	1.28	.58	1.17	.68	1.04	.59	.75	-.25	---	---	1.79	1.16
31	1.16	.65	---	---	1.00	.54	.63	.10	---	---	1.90	1.17
MONTH	2.11	.03	2.36	.20	2.27	-1.01	1.94	-.28	2.03	-1.12	2.70	-1.09

## GROUND-WATER LEVELS

315

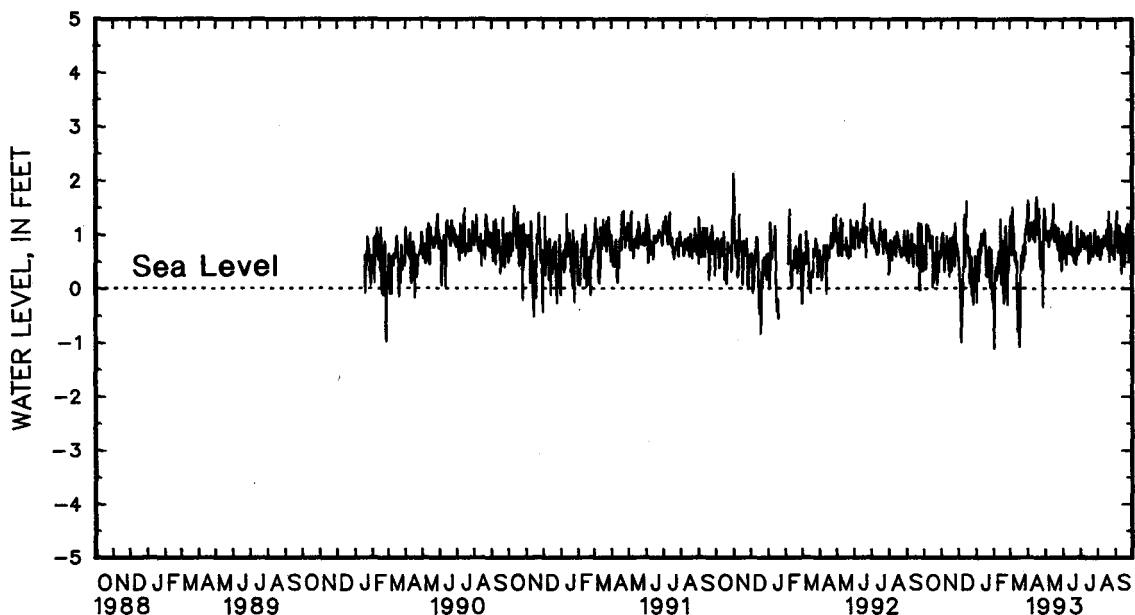
MARYLAND--Continued

HARFORD COUNTY--Continued

HA Fd 38--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	2.44	1.64	1.90	1.33	1.94	.56	1.47	.69	1.34	.69	1.70	.99
2	2.19	1.58	1.90	.98	1.53	.57	1.71	.79	1.66	.97	1.70	1.07
3	1.98	1.01	1.70	.91	1.86	.98	1.91	1.07	1.38	.74	1.90	1.44
4	1.47	.88	1.67	.90	1.57	.81	1.62	.90	1.23	.62	1.77	.95
5	1.64	.94	2.02	1.06	1.86	.85	1.47	.82	1.20	.54	1.28	.66
6	1.77	1.08	1.77	.91	1.17	.44	1.61	.92	1.43	.85	1.60	.97
7	1.80	1.09	1.60	.78	1.47	.75	1.68	1.02	1.66	.63	1.62	1.00
8	2.13	1.22	1.62	.85	1.55	.90	1.36	.73	1.74	.91	1.64	.88
9	2.11	1.19	1.84	1.07	1.53	1.01	1.39	.88	1.42	.75	1.90	1.16
10	2.17	1.18	1.57	.92	1.45	.85	1.44	.86	1.36	.76	2.31	.75
11	1.72	.91	1.74	1.01	1.28	.63	1.36	.77	1.43	.90	.96	.28
12	2.13	1.24	1.74	.97	1.22	.85	1.50	.79	1.62	.98	1.44	.70
13	1.41	.86	1.83	1.20	1.55	1.03	1.36	.90	1.81	.86	1.78	1.02
14	2.00	1.34	1.59	1.18	1.61	1.13	1.63	.98	1.46	.82	1.56	1.01
15	2.07	1.58	1.98	1.57	1.89	1.24	1.54	.47	1.60	.81	1.69	.98
16	2.56	1.70	2.10	1.02	1.82	.62	1.17	.50	1.62	.80	1.08	.40
17	2.57	1.05	1.43	.87	1.27	.62	1.44	.53	2.01	1.09	1.68	.56
18	1.53	1.01	1.82	1.02	1.57	.75	1.40	.53	1.32	.73	1.60	.96
19	1.91	1.24	1.80	1.17	1.47	.55	2.09	1.04	1.95	.92	1.54	.66
20	2.07	1.48	1.88	1.05	1.29	.48	1.61	.76	2.07	1.43	1.74	.84
21	2.07	1.22	1.66	.97	1.59	.74	1.47	.71	1.87	.49	1.83	1.13
22	1.58	.43	1.60	.76	1.52	.73	1.30	.64	1.52	.78	1.60	.70
23	1.28	.37	1.39	.71	1.07	.44	1.23	.60	1.72	1.07	1.71	1.20
24	1.24	.42	1.95	1.13	1.13	.56	1.31	.71	1.94	1.19	1.64	.53
25	1.77	.87	1.57	.90	1.60	.95	1.40	.67	1.97	.78	1.53	.83
26	1.55	.65	1.11	.52	1.81	1.16	1.73	1.02	1.41	.63	1.87	1.12
27	.88	-.35	1.25	.59	1.65	.62	2.27	1.09	1.43	.75	1.77	1.07
28	2.13	.88	1.40	.84	1.40	.90	1.63	.73	1.58	.74	1.21	.65
29	2.25	1.49	1.36	.32	1.80	.67	1.62	.82	1.27	.55	1.08	.46
30	2.11	1.35	1.06	.52	1.45	.69	1.54	.68	1.38	.54	.91	.41
31	---	---	1.90	1.06	---	---	1.31	.62	1.61	1.06	---	---
MONTH	2.57	-.35	2.10	.32	1.94	.44	2.27	.47	2.07	.49	2.31	.28
YEAR	2.70	-1.12										

## Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

## MARYLAND--Continued

## HARFORD COUNTY--Continued

WELL NUMBER.--HA Fd 40. SITE ID.--391826076173103 PERMIT NUMBER.--HA-88-1069.  
 LOCATION.--Lat 39°18'26", long 76°17'31", Hydrologic Unit 02060003, at J-Field, Edgewood Area,  
 Aberdeen Proving Ground.  
 Owner: U.S. Army.  
 AQUIFER.--Talbot Formation of Pleistocene age. Aquifer code: 112TLBT  
 WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 25 ft; casing diameter 4 in., to 22 ft;  
 screen diameter 4 in. from 22 to 25 ft.  
 INSTRUMENTATION.--Measurements with chalked steel tape by U.S. Geological Survey personnel.  
 Equipped with digital water-level recorder--15-minute recorder interval from Jan. 17, 1990 to current year.  
 DATUM.--Elevation of land surface is 6.77 ft above National Geodetic Vertical Datum of 1929.  
 Measuring Point: Top of casing, 2.52 ft above land surface.  
 REMARKS.--J-Field Remedial Investigation observation well JF113. Missing data due to recorder malfunction.  
 PERIOD OF RECORD.--January 1990 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.00 ft above sea level, March 4 and 5, 1993;  
 lowest measured, 0.29 ft below sea level, Sept. 24, 1992.

WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
 (READINGS BELOW SEA LEVEL INDICATED BY "--")

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	1.02	.28	.95	.59	1.54	.96	2.20	1.57	1.93	1.43	3.04	2.39
2	1.11	.51	1.38	.71	1.62	.78	1.65	1.18	1.46	1.22	3.41	2.82
3	1.15	.42	1.86	.88	1.70	.70	2.16	1.61	2.73	1.46	2.88	2.35
4	.79	.12	1.58	.88	1.37	.56	2.45	1.72	2.41	1.77	4.00	2.21
5	1.37	.21	1.61	.64	1.46	.36	2.68	2.12	2.55	1.76	4.00	3.07
6	1.61	.87	.70	.35	.78	.20	2.43	1.66	2.29	1.54	3.42	2.91
7	1.22	.57	1.06	.64	1.11	.46	2.94	2.03	2.55	1.56	3.40	2.76
8	1.06	.57	1.05	.59	.81	.27	2.98	2.31	2.48	1.82	3.27	2.49
9	1.47	.79	1.14	.58	1.22	.48	2.84	2.24	2.39	1.61	---	---
10	1.29	.78	1.29	.67	1.99	.88	3.23	2.45	2.41	1.85	2.81	2.21
11	1.53	.80	1.37	.87	2.39	1.82	3.20	2.56	2.27	1.68	2.99	2.33
12	1.22	.58	1.77	.59	2.16	1.23	3.09	2.43	2.62	1.63	2.58	2.11
13	1.24	.75	1.81	.61	2.31	1.53	3.16	2.48	3.21	2.54	2.97	2.11
14	1.28	.59	1.08	.51	2.64	1.94	3.18	2.55	2.95	1.94	3.54	1.94
15	1.21	.62	1.09	.61	2.71	2.21	3.16	2.53	2.51	1.79	1.94	1.73
16	1.39	.76	.98	.41	---	---	3.13	2.62	3.23	2.42	2.51	1.73
17	1.30	.02	1.38	.98	---	---	3.27	2.51	2.94	2.15	2.69	2.16
18	1.14	.43	1.29	.46	---	---	2.79	2.09	2.48	1.87	2.27	1.92
19	1.16	.09	1.05	.51	---	---	2.32	1.82	2.08	1.70	2.78	1.92
20	1.39	.24	1.33	.71	---	---	2.43	1.84	2.87	2.07	3.17	2.61
21	1.70	.52	1.68	.97	---	---	2.36	1.75	3.13	2.31	3.13	2.49
22	.69	.17	1.58	.89	---	---	3.12	2.13	3.17	2.71	2.89	2.42
23	1.11	.42	1.55	1.11	2.30	1.52	2.92	2.23	3.02	2.57	2.95	2.44
24	1.47	.72	1.63	.74	2.11	1.11	3.05	2.28	2.78	1.95	3.32	2.54
25	.77	.01	2.07	1.27	2.29	1.10	2.92	1.85	2.23	1.81	3.11	2.53
26	1.21	.13	2.08	1.43	2.23	1.05	2.36	1.68	2.66	2.09	3.29	2.55
27	.91	.18	2.06	1.05	1.53	.97	2.41	2.00	2.44	2.13	3.00	2.52
28	1.03	.35	1.65	1.22	1.90	1.12	2.93	2.20	2.87	2.32	3.32	2.78
29	.99	.44	1.63	1.15	1.93	1.49	2.95	1.57	---	---	3.38	2.79
30	.99	.37	1.52	1.09	2.18	1.78	2.16	1.48	---	---	3.43	2.91
31	.89	.44	---	---	2.19	1.79	2.06	1.64	---	---	---	---
MONTH	1.70	.01	2.08	.35	2.71	.20	3.27	1.18	3.23	1.22	4.00	1.73

[illegible]

The graph displays the monthly water level in feet from November 1988 to August 1993. The vertical axis (y-axis) is labeled 'WATER LEVEL, IN FEET' and ranges from -5 to 5 with major tick marks every 1 unit. A horizontal dashed line at 0 feet is labeled 'Sea Level'. The horizontal axis (x-axis) shows months and years from November 1988 to August 1993. The data is represented by a solid black line that fluctuates frequently. The water level is mostly above sea level, with peaks reaching approximately 3 feet and troughs dipping slightly below 0 feet.

5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

HARFORD COUNTY--Continued

WELL NUMBER.--HA Fd 44. SITE ID.--391810076172801. PERMIT NUMBER.--HA-88-1052.

LOCATION.--Lat 39°18'10", long 76°17'28", Hydrologic Unit 02060003, at J-Field, Edgewood area.

Owner: U. S. Army.

AQUIFER.--Talbot Formation of Pleistocene age. Aquifer code: 112TLBT.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 100 ft; casing diameter 4 in., to 95 ft; screen diameter 4 in. from 95 to 100 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

Equipped with digital water-level recorder--15-minute recorder interval from August 8, 1990 to current year.

DATUM.--Elevation of land surface is 4.29 ft above National Geodetic Vertical Datum of 1929.

Measuring Point: Top of recorder platform, 6.99 ft above land surface.

REMARKS.--J-Field Remedial Investigation observation well Jf61.

Missing data due to recorder malfunction.

PERIOD OF RECORD.--Nov. 16, 1989 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.32 ft above sea level, Sept. 30, 1990; lowest measured, 0.23 ft above sea level, Dec. 20, 1991.

## WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	.91	.85	.96	.95	1.13	1.07	.90	.81	---	---	1.51	1.38
2	.91	.85	---	---	1.07	.99	.81	.63	---	---	1.74	1.51
3	.98	.91	---	---	1.03	.92	.70	.61	---	---	1.75	1.64
4	.97	.87	---	---	.92	.80	.90	.70	---	---	1.76	1.62
5	.87	.80	---	---	.89	.71	1.03	.90	---	---	2.06	1.76
6	1.01	.82	---	---	.71	.39	1.02	.91	---	---	2.07	2.04
7	---	---	---	---	.48	.40	1.00	.91	---	---	2.08	2.04
8	---	---	---	---	.48	.37	1.07	1.00	---	---	2.10	2.08
9	---	---	.98	.94	.40	.35	1.07	1.03	.90	.85	2.08	1.84
10	---	---	.97	.94	.73	.40	1.12	1.03	1.01	.89	1.84	1.78
11	---	---	---	---	1.14	.73	1.20	1.12	1.07	1.01	1.80	1.74
12	---	---	---	---	1.16	1.07	1.23	1.20	1.26	1.05	1.74	1.62
13	---	---	---	---	1.07	1.01	1.32	1.23	1.51	1.26	1.79	1.62
14	---	---	---	---	1.16	1.02	1.30	1.25	1.52	1.37	1.87	1.66
15	---	---	---	---	1.41	1.16	---	---	1.37	1.19	1.66	1.13
16	---	---	.96	.84	1.53	1.41	---	---	1.44	1.19	1.13	1.08
17	---	---	.95	.84	1.58	1.53	---	---	1.48	1.35	1.16	1.11
18	1.05	.94	.98	.92	1.57	1.35	---	---	1.35	1.17	1.15	.83
19	.95	.92	.92	.86	1.35	1.25	---	---	1.17	1.05	1.30	.79
20	.92	.79	.90	.86	1.28	1.25	---	---	1.21	1.05	1.18	1.13
21	1.00	.81	1.06	.90	1.27	1.11	---	---	1.43	1.21	1.22	1.18
22	1.00	.98	1.21	1.06	1.12	1.10	---	---	1.60	1.43	1.21	1.14
23	.99	.97	1.27	1.21	1.15	1.10	---	---	1.60	1.55	1.14	1.10
24	---	---	1.26	1.11	1.17	.97	---	---	1.55	1.28	1.25	1.14
25	---	---	1.22	1.12	.97	.88	---	---	1.28	1.09	1.25	1.21
26	---	---	1.35	1.22	.96	.79	---	---	1.18	1.08	1.28	1.22
27	1.01	.97	1.36	1.29	.79	.57	---	---	1.24	1.18	1.27	1.25
28	.97	.97	1.29	1.22	.58	.56	---	---	1.38	1.24	1.36	1.27
29	.99	.97	1.22	1.16	.67	.58	---	---	---	---	1.45	1.36
30	1.00	.96	1.16	1.11	.81	.67	---	---	---	---	1.49	1.44
31	.97	.95	---	---	.89	.81	---	---	---	---	1.46	1.40
MONTH	1.05	.79	1.36	.84	1.58	.35	1.32	.61	1.60	.85	2.10	.79

## GROUND-WATER LEVELS

319

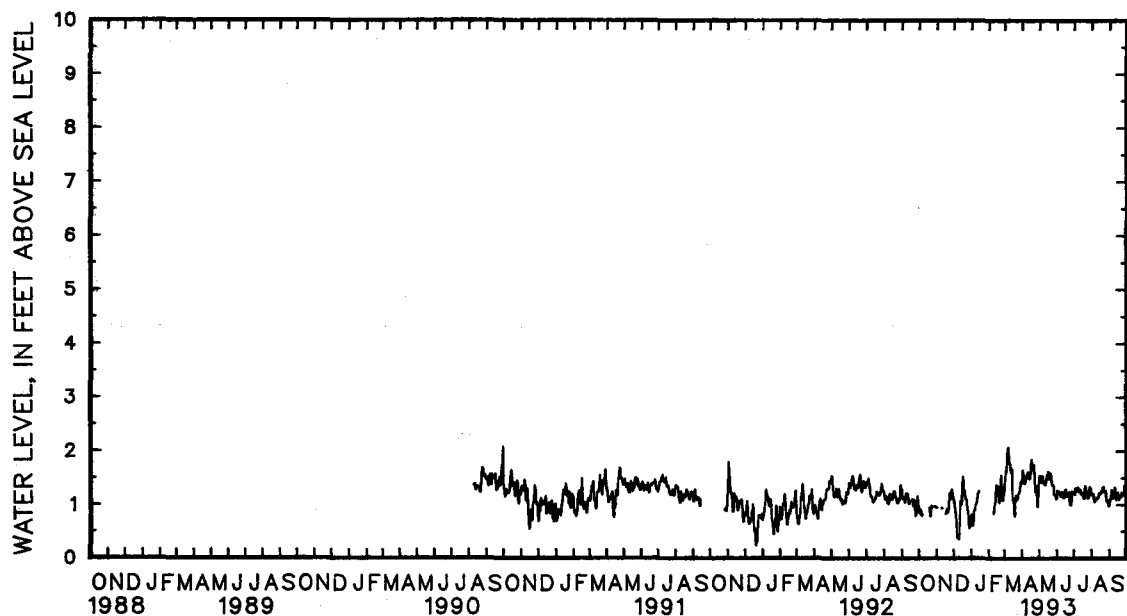
MARYLAND--Continued

HARFORD COUNTY--Continued

HA Fd 44--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	1.65	1.46	1.57	1.55	1.41	1.27	1.22	1.20	1.20	1.18	1.11	1.09
2	1.71	1.65	1.57	1.51	1.27	1.22	1.31	1.19	1.25	1.18	1.16	1.11
3	1.69	1.57	1.51	1.43	1.27	1.21	1.40	1.31	1.25	1.21	1.30	1.16
4	1.57	1.43	1.46	1.42	1.28	1.25	1.38	1.32	1.21	1.14	1.32	1.28
5	1.43	1.40	1.56	1.46	1.33	1.24	1.32	1.26	1.14	1.06	1.28	1.13
6	1.47	1.41	1.57	1.54	1.33	1.21	1.32	1.26	1.14	1.06	1.13	1.12
7	1.50	1.47	1.54	1.45	1.21	1.16	1.38	1.32	1.15	1.10	1.21	1.13
8	1.57	1.50	1.45	1.41	1.24	1.20	1.37	1.28	1.16	1.11	1.25	1.21
9	1.59	1.55	1.45	1.40	1.26	1.24	1.28	1.25	1.17	1.13	1.32	1.24
10	1.74	1.59	1.44	1.39	1.26	1.23	1.30	1.26	1.15	1.11	1.44	1.32
11	1.75	1.61	1.44	1.37	1.23	1.15	1.31	1.28	1.16	1.13	1.39	1.12
12	1.66	1.60	1.49	1.44	1.15	1.13	1.31	1.28	1.21	1.15	1.12	1.09
13	1.65	1.49	1.56	1.48	1.21	1.13	1.28	1.20	1.28	1.21	1.19	1.11
14	1.58	1.49	1.57	1.55	1.28	1.21	1.23	1.20	1.27	1.22	1.23	1.18
15	1.72	1.58	1.65	1.55	1.36	1.28	1.27	1.22	1.24	1.22	1.29	1.23
16	1.92	1.72	1.67	1.62	1.38	1.29	1.22	1.18	1.26	1.21	1.27	1.14
17	1.97	1.85	1.62	1.49	1.29	1.18	1.20	1.14	1.35	1.26	1.16	1.10
18	1.85	1.67	1.58	1.48	1.22	1.16	1.15	1.12	1.35	1.27	1.25	1.16
19	1.69	1.66	1.62	1.58	1.24	1.20	1.35	1.15	1.32	1.25	1.25	1.17
20	1.75	1.69	1.63	1.59	1.20	1.16	1.38	1.35	1.47	1.32	1.18	1.15
21	1.78	1.75	1.59	1.54	1.25	1.16	1.35	1.28	1.47	1.34	1.31	1.16
22	1.75	1.60	1.54	1.45	1.29	1.24	1.28	1.22	1.34	1.24	1.33	1.23
23	1.60	1.36	1.45	1.37	1.25	1.07	1.22	1.17	1.26	1.24	1.31	1.23
24	1.36	1.24	1.45	1.37	1.07	1.00	1.17	1.13	1.34	1.26	1.33	1.19
25	1.34	1.23	1.45	1.37	1.08	1.00	1.16	1.13	1.33	1.23	1.22	1.18
26	1.41	1.34	1.37	1.20	1.30	1.08	1.22	1.14	1.23	1.08	1.37	1.22
27	1.36	.97	1.20	1.18	1.33	1.25	1.39	1.22	1.08	1.07	1.41	1.36
28	1.22	.97	1.22	1.18	1.25	1.24	1.41	1.33	1.11	1.07	1.41	1.28
29	1.47	1.22	1.25	1.18	1.28	1.24	1.34	1.32	1.09	1.00	1.28	1.12
30	1.56	1.47	1.18	1.11	1.25	1.21	1.33	1.29	1.00	.98	1.12	.98
31	---	---	1.37	1.12	---	---	1.29	1.20	1.09	1.00	---	---
MONTH	1.97	.97	1.67	1.11	1.41	1.00	1.41	1.12	1.47	.98	1.44	.98
YEAR	2.10	.35										

## Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

## MARYLAND--Continued

## HARFORD COUNTY--Continued

WELL NUMBER.--HA Fd 46. SITE ID.--391810076172803. PERMIT NUMBER.--HA-88-1054.  
 LOCATION.--Lat 39°18'10", long 76°17'28", Hydrologic Unit 02060003, at J-Field, Edgewood area.  
 Owner: U. S. Army.  
 AQUIFER.--Talbot Formation of Pleistocene age. Aquifer code: 112TLBT.  
 WELL CHARACTERISTICS.--Drilled, observation, water-table, depth 19 ft; casing diameter 4 in., to 16 ft;  
 screen diameter 4 in. from 16 to 19 ft.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 Equipped with digital water-level recorder--15-minute recorder interval from Aug. 8, 1990 to current year.  
 DATUM.--Elevation of land surface is 4.1 ft above National Geodetic Vertical Datum of 1929.  
 Measuring Point: Top of recorder platform, 6.98 ft above land surface.  
 REMARKS.--J-Field Remedial Investigation observation well Jf63.  
 Missing data due to recorder malfunction.  
 PERIOD OF RECORD.--Nov. 16, 1989 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.95 ft above sea level, March 24, 1993;  
 lowest measured, 1.00 ft below sea level, Sept. 16, 1993.

WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
 (READINGS BELOW SEA LEVEL INDICATED BY "--")

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	2.14	2.07	2.18	2.14	3.47	3.42	4.15	3.96	4.06	3.83	4.23	4.19
2	2.07	2.02	2.40	2.14	3.44	3.41	3.96	3.91	3.83	3.72	4.24	4.21
3	2.02	1.97	2.76	2.40	3.43	3.22	3.94	3.90	3.83	3.75	4.21	4.13
4	1.97	1.92	2.85	2.76	3.32	3.21	4.02	3.94	3.83	3.73	4.55	4.13
5	1.92	1.82	2.88	2.79	3.40	3.25	4.19	4.01	3.83	3.73	4.67	4.55
6	1.82	1.75	2.89	2.81	3.25	3.17	4.29	4.19	3.83	3.70	4.66	4.60
7	1.76	1.75	2.81	2.75	3.28	3.19	4.30	4.27	3.77	3.67	4.60	4.56
8	1.76	1.74	2.75	2.67	3.19	3.10	4.36	4.29	3.81	3.76	4.61	4.56
9	2.23	1.75	2.67	2.61	3.10	3.05	4.42	4.36	3.76	3.66	4.56	4.42
10	2.48	2.23	2.63	2.60	3.62	3.06	4.42	4.40	3.72	3.68	4.49	4.39
11	2.60	2.48	2.69	2.63	3.95	3.62	4.42	4.41	3.72	3.65	4.49	4.31
12	2.62	2.60	2.92	2.69	4.03	3.95	4.50	4.42	4.02	3.65	4.31	4.26
13	2.60	2.47	3.05	2.92	4.03	3.98	4.61	4.50	4.17	4.02	4.79	4.26
14	2.47	2.40	3.04	2.99	3.98	3.95	4.59	4.46	4.16	4.04	4.78	4.37
15	2.41	2.37	2.99	2.90	3.97	3.96	4.46	4.45	4.04	4.00	4.37	4.31
16	2.38	2.37	2.90	2.84	3.97	3.95	4.45	4.43	4.29	4.01	4.47	4.34
17	2.37	2.21	2.92	2.88	4.11	3.95	4.44	4.37	4.29	4.22	4.77	4.47
18	2.21	2.19	2.89	2.80	4.09	4.02	4.37	4.19	4.25	4.19	4.78	4.76
19	2.22	2.10	2.88	2.80	4.07	4.02	4.19	4.12	4.19	4.09	4.77	4.72
20	2.10	2.05	2.87	2.84	4.15	4.07	---	---	4.13	4.11	4.79	4.74
21	2.10	2.05	2.94	2.85	4.07	4.00	---	---	4.25	4.09	4.82	4.79
22	2.05	2.02	3.15	2.93	4.07	4.03	4.31	4.17	4.34	4.25	4.81	4.75
23	2.12	2.05	3.34	3.15	4.08	4.03	4.29	4.19	4.36	4.34	4.80	4.72
24	2.23	2.12	3.32	3.28	4.07	3.87	4.28	4.19	4.35	4.23	4.95	4.80
25	2.21	2.14	3.38	3.32	4.00	3.87	4.24	4.09	4.23	4.15	4.94	4.86
26	2.14	2.11	3.56	3.36	4.00	3.80	4.12	4.06	4.22	4.18	4.86	4.78
27	2.14	2.04	3.57	3.54	3.80	3.72	4.16	4.12	4.22	4.19	4.80	4.75
28	2.05	2.03	3.57	3.53	3.99	3.77	4.12	4.04	4.20	4.18	4.83	4.80
29	2.05	2.02	3.54	3.48	4.11	3.99	4.10	3.92	---	---	4.87	4.82
30	2.04	2.00	3.48	3.45	4.14	4.11	4.00	3.92	---	---	4.87	4.78
31	2.18	2.00	---	---	4.16	4.14	4.11	4.00	---	---	4.78	4.71
MONTH	2.62	1.74	3.57	2.14	4.16	3.05	4.61	3.90	4.36	3.65	4.95	4.13



## GROUND-WATER LEVELS

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## MARYLAND--Continued

## HARFORD COUNTY--Continued

## HA Fd 46--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	4.89	4.72	4.25	4.17	3.36	3.14	1.59	1.56	.35	.30	-.44	-.50
2	4.90	4.86	4.18	4.07	3.31	3.19	1.72	1.56	.32	.25	-.50	-.53
3	4.86	4.73	4.07	3.98	3.24	3.19	1.84	1.72	.25	.18	-.53	-.57
4	4.73	4.64	4.00	3.98	3.21	3.15	1.87	1.82	.19	.14	-.57	-.58
5	4.64	4.60	4.11	3.99	3.24	3.14	1.82	1.76	.14	.12	-.58	-.62
6	4.60	4.52	4.16	4.11	3.21	3.00	1.76	1.73	.38	.12	-.62	-.66
7	4.52	4.46	4.12	3.98	3.00	2.92	1.73	1.66	.38	.35	-.66	-.69
8	4.47	4.43	3.98	3.86	3.06	2.92	1.66	1.57	.36	.34	-.69	-.70
9	4.45	4.41	3.86	3.79	3.56	3.06	1.57	1.47	.34	.33	-.70	-.70
10	4.66	4.45	3.79	3.70	3.56	3.41	1.47	1.36	.33	.31	-.70	-.78
11	4.65	4.62	3.71	3.69	3.41	3.19	1.36	1.28	.31	.27	-.78	-.86
12	4.67	4.62	3.78	3.61	3.19	2.97	1.28	1.15	.28	.25	-.86	-.90
13	4.62	4.53	4.05	3.78	2.97	2.85	1.15	1.03	.26	.19	-.90	-.94
14	4.53	4.47	4.06	3.98	2.85	2.76	1.12	1.03	.19	.12	-.94	-.95
15	4.47	4.45	3.98	3.88	2.76	2.69	1.17	1.12	.13	.05	-.95	-.98
16	4.63	4.44	4.00	3.79	2.69	2.54	1.15	1.10	.06	.01	-.95	-1.00
17	4.70	4.63	4.20	4.00	2.54	2.47	1.10	.98	.15	.01	-.78	-.95
18	4.65	4.58	4.32	4.19	2.47	2.44	.98	.89	.17	.14	-.69	-.78
19	4.58	4.52	4.38	4.32	2.44	2.35	.95	.89	.14	.12	-.69	-.71
20	4.52	4.47	4.38	4.32	2.35	2.30	1.06	.95	.14	.12	-.71	-.74
21	4.53	4.43	4.32	4.18	2.32	2.30	1.03	.99	.13	.03	-.69	-.72
22	4.66	4.53	4.18	4.02	2.32	2.23	.99	.93	.03	-.03	-.69	-.71
23	4.66	4.50	4.02	3.91	2.23	2.07	.93	.84	-.03	-.06	-.67	-.71
24	4.50	4.41	3.91	3.80	2.07	1.97	.84	.77	-.06	-.13	-.67	-.72
25	4.44	4.43	3.80	3.68	1.97	1.94	.77	.72	-.13	-.20	-.71	-.73
26	4.46	4.41	3.68	3.50	1.94	1.90	.72	.70	-.19	-.24	-.66	-.71
27	4.45	4.41	3.50	3.36	1.90	1.84	.71	.64	-.23	-.26	.33	-.68
28	4.41	4.36	3.36	3.31	1.84	1.76	.64	.56	-.25	-.31	.56	.33
29	4.36	4.33	3.31	3.15	1.76	1.66	.57	.49	-.31	-.38	.55	.50
30	4.33	4.25	3.15	3.09	1.68	1.59	.50	.39	-.37	-.42	.50	.45
31	---	---	3.14	3.09	---	---	.40	.33	-.42	-.44	---	---
MONTH	4.90	4.25	4.38	3.09	3.56	1.59	1.87	.33	.38	-.44	.56	-1.00
YEAR	4.95	-1.00										

Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

HOWARD COUNTY

WELL NUMBER.--HO Bd 1. SITE ID.--391910076565701.

LOCATION.--Lat 39°19'10", long 76°56'57", Hydrologic Unit 02060006, Slacks Corner near MD Rt. 32 and MD Rt. 99.

Owner: Maryland State Highway Administration.

AQUIFER.--Loch Raven Schist of Paleozoic age. Aquifer code: 300LCRV.

WELL CHARACTERISTICS.--Dug, stone-lined, observation, water-table well, measured depth 48 ft; diameter 60 in.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 630 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Hole in center of steel plate well cover, 0.40 ft above land surface.

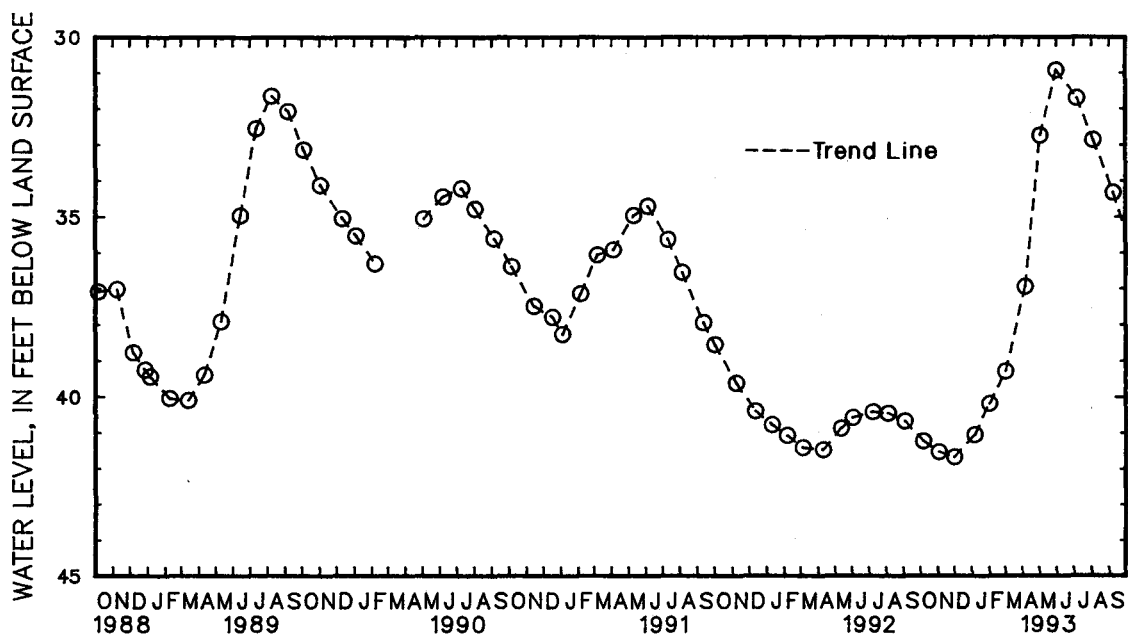
REMARKS.--Maryland Water-Level Network observation well.

PERIOD OF RECORD.--October 1946 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 27.76 ft below land surface, July 3, 1972;  
lowest measured, 46.88 ft below land surface, Sept. 10, 1966.

## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 6	41.25	DEC 1	41.69	FEB 2	40.21	APR 6	36.94	JUN 1	30.92	AUG 4	32.87
NOV 3	41.55	JAN 6	41.07	MAR 2	39.30	MAY 3	32.74	JUL 6	31.70	SEP 8	34.34
WATER YEAR 1993		HIGHEST	30.92	JUN 1, 1993	LOWEST	41.69	DEC 1, 1992				



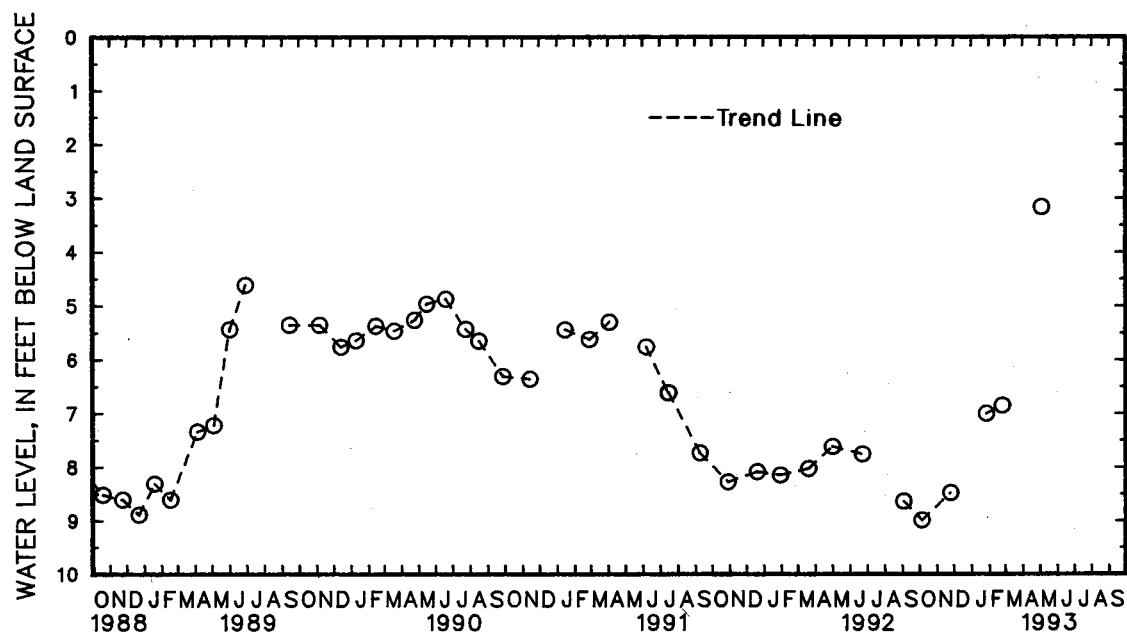
5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
HOWARD COUNTY--Continued

WELL NUMBER.--HO Cd 20. SITE ID.--391440076555401. PERMIT NUMBER.--HO-81-1573.  
LOCATION.--Lat 39°14'41", long 76°55'51", Hydrologic Unit 02060006, south of Homewood Rd. at the  
University of Maryland Central Farm.  
Owner: U.S. Geological Survey.  
AQUIFER.--Loch Raven Formation of Paleozoic age. Aquifer code: 300LCRV.  
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 96 ft; casing diameter 6 in., to 30 ft;  
open hole.  
INSTRUMENTATION.--Periodic measurements with chalked steel tape by U.S. Geological Survey personnel.  
Equipped with digital water-level recorder--1-hour recorder interval from October 1986 to August 1988.  
DATUM.--Elevation of land surface is 425.70 ft above National Geodetic Vertical Datum of 1929.  
Measuring point: Top of casing, 2.55 ft above land surface.  
REMARKS.--Best Management Practices Project observation well.  
PERIOD OF RECORD.--November 1986 to May 1993.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.16 ft below land surface, May 4, 1993;  
lowest measured, 10.54 ft below land surface, Nov. 12, 1986.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 5	8.99	NOV 25	8.48	JAN 27	7.00	FEB 24	6.85	MAY 4	3.16
WATER YEAR 1993		HIGHEST	3.16	MAY 4, 1993		LOWEST	8.99	OCT 5, 1992	



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

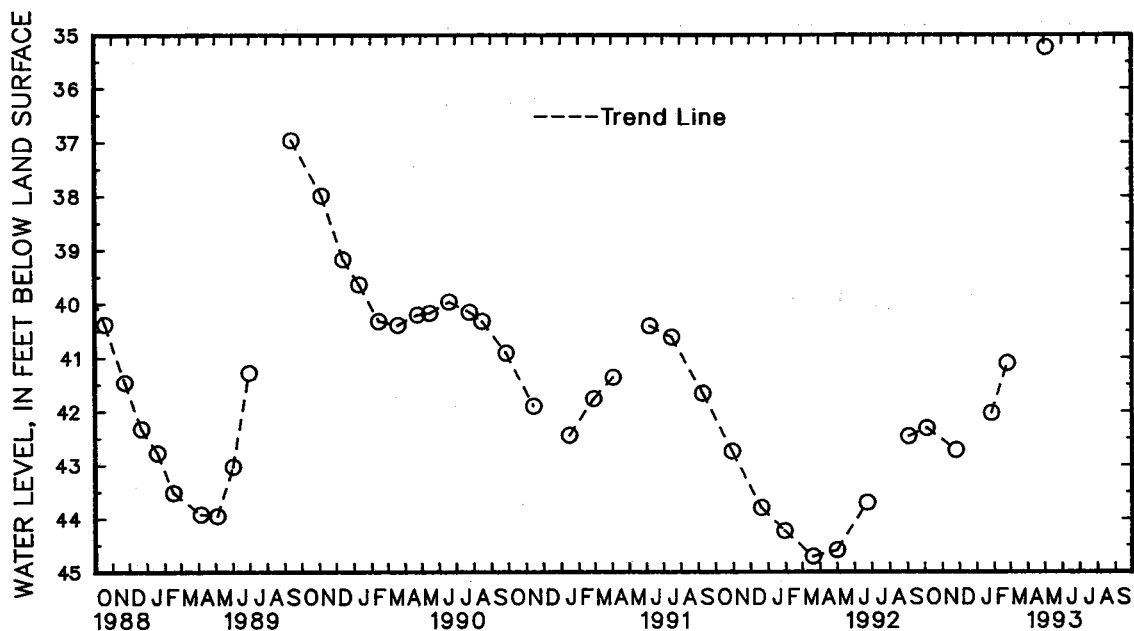
MARYLAND--Continued

HOWARD COUNTY--Continued

WELL NUMBER.--HO Cd 25. SITE ID.--391444076554701. PERMIT NUMBER.--HO-81-1578.  
 LOCATION.--Lat 39°14'44", long 76°55'47", Hydrologic Unit 02060006, south of Homewood Rd. at the  
 University of Maryland Central Farm.  
 Owner: U.S. Geological Survey.  
 AQUIFER.--Wissahickon Formation of Paleozoic age. Aquifer code: 300WSCK.  
 WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 100 ft; casing diameter 6 in.,  
 to 58 ft; open hole.  
 INSTRUMENTATION.--Periodic measurements with chalked steel tape by U.S. Geological Survey personnel.  
 DATUM.--Elevation of land surface is 470.9 ft above National Geodetic Vertical Datum of 1929.  
 Measuring point: Top of casing, 2.37 ft above land surface.  
 PERIOD OF RECORD.--October 1986 to May 1993.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 35.23 ft below land surface, May 24, 1993;  
 lowest measured, 47.21 ft below land surface, Oct. 29, 1986.

## WATER LEVELS IN FEET BELOW LAND SURFACE DATUM WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 5	42.31	NOV 25	42.72	JAN 27	42.03	FEB 24	41.10	MAY 4	35.23
WATER YEAR 1993		HIGHEST 35.23		MAY 4, 1993		LOWEST 42.72		NOV 25, 1992	



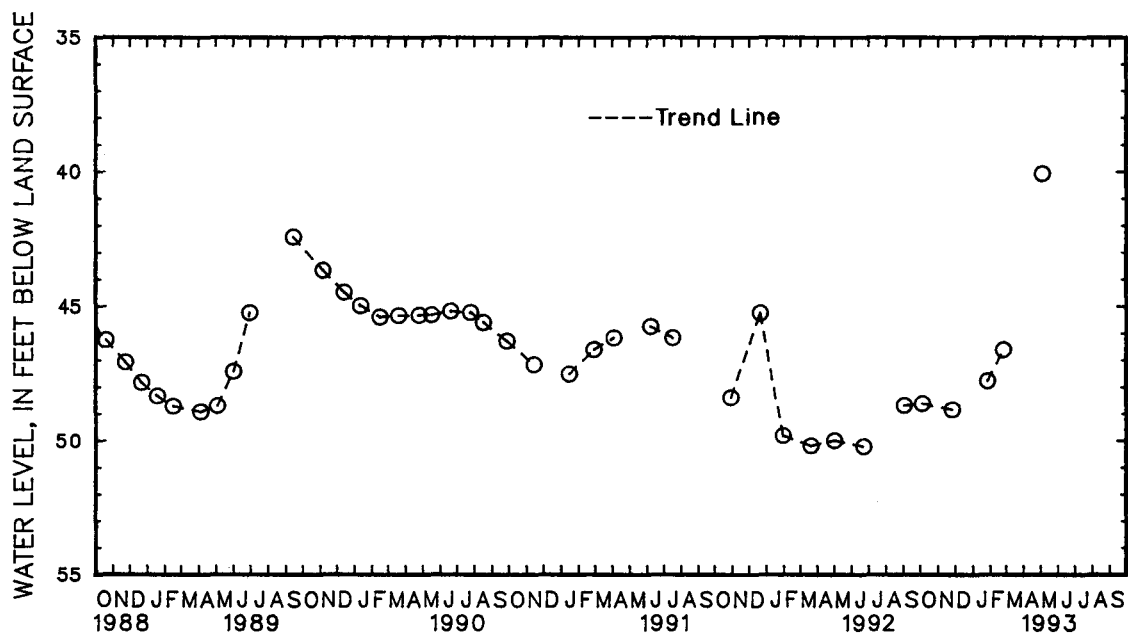
5 YEAR HYDROGRAPH  
 OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
HOWARD COUNTY--Continued

WELL NUMBER.--HO Cd 26. SITE ID.--391442076554701. PERMIT NUMBER.--HO-81-1579.  
LOCATION.--Lat 39°14'42", long 76°55'50", Hydrologic Unit 02060006, south of Homewood Rd. at the University of Maryland Central Farm.  
Owner: U.S. Geological Survey.  
AQUIFER.--Loch Raven Formation of Paleozoic age. Aquifer code: 300LCRV.  
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 143 ft; casing diameter 6 in., to 106 ft; open hole.  
INSTRUMENTATION.--Periodic measurements with chalked steel tape by U.S. Geological Survey personnel. Equipped with digital water-level recorder--1-hour recorder interval from October 1986 to August 1988.  
DATUM.--Elevation of land surface is 469.94 ft above National Geodetic Vertical Datum of 1929.  
Measuring point: Top of casing, 1.48 ft above land surface.  
REMARKS.--Best Management Practices Project observation well.  
PERIOD OF RECORD.--October 1986 to May 1993.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 40.06 ft below land surface, May 4, 1993; lowest measured, 51.77 ft below land surface, Dec. 3, 1986.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 5	48.62	NOV 25	48.85	JAN 27	47.77	FEB 24	46.61	MAY 4	40.06
WATER YEAR 1993		HIGHEST	40.06	MAY 4, 1993	LOWEST	48.85	NOV 25, 1992		



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

327

## MARYLAND--Continued

## HOWARD COUNTY--Continued

WELL NUMBER.--HO Cd 28. SITE ID.--391447076554702.

LOCATION.--Lat 39°14'43", long 76°55'48", Hydrologic Unit 02060006, south of Homewood Rd. at the University of Maryland Central Farm.

Owner: U.S. Geological Survey.

AQUIFER.--Loch Raven Schist of Paleozoic age. Aquifer code: 300LCRV.

WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 46 ft; casing diameter 3.5 in., to 41 ft; screen diameter 3.5 in. from 41 to 46 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

Equipped with digital water-level recorder--60-minute recorder interval from Oct. 30, 1986 to May 3, 1992.

DATUM.--Elevation of land surface is 453.11 ft above National Geodetic Vertical Datum of 1929.

Measuring Point: Top of recorder platform, 3.17 ft above land surface.

REMARKS.--Best Management Practice Project observation well. Missing data due to recorder malfunction.

PERIOD OF RECORD.--October 1986 to May 3, 1993.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 21.37 ft below land surface, May 3, 1993; lowest measured, 32.03 ft below land surface, Dec. 13 and 14, 1986.

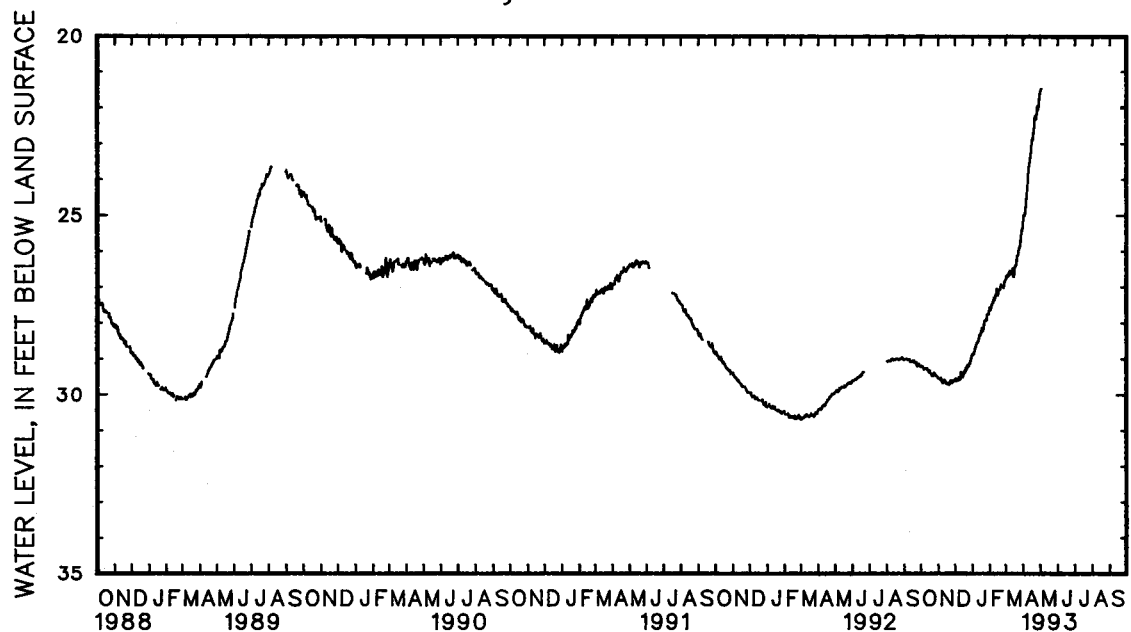
## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	29.22	29.20	29.55	29.54	29.56	29.54	28.88	28.83	27.60	27.46	26.77	26.69
2	29.21	29.19	29.55	29.49	29.55	29.51	28.88	28.85	27.63	27.59	26.69	26.65
3	29.20	29.19	29.55	29.47	29.61	29.51	28.85	28.77	27.59	27.43	26.71	26.67
4	29.22	29.20	29.55	29.49	29.61	29.50	28.77	28.66	27.49	27.43	26.71	26.37
5	29.27	29.22	29.53	29.49	29.57	29.48	28.69	28.61	27.49	27.33	26.63	26.50
6	29.30	29.27	29.60	29.53	29.59	29.52	28.69	28.64	27.40	27.32	26.67	26.63
7	29.29	29.27	29.62	29.60	29.52	29.49	28.64	28.57	27.41	27.29	26.67	26.55
8	29.28	29.26	29.65	29.62	29.55	29.52	28.57	28.52	27.30	27.25	26.55	26.47
9	29.26	29.21	29.67	29.65	29.57	29.55	28.54	28.54	27.35	27.30	26.61	26.54
10	29.27	29.21	29.66	29.63	29.55	29.31	28.54	28.50	27.30	27.20	26.61	26.40
11	29.26	29.23	29.63	29.59	29.37	29.28	28.50	28.43	27.21	27.20	26.57	26.40
12	29.27	29.25	29.59	29.45	29.48	29.37	28.43	28.34	27.21	27.00	26.57	26.48
13	29.32	29.27	29.61	29.45	29.51	29.48	28.34	28.25	27.04	26.98	26.48	25.92
14	29.35	29.32	29.65	29.61	29.51	29.46	28.33	28.28	27.19	27.04	26.64	25.99
15	29.35	29.33	29.68	29.65	29.46	29.39	28.32	28.23	27.22	27.19	26.71	26.64
16	29.33	29.30	29.70	29.67	29.39	29.35	28.23	28.15	27.19	26.93	26.64	26.44
17	29.38	29.31	29.67	29.61	29.35	29.26	28.15	28.12	27.08	26.94	26.44	26.23
18	29.39	29.36	29.67	29.62	29.36	29.30	28.22	28.14	27.06	27.01	26.40	26.29
19	29.41	29.35	29.71	29.67	29.35	29.25	28.21	28.17	27.05	26.99	26.39	26.29
20	29.45	29.41	29.72	29.70	29.25	29.20	28.17	28.07	26.99	26.92	26.29	26.14
21	29.45	29.41	29.70	29.61	29.28	29.22	28.07	27.94	26.93	26.78	26.14	26.09
22	29.48	29.45	29.61	29.53	29.22	29.17	27.94	27.88	---	---	26.11	26.07
23	29.47	29.40	29.61	29.48	29.17	29.12	27.94	27.89	---	---	26.07	25.91
24	29.40	29.32	29.66	29.61	29.20	29.10	27.90	27.78	---	---	25.91	25.85
25	29.40	29.34	29.66	29.64	29.20	29.06	27.92	27.84	27.01	26.92	25.90	25.85
26	29.42	29.40	29.64	29.57	29.13	29.06	27.91	27.76	26.92	26.82	25.85	25.73
27	29.46	29.40	29.61	29.58	29.13	29.07	27.76	27.68	26.82	26.81	25.73	25.57
28	29.47	29.46	29.61	29.60	29.07	29.00	27.73	27.64	26.81	26.77	25.57	25.48
29	29.48	29.47	29.60	29.60	29.00	28.92	27.74	27.62	---	---	25.48	25.37
30	29.51	29.47	29.60	29.56	28.92	28.86	27.74	27.57	---	---	25.37	25.33
31	29.54	29.51	---	---	28.86	28.83	27.57	27.43	---	---	25.34	25.14
MONTH	29.54	29.19	29.72	29.45	29.61	28.83	28.88	27.43	27.63	26.77	26.77	25.14

GROUND-WATER LEVELS  
MARYLAND--Continued  
HOWARD COUNTY--Continued  
HO Cd 28--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	25.14	24.95	21.54	21.48	---	---	---	---	---	---	---	---
2	24.98	24.95	21.48	21.42	---	---	---	---	---	---	---	---
3	25.00	24.94	21.46	21.37	---	---	---	---	---	---	---	---
4	24.94	24.78	---	---	---	---	---	---	---	---	---	---
5	24.78	24.58	---	---	---	---	---	---	---	---	---	---
6	24.58	24.45	---	---	---	---	---	---	---	---	---	---
7	24.45	24.28	---	---	---	---	---	---	---	---	---	---
8	24.28	24.09	---	---	---	---	---	---	---	---	---	---
9	24.09	23.82	---	---	---	---	---	---	---	---	---	---
10	23.82	23.51	---	---	---	---	---	---	---	---	---	---
11	23.66	23.55	---	---	---	---	---	---	---	---	---	---
12	23.55	23.41	---	---	---	---	---	---	---	---	---	---
13	23.43	23.31	---	---	---	---	---	---	---	---	---	---
14	23.31	23.16	---	---	---	---	---	---	---	---	---	---
15	23.16	22.97	---	---	---	---	---	---	---	---	---	---
16	22.97	22.67	---	---	---	---	---	---	---	---	---	---
17	22.87	22.76	---	---	---	---	---	---	---	---	---	---
18	22.88	22.75	---	---	---	---	---	---	---	---	---	---
19	22.75	22.61	---	---	---	---	---	---	---	---	---	---
20	22.61	22.45	---	---	---	---	---	---	---	---	---	---
21	22.45	22.22	---	---	---	---	---	---	---	---	---	---
22	22.22	22.19	---	---	---	---	---	---	---	---	---	---
23	22.27	22.17	---	---	---	---	---	---	---	---	---	---
24	22.30	22.13	---	---	---	---	---	---	---	---	---	---
25	22.13	21.96	---	---	---	---	---	---	---	---	---	---
26	21.96	21.86	---	---	---	---	---	---	---	---	---	---
27	22.03	21.96	---	---	---	---	---	---	---	---	---	---
28	21.96	21.79	---	---	---	---	---	---	---	---	---	---
29	21.79	21.62	---	---	---	---	---	---	---	---	---	---
30	21.62	21.54	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	25.14	21.54	21.54	21.37	---	---	---	---	---	---	---	---
YEAR	29.72	21.37										

Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993



GROUND-WATER LEVELS  
MARYLAND--Continued  
HOWARD COUNTY--Continued

WELL NUMBER.--HO Cd 29. SITE ID.--391442076554702.  
LOCATION.--Lat 39°14'42", long 76°55'45", Hydrologic Unit 02060006, south of Homewood Rd. at the University of Maryland Central Farm.  
Owner: U.S. Geological Survey.  
AQUIFER.--Loch Raven Schist of Paleozoic age. Aquifer code: 300LCRV.  
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 68 ft; casing diameter 3.5 in., to 63 ft; screen diameter 3.5 in. from 63 to 68 ft.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel. Equipped with digital water-level recorder--60-minute recorder interval from Oct. 24, 1986 to May 3, 1993. Recorder malfunction from June 22, 1992 through Sept. 4, 1992.  
DATUM.--Elevation of land surface is 470.34 ft above National Geodetic Vertical Datum of 1929.  
Measuring Point: Top of recorder platform, 2.44 ft above land surface.  
REMARKS.--Best Management Practice Project observation well. Missing data due to recorder malfunction.  
PERIOD OF RECORD.--October 1986 to May 3, 1993.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 37.45 ft below land surface, May 3, 1993; lowest measured, 49.71 ft below land surface, Jan. 16, 1987.

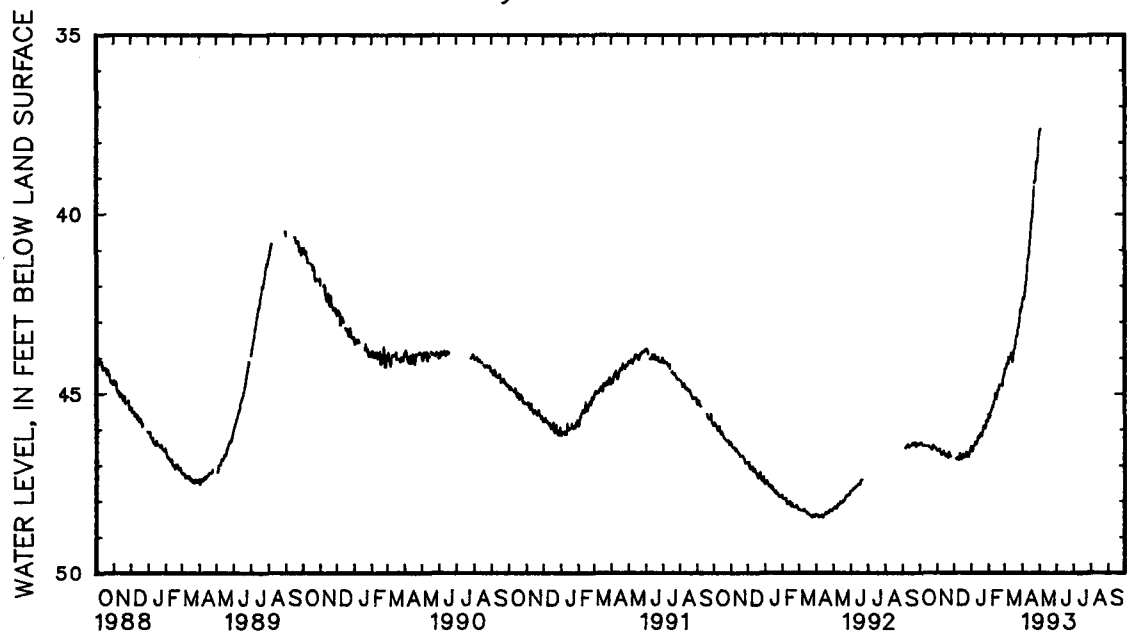
WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	46.42	46.39	46.59	46.58	---	---	46.59	46.46	45.66	45.48	44.42	44.29
2	46.39	46.36	46.58	46.48	---	---	46.60	46.57	45.67	45.60	44.29	44.24
3	46.38	46.35	46.56	46.46	---	---	46.57	46.47	45.60	45.46	44.29	44.26
4	46.39	46.37	46.56	46.47	46.82	46.66	46.47	46.36	45.53	45.45	44.27	43.94
5	---	---	46.54	46.49	46.82	46.65	46.46	46.30	45.50	45.35	44.14	44.08
6	46.45	46.44	46.63	46.54	46.83	46.72	46.45	46.40	45.43	45.33	44.16	44.13
7	46.45	46.45	46.65	46.62	46.77	46.70	46.40	46.34	45.43	45.28	44.16	43.98
8	46.45	46.45	46.69	46.65	46.83	46.77	46.35	46.31	45.32	45.25	43.98	43.90
9	46.45	46.45	46.72	46.69	46.85	46.82	46.38	46.35	45.36	45.27	44.03	43.97
10	46.45	46.45	46.70	46.64	46.82	46.51	46.40	46.35	45.27	45.18	44.03	43.81
11	46.45	46.45	46.64	46.59	46.66	46.49	46.35	46.28	45.19	45.16	43.98	43.81
12	46.45	46.45	46.60	46.40	46.78	46.66	46.28	46.19	45.16	44.93	43.97	43.84
13	46.45	46.45	46.65	46.40	46.83	46.78	46.19	46.11	44.98	44.90	43.84	43.14
14	46.45	46.45	46.69	46.65	46.83	46.79	46.24	46.17	45.11	44.98	44.03	43.32
15	46.45	46.45	46.73	46.67	46.79	46.72	46.22	46.14	45.13	45.06	44.11	43.99
16	46.45	46.45	46.75	46.69	46.72	46.69	46.14	46.06	45.06	44.79	43.99	43.78
17	46.48	46.45	46.69	46.62	46.69	46.59	46.10	46.04	44.96	44.84	43.78	43.55
18	46.48	46.48	46.73	46.65	46.77	46.69	46.18	46.10	44.89	44.84	43.75	43.65
19	46.49	46.48	46.77	46.73	46.77	46.64	46.18	46.15	44.89	44.79	43.72	43.59
20	46.52	46.49	46.79	46.75	46.72	46.59	46.15	46.04	44.79	44.71	43.59	43.41
21	46.54	46.48	46.75	46.64	46.76	46.66	46.04	45.90	44.74	44.52	43.41	43.36
22	46.57	46.53	46.64	46.56	46.66	46.63	45.90	45.86	---	---	43.40	43.34
23	46.54	46.44	46.71	46.47	46.64	46.59	45.95	45.89	---	---	43.35	43.16
24	46.44	46.34	46.75	46.71	46.76	46.58	45.89	45.77	---	---	43.16	43.09
25	46.45	46.39	46.75	46.71	46.75	46.58	45.96	45.87	44.76	44.63	43.14	43.05
26	46.47	46.42	---	---	46.74	46.58	45.93	45.76	44.63	44.52	43.05	42.93
27	46.50	46.44	---	---	46.76	46.68	45.76	45.69	44.52	44.48	42.93	42.74
28	46.50	46.48	---	---	46.68	46.61	45.74	45.65	44.48	44.42	42.74	42.67
29	46.51	46.48	---	---	46.62	46.52	45.78	45.64	---	---	42.67	42.56
30	46.55	46.49	---	---	46.52	46.47	45.77	45.58	---	---	42.59	42.55
31	46.58	46.53	---	---	46.47	46.45	45.58	45.43	---	---	42.59	42.38
MONTH	46.58	46.34	46.79	46.40	46.85	46.45	46.60	45.43	45.67	44.42	44.42	42.38

GROUND-WATER LEVELS  
 MARYLAND--Continued  
 HOWARD COUNTY--Continued  
 HO Cd 29--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	42.38	42.21	37.79	37.66	---	---	---	---	---	---	---	---
2	42.32	42.25	37.66	37.56	---	---	---	---	---	---	---	---
3	42.36	42.31	37.62	37.45	---	---	---	---	---	---	---	---
4	42.31	42.17	---	---	---	---	---	---	---	---	---	---
5	42.18	41.98	---	---	---	---	---	---	---	---	---	---
6	41.98	41.88	---	---	---	---	---	---	---	---	---	---
7	41.89	41.73	---	---	---	---	---	---	---	---	---	---
8	41.73	41.55	---	---	---	---	---	---	---	---	---	---
9	41.55	41.27	---	---	---	---	---	---	---	---	---	---
10	41.27	41.01	---	---	---	---	---	---	---	---	---	---
11	41.21	41.10	---	---	---	---	---	---	---	---	---	---
12	41.10	40.98	---	---	---	---	---	---	---	---	---	---
13	41.00	40.86	---	---	---	---	---	---	---	---	---	---
14	40.86	40.66	---	---	---	---	---	---	---	---	---	---
15	40.66	40.41	---	---	---	---	---	---	---	---	---	---
16	40.41	40.12	---	---	---	---	---	---	---	---	---	---
17	40.19	40.14	---	---	---	---	---	---	---	---	---	---
18	40.19	39.96	---	---	---	---	---	---	---	---	---	---
19	39.96	39.72	---	---	---	---	---	---	---	---	---	---
20	39.72	39.46	---	---	---	---	---	---	---	---	---	---
21	39.46	39.14	---	---	---	---	---	---	---	---	---	---
22	39.14	39.00	---	---	---	---	---	---	---	---	---	---
23	39.07	38.95	---	---	---	---	---	---	---	---	---	---
24	39.07	38.81	---	---	---	---	---	---	---	---	---	---
25	38.81	38.54	---	---	---	---	---	---	---	---	---	---
26	38.54	38.36	---	---	---	---	---	---	---	---	---	---
27	38.57	38.45	---	---	---	---	---	---	---	---	---	---
28	38.45	38.19	---	---	---	---	---	---	---	---	---	---
29	38.19	37.91	---	---	---	---	---	---	---	---	---	---
30	37.91	37.77	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	42.38	37.77	37.79	37.45	---	---	---	---	---	---	---	---
YEAR	46.85	37.45										

Daily Low Water Levels



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

331

## MARYLAND--Continued

## HOWARD COUNTY--Continued

WELL NUMBER.--HO Cd 78. SITE ID.--391440076555402. PERMIT NUMBER.--HO-81-2389.

LOCATION.--Lat 39°14'41", long 76°55'52", Hydrologic Unit 02060006, south of Homewood Rd. at the University of Maryland Central Farm.

Owner: U.S. Geological Survey.

AQUIFER.--Loch Raven Schist of Paleozoic age. Aquifer code: 300LCRV.

WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 19 ft; casing diameter 3.5 in., to 9 ft; screen diameter 3.5 in. from 9 to 19 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

Equipped with digital water-level recorder--30-minute recorder interval from Feb. 11, 1988 to May 3, 1993.

DATUM.--Elevation of land surface is 425.58 ft above National Geodetic Vertical Datum of 1929.

Measuring Point: Top of recorder platform, 1.6 ft above land surface.

REMARKS.--Best Management Practice Project observation well.

Missing data due to recorder malfunction.

PERIOD OF RECORD.--February 1988 to May 3, 1993.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.47 ft below land surface, April 22, 1993; lowest measured, 10.19 ft below land surface, Sept. 18, 21 and 22, 1991.

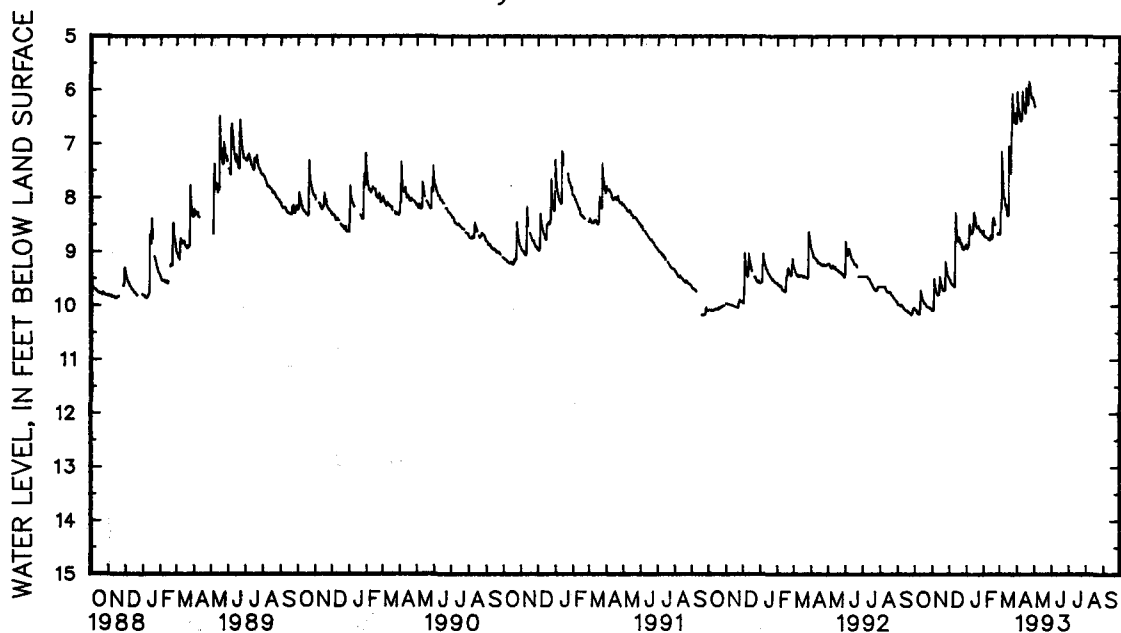
## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	10.07	10.06	10.10	10.09	9.52	9.49	8.94	8.87	8.70	8.61	8.68	8.64
2	10.08	10.07	10.10	10.06	9.53	9.52	8.94	8.92	8.72	8.70	8.66	8.21
3	10.10	10.08	10.06	9.41	9.58	9.53	8.92	8.89	8.71	8.66	8.22	8.17
4	10.11	10.10	9.51	9.41	9.58	9.56	8.89	8.85	8.73	8.67	8.20	6.72
5	10.15	10.11	9.62	9.51	9.61	9.55	8.85	8.41	8.73	8.67	7.13	6.81
6	10.16	10.15	9.69	9.62	9.62	9.60	8.49	8.41	8.74	8.67	7.50	7.13
7	10.16	10.16	9.73	9.69	9.62	9.60	8.54	8.48	8.75	8.71	7.67	7.50
8	10.16	10.16	9.77	9.73	9.64	9.62	8.63	8.54	8.76	8.70	7.89	7.67
9	10.16	10.06	9.80	9.77	9.66	9.64	8.66	8.63	8.78	8.75	8.01	7.89
10	10.06	9.68	9.81	9.80	9.66	9.27	8.67	8.64	8.75	8.73	8.01	7.92
11	9.73	9.68	9.81	9.81	9.27	8.08	8.65	8.63	8.78	8.74	8.14	8.01
12	9.79	9.73	9.81	9.73	8.27	8.07	8.63	8.53	8.78	8.68	8.16	8.12
13	9.85	9.79	9.74	9.38	8.54	8.27	8.53	8.17	8.70	8.67	8.13	7.81
14	9.88	9.85	9.47	9.38	8.67	8.54	8.27	8.19	8.75	8.70	8.31	8.10
15	9.91	9.88	9.55	9.47	8.74	8.67	8.33	8.27	8.76	8.74	8.34	8.31
16	9.93	9.91	9.60	9.55	8.81	8.74	8.35	8.32	8.74	8.46	8.34	8.30
17	9.96	9.93	9.63	9.60	8.81	8.77	8.46	8.35	8.46	8.24	8.30	6.92
18	9.96	9.95	9.68	9.63	8.78	8.71	8.52	8.46	8.37	8.25	7.04	6.84
19	9.98	9.96	9.71	9.68	8.74	8.71	8.56	8.52	8.42	8.37	7.35	7.04
20	9.99	9.98	9.73	9.71	8.83	8.70	8.56	8.53	8.48	8.41	7.52	7.35
21	10.02	9.99	9.73	9.73	8.85	8.81	8.56	8.49	8.50	8.43	7.55	6.85
22	10.03	10.02	9.73	9.72	8.84	8.80	8.53	8.49	---	---	6.92	6.58
23	10.03	10.03	9.72	9.06	8.86	8.81	8.58	8.53	---	---	6.71	6.03
24	10.03	10.01	9.19	9.07	8.94	8.84	8.59	8.49	---	---	6.03	5.79
25	10.04	10.02	9.30	9.19	8.91	8.85	8.63	8.59	8.68	8.64	6.30	5.92
26	10.04	10.04	9.36	9.28	8.96	8.87	8.63	8.56	8.65	8.63	6.50	6.30
27	10.06	10.04	9.41	9.36	8.96	8.93	8.61	8.54	8.67	8.65	6.60	6.50
28	10.06	10.06	9.45	9.41	8.93	8.91	8.62	8.58	8.68	8.67	6.51	6.25
29	10.07	10.06	9.48	9.45	8.91	8.88	8.67	8.58	---	---	6.43	6.27
30	10.08	10.07	9.49	9.48	8.89	8.85	8.67	8.61	---	---	6.62	6.43
31	10.09	10.08	---	---	8.87	8.85	8.61	8.53	---	---	6.63	6.59
MONTH	10.16	9.68	10.10	9.06	9.66	8.07	8.94	8.17	8.78	8.24	8.68	5.79

GROUND-WATER LEVELS  
MARYLAND--Continued  
HOWARD COUNTY--Continued  
HO Cd 78--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	6.61	5.82	6.22	6.18	---	---	---	---	---	---	---	---
2	6.02	5.75	6.29	6.22	---	---	---	---	---	---	---	---
3	6.22	6.02	6.31	6.27	---	---	---	---	---	---	---	---
4	6.35	6.22	---	---	---	---	---	---	---	---	---	---
5	6.40	6.35	---	---	---	---	---	---	---	---	---	---
6	6.49	6.40	---	---	---	---	---	---	---	---	---	---
7	6.54	6.49	---	---	---	---	---	---	---	---	---	---
8	6.58	6.52	---	---	---	---	---	---	---	---	---	---
9	6.57	6.53	---	---	---	---	---	---	---	---	---	---
10	6.53	5.86	---	---	---	---	---	---	---	---	---	---
11	6.02	5.82	---	---	---	---	---	---	---	---	---	---
12	6.21	6.00	---	---	---	---	---	---	---	---	---	---
13	6.30	6.21	---	---	---	---	---	---	---	---	---	---
14	6.37	6.30	---	---	---	---	---	---	---	---	---	---
15	6.41	6.36	---	---	---	---	---	---	---	---	---	---
16	6.44	5.65	---	---	---	---	---	---	---	---	---	---
17	5.97	5.69	---	---	---	---	---	---	---	---	---	---
18	6.09	5.97	---	---	---	---	---	---	---	---	---	---
19	6.17	6.09	---	---	---	---	---	---	---	---	---	---
20	6.23	6.16	---	---	---	---	---	---	---	---	---	---
21	6.28	5.95	---	---	---	---	---	---	---	---	---	---
22	5.95	5.47	---	---	---	---	---	---	---	---	---	---
23	5.84	5.53	---	---	---	---	---	---	---	---	---	---
24	5.91	5.84	---	---	---	---	---	---	---	---	---	---
25	5.98	5.91	---	---	---	---	---	---	---	---	---	---
26	6.10	5.97	---	---	---	---	---	---	---	---	---	---
27	6.14	6.10	---	---	---	---	---	---	---	---	---	---
28	6.15	6.10	---	---	---	---	---	---	---	---	---	---
29	6.13	6.09	---	---	---	---	---	---	---	---	---	---
30	6.18	6.12	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	6.61	5.47	6.31	6.18	---	---	---	---	---	---	---	---
YEAR	10.16	5.47										

Daily Low Water Levels



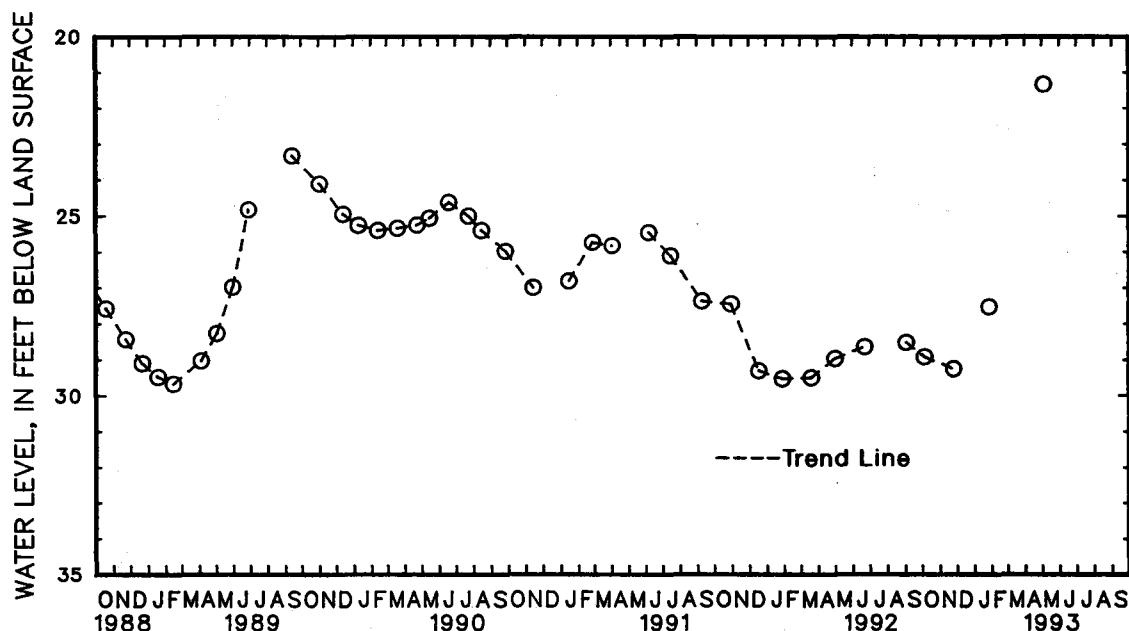
5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

**MARYLAND--Continued**

### HOWARD COUNTY-Continued

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 5	28.93	NOV 25	29.26	JAN 27	27.53	MAY 4	21.33
WATER YEAR 1993		HIGHEST	21.33	MAY 4, 1993		LOWEST	29.26 NOV 25, 1992



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

## MARYLAND--Continued

## HOWARD COUNTY--Continued

WELL NUMBER.--HO Cd 342. SITE ID.--391438076555001. PERMIT NUMBER.--HO-88-0062.

LOCATION.--Lat 39°14'39", long 76°55'49", Hydrologic Unit 02060006, south of Homewood Rd. at the University of Maryland Central Farm.

Owner: U.S. Geological Survey.

AQUIFER.--Loch Raven Schist of Paleozoic age. Aquifer code: 300LCRV.

WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 25 ft; casing diameter 3.5 in., to 20 ft.; screen diameter 3.5 in. from 20 to 25 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

Equipped with digital water-level recorder--30-minute recorder interval from Aug. 23, 1988 to current year.

DATUM.--Elevation of land surface is 436.46 ft above National Geodetic Vertical Datum of 1929.

Measuring Point: Top of recorder platform, 3.79 ft above land surface.

REMARKS.--Best Management Practice Project observation well. Missing data due to recorder malfunction.

PERIOD OF RECORD.--August 1988 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 15.39 ft below land surface, April 30, 1993;

lowest measured, 24.14 ft below land surface, Oct. 30, 31 and Nov. 1, 2 and 3, 1992.

Dry from Sept. 9, 1991 to March 3, 1992.

## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

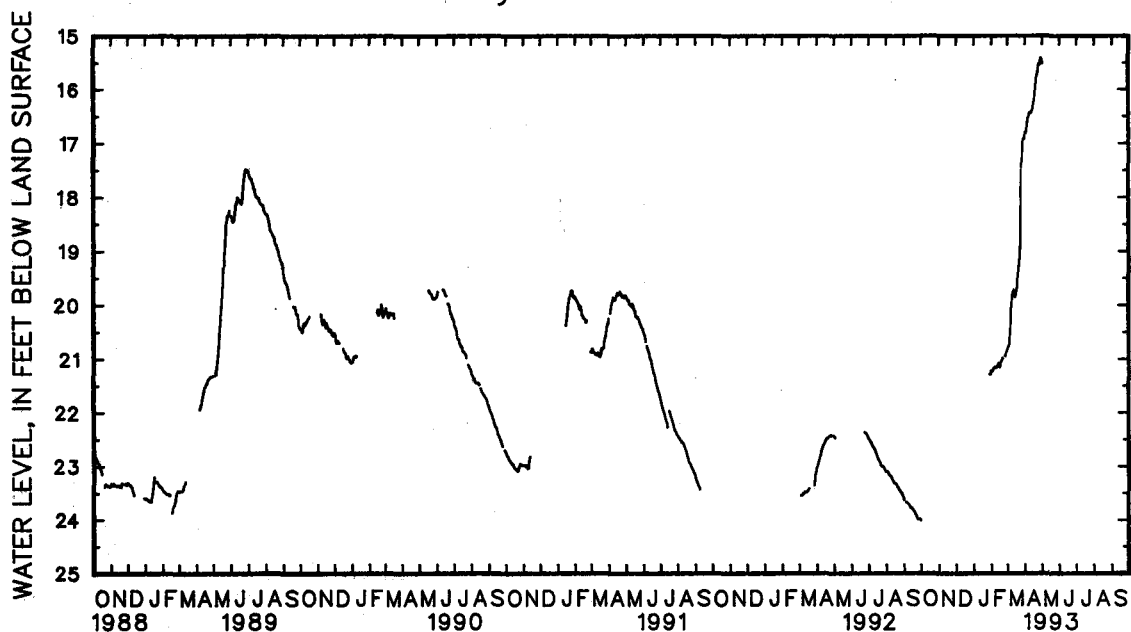
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
OCTOBER			NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	24.14	24.14	---	---	---	---	21.23	21.18	20.82	20.78
2	---	---	24.14	24.14	---	---	---	---	21.23	21.22	20.78	20.76
3	---	---	24.14	24.08	---	---	---	---	21.22	21.15	20.76	20.74
4	---	---	24.08	24.02	---	---	---	---	21.18	21.15	20.74	20.59
5	24.07	24.05	24.02	23.99	---	---	---	---	21.18	21.13	20.61	20.52
6	24.09	24.07	23.99	23.99	---	---	---	---	21.15	21.12	20.52	20.33
7	24.10	24.09	23.99	23.99	---	---	---	---	21.15	21.12	20.33	20.10
8	24.12	24.10	23.99	23.99	---	---	---	---	21.15	21.12	20.10	19.95
9	24.12	24.11	23.99	23.99	---	---	---	---	21.16	21.15	19.95	19.88
10	24.11	24.09	23.99	23.99	---	---	---	---	21.15	21.12	19.88	19.73
11	24.09	24.06	23.99	23.98	---	---	---	---	21.13	21.12	19.76	19.72
12	24.06	24.05	23.98	23.95	---	---	---	---	21.13	21.06	19.76	19.72
13	24.05	24.05	23.95	23.94	---	---	---	---	21.08	21.06	19.72	19.41
14	24.06	24.05	23.94	23.90	---	---	---	---	21.14	21.08	19.80	19.46
15	24.07	24.06	23.90	23.89	---	---	---	---	21.15	21.14	19.85	19.80
16	24.07	24.07	23.89	23.88	---	---	---	---	21.14	21.04	19.81	19.74
17	24.09	24.07	23.88	23.86	---	---	---	---	21.08	21.05	19.74	19.65
18	24.09	24.09	23.86	23.86	---	---	---	---	21.05	21.03	19.70	19.65
19	24.10	24.09	23.87	23.86	---	---	---	---	21.03	21.01	19.65	19.44
20	24.11	24.10	23.87	23.87	---	---	---	---	21.01	20.98	19.44	19.28
21	24.11	24.11	23.87	23.86	---	---	---	---	20.98	20.92	19.28	19.17
22	24.12	24.11	23.86	23.85	---	---	---	---	---	---	19.17	19.06
23	24.12	24.12	23.85	23.81	---	---	---	---	---	---	19.06	18.83
24	24.12	24.10	23.81	23.76	---	---	---	---	---	---	18.83	17.94
25	24.11	24.10	---	---	---	---	---	---	20.94	20.91	17.94	17.40
26	24.11	24.11	---	---	---	---	---	---	20.91	20.88	17.40	17.19
27	24.13	24.11	---	---	---	---	---	---	20.88	20.85	17.19	16.99
28	24.13	24.13	---	---	---	---	21.28	21.25	20.85	20.82	16.99	16.92
29	24.13	24.13	---	---	---	---	21.28	21.25	---	---	16.92	16.87
30	24.14	24.13	---	---	---	---	21.28	21.22	---	---	16.92	16.87
31	24.14	24.14	---	---	---	---	21.22	21.16	---	---	16.92	16.80
MONTH	24.14	24.05	24.14	23.76	---	---	21.28	21.16	21.23	20.82	20.82	16.80

GROUND-WATER LEVELS  
MARYLAND--Continued  
HOWARD COUNTY--Continued  
HO Cd 342--Continued

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DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	16.80	16.75	15.43	15.40	---	---	---	---	---	---	---	---
2	16.81	16.78	15.47	15.42	---	---	---	---	---	---	---	---
3	16.82	16.74	15.51	15.47	---	---	---	---	---	---	---	---
4	16.74	16.63	---	---	---	---	---	---	---	---	---	---
5	16.63	16.54	---	---	---	---	---	---	---	---	---	---
6	16.54	16.52	---	---	---	---	---	---	---	---	---	---
7	16.53	16.49	---	---	---	---	---	---	---	---	---	---
8	16.49	16.43	---	---	---	---	---	---	---	---	---	---
9	16.44	16.36	---	---	---	---	---	---	---	---	---	---
10	16.43	16.31	---	---	---	---	---	---	---	---	---	---
11	16.45	16.37	---	---	---	---	---	---	---	---	---	---
12	16.41	16.37	---	---	---	---	---	---	---	---	---	---
13	16.42	16.38	---	---	---	---	---	---	---	---	---	---
14	16.39	16.34	---	---	---	---	---	---	---	---	---	---
15	16.35	16.28	---	---	---	---	---	---	---	---	---	---
16	16.28	16.20	---	---	---	---	---	---	---	---	---	---
17	16.23	16.20	---	---	---	---	---	---	---	---	---	---
18	16.20	16.10	---	---	---	---	---	---	---	---	---	---
19	16.10	15.99	---	---	---	---	---	---	---	---	---	---
20	15.99	15.88	---	---	---	---	---	---	---	---	---	---
21	15.90	15.77	---	---	---	---	---	---	---	---	---	---
22	15.77	15.70	---	---	---	---	---	---	---	---	---	---
23	15.72	15.68	---	---	---	---	---	---	---	---	---	---
24	15.72	15.60	---	---	---	---	---	---	---	---	---	---
25	15.60	15.49	---	---	---	---	---	---	---	---	---	---
26	15.52	15.43	---	---	---	---	---	---	---	---	---	---
27	15.55	15.52	---	---	---	---	---	---	---	---	---	---
28	15.52	15.46	---	---	---	---	---	---	---	---	---	---
29	15.46	15.40	---	---	---	---	---	---	---	---	---	---
30	15.41	15.39	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	16.82	15.39	15.51	15.40	---	---	---	---	---	---	---	---
YEAR	24.14	15.39										

Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

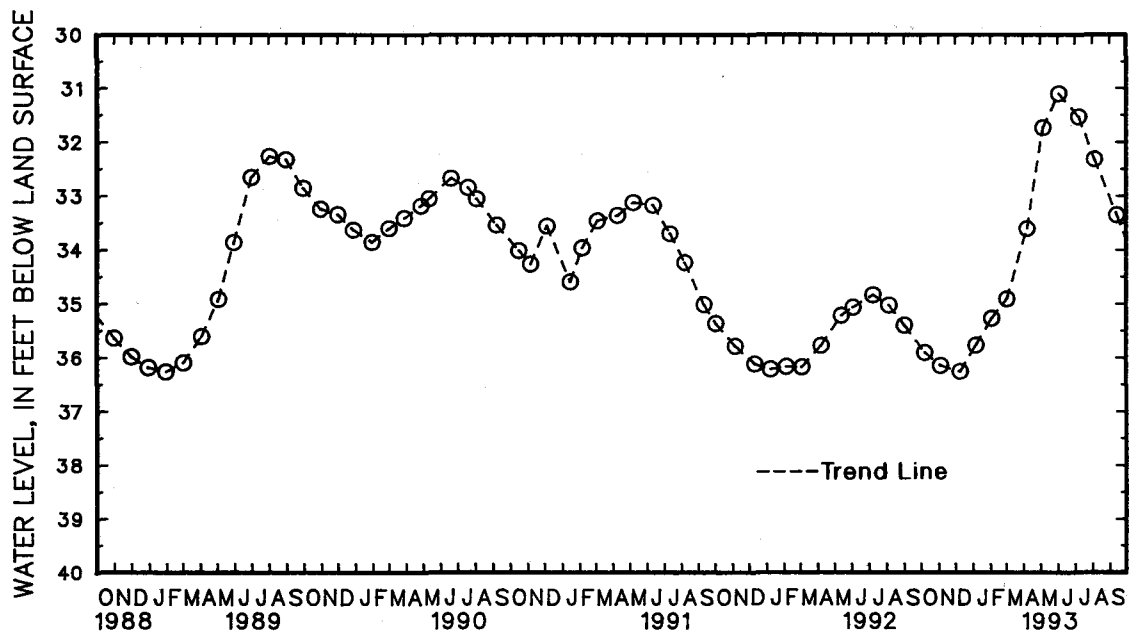
## MARYLAND--Continued

**HOWARD COUNTY--Continued**

WELL NUMBER.--HO Ce 38. SITE ID.--391001076540001. PERMIT NUMBER.--HO-01-1827.  
LOCATION.--Lat 39°10'01", long 76°54'00", Hydrologic Unit 02060006, at Johns Hopkins University Applied  
Physics Lab, Scaggsville.  
Owner: Johns Hopkins University.  
AQUIFER.--Sykesville Formation of Paleozoic age. Aquifer code: 300SKVL.  
WELL CHARACTERISTICS.--Drilled, unused, water-table well, depth 125 ft; casing diameter 6 in., to 51.4 ft;  
open hole.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
Equipped with graphic water-level recorder from Dec. 9, 1987 to April 27, 1990.  
DATUM.--Elevation of land surface is 430 ft above National Geodetic Vertical Datum of 1929,  
from topographic map.  
Measuring point: Top of casing, 1.80 ft above land surface.  
REMARKS.--Maryland Water-Level Network observation well.  
PERIOD OF RECORD.--May 1956 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 25.84 ft below land surface, May 5, 1972;  
lowest measured, 36.87 ft below land surface, Dec. 5, 1986.

## WATER LEVEL, IN FEET BELOW LAND SURFACE. WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE		WATER LEVEL		DATE		WATER LEVEL		DATE		WATER LEVEL		DATE		WATER LEVEL	
OCT 7	35.91	DEC 9	36.26	FEB 3	35.27	APR 7	33.60	JUN 2	31.10	AUG 4	32.32	NOV 4	36.15	JAN 6	35.77
				MAR 2	34.91	MAY 5	31.73	JUL 7	31.53	SEP 13	33.36				
WATER YEAR 1993		HIGHEST 31.10		JUN 2, 1993		LOWEST 36.26		DEC 9, 1992							



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993



## GROUND-WATER LEVELS

MARYLAND--Continued

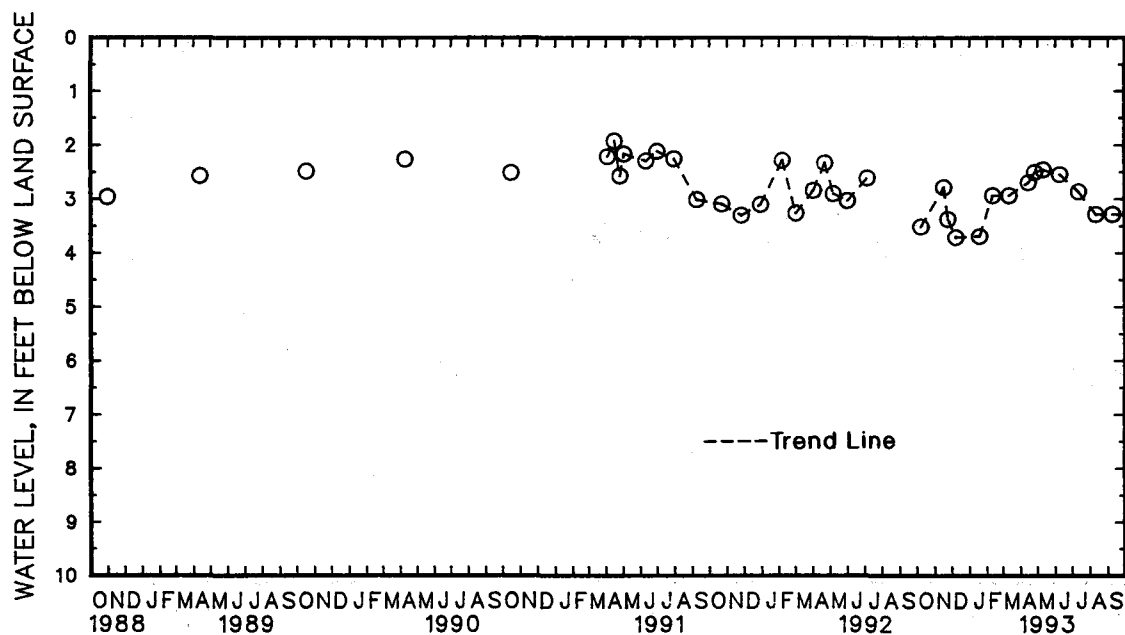
## KENT COUNTY

WELL NUMBER.--KE Ac 20. SITE ID.--392007076075501. PERMIT NUMBER.--KE-73-0658.  
 LOCATION.--Lat 39°20'07", long 76°07'55", Hydrologic Unit 02060001, at U.S. Coast Guard Station at end of Still Pond Neck Rd.  
 Owner: U.S. Geological Survey.  
 AQUIFER.--Potomac Group of Lower Cretaceous age. Aquifer code: 217PTMC.  
 WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 582 ft; casing diameter 10 in., to 73 ft; casing diameter 4 in., to 550 ft and 560 to 582 ft; screen diameter 4 in. from 550 to 560 ft.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 Measured twice yearly from October 1986 to April 1991.  
 DATUM.--Elevation of land surface is 7 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
 Measuring point: Top of casing, 3.43 ft above land surface.  
 REMARKS.--Maryland Water-Level Network and Kent Co. project observation well.  
 PERIOD OF RECORD.--December 1977 to December 1978, December 1985, October 1986 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.50 ft below land surface, April 13, 1978, May 5, 1978, and Dec. 11, 1985; lowest measured, 3.72 ft below land surface, Dec. 8, 1992.

## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 8	3.52	DEC 8	3.72	MAR 12	2.94	MAY 11	2.46	AUG 11	3.29
NOV 17	2.79	JAN 19	3.70	APR 15	2.70	JUN 9	2.55	SEP 9	3.29
24	3.38	FEB 11	2.94	26	2.51	JUL 12	2.87		

WATER YEAR 1993      HIGHEST      2.46      MAY 11, 1993      LOWEST      3.72      DEC 8, 1992



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

## MARYLAND--Continued

## KENT COUNTY--Continued

WELL NUMBER.--KE Bc 50. SITE ID.--391751076061101. PERMIT NUMBER.--KE-67-0020.  
 LOCATION.--Lat 39°17'51", long 76°06'11", Hydrologic Unit 02060002, 0.25 mi southeast of Smithville,  
 at Chari-Vale Farms.  
 Owner: Robert S. Brink.  
 AQUIFER.--Matawan Formation of Upper Cretaceous age. Aquifer code: 211MTWN.  
 WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 160 ft; casing diameter 4 in., to 90 ft;  
 screened from 90 to 140 ft; screened from 100 to 160 ft.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 Equipped with digital water-level recorder--60-minute recorder interval from September 1991 to current year.  
 DATUM.--Elevation of land surface is 91.7 ft above National Geodetic Vertical Datum of 1929.  
 Measuring Point: Top of recorder platform, 1.7 ft above land surface.  
 REMARKS.--Kent County project observation well. Missing data due to recorder malfunction.  
 PERIOD OF RECORD.--April 1991 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 57.03 ft above sea level, April 22, 1991;  
 lowest measured, 53.54 above sea level, Dec. 8, 9 and 10, 1992.

## WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	53.99	53.99	53.79	53.78	53.64	53.64	53.65	53.64	53.99	53.99	54.25	54.22
2	53.99	53.99	53.79	53.78	53.64	53.64	53.64	53.64	53.99	53.99	54.28	54.25
3	53.99	53.99	53.81	53.79	53.64	53.58	53.64	53.64	53.99	53.99	54.26	54.23
4	53.99	53.94	53.79	53.79	53.58	53.58	53.67	53.64	53.99	53.99	54.44	54.23
5	53.94	53.92	53.79	53.79	53.59	53.58	53.71	53.67	54.00	53.99	54.37	54.31
6	53.92	53.91	53.79	53.75	53.58	53.56	53.68	53.67	54.00	54.00	54.32	54.29
7	53.91	53.91	53.75	53.75	53.56	53.56	53.68	53.68	54.00	54.00	54.32	54.29
8	53.91	53.87	53.75	53.74	53.56	53.54	53.70	53.68	54.01	54.00	54.38	54.32
9	53.92	53.87	53.74	53.74	53.54	53.54	53.69	53.69	54.02	54.01	54.33	54.30
10	53.92	53.90	53.74	53.74	53.63	53.54	53.70	53.69	54.04	54.02	54.42	54.30
11	53.90	53.90	53.74	53.74	53.64	53.60	53.71	53.70	54.04	54.03	54.42	54.34
12	53.90	53.87	53.79	53.74	53.60	53.56	53.72	53.71	54.20	54.04	54.38	54.34
13	53.87	53.85	53.79	53.75	53.56	53.55	53.75	53.72	54.20	54.11	54.78	54.38
14	53.85	53.82	53.75	53.72	53.55	53.55	53.75	53.74	54.12	54.05	54.70	54.34
15	53.82	53.82	53.72	53.72	53.57	53.55	53.74	53.74	54.06	54.05	54.39	54.34
16	53.82	53.82	53.72	53.72	53.59	53.57	53.76	53.74	54.23	54.06	54.45	54.39
17	53.82	53.81	53.72	53.72	53.61	53.59	53.76	53.76	54.20	54.09	54.56	54.45
18	53.81	53.81	53.72	53.71	53.60	53.57	53.76	53.74	54.14	54.11	54.52	54.48
19	53.82	53.81	53.71	53.69	53.60	53.57	53.80	53.75	54.12	54.08	54.55	54.48
20	53.82	53.81	53.69	53.68	53.62	53.60	53.83	53.80	54.16	54.12	54.63	54.55
21	53.81	53.81	53.69	53.68	53.61	53.61	53.92	53.83	54.26	54.14	54.67	54.63
22	53.81	53.80	53.70	53.69	53.61	53.61	53.94	53.92	54.27	54.17	54.69	54.66
23	53.80	53.80	53.72	53.67	53.63	53.61	53.94	53.93	54.18	54.14	54.81	54.69
24	53.82	53.80	53.67	53.65	53.63	53.60	53.95	53.93	54.15	54.13	54.88	54.81
25	53.82	53.82	53.66	53.65	53.61	53.60	53.94	53.92	54.15	54.11	54.87	54.83
26	53.82	53.81	53.67	53.66	53.61	53.61	53.92	53.92	54.21	54.15	54.94	54.87
27	53.81	53.79	53.67	53.67	53.61	53.61	53.95	53.92	54.22	54.19	55.03	54.94
28	53.79	53.79	53.67	53.67	53.63	53.61	53.95	53.95	54.23	54.20	55.07	55.03
29	53.79	53.79	53.67	53.64	53.64	53.63	53.96	53.95	---	---	55.10	55.04
30	53.79	53.79	53.64	53.64	53.64	53.64	53.96	53.96	---	---	55.13	55.10
31	53.79	53.79	---	---	53.65	53.64	53.99	53.96	---	---	55.21	55.12
MONTH	53.99	53.79	53.81	53.64	53.65	53.54	53.99	53.64	54.27	53.99	55.21	54.22

## GROUND-WATER LEVELS

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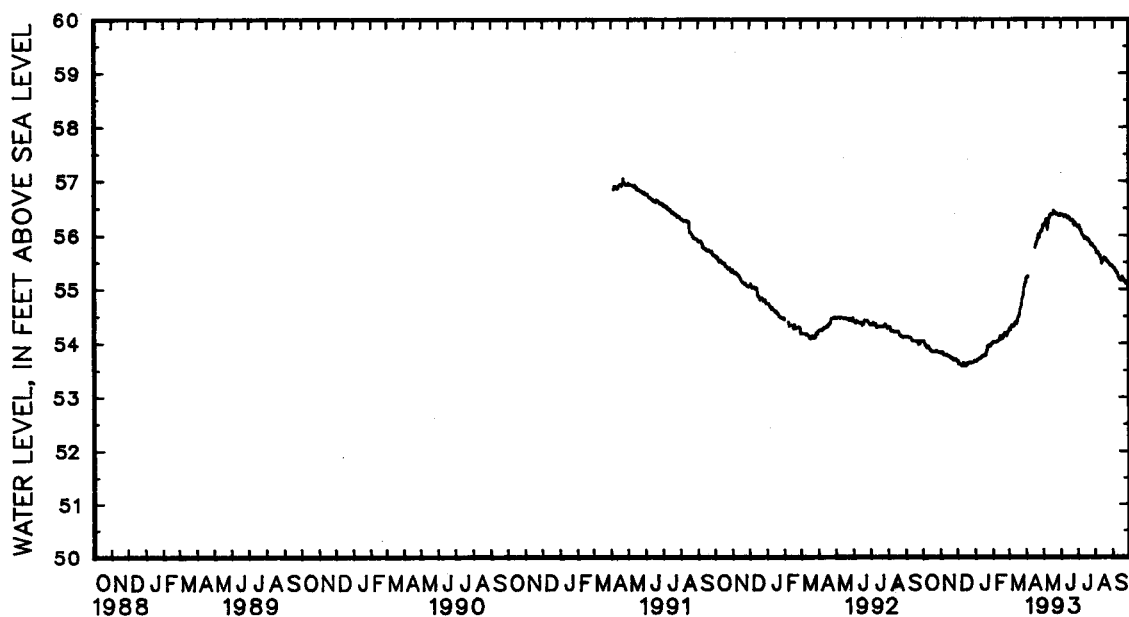
## MARYLAND--Continued

## KENT COUNTY--Continued

## KE Bc 50--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	55.28	55.21	56.23	56.20	56.45	56.38	56.18	56.14	55.79	55.75	55.45	55.38
2	55.24	55.20	56.22	56.18	56.39	56.37	56.26	56.15	55.79	55.72	55.41	55.38
3	55.23	55.21	56.25	56.20	56.41	56.38	56.26	56.18	55.73	55.66	55.41	55.37
4	55.28	55.23	56.28	56.24	56.41	56.38	56.20	56.14	55.71	55.66	55.41	55.36
5	---	---	56.31	56.28	56.41	56.38	56.17	56.10	55.70	55.65	55.38	55.32
6	---	---	56.33	56.30	56.40	56.34	56.13	56.10	55.73	55.67	55.35	55.31
7	---	---	56.33	56.16	56.36	56.35	56.12	56.06	55.72	55.65	55.34	55.31
8	---	---	56.20	56.10	56.39	56.35	56.10	56.03	55.67	55.60	55.34	55.27
9	---	---	56.27	56.20	56.41	56.37	56.07	56.00	55.64	55.60	55.30	55.28
10	---	---	56.32	56.27	56.40	56.36	56.06	55.98	55.63	55.59	55.32	55.25
11	---	---	56.39	56.32	56.38	56.33	56.03	55.98	55.63	55.53	55.25	55.20
12	---	---	56.43	56.37	56.35	56.32	56.04	55.97	55.54	55.45	55.23	55.18
13	---	---	56.44	56.39	56.35	56.33	55.99	55.92	55.51	55.48	55.22	55.16
14	---	---	56.42	56.37	56.38	56.34	56.00	55.95	55.54	55.51	55.22	55.17
15	---	---	56.42	56.39	56.37	56.33	56.02	55.95	55.58	55.52	55.21	55.15
16	55.89	55.77	56.43	56.38	56.35	56.31	55.98	55.94	55.57	55.54	55.18	55.13
17	55.90	55.83	56.43	56.39	56.34	56.28	55.98	55.93	55.61	55.56	55.21	55.15
18	55.86	55.82	56.48	56.39	56.33	56.28	55.97	55.90	55.61	55.54	55.23	55.21
19	55.90	55.86	56.50	56.46	56.33	56.27	55.98	55.92	55.58	55.54	55.21	55.17
20	55.94	55.90	56.49	56.43	56.31	56.27	56.00	55.91	55.58	55.55	55.18	55.14
21	56.04	55.93	56.46	56.42	56.31	56.28	55.94	55.88	55.57	55.51	55.20	55.15
22	56.07	56.02	56.45	56.41	56.34	56.28	55.90	55.87	55.53	55.49	55.16	55.11
23	56.06	56.00	56.43	56.39	56.29	56.21	55.90	55.85	55.53	55.49	55.14	55.12
24	56.04	55.96	56.44	56.40	56.24	56.19	55.87	55.82	55.52	55.47	55.13	55.08
25	56.08	56.04	56.44	56.39	56.23	56.20	55.87	55.81	55.51	55.46	55.12	55.08
26	56.14	56.08	56.40	56.37	56.25	56.23	55.84	55.82	55.48	55.44	55.16	55.09
27	56.10	56.07	56.41	56.36	56.25	56.21	55.87	55.82	55.48	55.44	55.17	55.09
28	56.13	56.08	56.40	56.38	56.25	56.19	55.84	55.79	55.48	55.43	55.12	55.05
29	56.21	56.13	56.42	56.37	56.22	56.18	55.83	55.78	55.47	55.41	55.07	55.02
30	56.22	56.20	56.39	56.36	56.21	56.15	55.81	55.76	55.45	55.41	55.06	55.01
31	---	---	56.44	56.39	---	---	55.79	55.75	55.45	55.41	---	---
MONTH	56.22	55.20	56.50	56.10	56.45	56.15	56.26	55.75	55.79	55.41	55.45	55.01
YEAR	56.50	53.54										

## Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

## MARYLAND--Continued

## KENT COUNTY--Continued

WELL NUMBER.--KE Bc 185. SITE ID.--391650076050402. PERMIT NUMBER.--KE-88-0255.  
 LOCATION.--Lat 39°16'50", long 76°05'04", Hydrologic Unit 02060002, at Worton Regional Park, Worton.  
 Owner: Maryland Geological Survey.  
 AQUIFER.--Columbia Group of Pleistocene age. Aquifer code: 112CLMB.  
 WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 55 ft; casing diameter 4 in., to 40 ft; screen diameter 4 in. from 40 to 50 ft.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 Equipped with digital water-level recorder--60-minute recorder interval from March 3, 1992 to current year.  
 DATUM.--Elevation of land surface is 84.49 ft above National Geodetic Vertical Datum of 1929.  
 Measuring Point: Top of recorder platform, 2.4 ft above land surface.  
 REMARKS.--Kent County project observation well. Missing data due to recorder malfunction.  
 PERIOD OF RECORD.--March 1992 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 70.28 ft above sea level, April 26, 1993; lowest measured, 64.26 ft above sea level, Dec. 12, 13 and 14 1992.

## WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	65.07	65.06	64.71	64.69	64.37	64.36	64.49	64.48	65.23	65.22	65.54	65.52
2	65.06	65.05	64.69	64.69	64.36	64.36	64.48	64.48	65.24	65.22	65.57	65.54
3	65.05	65.04	64.69	64.67	64.36	64.33	64.50	64.48	65.27	65.24	65.58	65.57
4	65.04	65.02	64.67	64.67	64.34	64.33	64.53	64.50	65.27	65.27	65.66	65.58
5	65.02	65.00	64.67	64.65	64.34	64.32	64.54	64.51	65.30	65.27	65.64	65.62
6	65.00	64.99	64.65	64.63	64.32	64.31	64.53	64.52	65.31	65.29	65.67	65.64
7	64.99	64.98	64.63	64.62	64.32	64.31	64.55	64.53	65.33	65.29	65.73	65.67
8	64.98	64.97	64.62	64.61	64.31	64.28	64.56	64.55	65.35	65.33	65.78	65.73
9	64.98	64.97	64.61	64.59	64.29	64.28	64.56	64.55	65.34	65.33	65.83	65.78
10	64.97	64.96	64.59	64.58	64.34	64.28	64.58	64.56	65.36	65.34	65.93	65.83
11	64.96	64.95	64.58	64.58	64.33	64.28	64.60	64.58	65.37	65.33	65.96	65.92
12	64.95	64.94	64.60	64.58	64.28	64.26	64.63	64.60	65.38	65.34	66.05	65.96
13	64.94	64.92	64.60	64.55	64.26	64.26	64.65	64.63	65.38	65.37	66.24	66.05
14	64.92	64.91	64.55	64.54	64.27	64.26	64.66	64.65	65.37	65.34	66.17	66.11
15	64.91	64.90	64.54	64.52	64.30	64.27	64.69	64.66	65.34	65.33	66.22	66.14
16	64.90	64.88	64.52	64.52	64.32	64.30	64.73	64.69	65.42	65.34	66.28	66.22
17	64.89	64.87	64.52	64.50	64.35	64.31	64.76	64.73	65.39	65.37	66.35	66.28
18	64.87	64.87	64.50	64.49	64.33	64.31	64.78	64.76	65.40	65.38	66.42	66.34
19	64.87	64.85	64.49	64.48	64.36	64.32	64.81	64.78	65.40	65.38	66.62	66.42
20	64.85	64.84	64.48	64.47	64.37	64.35	64.85	64.81	65.41	65.40	66.86	66.62
21	64.84	64.82	64.47	64.46	64.37	64.35	64.90	64.85	65.45	65.41	67.06	66.86
22	64.82	64.81	64.46	64.46	64.38	64.37	64.93	64.90	65.45	65.43	67.24	67.06
23	64.81	64.81	64.49	64.44	64.40	64.38	64.97	64.93	65.44	65.43	67.46	67.24
24	64.82	64.80	64.44	64.42	64.41	64.38	65.02	64.97	65.44	65.43	67.68	67.46
25	64.80	64.79	64.43	64.41	64.43	64.38	65.03	65.01	65.45	65.42	67.95	67.68
26	64.79	64.78	64.41	64.41	64.43	64.40	65.07	65.03	65.48	65.45	68.17	67.95
27	64.78	64.76	64.41	64.40	64.42	64.40	65.11	65.07	65.50	65.48	68.39	68.17
28	64.76	64.75	64.40	64.39	64.44	64.42	65.14	65.10	65.52	65.50	68.55	68.39
29	64.75	64.74	64.39	64.38	64.46	64.44	65.15	65.14	---	---	68.70	68.55
30	64.74	64.72	64.38	64.37	64.48	64.46	65.19	65.15	---	---	68.77	68.70
31	64.72	64.71	---	---	64.49	64.48	65.23	65.19	---	---	68.91	68.77
MONTH	65.07	64.71	64.71	64.37	64.49	64.26	65.23	64.48	65.52	65.22	68.91	65.52

## GROUND-WATER LEVELS

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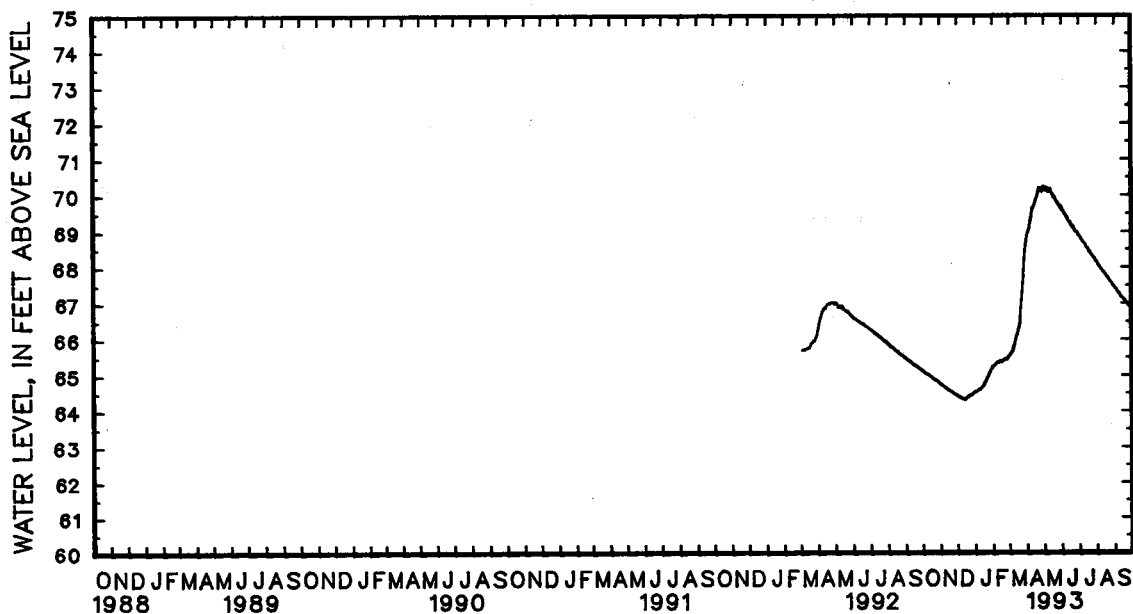
## MARYLAND--Continued

## KENT COUNTY--Continued

## KE Bc 185--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	69.01	68.91	70.25	70.21	69.70	69.57	68.85	68.82	68.12	68.10	67.43	67.38
2	69.00	68.97	70.23	70.16	69.60	69.56	68.85	68.81	68.11	68.07	67.39	67.36
3	69.05	68.98	70.18	70.13	69.59	69.56	68.84	68.78	68.07	68.03	67.38	67.35
4	69.12	69.05	70.22	70.18	69.58	69.52	68.79	68.75	68.04	67.99	67.36	67.33
5	69.23	69.12	70.24	70.20	69.54	69.48	68.75	68.72	68.01	67.98	67.33	67.29
6	69.30	69.23	70.23	70.20	69.48	69.44	68.73	68.70	68.03	67.98	67.29	67.27
7	69.40	69.30	70.21	70.12	69.47	69.43	68.73	68.68	67.98	67.93	67.27	67.25
8	69.50	69.39	70.14	70.09	69.47	69.42	68.69	68.66	67.94	67.90	67.26	67.25
9	69.64	69.50	70.14	70.10	69.45	69.38	68.67	68.64	67.91	67.89	67.26	67.24
10	69.73	69.64	70.12	70.10	69.39	69.35	68.64	68.62	67.90	67.87	67.25	67.19
11	69.69	69.63	70.22	70.10	69.36	69.29	68.63	68.61	67.87	67.84	67.19	67.15
12	69.74	69.69	70.23	70.17	69.29	69.26	68.62	68.56	67.87	67.84	67.15	67.13
13	69.78	69.71	70.20	70.10	69.27	69.25	68.56	68.52	67.85	67.81	67.13	67.12
14	69.82	69.76	70.12	70.05	69.27	69.24	68.55	68.50	67.82	67.79	67.13	67.11
15	69.90	69.82	70.06	70.03	69.26	69.22	68.54	68.49	67.80	67.77	67.12	67.08
16	70.00	69.89	70.05	69.99	69.22	69.17	68.50	68.47	67.77	67.75	67.09	67.06
17	69.99	69.92	69.99	69.93	69.18	69.14	68.47	68.43	67.77	67.72	67.07	67.06
18	70.01	69.92	70.05	69.94	69.17	69.14	68.43	68.39	67.73	67.69	67.06	67.04
19	70.08	70.00	70.04	69.95	69.15	69.10	68.44	68.40	67.70	67.68	67.04	67.00
20	70.14	70.06	69.97	69.90	69.13	69.07	68.42	68.37	67.71	67.68	67.00	66.99
21	70.20	70.13	69.90	69.86	69.15	69.10	68.37	68.33	67.68	67.62	67.01	66.98
22	70.20	70.20	69.87	69.81	69.12	69.04	68.34	68.31	67.63	67.60	66.98	66.95
23	70.22	70.15	69.82	69.79	69.04	68.98	68.32	68.28	67.61	67.58	66.97	66.94
24	70.19	70.13	69.82	69.80	68.99	68.96	68.28	68.26	67.58	67.56	66.94	66.91
25	70.23	70.19	69.80	69.74	68.99	68.96	68.28	68.23	67.56	67.53	66.93	66.90
26	70.28	70.15	69.75	69.71	68.99	68.96	68.26	68.23	67.53	67.52	66.94	66.89
27	70.15	70.10	69.72	69.69	68.97	68.94	68.26	68.22	67.52	67.51	66.92	66.86
28	70.19	70.11	69.74	69.70	68.94	68.92	68.22	68.20	67.51	67.47	66.86	66.84
29	70.25	70.19	69.73	69.63	68.93	68.87	68.23	68.17	67.48	67.45	66.84	66.81
30	70.26	70.23	69.68	69.62	68.90	68.85	68.18	68.13	67.45	67.42	66.82	66.79
31	---	---	69.75	69.67	---	---	68.15	68.11	67.45	67.41	---	---
MONTH	70.28	68.91	70.25	69.62	69.70	68.85	68.85	68.11	68.12	67.41	67.43	66.79
YEAR	70.28	64.26										

## Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

## MARYLAND--Continued

## KENT COUNTY--Continued

WELL NUMBER.--KE Bc 186. SITE ID.--391650076050403. PERMIT NUMBER.--KE-88-0286.  
 LOCATION.--Lat 39°16'50", long 76°05'04", Hydrologic Unit 02060002, at Worton Regional Park, Worton  
 Owner: Maryland Geological Survey.  
 AQUIFER.--Potomac Group of Lower Cretaceous age. Aquifer code: 217PTMC.  
 WELL CHARACTERISTICS.--Drilled, observation well, artesian well, depth 270 ft; casing diameter 4 in., to 255 ft and 265 to 270 ft; screen diameter 4 in. from 255 to 265 ft.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 Equipped with digital water-level recorder--60-minute recorder interval  
 from February 8, 1992 to current year.  
 DATUM.--Elevation of land surface is 82.00 ft above National Geodetic Vertical Datum of 1929.  
 Measuring Point: Top of recorder platform, 2.75 ft above land surface.  
 REMARKS.--Kent County project observation well. Missing data due to recorder malfunction.  
 PERIOD OF RECORD.--February 1992 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 32.68 ft above sea level, May 12 and 13, 1993;  
 lowest measured, 31.25 ft above sea level, Nov. 10, 1992.

## WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	31.48	31.47	31.29	31.28	31.41	31.40	31.44	31.37	---	---	31.66	31.61
2	31.47	31.47	31.30	31.28	31.41	31.41	31.37	31.34	---	---	31.70	31.66
3	31.48	31.47	31.32	31.30	31.41	31.37	31.36	31.34	---	---	31.69	31.64
4	31.48	31.48	31.34	31.31	31.39	31.37	31.40	31.36	---	---	31.85	31.64
5	31.48	31.43	31.36	31.34	31.41	31.37	31.47	31.40	---	---	31.83	31.79
6	31.43	31.40	31.36	31.31	31.37	31.37	31.42	31.41	---	---	31.79	31.73
7	31.40	31.40	31.31	31.30	31.39	31.37	31.42	31.41	---	---	31.75	31.73
8	31.40	31.29	31.30	31.27	31.37	31.33	31.44	31.42	---	---	31.80	31.75
9	31.32	31.30	31.27	31.26	31.33	31.32	31.43	31.41	---	---	31.78	31.72
10	31.32	31.32	31.27	31.25	31.45	31.32	31.41	31.39	---	---	31.80	31.72
11	31.35	31.32	31.29	31.27	31.63	31.45	31.40	31.39	---	---	31.80	31.71
12	31.35	31.35	31.38	31.29	31.61	31.54	31.43	31.39	31.74	31.46	31.71	31.66
13	31.35	31.33	31.38	31.35	31.54	31.48	31.47	31.43	31.76	31.74	32.26	31.69
14	31.33	31.32	31.35	31.33	31.48	31.46	31.47	31.43	31.74	31.59	32.23	31.86
15	31.33	31.32	31.33	31.31	31.47	31.46	31.43	31.43	31.59	31.51	31.86	31.79
16	31.35	31.32	31.31	31.30	31.48	31.47	31.45	31.43	31.72	31.51	31.83	31.79
17	31.34	31.32	31.38	31.30	31.52	31.47	31.45	31.44	31.71	31.63	31.96	31.83
18	31.33	31.32	31.37	31.35	31.51	31.45	31.44	31.38	31.63	31.59	31.93	31.84
19	31.33	31.31	31.35	31.33	31.48	31.45	31.38	31.36	31.59	31.57	31.84	31.82
20	31.31	31.26	31.33	31.32	31.51	31.47	---	---	31.61	31.57	31.86	31.83
21	31.29	31.27	31.35	31.32	31.47	31.45	---	---	31.77	31.60	31.89	31.86
22	31.27	31.25	31.39	31.35	31.48	31.45	---	---	31.79	31.75	31.89	31.87
23	31.27	31.25	31.44	31.39	31.49	31.46	---	---	31.75	31.69	31.93	31.87
24	31.33	31.27	31.42	31.40	31.49	31.40	---	---	31.69	31.59	32.01	31.93
25	31.33	31.31	31.40	31.39	31.45	31.40	---	---	31.59	31.54	32.00	31.99
26	31.33	31.31	31.42	31.39	31.45	31.37	---	---	31.61	31.55	32.00	31.99
27	31.33	31.31	31.42	31.42	31.37	31.33	---	---	31.61	31.61	32.07	32.00
28	31.31	31.30	31.42	31.41	31.37	31.34	---	---	31.61	31.61	32.11	32.07
29	31.30	31.30	31.41	31.41	31.40	31.37	---	---	---	---	32.15	32.11
30	31.30	31.29	31.41	31.40	31.42	31.40	---	---	---	---	32.16	32.13
31	31.30	31.29	---	---	31.44	31.42	---	---	---	---	32.16	32.13
MONTH	31.48	31.25	31.44	31.25	31.63	31.32	31.47	31.34	31.79	31.46	32.26	31.61

## GROUND-WATER LEVELS

343

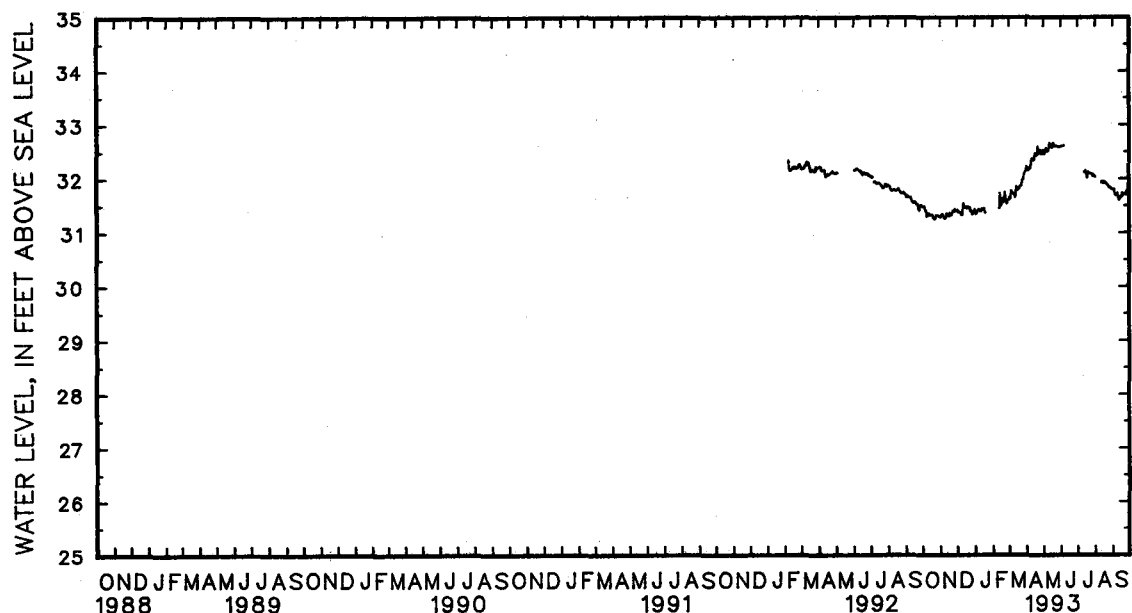
MARYLAND--Continued

KENT COUNTY--Continued

KE Bc 186--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	32.26	32.16	32.52	32.52	32.59	32.59	---	---	32.05	32.04	31.82	31.79
2	32.26	32.24	32.52	32.49	32.59	32.59	---	---	32.05	32.02	31.79	31.78
3	32.24	32.17	32.49	32.45	32.60	32.59	---	---	---	---	31.81	31.79
4	32.18	32.17	32.50	32.46	32.60	32.60	---	---	---	---	31.81	31.79
5	32.19	32.16	32.56	32.50	32.60	32.60	---	---	---	---	31.79	31.72
6	32.19	32.19	32.58	32.56	32.60	32.60	---	---	---	---	31.72	31.69
7	32.19	32.18	32.58	32.54	32.61	32.60	---	---	---	---	31.69	31.68
8	32.21	32.19	32.54	32.50	32.61	32.61	---	---	---	---	31.70	31.68
9	32.29	32.21	32.51	32.50	---	---	---	---	---	---	31.74	31.70
10	32.41	32.29	32.52	32.51	---	---	---	---	---	---	31.76	31.72
11	32.40	32.37	32.60	32.52	---	---	---	---	---	---	31.72	31.65
12	32.38	32.36	32.68	32.60	---	---	---	---	31.95	31.92	31.65	31.60
13	32.36	32.34	32.68	32.65	---	---	32.22	32.12	31.95	31.94	31.62	31.59
14	32.34	32.34	32.65	32.62	---	---	32.16	32.11	31.95	31.92	31.65	31.61
15	32.40	32.34	32.62	32.61	---	---	32.17	32.14	31.94	31.92	31.70	31.65
16	32.52	32.40	32.61	32.59	---	---	32.14	32.12	31.94	31.91	31.67	31.64
17	32.52	32.46	32.61	32.57	---	---	32.12	32.07	31.97	31.94	31.72	31.66
18	32.46	32.42	32.66	32.58	---	---	32.07	32.01	31.96	31.92	31.75	31.72
19	32.44	32.42	32.67	32.65	---	---	32.13	32.03	31.92	31.91	31.74	31.70
20	32.46	32.44	32.67	32.65	---	---	32.13	32.12	31.97	31.92	31.70	31.68
21	32.60	32.46	32.65	32.61	---	---	32.13	32.10	31.96	31.90	31.75	31.70
22	32.63	32.60	32.62	32.60	---	---	32.11	32.10	31.90	31.88	31.74	31.71
23	32.63	32.51	32.60	32.59	---	---	32.11	32.10	31.88	31.87	31.76	31.71
24	32.51	32.46	32.60	32.60	---	---	32.10	32.09	31.88	31.86	31.76	31.70
25	32.52	32.48	32.60	32.60	---	---	32.09	32.08	31.87	31.85	31.74	31.69
26	32.59	32.52	32.60	32.59	---	---	32.08	32.07	31.85	31.83	31.78	31.74
27	32.57	32.48	32.60	32.59	---	---	32.08	32.08	31.85	31.83	31.87	31.76
28	32.48	32.45	32.59	32.59	---	---	32.08	32.04	31.85	31.83	31.84	31.80
29	32.50	32.45	32.59	32.58	---	---	32.08	32.06	31.84	31.81	31.80	31.77
30	32.52	32.50	32.58	32.58	---	---	32.08	32.06	31.81	31.80	31.78	31.72
31	---	---	32.59	32.58	---	---	32.06	32.04	31.82	31.80	---	---
MONTH	32.63	32.16	32.68	32.45	32.61	32.59	32.22	32.01	32.05	31.80	31.87	31.59
YEAR	32.68	31.25										

## Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

KENT COUNTY--Continued

WELL NUMBER.--KE Be 43. SITE ID.--391823075594701. PERMIT NUMBER.--KE-73-0659.

LOCATION.--Lat 39°18'23", long 75°59'45", Hydrologic Unit 02060002, at Kennedyville.

Owner: U.S. Geological Survey.

AQUIFER.--Magothy Formation of Upper Cretaceous age. Aquifer code: 211MGTY.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 297 ft; casing diameter 10 in., to 171 ft; casing diameter 4 in. to 275 ft, and 285 to 297 ft; screen diameter 4 in. from 275 to 285 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

Twice yearly measurements from October 1986 to April 1991.

DATUM.--Elevation of land surface is 65 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of casing, 3.73 ft above land surface.

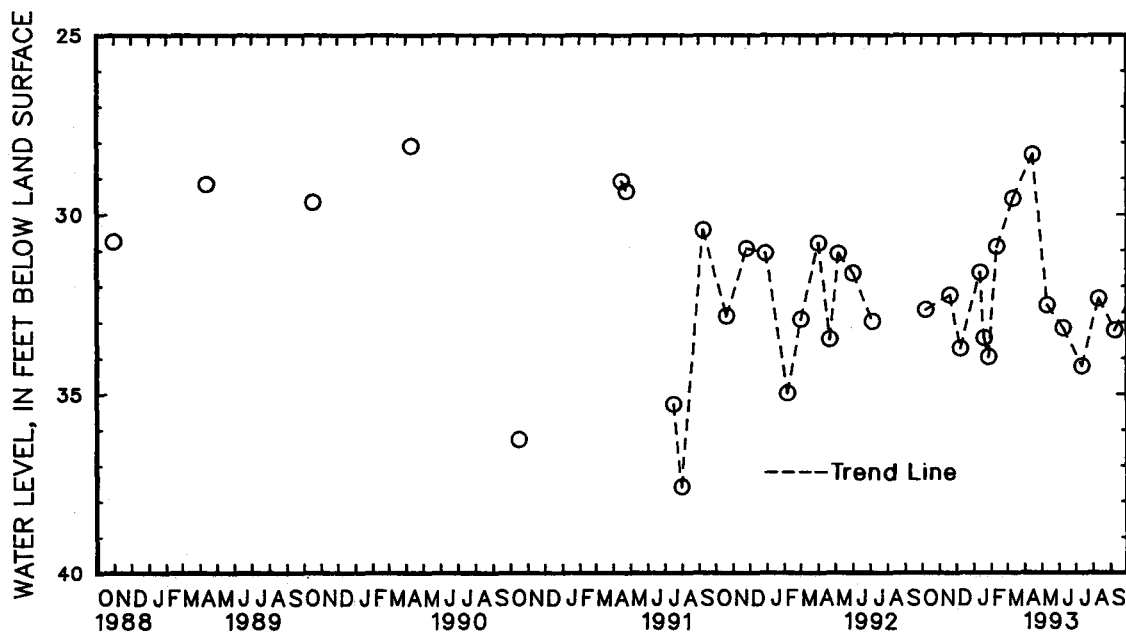
REMARKS.--Maryland Water-Level Network and Kent Co. project observation well.

PERIOD OF RECORD.--February 1979 to July 1979, December 1985, October 1986 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 21.31 ft below land surface, June 5, 1979; lowest measured, 36.27 ft below land surface, Oct. 16, 1990.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 8	32.65	JAN 12	31.62	FEB 11	30.89	MAY 11	32.54	AUG 11	32.35
NOV 20	32.25	19	33.44	MAR 12	29.55	JUN 9	33.17	SEP 9	33.23
DEC 8	33.74	27	33.97	APR 15	28.33	JUL 12	34.23		
WATER YEAR 1993		HIGHEST	28.33	APR 15, 1993	LOWEST	34.23	JUL 12, 1993		



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

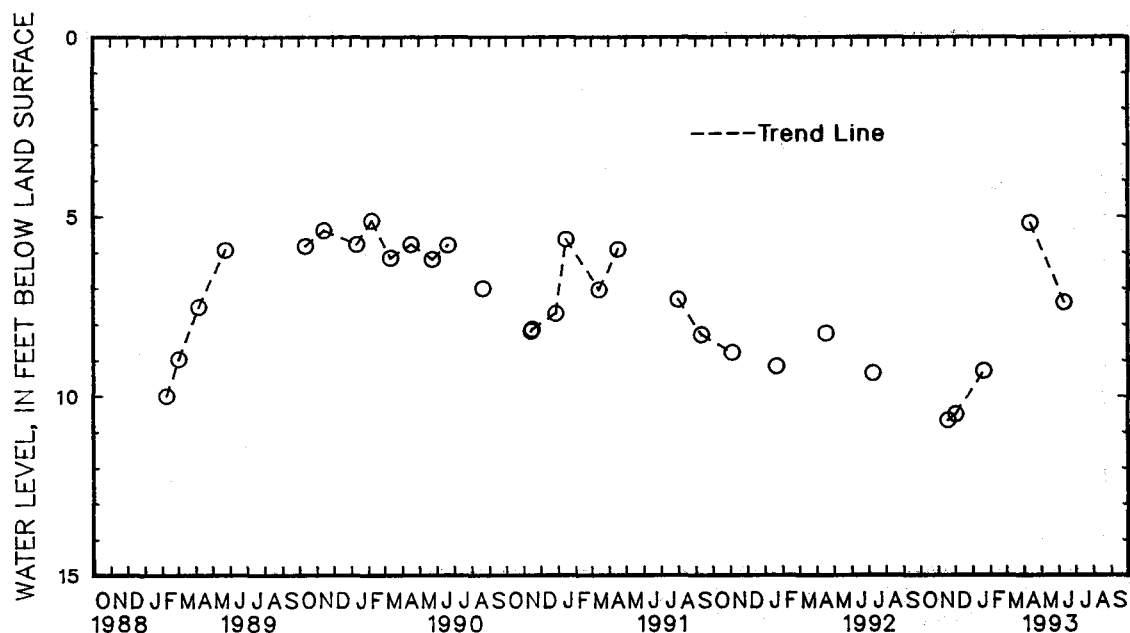


GROUND-WATER LEVELS  
MARYLAND--Continued  
KENT COUNTY--Continued

WELL NUMBER.--Ke Be 55. SITE ID.-- 391846075561701. PERMIT NUMBER.--KE-81-1228.  
LOCATION.--Lat 39°18'46", long 75°56'17", Hydrologic Unit 0206002, near Locust Grove.  
Owner: U. S. Geological Survey.  
AQUIFER.--Colombia Group. Aquifer code: 112CLMB.  
WELL CHARACTERISTICS.--Driven, observation, water-table well, depth 20.0 ft, casing diameter 2 in., to 17 ft; screen diameter 2 in. from 17 ft to 20 ft.  
INSTRUMENTATION.--Periodic measurements with chalked steel tape by U.S. Geological Survey personnel.  
Equipped with digital water-level recorder Januray 26, 1989 to current year.  
DATUM.--Elevation of land surface is 66.45 ft above National Geodetic Vertical Datum of 1929.  
Measuring point: Top of casing, 2.89 ft above land surface.  
REMARKS.--National Water Quality Assessment project observation well.  
PERIOD OF RECORD.--February 1989 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.52 ft below land surface, June 25, 1989; lowest measured, 10.68 ft below land surface, Nov. 18, 1992.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 18	10.68	DEC 2	10.51	JAN 20	9.30	APR 12	5.17	JUN 11	7.39
WATER YEAR 1993		HIGHEST	5.17	APR 12, 1993		LOWEST	10.68	NOV 18, 1992	



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

## MARYLAND--Continued

## KENT COUNTY--Continued

WELL NUMBER.--KE Be 171. SITE ID.--391643075550901. PERMIT NUMBER.--KE-88-0257.  
 LOCATION.--Lat 39°16'43", long 75°55'06", Hydrologic Unit 02060002, 0.9 mi south of Chesterville on Rt. 290,  
 at Angelica Nursery.  
 Owner: Maryland Geological Survey.  
 AQUIFER.--Potomac Group of Lower Cretaceous age. Aquifer code: 217PTMC.  
 WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 440 ft; casing diameter 4 in., to 425 ft;  
 screen diameter 4 in. from 425 to 435 ft.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 Equipped with digital water-level recorder--60-minute recorder interval from April 1992 to current year.  
 DATUM.--Elevation of land surface is 41.41 ft above National Geodetic Vertical Datum of 1929.  
 Measuring Point: Top of recorder platform, 2.3 ft above land surface.  
 REMARKS.--Kent County observation well. Missing data due to recorder malfunction.  
 PERIOD OF RECORD.--April 1992 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.69 ft above sea level, March 13, 1993;  
 lowest measured, .53 ft above sea level, Sept. 30, 1993.

## WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	1.33	1.32	---	---	---	---	1.68	1.60	1.89	1.65	1.90	1.82
2	1.34	1.32	---	---	---	---	1.60	1.54	1.65	1.57	1.94	1.90
3	1.35	1.34	---	---	---	---	1.56	1.54	1.69	1.57	1.92	1.84
4	1.35	1.34	---	---	---	---	1.66	1.56	1.70	1.56	2.19	1.85
5	1.34	1.29	---	---	---	---	1.80	1.66	1.70	1.56	2.09	2.02
6	1.29	1.25	---	---	---	---	1.70	1.70	1.72	1.57	2.03	1.93
7	1.27	1.25	---	---	---	---	1.71	1.69	1.67	1.57	1.99	1.93
8	1.28	1.26	---	---	---	---	1.75	1.71	1.72	1.63	2.08	1.99
9	1.34	1.27	---	---	---	---	1.73	1.67	1.63	1.56	2.01	1.91
10	1.34	1.33	---	---	---	---	1.67	1.65	1.66	1.58	2.06	1.90
11	1.38	1.34	---	---	---	---	1.67	1.65	1.66	1.60	2.11	1.95
12	1.38	1.37	---	---	---	---	1.78	1.67	1.96	1.62	1.95	1.91
13	1.37	1.33	---	---	---	---	1.84	1.71	1.99	1.94	2.69	1.95
14	1.33	1.30	---	---	---	---	1.78	1.66	1.94	1.74	2.59	2.04
15	1.31	1.30	---	---	---	---	1.70	1.66	1.74	1.64	2.04	1.90
16	1.34	1.30	---	---	---	---	1.78	1.70	1.93	1.65	1.98	1.90
17	1.34	1.29	---	---	---	---	1.82	1.74	1.91	1.78	2.17	1.98
18	1.29	1.27	---	---	---	---	1.74	1.56	1.81	1.73	2.08	1.91
19	1.30	1.27	---	---	1.60	1.58	1.56	1.48	1.75	1.70	1.92	1.88
20	---	---	---	---	1.68	1.60	1.57	1.48	1.82	1.73	2.01	1.91
21	---	---	---	---	1.63	1.60	1.68	1.54	2.00	1.77	2.05	2.00
22	---	---	---	---	1.64	1.60	1.80	1.68	2.05	1.95	2.02	1.98
23	---	---	---	---	1.67	1.64	1.76	1.69	1.95	1.87	2.07	1.97
24	---	---	---	---	1.68	1.55	1.86	1.69	1.87	1.74	2.16	2.07
25	---	---	---	---	1.64	1.55	1.74	1.59	1.74	1.67	2.11	2.07
26	---	---	---	---	1.64	1.52	1.69	1.59	1.80	1.71	2.11	2.07
27	---	---	---	---	1.52	1.48	1.79	1.69	1.81	1.79	2.20	2.11
28	---	---	---	---	1.53	1.48	1.78	1.70	1.82	1.80	2.23	2.20
29	---	---	---	---	1.59	1.53	1.80	1.62	---	---	2.27	2.23
30	---	---	---	---	1.65	1.59	1.74	1.62	---	---	2.27	2.19
31	---	---	---	---	1.68	1.65	1.93	1.74	---	---	2.25	2.18
MONTH	1.38	1.25	---	---	1.68	1.48	1.93	1.48	2.05	1.56	2.69	1.82

## GROUND-WATER LEVELS

347

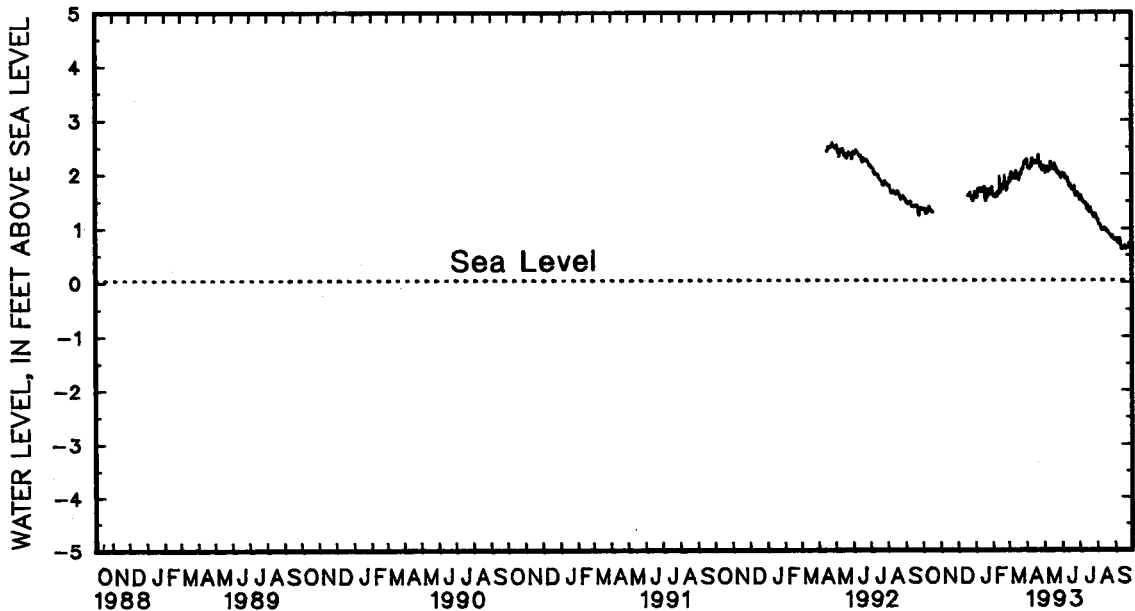
MARYLAND--Continued

KENT COUNTY--Continued

KE Be 171--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	2.37	2.25	2.15	2.11	2.10	2.00	1.57	1.50	1.18	1.14	.83	.74
2	2.37	2.26	2.14	2.06	2.00	1.95	1.61	1.50	1.18	1.13	.76	.73
3	2.26	2.13	2.07	2.01	2.02	1.98	1.63	1.58	1.13	1.08	.81	.74
4	2.15	2.09	2.10	2.04	2.03	1.97	1.61	1.55	1.09	1.05	.81	.77
5	2.15	2.09	2.17	2.08	2.02	1.98	1.55	1.49	1.05	1.03	.77	.71
6	2.15	2.11	2.16	2.12	1.98	1.91	1.51	1.48	1.11	1.03	.71	.69
7	2.14	2.08	2.15	2.07	1.92	1.89	1.50	1.48	1.08	1.01	.70	.68
8	2.15	2.11	2.07	2.02	1.94	1.90	1.48	1.47	1.01	.95	.80	.68
9	2.27	2.14	2.07	2.04	1.96	1.92	1.48	1.45	.95	.93	.83	.77
10	2.42	2.27	2.07	2.05	1.94	1.91	1.45	1.43	.95	.92	.85	.77
11	2.37	2.28	2.21	2.07	1.91	1.84	1.46	1.42	.96	.92	.77	.64
12	2.31	2.25	2.28	2.21	1.84	1.78	1.46	1.43	.99	.95	.64	.58
13	2.25	2.21	2.28	2.22	1.78	1.75	1.43	1.36	1.00	.97	.61	.56
14	2.21	2.18	2.23	2.18	1.80	1.76	1.43	1.32	.99	.95	.64	.58
15	2.23	2.19	2.18	2.15	1.82	1.79	1.44	1.40	.98	.93	.68	.61
16	2.37	2.23	2.17	2.13	1.80	1.73	1.41	1.36	.96	.92	.63	.58
17	2.38	2.23	2.15	2.07	1.74	1.69	1.39	1.33	.99	.95	.64	.58
18	2.24	2.19	2.21	2.08	1.75	1.69	1.33	1.27	.98	.90	.70	.63
19	2.24	2.19	2.22	2.18	1.75	1.71	1.39	1.29	.92	.89	.66	.60
20	2.26	2.20	2.22	2.15	1.72	1.68	1.39	1.35	1.01	.91	.61	.57
21	2.37	2.22	2.15	2.10	1.80	1.70	1.35	1.29	.97	.88	.68	.60
22	2.40	2.35	2.11	2.06	1.80	1.75	1.30	1.27	.88	.85	.66	.61
23	2.36	2.19	2.06	2.01	1.75	1.63	1.28	1.24	.87	.84	.69	.61
24	2.19	2.12	2.07	2.04	1.63	1.57	1.24	1.22	.86	.83	.68	.60
25	2.22	2.16	2.07	2.03	1.60	1.57	1.22	1.20	.85	.82	.67	.59
26	2.29	2.20	2.03	1.99	1.65	1.60	1.22	1.17	.82	.78	.73	.67
27	2.20	2.08	1.99	1.97	1.66	1.63	1.26	1.22	.84	.79	.76	.69
28	2.10	2.05	2.03	1.97	1.66	1.63	1.25	1.20	.87	.83	.69	.63
29	2.16	2.10	2.03	1.95	1.65	1.60	1.27	1.23	.84	.78	.63	.58
30	2.17	2.14	1.97	1.91	1.62	1.56	1.25	1.19	.79	.75	.60	.53
31	---	---	2.09	1.97	---	---	1.19	1.15	.83	.76	---	---
MONTH	2.42	2.05	2.28	1.91	2.10	1.56	1.63	1.15	1.18	.75	.85	.53
YEAR	2.69	.53										

## Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

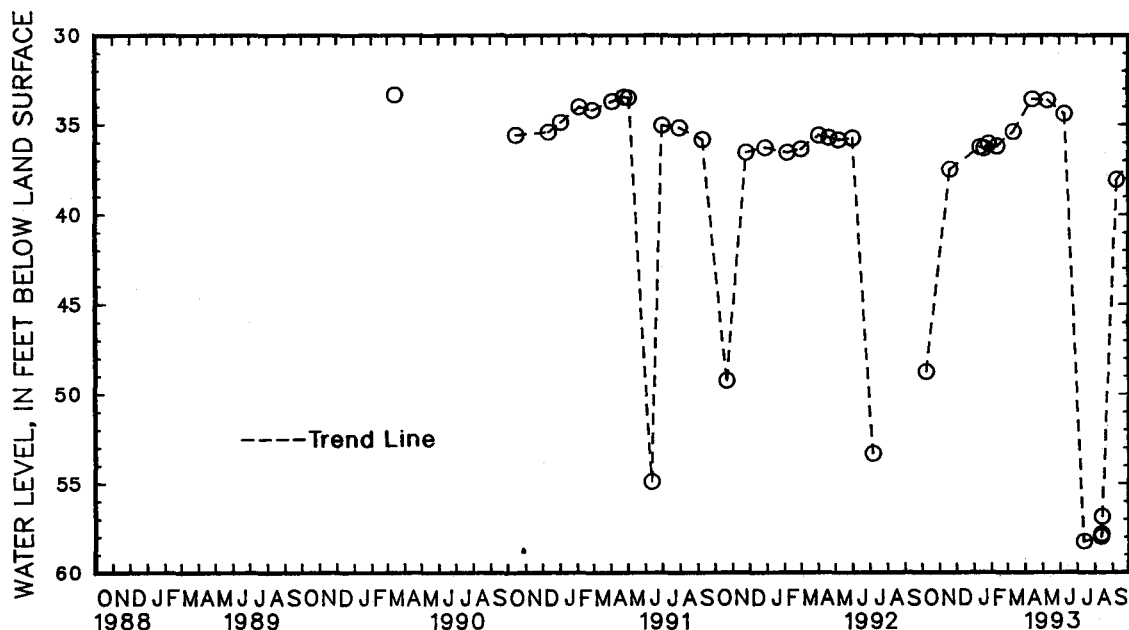
5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
KENT COUNTY--Continued

WELL NUMBER.--KE Bf 154. SITE ID.--391755075532701. PERMIT NUMBER.--KE-81-0551.  
LOCATION.--Lat 39°17'55", long 75°53'27", Hydrologic Unit 02060002, 2.25 mi. northeast of Chesterville,  
off MD Rt. 290, at Angelica Nurseries.  
Owner: Angelica Nurseries.  
AQUIFER.--Monmouth Formation of the Upper Cretaceous age. Aquifer code: 211MMMT.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 190 ft; casing diameter 6 in., to 121 ft;  
screen diameter 6 in. from 121 to 181 ft.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
Equipped with digital water-level recorder--60-minute recorder interval from Jan. 13, 1993  
to current year.  
DATUM.--Elevation of land surface is 67.7 ft above National Geodetic Vertical Datum of 1929.  
Measuring point: Top of recorder platform, 2.7 ft above land surface.  
REMARKS.--Kent County project observation well. Water levels may be affected by nearby pumping.  
PERIOD OF RECORD.--March 1990 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 33.35 ft below land surface March 15, 1990;  
lowest measured, 58.25 ft below land surface, July 12, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 8	48.75	JAN 19	36.31	MAR 12	35.39	JUN 9	34.40	AUG 12	57.84
NOV 20	37.49	27	36.05	APR 15	33.57	JUL 12	58.25	13	56.86
JAN 12	36.24	FEB 11	36.22	MAY 11	33.63	AUG 11	57.99	SEP 9	38.06
WATER YEAR 1993		HIGHEST	33.57	APR 15, 1993	LOWEST	58.25	JUL 12, 1993		



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

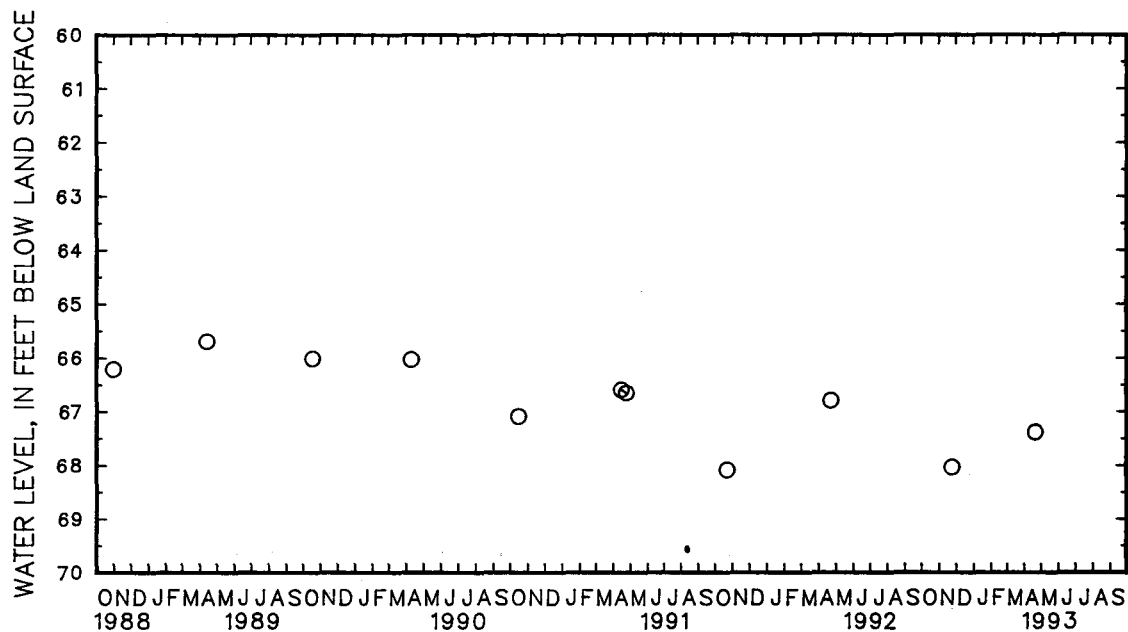
MARYLAND--Continued

KENT COUNTY--Continued

WELL NUMBER.--KE Bg 33. SITE ID.--391815075472101. PERMIT NUMBER.--KE-73-0670.  
 LOCATION.--Lat 39°18'15", long 75°47'21", Hydrologic Unit 02060002, 2 mi west of Massey at  
 Millington Wildlife Management Area.  
 Owner: U.S. Geological Survey.  
 AQUIFER.--Potomac Group of Lower Cretaceous age. Aquifer code: 217PTMC.  
 WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 705 ft; casing diameter 4 in.,  
 to 695 ft; screen diameter 4 in. from 695 to 705 ft.  
 INSTRUMENTATION.--Twice yearly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 DATUM.--Elevation of land surface is 65 ft above National Geodetic Vertical Datum of 1929,  
 from topographic map.  
 Measuring point: Top of casing, 3.50 ft above land surface.  
 REMARKS.--Maryland Water-Level Network observation well. Measured twice yearly beginning October 1986.  
 PERIOD OF RECORD.--March 1979 to July 1979, December 1985, October 1986 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 61.62 ft below land surface, June 5, 1979;  
 lowest measured, 68.09 ft below land surface, Oct. 23, 1991.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 24	68.04	APR 21	67.39
WATER YEAR 1993      HIGHEST   67.39   APR 21, 1993      LOWEST   68.04   NOV 24, 1992			



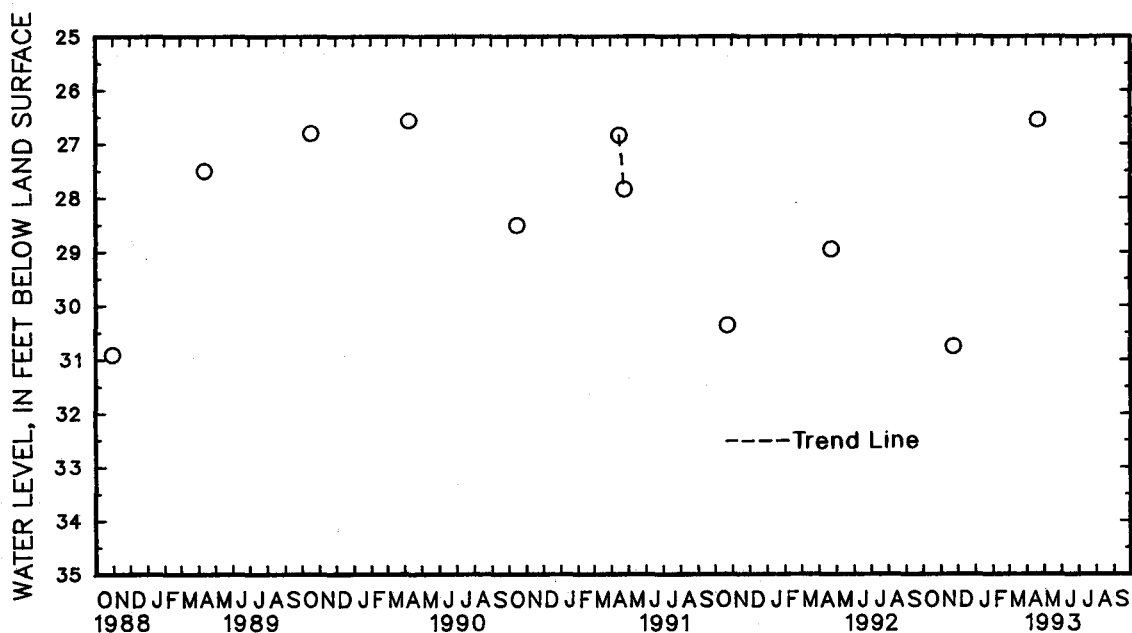
5 YEAR HYDROGRAPH  
 OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
KENT COUNTY--Continued

WELL NUMBER.--KE Bg 34. SITE ID.--391815075472102. PERMIT NUMBER.--KE-73-0686.  
LOCATION.--Lat 39°18'15", Long 75°47'22", Hydrologic Unit 02060002, 2 mi west of Massey  
at Millington Wildlife Management Area.  
Owner: U.S. Geological Survey.  
AQUIFER.--Aquia Formation of Upper Paleocene age. Aquifer code: 125AQUI.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 186 ft; casing diameter 6 in.,  
to 124 ft; screen diameter 6 in. from 124 to 186 ft.  
INSTRUMENTATION.--Twice yearly measurements with chalked steel tape by U.S. Geological Survey personnel.  
DATUM.--Elevation of land surface is 65 ft above National Geodetic Vertical Datum of 1929,  
from topographic map.  
Measuring point: Top of casing, 3.20 ft above land surface.  
REMARKS.--Maryland Water-Level Network observation well. Measured twice yearly since October 1986.  
PERIOD OF RECORD.--April 1979 to July 1979, December 1985, October 1986 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 25.37 ft below land surface, April 11, 1979;  
lowest measured, 36.23 ft below land-surface datum, Sept. 2, 1981.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 24	30.76	APR 21	26.55
WATER YEAR 1993      HIGHEST   26.55   APR 21, 1993      LOWEST   30.76   NOV 24, 1992			



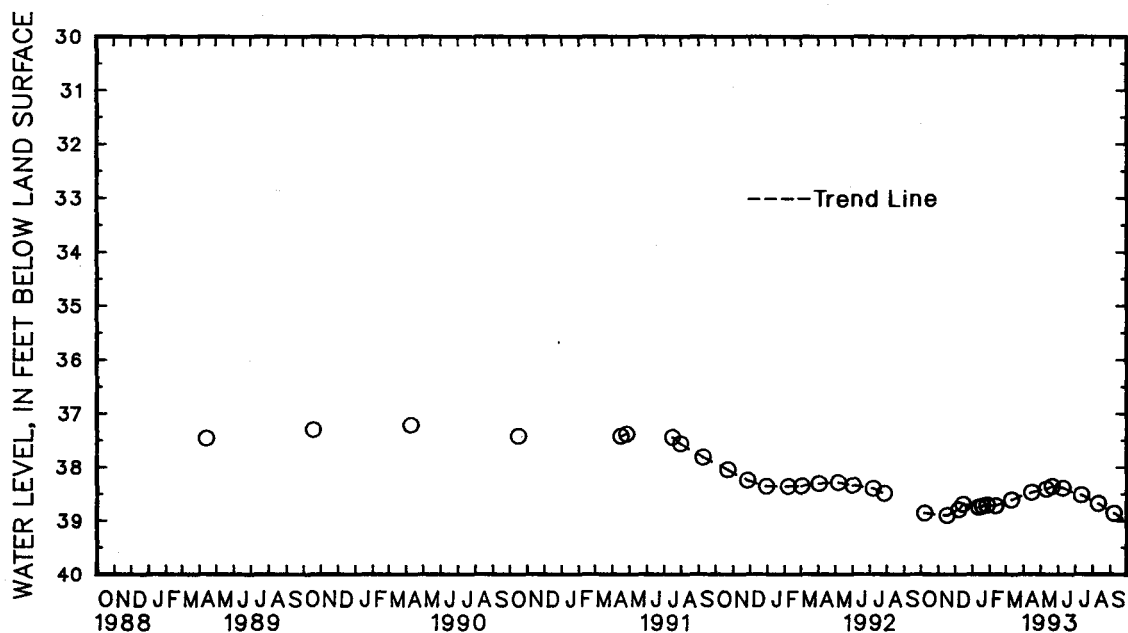
5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
KENT COUNTY--Continued

WELL NUMBER.--KE Cb 36. SITE ID.--391400076101401. PERMIT NUMBER.--KE-73-0660.  
LOCATION.--Lat 39°14'00", long 76°10'14", Hydrologic Unit 02060002, north of Fairlee, at sewage treatment facility.  
Owner: U.S. Geological Survey.  
AQUIFER.--Potomac Group of Lower Cretaceous age. Aquifer code: 217PTMC.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 650 ft; casing diameter 10 in., to 114 ft; casing diameter 4 in., to 595 ft and 605 to 650 ft; screen diameter 4 in. from 595 to 605 ft.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel. Measured twice yearly from October 1986 to April 1991. Equipped with digital water-level recorder--30-minute recorder interval from July 16, 1991 to current year.  
DATUM.--Elevation of land surface is 40 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
Measuring point: Top of casing, 4.63 ft above land surface.  
REMARKS.--Maryland Water-Level Network observation well. Measured twice yearly beginning October 1986.  
PERIOD OF RECORD.--June 1978 to July 1979, December 1985, October 1986 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 34.84 ft below land surface, Sept. 15, 1982; lowest measured, 38.90 ft below land surface, Nov. 17, 1992.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	
OCT 8	38.86	DEC 15	38.69	JAN 27	38.71	APR 15	38.47	JUN 9	38.39	SEP 8	38.86	
NOV 17	38.90	JAN 12	38.75	FEB 11	38.72	MAY 11	38.41	JUL 12	38.52			
DEC 8	38.79	19	38.73	MAR 11	38.61	21	38.36	AUG 11	38.68			
WATER YEAR 1993		HIGHEST	38.36	MAY 21, 1993		LOWEST	38.90	NOV 17, 1992				



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993



## GROUND-WATER LEVELS

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## MARYLAND--Continued

## KENT COUNTY--Continued

WELL NUMBER.--KE Cb 97. SITE ID.--391124076101001. PERMIT NUMBER.--KE-88-0251.  
 LOCATION.--Lat 39°11'24", long 76°10'10", Hydrologic Unit 02060002, 1.3 mi southeast of McCleans Corner,  
 at Remington Farms.  
 Owner: Maryland Geological Survey.  
 AQUIFER.--Magothy Formation of the Upper Cretaceous age. Aquifer code: 211MGTY.  
 WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 285 ft; casing diameter 4 in., to 270 ft;  
 screen diameter 4 in. from 270 to 280 ft.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 Equipped with digital water-level recorder--60-minute recorder interval  
 from February 7, 1992 to current year.  
 DATUM.--Elevation of land surface is 65.84 ft above National Geodetic Vertical Datum of 1929.  
 Measuring Point: Top of recorder platform, 2.35 ft above land surface.  
 REMARKS.--Kent County project observation well. On May 7, 1992 the water-level measured 7.23 ft  
 above sea level during a pump test. Missing data due to recorder malfunction.  
 PERIOD OF RECORD.--February 1992 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.07 ft above sea level, March 26, 1992;  
 lowest measured, 7.23 ft. above sea level, May 7, 1992.

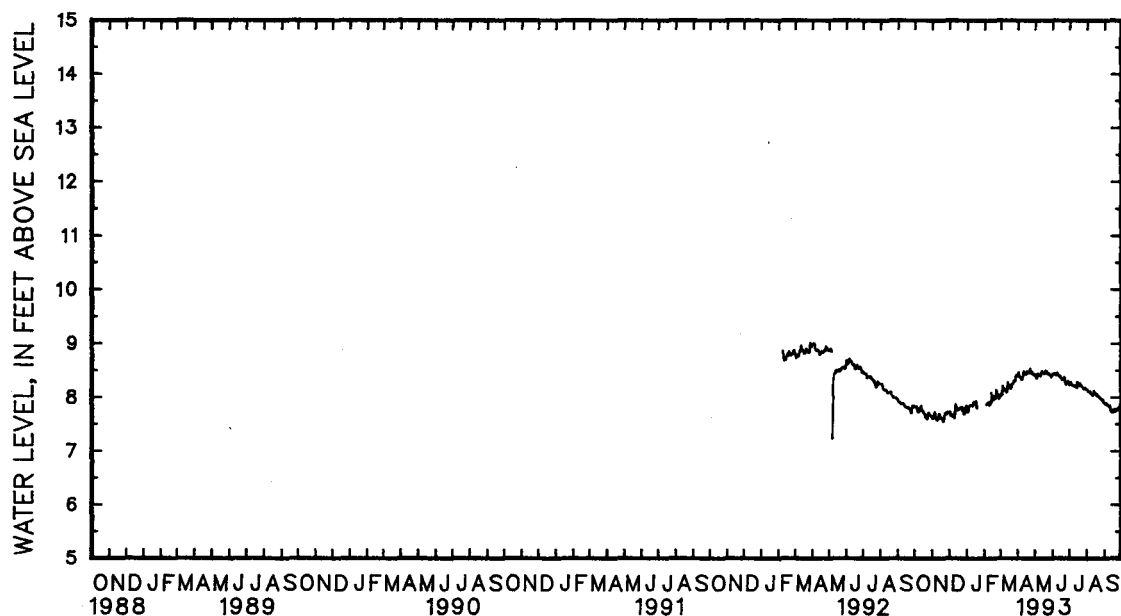
## WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	7.82	7.81	7.63	7.61	7.73	7.71	7.76	7.72	---	---	8.06	8.03
2	7.83	7.81	7.65	7.60	7.75	7.73	7.74	7.72	---	---	8.10	8.06
3	7.83	7.83	7.70	7.65	7.75	7.65	7.82	7.74	7.91	7.86	8.10	8.05
4	7.83	7.82	7.72	7.68	7.70	7.65	7.92	7.82	7.91	7.87	8.29	8.05
5	7.82	7.77	7.74	7.72	7.74	7.67	7.84	7.84	7.93	7.87	8.26	8.21
6	7.77	7.73	7.73	7.67	7.67	7.65	7.85	7.84	7.94	7.89	8.21	8.16
7	7.73	7.72	7.67	7.64	7.69	7.66	7.89	7.85	7.91	7.89	8.16	8.15
8	7.73	7.72	7.64	7.60	7.67	7.63	7.87	7.84	7.94	7.91	8.21	8.16
9	7.80	7.73	7.60	7.57	7.63	7.61	7.84	7.83	7.91	7.85	8.18	8.13
10	7.80	7.79	7.58	7.57	7.87	7.61	7.85	7.83	7.91	7.86	8.18	8.13
11	7.84	7.80	7.63	7.58	7.97	7.87	7.91	7.85	7.91	7.90	8.18	8.12
12	7.83	7.83	7.76	7.63	7.92	7.84	7.98	7.91	8.08	7.90	8.12	8.09
13	7.83	7.77	7.77	7.69	7.84	7.77	7.95	7.89	8.12	8.08	8.64	8.10
14	7.77	7.74	7.69	7.66	7.77	7.75	7.90	7.89	8.10	7.99	8.63	8.28
15	7.75	7.74	7.66	7.63	7.77	7.75	7.95	7.90	7.99	7.95	8.28	8.18
16	7.77	7.74	7.63	7.60	7.79	7.77	7.96	7.92	8.10	7.95	8.19	8.18
17	7.77	7.70	7.65	7.60	7.87	7.79	7.92	7.84	8.10	8.02	8.33	8.19
18	7.71	7.69	7.65	7.61	7.85	7.77	7.84	7.80	8.02	8.00	8.32	8.22
19	7.72	7.68	7.61	7.57	7.80	7.77	---	---	8.00	7.98	8.22	8.17
20	7.68	7.63	7.57	7.55	7.86	7.80	---	---	8.01	7.98	8.24	8.17
21	7.65	7.62	7.63	7.55	7.80	7.78	---	---	8.14	8.00	8.27	8.24
22	7.62	7.60	7.71	7.63	7.82	7.79	---	---	8.16	8.14	8.27	8.25
23	7.63	7.59	7.78	7.70	7.85	7.81	---	---	8.14	8.09	8.28	8.25
24	7.74	7.63	7.71	7.68	7.85	7.74	---	---	8.09	8.01	8.35	8.28
25	7.74	7.70	7.69	7.68	7.81	7.74	---	---	8.01	7.97	8.33	8.31
26	7.71	7.70	7.75	7.68	7.81	7.68	---	---	8.03	7.98	8.31	8.31
27	7.71	7.67	7.75	7.72	7.74	7.68	---	---	8.03	8.03	8.39	8.31
28	7.67	7.67	7.72	7.72	7.80	7.74	---	---	8.03	8.03	8.41	8.39
29	7.67	7.66	7.72	7.71	7.84	7.80	---	---	---	---	8.43	8.41
30	7.66	7.64	7.71	7.70	7.85	7.84	---	---	---	---	8.43	8.41
31	7.64	7.63	---	---	7.85	7.76	---	---	---	---	8.41	8.40
MONTH	7.84	7.59	7.78	7.55	7.97	7.61	7.98	7.72	8.16	7.85	8.64	8.03

GROUND-WATER LEVELS  
 MARYLAND--Continued  
 KENT COUNTY--Continued  
 KE Cb 97--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	8.49	8.41	8.44	8.43	8.50	8.44	8.25	8.23	8.15	8.14	7.93	7.88
2	8.49	8.46	8.43	8.40	8.44	8.42	8.28	8.23	8.16	8.14	7.88	7.87
3	8.46	8.39	8.40	8.36	8.45	8.43	8.29	8.28	8.14	8.11	7.90	7.88
4	8.39	8.38	8.39	8.36	8.45	8.44	8.29	8.25	8.11	8.10	7.90	7.89
5	8.38	8.37	8.44	8.39	8.45	8.44	8.25	8.23	8.10	8.08	7.89	7.86
6	8.38	8.37	8.44	8.44	8.44	8.42	8.23	8.22	8.15	8.08	7.86	7.85
7	8.37	8.33	8.44	8.43	8.42	8.41	8.23	8.22	8.14	8.11	7.85	7.85
8	8.34	8.33	8.43	8.40	8.45	8.42	8.23	8.22	8.11	8.08	7.85	7.84
9	8.42	8.34	8.40	8.40	8.46	8.45	8.22	8.21	8.08	8.05	7.86	7.84
10	8.52	8.42	8.40	8.40	8.45	8.44	8.21	8.20	8.05	8.04	7.86	7.84
11	8.52	8.48	8.45	8.40	8.44	8.41	8.22	8.20	8.06	8.04	7.84	7.78
12	8.48	8.47	8.49	8.45	8.41	8.39	8.24	8.22	8.12	8.06	7.78	7.74
13	8.47	8.45	8.49	8.49	8.39	8.38	8.23	8.19	8.13	8.12	7.75	7.72
14	8.45	8.43	8.49	8.48	8.39	8.37	8.28	8.18	8.12	8.10	7.75	7.73
15	8.44	8.43	8.48	8.46	8.40	8.39	8.31	8.28	8.10	8.08	7.77	7.75
16	8.53	8.44	8.46	8.45	8.40	8.36	8.30	8.27	8.08	8.05	7.75	7.72
17	8.53	8.48	8.45	8.44	8.36	8.33	8.28	8.26	8.09	8.07	7.77	7.75
18	8.48	8.46	8.49	8.44	8.34	8.32	8.26	8.22	8.08	8.04	7.80	7.77
19	8.46	8.45	8.50	8.49	8.34	8.33	8.27	8.23	8.04	8.02	7.80	7.76
20	8.46	8.45	8.51	8.50	8.34	8.33	8.27	8.25	8.08	8.03	7.76	7.73
21	8.53	8.46	8.51	8.49	8.38	8.34	8.25	8.22	8.07	8.02	7.80	7.74
22	8.56	8.53	8.51	8.47	8.38	8.37	8.23	8.21	8.02	8.00	7.80	7.77
23	8.56	8.49	8.47	8.44	8.37	8.30	8.21	8.20	8.00	7.99	7.81	7.78
24	8.49	8.45	8.46	8.45	8.30	8.25	8.20	8.18	8.00	7.99	7.81	7.76
25	8.47	8.45	8.46	8.45	8.25	8.24	8.18	8.17	7.99	7.97	7.79	7.75
26	8.50	8.47	8.45	8.43	8.29	8.25	8.17	8.16	7.97	7.95	7.83	7.79
27	8.49	8.44	8.43	8.42	8.30	8.29	8.19	8.17	7.96	7.95	7.88	7.81
28	8.44	8.42	8.44	8.42	8.30	8.30	8.19	8.17	7.97	7.96	7.86	7.83
29	8.43	8.42	8.44	8.41	8.30	8.28	8.18	8.18	7.96	7.93	7.83	7.80
30	8.44	8.43	8.41	8.38	8.28	8.25	8.19	8.16	7.93	7.90	7.80	7.78
31	---	---	8.48	8.41	---	---	8.16	8.15	7.93	7.90	---	---
MONTH	8.56	8.33	8.51	8.36	8.50	8.24	8.31	8.15	8.16	7.90	7.93	7.72
YEAR	8.64	7.55										

Daily Low Water Levels



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

355

## MARYLAND--Continued

## KENT COUNTY--Continued

WELL NUMBER.--KE Cb 98. SITE ID.--391124076101002. PERMIT NUMBER.--KE-88-0254.  
 LOCATION.--Lat 39°11'24", long 76°10'10", Hydrologic Unit 02060002, 1.3 mi southeast of McCleans Corner,  
 at Remington Farms.  
 Owner: Maryland Geological Survey.  
 AQUIFER.--Monmouth Formation of the Upper Cretaceous age. Aquifer code: 211MNM.  
 WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 225 ft; casing diameter 4 in., to 210 ft  
 and 220 to 225 ft; screen diameter 4 in. from 210 to 220 ft.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 Equipped with digital water-level recorder--60-minute recorder interval  
 from February 7, 1992 to current year.  
 DATUM.--Elevation of land surface is 68.38 ft above National Geodetic Vertical Datum of 1929.  
 Measuring Point: Top of recorder platform, 2.6 ft above land surface.  
 REMARKS.--Kent County project observation well. Missing data due to recorder malfunction.  
 PERIOD OF RECORD.--February 1992 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 23.71 ft above sea level, May 12, 13, 18, 19,  
 and 20, 1993; lowest measured, 21.68 ft above sea level, Dec. 9 and 10, 1992.

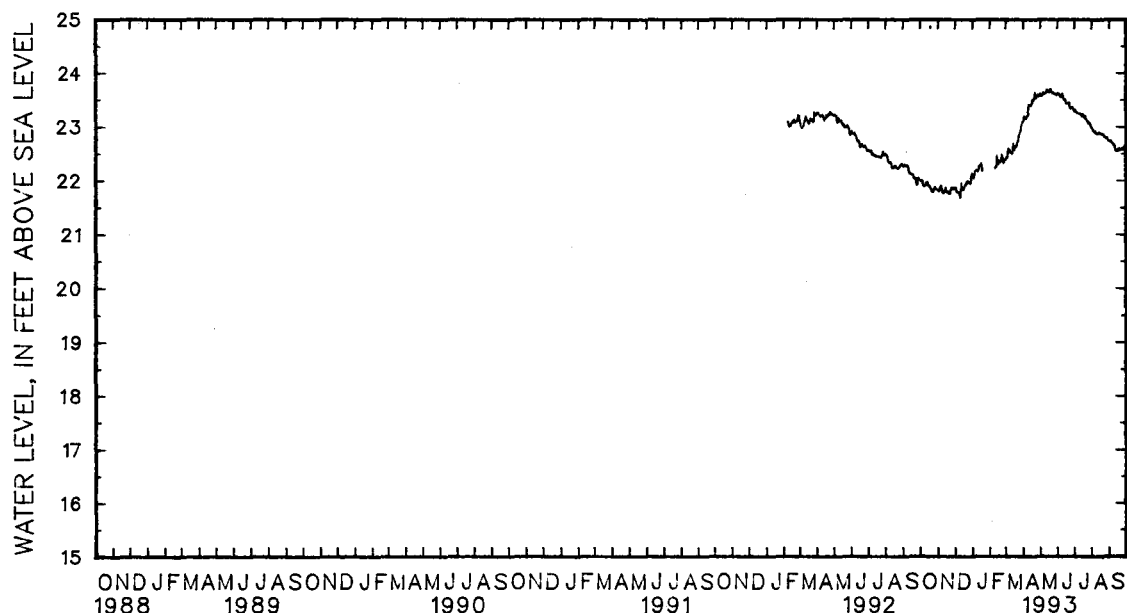
## WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	22.00	21.99	21.82	21.80	21.86	21.85	22.16	22.08	---	---	22.43	22.39
2	22.00	21.99	21.85	21.80	21.87	21.86	22.08	22.05	---	---	22.46	22.43
3	22.01	22.00	21.89	21.85	21.87	21.78	22.08	22.05	---	---	22.45	22.42
4	22.00	21.99	21.91	21.87	21.84	21.78	22.15	22.08	---	---	22.67	22.43
5	21.99	21.92	21.92	21.90	21.85	21.78	22.26	22.15	---	---	22.64	22.60
6	21.92	21.89	21.90	21.85	21.80	21.77	22.20	22.18	---	---	22.60	22.55
7	21.90	21.89	21.85	21.82	21.81	21.78	22.20	22.18	---	---	22.57	22.55
8	21.90	21.89	21.82	21.78	21.78	21.74	22.23	22.19	---	---	22.61	22.57
9	21.96	21.90	21.78	21.76	21.74	21.68	22.22	22.19	---	---	22.58	22.52
10	21.96	21.95	21.78	21.76	21.98	21.68	22.19	22.17	22.26	22.23	22.59	22.52
11	21.99	21.95	21.82	21.78	22.06	21.98	22.20	22.18	22.26	22.24	22.59	22.52
12	21.98	21.97	21.94	21.82	22.01	21.89	22.26	22.20	22.46	22.25	22.52	22.50
13	21.97	21.93	21.95	21.87	21.89	21.82	22.34	22.26	22.48	22.46	23.03	22.51
14	21.93	21.90	21.87	21.83	21.82	21.82	22.32	22.27	22.46	22.35	23.00	22.68
15	21.91	21.90	21.83	21.79	21.86	21.82	22.29	22.27	22.35	22.30	22.68	22.57
16	21.93	21.90	21.79	21.77	21.89	21.86	22.33	22.29	22.42	22.30	22.60	22.57
17	21.92	21.87	21.83	21.78	22.00	21.89	22.34	22.31	22.41	22.37	22.73	22.60
18	21.87	21.85	21.82	21.79	21.96	21.91	22.31	22.23	22.38	22.34	22.71	22.64
19	21.88	21.84	21.79	21.76	21.96	21.91	22.23	22.18	22.35	22.33	22.65	22.63
20	21.84	21.80	21.76	21.74	22.02	21.96	---	---	22.37	22.34	22.70	22.65
21	21.83	21.81	21.81	21.75	21.98	21.95	---	---	22.50	22.36	22.75	22.70
22	21.81	21.78	21.89	21.81	22.00	21.98	---	---	22.52	22.48	22.76	22.74
23	21.82	21.79	21.95	21.88	22.05	21.99	---	---	22.48	22.44	22.84	22.75
24	21.92	21.82	21.88	21.85	22.06	21.97	---	---	22.44	22.36	22.91	22.84
25	21.91	21.87	21.86	21.84	22.04	21.97	---	---	22.36	22.32	22.90	22.89
26	21.88	21.87	21.90	21.84	22.04	21.96	---	---	22.38	22.34	22.93	22.90
27	21.88	21.84	21.88	21.86	21.96	21.94	---	---	22.38	22.38	23.02	22.93
28	21.84	21.84	21.86	21.86	22.02	21.96	---	---	22.39	22.38	23.06	23.02
29	21.84	21.83	21.86	21.85	22.08	22.02	---	---	---	---	23.11	23.06
30	21.84	21.82	21.85	21.84	22.13	22.08	---	---	---	---	23.11	23.09
31	21.83	21.82	---	---	22.16	22.13	---	---	---	---	23.12	23.09
MONTH	22.01	21.78	21.95	21.74	22.16	21.68	22.34	22.05	22.52	22.23	23.12	22.39

GROUND-WATER LEVELS  
MARYLAND--Continued  
KENT COUNTY--Continued  
KE Cb 98--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	23.23	23.12	23.62	23.61	23.67	23.62	23.32	23.28	22.98	22.97	22.76	22.73
2	23.22	23.20	23.62	23.59	23.62	23.60	23.31	23.28	22.98	22.96	22.73	22.72
3	23.20	23.16	23.59	23.57	23.62	23.61	23.32	23.31	22.96	22.93	22.75	22.73
4	23.17	23.15	23.61	23.58	23.63	23.61	23.31	23.29	22.93	22.92	22.75	22.74
5	23.18	23.15	23.65	23.60	23.62	23.60	23.29	23.26	22.92	22.90	22.74	22.70
6	23.19	23.18	23.66	23.64	23.60	23.56	23.26	23.26	22.95	22.90	22.70	22.69
7	23.20	23.18	23.66	23.63	23.56	23.55	23.26	23.25	22.95	22.91	22.69	22.69
8	23.22	23.20	23.63	23.61	23.60	23.56	23.25	23.25	22.91	22.88	22.69	22.66
9	23.33	23.22	23.62	23.62	23.63	23.60	23.25	23.24	22.88	22.87	22.66	22.66
10	23.46	23.33	23.62	23.62	23.63	23.61	23.24	23.24	22.87	22.87	22.66	22.66
11	23.45	23.41	23.66	23.62	23.61	23.56	23.24	23.23	22.87	22.86	22.66	22.60
12	23.42	23.41	23.71	23.66	23.56	23.52	23.23	23.23	22.89	22.87	22.60	22.56
13	23.41	23.39	23.71	23.69	23.52	23.50	23.23	23.21	22.92	22.89	22.56	22.54
14	23.40	23.39	23.69	23.67	23.50	23.49	23.23	23.19	22.91	22.89	22.57	22.55
15	23.43	23.40	23.67	23.66	23.50	23.50	23.24	23.23	22.89	22.88	22.59	22.57
16	23.54	23.43	23.67	23.65	23.50	23.45	23.24	23.23	22.88	22.87	22.57	22.55
17	23.55	23.50	23.67	23.64	23.45	23.43	23.23	23.20	22.90	22.88	22.59	22.57
18	23.50	23.48	23.71	23.64	23.45	23.43	23.20	23.17	22.89	22.86	22.62	22.59
19	23.52	23.49	23.71	23.70	23.45	23.43	23.21	23.17	22.86	22.85	22.61	22.58
20	23.54	23.51	23.71	23.69	23.45	23.43	23.21	23.19	22.90	22.86	22.58	22.56
21	23.64	23.54	23.69	23.66	23.47	23.44	23.19	23.15	22.89	22.85	22.62	22.58
22	23.65	23.64	23.66	23.64	23.47	23.45	23.15	23.13	22.85	22.83	22.62	22.59
23	23.64	23.58	23.64	23.62	23.45	23.38	23.13	23.11	22.83	22.82	22.61	22.59
24	23.58	23.54	23.64	23.63	23.38	23.34	23.11	23.09	22.83	22.81	22.61	22.58
25	23.59	23.56	23.64	23.63	23.35	23.34	23.09	23.07	22.82	22.80	22.61	22.57
26	23.64	23.59	23.63	23.61	23.37	23.35	23.08	23.06	22.80	22.78	22.63	22.61
27	23.61	23.57	23.61	23.61	23.37	23.36	23.08	23.08	22.80	22.78	22.70	22.61
28	23.58	23.56	23.62	23.61	23.37	23.36	23.08	23.06	22.81	22.79	22.67	22.63
29	23.61	23.58	23.63	23.60	23.36	23.34	23.07	23.05	22.79	22.76	22.63	22.59
30	23.62	23.61	23.60	23.58	23.35	23.32	23.05	23.01	22.76	22.74	22.59	22.55
31	---	---	23.66	23.60	---	---	23.01	22.98	22.76	22.74	---	---
MONTH	23.65	23.12	23.71	23.57	23.67	23.32	23.32	22.98	22.98	22.74	22.76	22.54
YEAR	23.71	21.68										

Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

357

## MARYLAND--Continued

## KENT COUNTY--Continued

WELL NUMBER.--KE Cb 99. SITE ID.--391124076101003. PERMIT NUMBER.--KE-88-0252.  
 LOCATION.--Lat 39°11'24", long 76°10'10", Hydrologic Unit 02060002, 1.3 mi southeast of McCleans Corner,  
 at Remington Farms.  
 Owner: Maryland Geological Survey.  
 AQUIFER.--Aquia Formation of the Upper Paleocene age. Aquifer code: 125AQUI.  
 WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 134 ft; casing diameter 4 in.,  
 to 118 ft; screen diameter 4 in. from 118 to 128 ft.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 Equipped with digital water-level recorder--60-minute recorder interval  
 from February 7, 1992 to current year.  
 DATUM.--Elevation of land surface is 68.38 ft above National Geodetic Vertical Datum of 1929.  
 Measuring Point: Top of recorder platform, 2.6 ft above land surface.  
 REMARKS.--Kent County project observation wells. Missing data due to recorder malfunction.  
 PERIOD OF RECORD.--February 1992 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 23.71 ft above sea level, May 18 and 19, 1993;  
 lowest measured, 21.83 ft above sea level, Dec. 9, 1992.

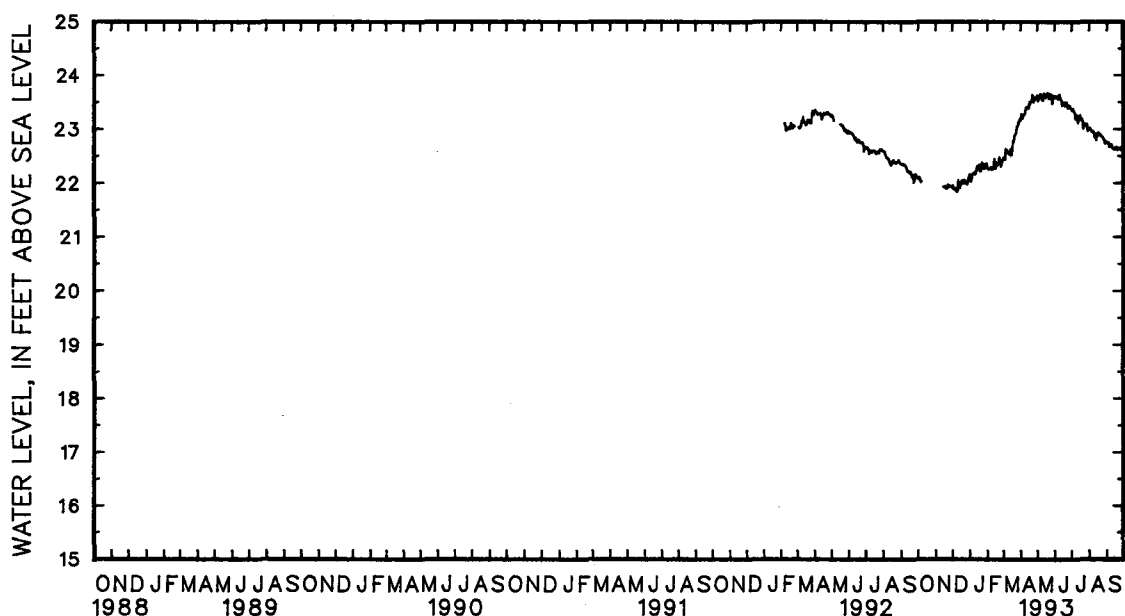
## WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	22.11	22.08	---	---	21.94	21.93	22.15	22.05	22.41	22.27	22.47	22.44
2	22.12	22.10	---	---	21.95	21.94	22.05	22.02	22.27	22.25	22.50	22.47
3	22.11	22.11	---	---	21.95	21.88	22.08	22.02	22.32	22.25	22.49	22.43
4	22.11	22.09	---	---	21.94	21.88	22.16	22.08	22.32	22.25	22.68	22.43
5	22.09	22.05	---	---	21.96	21.87	22.26	22.16	22.33	22.25	22.66	22.63
6	22.05	22.02	---	---	21.89	21.86	22.17	22.16	22.34	22.27	22.63	22.57
7	22.05	22.04	---	---	21.92	21.89	22.18	22.16	22.30	22.26	22.60	22.56
8	---	---	---	---	21.89	21.85	22.22	22.18	22.34	22.28	22.65	22.60
9	---	---	---	---	21.85	21.83	22.21	22.18	22.28	22.24	22.62	22.56
10	---	---	---	---	22.07	21.84	22.18	22.16	22.29	22.25	22.64	22.56
11	---	---	---	---	22.10	22.05	22.23	22.17	22.29	22.26	22.64	22.55
12	---	---	---	---	22.05	21.95	22.30	22.23	22.47	22.26	22.56	22.52
13	---	---	---	---	21.95	21.91	22.38	22.30	22.47	22.44	23.01	22.56
14	---	---	---	---	21.95	21.90	22.35	22.26	22.44	22.31	22.98	22.62
15	---	---	21.96	21.92	22.00	21.95	22.30	22.26	22.31	22.26	22.62	22.51
16	---	---	21.92	21.92	22.03	22.00	22.35	22.30	22.45	22.26	22.63	22.52
17	---	---	21.96	21.92	22.09	22.03	22.36	22.33	22.45	22.37	22.83	22.63
18	---	---	21.96	21.93	22.06	21.99	22.33	22.22	22.37	22.35	22.83	22.77
19	---	---	21.93	21.90	22.04	21.99	22.22	22.21	22.35	22.32	22.79	22.76
20	---	---	21.90	21.89	22.09	22.04	22.26	22.21	22.39	22.35	22.87	22.79
21	---	---	21.93	21.89	22.04	21.99	22.37	22.26	22.51	22.38	22.91	22.87
22	---	---	21.98	21.93	22.08	22.02	22.42	22.37	22.53	22.47	22.92	22.90
23	---	---	22.03	21.96	22.09	22.05	22.40	22.33	22.47	22.40	22.98	22.90
24	---	---	21.96	21.92	22.08	21.99	22.41	22.33	22.40	22.35	23.07	22.98
25	---	---	21.94	21.92	22.08	21.99	22.35	22.27	22.35	22.30	23.06	23.04
26	---	---	21.98	21.93	22.08	22.01	22.33	22.26	22.42	22.35	23.07	23.05
27	---	---	21.98	21.94	22.01	21.97	22.39	22.33	22.42	22.41	23.13	23.07
28	---	---	21.94	21.94	22.07	22.01	22.38	22.34	22.44	22.42	23.16	23.13
29	---	---	21.94	21.93	22.10	22.07	22.38	22.28	---	---	23.20	23.15
30	---	---	21.93	21.91	22.15	22.10	22.35	22.28	---	---	23.20	23.17
31	---	---	---	---	22.16	22.15	22.44	22.35	---	---	23.19	23.15
MONTH	22.12	22.02	22.03	21.89	22.16	21.83	22.44	22.02	22.53	22.24	23.20	22.43

GROUND-WATER LEVELS  
MARYLAND--Continued  
KENT COUNTY--Continued  
KE Cb 99--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	23.30	23.19	23.63	23.61	23.68	23.62	23.38	23.34	23.03	23.01	22.79	22.75
2	23.30	23.27	23.61	23.52	23.62	23.58	23.38	23.35	23.03	23.01	22.76	22.73
3	23.27	23.21	23.58	23.56	23.63	23.59	23.39	23.37	23.01	22.98	22.76	22.73
4	23.22	23.19	23.62	23.58	23.63	23.59	23.38	23.34	22.99	22.97	22.77	22.74
5	23.26	23.22	23.67	23.62	23.62	23.61	23.35	23.32	22.97	22.95	22.74	22.66
6	23.27	23.26	23.67	23.65	23.61	23.56	23.32	23.29	23.00	22.94	22.71	22.67
7	23.28	23.26	23.66	23.63	23.58	23.55	23.31	23.20	22.99	22.96	22.71	22.70
8	23.30	23.28	23.64	23.60	23.64	23.58	23.28	23.18	22.96	22.94	22.72	22.70
9	23.39	23.30	23.62	23.55	23.64	23.64	23.25	23.23	22.94	22.92	22.73	22.70
10	23.48	23.39	23.60	23.57	23.64	23.59	23.25	23.25	22.93	22.84	22.74	22.69
11	23.47	23.40	23.63	23.53	23.59	23.56	23.26	23.25	22.95	22.90	22.69	22.64
12	23.42	23.41	23.68	23.61	23.56	23.54	23.26	23.11	22.98	22.91	22.64	22.63
13	23.41	23.39	23.69	23.66	23.54	23.51	23.18	23.17	22.97	22.78	22.64	22.62
14	23.41	23.38	23.66	23.64	23.54	23.43	23.30	23.17	22.93	22.87	22.66	22.62
15	23.45	23.41	23.65	23.58	23.53	23.48	23.30	23.26	22.92	22.91	22.67	22.64
16	23.58	23.45	23.66	23.63	23.52	23.49	23.26	23.21	22.93	22.91	22.64	22.62
17	23.58	23.51	23.66	23.61	23.50	23.48	23.22	23.20	22.94	22.93	22.66	22.64
18	23.51	23.48	23.71	23.62	23.51	23.47	23.20	23.16	22.93	22.89	22.68	22.66
19	23.53	23.50	23.71	23.67	23.50	23.43	23.21	23.17	22.90	22.89	22.68	22.64
20	23.55	23.51	23.69	23.66	23.50	23.48	23.23	23.14	22.94	22.90	22.64	22.61
21	23.64	23.54	23.66	23.56	23.52	23.49	23.16	23.00	22.93	22.88	22.69	22.64
22	23.65	23.63	23.65	23.63	23.52	23.49	23.11	23.06	22.88	22.86	22.69	22.64
23	23.63	23.54	23.65	23.63	23.49	23.44	23.11	23.10	22.86	22.86	22.65	22.63
24	23.54	23.50	23.66	23.65	23.44	23.39	23.11	23.09	22.86	22.85	22.65	22.62
25	23.60	23.54	23.66	23.63	23.42	23.39	23.09	23.07	22.85	22.83	22.65	22.61
26	23.64	23.58	23.65	23.63	23.43	23.42	23.09	23.07	22.83	22.81	22.68	22.65
27	23.61	23.56	23.63	23.47	23.43	23.43	23.10	23.09	22.83	22.81	22.75	22.65
28	23.59	23.56	23.64	23.55	23.43	23.39	23.09	23.07	22.83	22.74	22.70	22.65
29	23.62	23.59	23.65	23.61	23.40	23.39	23.08	22.96	22.75	22.72	22.65	22.61
30	23.63	23.62	23.61	23.58	23.40	23.38	23.05	23.01	22.77	22.75	22.62	22.57
31	---	---	23.66	23.61	---	---	23.03	23.00	22.79	22.76	---	---
MONTH	23.65	23.19	23.71	23.47	23.68	23.38	23.39	22.96	23.03	22.72	22.79	22.57
YEAR	23.71	21.83										

Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

359

## MARYLAND--Continued

## KENT COUNTY--Continued

WELL NUMBER.--KE Cb 100. SITE ID.--391124076101004. PERMIT NUMBER.--KE-88-0253.  
 LOCATION.--Lat 39°11'24", long 76°10'10", Hydrologic Unit 02060002, 1.3 mi southeast of McCleans Corners,  
 at Remington Farms.  
 Owner: Maryland Geological Survey.  
 AQUIFER.--Aquia Formation of the Upper Paleocene age. Aquifer code: 125AQUI.  
 WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 67 ft; casing diameter 4 in., to 52 ft  
 and 62 to 67 ft; screen diameter 4 in. from 52 to 62 ft.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 Equipped with digital water-level recorder--60-minute recorder interval  
 from February 7, 1992 to current year.  
 DATUM.--Elevation of land surface is 68.29 ft above National Geodetic Vertical Datum of 1929.  
 Measuring Point: Top of recorder platform, 2.6 ft above land surface.  
 REMARKS.--Kent County project observation well. Missing data due to recorder malfunction.  
 PERIOD OF RECORD.--February 1992 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 25.77 ft above sea level, June 21, 1993;  
 lowest measured, 23.87 ft above sea level, Jan. 5 and 6, 1993.

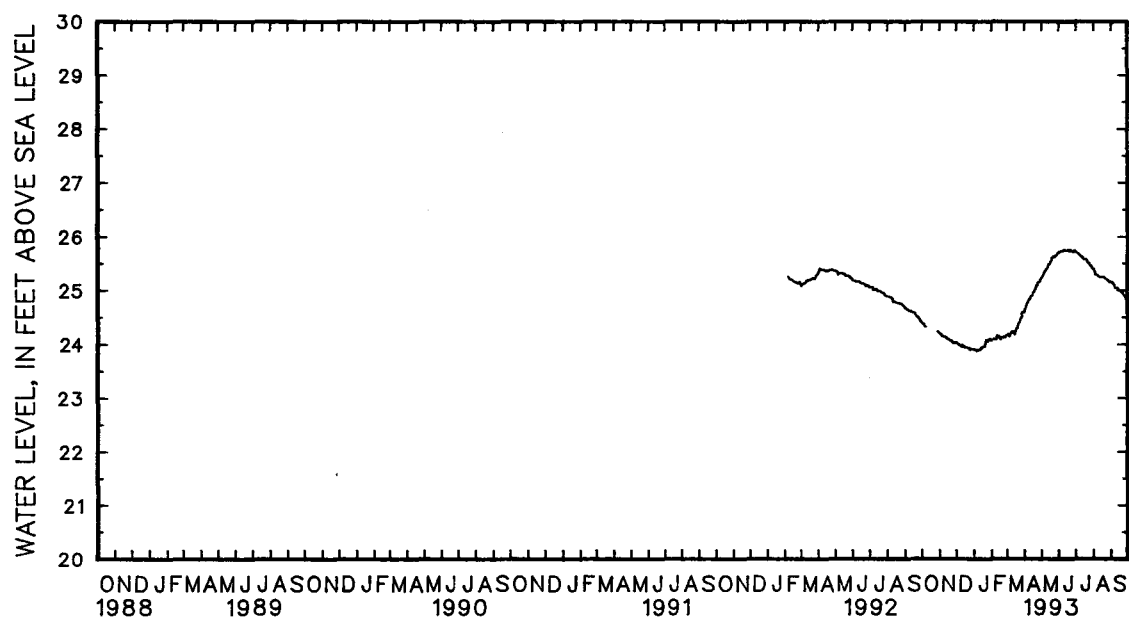
## WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	24.40	24.38	24.20	24.19	24.02	24.02	23.91	23.89	24.11	24.08	24.18	24.16
2	24.38	24.37	24.19	24.19	24.02	24.02	23.89	23.89	24.08	24.08	24.19	24.18
3	24.37	24.37	24.19	24.17	24.02	24.00	23.89	23.89	24.10	24.08	24.18	24.17
4	24.37	24.36	24.17	24.17	24.00	24.00	23.90	23.89	24.10	24.09	24.34	24.14
5	24.36	24.33	24.17	24.14	24.00	23.98	23.92	23.87	24.10	24.09	24.21	24.14
6	24.33	24.32	24.14	24.14	23.98	23.98	23.88	23.87	24.10	24.08	24.20	24.18
7	24.32	24.32	24.14	24.14	23.98	23.97	23.88	23.88	24.08	24.08	24.24	24.20
8	---	---	24.14	24.14	23.97	23.97	23.90	23.88	24.09	24.08	24.26	24.21
9	---	---	24.14	24.13	23.97	23.95	23.88	23.88	24.15	24.08	24.23	24.21
10	---	---	24.13	24.13	24.02	23.96	23.88	23.88	24.15	24.15	24.32	24.23
11	---	---	24.13	24.13	24.02	23.98	23.89	23.88	24.15	24.13	24.25	24.23
12	---	---	24.14	24.13	23.98	23.95	23.92	23.89	24.19	24.14	24.24	24.23
13	---	---	24.14	24.10	23.96	23.96	23.97	23.92	24.18	24.15	24.49	24.21
14	---	---	24.10	24.10	23.96	23.94	23.94	23.93	24.15	24.11	24.21	24.17
15	---	---	24.10	24.09	23.94	23.94	23.93	23.92	24.13	24.10	24.24	24.20
16	---	---	24.09	24.09	23.94	23.94	23.95	23.93	24.24	24.12	24.29	24.24
17	---	---	24.09	24.08	23.96	23.94	23.96	23.95	24.12	24.08	24.37	24.29
18	---	---	24.08	24.07	23.94	23.93	23.95	23.95	24.14	24.11	24.30	24.29
19	---	---	24.07	24.06	23.93	23.93	23.95	23.95	24.13	24.11	24.36	24.30
20	---	---	24.06	24.06	23.95	23.92	24.04	23.95	24.14	24.12	24.39	24.36
21	---	---	24.06	24.06	23.93	23.92	24.08	24.04	24.20	24.12	24.40	24.39
22	---	---	24.06	24.06	23.93	23.92	24.08	24.08	24.18	24.11	24.42	24.40
23	---	---	24.06	24.04	23.93	23.92	24.08	24.06	24.14	24.13	24.47	24.42
24	---	---	24.04	24.03	23.92	23.89	24.10	24.04	24.14	24.13	24.53	24.47
25	---	---	24.04	24.01	23.92	23.89	24.07	24.06	24.15	24.12	24.49	24.49
26	---	---	24.03	24.02	23.92	23.90	24.09	24.07	24.16	24.15	24.53	24.49
27	---	---	24.03	24.02	23.90	23.90	24.09	24.09	24.15	24.15	24.58	24.53
28	24.23	24.23	24.02	24.02	23.90	23.90	24.10	24.09	24.16	24.15	24.58	24.58
29	24.23	24.22	24.02	24.02	23.90	23.90	24.10	24.07	---	---	24.60	24.58
30	24.22	24.21	24.02	24.02	23.91	23.90	24.09	24.07	---	---	24.60	24.60
31	24.21	24.20	---	---	23.91	23.90	24.12	24.09	---	---	24.68	24.60
MONTH	24.40	24.20	24.20	24.01	24.02	23.89	24.12	23.87	24.24	24.08	24.68	24.14

GROUND-WATER LEVELS  
MARYLAND--Continued  
KENT COUNTY--Continued  
KE Cb 100--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	24.70	24.59	25.25	25.23	25.72	25.71	25.72	25.70	25.39	25.39	25.15	25.15
2	24.66	24.65	25.27	25.25	25.72	25.71	25.71	25.70	25.39	25.36	25.15	25.14
3	24.69	24.66	25.28	25.27	25.72	25.71	25.70	25.69	25.36	25.34	25.14	25.14
4	24.73	24.69	25.31	25.28	25.73	25.72	25.69	25.68	25.34	25.29	25.14	25.13
5	24.76	24.73	25.34	25.31	25.73	25.73	25.68	25.67	25.29	25.29	25.13	25.11
6	24.76	24.76	25.35	25.34	25.73	25.73	25.67	25.66	25.29	25.29	25.11	25.11
7	24.80	24.76	25.36	25.35	25.74	25.73	25.66	25.65	25.29	25.28	25.11	25.10
8	24.83	24.80	25.38	25.36	25.76	25.74	25.66	25.65	25.28	25.27	25.05	25.04
9	24.86	24.83	25.40	25.38	25.75	25.73	25.65	25.64	25.27	25.26	25.04	25.04
10	24.89	24.83	25.41	25.40	25.75	25.75	25.64	25.63	25.26	25.25	25.04	25.04
11	24.88	24.83	25.45	25.41	25.75	25.75	25.63	25.62	25.25	25.24	25.04	25.04
12	24.90	24.88	25.47	25.43	25.75	25.75	25.62	25.61	25.24	25.24	25.04	25.04
13	24.90	24.89	25.47	25.47	25.75	25.74	25.61	25.61	25.24	25.24	25.04	25.04
14	24.90	24.90	25.49	25.47	25.74	25.74	25.61	25.58	25.24	25.24	25.04	25.03
15	24.95	24.90	25.50	25.49	25.75	25.74	25.58	25.57	25.24	25.24	25.03	25.00
16	25.02	24.95	25.53	25.50	25.75	25.75	25.57	25.57	25.24	25.24	25.00	25.00
17	25.01	24.96	25.54	25.53	25.75	25.75	25.57	25.57	25.24	25.24	25.00	24.99
18	25.00	24.97	25.60	25.54	25.76	25.75	25.57	25.57	25.24	25.24	24.99	24.98
19	25.01	25.00	25.60	25.60	25.76	25.73	25.57	25.57	25.24	25.24	24.98	24.96
20	25.04	25.01	25.61	25.60	25.75	25.73	25.57	25.55	25.24	25.24	24.96	24.95
21	25.10	25.04	25.63	25.61	25.77	25.75	25.55	25.52	25.24	25.22	24.95	24.95
22	25.11	25.08	25.63	25.63	25.76	25.75	25.52	25.51	25.22	25.21	24.95	24.94
23	25.09	25.08	25.63	25.63	25.75	25.74	25.51	25.50	25.21	25.21	24.94	24.92
24	25.15	25.09	25.64	25.62	25.74	25.72	25.50	25.50	25.21	25.20	24.92	24.91
25	25.16	25.15	25.64	25.64	25.72	25.72	25.50	25.46	25.20	25.19	24.91	24.90
26	25.20	25.15	25.65	25.64	25.74	25.72	25.46	25.45	25.19	25.18	24.92	24.89
27	25.16	25.15	25.66	25.65	25.74	25.74	25.45	25.45	25.18	25.18	24.92	24.86
28	25.20	25.16	25.68	25.66	25.74	25.74	25.45	25.45	25.18	25.15	24.89	24.88
29	25.21	25.20	25.70	25.68	25.74	25.72	25.45	25.41	25.15	25.15	24.88	24.86
30	25.23	25.21	25.69	25.69	25.72	25.72	25.41	25.40	25.15	25.15	24.86	24.86
31	---	---	25.72	25.69	---	---	25.40	25.39	25.15	25.15	---	---
MONTH	25.23	24.59	25.72	25.23	25.77	25.71	25.72	25.39	25.39	25.15	25.15	24.86
YEAR	25.77	23.87										

Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993



## GROUND-WATER LEVELS

361

## MARYLAND--Continued

## KENT COUNTY--Continued

WELL NUMBER.--KE Cb 101. SITE ID.--391251076142201. PERMIT NUMBER.--KE-88-0250.  
 LOCATION.--Lat 39°12'48", long 76°14'22", Hydrologic Unit 02060002, 0.4 mi east of Tolchester Beach,  
 south of MD Rt. 21.  
 Owner: Maryland Geological Survey.  
 AQUIFER.--Columbia Group of Pleistocene age. Aquifer code: 112CLMB.  
 WELL CHARACTERISTICS.--Drilled, observation, water-table well depth 73 ft; casing diameter 4 in.,  
 to 58 ft and 68 to 73 ft; screen diameter 4 in. from 58 to 68 ft.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 Equipped with digital water-level recorder--60-minute recorder interval  
 from February 7, 1992 to current year.  
 DATUM.--Elevation of land surface is 31.12 ft above National Geodetic Vertical Datum of 1929.  
 Measuring Point: Top of recorder platform, 2.8 ft above land surface.  
 REMARKS.--Kent County project observation well. Missing data due to recorder malfunction.  
 PERIOD OF RECORD.--February 1992 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.80 ft above sea level, April 16, 1993;  
 lowest measured, 1.51 ft above sea level, Feb. 2, 1993.

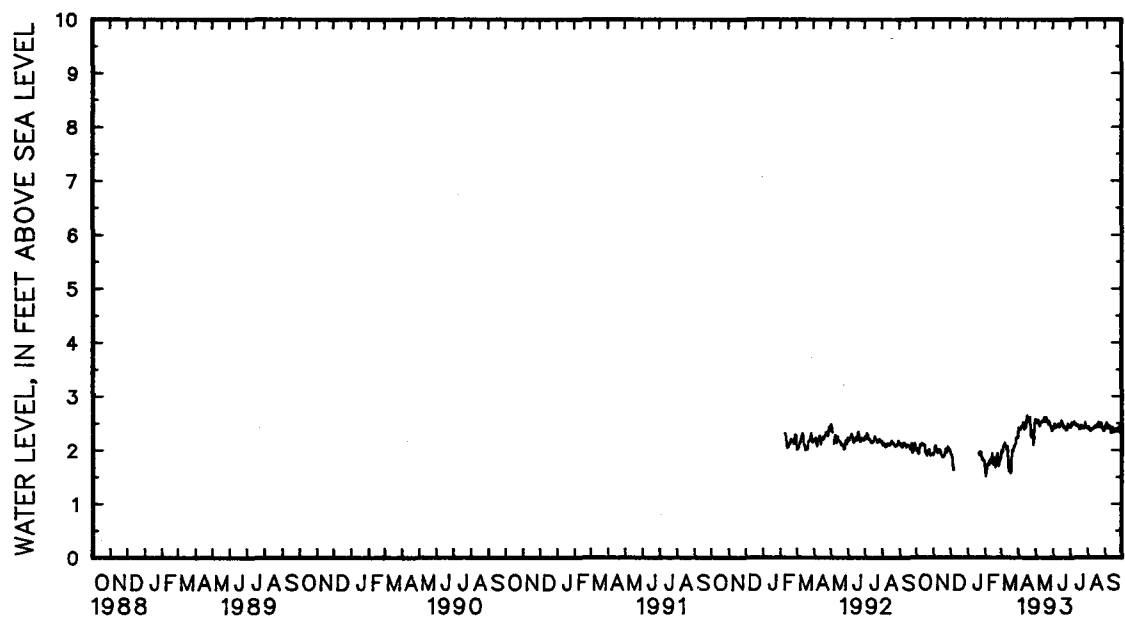
## WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	2.03	1.99	1.98	1.93	2.03	1.96	---	---	1.73	1.60	1.99	1.88
2	2.05	2.02	2.08	1.97	1.97	1.92	---	---	1.60	1.51	2.05	1.99
3	2.06	2.03	2.11	2.08	1.99	1.91	---	---	1.78	1.58	2.02	1.95
4	2.04	1.94	2.14	2.09	1.95	1.87	---	---	1.78	1.71	2.24	1.97
5	2.00	1.93	2.13	2.05	1.97	1.75	---	---	1.85	1.75	2.12	2.06
6	2.11	2.00	2.06	1.98	1.75	1.64	---	---	1.84	1.72	2.12	2.10
7	2.12	2.11	2.01	1.98	1.75	1.68	---	---	1.85	1.72	2.26	2.11
8	2.10	2.09	2.00	1.95	---	---	---	---	1.85	1.79	2.29	2.14
9	2.14	2.10	1.99	1.95	---	---	---	---	1.83	1.75	2.14	2.07
10	2.14	2.13	2.02	1.98	---	---	---	---	1.88	1.83	2.20	2.07
11	2.15	2.13	2.06	2.02	---	---	---	---	1.85	1.79	2.16	2.01
12	2.15	2.11	2.09	2.01	---	---	---	---	1.97	1.82	2.06	2.00
13	2.12	2.11	2.09	1.99	---	---	---	---	1.97	1.94	2.59	2.06
14	2.11	2.09	2.00	1.94	---	---	---	---	1.94	1.80	2.07	1.68
15	2.11	2.09	1.97	1.91	---	---	---	---	1.84	1.73	1.70	1.61
16	2.11	2.10	1.93	1.88	---	---	---	---	2.12	1.84	1.87	1.70
17	2.10	1.96	2.02	1.90	---	---	---	---	2.01	1.85	1.97	1.80
18	2.02	1.97	2.00	1.88	---	---	---	---	1.89	1.73	1.80	1.57
19	2.05	1.92	1.92	1.88	---	---	---	---	1.73	1.68	1.83	1.58
20	1.99	1.90	1.96	1.90	---	---	1.97	1.94	1.84	1.73	2.01	1.83
21	2.09	1.99	2.04	1.96	---	---	1.98	1.91	2.01	1.81	2.01	2.00
22	2.03	1.96	2.07	2.03	---	---	2.00	1.97	2.01	1.91	2.00	1.99
23	2.03	1.96	2.07	2.03	---	---	2.00	1.96	1.97	1.94	2.09	1.98
24	2.09	2.02	2.03	1.96	---	---	2.04	1.96	1.97	1.79	2.12	2.07
25	2.07	1.92	2.07	2.00	---	---	1.97	1.88	1.80	1.70	2.10	2.06
26	1.96	1.90	2.10	2.07	---	---	1.91	1.82	1.88	1.79	2.12	2.10
27	1.96	1.92	2.10	2.04	---	---	1.92	1.82	1.84	1.80	2.25	2.12
28	1.96	1.92	2.07	2.04	---	---	1.98	1.83	1.92	1.83	2.26	2.23
29	1.97	1.94	2.06	2.02	---	---	1.99	1.80	---	---	2.30	2.23
30	1.97	1.92	2.05	2.01	---	---	1.86	1.80	---	---	2.29	2.23
31	1.97	1.91	---	---	---	---	1.86	1.71	---	---	2.41	2.23
MONTH	2.15	1.90	2.14	1.88	2.03	1.64	2.04	1.71	2.12	1.51	2.59	1.57

GROUND-WATER LEVELS  
MARYLAND--Continued  
KENT COUNTY--Continued  
KE Cb 101--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	2.50	2.41	2.65	2.57	2.60	2.41	2.47	2.42	2.42	2.40	2.46	2.44
2	2.44	2.41	2.62	2.51	2.52	2.41	2.55	2.43	2.46	2.42	2.50	2.46
3	2.41	2.38	2.59	2.51	2.56	2.49	2.56	2.51	2.45	2.43	2.55	2.50
4	2.41	2.38	2.61	2.54	2.53	2.46	2.54	2.51	2.43	2.37	2.55	2.50
5	2.45	2.39	2.64	2.56	2.57	2.45	2.51	2.49	2.39	2.35	2.50	2.40
6	2.45	2.44	2.60	2.52	2.51	2.43	2.53	2.49	2.42	2.37	2.45	2.42
7	2.45	2.44	2.52	2.46	2.52	2.43	2.57	2.53	2.42	2.36	2.49	2.45
8	2.51	2.45	2.51	2.44	2.52	2.45	2.55	2.48	2.43	2.40	2.50	2.42
9	2.58	2.51	2.59	2.51	2.56	2.48	2.52	2.48	2.43	2.39	2.52	2.45
10	2.67	2.51	2.57	2.51	2.55	2.49	2.53	2.49	2.43	2.39	2.55	2.44
11	2.51	2.38	2.66	2.53	2.52	2.43	2.52	2.45	2.45	2.41	2.44	2.31
12	2.51	2.43	2.65	2.53	2.46	2.43	2.51	2.46	2.46	2.41	2.39	2.31
13	2.47	2.41	2.59	2.55	2.53	2.46	2.48	2.46	2.50	2.44	2.44	2.39
14	2.57	2.44	2.60	2.55	2.56	2.51	2.52	2.46	2.47	2.42	2.45	2.42
15	2.64	2.56	2.69	2.58	2.59	2.55	2.52	2.43	2.46	2.42	2.47	2.41
16	2.80	2.64	2.69	2.61	2.59	2.51	2.45	2.43	2.47	2.42	2.41	2.34
17	2.79	2.53	2.61	2.53	2.51	2.48	2.45	2.38	2.51	2.47	2.39	2.33
18	2.59	2.53	2.69	2.54	2.52	2.48	2.44	2.38	2.48	2.43	2.41	2.38
19	2.61	2.57	2.65	2.61	2.50	2.42	2.54	2.43	2.51	2.43	2.41	2.35
20	2.65	2.58	2.65	2.56	2.46	2.42	2.54	2.46	2.56	2.51	2.40	2.35
21	2.66	2.61	2.60	2.56	2.51	2.43	2.48	2.44	2.56	2.44	2.48	2.40
22	2.64	2.42	2.59	2.51	2.51	2.42	2.47	2.44	2.47	2.43	2.46	2.37
23	2.45	2.24	2.54	2.48	2.42	2.37	2.44	2.40	2.50	2.46	2.47	2.40
24	2.37	2.24	2.61	2.54	2.41	2.37	2.43	2.40	2.55	2.50	2.46	2.34
25	2.52	2.36	2.59	2.51	2.49	2.39	2.44	2.40	2.56	2.49	2.43	2.35
26	2.56	2.28	2.51	2.44	2.59	2.49	2.51	2.42	2.51	2.41	2.50	2.43
27	2.28	2.09	2.51	2.43	2.58	2.45	2.56	2.51	2.46	2.42	2.50	2.45
28	2.49	2.17	2.54	2.45	2.52	2.46	2.53	2.45	2.46	2.41	2.45	2.40
29	2.63	2.48	2.52	2.36	2.54	2.46	2.52	2.45	2.43	2.35	2.40	2.32
30	2.65	2.58	2.46	2.36	2.50	2.42	2.49	2.42	2.41	2.35	2.32	2.24
31	---	---	2.62	2.44	---	---	2.45	2.40	2.46	2.40	---	---
MONTH	2.80	2.09	2.69	2.36	2.60	2.37	2.57	2.38	2.56	2.35	2.55	2.24
YEAR	2.80	1.51										

Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
KENT COUNTY--Continued

WELL NUMBER.--KE Cb 103. SITE ID.--391124076101005. PERMIT NUMBER.--KE-88-0288.  
LOCATION.--Lat 39°11'24", long 76°10'10", Hydrologic Unit 02060002, 1.3 mi southeast of McCleans Corner,  
at Remington Farms.  
Owner: Maryland Geological Survey.  
AQUIFER.--Potomac Group of the Lower Cretaceous age. Aquifer code: 217PTMC.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 404 ft; casing diameter 4 in.,  
to 389 ft, and 399 to 404 ft; screen diameter 4 in. from 389 to 399 ft.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
Equipped with digital water-level recorder--60-minute recorder interval  
from February 7, 1992 to current year.  
DATUM.--Elevation of land surface is 65.60 ft above National Geodetic Vertical Datum of 1929.  
Measuring Point: Top of recorder platform, 2.65 ft above land surface.  
REMARKS.--Kent County project observation well. Missing data due to recorder malfunction.  
PERIOD OF RECORD.--February 1992 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.08 ft above sea level, March 11, 1992;  
lowest measured, 2.16 ft below sea level, Sept. 13 and 14, 1993.

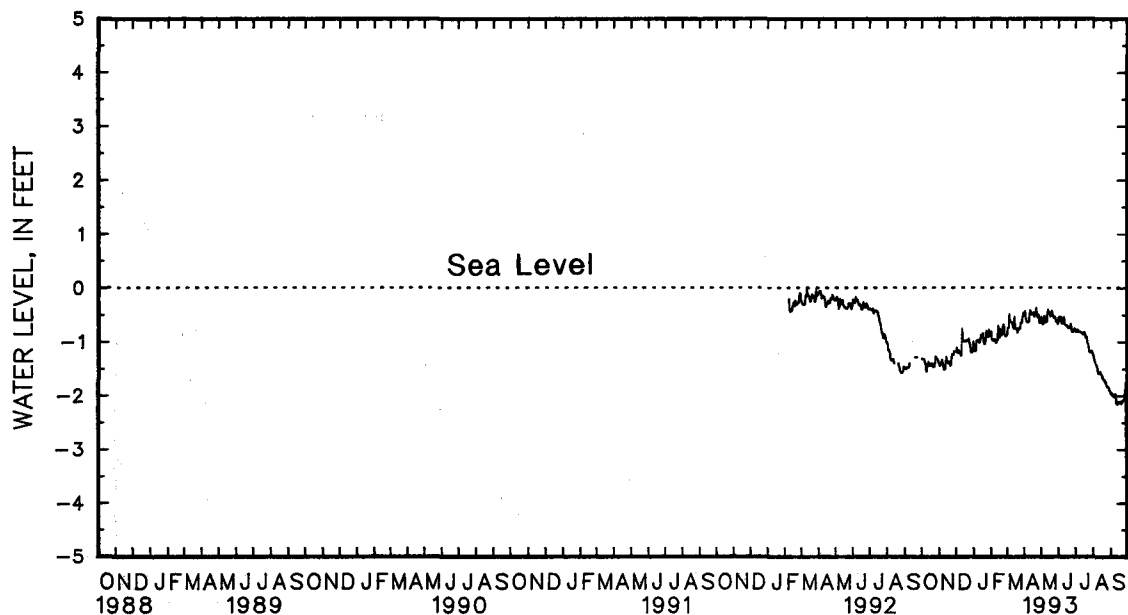
WATER LEVEL, IN FEET BELOW SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	-1.32	-1.32	-1.40	-1.44	-1.11	-1.18	-.95	-1.07	-.68	-.82	-.75	-.86
2	-1.32	-1.32	-1.42	-1.44	-1.10	-1.11	-1.07	-1.17	-.82	-.97	-.72	-.75
3	-1.32	-1.32	-1.37	-1.42	-1.10	-1.20	-1.17	-1.17	-.92	-.97	-.72	-.74
4	-1.32	-1.32	-1.34	-1.38	-1.11	-1.20	-1.01	-1.17	-.92	-.98	-.41	-.74
5	-1.32	-1.34	-1.32	-1.34	-1.08	-1.16	-.90	-1.01	-.92	-.98	-.43	-.49
6	-1.34	-1.40	-1.32	-1.38	-1.16	-1.20	-.97	-.98	-.91	-.96	-.49	-.62
7	-1.40	-1.41	-1.38	-1.42	-1.11	-1.20	-.98	-.98	-.96	-.98	-.62	-.63
8	-1.41	-1.56	-1.42	-1.46	-1.12	-1.21	-.93	-.98	-.92	-.97	-.54	-.63
9	-1.46	-1.55	-1.46	-1.51	-1.21	-1.25	-.93	-.97	-.92	-1.02	-.54	-.64
10	-1.44	-1.46	-1.51	-1.51	-.75	-1.25	-.97	-1.01	-.97	-1.02	-.58	-.65
11	-1.38	-1.44	-1.41	-1.51	-.66	-.75	-1.01	-1.01	-.97	-.97	-.58	-.70
12	-1.38	-1.38	-1.24	-1.41	-.68	-.84	-.93	-1.01	-.70	-.97	-.70	-.75
13	-1.38	-1.40	-1.24	-1.28	-.84	-.99	-.74	-.93	-.69	-.70	-.10	-.75
14	-1.40	-1.44	-1.28	-1.33	-.99	-1.00	-.74	-.87	-.69	-.78	-.11	-.53
15	-1.43	-1.44	-1.33	-1.37	-.99	-1.00	-.87	-.88	-.78	-.92	-.53	-.70
16	-1.37	-1.43	-1.37	-1.40	-.98	-.99	-.85	-.88	-.72	-.92	-.70	-.76
17	-1.37	-1.41	-1.33	-1.40	-.86	-.98	-.75	-.85	-.72	-.77	-.58	-.76
18	-1.40	-1.43	-1.34	-1.38	-.86	-.99	-.76	-.99	-.77	-.83	-.61	-.76
19	-1.38	-1.41	-1.38	-1.42	-.97	-.99	-.99	-1.04	-.83	-.87	-.76	-.83
20	-1.41	-1.46	-1.42	-1.44	-.88	-.97	-1.03	-1.04	-.83	-.87	-.76	-.83
21	-1.41	-1.46	-1.34	-1.44	-.90	-.98	-.93	-1.03	-.69	-.83	-.75	-.76
22	-1.43	-1.46	-1.24	-1.34	-.95	-.98	-.79	-.93	-.67	-.69	-.76	-.76
23	-1.40	-1.46	-1.12	-1.24	-.91	-.95	-.79	-.81	-.67	-.69	-.75	-.77
24	-1.27	-1.40	-1.20	-1.24	-.90	-1.03	-.70	-.81	-.69	-.82	-.63	-.75
25	-1.27	-1.28	-1.24	-1.24	-1.00	-1.04	-.74	-.90	-.82	-.89	-.63	-.65
26	-1.28	-1.29	-1.18	-1.24	-1.00	-1.18	-.90	-.91	-.89	-.90	-.65	-.65
27	-1.29	-1.31	-1.18	-1.18	-1.18	-1.20	-.76	-.90	-.89	-.90	-.56	-.65
28	-1.31	-1.32	-1.18	-1.18	-1.18	-1.20	-.76	-.78	-.86	-.89	-.53	-.56
29	-1.32	-1.34	-1.18	-1.18	-1.15	-1.18	-.74	-.89	---	---	-.47	-.53
30	-1.34	-1.38	-1.18	-1.18	-1.00	-1.15	-.87	-.89	---	---	-.46	-.47
31	-1.38	-1.40	---	---	-.95	-1.00	-.68	-.87	---	---	-.47	-.49
MONTH	-1.27	-1.56	-1.12	-1.51	-.66	-1.25	-.68	-1.17	-.67	-1.02	-.10	-.86

GROUND-WATER LEVELS  
MARYLAND--Continued  
KENT COUNTY--Continued  
KE Cb 103--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	-.38	-.49	-.53	-.54	-.48	-.54	-.78	-.82	-1.23	-1.26	-1.90	-1.95
2	-.38	-.44	-.54	-.61	-.54	-.61	-.79	-.82	-1.26	-1.31	-1.95	-1.98
3	-.44	-.55	-.61	-.67	-.55	-.60	-.78	-.79	-1.31	-1.36	-1.96	-1.98
4	-.55	-.60	-.63	-.67	-.54	-.55	-.78	-.79	-1.36	-1.40	-1.96	-1.96
5	-.60	-.63	-.53	-.63	-.53	-.54	-.79	-.82	-1.40	-1.42	-1.96	-2.00
6	-.62	-.63	-.52	-.53	-.53	-.65	-.82	-.82	-1.40	-1.43	-2.00	-2.01
7	-.63	-.63	-.52	-.54	-.65	-.66	-.82	-.82	-1.40	-1.45	-2.01	-2.02
8	-.63	-.63	-.54	-.64	-.59	-.66	-.82	-.82	-1.45	-1.50	---	---
9	-.48	-.63	-.63	-.64	-.55	-.59	-.82	-.83	-1.50	-1.58	-1.94	-2.00
10	-.36	-.48	-.63	-.63	-.55	-.55	-.83	-.83	-1.58	-1.59	-1.92	-1.98
11	-.36	-.42	-.46	-.63	-.55	-.65	-.83	-.84	-1.59	-1.59	-1.98	-2.09
12	-.42	-.43	-.40	-.46	-.65	-.68	-.81	-.84	-1.56	-1.59	-2.09	-2.15
13	-.43	-.48	-.40	-.41	-.68	-.70	-.81	-.86	-1.56	-1.56	-2.14	-2.16
14	-.48	-.49	-.41	-.46	-.70	-.70	-.84	-.87	-1.56	-1.59	-2.13	-2.16
15	-.49	-.49	-.46	-.46	-.68	-.70	-.81	-.84	-1.59	-1.61	-2.09	-2.13
16	-.38	-.49	-.46	-.47	-.68	-.71	-.81	-.83	-1.61	-1.66	-2.11	-2.14
17	-.38	-.46	-.47	-.52	-.71	-.74	-.83	-.86	-1.61	-1.65	-2.12	-2.14
18	-.46	-.48	-.45	-.52	-.74	-.74	-.86	-.92	-1.61	-1.69	-2.08	-2.12
19	-.48	-.53	-.42	-.45	-.74	-.74	-.92	-.92	-1.69	-1.71	-2.08	-2.12
20	-.46	-.49	-.42	-.43	-.74	-.74	-.92	-.92	-1.65	-1.71	-2.12	-2.15
21	-.38	-.46	-.47	-.50	-.67	-.74	-.92	-1.02	-1.65	-1.71	-2.08	-2.15
22	-.36	-.38	-.49	-.51	-.66	-.67	-1.02	-1.04	-1.71	-1.74	-2.08	-2.11
23	-.36	-.47	-.51	-.55	-.66	-.74	-1.04	-1.09	-1.74	-1.76	-2.06	-2.11
24	-.47	-.54	-.54	-.55	-.74	-.82	-1.09	-1.18	-1.76	-1.76	-2.06	-2.09
25	-.50	-.54	-.54	-.54	-.82	-.82	-1.18	-1.19	-1.76	-1.81	-2.05	-2.09
26	-.45	-.50	-.54	-.56	-.78	-.82	-1.19	-1.20	-1.81	-1.84	-1.91	-2.05
27	-.47	-.61	-.56	-.62	-.77	-.78	-1.18	-1.20	-1.84	-1.84	-1.79	-1.91
28	-.61	-.65	-.62	-.62	-.76	-.77	-1.18	-1.18	-1.82	-1.84	-1.84	-1.89
29	-.56	-.65	-.59	-.64	-.76	-.76	-1.18	-1.18	-1.82	-1.86	-1.89	-1.92
30	-.53	-.56	-.64	-.67	-.76	-.78	-1.18	-1.20	-1.86	-1.91	-1.92	-1.98
31	---	---	-.50	-.66	---	---	-1.20	-1.23	-1.90	-1.91	---	---
MONTH	-.36	-.65	-.40	-.67	-.48	-.82	-.78	-1.23	-1.23	-1.91	-1.79	-2.16
YEAR	-.10	-2.16										

Daily Low Water Levels

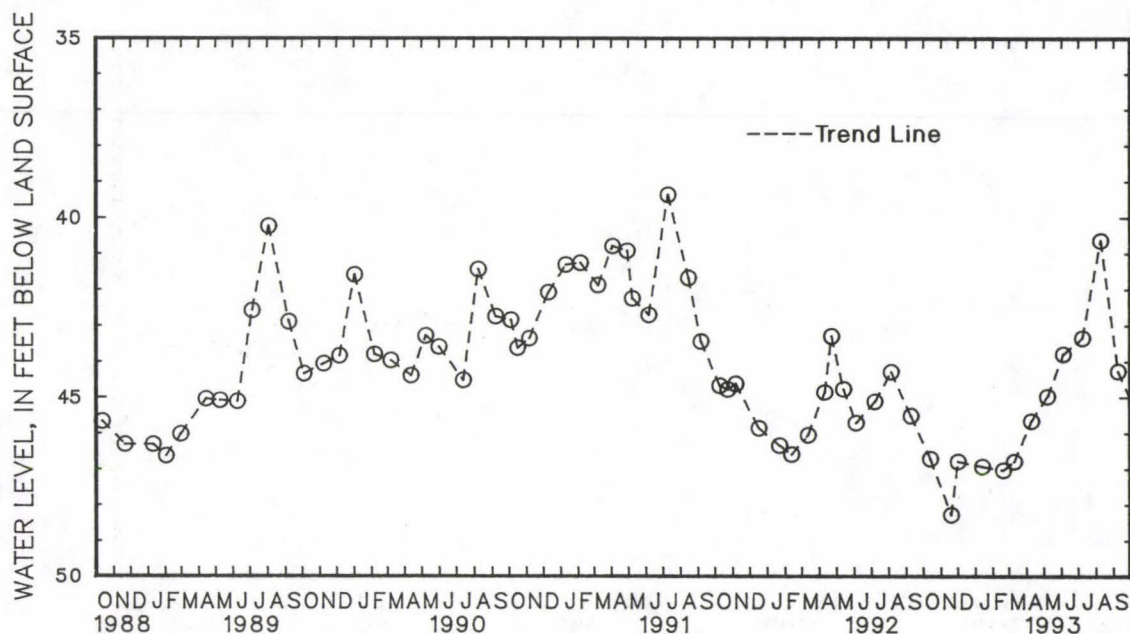


5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

WELL NUMBER.--KE Cd 44. SITE ID.--391432076015501. PERMIT NUMBER.--KE-03-6139.  
LOCATION.--Lat 39°14'32", long 76°01'55", Hydrologic Unit 02060002, MD Rt. 291, 2.6 mi northeast of  
Chestertown.  
Owner: Campbell Soup Co.  
AQUIFER.--Aquia Formation of Upper Paleocene age. Aquifer code: 125AQUI.  
WELL CHARACTERISTICS.--Drilled, unused, artesian well, depth 84 ft; casing diameter 4 in., to 79 ft;  
screen diameter 5 in. from 79 to 84 ft.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
DATUM.--Elevation of land surface is 50 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
Measuring point: Top of casing, 0.20 ft above land surface.  
REMARKS.--Maryland Water-Level Network observation well. Water levels measured by plant personnel with an  
electric tape, Sept. 18, 1959 to April 18, 1963.  
PERIOD OF RECORD.--September 1959 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 25.00 ft below land surface, Sept. 18, 1959;  
lowest measured, 54.46 ft below land surface, Aug. 4, 1966.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 13	46.72	DEC 1	46.79	FEB 19	47.03	APR 9	45.66	JUN 4	43.79	AUG 9	40.63
NOV 19	48.28	JAN 13	46.93	MAR 10	46.79	MAY 7	44.97	JUL 8	43.34	SEP 9	44.28
WATER YEAR 1993		HIGHEST	40.63	AUG 9, 1993		LOWEST	48.28	NOV 19, 1992			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

KENT COUNTY--Continued

WELL NUMBER.--KE Db 40. SITE ID.--390837076140401. PERMIT NUMBER.--KE-73-0805.

LOCATION.--Lat 39°08'37", Long 76°14'04", Hydrologic Unit 02070002, near Rock Hall.

Owner: U.S. Geological Survey.

AQUIFER.--Potomac Group of Lower Cretaceous age. Aquifer code: 217PTMC.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 1,030 ft; casing diameter 4 in., to 1,019 ft; screen diameter 4 in. from 1,019 to 1,030 ft.

INSTRUMENTATION.--Twice yearly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 15 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of casing, 1.65 ft above land surface.

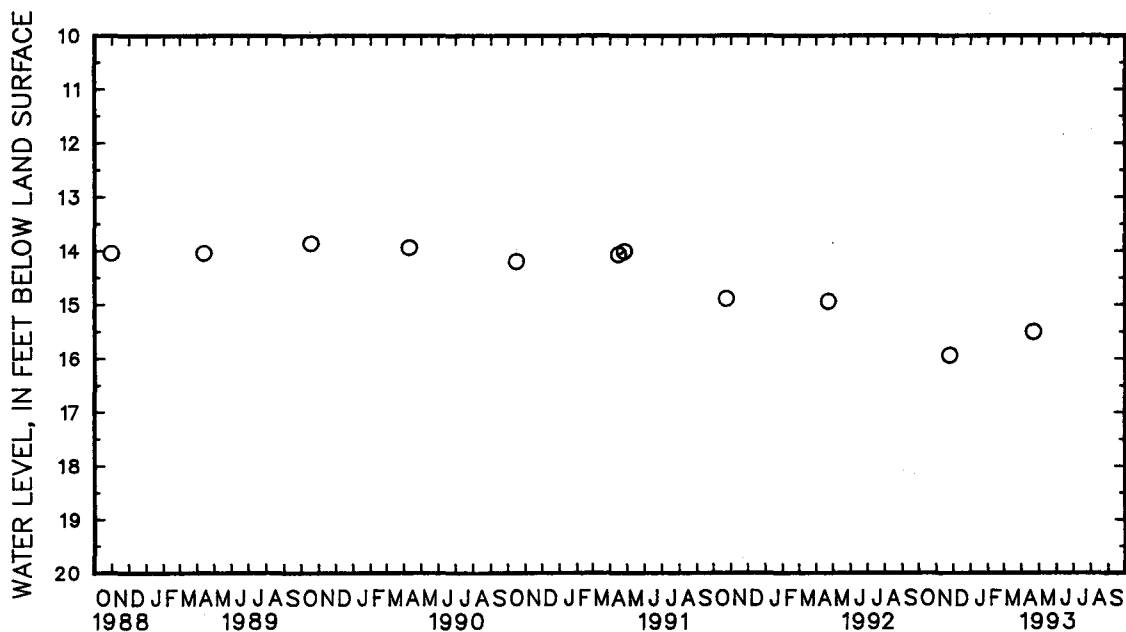
REMARKS.--Maryland Water-Level Network observation well. Measured twice yearly since October 1986.

PERIOD OF RECORD.--December 1978 to July 1979, October 1986 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.39 ft below land surface, Jan. 19, 1982; lowest measured, 15.95 ft below land surface, Nov. 24, 1992.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 24	15.95	APR 21	15.51
WATER YEAR 1993      HIGHEST    15.51    APR 21, 1993      LOWEST    15.95    NOV 24, 1992			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

367

## MARYLAND--Continued

## KENT COUNTY--Continued

WELL NUMBER.--KE Dc 89. SITE ID.--390626076083301. PERMIT NUMBER.--KE-88-0246.  
 LOCATION.--Lat 39°06'26", long 76°08'33", Hydrologic Unit 02060002, at the end of Cliffs City Rd.  
 Owner: Maryland Geological Survey.  
 AQUIFER.--Columbia Group of Pleistocene age. Aquifer code: 112CLMB.  
 WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 29 ft; casing diameter 4 in., to 14 ft, and 24 to 29 ft; screen diameter 4 in. from 14 to 24 ft.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel. Equipped with digital water-level recorder--60-minute recorder interval from February 7, 1992 to current year.  
 DATUM.--Elevation of land surface is 4.52 ft above National Geodetic Vertical Datum of 1929.  
 Measuring Point: Top of recorder platform, 2.5 ft above land surface.  
 REMARKS.--Kent County project observation well. Missing data due to recorder malfunction.  
 PERIOD OF RECORD.--February 1992 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.03 ft above sea level, April 1, 1993; lowest measured, 0.86 ft below sea level, Dec. 6, 1992.

 WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
 (READINGS BELOW SEA LEVEL INDICATED BY "--")

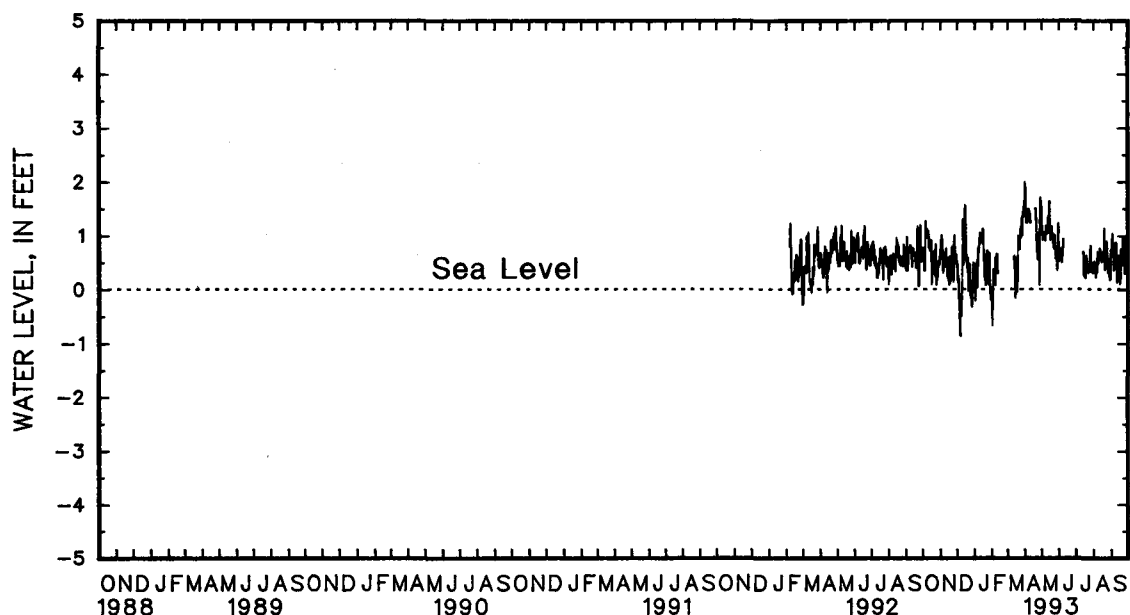
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	1.53	.56	1.31	.70	1.13	.48	1.02	.37	.69	-.16	---	---
2	1.58	.77	1.94	.89	1.51	.16	.58	-.23	-.15	-.69	---	---
3	1.72	.71	2.19	1.00	1.51	.24	1.04	.27	1.67	-.15	---	---
4	1.27	.35	1.81	.92	1.01	-.10	1.46	.36	1.34	.37	---	---
5	1.86	.60	2.01	.71	1.18	-.48	1.74	.50	1.50	.37	---	---
6	2.38	1.28	.89	.30	.24	-.86	1.03	.02	1.20	.12	---	---
7	1.91	.96	1.22	.57	.73	-.28	1.75	.50	1.59	.08	---	---
8	1.72	.96	1.27	.48	.35	-.50	1.79	.78	1.57	.59	---	---
9	2.12	1.12	1.31	.43	.81	-.18	1.63	.69	---	---	---	---
10	1.96	1.09	1.49	.53	1.57	.25	2.15	.93	1.49	.65	---	---
11	2.16	1.08	1.64	.77	2.38	1.31	1.94	1.06	1.20	.36	---	---
12	1.63	.76	1.72	.44	1.43	.46	1.69	.86	1.75	.30	1.24	.58
13	1.73	.92	1.91	.43	1.80	.74	1.99	.91	---	---	2.64	.62
14	1.73	.71	1.01	.20	2.34	1.23	1.90	1.01	---	---	2.77	.34
15	1.66	.73	1.00	.36	2.52	1.57	1.91	.95	---	---	.34	-.16
16	1.85	.91	.96	.08	2.44	1.21	1.96	1.14	---	---	1.00	.11
17	1.89	.06	1.36	.61	1.82	.85	2.09	.95	---	---	1.36	.59
18	1.54	.57	1.30	.11	1.48	.55	1.64	.58	---	---	.87	-.05
19	1.61	.32	1.01	.21	1.28	.40	.95	.23	---	---	1.37	.16
20	1.55	.33	1.36	.48	1.72	.59	1.09	.23	---	---	1.88	1.00
21	2.12	.71	1.85	.79	.92	-.03	.99	.08	---	---	1.82	.89
22	.95	.25	1.70	.66	1.20	.40	1.97	.56	---	---	1.47	.79
23	1.52	.49	1.53	.65	1.58	.47	1.41	.66	---	---	1.59	.74
24	2.00	.84	1.32	.12	1.26	-.06	1.98	.72	---	---	2.08	1.13
25	1.10	.09	2.06	.81	1.45	-.16	1.32	.22	---	---	1.83	.96
26	1.61	.21	2.02	1.01	1.03	-.13	.95	.09	---	---	2.11	1.33
27	1.19	.23	1.61	.48	.56	-.32	1.12	.50	---	---	1.78	1.01
28	1.42	.40	1.29	.62	.97	.04	1.82	.68	---	---	2.18	1.37
29	1.37	.52	1.27	.64	.91	.25	1.76	.09	---	---	2.17	1.35
30	1.28	.46	1.27	.52	1.09	.50	.81	-.18	---	---	2.23	1.52
31	1.31	.54	---	---	1.04	.47	.64	.04	---	---	2.29	1.45
MONTH	2.38	.06	2.19	.08	2.52	-.86	2.15	-.23	1.75	-.69	2.77	-.16



GROUND-WATER LEVELS  
MARYLAND--Continued  
KENT COUNTY--Continued  
KE Dc 89--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	3.03	2.01	2.29	1.47	2.31	.52	---	---	1.26	.31	1.70	.73
2	2.79	1.89	2.29	1.06	1.71	.69	---	---	1.55	.52	1.61	.79
3	2.76	1.43	2.01	.92	2.04	.76	---	---	1.33	.46	1.86	1.04
4	2.02	1.24	1.97	.94	1.77	.72	---	---	1.11	.37	1.66	.72
5	2.15	1.24	2.33	1.06	1.96	.70	---	---	1.01	.22	1.14	.35
6	2.36	1.37	2.24	1.02	1.40	.50	---	---	1.37	.49	1.49	.63
7	2.40	1.41	2.04	.91	1.62	.63	---	---	1.58	.32	1.51	.69
8	2.70	1.50	2.00	.92	1.70	.77	---	---	1.59	.70	1.51	.56
9	2.63	1.42	2.21	1.19	1.71	.93	---	---	1.39	.48	1.91	.87
10	2.69	1.40	1.90	1.03	---	---	---	---	1.30	.54	2.13	.65
11	2.31	1.24	2.06	1.04	---	---	---	---	1.35	.61	.88	.12
12	---	---	2.06	1.09	---	---	---	---	1.64	.76	1.22	.59
13	---	---	2.21	1.34	---	---	---	---	1.77	.67	1.64	.57
14	---	---	1.92	1.28	---	---	1.51	.70	1.43	.54	1.43	.62
15	---	---	2.17	1.64	---	---	1.55	.25	1.64	.51	1.59	.51
16	---	---	2.36	1.05	---	---	1.10	.42	1.62	.53	1.00	.09
17	---	---	1.73	.92	---	---	1.55	.22	2.01	.70	1.69	.21
18	---	---	1.98	1.06	---	---	1.35	.22	1.42	.52	1.69	.75
19	---	---	2.02	1.17	---	---	1.99	.64	2.02	.65	1.44	.44
20	2.39	1.51	2.29	1.02	---	---	1.70	.58	2.14	1.15	1.73	.63
21	2.36	1.34	1.94	1.02	---	---	1.50	.42	1.62	.34	1.89	.95
22	2.13	.81	1.98	.85	---	---	1.33	.42	1.58	.59	1.70	.46
23	1.71	.69	1.61	.75	---	---	1.16	.31	1.82	.77	1.76	.99
24	1.51	.56	2.17	1.02	---	---	1.32	.40	1.85	.89	1.80	.29
25	2.03	.89	1.78	.93	---	---	1.38	.37	1.92	.54	1.47	.89
26	1.82	1.05	1.29	.56	---	---	1.87	.75	1.33	.31	1.91	.91
27	1.26	.06	1.45	.63	---	---	2.10	.82	1.33	.57	1.85	.87
28	2.51	1.26	1.53	.78	---	---	1.60	.32	1.52	.44	1.16	.46
29	2.71	1.72	1.54	.35	---	---	1.62	.50	1.23	.18	1.11	.25
30	2.55	1.55	1.24	.59	---	---	1.46	.35	1.30	.18	.88	.19
31	---	---	1.98	1.24	---	---	1.23	.31	1.58	.73	---	---
MONTH	3.03	.06	2.36	.35	2.31	.50	2.10	.22	2.14	.18	2.13	.09
YEAR	3.03	-.86										

Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993



## GROUND-WATER LEVELS

369

## MARYLAND--Continued

## KENT COUNTY--Continued

WELL NUMBER.--KE Dc 91. SITE ID.--390626076083302. PERMIT NUMBER.--KE-88-0247.  
 LOCATION.--Lat 39°06'26", long 76°08'33", Hydrologic Unit 02060002, 1.0 mi south of Cliffs City, at Cliffs Wharf.  
 Owner: Maryland Geological Survey.  
 AQUIFER.--Aquia Formation of the Upper Paleocene age. Aquifer code: 125AQUI.  
 WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 155 ft; casing diameter 4 in., to 140 ft and 150 to 155 ft; screen diameter 4 in. from 140 to 150 ft.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 Equipped with digital water-level recorder--60-minute recorder interval  
 from February 7, 1992 to current year.  
 DATUM.--Elevation of land surface is 7.14 ft above National Geodetic Vertical Datum of 1929.  
 Measuring Point: Top of recorder platform, 2.46 ft above land surface.  
 REMARKS.--Kent County project observation wells. Missing data due to recorder malfunction.  
 PERIOD OF RECORD.--February 1992 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.37 ft above sea level, April 17, 1993;  
 lowest measured, 1.24 ft below sea level, Feb. 2, 1993.

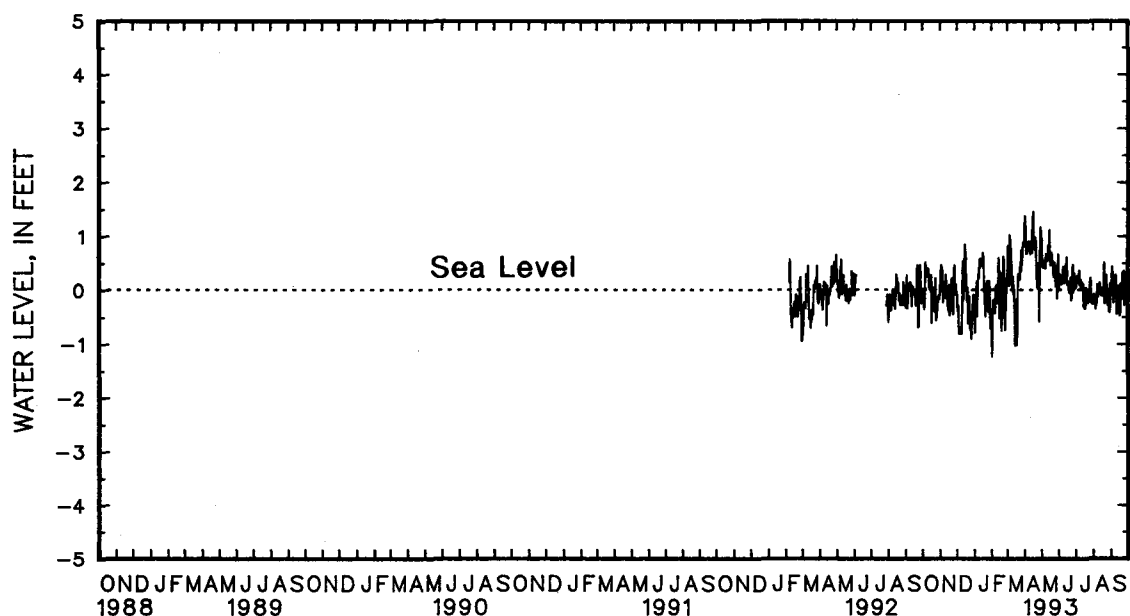
WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
 (READINGS BELOW SEA LEVEL INDICATED BY "--")

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	.66	-.20	.61	.12	.54	-.08	.38	-.19	.14	-.67	1.07	.27
2	.69	.02	1.16	.34	.86	-.38	-.12	-.80	-.47	-1.24	1.56	.82
3	.80	-.04	1.33	.46	.86	-.29	.38	-.26	.91	-.47	.96	.27
4	.50	-.37	1.08	.38	.46	-.68	.73	-.19	.65	-.19	1.84	.07
5	.95	-.18	1.21	.21	.57	-.82	.98	.17	.81	-.19	2.10	1.03
6	1.32	.52	.36	-.23	-.14	-.81	.39	-.49	.58	-.39	1.66	.85
7	.97	.25	.58	.00	.08	-.81	1.01	-.04	.89	-.43	1.56	.71
8	.80	.25	.62	-.10	-.30	-.82	1.06	.28	.88	.07	1.48	.52
9	1.16	.40	.63	-.14	.05	-.81	.90	.22	.71	-.23	1.00	.22
10	1.04	.39	.79	.00	.69	-.41	1.44	.41	.86	.09	.86	-.01
11	1.21	.39	.94	.29	1.38	.53	1.26	.58	.59	-.19	1.15	.25
12	.78	.05	1.00	-.08	.65	-.20	1.03	.43	1.02	-.24	.56	-.07
13	.86	.27	1.18	-.08	.92	.08	1.31	.47	1.42	.61	1.88	.01
14	.87	.01	.49	-.30	1.46	.54	1.31	.54	1.14	-.17	1.96	-.40
15	.80	.03	.47	-.16	1.66	.85	1.25	.53	.34	-.53	-.40	-1.04
16	.98	.27	.45	-.40	1.66	.60	1.33	.69	1.43	.34	.24	-.71
17	1.00	-.62	.67	.10	1.04	.29	1.47	.56	1.08	-.14	.49	-.17
18	.71	-.14	.63	-.47	.71	-.04	1.03	.25	.40	-.47	.13	-1.03
19	.77	-.33	.39	-.37	.53	-.21	.45	-.19	-.09	-.76	.53	-.71
20	.79	-.33	.67	-.13	.89	.05	.51	-.21	.81	-.28	1.09	.30
21	1.17	.05	1.17	.23	.25	-.63	.42	-.49	1.21	.20	1.06	.28
22	.32	-.41	1.01	.10	.48	-.22	1.33	-.03	1.29	.62	.72	.21
23	.71	-.19	.91	.06	.81	-.12	.78	.11	1.04	.47	.87	.19
24	1.17	.22	.63	-.46	.56	-.61	1.36	.17	.60	-.27	1.29	.52
25	.43	-.56	1.37	.23	.67	-.74	.66	-.30	.02	-.75	1.06	.35
26	.81	-.43	1.36	.46	.43	-.71	.35	-.41	.47	-.27	1.38	.75
27	.51	-.37	.91	-.09	-.12	-.91	.51	-.05	.41	-.03	1.05	.47
28	.66	-.22	.64	.08	.29	-.52	1.12	.17	.93	.20	1.43	.79
29	.64	-.11	.62	.10	.25	-.32	1.12	-.38	---	---	1.44	.80
30	.59	-.17	.61	-.06	.41	-.10	.24	-.71	---	---	1.50	.89
31	.59	-.09	---	---	.39	-.09	.10	-.46	---	---	1.56	.87
MONTH	1.32	-.62	1.37	-.47	1.66	-.91	1.47	-.80	1.43	-1.24	2.10	-1.04

GROUND-WATER LEVELS  
MARYLAND--Continued  
KENT COUNTY--Continued  
KE Dc 91--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	2.17	1.39	1.62	.93	1.61	.01	.89	.05	.72	-.26	1.09	.12
2	2.00	1.29	1.61	.55	1.05	.20	1.05	.11	.97	-.07	1.00	.18
3	1.95	.84	1.38	.42	1.38	.29	1.36	.26	.79	-.10	1.22	.43
4	1.32	.67	1.33	.42	1.12	.27	1.07	.23	.56	-.18	1.04	.13
5	1.45	.69	1.62	.55	1.28	.25	.91	.16	.47	-.35	.55	-.24
6	1.63	.82	1.54	.51	.77	.11	.98	.18	.77	-.09	.88	.02
7	1.68	.85	1.36	.40	.99	.17	1.10	.36	.98	-.25	.90	.10
8	1.93	.90	1.33	.41	1.06	.30	.64	.10	.93	.10	.88	-.02
9	1.88	.87	1.51	.67	1.05	.43	.77	.19	.77	-.12	1.33	.28
10	1.93	.87	1.26	.54	.99	.32	.78	.19	.71	-.05	1.49	.08
11	1.62	.67	1.44	.55	.77	.13	.69	.00	.81	.02	.32	-.45
12	1.81	.90	1.44	.61	.82	.26	.74	.14	1.09	.13	.64	-.01
13	1.31	.69	1.55	.82	.97	.45	.74	.02	1.11	.05	1.02	-.02
14	1.72	1.02	1.31	.78	1.08	.47	.95	.11	.82	-.08	.84	.07
15	1.80	1.30	1.53	1.13	1.23	.61	.98	-.31	1.02	-.10	1.00	-.10
16	2.21	1.46	1.70	.57	1.34	.10	.56	-.05	1.00	-.03	.45	-.48
17	2.37	.87	1.11	.46	.72	.10	.97	-.35	1.37	.03	1.05	-.39
18	1.31	.75	1.35	.53	.97	.14	.79	-.29	.82	-.11	1.06	.12
19	1.59	.86	1.40	.69	.93	.11	1.38	.05	1.37	.00	.82	-.17
20	1.81	.97	1.62	.53	.75	-.05	1.12	-.04	1.52	.51	1.07	.01
21	1.79	.80	1.31	.53	1.04	.13	.94	-.17	.89	-.26	1.25	.33
22	1.57	.24	1.40	.31	1.04	.23	.78	-.14	.95	-.04	1.05	-.14
23	1.11	.14	1.04	.25	.52	-.19	.63	-.24	1.19	.15	1.12	.36
24	.91	.02	1.58	.51	.59	-.07	.77	-.16	1.19	.28	1.17	-.29
25	1.43	.34	1.24	.42	1.09	.26	.86	-.19	1.27	-.06	.86	.26
26	1.24	.50	.76	.07	1.16	.47	1.33	.15	.74	-.28	1.27	.30
27	.57	-.59	.91	.14	1.14	-.04	1.47	.23	.73	-.05	1.29	.24
28	1.68	.57	.98	.29	.80	.32	1.03	-.24	.89	-.17	.57	-.15
29	1.94	1.17	1.00	-.16	1.18	.08	1.06	-.10	.65	-.41	.52	-.37
30	1.84	1.00	.67	.09	.92	.03	.88	-.23	.72	-.38	.29	-.44
31	---	---	1.33	.67	---	---	.68	-.26	.96	.12	---	---
MONTH	2.37	-.59	1.70	-.16	1.61	-.19	1.47	-.35	1.52	-.41	1.49	-.48
YEAR	2.37	-1.24										

Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

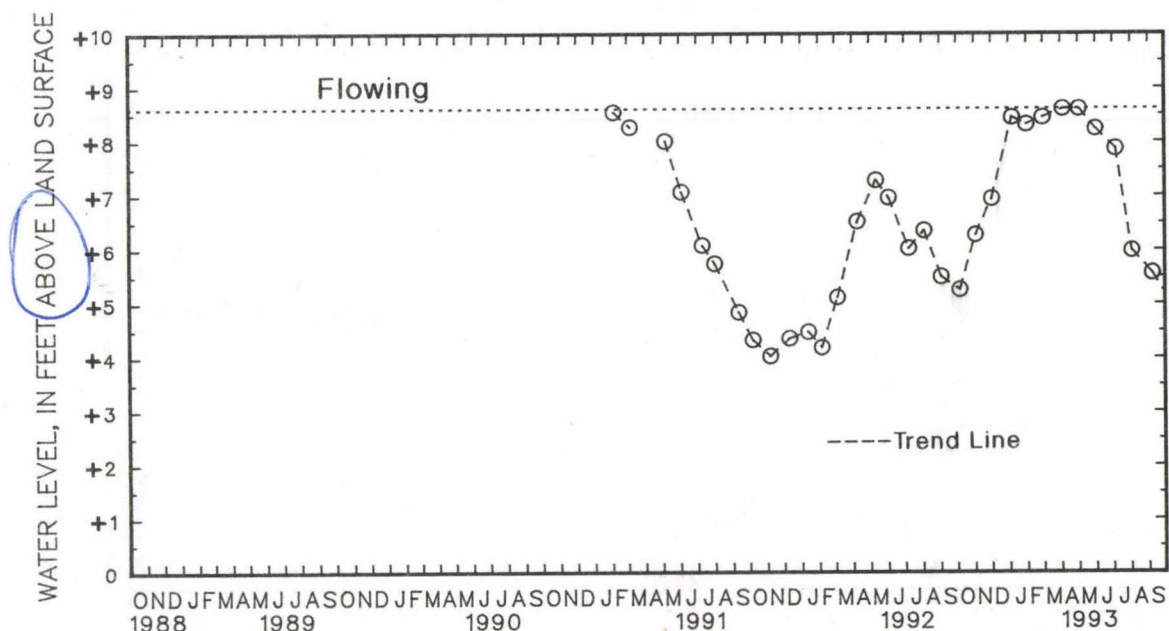
MARYLAND--Continued

MONTGOMERY COUNTY--Continued

WELL NUMBER.--MO Cb 26. SITE ID.--391142077280601. PERMIT NUMBER.--MO-72-0191.  
LOCATION.--Lat 39°11'42", long 77°28'06", Hydrologic Unit 02070008, 2 mi southwest of Dickerson,  
at Dickerson Regional Park.  
Owner: U.S. Geological Survey.  
AQUIFER.--New Oxford Formation of Triassic age. Aquifer code: 231NOXF.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 885 ft; casing diameter 6 in., to 40 ft;  
open hole.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
DATUM.--Elevation of land surface is 220 ft above National Geodetic Vertical Datum of 1929.  
Measuring point: Top of casing 8.60 ft above land surface.  
REMARKS.--Maryland Water-Level Network observation well,  
PERIOD OF RECORD.--January 1991 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level, flowing on Jan. 3, 1991, April 3, 1991, April 5, 1993,  
and May 3, 1993; lowest measured, 4.02 ft above land surface, Nov. 7, 1991.

WATER LEVEL, IN FEET ABOVE LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
(READINGS ABOVE LAND SURFACE INDICATED BY "+")

DATE		WATER LEVEL		DATE		WATER LEVEL		DATE		WATER LEVEL		DATE		WATER LEVEL	
OCT	6	+5.25		DEC	2	+6.94		FEB	1	+8.31		APR	5	+8.6	
NOV	3	+6.27		JAN	7	+8.44		MAR	1	+8.44		MAY	3	+8.6	
WATER YEAR 1993		HIGHEST		+8.6		APR 5, 1993		MAY 3, 1993		LOWEST		+5.25		OCT 6, 1992	



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

MONTGOMERY COUNTY

WELL NUMBER.--MO Cc 14. SITE ID.--391314077224201.

LOCATION.--Lat 39°13'14", long 77°22'42", Hydrologic Unit 02070008, at Barnesville.

Owner: Shirley Hayes.

AQUIFER.--Ijamsville Formation of Paleozoic age. Aquifer code: 300IJMV.

WELL CHARACTERISTICS.--Dug, stone-lined, unused, water-table well, depth 46 ft; casing diameter 60 to 24 in.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 560 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of wooden well cover, 3.00 ft above land surface.

REMARKS.--Maryland Water-Level Network observation well.

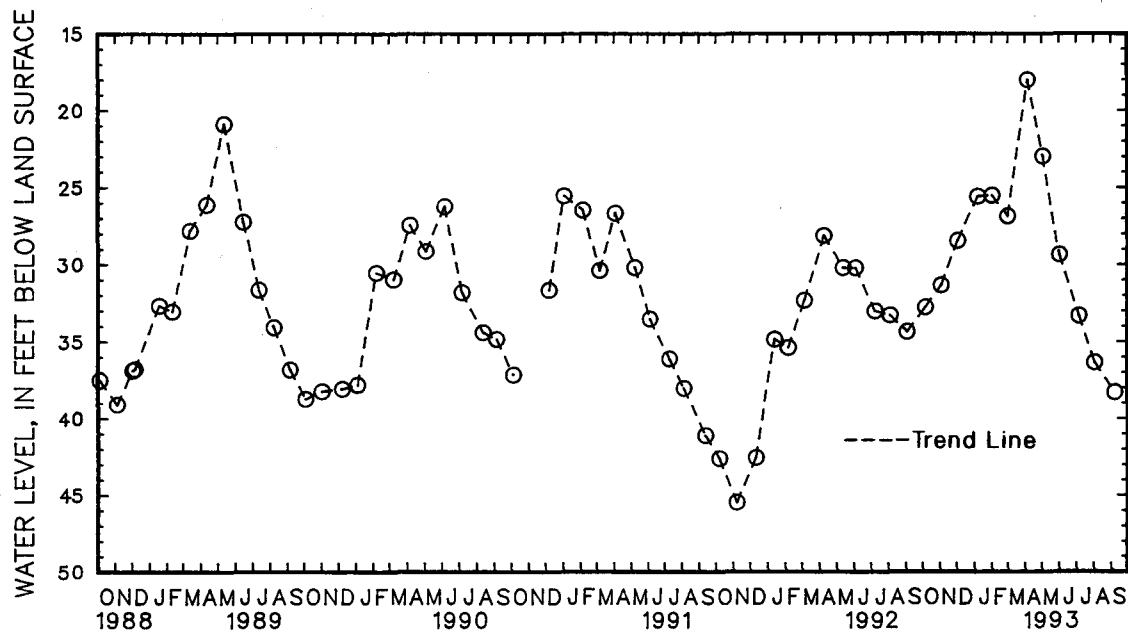
PERIOD OF RECORD.--November 1952 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 18.00 ft below land surface, April 5, 1993;

lowest measured, dry, on Dec. 2, 1957, Dec. 7, 1964, Dec. 6, 1965, Jan. 3, 1966, Feb. 2, 1966.

## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 6	32.78	DEC 2	28.44	FEB 1	25.51	APR 5	18.00	JUN 1	29.39	AUG 3	36.38
NOV 3	31.35	JAN 7	25.58	MAR 1	26.85	MAY 3	22.99	JUL 6	33.35	SEP 8	38.32
WATER YEAR 1993		HIGHEST	18.00	APR 5, 1993		LOWEST	38.32	SEP 8, 1993			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

373

## MARYLAND--Continued

## MONTGOMERY COUNTY--Continued

WELL NUMBER.--MO Db 68. SITE ID.--390802077283801. PERMIT NUMBER.--MO-73-1869.

LOCATION.--Lat 39°08'02", long 77°28'38", Hydrologic Unit 02070008, south of Club Hollow Rd,  
at The National Institutes of Health, Animal Center.

Owner: U.S. Geological Survey.

AQUIFER.--New Oxford Formation of Upper Triassic age. Aquifer code: 231NOXF.

WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 250 ft; casing diameter 6 in., to 40 ft;  
open hole.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

Equipped with graphic water-level recorder from July 6, 1990 to current year.

DATUM.--Elevation of land surface is 260 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of casing, .80 ft above land surface.

REMARKS.--Maryland Water-Level Network observation well. Missing data due to recorder malfunction.

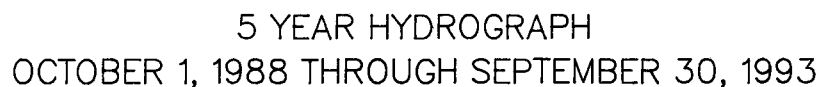
PERIOD OF RECORD.--Monthly measurements from May 30, 1978 to August 4, 1980, and June 28, 1985 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 11.12 ft below land surface, May 12, 1989;  
lowest measured, 21.59 ft below land surface, Sept. 15, 1993.

## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	19.42	18.47	19.39	17.98	17.71	16.14	17.27	15.90	17.76	15.84	17.20	16.10
2	19.53	18.62	19.32	18.22	17.49	16.54	16.46	16.01	17.37	16.42	16.72	16.01
3	18.74	18.32	19.28	18.10	18.06	16.53	---	---	17.98	16.27	17.72	15.98
4	19.53	18.25	19.00	18.05	17.40	16.61	---	---	17.52	16.63	17.52	15.43
5	---	---	18.15	17.47	17.77	16.58	---	---	17.91	16.41	16.69	15.25
6	---	---	18.51	17.42	17.11	16.36	---	---	17.45	16.59	16.06	15.05
7	19.31	18.62	18.60	17.58	17.71	16.33	---	---	17.44	16.40	16.45	14.88
8	20.16	18.58	17.76	17.06	17.16	16.83	16.87	15.92	16.84	16.36	16.13	14.93
9	19.83	18.50	17.09	16.92	18.68	16.88	16.72	15.72	18.01	16.43	16.43	14.81
10	19.47	18.26	18.61	16.95	18.11	16.55	16.22	15.54	17.62	16.67	16.06	14.94
11	18.86	17.90	18.11	16.97	17.40	16.20	15.54	15.33	18.16	16.59	16.59	14.92
12	19.01	17.69	16.97	16.59	16.54	15.95	16.72	15.27	17.62	16.48	16.28	15.21
13	18.51	17.74	18.11	16.60	15.95	15.52	16.19	15.37	17.54	16.31	15.58	14.73
14	19.41	17.70	17.64	16.82	16.94	15.45	16.89	15.31	16.87	16.43	15.18	14.97
15	19.13	17.99	16.82	16.60	16.37	15.56	16.39	15.49	17.71	16.32	14.98	14.84
16	19.50	17.86	18.24	16.66	17.09	15.47	16.58	15.36	17.21	16.24	16.49	14.79
17	19.40	18.06	17.92	16.91	16.59	15.64	15.91	15.29	16.80	16.15	16.26	15.20
18	18.06	17.85	18.44	16.86	15.78	15.65	15.43	15.22	17.62	16.04	15.71	14.68
19	19.31	17.81	18.05	17.13	16.95	15.69	17.19	15.37	17.19	16.19	16.03	14.56
20	18.84	17.93	18.57	17.04	15.99	15.67	16.91	15.68	17.19	16.04	15.36	14.23
21	19.57	17.90	18.06	17.07	17.05	15.65	15.68	15.40	16.67	15.80	14.23	13.91
22	19.25	18.34	17.90	16.82	16.17	15.59	17.05	15.31	17.12	15.62	15.52	13.83
23	18.72	17.90	17.19	16.51	17.60	15.55	16.81	15.82	16.72	15.85	15.10	13.80
24	18.54	17.71	18.00	16.37	17.63	16.39	16.94	15.55	16.67	15.85	14.79	13.64
25	18.09	17.53	17.65	16.58	17.68	16.50	16.55	15.92	16.68	16.14	14.75	13.80
26	17.57	17.35	17.36	16.37	17.61	16.23	17.27	15.86	17.44	15.97	14.15	13.67
27	18.79	17.55	16.80	16.35	17.23	16.03	16.95	15.98	16.99	16.05	14.85	13.66
28	19.03	17.97	17.15	16.31	17.59	15.86	17.43	15.88	17.31	15.92	13.98	13.23
29	19.69	18.11	16.92	16.23	17.54	16.44	17.20	16.26	---	---	14.95	13.17
30	19.40	18.26	16.23	16.07	17.19	16.27	17.26	16.08	---	---	14.50	13.64
31	18.26	18.09	---	---	16.32	15.88	16.73	15.91	---	---	15.04	13.58
MONTH	20.16	17.35	19.39	16.07	18.68	15.45	17.43	15.22	18.16	15.62	17.72	13.17

### Daily Low Water Levels



## GROUND-WATER LEVELS

MARYLAND--Continued

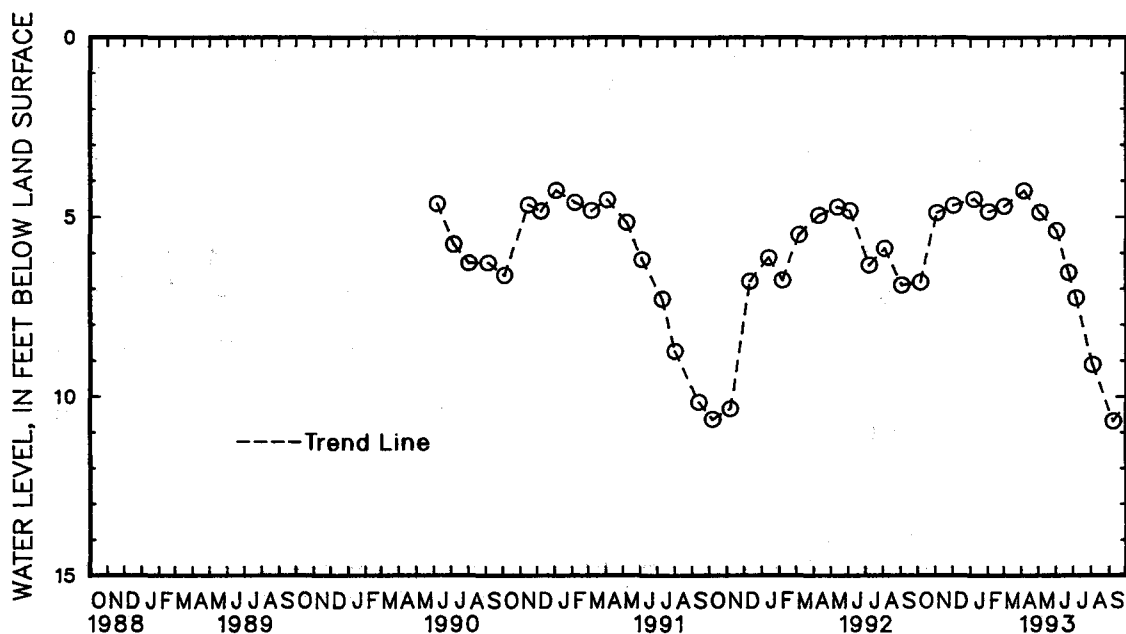
MONTGOMERY COUNTY--Continued

WELL NUMBER.--MO Dc 59. SITE ID.--390917077244401. PERMIT NUMBER.--MO-73-1896.  
 LOCATION.--Lat 39°09'17", long 77°24'44", Hydrologic Unit 02070008, 1 mi north of Poolesville,  
 near Jerusalem Rd.  
 Owner: U.S. Geological Survey.  
 AQUIFER.--Ijamsville Formation of Paleozoic age. Aquifer code: 300IJMV.  
 WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 262 ft; casing diameter 6 in., to 42 ft;  
 open hole.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 DATUM.--Elevation of land surface is 370 ft above National Geodetic Vertical Datum of 1929.  
 Measuring point: Top of recorder platform, 0.65 ft above land surface.  
 REMARKS.--Maryland Water-Level Network observation well,  
 PERIOD OF RECORD.--June 1990 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.27 ft below land surface, Jan. 3, 1991, and  
 April 5, 1993. lowest measured, 10.70 ft below land surface, Sept. 8, 1993.

## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 6	6.82	JAN 7	4.50	APR 5	4.27	JUN 23	6.55	SEP 8	10.70
NOV 3	4.88	FEB 1	4.85	MAY 3	4.87	JUL 6	7.26		
DEC 2	4.68	MAR 1	4.70	JUN 1	5.38	AUG 3	9.12		

WATER YEAR 1993      HIGHEST      4.27      APR 5, 1993      LOWEST      10.70      SEP 8, 1993



5 YEAR HYDR GRAPH  
 OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

### GROUND-WATER LEVELS

MARYLAND--Continued

MONTGOMERY COUNTY--Continued

WELL NUMBER.--MO Ec 10. SITE ID.--390451077245901. PERMIT NUMBER.--MO-73-2833.

LOCATION.--Lat 39°04' 51", long 77°24' 59", Hydrologic Unit 02070008, 3 mi southeast of Poolesville nr Sycamore Landing Road at McKee Beshar Wildlife Management Area.

Owner: U.S. Geological Survey.

AQUIFER.--New Oxford Formation of Triassic age. Aquifer code: 231NOXF.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 857.5 ft; casing diameter 8 in., to 26 ft; open hole.

**INSTRUMENTATION.**--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

**DATUM.**--Elevation of land surface is 200 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of casing, 1.70 ft above land surface.

REMARKS.--Maryland Water-Level Network observation well,

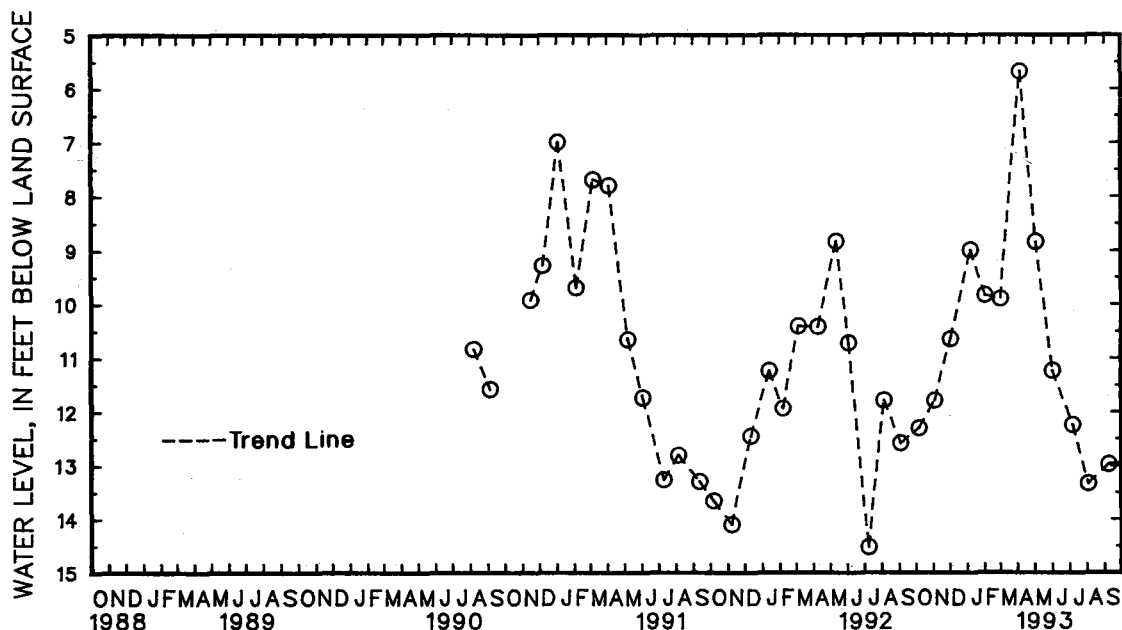
PERIOD OF RECORD.--August 1990 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.68 ft below land surface, April 5, 1993.

lowest measured, 14.52 ft below land surface, July 8, 1992.

**WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993**

DATE		WATER LEVEL		DATE		WATER LEVEL		DATE		WATER LEVEL		DATE		WATER LEVEL	
OCT 6	12.30	DEC 2	10.64	FEB 1	9.83	APR 5	5.68	JUN 1	11.24	AUG 3	13.34	SEP 3	12.98		
NOV 3	11.78	JAN 7	8.99	MAR 1	9.90	MAY 3	8.85	JUL 6	12.25	SEP 8					
WATER YEAR 1993		HIGHEST	5.68	APR 5, 1993		LOWEST	13.34	AUG 3, 1993							



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993



## GROUND-WATER LEVELS

MARYLAND--Continued

MONTGOMERY COUNTY--Continued

WELL NUMBER.--MO Eh 20. SITE ID.--390434076573002.

LOCATION.--Lat 39°04'34", long 76°57'30", Hydrologic Unit 02070010, at MD Rt. 196 and Fairland Rd., Fairland.

Owner: Cities Service Oil Co.

AQUIFER.--Wissahickon Formation (lower pelitic schist) of Paleozoic age. Aquifer code: 300WSCK.

WELL CHARACTERISTICS.--Drilled, unused, water-table well, depth 102.9 ft; casing diameter 6 in., to 50 ft; open hole.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 410 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of casing at land-surface datum.

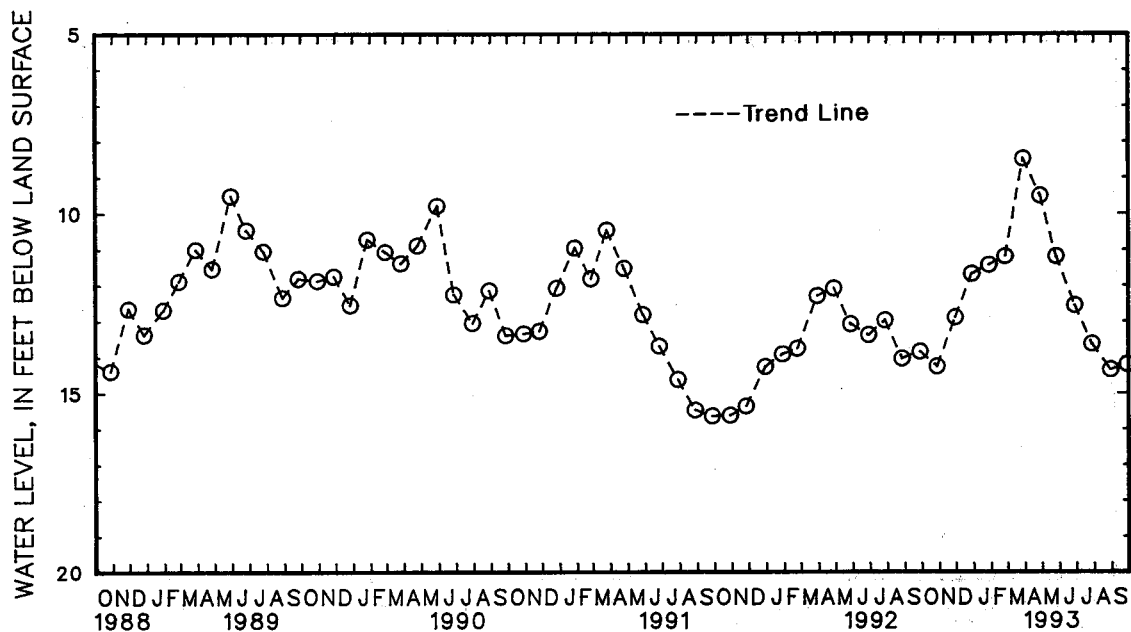
REMARKS.--Maryland Water-Level Network observation well.

PERIOD OF RECORD.--March 1955 to current year.

EXTREMES FOR PERIOD OF RECORD --Highest water level measured, 4.39 ft below land surface, June 25, 1972;  
lowest measured, 16.36 ft below land surface, Oct. 29, 1986.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

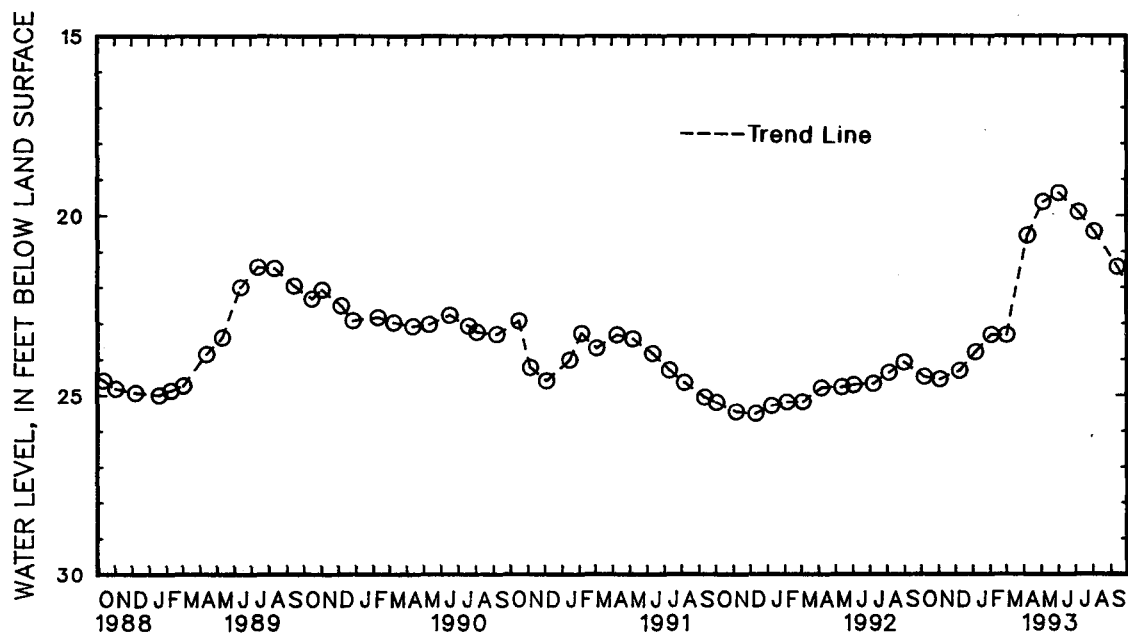
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	14.26	DEC 29	11.68	FEB 25	11.19	APR 28	9.51	JUN 28	12.57	AUG 30	14.36
NOV 30	12.89	JAN 28	11.43	MAR 29	8.48	MAY 26	11.20	JUL 28	13.64	SEP 28	14.21
WATER YEAR 1993		HIGHEST	8.48	MAR 29, 1993		LOWEST	14.36	AUG 30, 1993			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

WATER LEVEL. IN FEET BELOW LAND SURFACE. WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

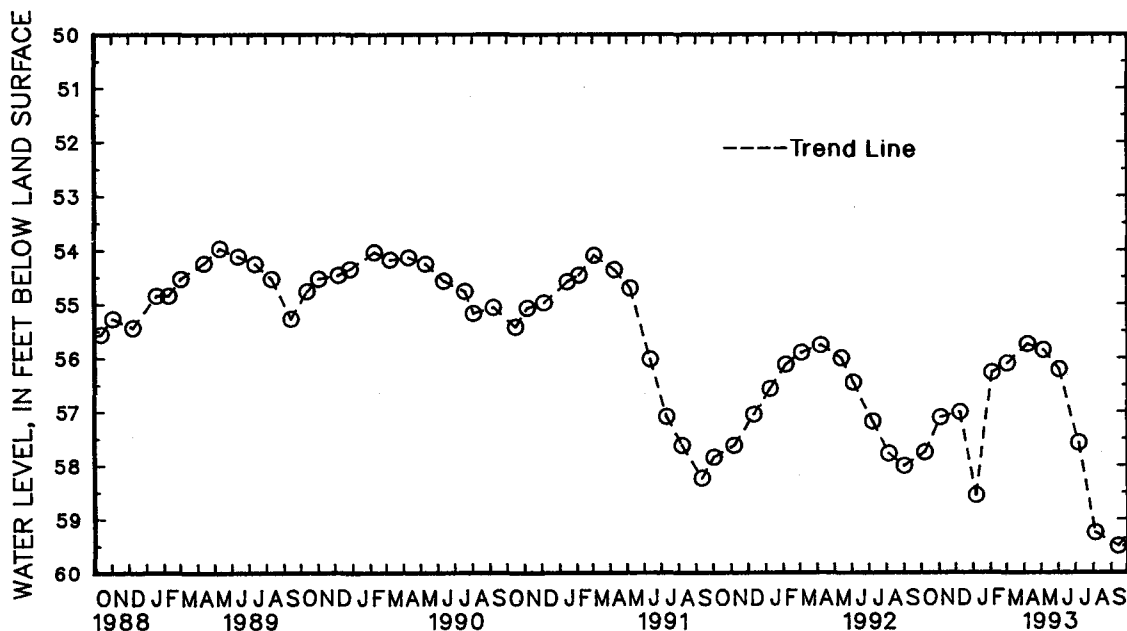
DATE		WATER LEVEL		DATE		WATER LEVEL		DATE		WATER LEVEL		DATE		WATER LEVEL	
OCT 7	24.49	DEC 9	24.32	FEB 3	23.33	APR 7	20.55	JUN 2	19.37	AUG 4	20.44	SEP 13	21.43		
NOV 4	24.56	JAN 6	23.80	MAR 2	23.32	MAY 5	19.62	JUL 7	19.90						
WATER YEAR 1993		HIGHEST	19.37	JUN 2, 1993		LOWEST	24.56	NOV 4, 1992							



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE		WATER LEVEL		DATE		WATER LEVEL		DATE		WATER LEVEL	
OCT 7	57.76	DEC 9	57.01	FEB 3	56.27	APR 7	55.74	JUN 2	56.21	AUG 4	59.25
NOV 4	57.11	JAN 6	58.56	MAR 2	56.11	MAY 5	55.85	JUL 7	57.58	SEP 13	59.50
WATER YEAR 1993		HIGHEST	55.74	APR 7, 1993		LOWEST	59.50	SEP 13, 1993			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

PRINCE GEORGES COUNTY--Continued

WELL NUMBER.--PG Df 2. SITE ID.--385152076431301.

LOCATION.--Lat 38°51'52", long 76°43'13", Hydrologic Unit 02060006, near Leeland.

Owner: A. R. Rogers.

AQUIFER.--Nanjemoy Formation of Lower Eocene age. Aquifer code: 124NNJM.

WELL CHARACTERISTICS.--Dug, unused, artesian well, depth 81.5 ft; diameter of concrete-ring lining 48 in.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 145 ft above National Geodetic Vertical Datum of 1929,

from topographic map.

Measuring point: Edge of steel cover, 3.00 ft below land surface.

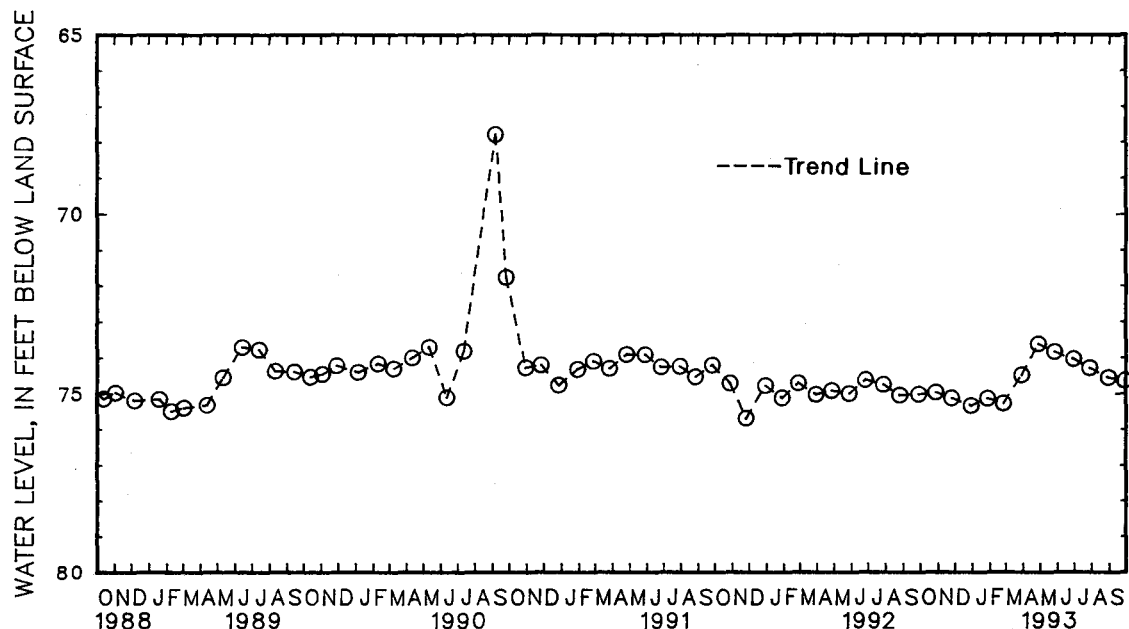
REMARKS.--Maryland Water-Level Network observation well. Water level rise in summer of 1990 to 67.78 ft. below land surface was due to leaking water storage tank above well.

PERIOD OF RECORD.--November 1948 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured 69.87 ft below land surface, Dec. 17, 1979, (See Remarks); lowest measured, 75.96 ft below land surface, Nov. 19, 1951.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	74.97	DEC 30	75.34	FEB 25	75.26	APR 27	73.62	JUN 29	74.04	AUG 30	74.56
NOV 25	75.13	JAN 28	75.13	MAR 29	74.49	MAY 26	73.83	JUL 28	74.29	SEP 28	74.64
WATER YEAR 1993		HIGHEST	73.62	APR 27, 1993		LOWEST	75.34	DEC 30, 1992			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

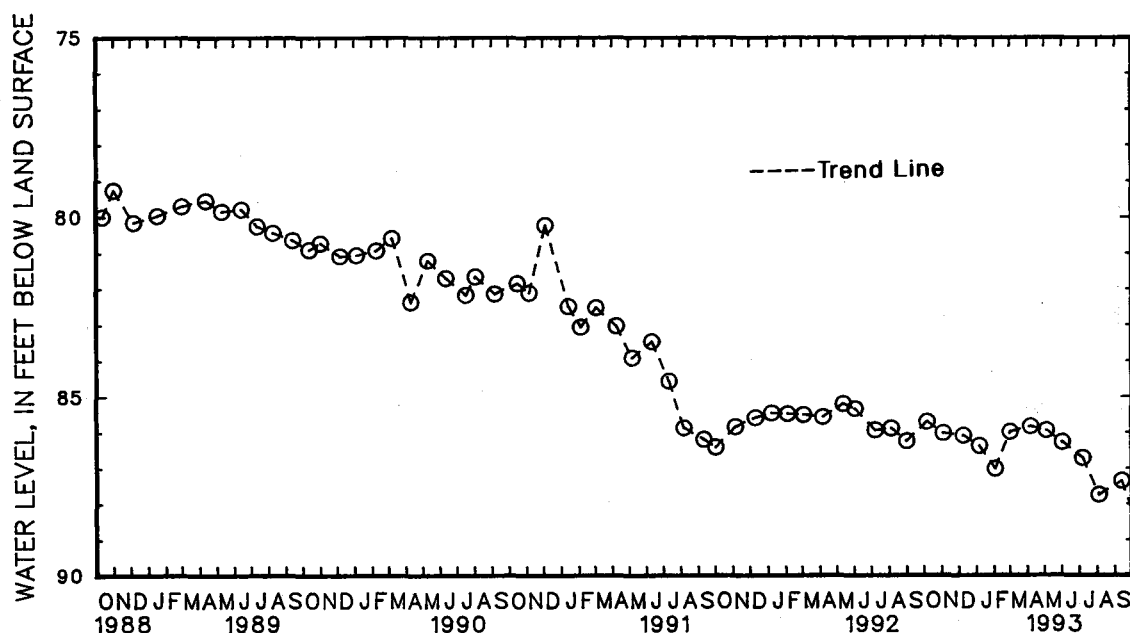
PRINCE GEORGES COUNTY--Continued

WELL NUMBER.--PG Fb 36. SITE ID.--384423077004501. PERMIT NUMBER.--PG-02-4834.  
 LOCATION.--Lat 38°44'23", long 77°00'45", Hydrologic Unit 02070010, at Broadwater Estates.  
 Owner: Broadwater Citizens Association.  
 AQUIFER.--Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSC.  
 WELL CHARACTERISTICS.--Drilled, unused, artesian well, depth 284 ft; casing diameter 8 in., to 271.5 ft; screen diameter 8 in. from 267.5 to 284 ft.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 DATUM.--Elevation of land surface is 78 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
 Measuring point: Top of casing, 3.50 ft above land surface.  
 REMARKS.--Maryland Water-Level Network observation well. Water level reported 62 ft below land surface, May 29, 1957; measured 84 ft below land surface, July 7, 1961. Water levels may be affected by nearby pumping.  
 PERIOD OF RECORD.--July 1961, March 1962 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level reported, 62 ft below land surface, May 29, 1957; highest measured, 68.99 ft below land surface, Oct. 3, 1979; lowest measured, 87.75 ft below land surface, Aug. 4, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 7	85.69	DEC 9	86.09	FEB 3	87.02	APR 7	85.84	JUN 2	86.28	AUG 4	87.75
NOV 4	86.01	JAN 6	86.38	MAR 2	85.99	MAY 5	85.95	JUL 7	86.72	SEP 13	87.36

WATER YEAR 1993      HIGHEST    85.69    OCT 7, 1992      LOWEST    87.75    AUG 4, 1993



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

PRINCE GEORGES COUNTY--Continued

WELL NUMBER.--PG Fc 17. SITE ID.--384230076555501.

LOCATION.--Lat 38°42'30", long 76°55'55", Hydrologic Unit 02070010, 75 ft south of Floral Park Rd., 3 mi west of the intersection with MD Rt. 5, Piscataway.

Owner: Potomac Edison Power Company, formerly Washington Gas Light Co.

AQUIFER.--Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSC.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 750 ft; casing diameter 6 in.; casing perforated from 712 to 716 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

Equipped with water-level recorder from Oct. 27, 1955 to Sept. 4, 1956.

DATUM.--Elevation of land surface is 58.6 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of casing, 0.50 ft above land surface.

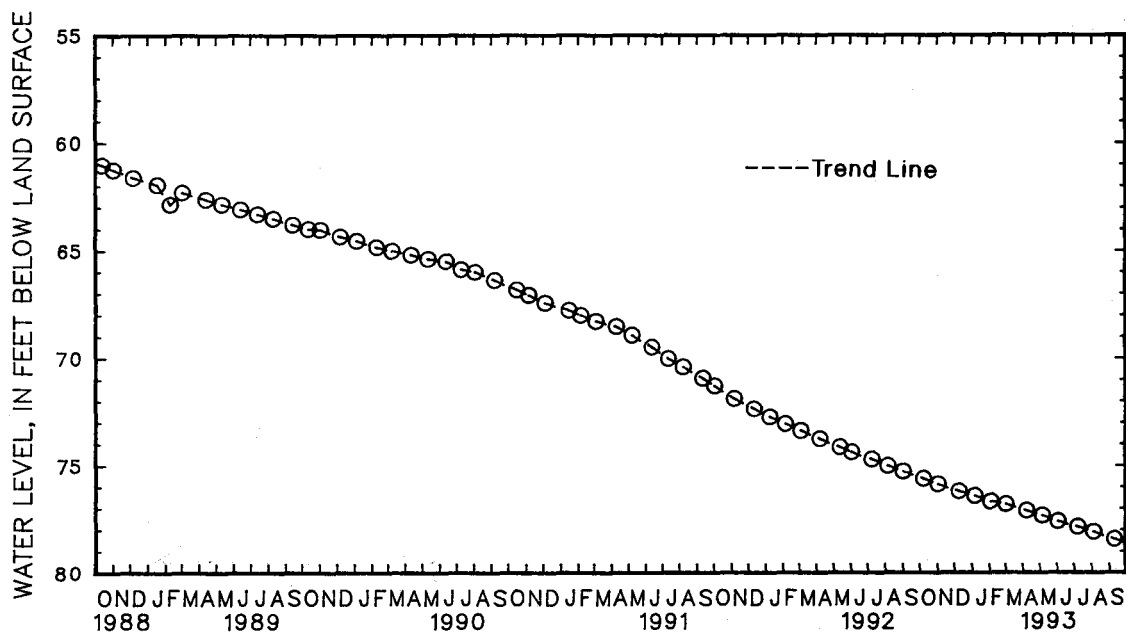
REMARKS.--Maryland Water-Level Network observation well.

PERIOD OF RECORD.--October 1955 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 28.62 ft below land surface, Oct. 27, 1955; lowest measured, 78.44 ft below land surface, Sept. 10, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 7	75.62	DEC 9	76.21	FEB 3	76.68	APR 7	77.11	JUN 2	77.58	AUG 4	78.09
NOV 2	75.87	JAN 6	76.42	MAR 2	76.81	MAY 5	77.33	JUL 7	77.86	SEP 10	78.44
WATER YEAR 1993		HIGHEST	75.62	OCT 7, 1992		LOWEST	78.44	SEP 10, 1993			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

PRINCE GEORGES COUNTY--Continued

WELL NUMBER.--PG Fd 41. SITE ID.--384131076533301. PERMIT NUMBER.--PG-01-8058.

LOCATION.--Lat 38°41'31", long. 76°53'33", Hydrologic Unit 02070010, south side of MD Rt. 373, 1.14 mi west of intersection with MD Rt. 5, near T.B.

Owner: Colonial Investment Corp.

AQUIFER.--Magothy Formation of Upper Cretaceous age. Aquifer code: 211MGTY.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 362 ft; casing diameter 4 in., to 352 ft; screen diameter 2.5 in. from 352 to 362 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 205 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of casing, 2.80 ft above land surface.

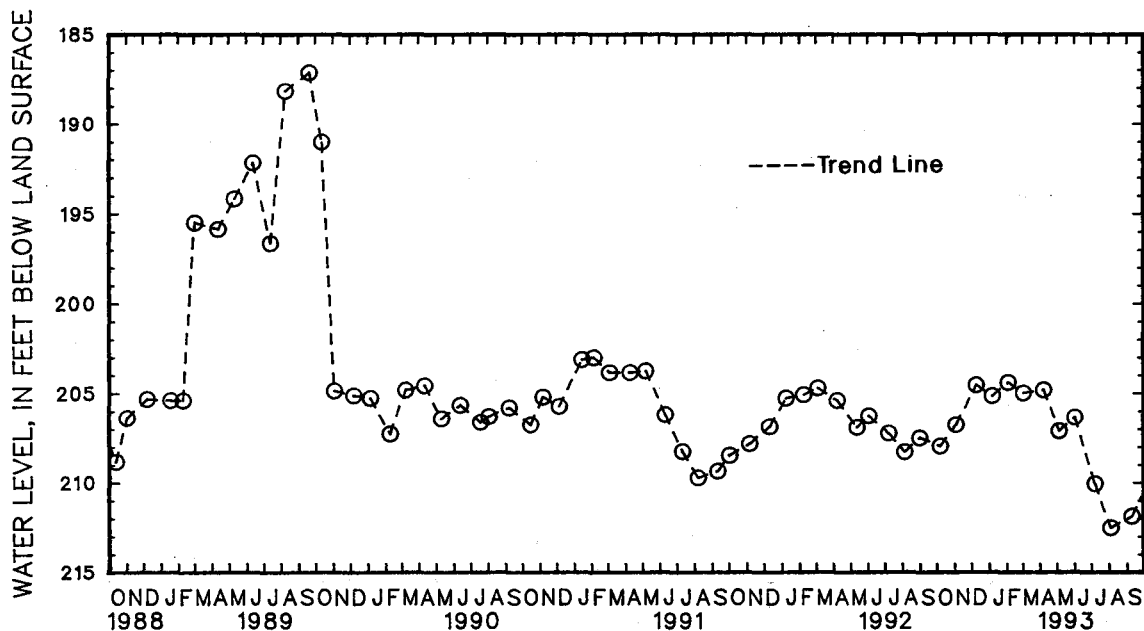
REMARKS.--Maryland Water-Level Network observation well. Water level reported 146 ft below land surface, March 11, 1955.

PERIOD OF RECORD.--May 1967 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 157.24 ft below land surface, March 4, 1968; lowest measured, 212.50 ft below land surface, Aug. 4, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 7	207.95	DEC 9	204.49	FEB 3	204.38	APR 7	204.80	JUN 2	206.34	AUG 4	212.50
NOV 4	206.75	JAN 6	205.10	MAR 2	204.97	MAY 5	207.10	JUL 7	210.05	SEP 10	211.87
WATER YEAR 1993		HIGHEST	204.38	FEB 3, 1993		LOWEST	212.50	AUG 4, 1993			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

## MARYLAND--Continued

## PRINCE GEORGES COUNTY--Continued

WELL NUMBER.--PG Hf 35. SITE ID.--383228076410601. PERMIT NUMBER.--PG-72-0086.  
 LOCATION.--Lat 38°32'28", long 76°41'06", Hydrologic Unit 02060006, at Chalk Point Power Plant,  
 1.8 mi. south of Eagle Harbor.  
 Owner: Potomac Electric Power Co.  
 AQUIFER.--Aquia Formation of Paleocene age. Aquifer code: 125AQUI.  
 WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 430 ft; casing diameter 6 in., to 401 ft;  
 casing diameter 4 in. from 389 to 399 ft; screen diameter 4 in. from 399 to 430 ft.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 Equipped with graphic water-level recorder from May 1, 1974 to July 8, 1976. Equipped with digital  
 water-level recorder--60-minute recorder interval from July 8, 1976 to current year.  
 DATUM.--Elevation of land surface is 11.22 ft above National Geodetic Vertical Datum of 1929.  
 Measuring Point: Top of casing, 2.22 ft above land surface.  
 REMARKS.--Southern Maryland Observation Well Network. Water levels affected by nearby pumping.  
 PERIOD OF RECORD.--May 1974 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.75 ft above sea level, April 17, 1993;  
 lowest measured, 29.50 ft below sea level, Sept. 23, 1992.

## WATER LEVEL, IN FEET BELOW SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	-28.60	-29.18	-28.49	-28.91	-28.53	-28.92	-28.47	-28.81	-28.60	-29.01	-28.35	-28.87
2	-28.55	-29.03	-28.16	-28.79	-28.57	-29.01	-28.57	-29.33	-28.58	-29.15	-28.14	-28.55
3	-28.63	-29.05	-28.12	-28.71	-28.37	-28.82	-28.90	-29.33	-28.17	-29.31	-28.41	-28.92
4	-28.69	-29.15	-28.24	-28.87	-28.72	-29.26	-28.71	-29.07	-28.10	-29.05	-27.76	-28.90
5	-28.22	-28.84	-28.23	-28.89	-28.38	-28.84	-28.41	-29.06	-28.42	-29.06	-27.81	-28.39
6	-28.21	-28.85	-28.77	-29.13	-28.80	-29.80	-28.21	-28.96	-28.37	-28.97	-28.10	-28.74
7	-28.51	-29.04	-28.55	-29.02	-28.69	-29.65	-28.57	-29.28	-28.27	-29.11	-28.27	-28.86
8	-28.51	-29.14	-28.63	-29.06	-28.58	-29.32	-28.24	-28.87	-28.20	-29.14	-28.19	-29.01
9	-28.34	-28.89	-28.66	-29.20	-28.81	-29.32	-28.10	-28.73	-28.49	-29.12	-28.45	-29.23
10	-28.29	-28.93	-28.57	-29.13	-28.52	-29.27	-28.21	-28.74	-28.44	-29.00	-28.38	-29.17
11	-28.26	-28.79	-28.50	-29.05	-27.52	-28.75	-28.11	-28.69	-28.49	-29.11	-28.33	-29.20
12	-28.50	-28.99	-28.36	-29.03	-27.69	-28.30	-28.26	-28.77	-28.00	-29.06	-28.66	-29.21
13	-28.45	-29.04	-28.24	-28.93	-28.13	-28.76	-28.33	-28.91	-27.97	-28.40	-27.50	-29.07
14	-28.52	-29.12	-28.60	-29.13	-28.29	-28.82	-28.27	-28.85	-28.35	-29.17	-27.91	-29.44
15	-28.54	-29.09	-28.66	-29.06	-28.21	-28.72	-28.30	-28.81	-28.61	-29.39	-29.42	-29.74
16	-28.45	-29.01	-28.79	-29.28	-28.03	-28.68	-28.34	-28.87	-28.17	-28.77	-28.87	-29.50
17	-28.81	-29.34	-28.43	-29.03	-28.28	-28.91	-28.26	-28.70	-28.24	-29.13	-28.63	-29.06
18	-28.45	-29.10	-28.40	-29.08	-28.40	-28.93	-28.26	-28.73	-28.75	-29.24	-28.73	-29.53
19	-28.53	-29.23	-28.61	-29.07	-28.78	-29.29	-28.32	-29.13	-28.80	-29.43	-28.61	-29.18
20	-28.44	-29.31	-28.49	-29.00	-28.65	-29.33	-28.81	-29.26	-28.26	-28.80	-28.44	-28.89
21	-28.35	-28.94	-28.26	-28.84	-28.42	-29.00	-28.78	-29.26	-28.10	-28.68	-28.47	-29.05
22	-28.75	-29.34	-28.30	-28.82	-28.81	-29.33	-28.42	-29.09	-28.02	-28.69	-28.62	-29.14
23	-28.56	-29.21	-28.29	-28.81	-28.58	-29.12	-28.13	-28.68	-28.24	-29.00	-28.51	-29.13
24	-28.21	-28.88	-28.44	-29.21	-28.37	-28.86	-28.44	-28.97	-28.74	-29.59	-28.27	-28.88
25	-28.47	-29.29	-28.21	-28.85	-28.47	-29.57	-28.29	-28.83	-28.98	-29.62	-28.40	-28.88
26	-28.35	-29.07	-28.10	-28.70	-28.60	-29.59	-28.62	-29.30	-28.49	-29.18	-28.31	-28.89
27	-28.39	-29.03	-28.20	-29.06	-28.94	-29.45	-28.75	-29.27	-28.51	-28.89	-28.26	-28.89
28	-28.41	-29.03	-28.45	-28.87	-28.80	-29.53	-28.46	-28.88	-28.45	-28.92	-28.07	-28.62
29	-28.46	-28.94	-28.46	-28.94	-28.62	-29.12	-28.22	-28.83	---	---	-28.15	-28.59
30	-28.53	-28.95	-28.58	-28.95	-28.64	-29.02	-28.21	-29.38	---	---	-28.15	-28.54
31	-28.50	-28.88	---	---	-28.50	-28.91	-28.71	-29.43	---	---	-27.98	-28.67
MONTH	-28.21	-29.34	-28.10	-29.28	-27.52	-29.80	-28.10	-29.43	-27.97	-29.62	-27.50	-29.74



## GROUND-WATER LEVELS

385

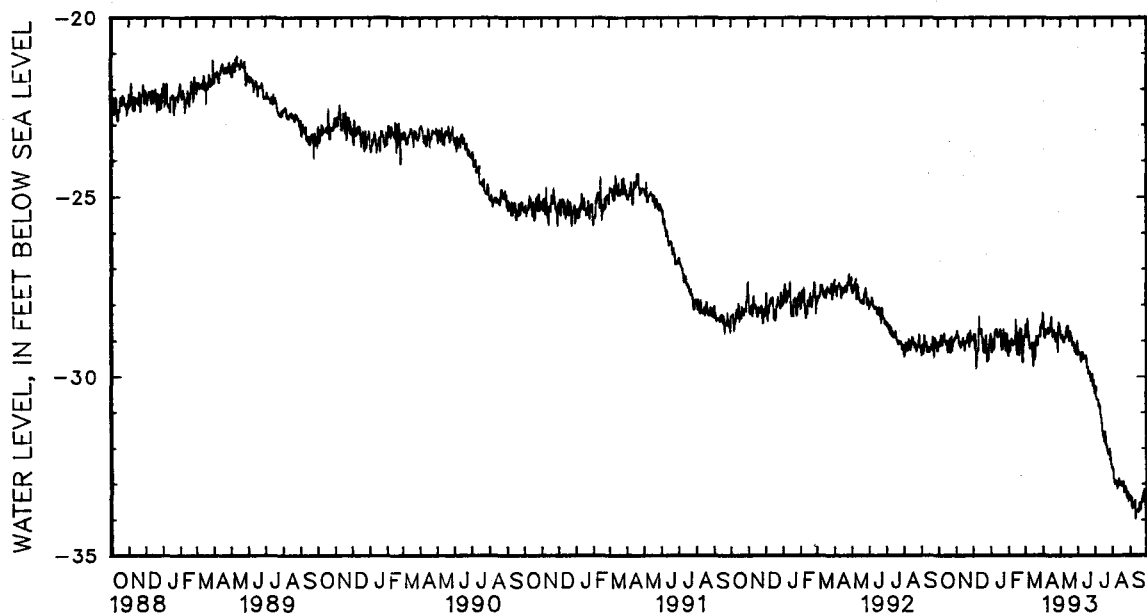
## MARYLAND--Continued

## PRINCE GEORGES COUNTY--Continued

## PG Hf 35--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	-27.75	-28.21	-28.22	-28.69	-28.46	-29.42	-29.84	-30.47	-32.07	-32.55	-32.84	-33.33
2	-27.91	-28.40	-28.24	-28.88	-28.78	-29.27	-29.84	-30.29	-32.01	-32.60	-32.96	-33.41
3	-28.09	-28.81	-28.38	-28.95	-28.66	-29.34	-29.71	-30.55	-32.20	-32.86	-32.97	-33.39
4	-28.42	-28.93	-28.37	-28.88	-28.87	-29.34	-29.94	-30.62	-32.43	-32.94	-33.03	-33.60
5	-28.21	-28.83	-28.23	-28.84	-28.66	-29.36	-30.07	-30.66	-32.52	-33.02	-33.22	-33.70
6	-28.13	-28.68	-28.27	-29.02	-28.91	-29.58	-30.06	-30.66	-32.14	-32.91	-33.13	-33.55
7	-28.12	-28.79	-28.41	-29.05	-28.87	-29.55	-30.08	-30.67	-32.45	-32.97	-33.07	-33.56
8	-28.12	-28.79	-28.45	-29.05	-28.80	-29.33	-30.41	-30.84	-32.49	-32.94	-33.17	-33.66
9	-28.10	-28.79	-28.33	-28.91	-28.90	-29.33	-30.38	-30.78	-32.69	-33.14	-33.01	-33.46
10	-27.92	-28.64	-28.51	-28.94	-28.91	-29.37	-30.38	-30.83	-32.61	-33.04	-33.01	-33.50
11	-28.32	-28.80	-28.21	-28.92	-29.04	-29.52	-30.61	-31.05	-32.59	-32.99	-33.37	-33.98
12	-28.03	-28.67	-28.26	-28.69	-29.00	-29.44	-30.68	-31.11	-32.55	-32.85	-33.38	-33.78
13	-28.34	-28.75	-28.17	-28.61	-29.00	-29.49	-30.82	-31.27	-32.56	-32.97	-33.25	-33.74
14	-28.01	-28.61	-28.24	-28.62	-29.01	-29.47	-30.93	-31.44	-32.59	-33.04	-33.22	-33.74
15	-28.01	-28.43	-28.29	-28.59	-29.01	-29.43	-30.94	-31.66	-32.41	-32.97	-33.19	-33.71
16	-27.76	-28.34	-28.28	-28.89	-29.02	-29.75	-31.22	-31.56	-32.47	-32.94	-33.22	-33.79
17	-27.71	-28.84	-28.48	-29.02	-29.35	-29.74	-31.06	-31.84	-32.37	-33.06	-33.04	-33.77
18	-28.57	-28.92	-28.29	-28.74	-29.26	-29.74	-31.25	-31.68	-32.54	-33.07	-33.03	-33.52
19	-28.36	-28.75	-28.26	-28.76	-29.28	-29.93	-31.06	-31.55	-32.38	-33.06	-33.19	-33.71
20	-28.23	-28.76	-28.23	-28.87	-29.43	-29.86	-31.19	-31.90	-32.34	-32.93	-33.08	-33.64
21	-28.25	-28.70	-28.39	-28.90	-29.29	-29.86	-31.34	-31.90	-32.59	-33.24	-32.75	-33.43
22	-28.21	-28.92	-28.42	-29.14	-29.28	-29.93	-31.37	-31.97	-32.60	-33.17	-32.91	-33.50
23	-28.53	-29.02	-28.63	-29.14	-29.52	-30.12	-31.52	-32.08	-32.59	-33.08	-32.67	-33.26
24	-28.37	-29.02	-28.47	-29.04	-29.61	-30.14	-31.60	-32.14	-32.60	-33.10	-32.69	-33.50
25	-28.26	-28.80	-28.64	-29.12	-29.57	-30.08	-31.64	-32.18	-32.60	-33.28	-32.68	-33.21
26	-28.30	-28.88	-28.83	-29.32	-29.51	-29.92	-31.49	-32.15	-32.90	-33.40	-32.61	-33.15
27	-28.72	-29.33	-28.84	-29.28	-29.60	-30.27	-31.49	-32.04	-32.80	-33.22	-32.62	-33.20
28	-28.02	-28.72	-28.71	-29.28	-29.61	-30.11	-31.68	-32.35	-32.76	-33.25	-32.83	-33.38
29	-28.01	-28.49	-28.75	-29.38	-29.60	-30.31	-31.83	-32.27	-32.79	-33.48	-32.86	-33.51
30	-28.08	-28.58	-28.72	-29.29	-29.74	-30.43	-31.80	-32.50	-32.91	-33.32	-33.02	-33.49
31	---	---	-28.51	-29.00	---	---	-32.01	-32.58	-32.83	-33.33	---	---
MONTH	-27.71	-29.33	-28.17	-29.38	-28.46	-30.43	-29.71	-32.58	-32.01	-33.48	-32.61	-33.98
YEAR	-27.50	-33.98										

## Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

## MARYLAND--Continued

## PRINCE GEORGES COUNTY--Continued

WELL NUMBER.--PG Hf 40. SITE ID.--383348076411301. PERMIT NUMBER.--PG-73-0298.  
 LOCATION.--Lat 38°33'48", long 76°41'13", Hydrologic Unit 02060006, at Chalk Point Power Plant,  
 0.4 mi. south of Eagle Harbor.  
 Owner: Potomac Electric Power Co.  
 AQUIFER.--Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSC.  
 WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 870 ft; casing diameter 6 in., to 150 ft;  
 casing diameter 4 in. from 150 to 860 ft; screen diameter 4 in. from 860 to 870 ft.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 Equipped with graphic water-level recorder from Dec. 16, 1974 to July 8, 1976. Equipped with digital  
 water-level recorder--30- minute recorder interval from July 8, 1976 to current year.  
 DATUM.--Elevation of land surface is 27.98 ft above National Geodetic Vertical Datum of 1929.  
 Measuring Point: Top of casing, 2.46 ft above land surface.  
 REMARKS.--Southern Maryland Observation Well Network. Water levels are affected by nearby pumping.  
 Missing data due to recorder malfunction.  
 PERIOD OF RECORD.--December 1974 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.64 ft above sea level, Jan. 11, 1975.  
 lowest measured, 26.43 ft below sea level, July 15, 1993.

## WATER LEVEL, IN FEET BELOW SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	-22.72	-23.12	-22.73	-22.96	-22.76	-22.98	---	---	-23.51	-23.91	-23.89	-24.15
2	-22.69	-22.96	---	---	-22.66	-23.06	-23.49	-23.67	-23.91	-24.12	-23.78	-24.02
3	-22.72	-22.96	---	---	-22.66	-23.15	-23.34	-23.75	-23.58	-23.92	-23.94	-24.15
4	-22.74	-22.99	-22.54	-22.92	---	---	---	---	-23.65	-24.16	---	---
5	-22.57	-22.86	-22.52	-22.92	---	---	---	---	-24.16	-24.52	---	---
6	-22.56	-22.88	-22.86	-23.12	---	---	-23.39	-23.90	---	---	---	---
7	-22.70	-23.00	-22.86	-23.14	---	---	-23.20	-23.92	---	---	---	---
8	-22.73	-23.01	-22.93	-23.23	---	---	---	---	---	---	---	---
9	-22.59	-22.91	-23.00	-23.29	---	---	---	---	---	---	---	---
10	-22.60	-22.94	-22.94	-23.29	---	---	---	---	---	---	---	---
11	-22.52	-22.86	-22.82	-23.15	---	---	-23.24	-23.55	---	---	---	---
12	-22.69	-22.99	-22.72	-23.15	---	---	-23.29	-23.59	---	---	---	---
13	-22.67	-23.03	-22.67	-23.11	---	---	-23.19	-23.57	-23.67	-23.96	---	---
14	-22.73	-23.10	-22.92	-23.15	---	---	-23.31	-23.62	-23.91	-24.41	---	---
15	-22.74	-23.04	---	---	---	---	-23.34	-23.67	-24.19	-24.53	---	---
16	-22.66	-23.02	---	---	---	---	-23.30	-23.57	-23.83	-24.19	---	---
17	-22.86	-23.16	---	---	-23.29	-23.58	-23.31	-23.58	-23.85	-24.29	---	---
18	-22.67	-23.08	---	---	-23.35	-23.77	-23.38	-23.92	-24.19	-24.44	---	---
19	-22.70	-23.09	---	---	-23.40	-23.82	-23.78	-24.02	-24.20	-24.53	---	---
20	-22.72	-23.15	---	---	-23.23	-23.89	-23.70	-24.00	-23.88	-24.20	---	---
21	-22.70	-23.03	---	---	-23.48	-23.81	-23.57	-23.96	-23.65	-24.10	---	---
22	-22.91	-23.26	-22.77	-23.15	-23.29	-23.58	-23.23	-23.57	-23.54	-23.98	---	---
23	-22.77	-23.15	---	---	---	---	-23.37	-23.81	-23.75	-24.15	---	---
24	-22.49	-22.91	---	---	---	---	-23.34	-23.81	-24.03	-24.52	---	---
25	-22.64	-23.05	-22.70	-23.06	-23.24	-23.84	-23.65	-24.04	-24.21	-24.53	---	---
26	-22.57	-23.00	-22.64	-23.01	-23.23	-23.77	-23.76	-24.04	-24.19	-24.36	---	---
27	-22.61	-23.00	-22.81	-23.13	-23.52	-23.82	-23.53	-23.87	-24.01	-24.19	---	---
28	-22.64	-23.00	-22.81	-23.05	-23.28	-23.65	-23.36	-23.79	-23.94	-24.15	---	---
29	-22.67	-22.98	-22.84	-23.07	-23.23	-23.50	-23.34	-23.99	---	---	---	---
30	-22.72	-22.98	-22.80	-23.05	---	---	-23.63	-24.05	---	---	---	---
31	-22.70	-22.94	---	---	---	---	-23.51	-23.81	---	---	---	---
MONTH	-22.49	-23.26	-22.52	-23.29	-22.66	-23.89	-23.19	-24.05	-23.51	-24.53	-23.78	-24.15

## GROUND-WATER LEVELS

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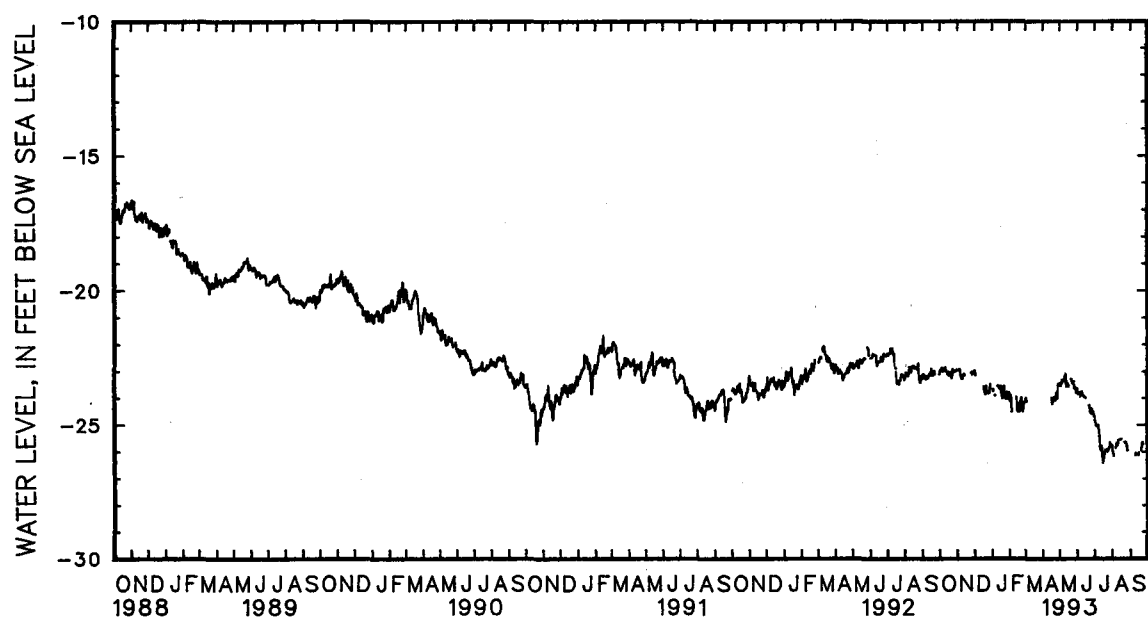
## MARYLAND--Continued

## PRINCE GEORGES COUNTY--Continued

## PG Hf 40--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	-23.20	-23.46	-23.27	-23.64	-24.36	-24.82	-25.50	-25.99	---	---
2	---	---	-23.24	-23.54	-23.53	-23.86	-24.53	-24.90	-25.71	-26.06	---	---
3	---	---	-23.20	-23.54	-23.46	-23.82	-24.58	-25.04	-25.79	-26.16	---	---
4	---	---	-23.02	-23.45	-23.46	-23.82	-24.62	-25.06	---	---	---	---
5	---	---	-22.99	-23.32	-23.44	-23.79	-24.72	-25.06	---	---	---	---
6	---	---	-23.02	-23.37	-23.41	-23.96	-24.64	-25.06	-25.19	-25.87	---	---
7	---	---	-23.05	-23.39	-23.54	-23.89	-24.65	-25.02	-25.38	-25.76	---	---
8	---	---	-22.97	-23.35	-23.44	-23.79	-24.84	-25.16	-25.38	-25.69	---	---
9	---	---	-22.97	-23.28	-23.46	-23.75	-24.99	-25.38	-25.43	-25.77	-25.77	-26.14
10	---	---	-22.91	-23.23	-23.49	-23.83	-25.38	-25.84	-25.36	-25.67	-25.77	-26.07
11	---	---	-22.76	-23.07	-23.55	-23.93	-25.68	-25.94	-25.27	-25.58	---	---
12	---	---	-23.02	-23.31	-23.69	-23.96	-25.61	-25.82	---	---	---	---
13	---	---	-23.31	-23.57	-23.72	-23.95	-25.61	-25.80	---	---	---	---
14	---	---	-23.34	-23.58	-23.76	-23.98	-25.61	-26.12	-25.19	-25.54	-25.82	-26.13
15	---	---	-23.27	-23.46	-23.81	-23.99	-25.92	-26.43	-25.20	-25.56	-25.70	-26.06
16	-23.61	-24.00	-23.32	-23.58	---	---	-25.99	-26.31	-25.20	-25.53	---	---
17	-23.61	-24.16	-23.10	-23.54	---	---	-25.89	-26.16	---	---	---	---
18	-23.97	-24.25	---	---	---	---	-25.80	-26.08	-25.26	-25.65	-25.46	-25.96
19	-23.87	-24.15	---	---	---	---	-25.60	-25.95	---	---	-25.48	-25.89
20	-23.75	-24.09	---	---	---	---	-25.52	-25.94	---	---	-25.39	-25.81
21	-23.59	-24.00	-22.99	-23.28	-23.97	-24.29	-25.60	-25.94	-25.20	-25.66	-25.29	-25.66
22	-23.57	-23.96	-23.03	-23.30	-23.96	-24.29	-25.58	-25.91	-25.31	-25.68	-25.39	-25.73
23	-23.78	-24.09	-23.11	-23.45	-24.12	-24.51	-25.64	-26.00	-25.30	-25.65	---	---
24	-23.61	-24.03	-23.08	-23.44	-24.21	-24.60	-25.62	-25.97	-25.33	-25.66	---	---
25	-23.50	-23.80	-23.09	-23.39	-24.18	-24.54	-25.57	-25.90	-25.36	-25.76	---	---
26	-23.50	-23.93	-23.18	-23.55	-24.17	-24.40	-25.46	-25.84	-25.51	-25.95	---	---
27	-23.45	-24.03	-23.36	-23.64	-24.18	-24.60	-25.44	-25.66	-25.63	-25.97	---	---
28	-23.32	-23.53	-23.39	-23.64	-24.18	-24.50	-25.44	-25.80	---	---	---	---
29	-23.25	-23.45	-23.36	-23.61	-24.18	-24.62	-25.48	-25.74	---	---	---	---
30	-23.24	-23.49	-23.46	-23.81	-24.28	-24.68	-25.46	-25.76	---	---	---	---
31	---	---	-23.40	-23.77	---	---	-25.49	-25.78	---	---	---	---
MONTH	-23.24	-24.25	-22.76	-23.81	-23.27	-24.68	-24.36	-26.43	-25.19	-26.16	-25.29	-26.14
YEAR	-22.49	-26.43										

## Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

## MARYLAND--Continued

## PRINCE GEORGES COUNTY--Continued

WELL NUMBER.--PG Hf 41. SITE ID.--383348076411302. PERMIT NUMBER.--PG-73-0297.  
 LOCATION.--Lat 38°33'48", long 76°41'13", Hydrologic Unit 02060006, at Chalk Point Power Plant,  
 0.4 mi. south of Eagle Harbor.  
 Owner: Potomac Electric Power Co.  
 AQUIFER.--Magothy Formation of Lower Cretaceous age. Aquifer code: 211MGTY.  
 WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 665 ft; casing diameter 6 in., to 150 ft;  
 casing diameter 4 in. from 150 to 644 ft, and 654 to 665 ft; screen diameter 4 in. from 644 to 654 ft.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 Equipped with graphic water-level recorder from Dec. 16, 1974 to July 8, 1976. Equipped with digital  
 water-level recorder--60-minute recorder interval from July 8, 1976 to current year.  
 DATUM.--Elevation of land surface is 28.30 ft above National Geodetic Vertical Datum of 1929.  
 Measuring Point: Top of casing, 2.60 ft above land surface.  
 REMARKS.--Southern Maryland Observation Network. Water levels are affected by nearby pumping.  
 Missing data due to recorder malfunction.  
 PERIOD OF RECORD.--December 1974 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.27 ft below sea level, Dec. 24, 1974;  
 lowest measured, 38.10 ft below sea level, Jan. 11 and 14, 1984.

## WATER LEVEL, IN FEET BELOW SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	-28.63	-29.06	-28.13	-28.39	-28.42	-28.70	-29.96	-30.33	-31.57	-31.88	-30.48	-30.95
2	-28.57	-28.91	-27.86	-28.34	-28.45	-28.88	-30.21	-30.54	-31.69	-32.17	-30.28	-30.61
3	-28.58	-28.91	-27.86	-28.31	-28.45	-29.09	-30.03	-30.35	-31.08	-31.69	-30.43	-30.87
4	-28.63	-28.95	-28.04	-28.48	-28.53	-29.20	-29.81	-30.24	-31.04	-31.70	-29.98	-30.81
5	-28.26	-28.73	-28.01	-28.54	-28.51	-29.49	-29.66	-30.22	-31.39	-31.79	-29.90	-30.28
6	-28.21	-28.58	-28.44	-28.75	-29.00	-29.66	-30.06	-30.46	-31.46	-32.14	-30.06	-30.43
7	-28.34	-28.63	-28.30	-28.65	-28.90	-29.33	-29.82	-30.27	-31.66	-32.12	-30.05	-30.49
8	-28.14	-28.54	-28.36	-28.67	-29.11	-29.44	-29.86	-30.28	-31.62	-32.22	-29.98	-30.53
9	-27.80	-28.22	-28.34	-28.70	-28.96	-29.35	-29.96	-30.35	-31.92	-32.35	-30.17	-30.72
10	-27.78	-28.21	-28.27	-28.69	-28.32	-29.16	-30.02	-30.39	-31.97	-32.44	-30.14	-30.72
11	-27.78	-28.18	-28.13	-28.58	-28.19	-28.83	-30.14	-30.57	-32.25	-32.70	-30.08	-30.59
12	-28.00	-28.39	-27.96	-28.50	-28.76	-29.29	-30.33	-30.78	-31.85	-32.67	-30.31	-30.66
13	-28.00	-28.41	-27.83	-28.33	-29.06	-29.40	-30.46	-30.84	-31.73	-32.11	-29.29	-30.57
14	-28.13	-28.54	-28.06	-28.44	-29.06	-29.39	-30.65	-31.06	-31.82	-32.46	-29.45	-30.74
15	-28.20	-28.57	-28.08	-28.38	-29.12	-29.48	-30.90	-31.21	-31.98	-32.57	-30.74	-31.02
16	-28.06	-28.52	-28.13	-28.49	-29.32	-29.70	-30.92	-31.25	-31.55	-32.06	-30.57	-30.90
17	-28.21	-28.75	-27.92	-28.32	-29.42	-29.82	-30.96	-31.33	-31.57	-32.18	-30.50	-30.77
18	-28.07	-28.59	-27.98	-28.58	-29.51	-30.04	-31.02	-31.62	-31.87	-32.25	-30.68	-31.38
19	-28.09	-28.67	-28.29	-28.59	-29.77	-30.13	-31.42	-32.01	-31.80	-32.28	-30.90	-31.22
20	-28.17	-28.74	-28.26	-28.58	-29.69	-30.19	-31.93	-32.84	-31.14	-31.80	-30.84	-31.15
21	-28.14	-28.60	-28.16	-28.56	-30.09	-30.49	-32.73	-33.27	-30.74	-31.39	-30.87	-31.37
22	-28.46	-28.91	-28.32	-28.75	-29.99	-30.36	-32.58	-33.18	-30.64	-31.05	-31.07	-31.41
23	-28.36	-28.81	-28.43	-29.05	-29.91	-30.30	-32.58	-32.96	-30.75	-31.20	-30.85	-31.34
24	-28.09	-28.56	-28.75	-29.20	-29.93	-30.63	-31.98	-32.80	-31.09	-31.65	-30.58	-31.02
25	-28.31	-28.86	-28.50	-28.96	-29.90	-30.63	-32.12	-32.48	-31.25	-31.69	-30.39	-30.92
26	-28.26	-28.82	-28.41	-28.85	-29.88	-30.49	-31.86	-32.37	-30.80	-31.38	-30.22	-30.61
27	-28.28	-28.73	-28.54	-28.93	-30.18	-30.53	-31.55	-31.99	-30.78	-31.04	-30.10	-30.59
28	-28.23	-28.74	-28.48	-28.82	-29.93	-30.37	-31.30	-31.80	-30.67	-31.03	-29.95	-30.32
29	-28.21	-28.60	-28.49	-28.79	-29.97	-30.27	-31.29	-32.05	---	---	-29.98	-30.31
30	-28.19	-28.55	-28.46	-28.76	-29.91	-30.20	-31.66	-32.18	---	---	-29.96	-30.24
31	-28.15	-28.43	---	---	-29.92	-30.20	-31.58	-31.88	---	---	-30.00	-30.30
MONTH	-27.78	-29.06	-27.83	-29.20	-28.19	-30.63	-29.66	-33.27	-30.64	-32.70	-29.29	-31.41

## GROUND-WATER LEVELS

389

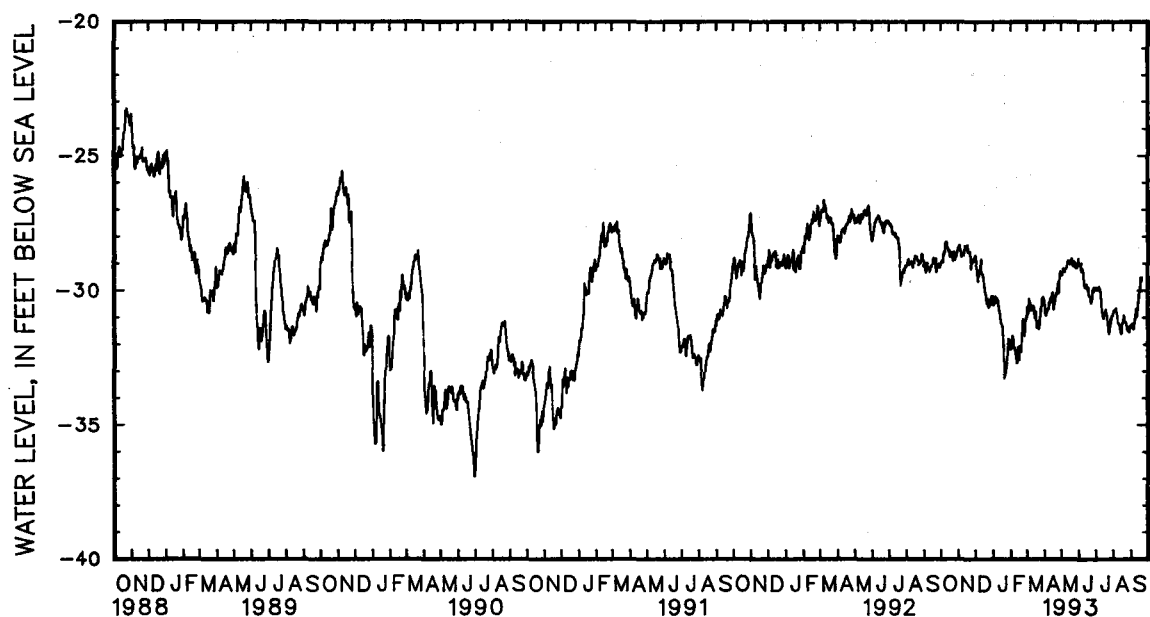
MARYLAND--Continued

PRINCE GEORGES COUNTY--Continued

PG Hf 41--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	-30.03	-30.39	-29.02	-29.34	-28.33	-29.08	-29.58	-29.98	-30.45	-30.86	-30.91	-31.29
2	-30.23	-30.56	-28.98	-29.43	-28.67	-29.02	-29.52	-29.88	-30.28	-30.73	-30.92	-31.29
3	-30.36	-30.90	-29.04	-29.42	-28.59	-29.03	-29.38	-29.92	-30.33	-30.73	-30.89	-31.23
4	-30.60	-30.93	-28.94	-29.32	-28.62	-29.02	-29.52	-29.97	-30.37	-30.73	-30.95	-31.37
5	-30.46	-30.83	-28.79	-29.18	-28.54	-28.99	-29.62	-29.98	-30.37	-30.74	-31.07	-31.42
6	-30.32	-30.69	-28.78	-29.28	-28.80	-29.31	-29.54	-29.97	-30.06	-30.66	-30.92	-31.29
7	-30.30	-30.72	-28.83	-29.28	-28.87	-29.29	-29.51	-29.85	-30.37	-30.81	-30.79	-31.21
8	-30.24	-30.68	-28.87	-29.30	-28.82	-29.19	-29.68	-29.99	-30.55	-30.92	-30.74	-31.09
9	-30.11	-30.66	-28.78	-29.19	-28.90	-29.25	-29.68	-29.97	-30.86	-31.17	-30.38	-30.92
10	-29.87	-30.42	-28.83	-29.19	-29.08	-29.50	-29.72	-30.08	-30.94	-31.22	-30.37	-30.70
11	-30.11	-30.46	-28.58	-29.16	-29.27	-29.80	-29.92	-30.47	-30.96	-31.26	-30.59	-30.97
12	-29.88	-30.31	-28.61	-28.93	-29.55	-29.90	-30.26	-30.72	-30.97	-31.26	-30.38	-30.76
13	-30.06	-30.38	-28.56	-28.89	-29.60	-29.84	-30.52	-30.92	-30.96	-31.38	-30.25	-30.55
14	-29.85	-30.22	-28.59	-28.94	-29.59	-29.88	-30.69	-31.01	-31.17	-31.56	-30.03	-30.40
15	-29.85	-30.12	-28.66	-28.91	-29.55	-29.78	-30.66	-31.04	-31.19	-31.60	-29.73	-30.13
16	-29.73	-30.07	-28.62	-29.02	-29.46	-29.94	-30.66	-30.88	-31.12	-31.50	-29.62	-30.04
17	-29.67	-30.60	-28.72	-29.02	-29.65	-29.91	-30.45	-30.85	-30.82	-31.21	-29.20	-29.91
18	-30.41	-30.70	-28.52	-28.85	-29.53	-29.88	-30.41	-30.78	-30.81	-31.20	-29.09	-29.53
19	-30.20	-30.51	-28.48	-28.81	-29.55	-30.14	-30.28	-30.70	-30.55	-31.09	-29.21	-29.63
20	-30.01	-30.40	-28.42	-28.88	-29.82	-30.22	-30.31	-30.91	-30.50	-30.91	-29.03	-29.53
21	-29.86	-30.25	-28.53	-28.90	-29.84	-30.22	-30.53	-30.92	-30.64	-31.14	---	---
22	-29.71	-30.12	-28.55	-29.07	-29.87	-30.27	-30.69	-31.22	-30.77	-31.15	---	---
23	-29.83	-30.15	-28.70	-29.08	-30.07	-30.47	-31.08	-31.47	-30.81	-31.16	---	---
24	-29.71	-30.14	-28.51	-28.93	-30.03	-30.40	-31.21	-31.60	-30.88	-31.24	---	---
25	-29.39	-29.91	-28.62	-28.97	-29.79	-30.28	-31.06	-31.50	-30.92	-31.37	---	---
26	-29.37	-29.69	-28.77	-29.13	-29.59	-29.97	-30.78	-31.32	-31.10	-31.48	---	---
27	-29.66	-30.10	-28.85	-29.17	-29.59	-30.05	-30.76	-31.05	-31.08	-31.37	---	---
28	-29.16	-29.66	-28.74	-29.16	-29.49	-29.89	-30.78	-31.20	-31.02	-31.42	---	---
29	-29.02	-29.38	-28.74	-29.16	-29.45	-29.92	-30.69	-30.96	-31.09	-31.54	---	---
30	-28.98	-29.29	-28.68	-29.08	-29.56	-29.93	-30.60	-30.95	-31.05	-31.41	---	---
31	---	---	-28.45	-28.81	---	---	-30.60	-30.94	-30.94	-31.29	---	---
MONTH	-28.98	-30.93	-28.42	-29.43	-28.33	-30.47	-29.38	-31.60	-30.06	-31.60	-29.03	-31.42
YEAR	-27.78	-33.27										

Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

## MARYLAND--Continued

## PRINCE GEORGES COUNTY--Continued

WELL NUMBER.--PG Hf 42. SITE ID.--383348076411303. PERMIT NUMBER.--PG-73-0294.

LOCATION.--Lat 38°33'48", long 76°41'13", Hydrologic Unit 02060006, at Chalk Point Power Plant, 0.4 mi. south of Eagle Harbor.

Owner: Potomac Electric Power Co.

AQUIFER.--Aquia Formation of Lower Cretaceous age. Aquifer code: 125AQUI.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 386 ft; casing diameter 6 in., to 150 ft; casing diameter 4 in. from 150 to 366 ft and 376 to 386 ft; screen diameter 4 in. from 366 to 376 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by U.S. Geological Survey personnel.

Equipped with graphic water-level recorder from Jan. 2, 1975 to July 8, 1976. Equipped with digital water-level recorder--60-minute recorder interval from July 8, 1976 to current year.

DATUM.--Elevation of land surface is 27.76 ft above National Geodetic Vertical Datum of 1929.

Measuring Point: Top of casing, 2.65 ft above land surface.

REMARKS.--Southern Maryland Observation Well Network.

Missing data due to recorder malfunction.

PERIOD OF RECORD.--January 1975 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.84 ft above sea level, April 22, 1975; lowest measured, 31.57 ft below sea level, Sept. 11, 1993.

## WATER LEVEL, IN FEET BELOW SEA LEVEL, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

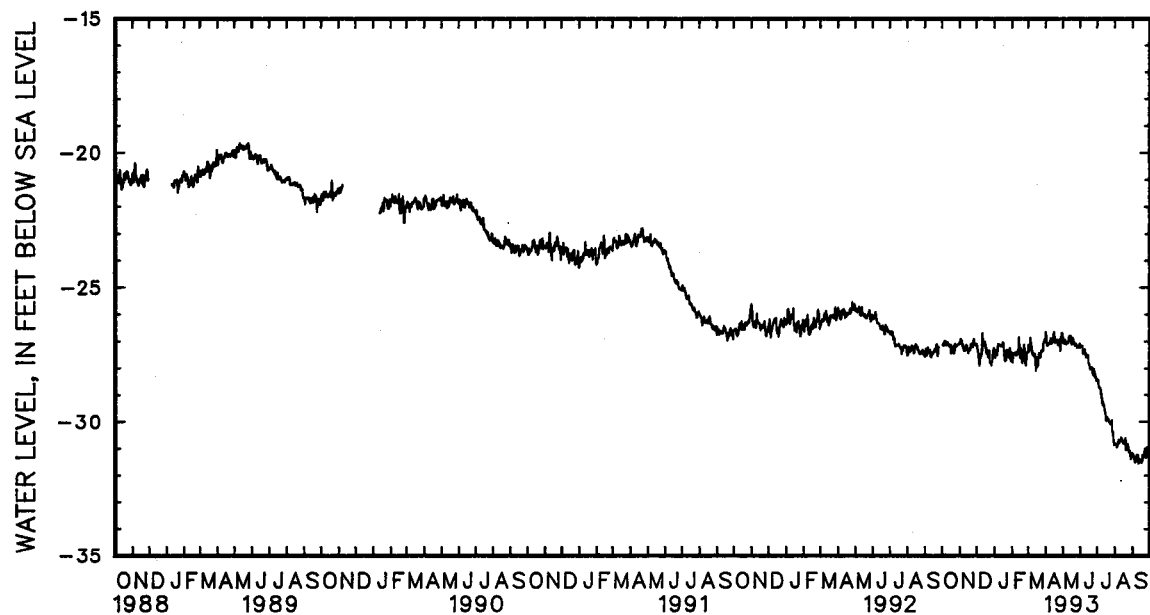
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	-26.91	-27.10	-26.91	-27.12	-27.08	-27.39	-27.17	-27.49	-27.08	-27.39
2	-26.90	-27.15	-26.59	-27.04	-26.84	-27.19	-27.37	-27.63	-27.49	-27.78	-26.91	-27.13
3	-26.90	-27.12	-26.57	-26.94	-26.84	-27.35	-27.24	-27.51	-27.00	-27.50	-26.98	-27.38
4	-26.94	-27.18	-26.61	-27.03	-26.93	-27.46	-27.08	-27.40	-26.96	-27.47	-26.52	-27.29
5	-26.71	-27.03	-26.56	-27.01	-26.91	-27.75	-26.91	-27.34	-27.09	-27.45	-26.51	-26.89
6	-26.64	-27.01	-26.97	-27.19	-27.29	-27.93	-27.18	-27.52	-26.99	-27.50	-26.73	-27.16
7	-26.84	-27.15	-26.92	-27.16	-27.14	-27.50	-26.93	-27.33	-27.00	-27.50	-26.93	-27.21
8	-26.92	-27.16	-27.02	-27.31	-27.32	-27.61	-26.76	-27.12	-26.92	-27.42	-26.87	-27.35
9	-26.73	-27.05	-27.11	-27.36	-27.20	-27.54	-26.82	-27.13	-27.14	-27.52	-27.08	-27.51
10	-26.72	-27.07	-27.04	-27.37	-26.43	-27.35	-26.85	-27.14	-27.10	-27.42	-26.99	-27.51
11	-26.64	-27.06	-26.91	-27.26	-26.22	-26.71	-26.89	-27.16	-27.12	-27.42	-26.98	-27.48
12	-26.84	-27.15	-26.77	-27.21	-26.64	-27.10	-26.94	-27.20	-26.64	-27.35	-27.29	-27.57
13	-26.84	-27.14	-26.66	-27.15	-26.91	-27.15	-26.77	-27.16	-26.59	-26.85	-26.24	-27.48
14	-26.92	-27.20	-27.02	-27.23	-26.79	-27.11	-26.90	-27.16	-26.74	-27.46	-26.42	-27.79
15	-26.96	-27.19	-27.07	-27.29	-26.74	-27.03	-26.88	-27.17	-27.23	-27.62	-27.79	-28.11
16	-26.86	-27.16	-27.19	-27.45	-26.84	-27.13	-26.80	-27.06	-26.87	-27.26	-27.54	-27.96
17	-26.97	-27.47	-26.93	-27.32	-26.91	-27.18	-26.82	-27.10	-26.91	-27.48	-27.26	-27.59
18	-26.92	-27.33	-26.94	-27.36	-26.97	-27.43	-26.88	-27.49	-27.26	-27.67	-27.36	-27.94
19	-26.92	-27.36	-27.11	-27.32	-27.18	-27.48	-27.35	-27.72	-27.52	-27.81	-27.41	-27.82
20	-26.93	-27.43	-27.07	-27.28	-26.94	-27.35	-27.43	-27.74	-27.07	-27.54	-27.17	-27.45
21	-26.88	-27.21	-26.78	-27.13	-27.26	-27.61	-27.33	-27.71	-26.88	-27.32	-27.13	-27.53
22	-27.12	-27.47	-26.73	-27.10	-27.13	-27.41	-26.88	-27.36	-26.72	-27.14	-27.26	-27.61
23	-26.98	-27.36	-26.64	-27.14	-26.95	-27.36	-26.99	-27.36	-26.92	-27.37	-27.19	-27.60
24	-26.65	-27.11	-26.91	-27.22	-26.97	-27.81	-26.91	-27.34	-27.29	-27.85	-26.99	-27.38
25	-26.83	-27.22	-26.64	-27.09	-27.20	-27.81	-27.18	-27.61	-27.60	-27.90	-27.13	-27.39
26	-26.78	-27.20	-26.58	-26.94	-27.19	-27.82	-27.28	-27.61	-27.22	-27.70	-27.05	-27.35
27	-26.82	-27.18	-26.78	-27.13	-27.61	-27.92	-27.11	-27.38	-27.21	-27.44	-26.95	-27.37
28	-26.81	-27.18	-26.86	-27.10	-27.33	-27.76	-26.93	-27.28	-27.16	-27.43	-26.79	-27.11
29	-26.85	-27.14	-26.92	-27.14	-27.26	-27.55	-26.94	-27.63	---	---	-26.79	-27.06
30	-26.90	-27.13	-26.95	-27.15	-27.12	-27.39	-27.29	-27.74	---	---	-26.78	-26.98
31	-26.89	-27.08	---	---	-27.08	-27.28	-27.18	-27.42	---	---	-26.64	-27.03
MONTH	-26.64	-27.47	-26.56	-27.45	-26.22	-27.93	-26.76	-27.74	-26.59	-27.90	-26.24	-28.11

GROUND-WATER LEVELS  
MARYLAND--Continued  
PRINCE GEORGES COUNTY--Continued  
PG Hf 42--Continued

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DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	-26.43	-26.67	-26.51	-26.82	-26.71	-27.23	-28.19	-28.46	-30.72	-30.87	-30.84	-31.20
2	-26.47	-26.78	-26.56	-27.02	-26.99	-27.20	-28.10	-28.43	-30.58	-30.86	-30.88	-31.24
3	-26.63	-27.15	-26.72	-27.10	-26.87	-27.18	-27.96	-28.45	-30.52	-30.83	-30.93	-31.29
4	-26.97	-27.18	-26.72	-27.04	-26.90	-27.20	-28.15	-28.68	-30.58	-30.89	-31.08	-31.41
5	-26.90	-27.15	-26.60	-26.97	-26.86	-27.19	-28.32	-28.75	-30.66	-30.97	-31.24	-31.52
6	-26.73	-27.07	-26.61	-27.08	-27.05	-27.49	-28.37	-28.74	-30.15	-30.91	-31.16	-31.49
7	-26.73	-27.11	-26.68	-27.10	-27.10	-27.44	-28.39	-28.76	-30.38	-30.77	-31.05	-31.41
8	-26.71	-27.09	-26.76	-27.11	-27.03	-27.33	-28.70	-28.96	-30.36	-30.69	-31.06	-31.33
9	-26.64	-27.06	-26.73	-27.06	-27.08	-27.32	-28.77	-28.98	-30.51	-30.81	-30.86	-31.24
10	-26.47	-26.91	-26.79	-27.07	-27.16	-27.44	-28.85	-29.14	-30.48	-30.76	-30.86	-31.24
11	-26.76	-27.10	-26.59	-27.06	-27.24	-27.59	-29.01	-29.38	-30.42	-30.72	-31.16	-31.57
12	-26.59	-26.94	-26.63	-26.88	-27.34	-27.59	-29.04	-29.27	-30.34	-30.62	-31.17	-31.41
13	-26.82	-27.05	-26.53	-26.83	-27.35	-27.52	-29.12	-29.36	-30.29	-30.62	-31.07	-31.43
14	-26.57	-26.92	-26.57	-26.85	-27.32	-27.53	-29.22	-29.46	-30.37	-30.73	-31.10	-31.41
15	-26.54	-26.76	-26.63	-26.81	-27.31	-27.54	-29.26	-29.63	-30.35	-30.75	-31.03	-31.41
16	-26.32	-26.67	-26.58	-27.06	-27.31	-27.84	-29.46	-29.70	-30.36	-30.82	-31.11	-31.52
17	-26.23	-26.97	-26.87	-27.13	-27.61	-27.87	-29.53	-29.98	-30.30	-30.74	-30.95	-31.51
18	-26.82	-27.06	-26.67	-27.01	-27.56	-27.92	-29.69	-29.97	-30.38	-30.83	-30.83	-31.25
19	-26.73	-26.99	-26.61	-26.90	-27.58	-28.04	-29.45	-29.84	-30.26	-30.79	-30.96	-31.35
20	-26.68	-26.97	-26.58	-27.02	-27.72	-28.04	-29.45	-29.90	-30.17	-30.64	-30.89	-31.31
21	-26.59	-26.95	-26.73	-27.05	-27.61	-28.01	-29.62	-29.92	-30.52	-31.07	-30.76	-31.11
22	-26.56	-27.02	-26.77	-27.16	-27.57	-27.99	-29.71	-29.99	-30.67	-31.04	-30.86	-31.29
23	-26.81	-27.14	-26.92	-27.16	-27.82	-28.18	-29.76	-30.05	-30.50	-30.88	-30.74	-31.15
24	-26.84	-27.14	-26.77	-27.11	-27.95	-28.26	-29.77	-30.05	-30.53	-30.85	-30.74	-31.34
25	-26.65	-27.05	-26.90	-27.14	-27.90	-28.19	-29.80	-30.10	-30.53	-30.99	-30.82	-31.14
26	-26.66	-26.95	-27.06	-27.24	-27.81	-28.05	-29.75	-30.05	-30.75	-31.15	-30.66	-30.96
27	-26.95	-27.37	-27.06	-27.21	-27.89	-28.33	-29.74	-29.96	-30.79	-31.10	-30.64	-30.98
28	-26.54	-27.07	-26.95	-27.20	-28.03	-28.23	-29.86	-30.34	-30.80	-31.24	-30.82	-31.21
29	-26.43	-26.72	-26.95	-27.24	-27.96	-28.35	-30.00	-30.41	-30.85	-31.40	-30.91	-31.30
30	-26.42	-26.70	-27.03	-27.23	-28.09	-28.48	-30.22	-30.67	-30.89	-31.29	-30.98	-31.29
31	---	---	-26.79	-27.11	---	---	-30.54	-30.87	-30.82	-31.18	---	---
MONTH	-26.23	-27.37	-26.51	-27.24	-26.71	-28.48	-27.96	-30.87	-30.15	-31.40	-30.64	-31.57
YEAR	-26.22	-31.57										

Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

QUEEN ANNES COUNTY

WELL NUMBER.--QA Be 15. SITE ID.--391203076024301. PERMIT NUMBER.--QA-70-0130.

LOCATION.--Lat 39°12'03", long 76°02'43", Hydrologic Unit 02060002, at Kingstown off MD Rt. 213.

Owner: U.S. Geological Survey.

AQUIFER.--Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSC.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 1,171 ft; casing diameter 4 in., to 1,161 ft; screen diameter 4 in. from 1,161 to 1,171 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

Measured twice yearly from February 1988 to April 1991.

DATUM.--Elevation of land surface is 25 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of casing, 2.75 ft above land surface.

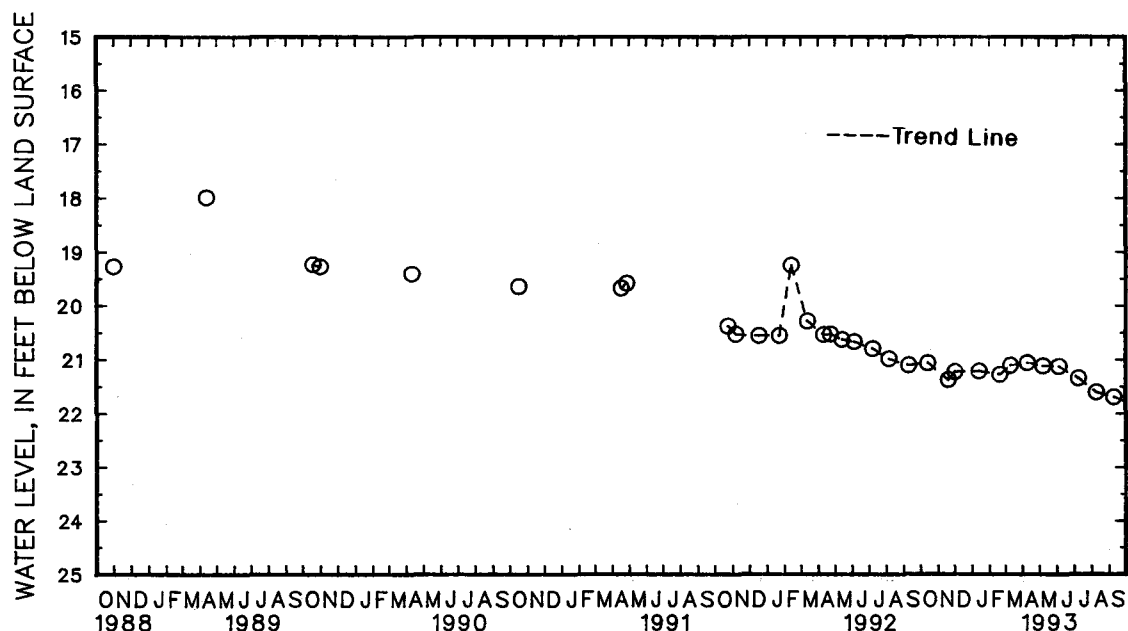
REMARKS.--Maryland Water-Level Network observation well.

PERIOD OF RECORD.--March 1971 to October 1972, July 1977 to December 1978, October 1986 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 15.52 ft below land surface, Oct. 10, 1971; lowest measured, 21.70 ft below land surface, Sept. 9, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 13	21.07	DEC 1	21.23	FEB 19	21.28	APR 9	21.06	JUN 4	21.13	AUG 9	21.61
NOV 19	21.38	JAN 13	21.22	MAR 10	21.11	MAY 7	21.12	JUL 8	21.35	SEP 9	21.70
WATER YEAR 1993		HIGHEST	21.06	APR 9, 1993	LOWEST	21.70	SEP 9, 1993				



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

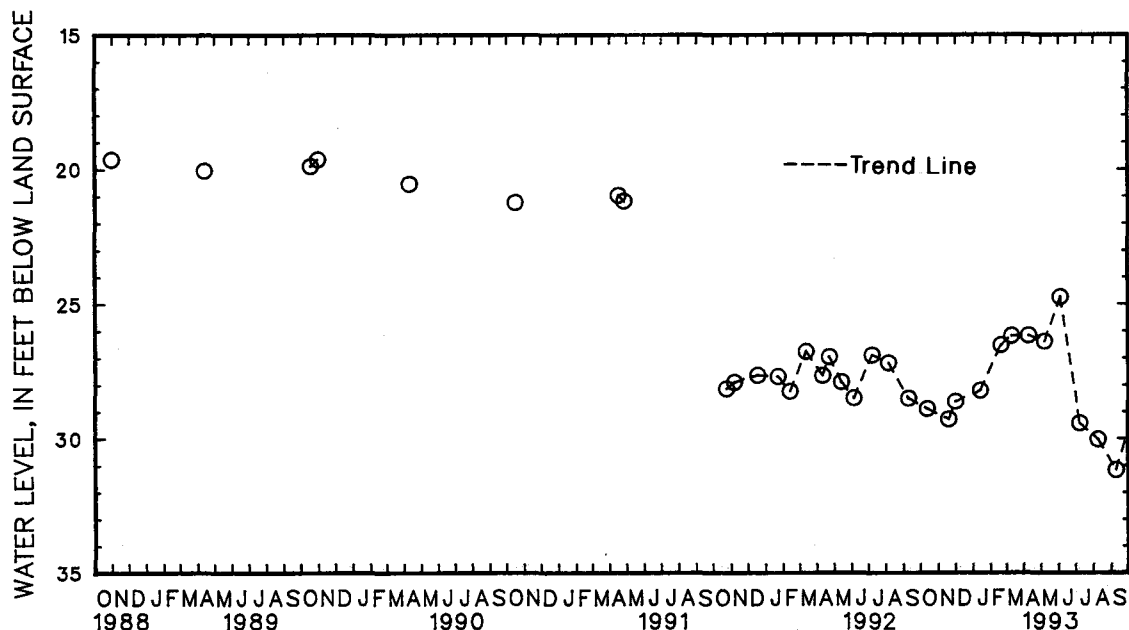


GROUND-WATER LEVELS  
MARYLAND--Continued  
QUEEN ANNES COUNTY--Continued

WELL NUMBER.--QA Be 16. SITE ID.--391203076024302. PERMIT NUMBER.--QA-70-0130.  
LOCATION.--Lat 39°12'03", long 76°02'43", Hydrologic Unit 02060002, at Kingstown off MD Rt. 213.  
Owner: U.S. Geological Survey.  
AQUIFER.--Potomac Group of Lower Cretaceous age. Aquifer code: 217PTMC.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 495 ft; casing diameter 6 in., to 475 ft; screen diameter 6 in. from 475 to 495 ft.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
Measured twice yearly from February 1988 to April 1991.  
DATUM.--Elevation of land surface is 25 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
Measuring point: Top of casing, 2.70 ft above land surface.  
REMARKS.--Maryland Water-Level Network observation well. Water levels may be affected by nearby pumping.  
PERIOD OF RECORD.--March 1971 to September 1972, July 1977 to May 1979, October 1986 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 14.41 ft below land surface, Sept. 11, 1971; lowest measured, 31.18 ft below land surface, Sept. 9, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 13	28.90	DEC 1	28.63	FEB 19	26.53	APR 9	26.17	JUN 4	24.74	AUG 9	30.04
NOV 19	29.29	JAN 13	28.22	MAR 10	26.18	MAY 7	26.41	JUL 8	29.44	SEP 9	31.18
WATER YEAR 1993		HIGHEST	24.74	JUN 4, 1993	LOWEST	31.18	SEP 9, 1993				

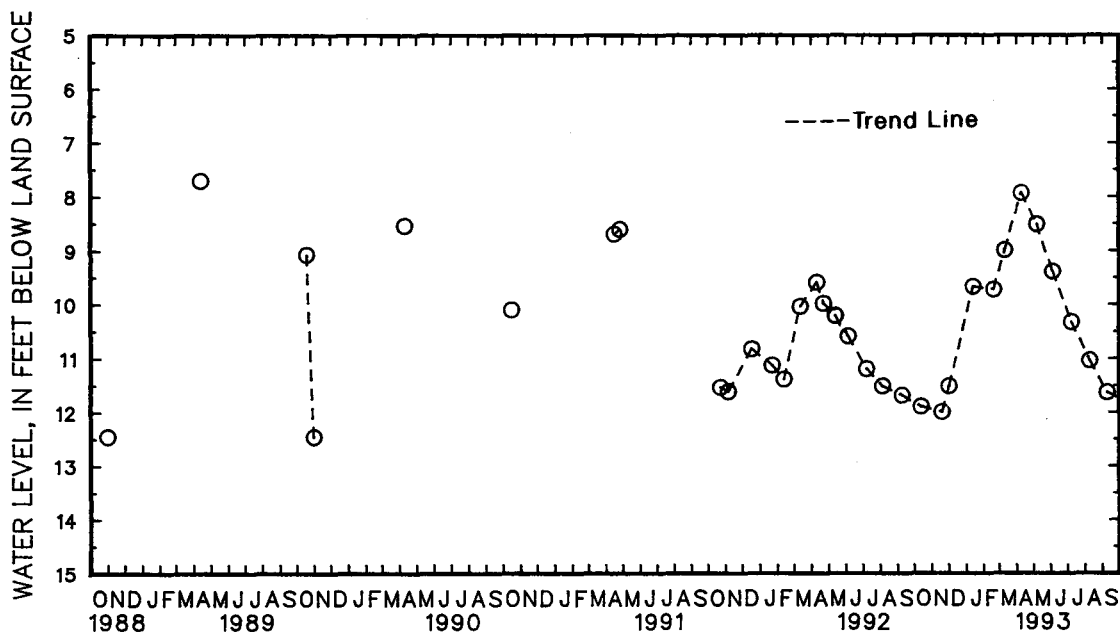


5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

WELL NUMBER.--QA Be 17. SITE ID.--391203076024303.  
LOCATION.--Lat 39°12'03", long 76°02'43", Hydrologic Unit 02060002, at Kingstown off MD Rt. 213.  
Owner: U.S. Geological Survey.  
AQUIFER.--Aquia Formation of Upper Paleocene age. Aquifer code: 125AQUI.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 120 ft; casing diameter 6 in., to 100 ft;  
screen diameter 6 in. from 100 to 120 ft.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
Measured twice yearly from February 1988 to April 1991.  
DATUM.--Elevation of land surface is 25 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
Measuring point: Top of casing, 2.50 ft above land surface.  
REMARKS.--Maryland Water-Level Network observation well. Water levels may be affected by nearby pumping.  
PERIOD OF RECORD.--July 1977 to July 1979, October 1986 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.94 ft below land surface, March 6, 1979;  
lowest measured, 13.00 ft below land surface, Sept. 30, 1977.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE		WATER LEVEL		DATE		WATER LEVEL		DATE		WATER LEVEL		DATE		WATER LEVEL	
OCT 13	11.90	DEC 1	11.52	FEB 19	9.73	APR 9	7.93	JUN 4	9.39	AUG 9	11.05	NOV 19	12.00	JAN 13	9.67
NOV 19	12.00	JAN 13	9.67	MAR 10	8.99	MAY 7	8.51	JUL 8	10.33	SEP 9	11.64				
WATER YEAR 1993		HIGHEST		7.93		APR 9, 1993		LOWEST		12.00		NOV 19, 1992			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
QUEEN ANNES COUNTY--Continued

WELL NUMBER.--QA Cg 1. SITE ID.--390841075515201. PERMIT NUMBER.--QA-00-3949.

LOCATION.--Lat 39°08'41", long 75°51'52", Hydrologic Unit 02060002, at Barclay.

Owner: Town of Barclay.

AQUIFER.--Pensauken Formation of Miocene age. Aquifer code: 122PNSK.

WELL CHARACTERISTICS.--Drilled, unused, water-table well, reported depth 60 ft, measured depth 44 ft; casing diameter 4 in., to 50 ft; screened from 50 to 60 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 69 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Lip of hose connector, 1.90 ft above land surface.

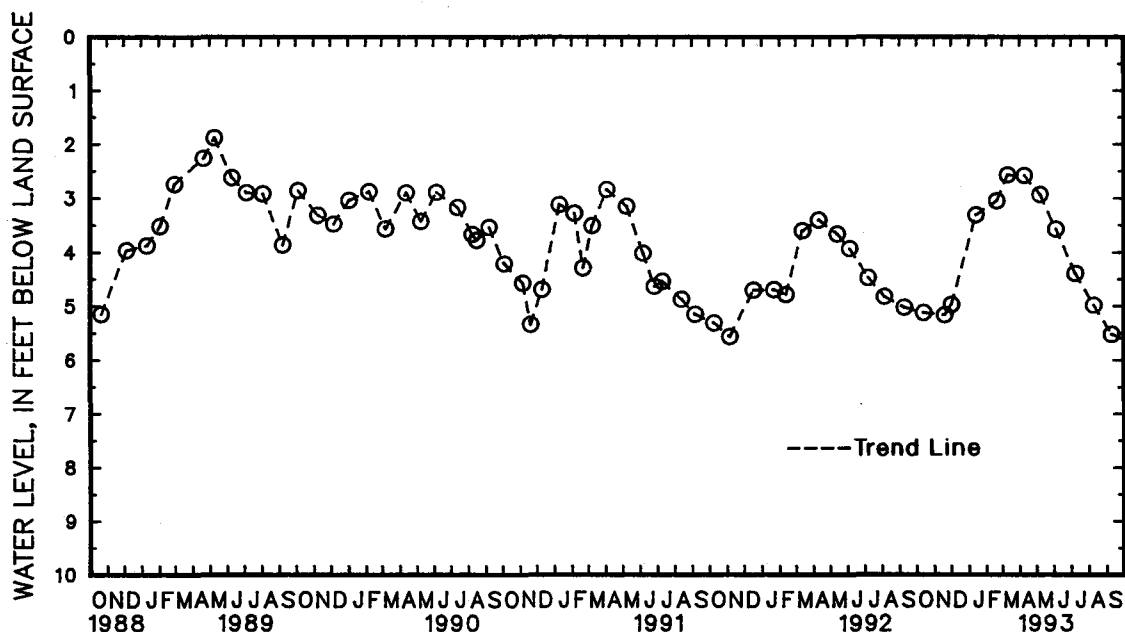
REMARKS.--Maryland Water-Level Network observation well. Reported water level 4.0 ft below land surface, June 10, 1949.

PERIOD OF RECORD.--July 1953, May 1956 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.67 ft below land surface, Feb. 8, 1973; lowest measured, 6.47 ft below land surface, Jan. 3, 1966.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 13	5.13	DEC 1	4.98	FEB 19	3.05	APR 9	2.58	JUN 4	3.57	AUG 9	4.99
NOV 19	5.17	JAN 13	3.31	MAR 10	2.57	MAY 7	2.93	JUL 8	4.40	SEP 9	5.53
WATER YEAR 1993		HIGHEST	2.57	MAR 10, 1993	LOWEST		5.53	SEP 9, 1993			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

## MARYLAND--Continued

## QUEEN ANNES COUNTY--Continued

WELL NUMBER.--QA Db 32. SITE ID.--390201076182703. PERMIT NUMBER.--QA-81-0473.

LOCATION.--Lat 39°02'01", long 76°18'27", Hydrologic Unit 02060002, north side of Pier Avenue, 0.5 mi south of Love Point.

Owner: Maryland Geological Survey.

AQUIFER.--Aquia Formation of Upper Paleocene age. Aquifer code: 125AQUI.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 116 ft; casing diameter 4 in., to 106 ft; screen diameter 4 in. from 106 to 116 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 18.00 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of casing, 2.10 ft above land surface.

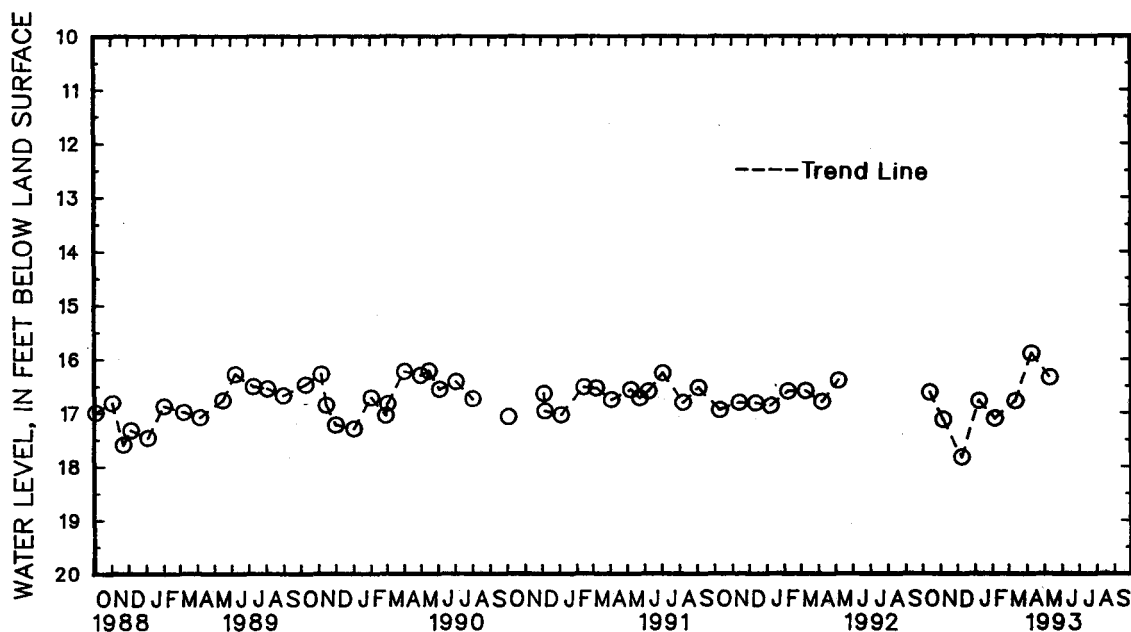
REMARKS.--Kent Island ground-water monitoring network well.

PERIOD OF RECORD.--May 1985 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 15.80 ft below land surface, Dec. 2, 1985; lowest measured, 17.83 ft below land surface, Dec. 8, 1992.

## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 13	16.62	DEC 8	17.83	FEB 5	17.11	APR 9	15.89
NOV 6	17.13	JAN 8	16.78	MAR 12	16.78	MAY 11	16.34
WATER YEAR 1993		HIGHEST	15.89	APR 9, 1993		LOWEST	19.99 JAN 8, 1993



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

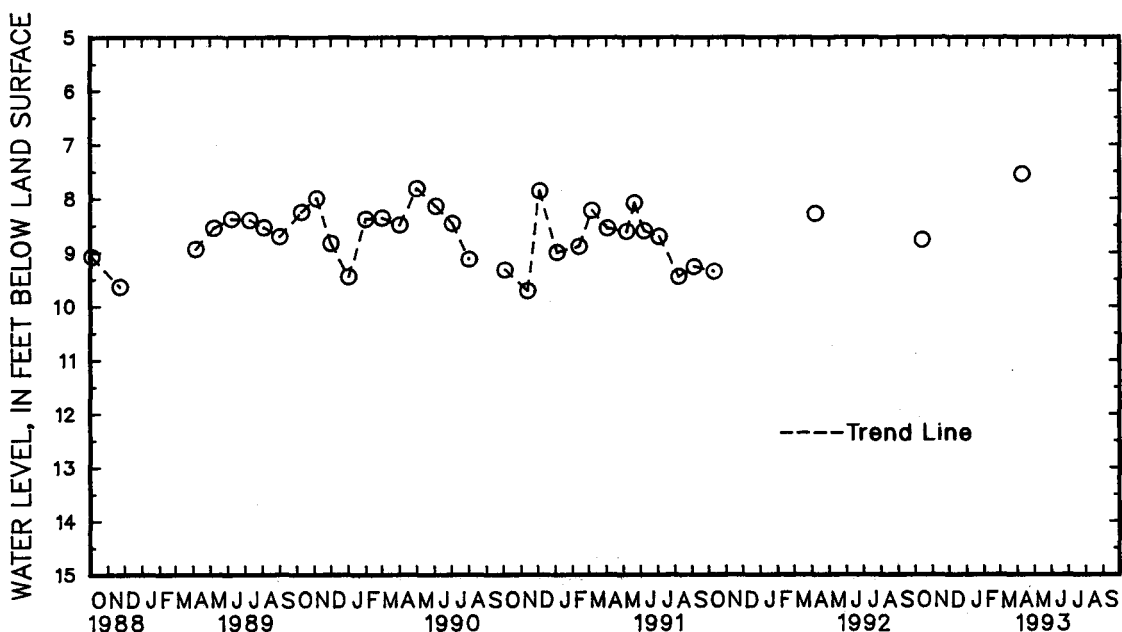
MARYLAND--Continued

QUEEN ANNES COUNTY--Continued

WELL NUMBER.--QA Db 34. SITE ID.--390023076174301. PERMIT NUMBER.--QA-81-0471.  
 LOCATION.--Lat 39°00'23", long 76°17'43", Hydrologic Unit 02060002, near Cloverfields community park, Kent Island.  
 Owner: Maryland Geological Survey.  
 AQUIFER.--Aquia Formation of Upper Paleocene age. Aquifer code: 125AQUI.  
 WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 180 ft; casing diameter 4 in., to 170 ft; screen diameter 4 in. from 170 to 180 ft.  
 INSTRUMENTATION.--Measured twice yearly with chalked steel tape by U.S. Geological Survey personnel.  
 DATUM.--Elevation of land surface is 7.4 ft above National Geodetic Vertical Datum of 1929.  
 Measuring point: Top of casing, 2.50 ft above land surface.  
 REMARKS.--Kent Island ground-water monitoring network well. Measured twice yearly from April 1986 to April 1989.  
 PERIOD OF RECORD.--April 1985 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 7.25 ft below land surface, Dec. 2, 1985; lowest measured, 9.72 ft below land surface, Nov. 13, 1990.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 13	8.77	APR 9	7.55
WATER YEAR 1993      HIGHEST      7.55      APR 9, 1993      LOWEST      8.77      OCT 13, 1992			



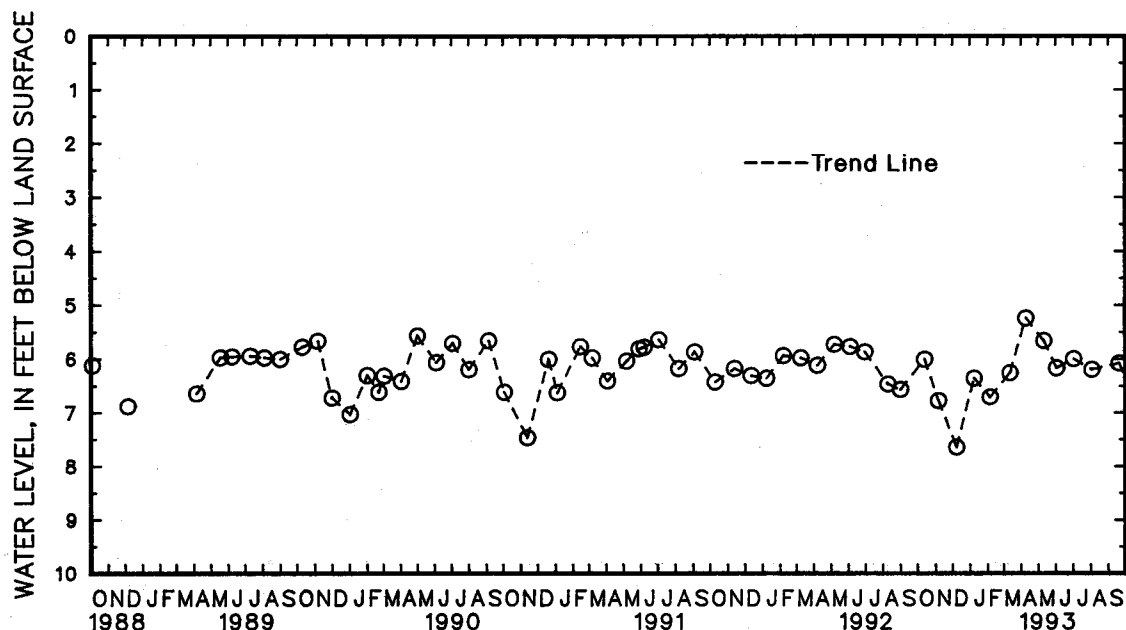
5 YEAR HYDROGRAPH  
 OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
QUEEN ANNES COUNTY--Continued

WELL NUMBER.--QA Db 35. SITE ID.--390119076191001. PERMIT NUMBER.--QA-81-0472.  
LOCATION.--Lat 39°01'19", long 76°19'10", Hydrologic Unit 02060002, 0.5 mi west of MD Rt. 18, at Mylander Farms, Kent Island.  
Owner: Maryland Geological Survey.  
AQUIFER.--Aquia Formation of Upper Paleocene age. Aquifer code: 125AQUI.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 200 ft; casing diameter 4 in., to 190 ft; screen diameter 4 in. from 190 to 200 ft.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel. Measured twice yearly from April 1987 to April 1989.  
DATUM.--Elevation of land surface is 7.5 ft above National Geodetic Vertical Datum of 1929.  
Measuring point: Top of casing, 2.20 ft above land surface.  
REMARKS.--Kent Island ground-water monitoring network well.  
PERIOD OF RECORD.--August 1984 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.00 ft below land surface, Dec. 2, 1985; lowest measured, 7.65 ft below land surface, Dec. 8, 1992.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 13	6.01	DEC 8	7.65	FEB 5	6.71	APR 9	5.24	JUN 2	6.17	AUG 3	6.20
NOV 6	6.78	JAN 8	6.36	MAR 12	6.26	MAY 11	5.66	JUL 2	6.00	SEP 20	6.08
WATER YEAR 1993		HIGHEST	5.24	APR 9, 1993		LOWEST	7.65	DEC 8, 1992			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

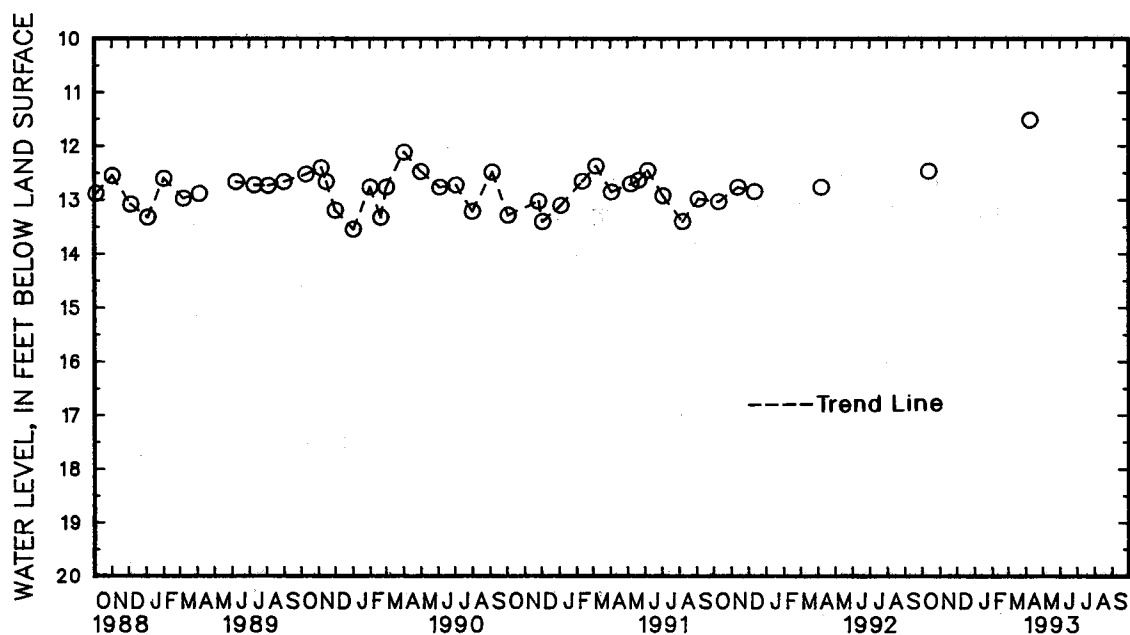


GROUND-WATER LEVELS  
MARYLAND--Continued  
QUEEN ANNES COUNTY--Continued

WELL NUMBER.--QA Ea 77. SITE ID.--385718076211501. PERMIT NUMBER.--QA-81-0474.  
LOCATION.--Lat 38°57'18", long 76°21'15", Hydrologic Unit 02060002, at Matapeake State Park.  
Owner: Maryland Geological Survey.  
AQUIFER.--Aquia Formation of Upper Paleocene age. Aquifer code: 125AQUI.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 205 ft; casing diameter 4 in., to 195 ft; screen diameter 4 in. from 195 to 205 ft.  
INSTRUMENTATION.--Measured twice yearly with chalked steel tape by U.S. Geological Survey personnel.  
DATUM.--Elevation of land surface is 10.8 ft above National Geodetic Vertical Datum of 1929.  
Measuring point: Top of casing, 2.24 ft above land surface.  
REMARKS.--Kent Island ground-water monitoring network well.  
PERIOD OF RECORD.--April 1985 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 11.07 ft below land surface, Dec. 2, 1985; lowest measured, 13.71 ft below land surface, July 5, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 13	12.47	APR 9	11.52
WATER YEAR 1993      HIGHEST    11.52    APR 9, 1993      LOWEST    12.47    OCT 13, 1992			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

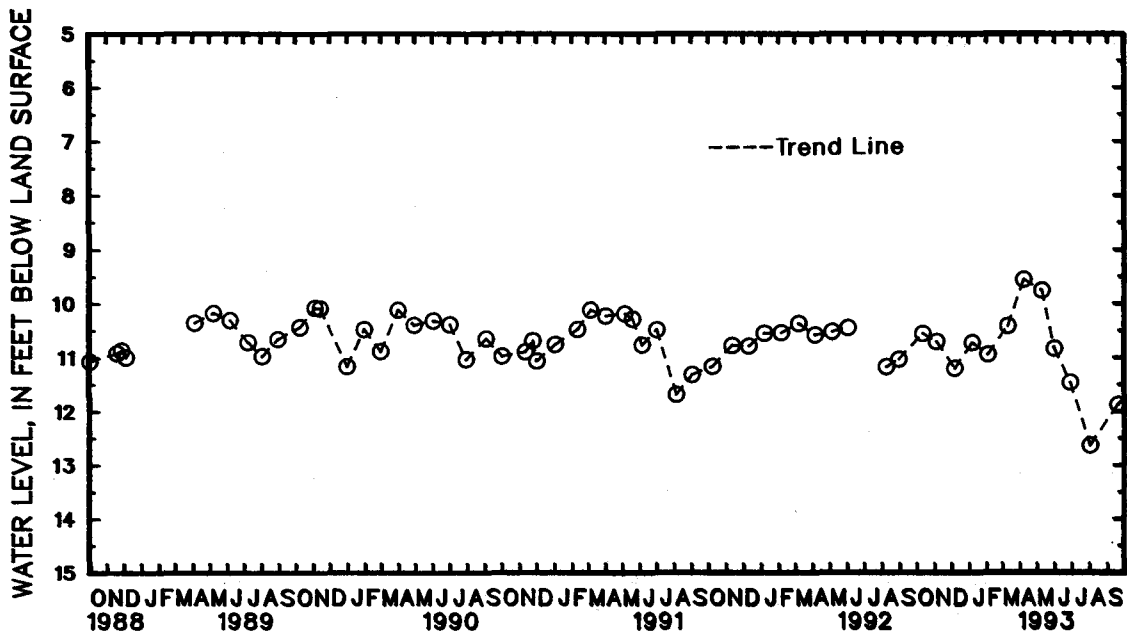
MARYLAND--Continued

QUEEN ANNES COUNTY--Continued

WELL NUMBER.--QA Ea 79. SITE ID.--385757076200101. PERMIT NUMBER.--QA-81-0469.  
 LOCATION.--Lat 38°57'57", long 76°20'01", Hydrologic Unit 02060002, at Mowbray Park, Kent Island.  
 Owner: Maryland Geological Survey.  
 AQUIFER.--Aquia Formation of Upper Paleocene age. Aquifer code: 125AQUI.  
 WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 298 ft; casing diameter 4 in., to 288 ft; screen diameter 4 in. from 288 to 298 ft.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 Measured twice yearly from October 1986 to April 1989.  
 DATUM.--Elevation of land surface is 8.3 ft above National Geodetic Vertical Datum of 1929.  
 Measuring point: Top of casing, 2.30 ft above land surface.  
 REMARKS.--Kent Island ground-water monitoring network well.  
 PERIOD OF RECORD.--April 1985 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.30 ft below land surface, Dec. 2, 1985; lowest measured, 12.65 ft below land surface, Aug. 3, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 13	10.57	DEC 8	11.22	FEB 5	10.95	APR 9	9.57	JUN 2	10.85	AUG 3	12.65
NOV 6	10.72	JAN 8	10.74	MAR 12	10.43	MAY 11	9.77	30	11.48	SEP 20	11.89
WATER YEAR 1993		HIGHEST		9.57		APR 9, 1993		LOWEST		12.65	
										AUG 3, 1993	



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

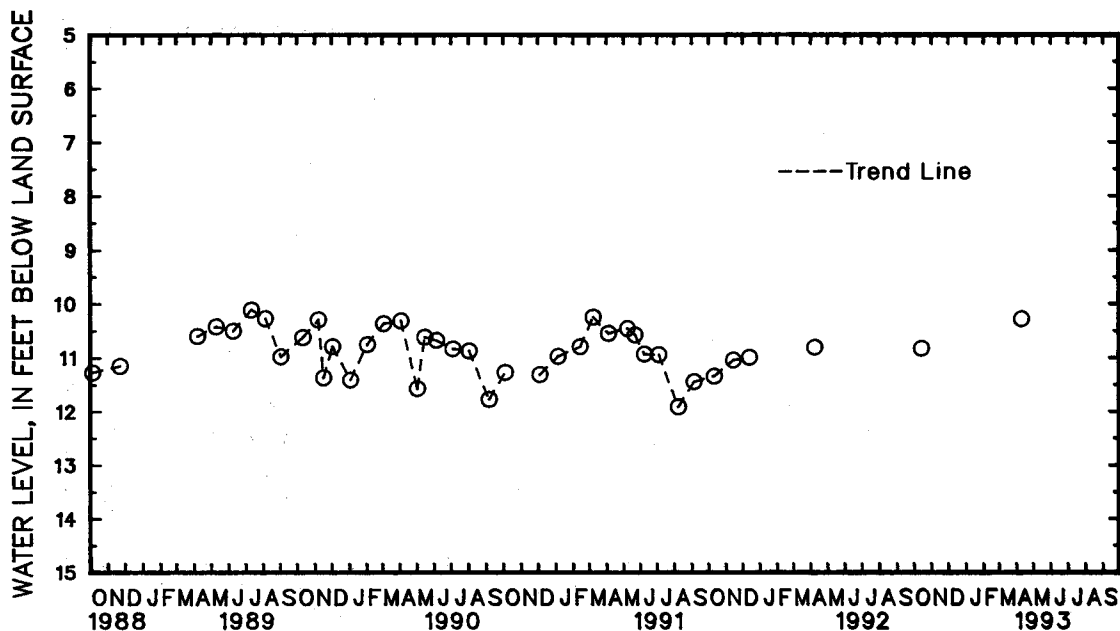
MARYLAND--Continued

QUEEN ANNES COUNTY--Continued

WELL NUMBER.--QA Ea 80. SITE ID.--385757076200102. PERMIT NUMBER.--QA-81-0469.  
 LOCATION.--Lat 38°57'57", long 76°20'01", Hydrologic Unit 02060002, at Mowbray Park, Kent Island.  
 Owner: Maryland Geological Survey.  
 AQUIFER.--Aquia Formation of Upper Paleocene age. Aquifer code: 125AQUI.  
 WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 130 ft; casing diameter 4 in.,  
 to 120 ft; screen diameter 4 in. from 120 to 130 ft.  
 INSTRUMENTATION.--Measured twice yearly with chalked steel tape by U.S. Geological Survey personnel.  
 Measured twice yearly from October 1986 to April 1989.  
 DATUM.--Elevation of land surface is 8.5 ft above National Geodetic Vertical Datum of 1929.  
 Measuring point: Top of casing, 2.51 ft above land surface.  
 REMARKS.--Kent Island ground-water monitoring network well.  
 PERIOD OF RECORD.--April 1985 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.45 ft below land surface, Dec. 2, 1985;  
 lowest measured, 11.91 ft below land surface, Aug. 7, 1991.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 13	10.82	APR 9	10.27
WATER YEAR 1993      HIGHEST    10.27    APR 9, 1993      LOWEST    10.82    OCT 13, 1992			



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

## MARYLAND--Continued

## QUEEN ANNES COUNTY--Continued

WELL NUMBER.--QA Ea 81. SITE ID.--385718076211503. PERMIT NUMBER.--QA-81-0474.

LOCATION.--Lat 38°57'18", long 76°21'15", Hydrologic Unit 02060002, at Matapeake State Park.

Owner: Maryland Geological Survey.

AQUIFER.--Aquia Formation of Upper Paleocene age. Aquifer code: 125AQUI.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 310 ft; casing diameter 4 in., to 300 ft; screen diameter 4 in. from 300 to 310 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 12.4 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of casing, 2.16 ft above land surface.

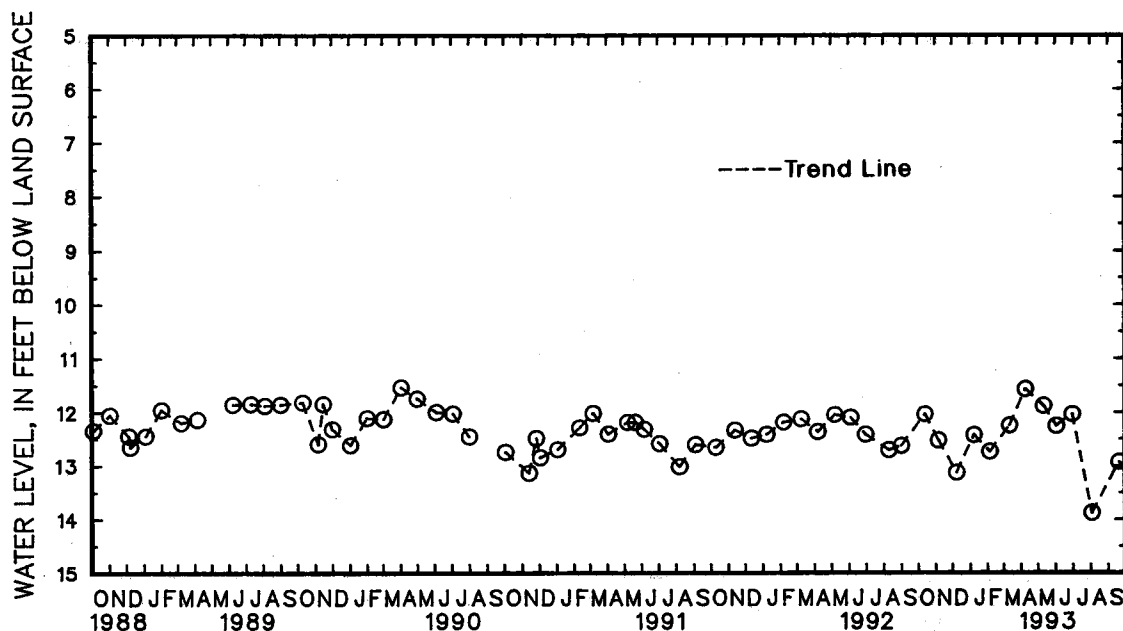
REMARKS.--Maryland Water-Level Network observation well.

PERIOD OF RECORD.--April 1985 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.54 ft below land surface, Dec. 2, 1985; lowest measured, 13.88 ft below land surface, Aug. 3, 1993.

## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER LEVEL YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 13	12.04	DEC 8	13.13	FEB 5	12.74	APR 9	11.57	JUN 2	12.26	AUG 3	13.88
NOV 6	12.53	JAN 8	12.43	MAR 12	12.25	MAY 11	11.88	JUN 30	12.04	SEP 20	12.93
WATER YEAR 1993		HIGHEST	11.57	APR 9, 1993		LOWEST	13.88	AUG 3, 1993			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

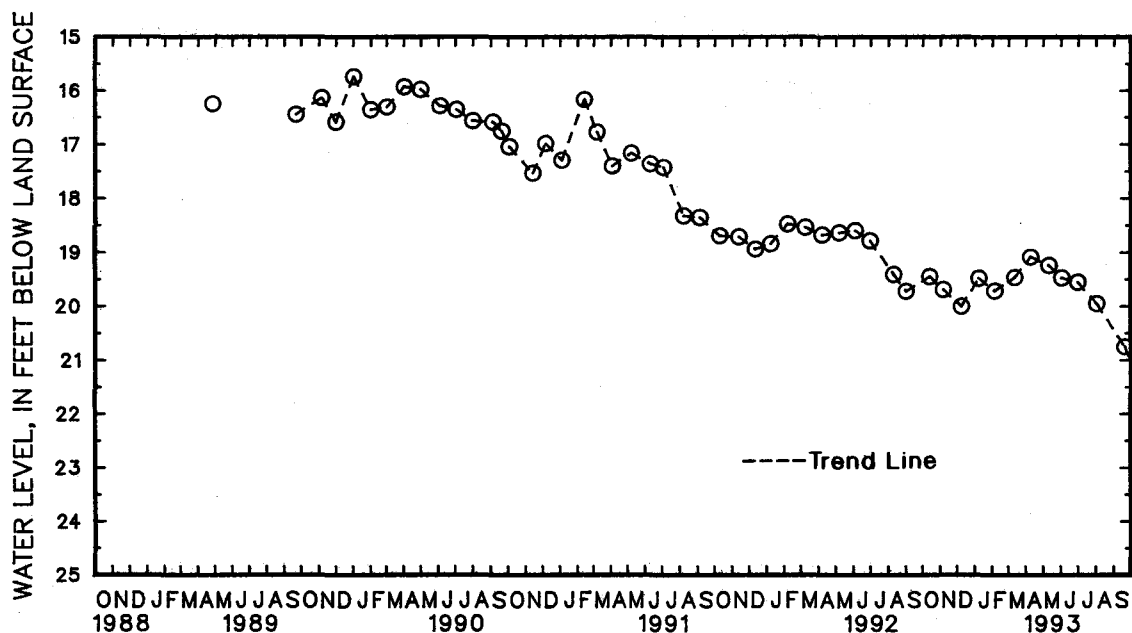
## MARYLAND--Continued

QUEEN ANNES COUNTY--Continued

WELL NUMBER.--QA Eb 111. SITE ID.--385751076171601. PERMIT NUMBER.--QA-73-3122.  
LOCATION.--Lat 38°57'51", long 76°17'16", Hydrologic Unit 02060002, near Chester, Kent Island.  
Owner: U.S. Geological Survey.  
AQUIFER.--Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSC.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 985 ft; casing diameter 4 in., to 955 ft,  
and 965 to 975 ft; screen diameter 4 in., from 955 to 965 ft, and 975 to 985 ft.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
Twice yearly measurements from April 1984 to September 1980.  
DATUM.--Elevation of land surface is 13.56 ft above National Geodetic Vertical Datum of 1929.  
Measuring point: Top of casing, 1.41 ft above land surface.  
REMARKS.--Maryland Water-Level Network observation well.  
PERIOD OF RECORD.--December 1979, April 1984 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.02 ft below land surface, Jan. 21, 1980;  
lowest measured, 20.76 ft below land surface, Sept. 20, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 13	19.46	DEC 8	20.01	FEB 5	19.72	APR 9	19.09	JUN 2	19.48	AUG 2	19.96
NOV 6	19.7	JAN 8	19.48	MAR 12	19.47	MAY 11	19.25	JUN 30	19.56	SEP 20	20.76
WATER YEAR 1993		HIGHEST	19.09	APR 9, 1993		LOWEST	20.76	SEP 20, 1993			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

QUEEN ANNES COUNTY--Continued

WELL NUMBER.--QA Eb 112. SITE ID.--385751076171602. PERMIT NUMBER.--QA-73-3123.

LOCATION.--Lat 38°57'51", long 76°17'16", Hydrologic Unit 02060002, near Chester, Kent Island.

Owner: U.S. Geological Survey.

AQUIFER.--Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PFSC.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 1,679 ft; casing diameter 4 in., to 1,652 ft, and 1,662 to 1,669 ft; screen diameter 4 in., from 1,652 to 1,662 ft, and 1,669 to 1,679 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

Twice yearly measurements from January 1980 to September 1980.

DATUM.--Elevation of land surface is 13.99 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of casing, 1.36 ft above land surface.

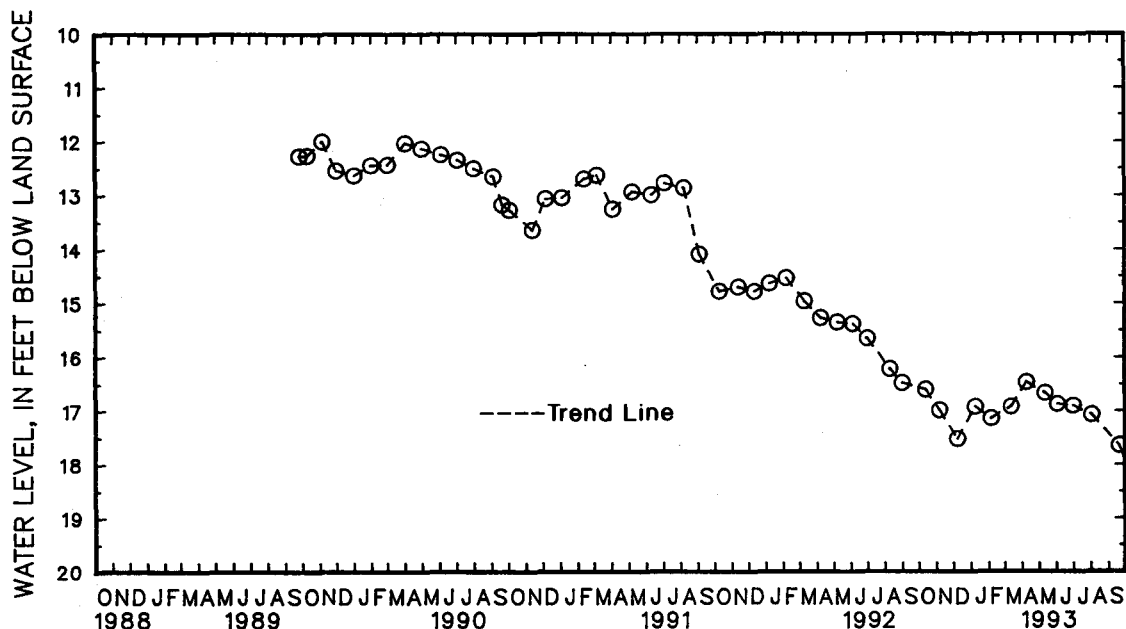
REMARKS.--Maryland Water-Level Network observation well.

PERIOD OF RECORD.--January 1980 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.69 ft below land surface, Jan. 21, 1980; lowest measured, 17.65 ft below land surface, Sept. 20, 1993.

## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 13	16.61	DEC 8	17.53	FEB 5	17.15	APR 9	16.47	JUN 2	16.88	AUG 2	17.08
NOV 6	17.00	JAN 8	16.94	MAR 12	16.93	MAY 11	16.67	30	16.91	SEP 20	17.65
WATER YEAR 1993		HIGHEST	16.47	APR 9, 1993	LOWEST	17.65	SEP 20, 1993				



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993



## GROUND-WATER LEVELS

409

## MARYLAND--Continued

## QUEEN ANNES COUNTY--Continued

WELL NUMBER.--QA Eb 113. SITE ID.--385748076172001. PERMIT NUMBER.--QA-73-3172.

LOCATION.--Lat 38°57'48", long 76°17'20", Hydrologic Unit 02060001, nr Chester, Kent Island.

Owner: U.S. Geological Survey.

AQUIFER.--Aquia Formation of Upper Paleocene age. Aquifer code: 125AQUI.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 216 ft; casing diameter 6 in., to 176 ft; screen diameter 6 in. from 176 to 216 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

Equipped with graphic water-level recorder from June 30, 1986 to current year.

DATUM.--Elevation of land surface is 14.5 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring Point: Top of casing, 2.6 ft above land surface.

REMARKS.--Kent Island ground-water monitoring network well. Missing data due to recorder malfunction.

PERIOD OF RECORD.--April 1985 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 14.05 ft below land surface, April 18, 1989; lowest measured, 19.98 ft below land surface, Aug. 3, 1993.

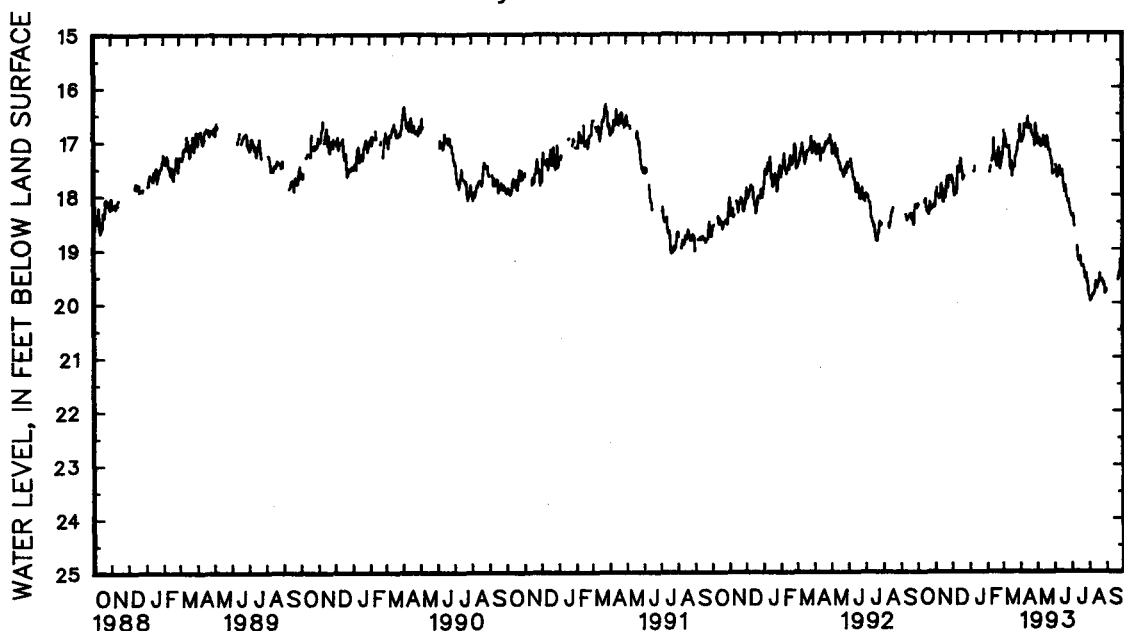
## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	18.22	18.17	18.23	18.16	17.65	17.59	---	---	---	---	17.27	17.03
2	18.17	18.12	18.20	17.92	17.68	17.56	---	---	---	---	17.15	17.04
3	18.19	18.09	17.97	17.85	17.79	17.56	---	---	---	---	17.09	16.74
4	---	---	17.96	17.77	17.79	17.56	---	---	---	---	16.81	16.71
5	---	---	17.88	17.76	17.97	17.55	---	---	---	---	16.98	16.76
6	---	---	---	---	18.02	17.85	---	---	17.58	17.24	16.95	16.85
7	---	---	---	---	17.96	17.81	---	---	17.52	17.27	17.00	16.80
8	---	---	18.01	17.91	---	---	---	---	17.47	17.23	17.12	16.91
9	---	---	18.07	17.95	17.98	17.87	17.57	17.46	---	---	17.10	16.89
10	---	---	18.07	17.97	17.91	17.49	17.57	17.45	17.38	17.24	17.14	16.93
11	---	---	18.03	17.83	17.49	17.10	17.48	17.37	17.32	17.23	---	---
12	---	---	17.86	17.76	17.48	17.10	---	---	17.32	16.90	---	---
13	---	---	17.80	17.55	17.59	17.47	---	---	16.95	16.80	17.10	16.51
14	18.15	18.06	17.88	17.59	17.59	17.51	---	---	17.26	16.95	17.30	16.60
15	18.11	18.05	18.00	17.86	17.53	17.34	---	---	17.36	17.26	17.52	17.30
16	18.08	17.95	18.13	17.94	17.38	17.26	---	---	17.30	16.99	17.50	17.35
17	18.25	18.05	18.14	17.87	17.33	17.25	---	---	17.26	17.04	17.38	17.22
18	18.24	18.12	17.92	17.86	17.46	17.18	---	---	17.41	17.20	17.66	17.38
19	18.32	18.11	18.03	17.91	17.56	17.46	---	---	17.48	17.39	17.65	17.51
20	18.33	18.10	18.06	17.93	17.56	17.39	---	---	17.39	17.23	17.51	17.36
21	18.27	18.08	17.97	17.73	17.73	17.38	---	---	17.30	17.02	17.46	17.29
22	18.37	18.25	17.79	17.59	17.69	17.56	---	---	17.13	16.94	17.49	17.37
23	18.32	18.14	17.67	17.54	17.65	17.50	---	---	17.21	17.04	17.48	17.28
24	18.14	17.94	17.88	17.60	---	---	---	---	17.50	17.21	17.28	17.14
25	18.28	18.04	17.81	17.63	---	---	---	---	17.53	17.47	17.28	17.19
26	18.28	18.09	17.72	17.55	---	---	---	---	17.47	17.31	17.22	17.11
27	18.26	18.12	17.65	17.54	---	---	---	---	17.36	17.26	17.19	17.07
28	18.25	18.17	17.66	17.57	---	---	---	---	17.34	17.21	17.09	16.96
29	18.23	18.13	17.69	17.61	---	---	---	---	---	---	17.04	16.98
30	18.19	18.15	17.73	17.65	---	---	---	---	---	---	17.01	16.93
31	18.22	18.12	---	---	---	---	---	---	---	---	17.00	16.79
MONTH	18.37	17.94	18.23	17.54	18.02	17.10	17.57	17.37	17.58	16.80	17.66	16.51

GROUND-WATER LEVELS  
MARYLAND--Continued  
QUEEN ANNES COUNTY--Continued  
QA Eb 113--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	16.79	16.65	16.77	16.64	17.56	17.32	18.40	18.24	19.88	19.72	19.76	19.64
2	16.71	16.62	16.99	16.72	---	---	---	---	19.90	19.76	---	---
3	16.94	16.67	17.06	16.90	17.45	17.31	18.37	18.11	19.98	19.81	---	---
4	17.03	16.86	17.06	16.93	17.48	17.29	18.40	18.23	19.95	19.87	---	---
5	17.03	16.90	16.99	16.82	17.54	17.28	18.56	18.28	19.95	19.89	---	---
6	16.97	16.84	16.95	16.77	17.69	17.47	18.59	18.46	19.92	19.69	---	---
7	16.95	16.83	17.02	16.88	17.68	17.58	---	---	19.87	19.75	---	---
8	16.90	16.76	17.10	16.93	17.61	17.50	---	---	19.85	19.76	---	---
9	16.84	16.69	17.11	16.97	17.53	17.45	---	---	19.87	19.84	---	---
10	16.70	16.49	17.08	17.02	17.48	17.43	18.96	18.76	19.84	19.79	---	---
11	16.76	16.65	17.09	16.96	17.55	17.46	19.08	18.93	19.79	19.67	---	---
12	16.73	16.62	16.98	16.91	17.65	17.55	19.17	19.05	19.67	19.56	---	---
13	16.76	16.72	16.91	16.83	17.63	17.56	19.23	19.17	19.62	19.56	---	---
14	16.75	16.64	16.93	16.88	17.62	17.52	19.21	19.11	19.71	19.56	---	---
15	16.64	16.56	16.94	16.86	17.55	17.48	19.17	19.05	19.74	19.59	---	---
16	16.56	16.31	17.05	16.88	17.67	17.52	19.15	19.09	19.68	19.58	---	---
17	16.69	16.29	17.12	16.99	17.77	17.66	19.30	19.06	19.64	19.52	---	---
18	16.77	16.62	17.04	16.86	17.82	17.66	19.34	19.18	19.62	19.52	---	---
19	16.77	16.67	16.91	16.82	17.95	17.71	19.32	19.07	19.62	19.44	---	---
20	16.74	16.63	16.96	16.77	17.96	17.78	19.32	19.09	19.47	19.30	---	---
21	16.71	16.60	17.03	16.87	17.84	17.70	19.33	19.21	19.59	19.38	19.58	19.44
22	16.72	16.51	17.17	16.92	17.94	17.70	19.36	19.26	19.60	19.52	19.52	19.45
23	16.88	16.65	17.18	17.07	18.08	17.91	19.42	19.29	19.59	19.52	19.45	19.29
24	16.91	16.81	17.17	17.05	18.14	18.03	19.56	19.39	19.57	19.53	19.46	19.30
25	16.91	16.75	17.23	17.08	18.09	18.01	19.54	19.42	19.60	19.52	19.38	19.20
26	16.89	16.76	17.31	17.23	18.12	18.00	19.54	19.41	19.66	19.58	19.25	19.12
27	17.10	16.89	17.34	17.27	18.25	18.11	19.47	19.31	19.63	19.56	19.20	19.07
28	17.06	16.83	17.37	17.32	18.27	18.18	19.62	19.44	19.71	19.53	19.27	19.17
29	16.83	16.67	17.62	17.36	18.34	18.23	19.61	19.49	19.83	19.62	19.34	19.20
30	16.68	16.60	17.62	17.58	18.37	18.26	19.70	19.52	19.82	19.74	19.40	19.25
31	---	---	17.59	17.38	---	---	19.86	19.61	19.81	19.65	---	---
MONTH	17.10	16.29	17.62	16.64	18.37	17.28	19.86	18.11	19.98	19.30	19.76	19.07
YEAR	19.98	16.29										

Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

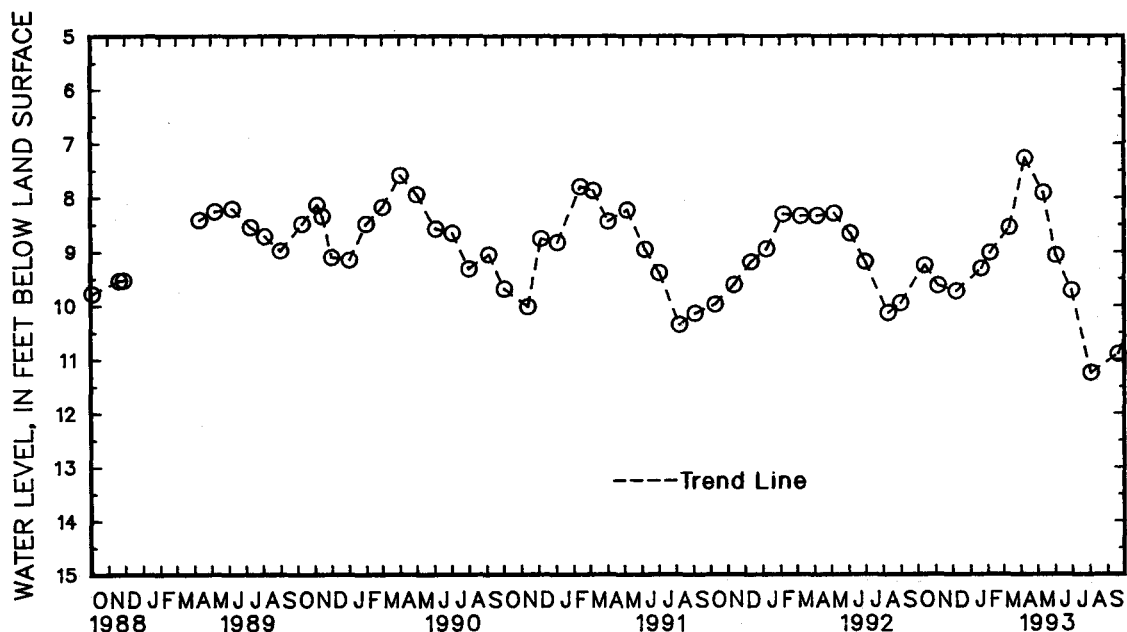
MARYLAND--Continued

QUEEN ANNES COUNTY--Continued

WELL NUMBER.--QA Eb 155. SITE ID.--385843076155302. PERMIT NUMBER.--QA-81-0470.  
LOCATION.--Lat 38°58'43", long 76°15'53", Hydrologic Unit 02060002, at north end of Piney Creek Rd., Kent Island.  
Owner: Maryland Geological Survey.  
AQUIFER.--Aquia Formation of Upper Paleocene age. Aquifer code: 125AQUI.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 245 ft; casing diameter 4 in., to 235 ft;  
screen diameter 4 in. from 235 to 245 ft.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
DATUM.--Elevation of land surface is 3.9 ft above National Geodetic Vertical Datum of 1929.  
Measuring point: Top of casing, 2.50 ft above land surface.  
REMARKS.--Kent Island ground-water monitoring network well. Measured twice yearly from June 1986 to April 1989.  
PERIOD OF RECORD.--April 1985 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.60 ft below land surface, Dec. 2, 1985;  
lowest measured, 11.25 ft below land surface, Aug. 3, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE		WATER LEVEL		DATE		WATER LEVEL		DATE		WATER LEVEL	
OCT 13	9.26	DEC 8	9.74	FEB 5	9.02	APR 9	7.27	JUN 2	9.07	SEP 20	10.90
NOV 6	9.62	JAN 20	9.32	MAR 12	8.54	MAY 11	7.91		9.73	AUG 3	11.25
WATER YEAR 1993		HIGHEST	7.27	APR 9, 1993		LOWEST	11.25	AUG 3, 1993			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

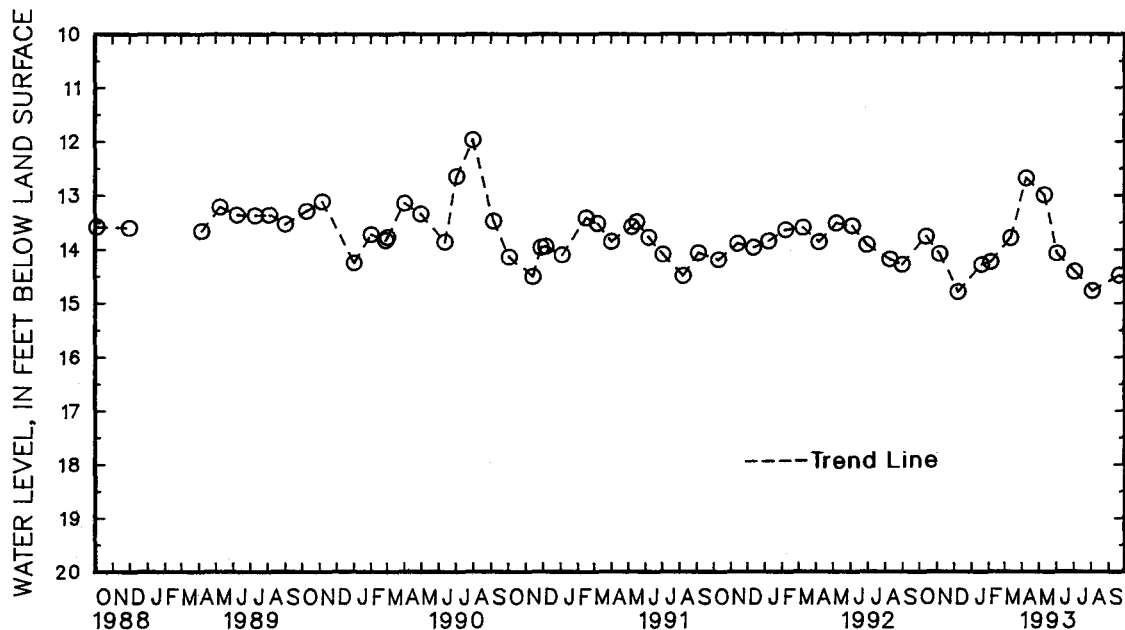
MARYLAND--Continued

QUEEN ANNES COUNTY--Continued

WELL NUMBER.--QA Eb 156. SITE ID.--385852076195201. PERMIT NUMBER.--QA-81-0475.  
 LOCATION.--Lat 38°58'52", long 76°19'52", Hydrologic Unit 02060002, north of US Rt. 50, 0.7 mi west of intersection  
 MD Rt. 8, Kent Island.  
 Owner: Maryland Geological Survey.  
 AQUIFER.--Aquia Formation of Upper Paleocene age. Aquifer code: 125AQUI.  
 WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 220 ft; casing diameter 4 in., to 210 ft;  
 screen diameter 4 in. from 210 to 220 ft.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 DATUM.--Elevation of land surface is 12.01 ft above National Geodetic Vertical Datum of 1929.  
 Measuring point: Top of casing, 2.20 ft above land surface.  
 REMARKS.--Kent Island ground-water monitoring network well. Measured twice yearly from September 1987 to  
 April 1989.  
 PERIOD OF RECORD.--April 1985 to June 1986, September 1987 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 11.97 ft below land surface, Aug. 1, 1990;  
 lowest measured, 14.80 ft below land surface, Dec. 8, 1992.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 13	13.77	DEC 8	14.80	FEB 5	14.23	APR 9	12.68	JUN 2	14.08	AUG 3	14.78
NOV 6	14.09	JAN 20	14.29	MAR 12	13.79	MAY 11	12.99	JUL 2	14.42	SEP 20	14.49
WATER YEAR 1993		HIGHEST	12.68	APR 9, 1993	LOWEST	14.80	DEC 8, 1992				



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

QUEEN ANNES COUNTY--Continued

WELL NUMBER.--QA Eb 157. SITE ID.--385852076195202. PERMIT NUMBER.--QA-81-0475.

LOCATION.--Lat 38°58'52", long 76°19'52", Hydrologic Unit 02060002, north of US Rt. 50, 0.7 mi west of intersection with MD Rt. 8, Kent Island.

Owner: Maryland Geological Survey.

AQUIFER.--Aquia Formation of Upper Paleocene age. Aquifer code: 125AQUI.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 120 ft; casing diameter 4 in., to 110 ft; screen diameter 4 in. from 110 to 120 ft.

INSTRUMENTATION.--Measured twice yearly with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 11.92 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 2.50 ft above land surface.

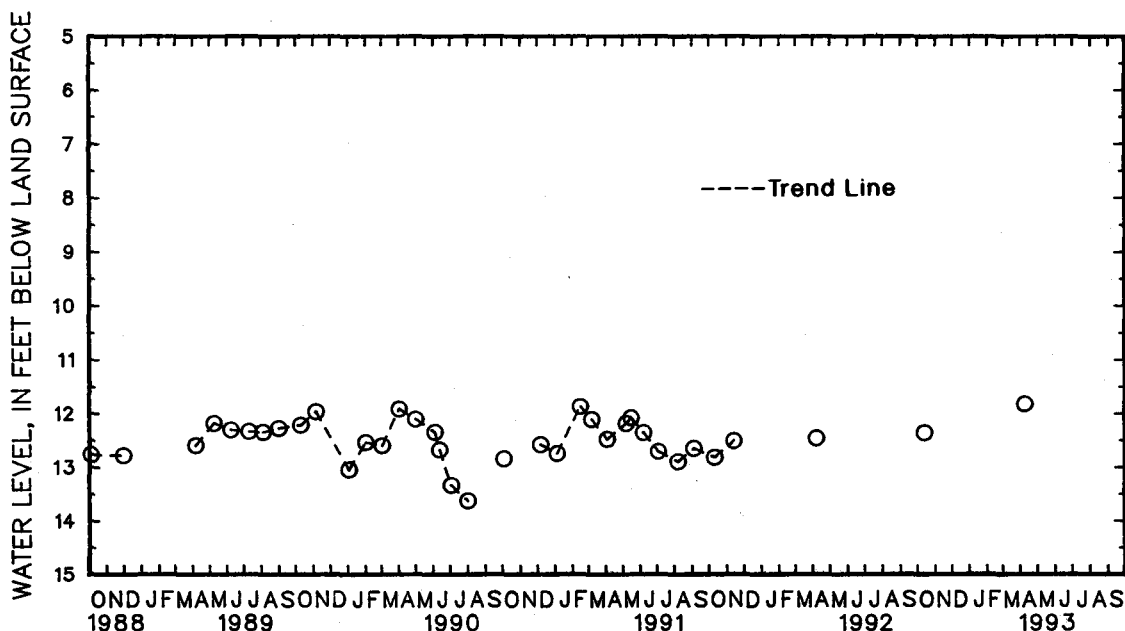
REMARKS.--Kent Island ground-water monitoring network well. Measured twice yearly from March 1988 to April 1989.

PERIOD OF RECORD.--April 1985 to June 1986, March 1988 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 11.40 ft below land surface, Dec. 2, 1985; lowest measured, 13.63 ft below land surface, Aug. 1, 1990.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 13	12.36	APR 9	11.82
WATER YEAR 1993      HIGHEST    11.82    APR 9, 1993      LOWEST    12.36    OCT 13, 1992			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

## MARYLAND--Continued

QUEEN ANNES COUNTY--Continued

WELL NUMBER.--QA Ef 29. SITE ID.--385534075573601. PERMIT NUMBER.--QA-81-1593.

LOCATION.--Lat 38°55'38", long 75°57'40", Hydrologic Unit 02060005, Tuckahoe State Park.

Owner: Md. Dept. of Natural Resources, Fisheries Division.

**AQUIFER.--**Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSC.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 1,325 ft; casing diameter 14 in., to 500 ft, and 8 in. from 500 to 1,110 ft, 1,120 to 1,135 ft, 1,180 to 1,195 ft, 1,210 to 1,230 ft, 1,270 to 1,285 ft, and 1,315 to 1,325 ft, screen diameter 8 in., from 1,110 to 1,120 ft, 1,135 to 1,180 ft, 1,195 to 1,210 ft, 1,230 to 1,270 ft, and 1,285 to 1,315 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 61.69 ft above National Geodetic Vertical Datum of 1929.

**Measuring point:** Top of 1 1/2 in. riser pipe, 3.80 ft above land surface.

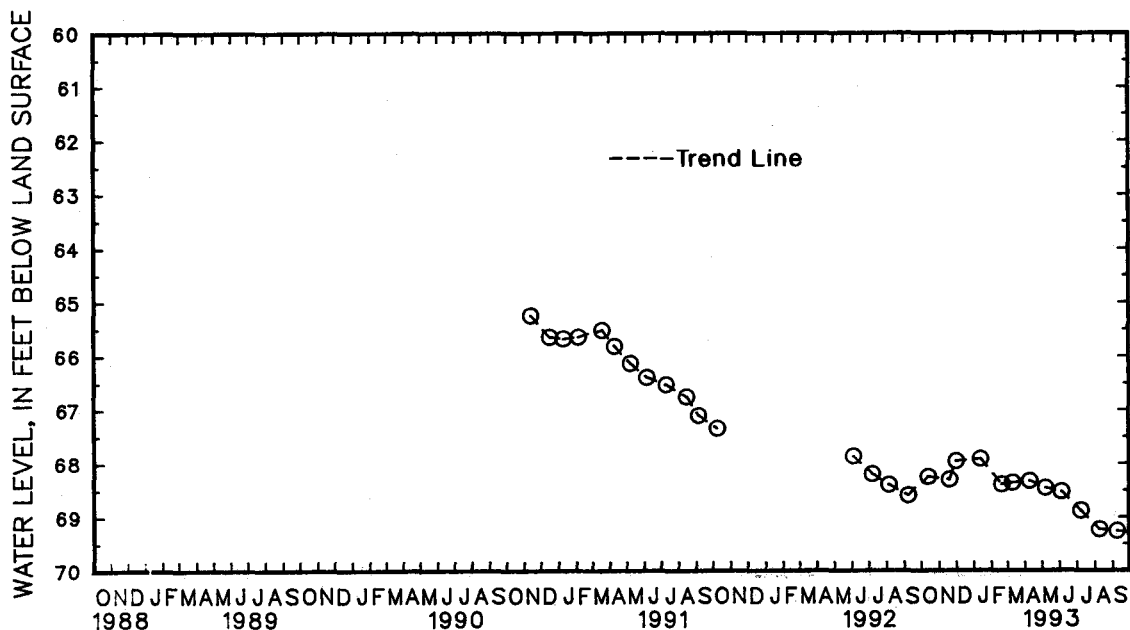
REMARKS.--Southern Maryland observation well network.

**PERIOD OF RECORD.**-- June 1986 to December 1986, November 1990 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 62.30 ft below land surface, Aug. 27, 1986; lowest measured, 69.26 ft below land surface, Sept. 9, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE		WATER LEVEL		DATE		WATER LEVEL		DATE		WATER LEVEL	
OCT 13	68.25	DEC 1	67.96	FEB 19	68.39	APR 9	68.33	JUN 4	68.53	AUG 9	69.23
NOV 19	68.30	JAN 13	67.92	MAR 10	68.36	MAY 7	68.46	JUL 8	68.88	SEP 9	69.26
WATER YEAR 1993		HIGHEST	67.92	JAN 13, 1993		LOWEST	69.26	SEP 9, 1993			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

QUEEN ANNES COUNTY--Continued

WELL NUMBER.--QA Fc 7. SITE ID.--385429076120201. PERMIT NUMBER.--QA-73-2191.  
LOCATION.--Lat 38°54'29", long 76°12'02", Hydrologic Unit 02060002, at Prospect Plantation.

Owner: Maryland Community Developers Incorporated.

**AQUIFER.**--Aquia Formation of Upper Paleocene age. Aquifer code: 125AQUI.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 356 ft; casing diameter 4 in., to 336 ft; screen diameter 2 in. from 336 to 356 ft.

**INSTRUMENTATION.**--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

**DATUM.**--Elevation of land surface is 10 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of casing at land surface.

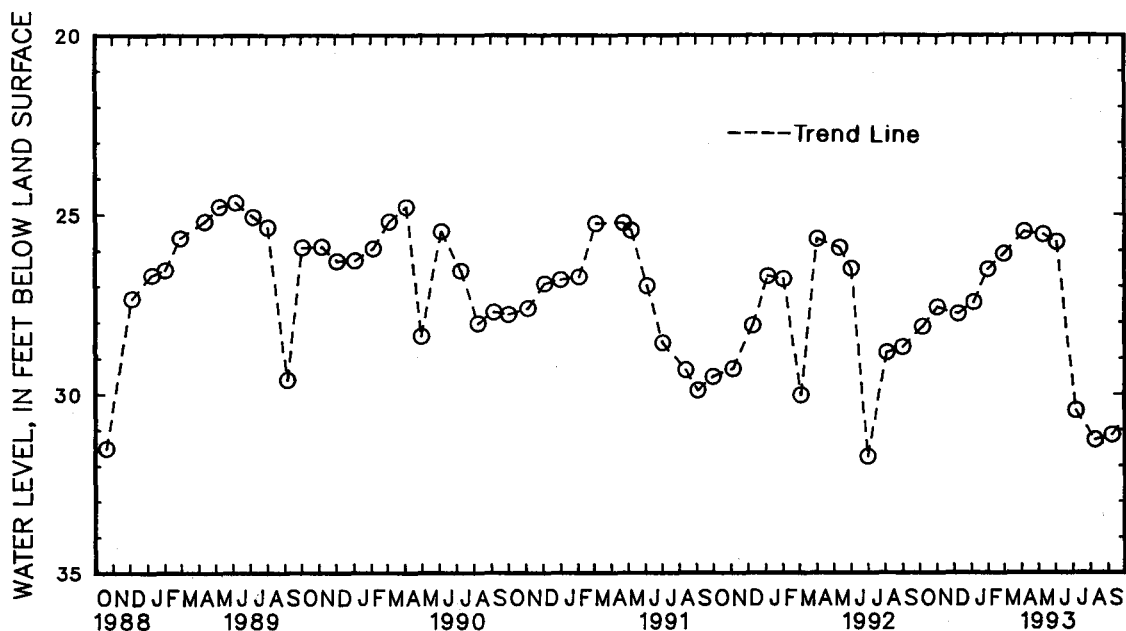
REMARKS.--Maryland Water-Level Network observation well.

PERIOD OF RECORD.--February 1980 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 19.77 ft below land surface, March 3, 1983;  
lowest measured, 31.75 ft below land surface, July 1, 1992.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE		WATER LEVEL		DATE		WATER LEVEL		DATE		WATER LEVEL		DATE		WATER LEVEL								
OCT	7	28.12		DEC	9	27.76		FEB	1	26.52		APR	6	25.47		JUN	3	25.76		AUG	9	31.29
NOV	2	27.58		JAN	6	27.44		MAR	1	26.08		MAY	10	25.55		JUL	7	30.47		SEP	8	31.15
WATER YEAR 1993				HIGHEST		25.47		APR 6, 1993				LOWEST		31.29		AUG 9, 1993						



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993



## GROUND-WATER LEVELS

MARYLAND--Continued

ST. MARYS COUNTY

WELL NUMBER.--SM Bb 15. SITE ID.--382838076470101. PERMIT NUMBER.--SM-73-3430.

LOCATION.--Lat 38°28'38", long 76°47'01", Hydrologic Unit 02070011, at Charlotte Hall.

Owner: U.S. Geological Survey.

AQUIFER.--Aquia Formation of Upper Paleocene age. Aquifer code: 125AQUI.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 460 ft; casing diameter 4 in., to 441 ft; casing diameter 2 in. from 441 to 450 ft; screen diameter 2 in. from 450 to 460 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 165.4 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of casing, 2.10 ft above land surface.

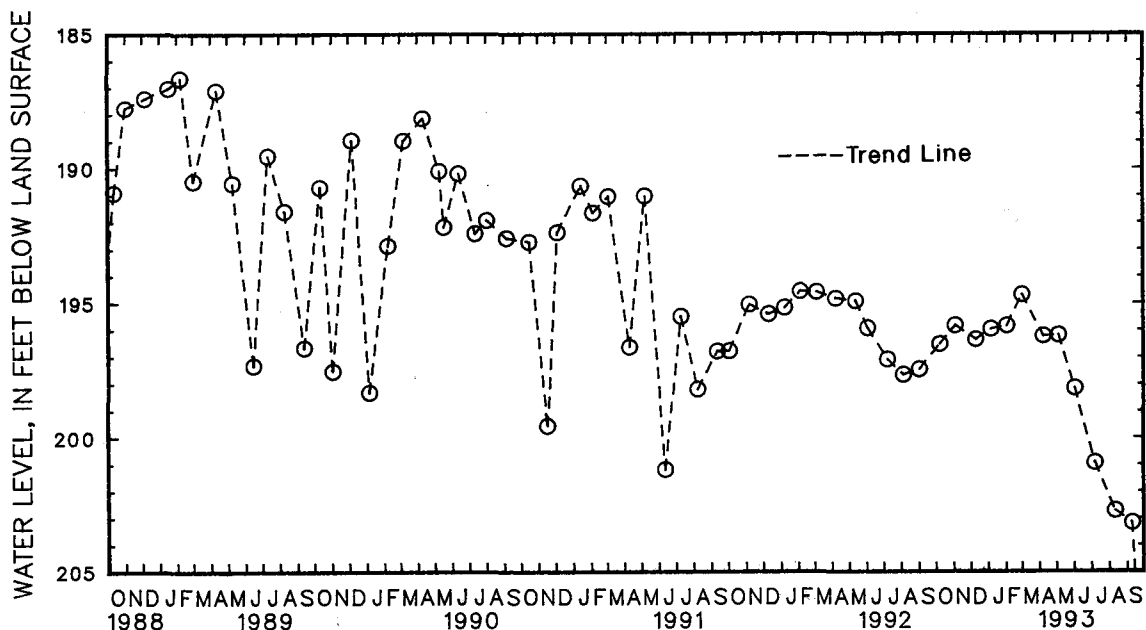
REMARKS.--Maryland Water-Level Network observation well. Water levels may be affected by nearby pumping.

PERIOD OF RECORD.--August 1979 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 159.76 ft below land surface, Aug. 10, 1979, and Aug. 31, 1979; lowest measured, 207.55 ft below land surface, Dec. 12, 1984.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 8	196.52	DEC 10	196.35	FEB 3	195.84	APR 8	196.22	JUN 2	198.16	AUG 11	202.73
NOV 4	195.83	JAN 6	195.96	MAR 2	194.69	MAY 5	196.19	JUL 7	200.95	SEP 10	203.18
WATER YEAR 1993		HIGHEST 194.69		MAR 2, 1993		LOWEST 203.18		SEP 10, 1993			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

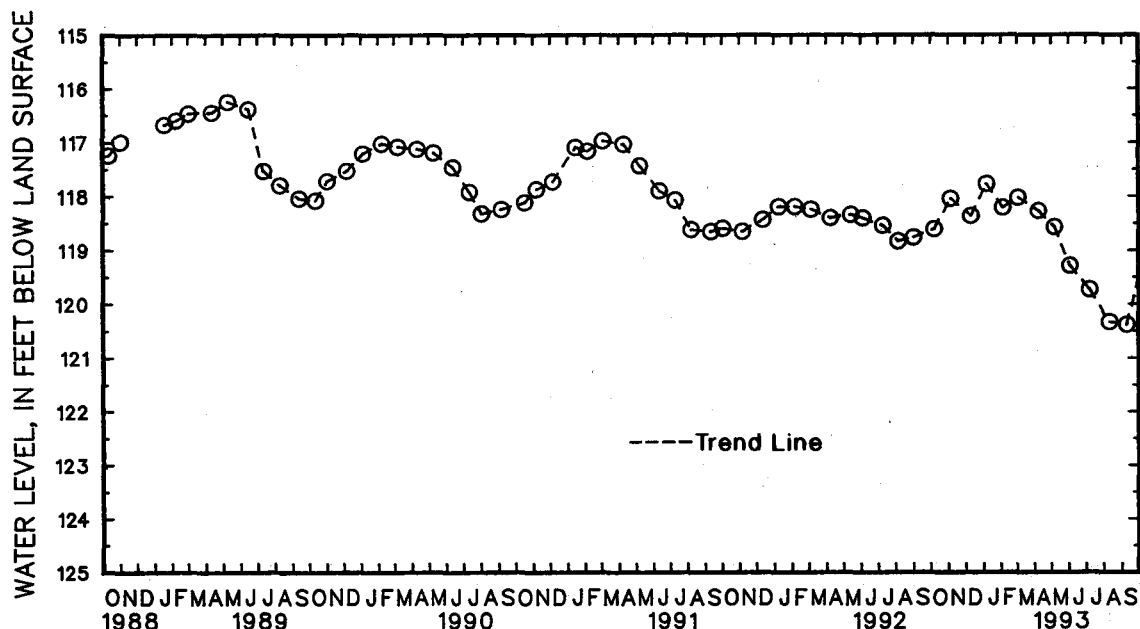
5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
ST. MARYS COUNTY--Continued

WELL NUMBER.--SM Dd 46. SITE ID.--381616076364701. PERMIT NUMBER.--SM-73-1992.  
LOCATION.--Lat 38°16'16", Long 76°36'47", Hydrologic Unit 02070011, at Leonardtown Senior High School, Redgate.  
Owner: U.S. Geological Survey.  
AQUIFER.--Piney Point Formation of Middle Eocene age. Aquifer code: 124PNPN.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 296 ft; casing diameter 6 in., to 150 ft; casing diameter 2 in. from 150 to 286 ft; screen diameter 2 in. from 286 to 296 ft.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
DATUM.--Elevation of land surface is 115 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
Measuring point: Top of casing, 2.90 ft above land surface.  
REMARKS.--Maryland Water-Level Network observation well.  
PERIOD OF RECORD.--October 1976 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 109.36 ft below land surface, July 9, 1979; lowest measured, 120.39 ft below land surface, Sept. 10, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 8	118.62	DEC 10	118.37	FEB 4	118.22	APR 8	118.28	JUN 3	119.30	AUG 11	120.34
NOV 5	118.05	JAN 7	117.78	MAR 3	118.04	MAY 6	118.58	JUL 7	119.74	SEP 10	120.39
WATER YEAR 1993		HIGHEST 117.78 JAN 7, 1993		LOWEST 120.39 SEP 10, 1993							



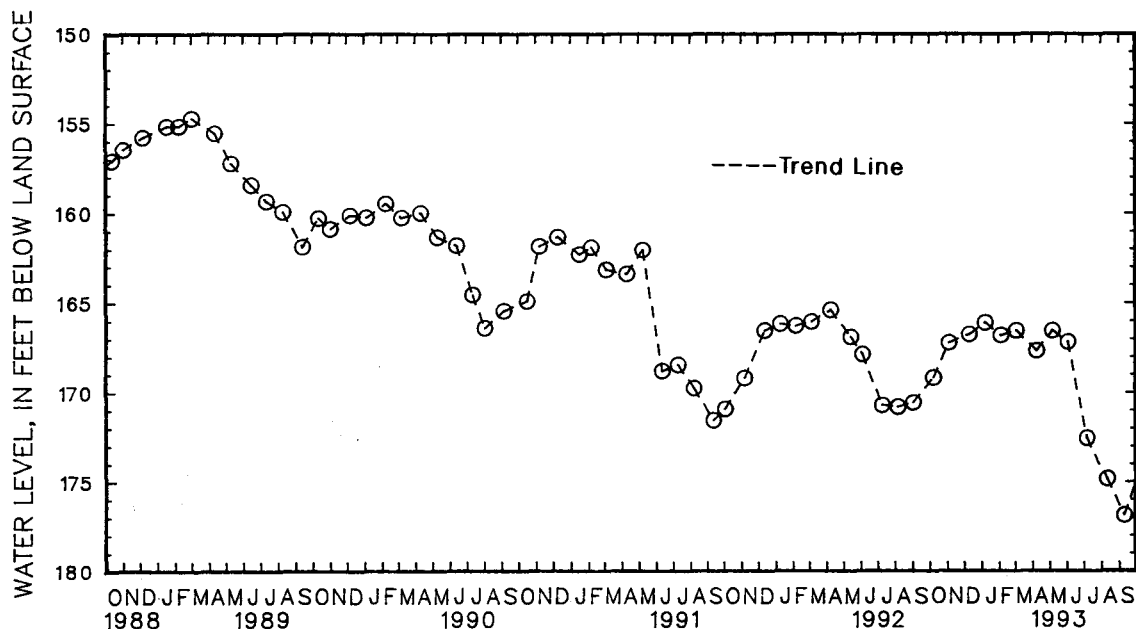
5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
ST. MARYS COUNTY--Continued

WELL NUMBER.--SM Dd 49. SITE ID.--381616076364702. PERMIT NUMBER.--SM-73-3081.  
LOCATION.--Lat 38°16'16", long 76°36'47", Hydrologic Unit 02070011, at Leonardtown Senior High School, Redgate.  
Owner: U.S. Geological Survey.  
AQUIFER.--Aquia Formation of Upper Paleocene age. Aquifer code: 125AQUI.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 619 ft; casing diameter 6 in., to 46 ft; casing diameter 4 in., to 279 ft; casing diameter 1.5 in. from 279 to 534 ft and 544 to 619 ft; screen diameter 3 in. from 534 to 544 ft.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
DATUM.--Elevation of land surface is 115 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 0.40 ft above land surface.  
REMARKS.--Maryland Water-Level Network observation well.  
PERIOD OF RECORD.--December 1978 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 138.95 ft below land surface, April 5, 1979; lowest measured, 176.88 ft below land surface, Sept. 10, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 8	169.17	DEC 10	166.75	FEB 4	166.80	APR 8	167.68	JUN 3	167.18	AUG 11	174.85
NOV 4	167.22	JAN 7	166.10	MAR 3	166.53	MAY 6	166.55	JUL 7	172.57	SEP 10	176.88
WATER YEAR 1993		HIGHEST 166.10		JAN 7, 1993		LOWEST 176.88		SEP 10, 1993			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

ST. MARYS COUNTY--Continued

WELL NUMBER.--SM Dd 50. SITE ID.--381807076380001. PERMIT NUMBER.--SM-73-3082.

LOCATION.--Lat 38°18'07", long 76°38'00", Hydrologic Unit 02070011, at Leonard Hall Junior Naval Academy, Leonardtown.

Owner: U.S. Geological Survey.

AQUIFER.--Aquia Formation of Upper Paleocene age. Aquifer code: 125AQUI.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 515 ft; casing diameter 4 in., to 270 ft; casing diameter 2 in. from 270 to 505 ft; screen diameter 3 in. from 505 to 515 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 99.40 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of casing, 1.86 ft above land surface.

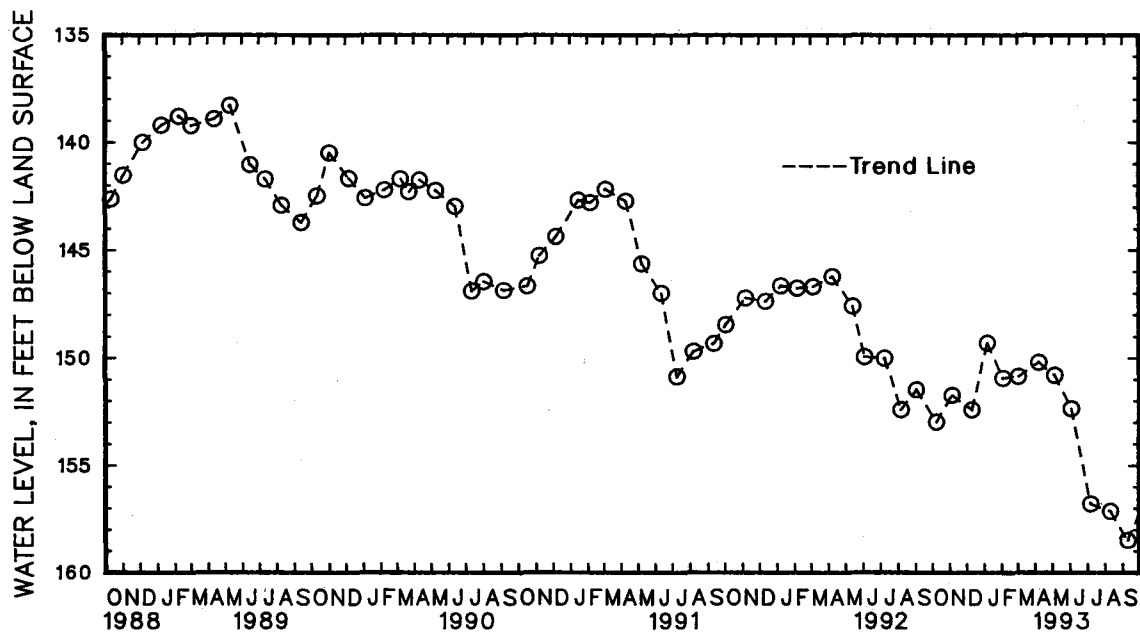
REMARKS.--Maryland Water-Level Network observation well.

PERIOD OF RECORD.--December 1978 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 119.05 ft below land surface, Feb. 2, 1979; lowest measured, 158.49 ft below land surface, Sept. 10, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 8	153.00	DEC 10	152.42	FEB 4	150.94	APR 8	150.21	JUN 3	152.37	AUG 11	157.14
NOV 5	151.74	JAN 7	149.30	MAR 3	150.84	MAY 6	150.81	JUL 7	156.80	SEP 10	158.49
WATER YEAR 1993		HIGHEST	149.30	JAN 7, 1993		LOWEST	158.49	SEP 10, 1993			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

ST. MARYS COUNTY--Continued

WELL NUMBER.--SM Dd 62. SITE ID.--381616076364703. PERMIT NUMBER.--SM-73-3786.

LOCATION.--Lat 38°16'16", 76°36'47", Hydrologic Unit 02070011, at Leonardtown Senior High School, Redgate.

Owner: U.S. Geological Survey.

AQUIFER.--Piney Point Formation of Middle Eocene age. Aquifer code: 124PNPN.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 358 ft; casing diameter 4 in., to 210 ft; casing diameter 2 in. from 210 to 348 ft; screen diameter 2 in. from 348 to 358 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 115 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of casing, 0.70 ft above land surface.

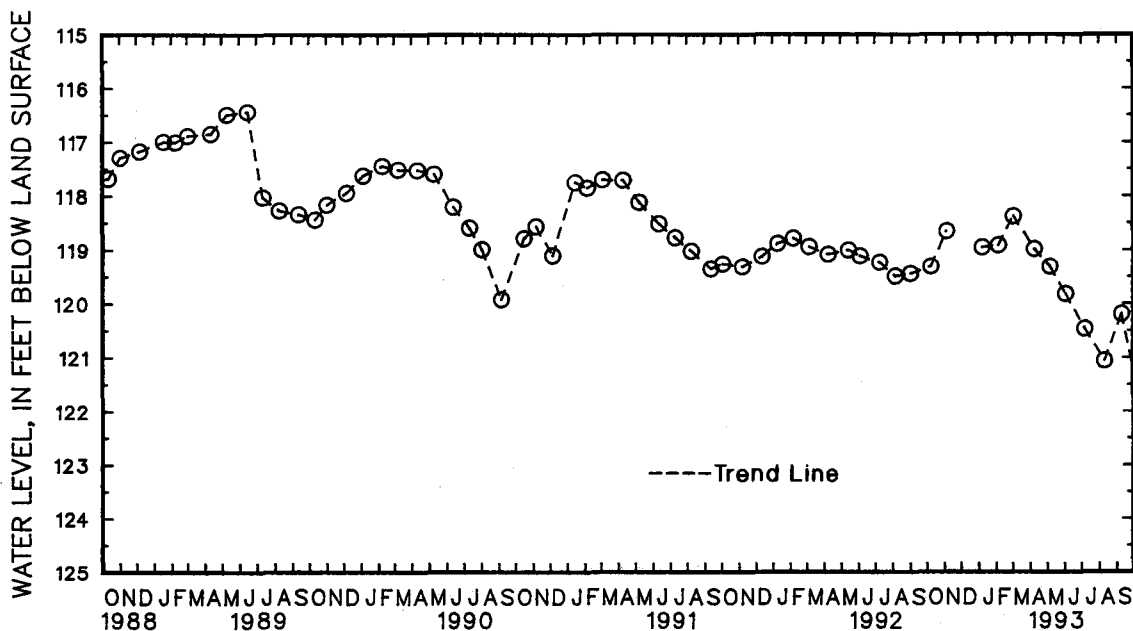
REMARKS.--Maryland Water-Level Network observation well.

PERIOD OF RECORD.--July 1980 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 111.06 ft below land surface, Oct. 30, 1980; lowest measured, 121.07 ft below land surface, Aug. 11, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	
OCT 8	119.32	JAN 7	118.96	MAR 3	118.38	MAY 6	119.32	JUL 7	120.48	SEP 10	120.20	
NOV 5	118.66	FEB 4	118.92	APR 8	118.99	JUN 3	119.83	AUG 11	121.07			
WATER YEAR 1993		HIGHEST	118.38	MAR 3, 1993		LOWEST	121.07	AUG 11, 1993				



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

## MARYLAND--Continued

## ST. MARYS COUNTY--Continued

WELL NUMBER.--SM Dd 63. SITE ID.--381615076364701. PERMIT NUMBER.--SM-73-3785.

LOCATION.--Lat 38°16'15", long 76°36'47", Hydrologic Unit 02070011, at Leonardtown Senior High School, Redgate.

Owner: U.S. Geological Survey.

AQUIFER.--Piney Point Formation of Middle Eocene age. Aquifer code: 124PNPN.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, depth 356 ft; casing diameter 4 in., to 327 ft;

casing diameter 2 in. from 327 to 346 ft; screen diameter 2 in. from 346 to 356 ft.

INSTRUMENTATION.--Twice yearly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 115 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of casing, 1.00 ft above land surface.

REMARKS.--Maryland Water-Level Network observation well. Measured monthly from October 1977 to October 1986.

Measured twice yearly from April 1987 to current year.

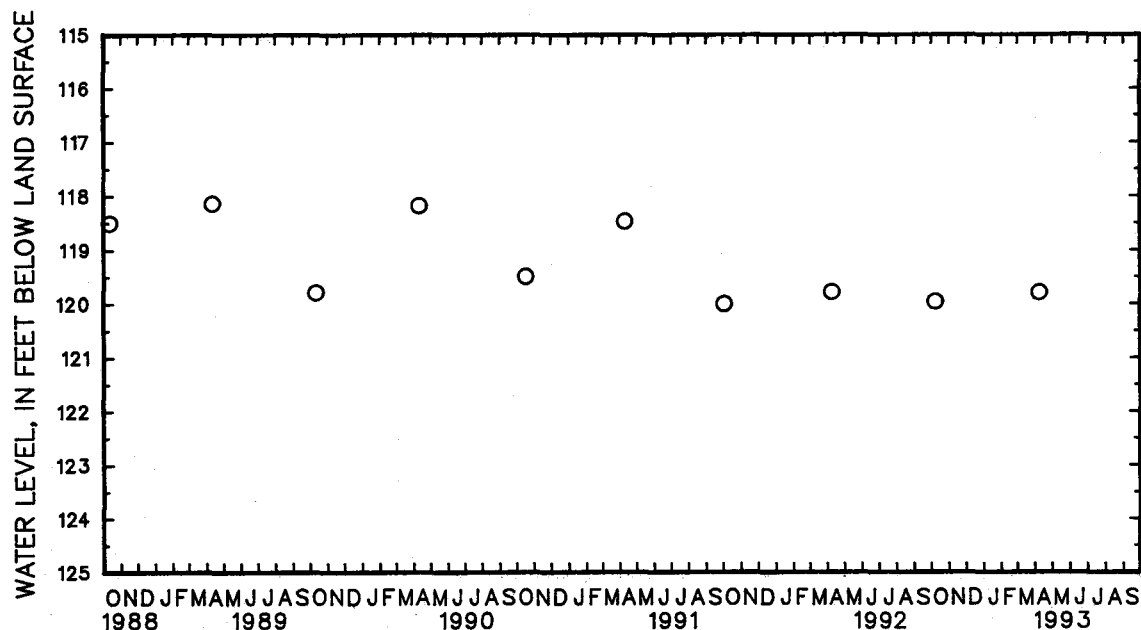
PERIOD OF RECORD.--July 1980 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 113.15 ft below land surface, March 2, 1981;

lowest measured, 120.01 ft below land surface, Oct. 3, 1991.

## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 8 1992	119.97	APR 8 1993	119.80
WATER YEAR 1993 HIGHEST 119.80 APR 8, 1993 LOWEST 119.97 OCT 8, 1992			



## 5 YEAR HYDROGRAPH

OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993





## GROUND-WATER LEVELS

MARYLAND--Continued

ST. MARYS COUNTY--Continued

WELL NUMBER.--SM Df 84. SITE ID.--381548076272102. PERMIT NUMBER.--SM-81-0119.

LOCATION.--Lat 38°15'48", long 76°27'21", Hydrologic Unit 0207011, at Lexington Park.

Owner: Maryland Geological Survey.

AQUIFER.--Brightseat Formation of Lower Paleocene age. Aquifer code: 125BRGS.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 920 ft; casing diameter 6 in., to 246 ft; casing diameter 4 in. from 246 ft to 831 ft, 856 to 862 ft, and 867 to 897; screen diameter 4 in. from 831 to 856 ft, 862 to 867 ft, and 897 to 912 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 105 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of casing, 2.80 ft above land surface.

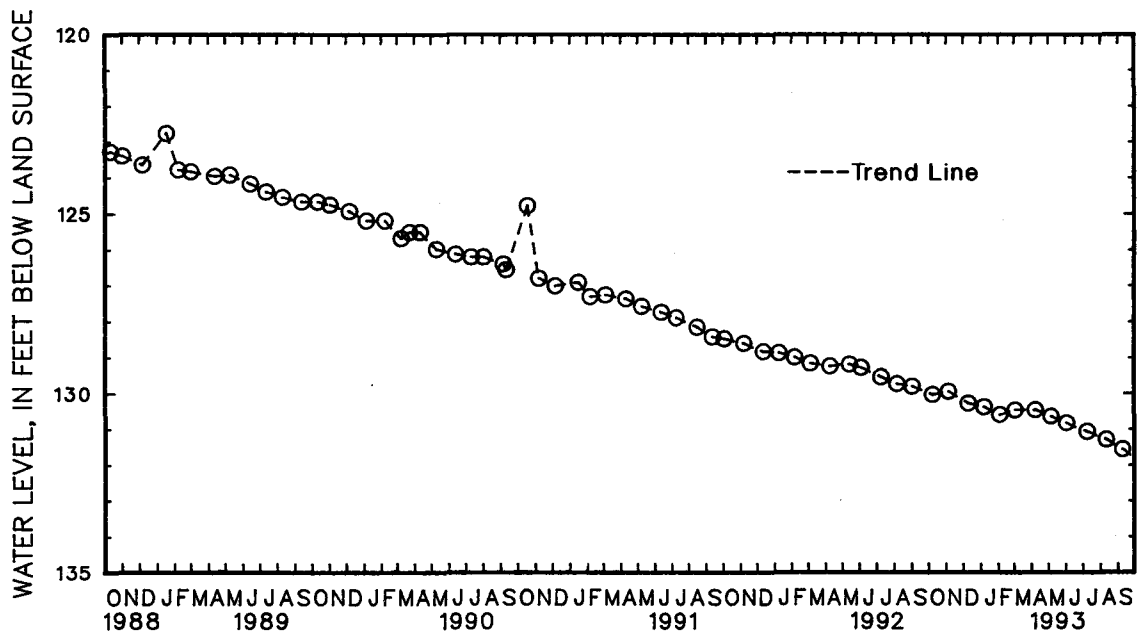
REMARKS.--Maryland Water-Level Network observation well.

PERIOD OF RECORD.--April 1984 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 116.91 ft below land surface, April 11, 1984; lowest measured, 131.57 ft below land surface, Sept. 9, 1993.

## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 8	130.04	DEC 10	130.28	FEB 4	130.60	APR 8	130.46	JUN 3	130.83	AUG 11	131.30
NOV 5	129.95	JAN 7	130.38	MAR 3	130.47	MAY 6	130.64	JUL 8	131.09	SEP 9	131.57
WATER YEAR 1993		HIGHEST	129.95	NOV 5, 1992	LOWEST	131.57	SEP 9, 1993				



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

**MARYLAND--Continued**

## ST. MARYS COUNTY--Continued

LOCATION.--Lat 38°10'52", long 76°25'30", Hydrologic Unit 02070011, 0.1 mi south of intersection of MD Rt 5, and Rosecroft Rd.

Owner: St. Mary's College of Maryland.

**AQUIFER.--**Omar Formation of Pleistocene age. Aquifer code: 112OMAR.

WELL CHARACTERISTICS.--Dug, unused, water-table well, depth 20.70 ft; casing diameter 42 in.

**INSTRUMENTATION.**--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 40 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of casing, 1.50 ft above land surface.

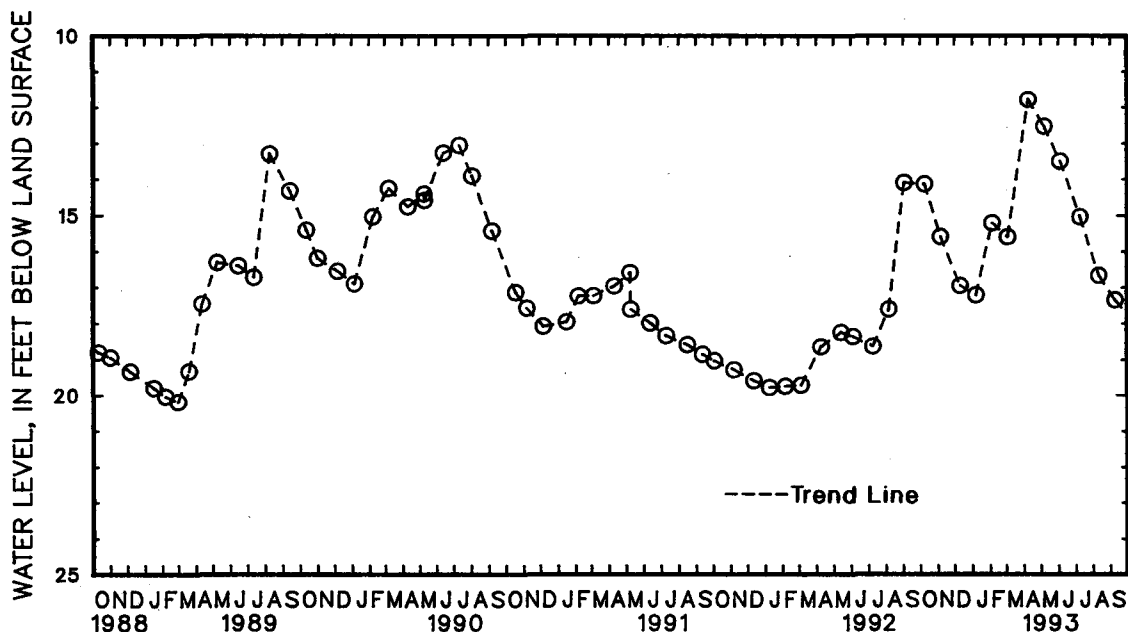
REMARKS.--Maryland Water-Level Network observation well.

PERIOD OF RECORD.--February 1988 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 11.78 ft below land surface, April 8, 1993;  
lowest measured, 20.20 ft below land surface, March 1, 1989.

**WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993**

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 8	14.13	DEC 10	16.96	FEB 4	15.21	APR 8	11.78	JUN 3	13.50	AUG 11	16.68
NOV 5	15.59	JAN 7	17.22	MAR 3	15.60	MAY 6	12.53	JUL 8	15.05	SEP 9	17.36
WATER YEAR 1993		HIGHEST	11.78	APR 8, 1993		LOWEST	17.36	SEP 9, 1993			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

ST. MARYS COUNTY--Continued

WELL NUMBER.--SM Eg 27. SITE ID.--381213076222801. PERMIT NUMBER.--SM-73-1993.

LOCATION.--Lat 38°12'13", long 76°22'28", Hydrologic Unit 02060004, 1.6 miles east of St. James, at the St. Marys Co. Environmental Studies Area.

Owner: U.S. Geological Survey.

AQUIFER.--Piney Point Formation of Middle Eocene age. Aquifer code: 124PNPN.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 320 ft; casing diameter 6 in., to 70 ft; casing diameter 2 in. from 70 to 310 ft; screen diameter 2 in. from 310 to 320 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 10 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of casing, 2.50 ft above land surface.

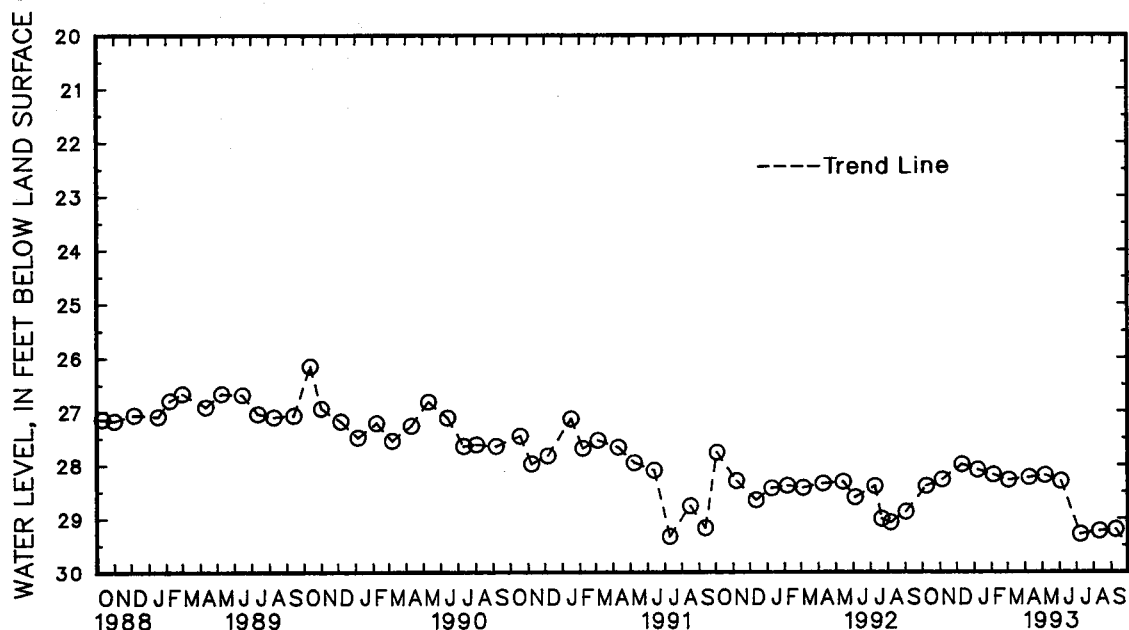
REMARKS.--Maryland Water-Level Network observation well.

PERIOD OF RECORD.--August 1976 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 19.84 ft below land surface, May 12, 1978; lowest measured, 29.33 ft below land surface, July 10, 1991.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 8	28.39	DEC 10	27.99	FEB 4	28.18	APR 8	28.23	JUN 3	28.30
NOV 5	28.27	JAN 7	28.09	MAR 3	28.28	MAY 6	28.19	JUL 8	29.29
WATER YEAR 1993		HIGHEST	27.99	DEC 10, 1992		LOWEST	29.29	JUL 8, 1993	



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

429

## MARYLAND--Continued

## ST. MARYS COUNTY--Continued

WELL NUMBER.--SM Fe 30. SITE ID.--380834076303401. PERMIT NUMBER.--SM-73-1917.

LOCATION.--Lat 38°08'34", long 76°30'34", Hydrologic Unit 02070011, at water tower, Piney Point.

Owner: U.S. Geological Survey.

AQUIFER.--Piney Point Formation of Lower Eocene age. Aquifer code: 124PNPN.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 270 ft; casing diameter 6 in., to 67 ft; casing diameter 2 in. from 67 to 260 ft; screen diameter 2 in. from 260 to 270 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

Equipped with graphic water-level recorder from Oct. 12, 1988 to current year.

DATUM.--Elevation of land surface is 9 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of casing, 3.8 ft above land surface.

REMARKS.--Maryland Water-Level Network observation well. Missing data due to recorder malfunction.

PERIOD OF RECORD.--August 1976 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 14.24 ft below land surface, Oct. 6, 1976; lowest measured, 24.54 ft below land surface, Sept. 11, 1993.

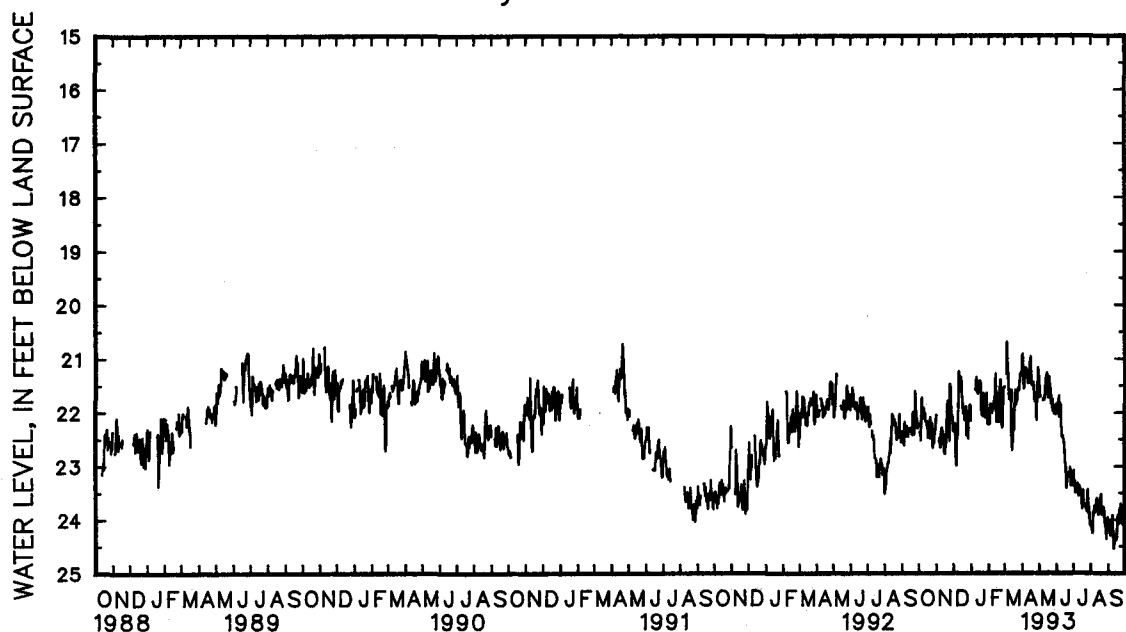
## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	22.21	21.71	22.06	21.58	22.35	21.36	22.15	21.29	21.97	21.43	21.52	21.03
2	---	---	22.06	21.61	22.35	21.37	---	---	22.23	21.93	---	---
3	---	---	---	---	22.21	21.51	---	---	21.93	21.09	---	---
4	22.37	21.80	---	---	22.21	21.57	---	---	21.84	21.06	21.28	20.29
5	22.52	21.97	---	---	22.91	21.59	---	---	21.92	21.31	20.68	20.12
6	22.05	21.27	22.54	21.83	22.99	22.19	---	---	22.01	21.26	21.18	20.49
7	21.72	21.16	22.49	21.61	22.34	21.82	---	---	21.85	21.15	21.27	20.72
8	22.12	21.57	22.65	21.77	22.48	22.02	21.58	20.98	21.84	21.04	21.52	20.65
9	22.07	21.58	22.45	21.52	22.21	21.55	21.41	20.88	21.92	21.29	21.75	20.98
10	21.92	21.44	22.35	21.35	21.76	20.53	21.35	20.84	21.79	21.19	21.71	21.05
11	22.05	21.41	22.29	21.13	21.23	20.53	21.54	20.89	21.80	21.16	21.73	20.94
12	22.01	21.45	22.36	21.23	21.55	20.87	21.65	20.98	21.63	20.66	21.79	21.25
13	22.14	21.58	22.42	20.98	21.48	20.96	21.46	21.00	21.28	20.60	21.59	20.11
14	22.18	21.56	22.58	21.67	21.34	20.83	21.61	21.02	22.18	21.16	22.42	20.92
15	22.18	21.63	22.74	21.77	21.41	20.77	21.54	21.06	22.18	21.52	22.71	22.34
16	22.24	21.67	22.78	22.01	21.71	21.00	21.41	20.83	21.65	21.00	22.53	21.90
17	22.18	21.68	22.65	21.36	21.72	21.23	21.44	21.05	21.90	21.20	22.03	21.52
18	22.47	21.76	22.57	21.70	22.00	21.42	21.91	21.28	22.01	21.57	22.34	21.69
19	22.46	21.83	22.32	21.33	22.02	21.52	22.04	21.56	22.18	21.57	21.99	21.36
20	22.34	21.71	21.96	21.01	21.94	21.33	22.04	21.64	21.69	21.21	21.59	21.20
21	22.48	21.76	21.79	20.68	22.14	21.69	22.07	21.39	21.48	20.77	21.80	21.18
22	22.09	21.57	22.25	21.09	22.06	21.54	21.64	21.09	21.39	20.77	21.85	21.37
23	22.48	21.90	22.20	20.94	21.89	21.28	21.89	21.33	21.69	20.95	21.74	21.20
24	22.33	21.73	22.54	21.00	22.43	21.51	21.72	21.21	22.24	21.37	21.58	20.97
25	22.21	21.57	21.47	20.46	22.31	21.65	22.10	21.39	22.28	21.81	21.55	21.10
26	22.67	21.84	21.49	20.56	22.43	21.65	22.01	21.58	21.81	21.27	21.58	20.93
27	22.48	21.84	21.85	20.80	22.49	21.78	21.80	21.27	21.56	21.05	21.44	20.95
28	22.57	21.86	22.02	20.98	22.00	21.55	21.64	21.15	21.53	21.01	21.34	20.72
29	22.42	21.79	22.08	21.17	21.97	21.46	22.19	21.06	---	---	21.28	20.78
30	22.34	21.80	22.09	21.30	21.86	21.46	22.22	21.82	---	---	21.28	20.77
31	22.29	21.69	---	---	21.87	21.42	22.16	21.80	---	---	21.29	20.75
MONTH	22.67	21.16	22.78	20.46	22.99	20.53	22.22	20.83	22.28	20.60	22.71	20.11

GROUND-WATER LEVELS  
MARYLAND--Continued  
ST. MARYS COUNTY--Continued  
SM Fe 30--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	20.94	20.45	21.50	20.91	22.03	21.20	23.23	22.68	24.11	23.48	24.01	23.38
2	20.91	20.54	21.68	21.08	21.86	21.25	23.09	22.54	24.14	23.47	24.08	23.33
3	21.35	20.83	21.70	21.10	21.82	21.24	23.37	22.54	24.07	23.40	24.01	23.38
4	21.56	20.89	---	---	21.85	21.24	23.28	22.78	24.26	23.59	24.23	23.51
5	21.35	20.65	---	---	21.69	21.10	23.50	22.74	24.19	23.69	24.29	23.78
6	21.21	20.51	---	---	22.08	21.29	23.36	22.89	23.86	23.06	24.25	23.66
7	21.17	20.51	21.77	21.08	21.93	21.48	23.44	22.76	23.87	23.32	24.12	23.69
8	21.19	20.52	21.75	21.07	21.84	21.32	23.42	22.94	23.74	23.23	24.05	23.66
9	21.28	20.49	21.73	21.01	21.85	21.33	23.34	22.88	23.85	23.42	23.92	23.50
10	21.24	20.52	21.76	21.16	22.25	21.41	23.43	22.84	23.80	23.40	24.27	23.48
11	21.46	20.78	21.66	21.05	22.46	21.94	23.56	23.04	23.73	23.32	24.54	24.07
12	21.24	20.61	21.51	21.05	22.44	22.10	23.37	23.04	23.60	23.23	24.44	23.82
13	21.44	20.88	21.36	20.86	22.45	22.02	23.41	23.03	23.63	23.21	24.27	23.81
14	21.19	20.61	21.30	20.97	22.55	22.17	23.45	23.09	23.80	23.37	24.35	23.79
15	21.03	20.63	21.26	20.94	22.57	22.16	23.54	23.11	23.91	23.36	24.38	23.74
16	20.96	20.41	21.60	21.09	22.81	22.16	23.46	22.99	23.83	23.14	24.34	23.71
17	21.39	20.53	21.73	21.13	22.94	22.45	23.80	22.97	23.76	23.10	24.12	23.27
18	21.49	21.03	21.38	20.90	23.03	22.45	23.63	23.18	23.74	23.01	23.92	23.27
19	21.49	21.03	21.34	20.81	23.42	22.53	23.45	22.95	23.57	22.89	24.08	23.39
20	21.49	21.00	21.52	20.81	23.35	22.89	23.75	22.87	23.53	22.86	24.02	23.36
21	21.44	21.00	21.56	20.90	23.13	22.63	23.75	23.00	23.90	23.04	23.81	23.30
22	21.67	20.87	21.83	20.92	23.20	22.41	23.75	23.03	23.90	23.25	23.99	23.53
23	21.79	21.31	21.82	21.23	23.19	22.58	23.72	23.14	23.80	23.24	23.70	23.27
24	21.78	21.27	21.76	21.09	23.16	22.58	23.79	23.20	23.76	23.26	24.07	23.54
25	21.64	21.13	21.90	21.19	23.15	22.60	23.84	23.18	23.83	23.39	23.86	23.27
26	21.73	21.14	21.98	21.32	23.03	22.47	23.70	23.16	24.03	23.62	23.74	23.30
27	22.15	21.52	21.91	21.38	23.37	22.72	23.44	23.04	24.09	23.61	23.88	23.38
28	21.52	20.85	21.89	21.43	23.23	22.66	23.89	23.15	24.16	23.68	24.07	23.62
29	21.17	20.67	22.03	21.46	23.22	22.68	23.76	23.24	24.36	23.72	24.16	23.64
30	21.27	20.74	22.00	21.53	23.36	22.84	23.88	23.23	24.09	23.55	24.19	23.67
31	---	---	21.86	21.20	---	---	24.09	23.37	23.96	23.42	---	---
MONTH	22.15	20.41	22.03	20.81	23.42	21.10	24.09	22.54	24.36	22.86	24.54	23.27
YEAR	24.54	20.11										

Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
ST. MARYS COUNTY--Continued

WELL NUMBER.--SM Fe 31. SITE ID.--380834076303402. PERMIT NUMBER.--SM-73-3088.

LOCATION.--Lat 38°08'34", long 76°30'34", Hydrologic Unit 02070011, at Piney Point Pumping Station, Piney Point.

Owner: U.S. Geological Survey.

AQUIFER.--Aquia Formation of Upper Paleocene age. Aquifer code: 125AQUI.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 639 ft; casing diameter 4 in., to 171 ft; casing diameter 2 in. from 171 to 451 ft; screen diameter 3 in. from 451 to 461 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 8 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of casing, 1.60 ft above land surface.

REMARKS.--Maryland Water-Level Network observation well. Water levels affected by nearby pumping.

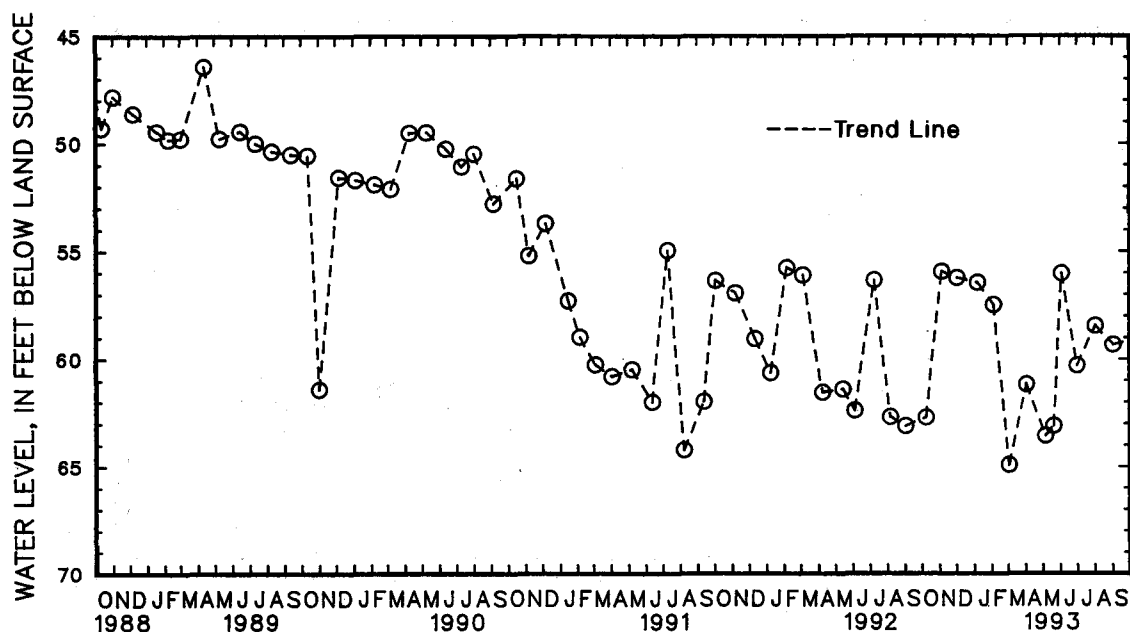
PERIOD OF RECORD.--October 1978 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 29.77 ft below land surface, Dec. 5, 1978; lowest measured, 64.95 ft below land surface, March 3, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 8	62.73	JAN 7	56.45	APR 2	61.19	JUN 3	56.03	SEP 2	59.34
NOV 5	55.94	FEB 4	57.48	MAY 6	63.58	JUL 1	60.31		
DEC 2	56.23	MAR 3	64.95	20	63.12	AUG 2	58.46		

WATER YEAR 1993      HIGHEST    55.94    NOV 5, 1992      LOWEST    64.95    MAR 3, 1993



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

**MARYLAND--Continued**

ST. MARYS COUNTY--Continued

WELL NUMBER.--SM Fg 45. SITE ID.--380711076222201. PERMIT NUMBER.--SM-04-5190.

LOCATION.--Lat 38°07'11", long 76°22'22", Hydrologic Unit 02070011, in Ridge Volunteer Fire Department pumphouse, at Ridge.

Owner: Ridge Volunteer Fire Department.

**AQUIFER.--**Piney Point Formation of Middle Eocene age. Aquifer code: 124PNPN.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 436 ft; casing diameter 6 in., to 386 ft; casing diameter 4 in. from 415 to 436 ft; screen diameter 5 in. from 386 to 415 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

**DATUM.**--Elevation of land surface is 65 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Hole in sanitary seal, 0.55 ft above land surface.

REMARKS.--Maryland Water-Level Network observation well.

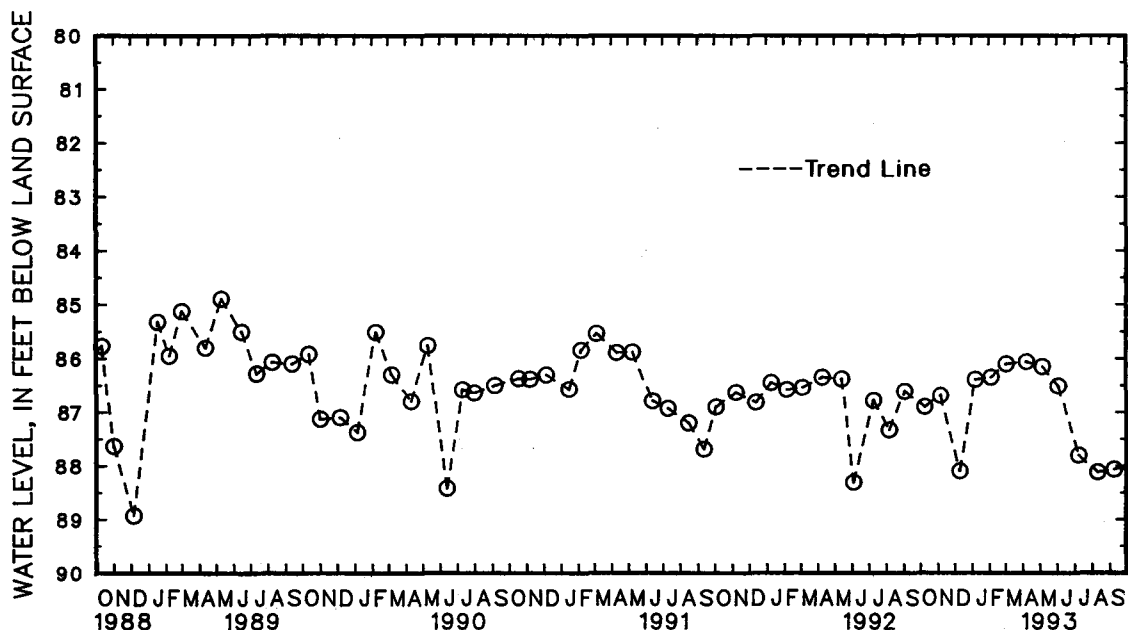
PERIOD OF RECORD.--May 1966 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 74.83 ft below land surface, May 16, 1967;  
lowest measured, 88.93 ft below land surface, Dec. 6, 1988.

lowest measured, 88.93 ft below land surface, Dec. 6, 1988.

**WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993**

DATE		WATER LEVEL		DATE		WATER LEVEL		DATE		WATER LEVEL		DATE		WATER LEVEL	
OCT 8	86.90	DEC 10	88.10	FEB 4	86.35	APR 8	86.06	JUN 3	86.51	AUG 11	88.12	NOV 5	86.69	JAN 7	86.39
				MAR 3		MAY 6		JUL 8		SEP 9					
WATER YEAR 1993		HIGHEST 86.06		APR 8, 1993		LOWEST 88.12		AUG 11, 1993							



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993



## GROUND-WATER LEVELS

MARYLAND--Continued

ST. MARYS COUNTY--Continued

WELL NUMBER.--SM Gh 11. SITE ID.--380347076200101.

LOCATION.--Lat 38°03'47", long 76°20'01", Hydrologic Unit 02006001, at Point Lookout State Park.

Owner: Maryland Forest, Park and Wildlife Service.

AQUIFER.--Holocene Series of Recent age. Aquifer code: 111HLCN.

WELL CHARACTERISTICS.--Drilled, unused domestic, water-table well, measured depth 22.4 ft; casing diameter, 2.0 in., screen length unknown.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 10 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of casing, 1.30 ft above land surface.

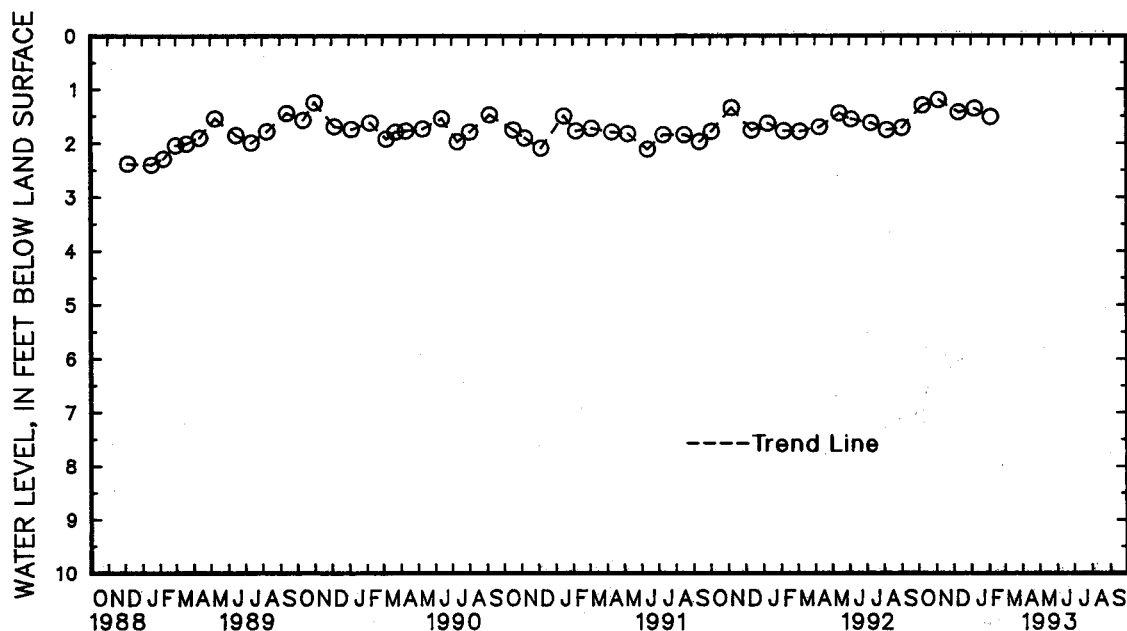
REMARKS.--Maryland Water-Level Network observation well. Discontinued as an observation well, inaccessible due to building construction over well.

PERIOD OF RECORD.--December 1988 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.20 ft below land surface, Nov. 5, 1992; lowest measured, 2.41 ft below land surface, Jan. 9, 1989.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 8	1.30	NOV 5	1.20	DEC 10	1.43	JAN 7	1.36	FEB 4	1.52
WATER YEAR 1993		HIGHEST	1.20	NOV 5, 1992	LOWEST	1.52	FEB 4, 1993		



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993



## GROUND-WATER LEVELS

435

## MARYLAND--Continued

## SOMERSET COUNTY--Continued

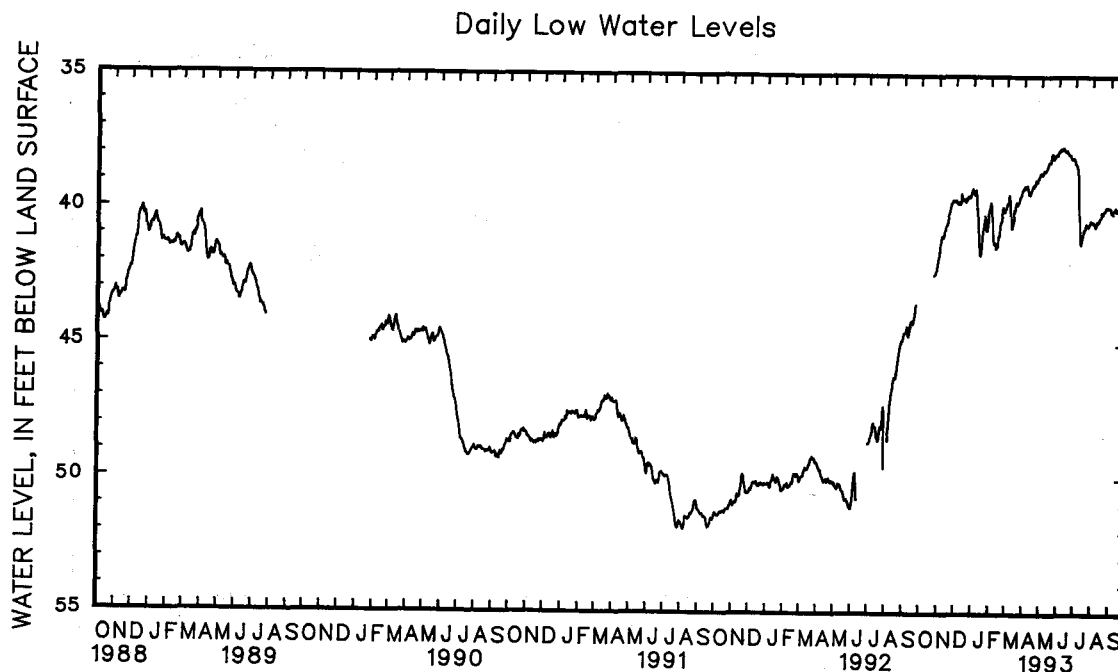
WELL NUMBER.--SO Co 42. SITE ID.--380927075423701. PERMIT NUMBER.--SO-81-0394.  
 LOCATION.--Lat 38°09'30", long 75°41'56", Hydrologic Unit 02060009, at Eastern Shore Correctional Institution.  
 Owner: Maryland Department of Correction.  
 AQUIFER.--Manokin aquifer of Miocene age. Aquifer code: 122MNKN.  
 WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 215 ft; casing diameter 4 in., to 185 ft; screen diameter 4 in. from 185 to 215 ft.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 Equipped with digital water-level recorder--60-minute recording interval, from Jan. 2, 1986 to current year.  
 DATUM.--Elevation of land surface is 10 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
 Measuring Point: Top of recorder shelf, 1.6 ft above land surface.  
 REMARKS.--Water levels affected by nearby pumping. No record from Oct. 1, 1989 to Jan. 24, 1990, due to the drilling of a nearby well. Missing data due to recorder malfunction.  
 PERIOD OF RECORD.--January 1986 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 20.97 ft below land surface, Feb. 21, 1986; lowest measured, 51.90 ft below land surface, Aug. 7, 1991.

## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	41.70	41.51	39.60	39.53	39.24	39.10	39.70	39.60	39.81	39.66
2	---	---	41.55	41.25	39.61	39.47	39.31	39.24	39.78	39.69	39.71	39.54
3	---	---	41.26	41.09	39.68	39.48	39.37	39.31	40.21	39.78	39.73	39.62
4	---	---	41.19	40.89	39.71	39.55	39.40	39.24	40.99	40.21	39.67	39.20
5	---	---	40.97	40.86	39.70	39.55	39.25	38.99	41.22	40.99	39.41	39.18
6	---	---	40.97	40.86	39.75	39.63	39.21	39.11	41.21	41.11	39.53	39.29
7	---	---	40.99	40.87	39.68	39.59	39.42	39.09	41.18	40.81	39.72	39.42
8	---	---	41.00	40.89	39.70	39.65	39.90	39.39	41.23	40.81	40.26	39.67
9	---	---	40.96	40.80	39.74	39.66	40.40	39.88	41.40	41.22	40.63	40.26
10	---	---	40.83	40.64	39.69	39.36	40.88	40.37	41.39	41.21	40.64	40.46
11	---	---	40.72	40.55	39.36	39.01	41.28	40.82	41.29	41.13	40.50	40.31
12	---	---	40.71	40.54	39.53	39.31	41.63	41.26	41.31	40.96	40.41	40.25
13	---	---	40.56	40.37	39.59	39.41	41.66	41.51	41.04	40.84	40.27	39.30
14	---	---	40.56	40.43	39.57	39.39	41.61	41.38	40.93	40.86	39.97	39.32
15	---	---	40.50	40.35	39.56	39.38	41.40	41.03	40.92	40.71	40.02	39.92
16	---	---	40.43	40.27	39.59	39.45	41.06	40.79	40.71	40.35	39.92	39.75
17	---	---	40.30	40.08	39.59	39.45	40.80	40.52	40.51	40.33	39.75	39.56
18	---	---	40.16	40.08	39.62	39.49	40.64	40.51	40.42	40.31	39.67	39.56
19	---	---	40.12	39.99	39.66	39.53	40.53	40.38	40.35	40.22	39.73	39.62
20	---	---	40.05	39.88	39.54	39.36	40.38	40.20	40.22	40.02	39.77	39.63
21	---	---	39.94	39.75	39.59	39.48	40.20	40.08	40.11	39.87	39.73	39.61
22	---	---	39.85	39.67	39.52	39.41	40.48	40.10	39.87	39.72	39.69	39.58
23	---	---	39.73	39.55	39.46	39.29	40.74	40.46	39.87	39.71	39.62	39.50
24	42.39	42.21	39.73	39.61	39.50	39.33	40.74	40.48	39.92	39.83	39.51	39.34
25	42.38	42.27	39.68	39.44	39.51	39.34	40.60	40.49	40.03	39.92	39.46	39.32
26	42.35	42.13	39.61	39.40	39.45	39.36	40.52	40.30	40.03	39.90	39.41	39.27
27	42.26	42.14	39.64	39.50	39.48	39.39	40.30	40.07	39.94	39.87	39.38	39.24
28	42.22	42.01	39.62	39.51	39.40	39.24	40.13	39.94	39.89	39.75	39.27	39.12
29	42.09	41.87	39.64	39.55	39.29	39.18	40.01	39.85	---	---	39.22	38.98
30	41.92	41.74	39.63	39.54	39.23	39.14	40.01	39.84	---	---	39.15	38.97
31	41.78	41.63	---	---	39.18	39.11	39.84	39.69	---	---	39.18	39.09
MONTH	42.39	41.63	41.70	39.40	39.75	39.01	41.66	38.99	41.40	39.60	40.64	38.97

GROUND-WATER LEVELS  
MARYLAND--Continued  
SOMERSET COUNTY--Continued  
SO Ce 42--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	39.14	38.90	38.60	38.43	37.76	37.53	38.23	38.07	40.44	40.30	39.89	39.72
2	39.07	38.90	38.63	38.43	37.78	37.62	38.23	38.10	40.43	40.28	40.03	39.77
3	39.13	38.90	38.65	38.48	37.75	37.58	38.28	38.05	40.49	40.33	40.08	39.94
4	39.14	39.02	38.60	38.45	37.69	37.56	38.34	38.16	40.53	40.38	40.11	39.95
5	39.10	38.94	38.52	38.34	37.68	37.52	38.43	38.24	40.59	40.45	40.11	39.93
6	39.05	38.89	38.48	38.28	37.72	37.53	38.65	38.32	40.55	40.24	40.01	39.85
7	39.13	38.84	38.49	38.29	37.69	37.55	39.42	38.65	40.43	40.24	39.98	39.84
8	39.23	39.01	38.51	38.35	37.65	37.52	40.19	39.42	40.39	40.29	39.96	39.83
9	39.36	39.06	38.48	38.32	37.63	37.51	40.89	40.19	40.43	40.32	39.92	39.77
10	39.36	39.15	38.45	38.35	37.65	37.54	41.21	40.89	40.41	40.28	39.88	39.76
11	39.39	39.21	38.41	38.23	37.72	37.62	41.25	41.08	40.37	40.24	40.00	39.87
12	39.33	39.13	38.35	38.20	37.76	37.67	41.10	40.92	40.31	40.15	40.01	39.84
13	39.25	39.13	38.27	38.11	37.78	37.66	40.98	40.79	40.27	40.13	39.96	39.82
14	39.21	39.02	38.21	38.08	37.74	37.63	40.88	40.65	40.27	40.06	39.94	39.78
15	39.13	38.97	38.17	38.03	37.74	37.62	40.76	40.65	40.19	40.04	39.90	39.75
16	39.08	38.77	38.18	38.03	37.78	37.61	40.76	40.57	40.16	39.99	39.95	39.79
17	39.02	38.77	38.18	38.05	37.82	37.71	40.70	40.52	40.06	39.90	39.92	39.71
18	39.09	38.94	38.11	37.82	37.84	37.69	40.63	40.46	40.10	39.90	39.88	39.65
19	39.04	38.90	37.93	37.76	37.89	37.73	40.52	40.31	40.09	39.85	39.90	39.71
20	39.01	38.84	37.87	37.68	37.90	37.76	40.48	40.21	40.03	39.78	39.89	39.70
21	38.96	38.81	37.89	37.72	37.90	37.74	40.53	40.32	40.02	39.85	39.82	39.59
22	38.85	38.69	38.00	37.76	37.92	37.71	40.58	40.37	39.99	39.79	39.77	39.65
23	38.86	38.68	38.07	37.89	38.01	37.87	40.59	40.45	39.98	39.79	39.75	39.52
24	38.91	38.79	38.01	37.84	38.05	37.92	40.56	40.38	39.90	39.73	39.72	39.54
25	38.83	38.69	38.00	37.87	38.04	37.90	40.50	40.35	39.86	39.76	39.70	39.45
26	38.76	38.63	37.96	37.87	38.03	37.88	40.47	40.25	39.89	39.79	39.54	39.38
27	38.76	38.66	37.93	37.83	38.06	37.93	40.38	40.24	39.89	39.73	39.51	39.33
28	38.67	38.49	37.89	37.76	38.04	37.92	40.41	40.24	39.86	39.72	39.51	39.34
29	38.60	38.45	37.87	37.79	38.07	37.92	40.38	40.25	39.89	39.73	39.49	39.38
30	38.58	38.45	37.91	37.72	38.16	37.95	40.40	40.24	39.89	39.76	39.48	39.37
31	---	---	37.82	37.54	---	---	40.44	40.27	39.88	39.72	---	---
MONTH	39.39	38.45	38.65	37.54	38.16	37.51	41.25	38.05	40.59	39.72	40.11	39.33
YEAR	42.39	37.51										



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
SOMERSET COUNTY--Continued

WELL NUMBER.--SO Cf 2. SITE ID.--380616075380701.

LOCATION.--Lat 38°06'16", long 75°38'07", Hydrologic Unit 02060009, on U.S. Rt. 13, 4.5 mi west of intersection of U.S. Rt. 13 and MD Rt. 364, near Costen.

Owner: Maryland State Highway Administration.

AQUIFER.--Kent Island Formation of Pleistocene age. Aquifer code: 112KILD.

WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 15 ft; casing diameter 1.25 in., to unknown depth.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 20 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of casing, 1.00 ft above land surface.

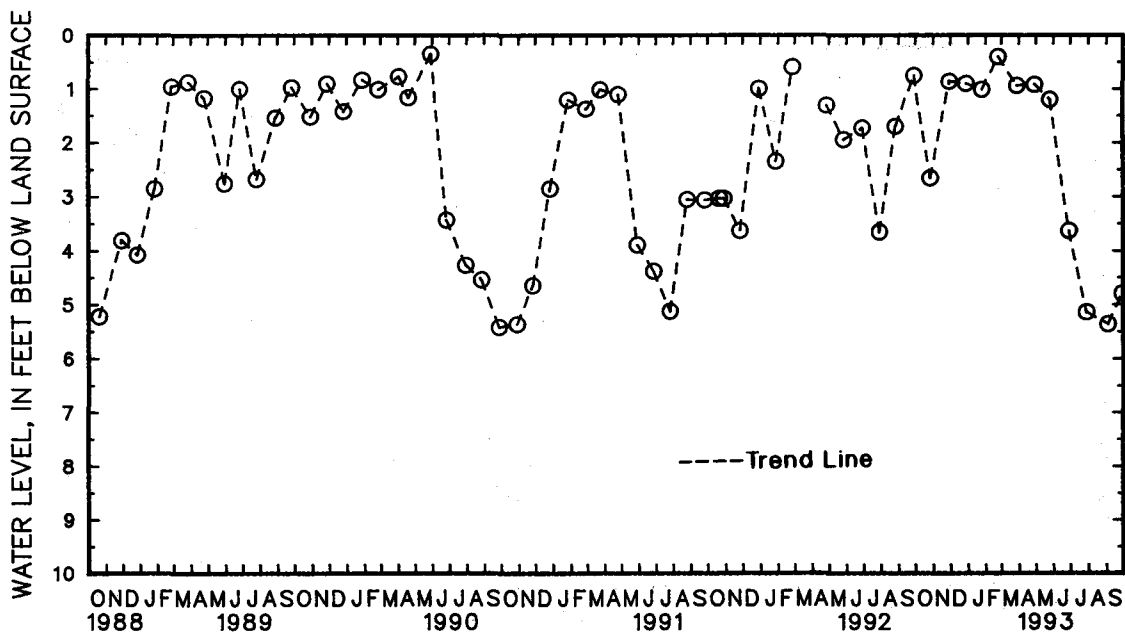
REMARKS.--Maryland Water-Level Network observation well.

PERIOD OF RECORD.--August 1949 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.28 ft below land surface, May 9, 1958; lowest measured, 6.34 ft below land surface, Oct. 27, 1987.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	2.66	DEC 29	.90	FEB 23	.40	APR 29	.92	JUN 28	3.64	SEP 3	5.37
NOV 30	.86	JAN 26	1.01	MAR 29	.94	MAY 26	1.20	JUL 28	5.15	SEP 28	4.80
WATER YEAR 1993		HIGHEST .40 FEB 23, 1993		LOWEST 5.37 SEP 3, 1993							



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

## TALBOT COUNTY

WELL NUMBER.--TA Bf 73. SITE ID.--385242075593101. PERMIT NUMBER.--TA-02-1641.

LOCATION.--Lat 38°52'42", long 75°59'31", Hydrologic Unit 02060005, at Cordova.

Owner: William Schluderberg-T. J. Kurdle Co.

AQUIFER.--Piney Point Formation of Middle Eocene age. Aquifer code: 124FNPW.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, depth 288 ft; casing diameter 4 in., to 276 ft; casing diameter 2 in. from 276 to 283 ft; screen diameter 3 in. from 283 to 288 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 42 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of casing, 0.50 ft above land surface.

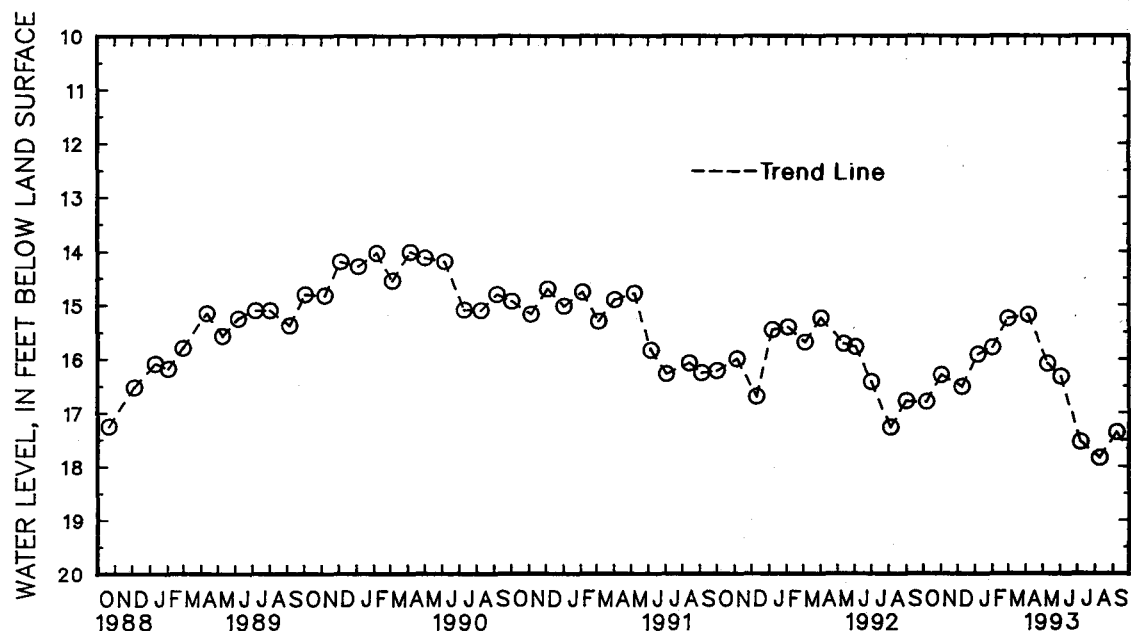
REMARKS.--Maryland Water-Level Network observation well. Water level reported by driller, 26 ft below land surface Dec. 16, 1955; water level measured 26.64 ft below land surface March 10, 1956. Measurements may be affected by nearby pumping.

PERIOD OF RECORD.--March 1956 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.29 ft below land surface, May 4, 1961; lowest measured, 76.57 ft below land surface, Dec. 6, 1974.

## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 7	16.80	DEC 9	16.52	FEB 1	15.78	APR 6	15.18	JUN 3	16.33	AUG 9	17.85
NOV 2	16.30	JAN 6	15.92	MAR 1	15.25	MAY 10	16.09	JUL 7	17.55	SEP 8	17.37
WATER YEAR 1993		HIGHEST	15.18	APR 6, 1993	LOWEST	17.85	AUG 9, 1993				



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

TALBOT COUNTY--Continued

WELL NUMBER.--TA Bf 74. SITE ID.--385242075593102. PERMIT NUMBER.--TA-02-1805.  
LOCATION.--Lat 38°52'42", long 75°59'31", Hydrologic Unit 02060005, at Cordova.

Owner: William Schluderberg-T. J. Kurdle Co.

AQUIFER.--Wicomico Formation of Pleistocene age. Aquifer code: 112WCML.

WELL CHARACTERISTICS.--Drilled, unused, water-table well, depth 48.4 ft; casing diameter 4 in., to 42.5 ft; screen diameter 3 in. from 43.2 to 48.4 ft.

**INSTRUMENTATION.**--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

**DATUM.**--Elevation of land surface is 42 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of casing, 0.70 ft above land surface.

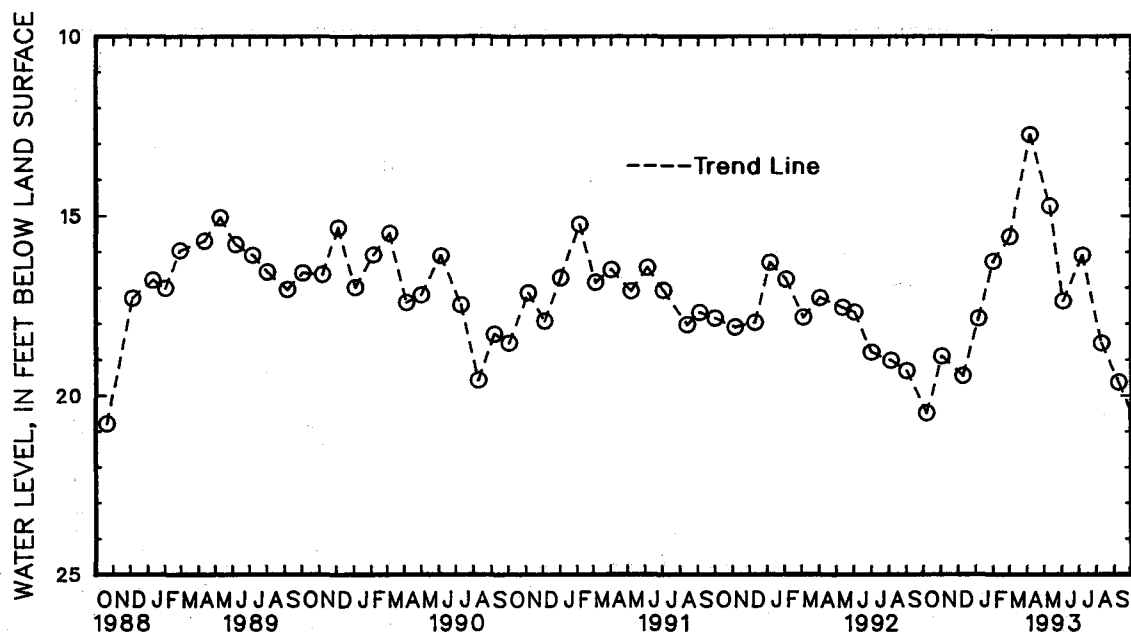
REMARKS.--Maryland Water-Level Network observation well.

PERIOD OF RECORD.--April 1956 to current year.

EXTREMES FOR PERIOD OF RECORD. --Highest water level measured, 8.48 ft below land surface, Dec. 14, 1971;  
lowest measured, 21.32 ft below land surface, Oct. 15, 1987.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE		WATER LEVEL		DATE		WATER LEVEL		DATE		WATER LEVEL		DATE		WATER LEVEL	
OCT	7	20.50		DEC	9	19.45		FEB	1	16.26		APR	6	12.74	
NOV	2	18.91		JAN	6	17.85		MAR	1	15.57		MAY	10	14.73	
JUN 3		17.38		AUG 9		18.55		SEP 8		19.64					
WATER YEAR 1993		HIGHEST	12.74	APR 6, 1993		LOWEST	20.50	OCT 7, 1992							



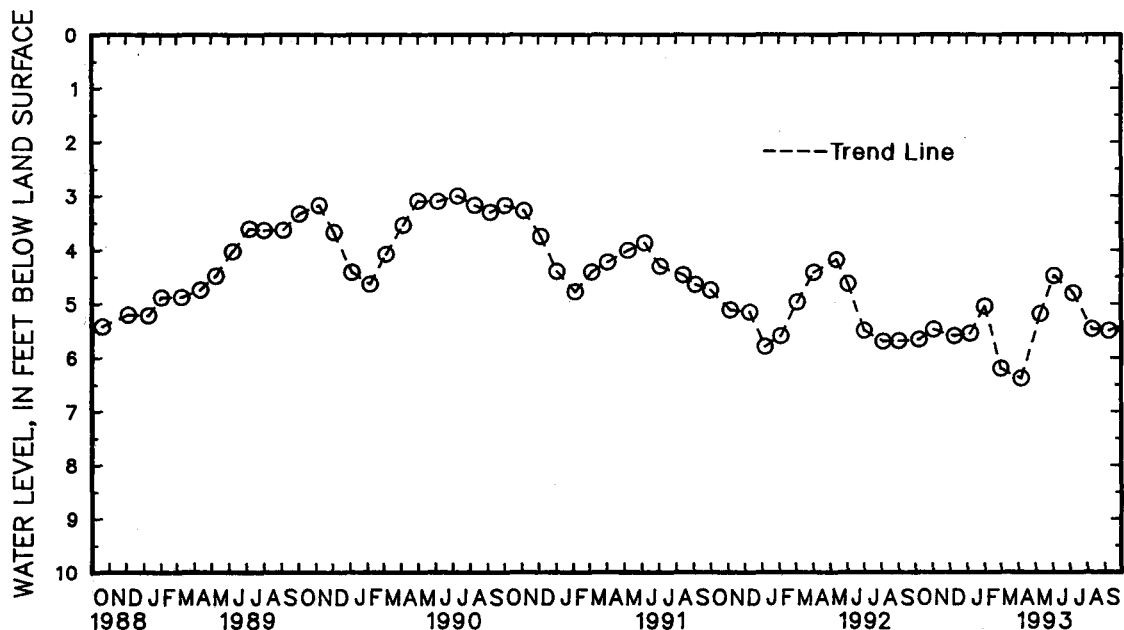
5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
TALBOT COUNTY--Continued

WELL NUMBER.--TA Cc 35. SITE ID.--384923076100601. PERMIT NUMBER.--TA-73-0767.  
LOCATION.--Lat 38°49'23", long 76°10'06", Hydrologic Unit 02060002, at Tunis Mills.  
Owner: U.S. Geological Survey.  
AQUIFER.--Piney Point Formation of Middle Eocene age. Aquifer code: 124PNPN.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 180 ft; casing diameter 6 to 2 in.; screened from 170 to 180 ft.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
DATUM.--Elevation of land surface is 5 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
Measuring point: Top of casing, 1.28 ft above land surface.  
REMARKS.--Maryland Water-Level Network observation well.  
PERIOD OF RECORD.--August 1976 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.97 ft below land surface, April 2, 1980;  
lowest measured, 6.39 ft below land surface, April 6, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 7	5.67	DEC 9	5.60	FEB 1	5.05	APR 6	6.39	JUN 3	4.48	AUG 9	5.47
NOV 2	5.48	JAN 6	5.55	MAR 1	6.20	MAY 10	5.19	JUL 7	4.80	SEP 8	5.50
WATER YEAR 1993		HIGHEST		4.48	JUN 3, 1993	LOWEST		6.39	APR 6, 1993		



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993



GROUND-WATER LEVELS  
MARYLAND--Continued  
TALBOT COUNTY--Continued

WELL NUMBER.--TA Cc 36. SITE ID.--384514076103701. PERMIT NUMBER.--TA-73-0751.

LOCATION.--Lat 38°45'14", long 76°10'37", Hydrologic Unit 02060002, at Newcomb.

Owner: U.S. Geological Survey.

AQUIFER.--Piney Point Formation of Middle Eocene age. Aquifer code: 124PNPN.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 241 ft; casing diameter 6 in., to 57 ft; casing diameter 2 in. from 51 to 231 ft; screen diameter 2 in. from 231 to 241 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 7 ft above National Geodetic Vertical of 1929, from topographic map.

Measuring point: Top of casing, 0.85 ft above land surface.

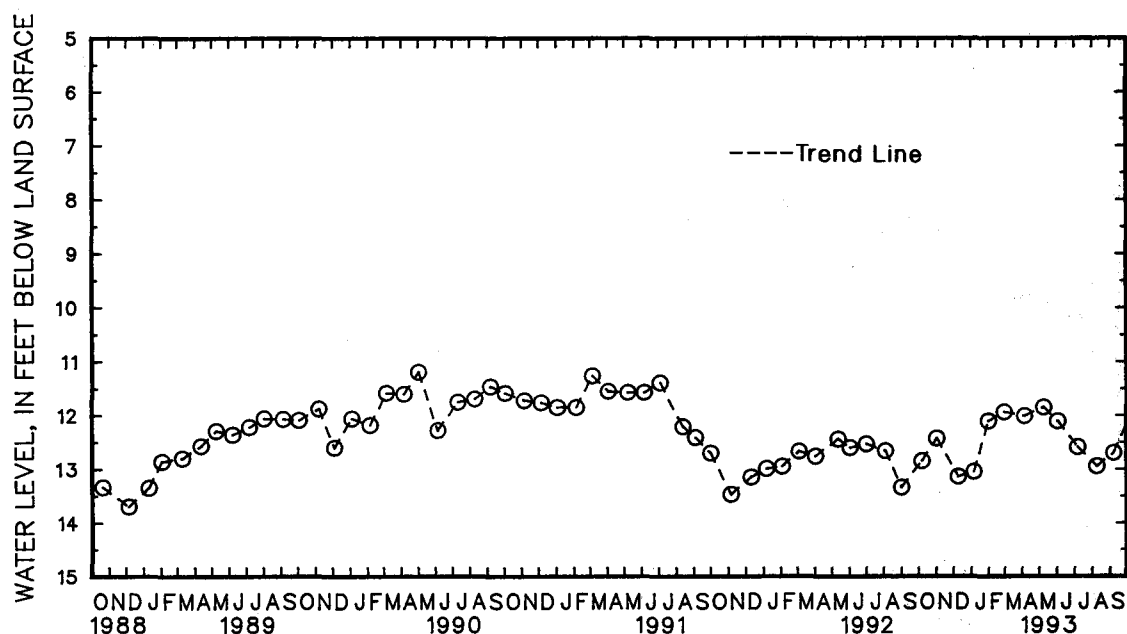
REMARKS.--Maryland Water-Level Network observation well.

PERIOD OF RECORD.--October 1976 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.89 ft below land surface, April 2, 1980; lowest measured, 13.70 ft below land surface, Dec. 5, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 7	12.85	DEC 9	13.14	FEB 1	12.11	APR 6	12.01	JUN 3	12.11	AUG 9	12.95
NOV 2	12.43	JAN 6	13.05	MAR 1	11.94	MAY 10	11.85	JUL 7	12.59	SEP 8	12.70
WATER YEAR 1993		HIGHEST	11.85	MAY 10, 1993		LOWEST	13.14	DEC 9, 1992			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
TALBOT COUNTY--Continued

WELL NUMBER.--TA Ce 7. SITE ID.--384643076043801.

LOCATION.--Lat 38°46'43", long 76°04'38", Hydrologic Unit 02060005, in Easton.

Owner: Easton Utilities Commission.

AQUIFER.--Calvert Formation of Miocene age. Aquifer code: 122CLVR.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, measured depth 104 ft; casing diameter 4 in., to unknown depth.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 13 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of casing, 1.4 ft above land surface.

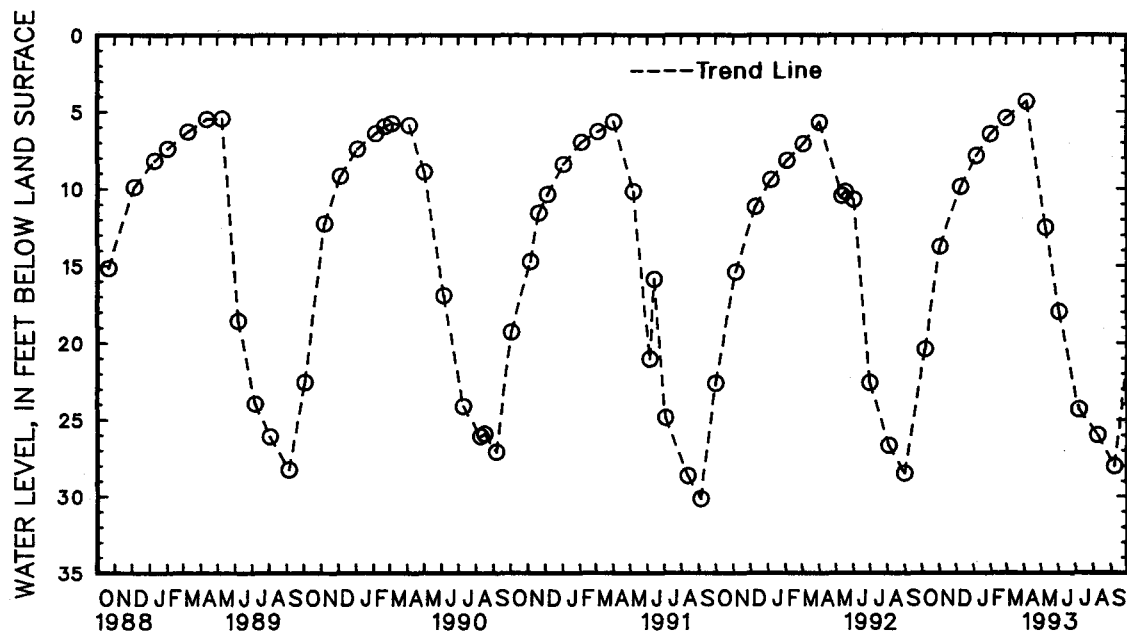
REMARKS.--Maryland Water-Level Network observation well. Water level reported 43.43 ft below land surface, Oct. 7, 1948; water levels may be affected by nearby pumping.

PERIOD OF RECORDS.--April 1956 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.97 ft below land surface, April 16, 1984; lowest measured 75.36 ft below land surface, Aug. 2, 1966.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 7	20.40	DEC 9	9.85	FEB 1	6.42	APR 6	4.33	JUN 3	18.00	AUG 9	27.02
NOV 2	13.74	JAN 6	7.84	MAR 1	5.40	MAY 10	12.53	JUL 7	24.36	SEP 8	28.04
WATER YEAR 1993		HIGHEST	4.33	APR 6, 1993		LOWEST	28.04	SEP 8, 1993			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

WASHINGTON COUNTY

WELL NUMBER.--WA Ac 1. SITE ID.--394154078103501.

LOCATION.--Lat 39°41'54", long 78°10'35", Hydrologic Unit 02070004, at Hancock.

Owner: Susan Creager.

AQUIFER.--Romney Formation of Middle Devonian age. Aquifer code: 344RMNY.

WELL CHARACTERISTICS.--Drilled, unused, water-table well, depth 83 ft; casing diameter 4 in., to unknown depth; open hole.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land-surface is 440 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of tile pipe, 0.20 ft above land surface.

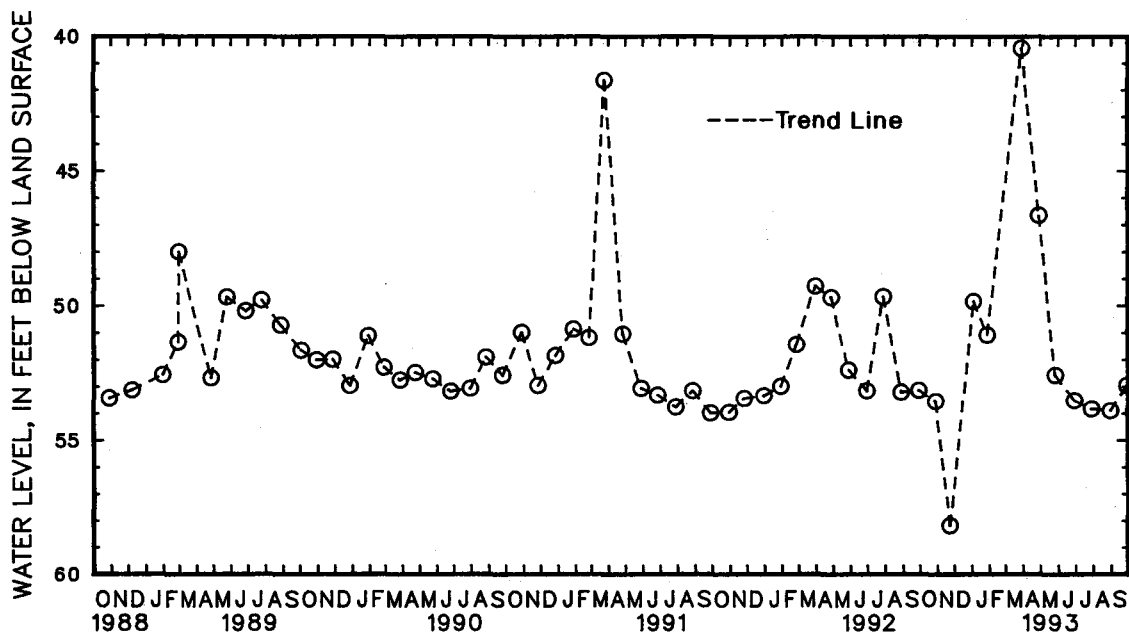
REMARKS.--Maryland Water-Level Network observation well.

PERIOD OF RECORD.--October 1946 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 35.65 ft below land surface, Jan. 2, 1976; lowest measured, 58.18 ft below land surface, Nov. 23, 1992.

## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	
OCT 28	53.58	JAN 4	49.83	MAR 29	40.43	MAY 26	52.59	JUL 28	53.84	SEP 28	52.97	
NOV 23	58.18	28	51.08	APR 28	46.66	JUN 28	53.53	AUG 30	53.91			
WATER YEAR 1993		HIGHEST	40.43	MAR 29, 1993		LOWEST	58.18	NOV 23, 1992				



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

WASHINGTON COUNTY--Continued

WELL NUMBER.--WA Be 2. SITE ID.--393638078001301.

LOCATION.--Lat 39°36'38", long 78°00'13", Hydrologic Unit 02070004, about 1.2 mi southeast of Big Pool.

Owner: Fort Frederick State Park.

AQUIFER.--Romney Formation of Middle Devonian age. Aquifer code: 344RMNY.

WELL CHARACTERISTICS.--Dug, stone-lined, unused, water-table well, depth 41 ft; casing diameter 42 in.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 470 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of stone sill, 0.80 ft above land surface.

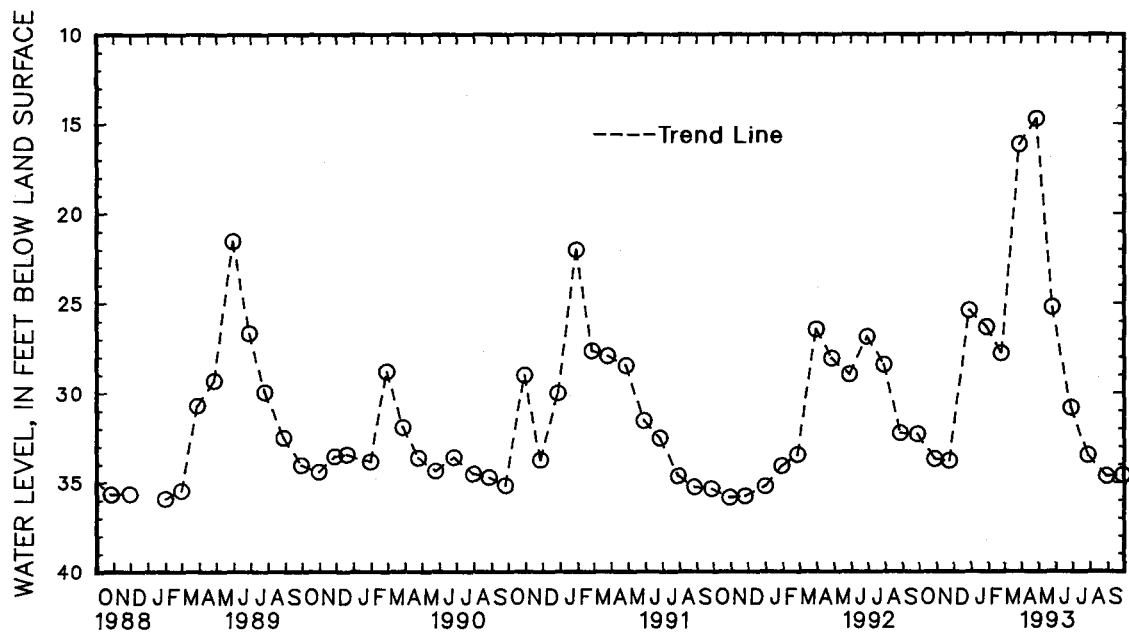
REMARKS.--Maryland Water-Level Network observation well.

PERIOD OF RECORD.--December 1949 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 14.77 ft below land surface, April 28, 1993; lowest measured, 36.92 ft below land surface, Jan. 11, 1965.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	33.71	DEC 29	25.39	FEB 24	27.78	APR 28	14.72	JUN 28	30.86	AUG 30	34.66
NOV 23	33.80	JAN 28	26.32	MAR 29	16.15	MAY 26	25.24	JUL 28	33.51	SEP 28	34.61
WATER YEAR 1993		HIGHEST	14.72	APR 28, 1993		LOWEST	34.66	AUG 30, 1993			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

445

## MARYLAND--Continued

## WASHINGTON COUNTY--Continued

WELL NUMBER.--WA Bk 25. SITE ID.--393851077343001. PERMIT NUMBER.--WA-70-0235.

LOCATION.--Lat 39°38'51", long 77°34'30", Hydrologic Unit 02070004, 0.5 mi south of Smithsburg at Hagerstown Water Supply Plant.

Owner: U.S. Geological Survey.

AQUIFER.--Tomstown Dolomite of Lower Cambrian age. Aquifer code: 377TMSN.

WELL CHARACTERISTICS.--Drilled, unused, water-table well, depth 200 ft; casing diameter 6 in., to 128 ft; open hole.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

Equipped with graphic water-level recorder from April 27, 1970 to current year.

DATUM.--Elevation of land surface is 790 ft above National Geodetic Vertical Datum of 1929,

from topographic map. Measuring point: Top of shelter shelf, 3.5 ft above land surface.

REMARKS.--Maryland Water-Level Network observation well. Missing data due to recorder malfunction.

PERIOD OF RECORD.--April 1970 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.43 ft below land surface, April 23, 1993; lowest measured, 51.37 ft below land surface Jan. 31, 1981.

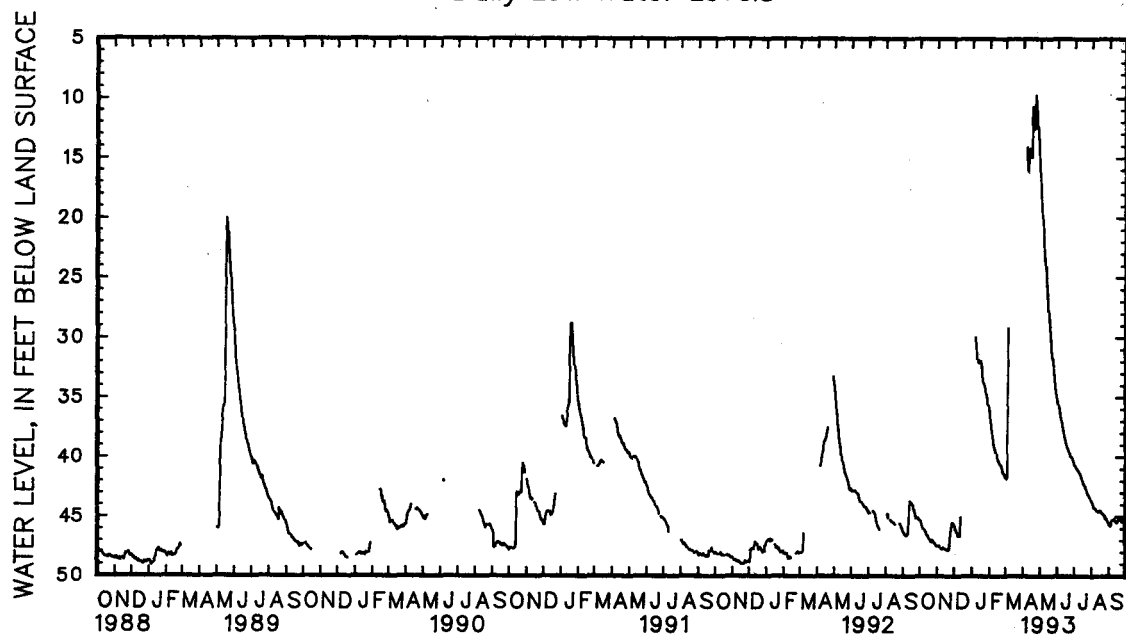
## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	45.30	45.23	47.46	47.44	45.71	45.60	---	---	36.46	35.79	41.67	41.66
2	45.33	45.28	47.46	47.36	45.81	45.71	---	---	36.84	36.46	41.74	41.65
3	45.42	45.30	47.47	47.36	46.07	45.81	---	---	37.14	36.84	41.83	41.73
4	45.59	45.42	47.42	47.18	46.07	45.95	---	---	37.64	37.14	41.76	35.21
5	45.79	45.59	47.40	47.27	46.28	45.94	---	---	37.80	37.64	35.21	29.24
6	45.90	45.79	47.52	47.40	46.31	46.26	---	---	38.33	37.79	29.24	26.09
7	45.99	45.88	47.57	47.52	46.43	46.25	29.94	29.65	38.47	38.32	---	---
8	46.00	45.94	47.68	47.57	46.64	46.43	30.44	29.93	38.93	38.47	---	---
9	46.05	45.97	47.72	47.68	46.65	46.64	31.05	30.44	39.14	38.93	---	---
10	46.12	46.05	47.71	47.66	46.64	45.06	31.60	31.05	39.29	39.14	---	---
11	46.21	46.08	47.66	47.57	46.64	45.05	31.99	31.60	39.56	39.29	---	---
12	46.24	46.21	47.57	47.22	45.05	34.32	32.08	31.99	39.57	39.52	---	---
13	46.46	46.24	47.69	47.36	---	---	32.08	31.88	39.74	39.50	---	---
14	46.55	46.46	47.69	47.67	---	---	31.88	31.88	40.16	39.74	---	---
15	46.56	46.52	47.75	47.68	---	---	31.91	31.88	40.33	40.16	---	---
16	46.65	46.49	47.78	47.72	---	---	31.96	31.91	40.33	40.08	---	---
17	46.76	46.65	47.72	47.61	---	---	32.31	31.96	40.35	40.27	---	---
18	46.81	46.74	47.75	47.64	---	---	32.93	32.31	40.53	40.34	---	---
19	46.88	46.73	47.82	47.75	---	---	33.39	32.93	40.62	40.53	---	---
20	46.99	46.87	47.84	47.82	---	---	33.67	33.39	40.68	40.56	---	---
21	47.06	46.89	47.82	47.68	---	---	33.83	33.67	40.68	40.52	---	---
22	47.09	47.06	47.69	47.53	---	---	33.85	33.77	40.88	40.53	---	---
23	47.08	46.96	47.53	46.69	---	---	34.01	33.85	41.02	40.88	---	---
24	46.96	46.79	46.69	46.18	---	---	34.23	33.88	41.32	41.02	---	---
25	47.06	46.95	46.18	45.89	---	---	34.61	34.23	41.38	41.32	---	---
26	47.08	47.01	45.89	45.52	---	---	34.68	34.61	41.37	41.34	---	---
27	47.17	47.08	45.54	45.48	---	---	34.91	34.66	41.54	41.37	---	---
28	47.20	47.17	45.48	45.48	---	---	35.03	34.91	41.66	41.53	---	---
29	47.27	47.22	45.58	45.48	---	---	35.58	35.03	---	---	---	---
30	47.36	47.27	45.60	45.58	---	---	35.65	35.58	---	---	---	---
31	47.44	47.36	---	---	---	---	35.79	35.60	---	---	---	---
MONTH	47.44	45.23	47.84	45.48	46.65	34.32	35.79	29.65	41.66	35.79	41.83	26.09

GROUND-WATER LEVELS  
MARYLAND--Continued  
WASHINGTON COUNTY--Continued  
WA Bk 25--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	16.12	15.05	35.29	34.95	40.72	40.56	43.77	43.71	45.70	45.54
2	---	---	17.26	16.12	35.49	35.29	40.76	40.72	43.93	43.77	45.73	45.70
3	---	---	18.27	17.26	35.68	35.45	40.83	40.75	44.06	43.93	45.78	45.73
4	---	---	19.08	18.27	35.92	35.68	40.96	40.83	44.25	44.06	45.75	45.36
5	---	---	19.74	19.08	36.29	35.92	41.01	40.96	44.30	44.24	45.37	45.29
6	---	---	20.45	19.74	36.61	36.29	41.07	41.01	44.31	44.25	45.29	45.29
7	14.09	13.18	21.30	20.45	36.78	36.61	41.12	41.07	44.33	44.27	45.30	45.29
8	15.03	14.09	22.09	21.30	36.98	36.78	41.19	41.12	44.38	44.33	45.30	45.30
9	15.84	15.03	22.84	22.09	37.14	36.98	41.25	41.19	44.48	44.38	45.30	45.18
10	16.16	15.35	23.56	22.84	37.48	37.14	41.37	41.25	44.52	44.48	45.18	45.09
11	15.35	14.19	24.12	23.56	37.78	37.48	41.41	41.37	44.55	44.51	45.28	45.17
12	14.19	13.93	24.73	24.12	38.02	37.78	41.52	41.39	44.56	44.48	45.32	45.28
13	14.14	13.93	25.64	24.73	38.23	38.02	41.74	41.52	44.49	44.47	45.42	45.31
14	14.63	14.14	26.27	25.64	38.40	38.23	41.81	41.74	44.54	44.49	45.44	45.40
15	14.90	14.63	27.02	26.27	38.59	38.38	41.96	41.81	44.55	44.51	45.50	45.40
16	14.94	12.10	27.74	27.02	38.84	38.59	42.07	41.96	44.54	44.51	45.44	45.33
17	12.10	10.54	28.42	27.74	38.95	38.84	42.24	42.07	44.57	44.51	45.33	45.20
18	10.65	10.48	28.88	28.42	39.08	38.95	42.33	42.24	44.67	44.57	45.20	45.13
19	11.29	10.65	29.49	28.88	39.23	39.08	42.36	42.33	44.72	44.67	45.16	45.10
20	12.03	11.29	30.10	29.49	39.32	39.23	42.48	42.34	44.72	44.69	45.16	45.09
21	12.55	12.03	30.72	30.10	39.42	39.32	42.61	42.48	44.83	44.71	45.25	45.09
22	12.03	9.62	31.27	30.72	39.61	39.42	42.74	42.61	44.89	44.83	45.25	45.24
23	9.71	9.43	31.74	31.27	39.87	39.61	42.85	42.74	44.90	44.89	45.41	45.22
24	10.27	9.71	32.20	31.74	40.00	39.87	43.00	42.85	44.93	44.90	45.42	45.38
25	11.02	10.27	32.79	32.20	40.04	39.99	43.12	43.00	45.15	44.93	45.38	45.30
26	11.75	11.02	33.23	32.79	40.06	39.98	43.14	43.12	45.22	45.15	45.34	45.25
27	12.52	11.75	33.66	33.23	40.12	40.06	43.25	43.14	45.19	45.17	45.32	45.18
28	13.28	12.52	33.99	33.66	40.25	40.12	43.36	43.24	45.30	45.17	45.18	45.18
29	14.10	13.28	34.47	33.99	40.41	40.25	43.40	43.32	45.39	45.30	45.20	45.16
30	15.05	14.10	34.72	34.47	40.56	40.41	43.59	43.40	45.50	45.39	---	---
31	---	---	34.95	34.71	---	---	43.71	43.59	45.54	45.49	---	---
MONTH	16.16	9.43	34.95	15.05	40.56	34.95	43.71	40.56	45.54	43.71	45.78	45.09
YEAR	47.84	9.43										

Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

447

## MARYLAND--Continued

## WASHINGTON COUNTY--Continued

WELL NUMBER.--WA Ch 106. SITE ID.--393414077461801. PERMIT NUMBER.--WA-73-2095.

LOCATION.--Lat 39°34'14", long 77°46'18", Hydrologic Unit 02070004, at Fountain Rock School.

Owner: U.S. Geological Survey.

AQUIFER.--Conococheague Limestone of Upper Cambrian age. Aquifer code: 371CCCG.

WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 69 ft; casing diameter 6 in., to 41 ft; open hole.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

Equipped with graphic water-level recorder from March 29, 1978 to June 19, 1981, Nov. 6, 1985 to May 3, 1987, and July 1, 1987 to current year.

DATUM.--Elevation of land surface is 520 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of casing, 1.45 ft above land surface.

REMARKS.--Maryland Water-Level Network observation well. Missing data due to recorder malfunction.

PERIOD OF RECORD.--February 1978 to June 1981, April 1984 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 14.19 ft below land surface, April 29, 1993; lowest measured, 36.59 ft below land surface, Jan. 11, 1989.

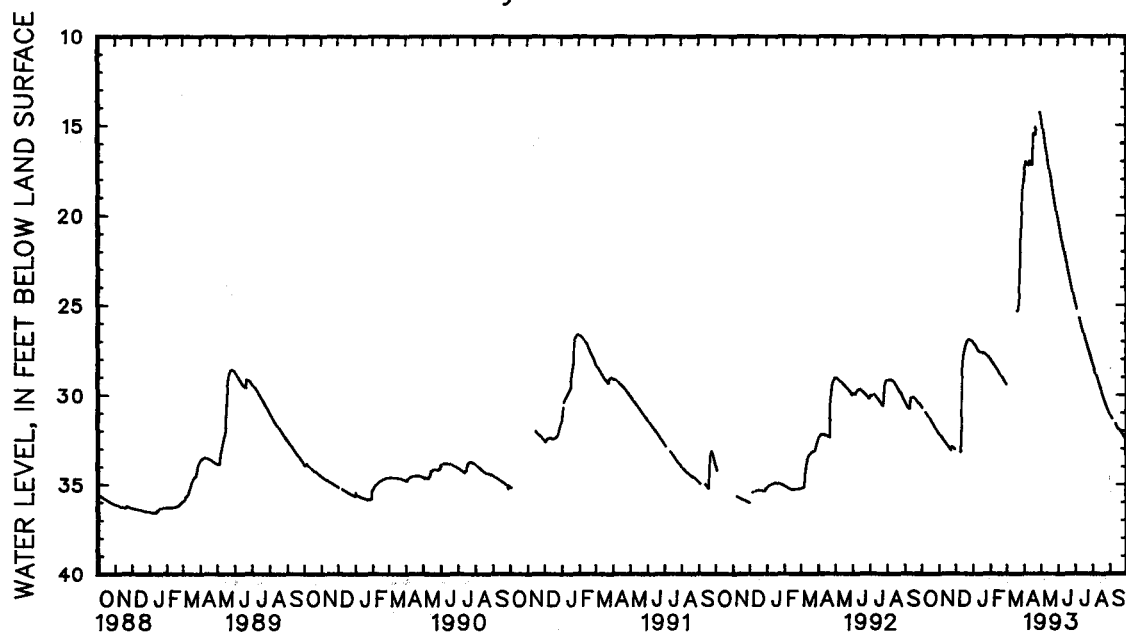
## WATER LEVEL, IN FEET BELOW LAND-SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	30.64	30.59	32.19	32.16	---	---	27.07	27.01	28.03	27.98	---	---
2	30.69	30.64	32.22	32.19	---	---	27.13	27.07	28.11	28.03	---	---
3	---	---	32.24	32.21	---	---	27.15	27.13	28.13	28.11	---	---
4	---	---	32.29	32.24	---	---	27.19	27.14	28.19	28.13	---	---
5	---	---	32.33	32.29	---	---	27.26	27.19	28.21	28.19	---	---
6	---	---	32.38	32.33	---	---	27.29	27.26	28.29	28.21	---	---
7	---	---	32.42	32.38	---	---	27.34	27.28	28.32	28.29	---	---
8	30.96	30.92	32.47	32.42	---	---	27.40	27.34	28.37	28.32	---	---
9	31.01	30.96	32.52	32.47	33.18	33.15	27.46	27.40	28.42	28.37	---	---
10	31.06	31.01	32.56	32.52	33.19	31.77	27.52	27.46	28.46	28.42	---	---
11	31.11	31.06	32.61	32.56	31.77	29.11	27.56	27.52	28.52	28.46	---	---
12	31.16	31.11	32.64	32.61	29.11	28.36	27.57	27.56	28.54	28.52	---	---
13	31.21	31.16	32.68	32.64	28.36	27.96	27.59	27.57	28.60	28.54	---	---
14	31.26	31.21	32.73	32.68	27.96	27.72	27.59	27.59	28.66	28.60	---	---
15	31.31	31.26	32.79	32.73	27.72	27.54	27.60	27.59	28.72	28.66	---	---
16	31.36	31.31	32.82	32.79	27.54	27.41	27.60	27.59	28.77	28.72	---	---
17	31.42	31.36	32.86	32.82	27.41	27.24	27.61	27.59	28.81	28.77	---	---
18	31.49	31.42	32.90	32.86	27.24	27.16	27.64	27.61	28.87	28.81	---	---
19	31.54	31.49	32.96	32.90	27.16	27.05	27.66	27.64	28.94	28.87	25.31	25.30
20	31.59	31.54	33.01	32.96	27.05	26.98	27.68	27.66	28.99	28.94	25.30	25.22
21	31.63	31.59	33.05	33.01	26.98	26.93	27.68	27.67	29.03	28.99	25.22	24.93
22	31.68	31.63	33.08	32.91	26.93	26.89	27.68	27.67	29.08	29.03	24.93	24.56
23	31.74	31.68	32.91	32.83	26.89	26.87	27.72	27.68	29.14	29.08	24.56	23.25
24	31.80	31.74	32.88	32.86	26.88	26.87	27.76	27.72	29.21	29.14	23.25	21.92
25	31.85	31.80	32.90	32.88	26.88	26.87	27.79	27.76	29.26	29.21	21.92	20.88
26	31.90	31.85	32.93	32.90	26.90	26.88	27.81	27.79	29.30	29.26	20.88	20.35
27	31.95	31.90	32.95	32.93	26.92	26.90	27.82	27.81	29.33	29.29	20.35	19.88
28	32.00	31.95	32.98	32.95	26.94	26.92	27.85	27.82	29.39	29.33	19.88	18.87
29	32.06	32.00	32.99	32.98	26.94	26.94	27.92	27.85	---	---	18.87	18.37
30	32.11	32.06	33.03	32.99	26.96	26.94	27.95	27.92	---	---	18.37	18.11
31	32.16	32.11	---	---	27.01	26.96	27.98	27.94	---	---	18.11	17.82
MONTH	32.16	30.59	33.08	32.16	33.19	26.87	27.98	27.01	29.39	27.98	25.31	17.82

GROUND-WATER LEVELS  
MARYLAND--Continued  
WASHINGTON COUNTY--Continued  
WA Ch 106--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	17.82	17.39	14.55	14.34	20.44	20.28	24.95	24.82	28.31	28.21	31.20	31.12
2	17.39	17.18	14.73	14.54	20.59	20.44	25.06	24.95	28.41	28.31	31.24	31.19
3	17.18	17.09	14.95	14.73	20.74	20.59	25.21	25.06	28.51	28.41	31.29	31.21
4	17.09	17.02	15.18	14.95	20.92	20.74	---	---	28.68	28.51	31.36	31.29
5	17.02	16.97	15.36	15.18	21.09	20.92	---	---	28.77	28.68	---	---
6	---	---	15.55	15.36	21.27	21.09	---	---	28.87	28.77	---	---
7	---	---	15.78	15.55	21.40	21.27	---	---	28.96	28.87	---	---
8	17.17	17.12	15.97	15.78	21.53	21.40	25.73	25.59	29.05	28.96	---	---
9	17.21	17.17	16.17	15.97	21.68	21.53	25.84	25.73	29.14	29.05	---	---
10	17.22	16.99	16.37	16.17	21.84	21.68	25.96	25.84	29.23	29.14	31.63	31.59
11	16.99	16.94	16.49	16.37	22.00	21.84	26.07	25.96	29.33	29.23	31.70	31.63
12	17.00	16.96	16.69	16.49	22.19	22.00	26.20	26.07	29.43	29.33	31.77	31.70
13	17.09	17.00	16.93	16.69	22.34	22.19	26.32	26.20	29.53	29.43	31.84	31.77
14	17.15	17.09	17.15	16.93	22.49	22.34	26.42	26.32	29.63	29.53	31.90	31.84
15	17.18	17.15	17.33	17.15	22.65	22.49	26.55	26.42	29.72	29.63	31.95	31.87
16	17.18	15.33	17.52	17.33	22.82	22.65	26.67	26.55	29.82	29.72	31.94	31.88
17	15.46	15.42	17.71	17.52	22.96	22.82	26.78	26.67	29.91	29.82	31.95	31.94
18	15.44	15.40	17.87	17.71	23.10	22.96	26.89	26.78	30.00	29.91	31.98	31.94
19	15.41	15.40	18.04	17.87	23.27	23.10	27.01	26.89	30.09	30.00	32.03	31.98
20	15.49	15.41	18.28	18.04	23.41	23.27	27.12	27.01	30.18	30.09	32.09	32.03
21	15.51	15.10	18.47	18.28	23.53	23.41	27.22	27.12	30.27	30.18	32.14	32.09
22	15.10	14.90	18.68	18.47	23.68	23.53	27.32	27.22	30.36	30.27	32.19	32.14
23	---	---	18.87	18.68	23.84	23.68	27.43	27.32	30.45	30.36	32.24	32.19
24	---	---	19.03	18.87	24.00	23.84	27.52	27.43	30.54	30.45	32.31	32.24
25	---	---	19.25	19.03	24.14	24.00	27.60	27.52	30.62	30.54	32.35	32.31
26	---	---	19.43	19.25	24.28	24.14	27.72	27.60	30.71	30.62	32.37	32.35
27	---	---	19.60	19.43	24.41	24.28	27.80	27.72	30.80	30.71	32.41	32.37
28	---	---	19.77	19.60	24.54	24.41	27.91	27.80	30.88	30.80	32.45	32.41
29	14.25	14.19	19.98	19.77	24.67	24.54	28.00	27.91	30.96	30.88	32.50	32.45
30	14.34	14.25	20.12	19.98	24.82	24.67	28.10	28.00	31.04	30.96	32.55	32.50
31	---	---	20.28	20.12	---	---	28.21	28.10	31.12	31.04	---	---
MONTH	17.82	14.19	20.28	14.34	24.82	20.28	28.21	24.82	31.12	28.21	32.55	31.12
YEAR	33.19	14.19										

Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

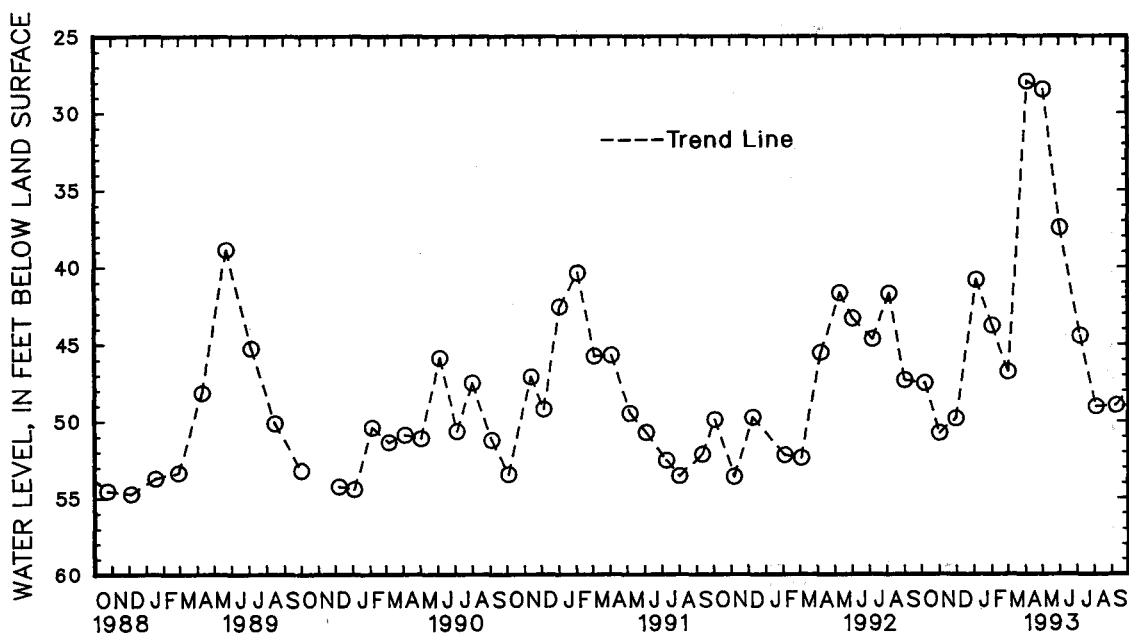


GROUND-WATER LEVELS  
MARYLAND--Continued  
WASHINGTON COUNTY--Continued

WELL NUMBER.--WA C1 82. SITE ID.--393402077434201. PERMIT NUMBER.--WA-73-2101.  
LOCATION.--Lat 39°34'02", long 77°43'42", Hydrologic Unit 02070004, at Maryland Correction Institution, Hagerstown.  
Owner: U.S. Geological Survey.  
AQUIFER.--Conococheague Limestone of Upper Cambrian age. Aquifer code: 371CCCG.  
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 84 ft; casing diameter 6 in., to 32 ft; open hole.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel. Equipped with digital water-level recorder--60-minute recorder interval from April 25, 1978 to June 19, 1981.  
DATUM.--Elevation of land surface is 500 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
Measuring point: Top of casing 2.30 ft above land surface.  
REMARKS.--Maryland Water-Level Network observation well.  
PERIOD OF RECORD.--February 1978 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 27.95 ft below land surface, April 6, 1993; lowest measured, 59.28 ft below land surface, Feb. 1, 1981.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

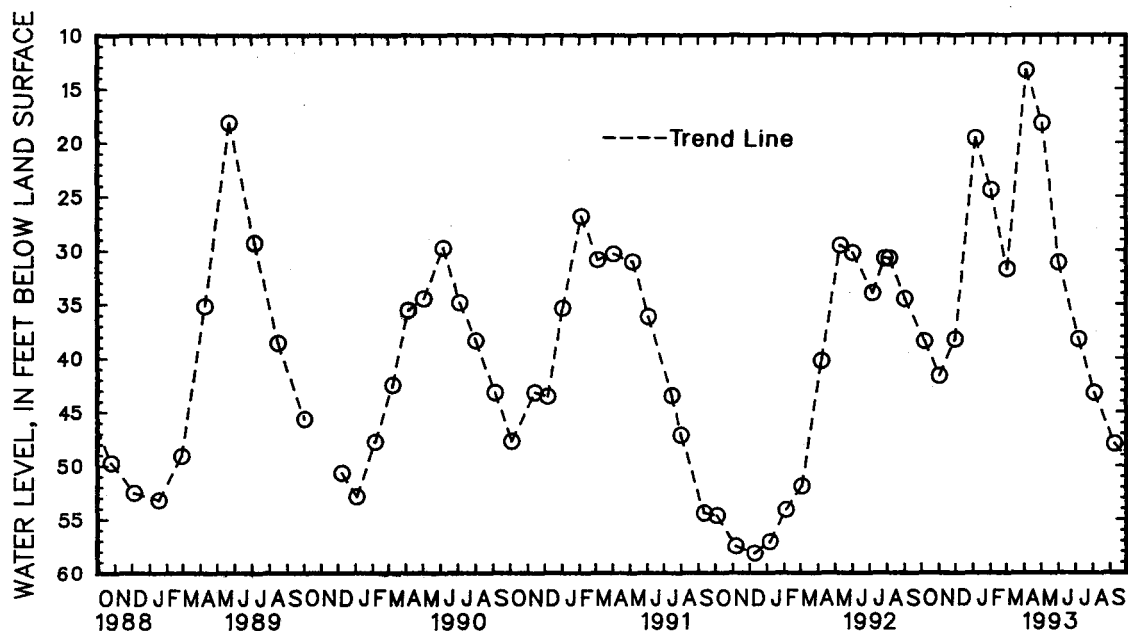
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 7	47.53	DEC 1	49.84	FEB 2	43.81	APR 6	27.95	JUN 2	37.47	AUG 4	49.09
NOV 2	50.80	JAN 6	40.83	MAR 2	46.81	MAY 4	28.47	JUL 7	44.47	SEP 9	48.99
WATER YEAR 1993		HIGHEST	27.95	APR 6, 1993		LOWEST	50.80	NOV 2, 1992			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE		WATER LEVEL		DATE		WATER LEVEL		DATE		WATER LEVEL		DATE		WATER LEVEL			
OCT	7	38.43	DEC	1	38.27	FEB	2	24.37	APR	6	13.27	JUN	2	31.20	AUG	4	43.24
NOV	2	41.65	JAN	6	19.57	MAR	2	31.76	MAY	4	18.19	JUL	7	38.28	SEP	9	47.99
WATER YEAR 1993			HIGHEST		13.27	APR 6, 1993			LOWEST		47.99	SEP 9, 1993					



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

WICOMICO COUNTY

WELL NUMBER.--WI Ce 13. SITE ID.--382150075352101.

LOCATION.--Lat 38°21'50", long 75°35'21", Hydrologic Unit 02060007, at Municipal Zoo Park, Salisbury.

Owner: City of Salisbury.

AQUIFER.--Pensauken Formation of the Salisbury aquifer of Miocene age. Aquifer code: 112SLBR.

WELL CHARACTERISTICS.--Drilled, unused, water-table well, reported depth 65 ft, measured depth 51.7 ft; casing diameter 16 to 10 in., to unknown depth; screen diameter and interval unknown; screen length 20 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

Equipped with water-level recorder from July 16, 1947 to Jan. 3, 1955; Aug. 23, 1962 to Aug. 20, 1968.

DATUM.--Elevation of land surface is 7 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of casing, 1.04 ft above land surface.

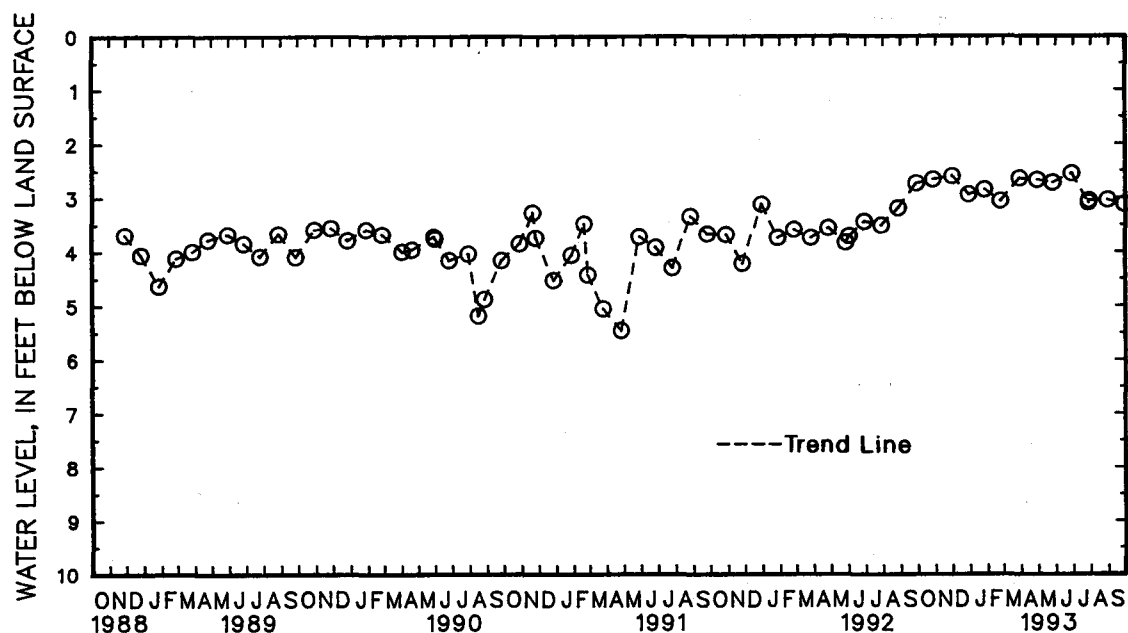
REMARKS.--Maryland Water-Level Network observation well.

PERIOD OF RECORD.--July 1947 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.25 ft below land surface, Aug. 30, 1979; lowest measured, 10.72 ft below land surface, Aug. 30, 1947.

## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	2.66	DEC 29	2.94	FEB 23	3.06	APR 29	2.67	JUN 28	2.55	JUL 28	3.05
NOV 30	2.60	JAN 26	2.85	MAR 29	2.64	MAY 26	2.72	JUL 27	3.09	AUG 30	3.04
										SEP 28	3.12
WATER YEAR 1993		HIGHEST	2.55	JUN 28, 1993	LOWEST	3.12	SEP 28, 1993				



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

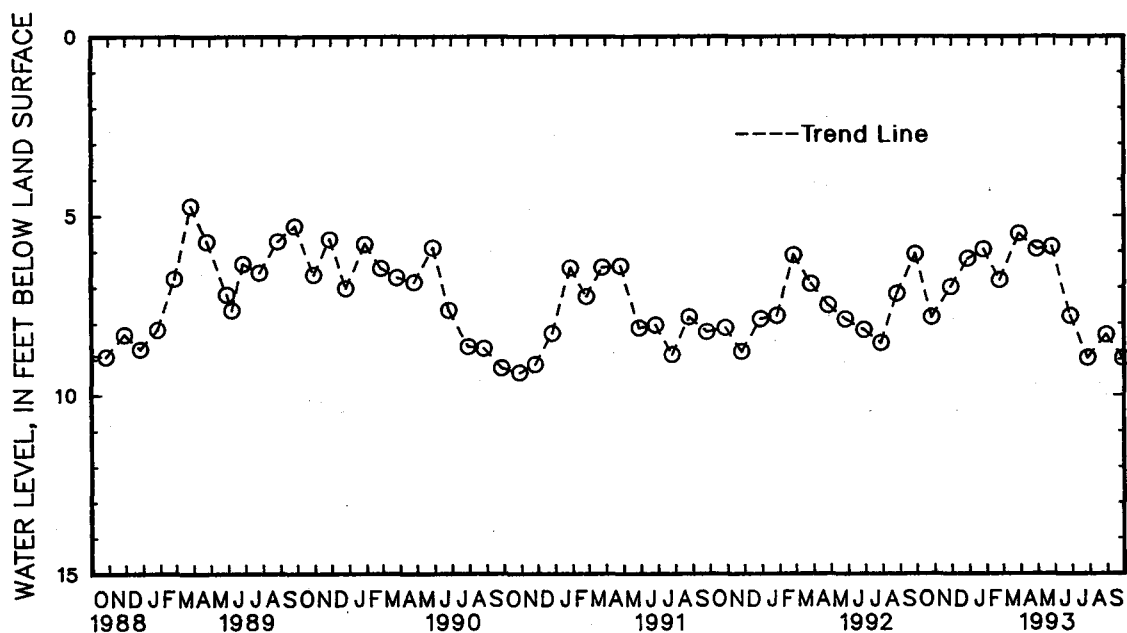


GROUND-WATER LEVELS  
MARYLAND--Continued  
WICOMICO COUNTY--Continued

WELL NUMBER.--WI Cf 3. SITE ID.--382037075310801.  
LOCATION.--Lat 38°20'37", long 75°31'08", Hydrologic Unit 02060007, on Airport Rd.,  
at Salisbury-Wicomico Airport.  
Owner: Salisbury-Wicomico Airport.  
AQUIFER.--Pensauken Formation of the Salisbury aquifer of Miocene age. Aquifer code: 112SLBR.  
WELL CHARACTERISTICS.--Drilled, unused, water-table well, depth 110 ft; casing diameter 16 in., to 90 ft;  
screened from 90 to 110 ft.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
Equipped with graphic water-level recorder from March 24, 1948 to July 9, 1948, Aug. 2, 1949 to  
April 11, 1960, and Aug. 29, 1963 to Aug. 20, 1968.  
DATUM.--Elevation of land surface is 44.79 ft above National Geodetic Vertical Datum of 1929.  
Measuring point: Top of casing, 2.00 ft above land surface.  
REMARKS.--Maryland Water-Level Network observation well. Water level reported 7.2 ft below land surface,  
Oct. 26, 1942.  
PERIOD OF RECORD.--September 1947 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.18 ft below land surface, May 8, 1958;  
lowest measured, 13.44 ft below land surface, Sept. 18, 1947.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	7.83	DEC 29	6.20	FEB 23	6.80	APR 29	5.93	JUN 28	7.80	AUG 30	8.32
NOV 30	6.99	JAN 26	5.94	MAR 29	5.50	MAY 26	5.87	JUL 28	8.97	SEP 28	8.98
WATER YEAR 1993		HIGHEST	5.50	MAR 29, 1993	LOWEST	8.98	SEP 28, 1993				

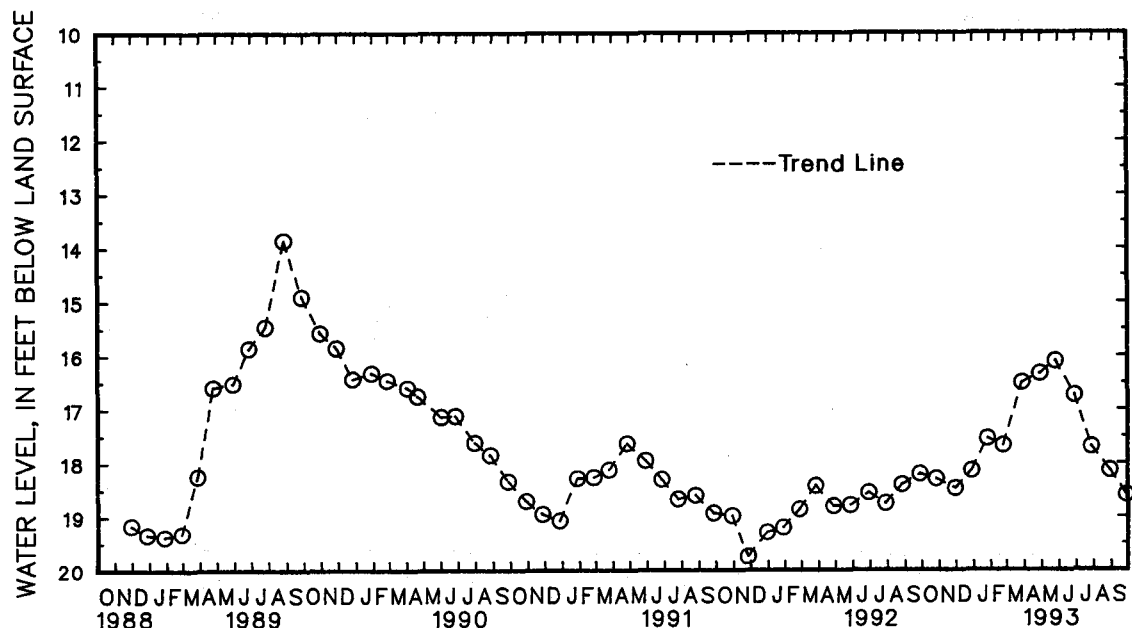


5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

WELL NUMBER.--WI Cf 147. SITE ID.--382429075344501.  
LOCATION.--Lat 38°24'29", long 75°34'45", Hydrologic Unit 02060007, south side of Naylor Mill Rd., Salisbury.  
Owner: A. S. Abell Co.  
AQUIFER.--Pensauken Formation of the Salibury aquifer of Miocene age. Aquifer code: 112SLBR.  
WELL CHARACTERISTICS.--Drilled, unused, artesian well, depth 80 ft; casing diameter 2 in., to 80 ft;  
perforated casing from 60 to 80 ft.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
DATUM.--Elevation of land surface is 41.83 ft above National Geodetic Vertical Datum of 1929.  
Measuring point: Top of casing at land surface.  
REMARKS.--Maryland Water-Level Network observation well.  
PERIOD OF RECORD.--November 1964; March 1966 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 13.78 ft below land surface, June 18, 1979;  
lowest measured, 19.74 ft below land surface, Nov. 26, 1991.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

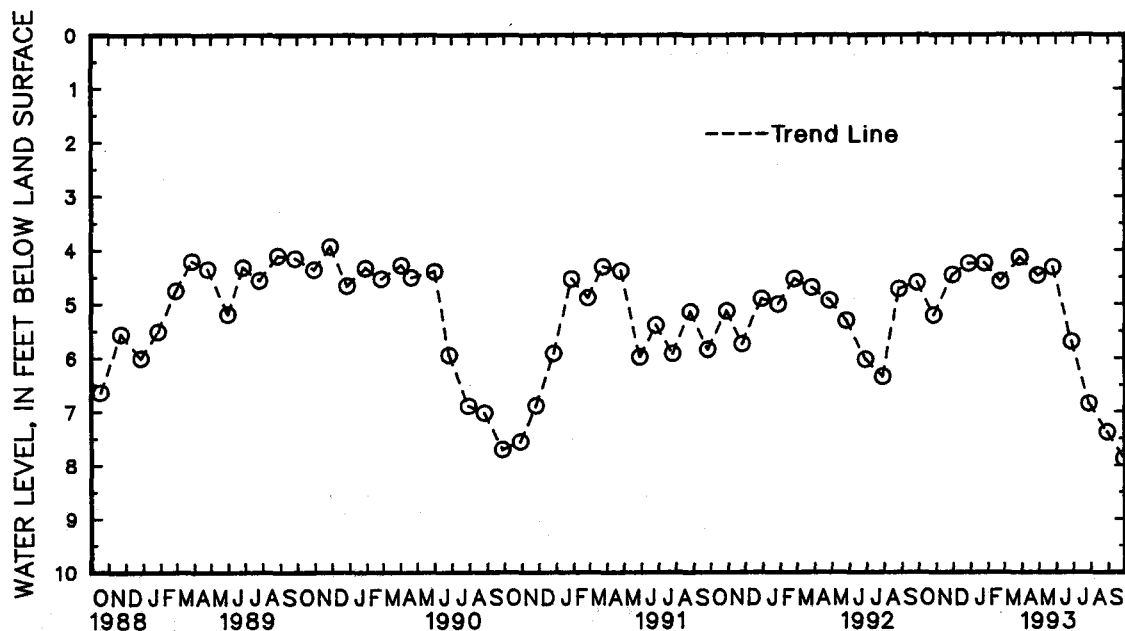
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	18.29	DEC 29	18.14	FEB 23	17.67	APR 29	16.33	JUN 28	16.73	AUG 30	18.14
NOV 30	18.47	JAN 26	17.54	MAR 29	16.50	MAY 26	16.10	JUL 28	17.70	SEP 28	18.60
WATER YEAR 1993		HIGHEST	16.10	MAY 26, 1993		LOWEST	18.60	SEP 28, 1993			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

WELL NUMBER.--WI Cg 20. SITE ID.--382329075263701.  
LOCATION.--Lat 38°23'29", long 75°26'37", Hydrologic Unit 02060009, 1.45 mi east of Parsonsburg,  
south of MD Rt. 346.  
Owner: Maryland State Highway Administration.  
AQUIFER.--Parsonsburg Sand of Pleistocene age. Aquifer code: 112FRBG.  
WELL CHARACTERISTICS.--Driven, unused, water-table well, depth 25 ft, casing diameter 1.25 in.,  
to unknown depth.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
DATUM.--Elevation of land surface is 68 ft above National Geodetic Vertical Datum of 1929,  
from topographic map.  
Measuring point: Top of 2 in. sleeve, 0.17 ft above land surface.  
REMARKS.--Maryland Water-Level Network observation well.  
PERIOD OF RECORD.--August 1949 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.84 ft below land surface, Jan. 31, 1950;  
lowest measured, 8.68 ft below land surface, Oct. 10, 1980.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	5.21	DEC 29	4.25	FEB 23	4.58	APR 29	4.47	JUN 28	5.70	AUG 30	7.39
NOV 30	4.46	JAN 26	4.24	MAR 29	4.13	MAY 26	4.32	JUL 28	6.86	SEP 28	7.88
WATER YEAR 1993		HIGHEST	4.13	MAR 29, 1993		LOWEST	7.88	SEP 28, 1993			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

## WORCESTER COUNTY

WELL NUMBER.--WO A<sub>e</sub> 23. SITE ID.--382621075174201. PERMIT NUMBER.--WO-73-0513.

LOCATION.--Lat 38°26'21", long 75°17'42", Hydrologic Unit 02060009, 2.75 mi north of Whaleysville.

Owner: U.S. Geological Survey.

AQUIFER.--Manokin aquifer of Miocene age. Aquifer code: 122MNKN.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 280 ft; casing diameter 4 in., to 270 ft; screen diameter 4 in. from 270 to 280 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 40 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of 4 in. coupling, 3.52 ft above land surface.

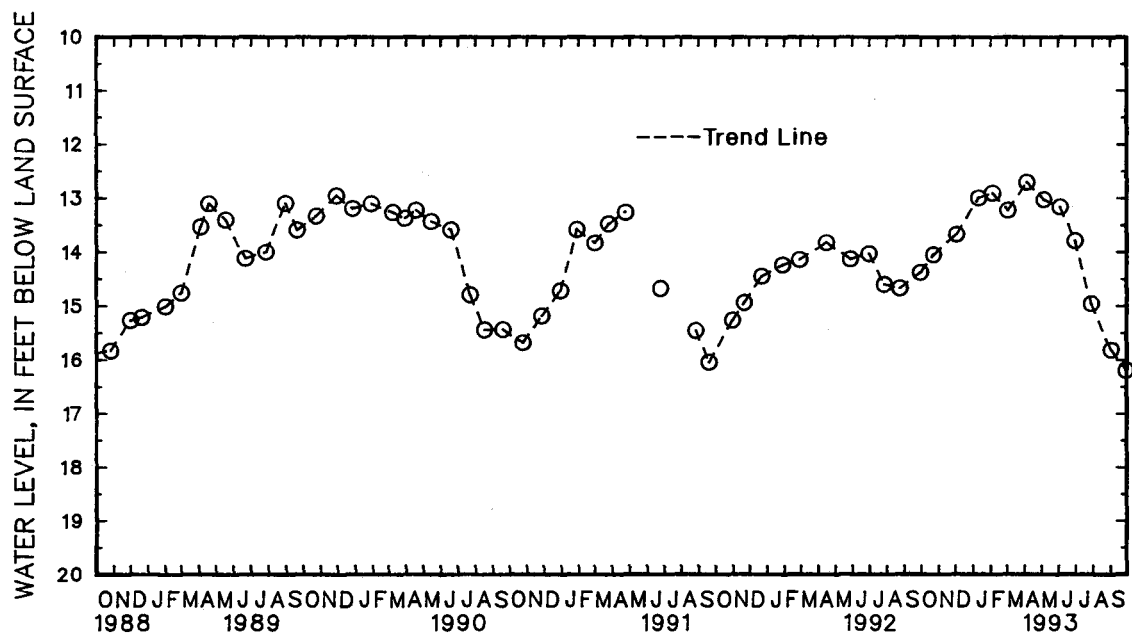
REMARKS.--Ocean City ground-water monitoring network well.

PERIOD OF RECORD.--October 1975 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 11.85 ft below land surface, Dec. 16, 1975; lowest measured, 17.40 ft below land surface, Oct. 29, 1987.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	14.05	JAN 11	12.99	MAR 3	13.22	MAY 6	13.02	JUN 30	13.79	SEP 2	15.82
DEC 4	13.67	FEB 4	12.90	APR 5	12.70	JUN 4	13.15	JUL 29	14.96	29	16.20
WATER YEAR 1993		HIGHEST	12.70	APR 5, 1993	LOWEST	16.20	SEP 29, 1993				



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

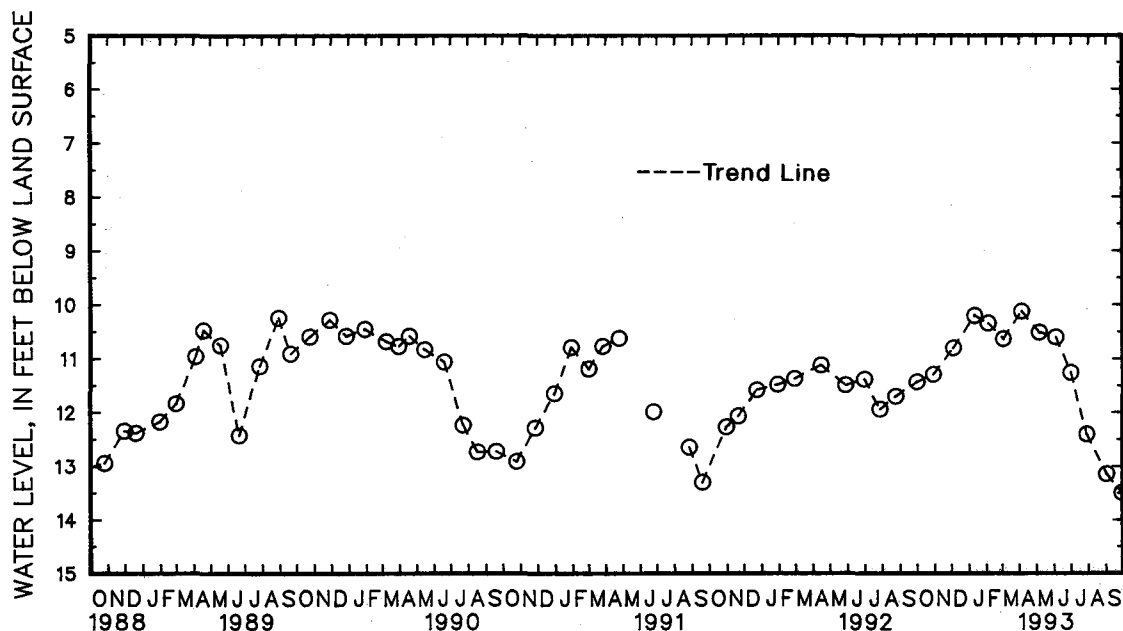


GROUND-WATER LEVELS  
MARYLAND--Continued  
WORCESTER COUNTY--Continued

WELL NUMBER.--WO Aa 24. SITE ID.--382621075174202. PERMIT NUMBER.--WO-73-0512.  
LOCATION.--Lat 38°26'21", long 75°17'42", Hydrologic Unit 02060009, 2.75 mi north of Whaleysville.  
Owner: U.S. Geological Survey.  
AQUIFER.--Ocean City aquifer of Miocene age. Aquifer code: 122OCNC.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 200 ft; casing diameter 4 in., to 190 ft; screen diameter 2 in. from 190 to 200 ft.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
DATUM.--Elevation of land surface is 40 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
Measuring point: Top of 4 in. coupling, 4.4 ft above land surface.  
REMARKS.--Ocean City ground-water monitoring network well.  
PERIOD OF RECORD.--October 1975 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.49 ft below land surface, May 31, 1978; lowest measured, 15.06 ft below land surface, Nov. 24, 1987.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	11.29	JAN 11	10.20	MAR 3	10.63	MAY 6	10.51	JUN 30	11.26	SEP 2	13.15
DEC 4	10.80	FEB 4	10.34	APR 5	10.12	JUN 4	10.60	JUL 29	12.41	29	13.50
WATER YEAR 1993		HIGHEST	10.12	APR 5, 1993	LOWEST	13.50	SEP 29, 1993				



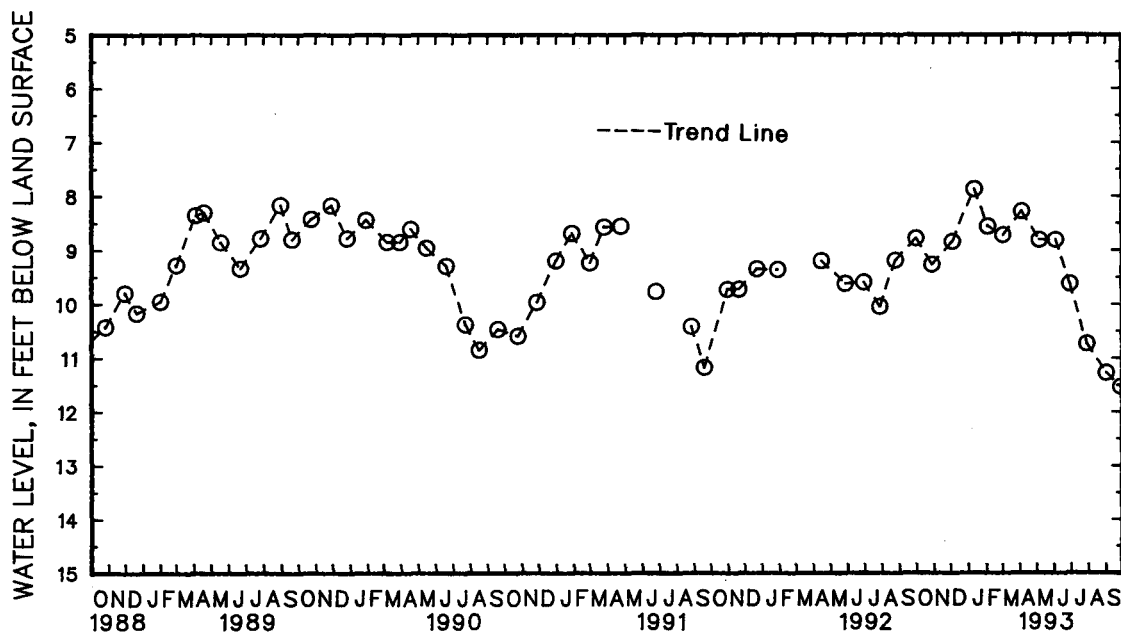
5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
WORCESTER COUNTY--Continued

WELL NUMBER.--WO A<sub>2</sub> 25. SITE ID.--382621075174203. PERMIT NUMBER.--WO-73-0514.  
LOCATION.--Lat 38°26'21", long 75°17'42", Hydrologic Unit 02060009, 2.75 mi north of Whalesville.  
Owner: U.S. Geological Survey.  
AQUIFER.--Pocomoke aquifer of Miocene age. Aquifer code: 122PCMK.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 118 ft; casing diameter 4 in., to 108 ft; screened diameter 2 in. from 108 to 118 ft.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
DATUM.--Elevation of land surface is 40 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
Measuring point: Top of 4 in. coupling, 3.6 ft above land surface.  
REMARKS.--Ocean City ground-water monitoring network well.  
PERIOD OF RECORD.--October 1975 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 7.79 ft below land surface, Nov. 20, 1975; lowest measured, 12.96 ft below land surface, Oct. 1 and 29, 1987.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	9.27	JAN 11	7.87	MAR 3	8.72	MAY 6	8.81	JUN 30	9.63	SEP 2	11.28
DEC 4	8.84	FEB 4	8.56	APR 5	8.28	JUN 4	8.81	JUL 29	10.74	SEP 28	11.54
WATER YEAR 1993		HIGHEST	7.87	JAN 11, 1993		LOWEST	11.54	SEP 28, 1993			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

459

## MARYLAND--Continued

## WORCESTER COUNTY--Continued

WELL NUMBER.--WO Ah 6. SITE ID.--382632075031801. PERMIT NUMBER.--WO-70-0009.  
 LOCATION.--Lat 38°26'32", long 75°03'18", Hydrologic Unit 02060010, at east end of 137th St., Ocean City.  
 Owner: U.S. Geological Survey.  
 AQUIFER.--Manokin aquifer of Miocene age. Aquifer code: 122MNKN.  
 WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 357 ft; casing diameter 4 in., to 347 ft; screen diameter 4 in. from 347 to 357 ft.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 Equipped with digital water-level recorder--15-minute recording interval, March 1985 to current year.  
 DATUM.--Elevation of land surface is 6.35 ft above National Geodetic Vertical Datum of 1929.  
 Measuring point: Top of shelter floor, 3.27 ft above land surface.  
 REMARKS.--Ocean City ground-water monitoring network well. Water levels affected by nearby pumping.  
 Missing data due to recorder malfunction.  
 PERIOD OF RECORD.--June 1972 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.48 ft above land surface, March 27, 1973; lowest measured, 52.46 ft below land surface, July 24, 1989.

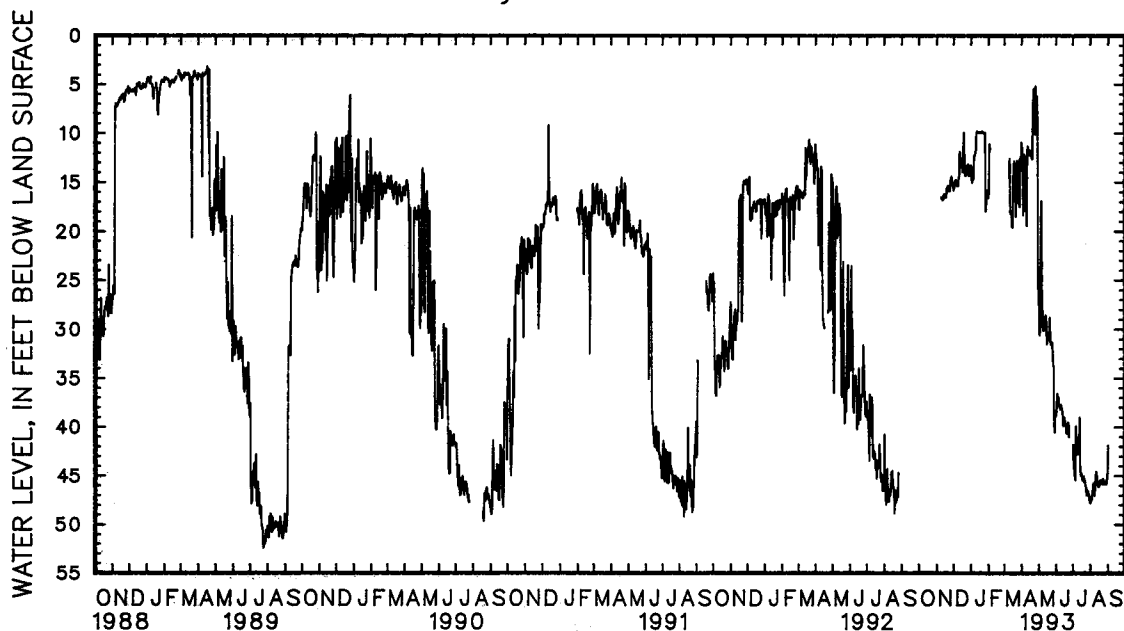
## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	---	---	15.56	14.81	14.71	13.23	15.84	7.91	---	---
2	---	---	---	---	14.91	11.03	15.04	14.20	11.17	7.87	---	---
3	---	---	---	---	15.02	10.54	14.86	14.15	11.66	7.20	---	---
4	---	---	---	---	14.82	10.61	14.71	12.77	---	---	---	---
5	---	---	---	---	15.23	11.61	14.02	9.83	---	---	---	---
6	---	---	---	---	15.14	11.35	12.29	9.14	---	---	---	---
7	---	---	---	---	15.38	14.09	12.29	9.02	---	---	---	---
8	---	---	16.56	14.53	15.38	9.98	12.01	9.58	---	---	---	---
9	---	---	16.65	15.57	14.67	9.41	11.77	7.54	---	---	14.53	10.96
10	---	---	16.76	15.11	14.35	8.46	9.97	8.13	---	---	12.61	9.68
11	---	---	16.56	14.36	11.88	6.96	9.83	8.14	---	---	18.20	9.26
12	---	---	16.72	15.32	12.67	7.92	9.90	7.69	---	---	18.05	9.66
13	---	---	16.25	15.08	12.58	8.41	9.93	7.77	---	---	18.13	8.76
14	---	---	16.48	14.43	13.30	9.15	9.92	7.74	---	---	19.59	8.55
15	---	---	16.45	15.26	13.39	8.50	9.88	6.95	---	---	19.63	10.79
16	29.56	21.77	16.55	15.54	13.96	9.40	9.91	9.11	---	---	14.95	10.81
17	29.77	28.64	16.31	14.28	13.83	8.76	9.93	9.47	---	---	14.16	9.46
18	29.61	28.51	15.62	11.32	11.03	8.68	9.94	9.88	---	---	12.83	8.77
19	29.17	28.09	15.56	11.25	9.90	8.48	9.94	8.48	---	---	16.27	8.43
20	---	---	15.37	13.31	14.05	9.31	9.83	8.24	---	---	16.60	10.09
21	---	---	15.86	14.33	14.31	8.63	9.94	8.16	---	---	18.59	10.58
22	---	---	15.86	13.50	14.32	10.74	9.95	9.75	---	---	15.75	10.72
23	---	---	15.88	11.01	13.37	12.80	9.95	9.75	---	---	12.76	8.74
24	---	---	15.13	10.18	13.77	12.31	9.97	9.77	---	---	14.97	8.63
25	---	---	14.65	10.25	13.53	8.71	9.98	9.77	---	---	16.84	7.76
26	---	---	14.42	10.57	13.22	7.91	17.97	8.76	---	---	14.40	9.65
27	---	---	15.11	14.01	14.34	13.17	17.97	9.23	---	---	17.50	9.20
28	---	---	15.23	12.85	13.68	9.74	15.84	7.82	---	---	12.58	9.49
29	---	---	15.46	14.62	13.69	9.98	16.05	9.23	---	---	13.85	9.73
30	17.67	15.48	15.80	14.94	13.67	9.45	16.04	16.03	---	---	13.38	9.70
31	---	---	---	---	13.32	9.73	16.62	9.48	---	---	10.94	7.50
MONTH	29.77	15.48	16.76	10.18	15.56	6.96	17.97	6.95	15.84	7.20	19.63	7.50

GROUND-WATER LEVELS  
MARYLAND--Continued  
WORCESTER COUNTY--Continued  
WO Ah 6--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	11.48	8.72	27.78	13.93	38.53	25.17	41.90	21.92	47.83	34.35	41.94	22.91
2	12.34	7.46	30.71	27.22	37.61	25.12	43.78	30.45	47.55	46.13	---	---
3	18.39	9.05	29.17	11.69	36.67	23.46	44.52	31.53	47.53	34.98	---	---
4	14.72	9.68	18.46	10.84	37.36	25.45	45.10	41.30	47.03	37.78	---	---
5	12.21	9.53	16.88	10.72	37.04	24.59	45.48	32.07	46.61	32.97	---	---
6	14.92	9.32	27.51	11.19	37.89	36.68	39.94	29.61	45.83	44.45	---	---
7	17.95	8.12	28.36	26.36	37.89	31.97	41.66	30.05	46.30	44.64	---	---
8	17.32	9.47	29.77	26.62	38.23	32.29	41.97	38.49	47.05	45.38	---	---
9	19.47	9.63	30.19	28.16	37.79	20.92	42.85	29.51	46.44	45.16	---	---
10	12.03	9.53	30.06	27.79	38.08	36.98	41.85	24.57	45.16	34.93	---	---
11	11.31	9.53	29.21	27.80	38.15	37.38	41.10	27.60	44.65	38.13	---	---
12	12.00	9.85	29.53	28.15	38.70	37.44	41.50	28.67	45.01	34.79	---	---
13	12.17	9.97	28.64	26.97	39.92	38.70	39.04	27.35	45.60	35.94	---	---
14	11.81	8.21	29.33	26.55	39.30	22.84	44.22	26.88	45.87	44.16	---	---
15	11.82	9.76	31.55	28.85	39.06	22.29	44.98	32.19	46.13	36.55	---	---
16	12.30	9.96	31.21	29.82	39.57	18.38	44.83	24.90	46.13	44.38	---	---
17	12.08	10.12	30.69	29.20	39.50	17.91	45.05	43.26	45.97	40.51	---	---
18	12.38	10.44	30.54	26.58	39.90	19.03	45.48	43.69	45.51	43.64	---	---
19	12.64	7.62	31.07	28.48	40.67	38.70	45.48	37.38	45.63	43.52	---	---
20	7.98	5.96	28.87	27.13	40.70	39.27	45.12	43.60	45.56	43.71	---	---
21	6.58	4.83	31.22	28.87	40.75	31.65	45.64	43.79	45.58	43.95	---	---
22	5.48	4.30	31.58	29.97	39.59	31.63	45.52	43.50	45.89	44.31	---	---
23	5.47	4.29	31.56	30.40	39.65	38.69	46.01	44.11	45.34	44.12	---	---
24	10.15	4.40	31.42	29.16	41.05	38.82	46.28	44.72	45.84	44.44	---	---
25	5.16	3.97	32.25	30.49	---	---	47.02	45.21	45.64	35.50	---	---
26	9.91	3.96	33.77	31.16	---	---	46.55	45.19	45.61	44.34	---	---
27	6.26	3.56	33.87	31.53	---	---	46.56	37.55	45.83	44.57	---	---
28	8.52	4.96	39.87	31.72	---	---	46.71	45.11	45.91	44.16	---	---
29	24.13	7.19	40.57	34.75	---	---	47.03	45.18	45.80	44.12	---	---
30	26.95	8.81	38.96	37.89	---	---	47.23	45.16	45.27	25.88	16.23	15.44
31	---	---	38.92	37.60	---	---	47.76	45.80	44.78	36.43	---	---
MONTH	26.95	3.56	40.57	10.72	41.05	17.91	47.76	21.92	47.83	25.88	41.94	15.44
YEAR	47.83	3.56										

Daily Low Water Levels



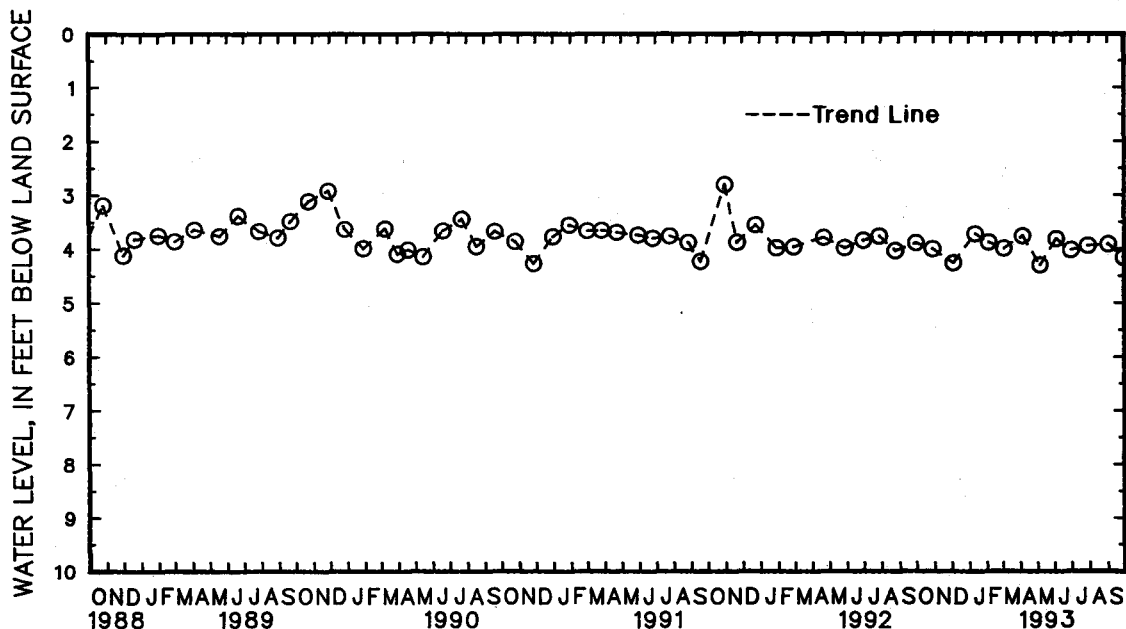
5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
WORCESTER COUNTY--Continued

WELL NUMBER.--WO Ah 35. SITE ID.--382635075030601. PERMIT NUMBER.--WO-73-0516.  
LOCATION.--Lat 38°26'35", long 75°03'06", Hydrologic Unit 02060010, at east end of 137th St., Ocean City.  
Owner: U.S. Geological Survey.  
AQUIFER.--St. Marys Formation of Middle Miocene age. Aquifer code: 122SMRS.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 726 ft; casing diameter 4 in., to 716 ft; screen diameter 2 in. from 716 to 726 ft.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
DATUM.--Elevation of land surface is 13.99 ft above National Geodetic Vertical Datum of 1929.  
Measuring point: Top of 4 in. coupling, 3.7 ft above land surface.  
REMARKS.--Ocean City ground-water monitoring network well. Water levels may be affected by nearby pumping.  
PERIOD OF RECORD.--October 1975 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.90 ft below land surface, March 10, 1976; lowest measured, 10.26 ft below land surface, Oct. 28, 1975.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	4.01	JAN 11	3.74	MAR 3	4.00	MAY 6	4.31	JUN 30	4.03	SEP 2	3.92
DEC 4	4.27	FEB 4	3.89	APR 5	3.77	JUN 4	3.82	JUL 29	3.95	SEP 29	4.17
WATER YEAR 1993		HIGHEST	3.74	JAN 11, 1993		LOWEST	4.31	MAY 6, 1993			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

MARYLAND--Continued

WORCESTER COUNTY--Continued

WELL NUMBER.--WO Ah 36. SITE ID.--382635075030602. PERMIT NUMBER.--WO-73-0518.

LOCATION.--Lat 38°26'35", long 75°03'06", Hydrologic Unit 02060010, at east end of 137th St., Ocean City.

Owner: U.S. Geological Survey.

AQUIFER.--Manokin aquifer of Miocene age. Aquifer code: 122MNKN.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 430 ft; casing diameter 4 in., to 420 ft; screen diameter 2 in. from 420 to 430 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 14.32 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of 4 in. coupling, 1.08 ft above land surface.

REMARKS.--Ocean City ground-water monitoring network well. Water levels affected by nearby pumping.

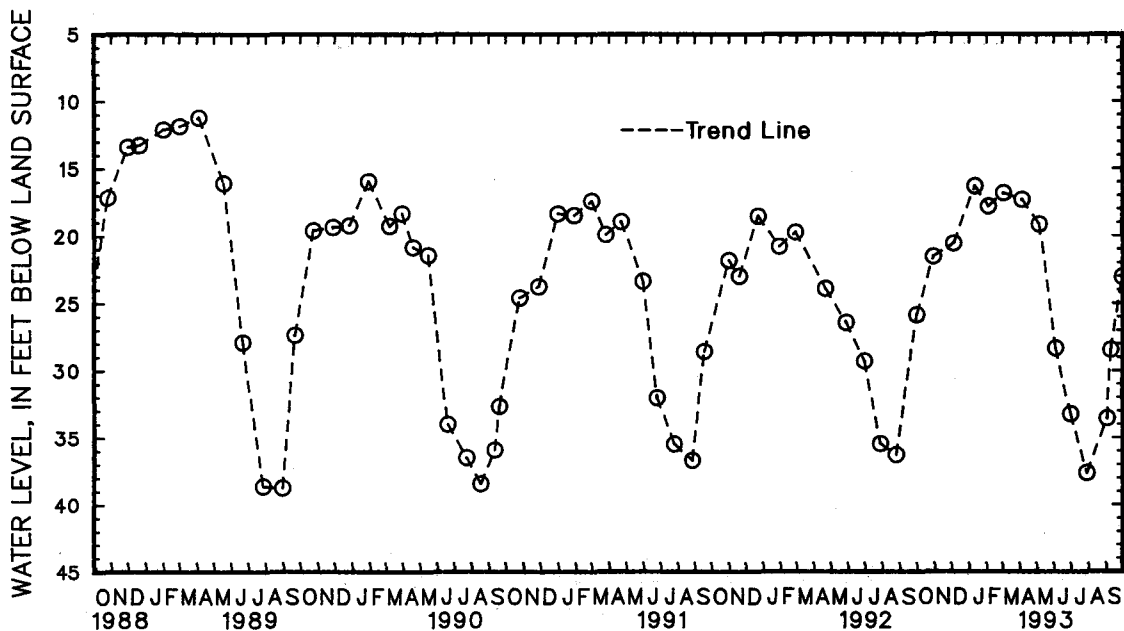
PERIOD OF RECORD.--October 1975 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.61 ft below land surface, April 18, 1984; lowest measured, 38.75 ft below land surface, Aug. 30, 1989.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	21.53	FEB 4	17.80	MAY 6	19.13	JUL 29	37.62	SEP 29	23.04
DEC 4	20.56	MAR 3	16.81	JUN 4	28.36	SEP 2	33.57		
JAN 11	16.31	APR 5	17.30	30	33.26	9	28.45		

WATER YEAR 1993      HIGHEST   16.31   JAN 11, 1993      LOWEST   37.62   JUL 29, 1993



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993



## GROUND-WATER LEVELS

MARYLAND--Continued

WORCESTER COUNTY--Continued

WELL NUMBER.--WO Bg 1. SITE ID.--382022075072401.

LOCATION.--Lat 38°20'22", long 75°07'24", Hydrologic Unit 02060010, 0.4 mi east of Herring Creek on U.S. Rt. 50.

Owner: MD State Highway Administration.

AQUIFER.--Sinepuxent Formation of Pleistocene age. Aquifer code: 112SNPX.

WELL CHARACTERISTICS.--Driven, water-table well, depth 14 ft; casing diameter 1.25 in., to 14 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 10 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of casing, 0.25 ft above land surface.

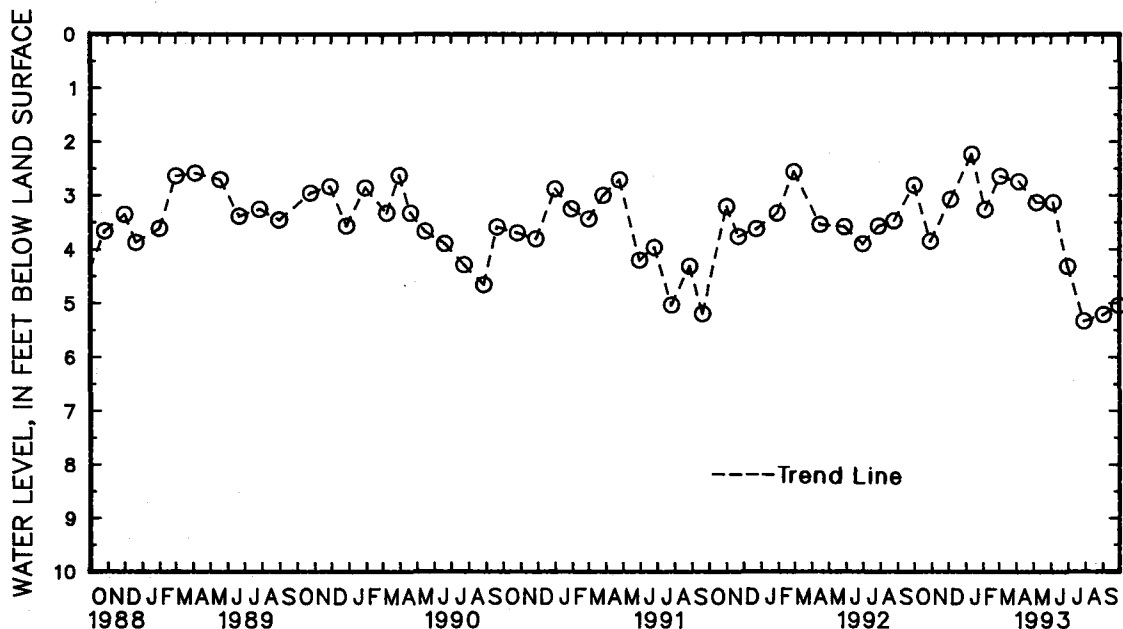
REMARKS.--Maryland Water-Level Network observation well.

PERIOD OF RECORD.--August 1949 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.41 ft below land surface, March 8, 1962;  
lowest measured, 8.61 ft below land surface, May 14, 1986.

## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	3.85	JAN 11	2.23	MAR 3	2.64	MAY 6	3.13	JUN 30	4.32	SEP 2	5.22
DEC 4	3.07	FEB 4	3.26	APR 5	2.74	JUN 4	3.13	JUL 29	5.34	29	5.05
WATER YEAR 1993		HIGHEST	2.23	JAN 11, 1993	LOWEST	5.34	JUL 29, 1993				



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993



## GROUND-WATER LEVELS

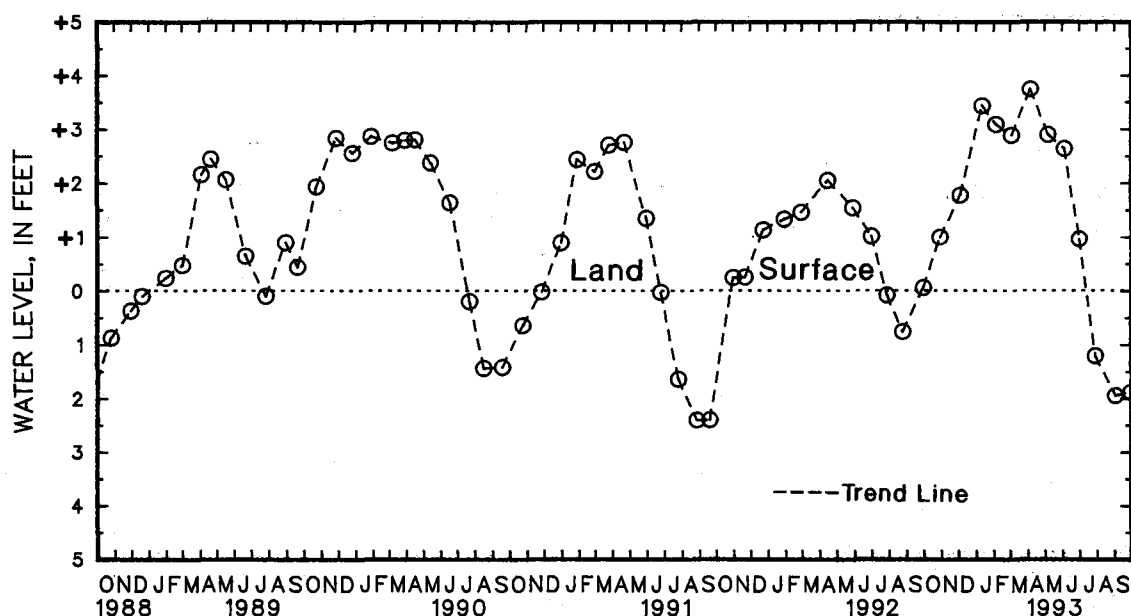
MARYLAND--Continued

WORCESTER COUNTY--Continued

WELL NUMBER.--WO Bg 15. SITE ID.--382359075094501. PERMIT NUMBER.--WO-68-0066.  
 LOCATION.--Lat 38°23'59", long 75°09'45", Hydrologic Unit 02060010, south side of Beauchamp Rd. at Ocean Pines.  
 Owner: Ocean Pines.  
 AQUIFER.--Manokin aquifer of Miocene age. Aquifer code: 122MNKN.  
 WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 318 ft; casing diameter 6 in., to 288 ft; screen diameter 6 in. from 288 to 318 ft.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 DATUM.--Elevation of land surface is 7 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
 Measuring point: Top of 6 in. casing, 5.94 ft above land surface.  
 REMARKS.--Ocean City ground-water monitoring network well. Water levels may be affected by nearby pumping.  
 PERIOD OF RECORD.--September 1970 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.13 ft above land surface, Feb. 29, 1972; lowest measured, 3.00 ft below land surface, Sept. 5, 1987.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
 (READINGS ABOVE LAND SURFACE INDICATED BY "+")

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	+1.00	JAN 11	+3.44	MAR 3	+2.89	MAY 6	+2.90	JUN 30	+ .96	SEP 2	1.95
DEC 4	+1.78	FEB 4	+3.09	APR 5	+3.75	JUN 4	+2.64	JUL 29	1.21	SEP 29	1.89
WATER YEAR 1993		HIGHEST	+3.75	APR 5, 1993	LOWEST	1.95	SEP 2, 1993				



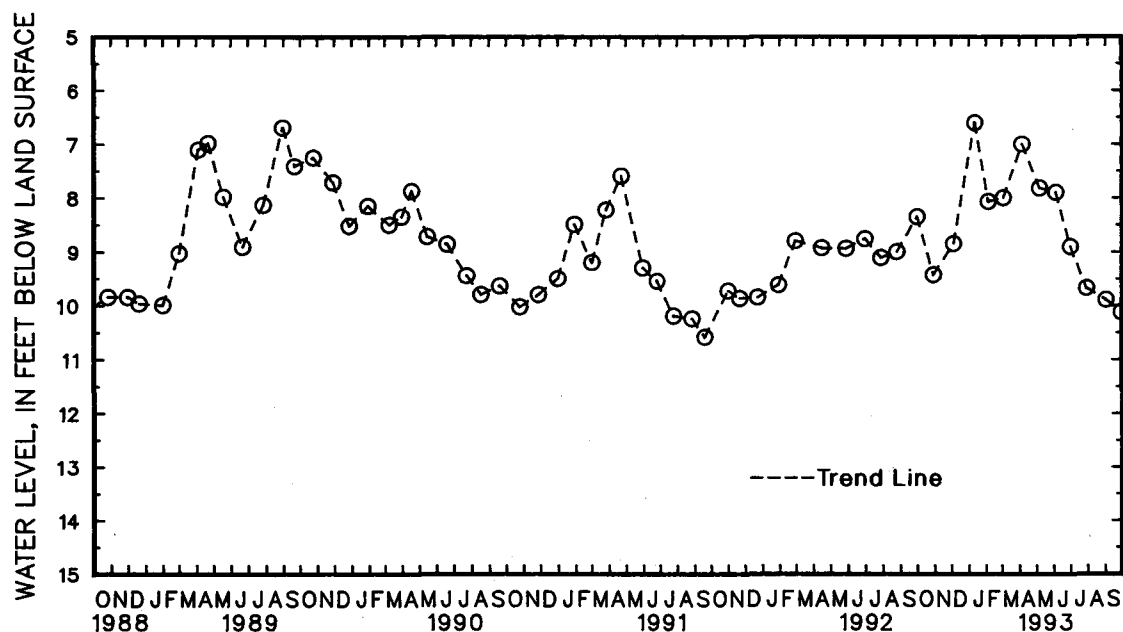
5 YEAR HYDROGRAPH  
 OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
WORCESTER COUNTY--Continued

WELL NUMBER.--WO Bg 45. SITE ID.--382358075094501. PERMIT NUMBER.--WO-68-0066.  
LOCATION.--Lat 38°23'58", long 75°09'45", Hydrologic Unit 02060010, south side of Beauchamp Rd. at Ocean Pines.  
Owner: Ocean Pines.  
AQUIFER.--Beaverdam Sand of Pliocene age. Aquifer code: 121BVDM.  
WELL CHARACTERISTICS.--Drilled, observation well, depth 77 ft; casing diameter 2 in., to 56 ft; screen diameter 3 in. from 56 to 77 ft.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
DATUM.--Elevation of land surface is 10 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
Measuring point: Top of 2 in. casing, 1.6 ft above land surface.  
REMARKS.--Ocean City ground-water monitoring network well.  
PERIOD OF RECORD.--October 1970 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.22 ft below land surface, Jan. 8, 1971; lowest measured, 10.59 ft below land surface, Sept. 19, 1991.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	9.43	JAN 11	6.60	MAR 3	8.00	MAY 6	7.82	JUN 30	8.91	SEP 2	9.90
DEC 4	8.85	FEB 4	8.07	APR 5	7.00	JUN 4	7.90	JUL 29	9.68	SEP 29	10.13
WATER YEAR 1993		HIGHEST	6.60	JAN 11, 1993		LOWEST	10.13	SEP 29, 1993			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

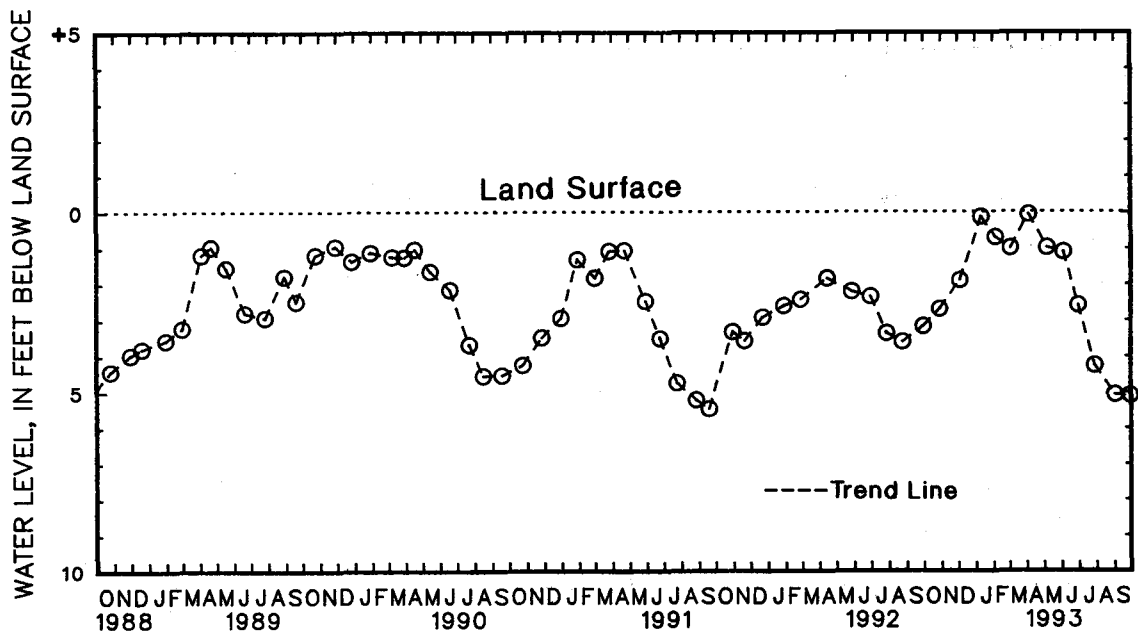
MARYLAND--Continued

WORCESTER COUNTY--Continued

WELL NUMBER.--WO Bg 46. SITE ID.--382358075094502 PERMIT NUMBER.--WO-68-0066  
 LOCATION.--Lat 38°23'58", long 75°09'45", Hydrologic Unit 02060010, south side of Beauchamp Rd. at Ocean Pines.  
 Owner: Ocean Pines  
 AQUIFER.--Pocomoke aquifer of Miocene age. Aquifer code: 122FCMK.  
 WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 199.5 ft; casing diameter 6 in., to 53.6 ft; casing diameter 4 in. from 53.6 to 164.2 ft and from 194.5 to 199.5 ft; screen diameter 6 in. from 164.2 to 194.55 ft.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 DATUM.--Elevation of land surface is 10 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
 Measuring point: Top of 2 in. coupling, 2.5 ft above land surface.  
 REMARKS.--Ocean City ground-water monitoring network well. Water levels maybe affected by nearby pumping.  
 PERIOD OF RECORD.--October 1970 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.22 ft above land surface, April 27, 1983; lowest measured, 5.74 ft below land surface, Aug. 26, 1987.

## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	2.69	JAN 11	.13	MAR 3	.99	MAY 6	.98	JUN 30	2.59	SEP 2	5.08
DEC 4	1.89	FEB 4	.71	APR 5	.06	JUN 4	1.10	JUL 29	4.27	29	5.10
WATER YEAR 1993		HIGHEST		.06		APR 5, 1993		LOWEST		5.10	
										SEP 29, 1993	



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

## MARYLAND--Continued

## WORCESTER COUNTY--Continued

WELL NUMBER.--WO Bg. 47. SITE ID.--382325075063301. PERMIT NUMBER.--WO-73-0521.

LOCATION.--Lat 38°23'25", long 75°06'33", Hydrologic Unit 02060010, at intersection of MD Rt. 90 and Isle of Wight Rd., Isle of Wight.

Owner: U.S. Geological Survey.

AQUIFER.--Ocean City aquifer of Miocene age. Aquifer code: 122OCNC.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 268 ft; casing diameter 4 in., to 258 ft; screen diameter 4 in. from 258 to 268 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

Equipped with digital water-level recorder--60-minute recording interval from July 1985 to current year.

DATUM.--Elevation of land surface is 5 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring Point: Top of recorder shelf, 4.07 ft above land surface.

REMARKS.--Ocean City ground-water monitoring network well. Water levels affected by nearby pumping.

Missing data due to recorder malfunction.

PERIOD OF RECORD.--September 1975 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.67 ft below land surface, March 13 and 14, 1992; lowest measured, 12.72 ft below land surface, Aug. 26, 1987.

## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

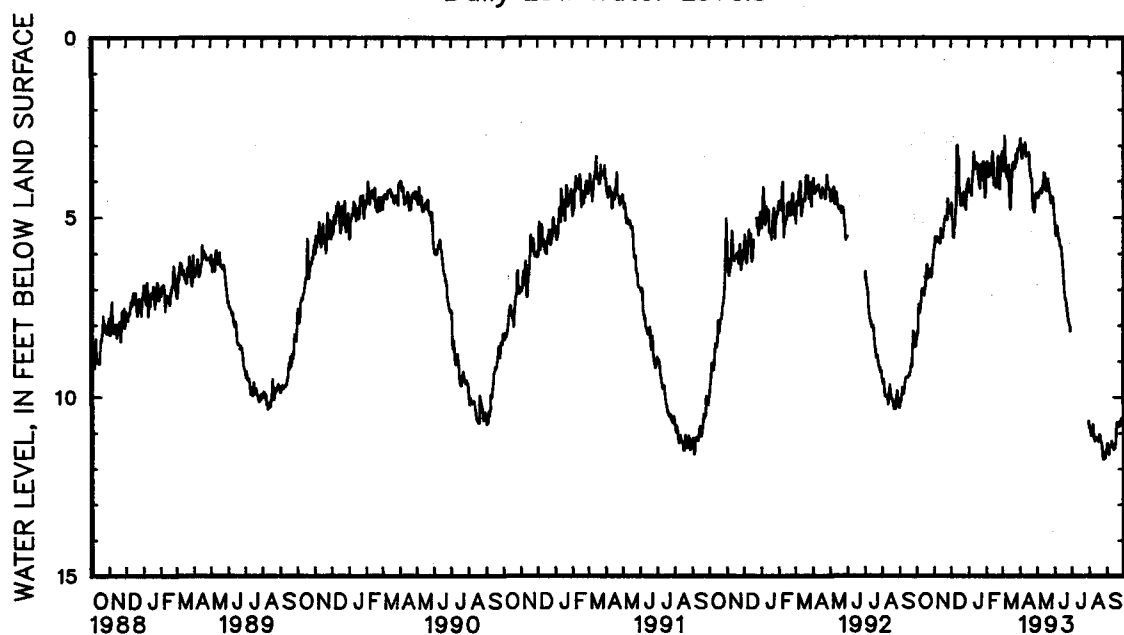
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	8.44	7.66	5.88	5.27	4.91	4.31	4.30	3.33	3.79	3.03	3.18	2.74
2	8.22	7.48	5.77	5.06	4.60	3.93	4.30	3.85	3.67	2.99	3.71	2.65
3	8.29	7.72	5.54	4.99	5.06	4.13	4.29	3.77	3.46	2.59	3.72	3.14
4	8.15	7.29	5.55	5.05	5.06	4.41	4.20	3.60	3.74	2.95	3.72	2.13
5	7.44	6.56	5.58	5.02	5.56	4.61	4.31	3.53	3.88	3.10	2.72	2.02
6	7.41	6.89	5.55	5.08	5.57	4.74	4.40	3.62	3.87	2.97	3.07	2.33
7	7.65	7.09	5.67	5.06	5.13	4.57	4.07	3.13	3.55	2.78	3.53	2.87
8	7.57	6.97	5.61	4.94	5.22	4.43	3.86	2.95	3.52	2.87	3.73	3.07
9	7.38	6.59	5.64	4.94	4.84	3.94	3.65	2.63	3.63	2.94	3.87	3.15
10	7.04	6.52	5.69	4.96	4.67	2.75	3.19	2.38	3.82	3.07	3.84	2.84
11	6.99	6.35	5.59	4.87	3.01	1.93	3.52	2.69	3.84	3.17	3.75	2.81
12	7.06	6.42	5.72	4.82	2.98	2.10	3.66	3.05	3.17	2.34	4.00	3.21
13	7.14	6.55	5.31	4.77	3.27	2.52	3.49	2.82	3.49	2.16	3.56	1.67
14	7.17	6.46	5.57	4.96	3.37	2.62	3.49	2.82	4.11	3.17	4.39	1.67
15	7.04	6.33	5.49	4.74	3.93	2.94	3.49	2.86	4.10	3.50	4.79	4.32
16	6.94	6.16	5.57	4.87	4.35	3.57	3.54	2.93	3.94	3.22	4.74	4.06
17	6.91	6.09	5.37	4.79	4.34	3.76	3.54	2.76	4.04	3.37	4.25	3.47
18	6.71	5.85	5.36	4.67	4.68	3.92	3.91	3.06	4.18	3.64	3.90	3.28
19	6.33	5.74	5.11	4.42	4.68	4.02	4.00	3.38	4.10	3.44	3.64	3.03
20	6.31	5.68	5.01	4.34	4.47	3.68	4.14	3.49	3.86	3.07	3.48	2.92
21	6.69	6.05	4.97	4.29	4.64	4.00	4.21	3.27	3.63	2.82	3.60	3.14
22	6.66	5.97	5.06	4.35	4.65	3.86	3.54	2.76	3.30	2.74	3.64	3.15
23	6.53	5.90	5.07	4.30	4.31	3.49	3.73	3.11	3.65	2.81	3.65	3.00
24	6.49	5.85	5.07	4.07	4.53	3.60	3.76	3.08	4.21	3.40	3.45	2.79
25	6.60	5.83	4.49	3.66	4.70	4.03	3.90	3.19	4.23	3.62	3.25	2.70
26	6.44	5.70	4.71	3.89	4.71	4.17	3.98	3.21	3.89	3.12	3.50	2.70
27	6.66	5.92	4.73	4.06	4.79	4.05	3.46	2.85	3.36	2.94	3.36	2.74
28	6.52	5.72	4.84	4.17	4.26	3.69	3.47	2.98	3.33	2.67	3.17	2.62
29	6.34	5.63	4.79	4.13	4.10	3.53	4.09	3.16	---	---	3.09	2.55
30	6.24	5.51	4.91	4.37	4.10	3.65	4.45	3.72	---	---	3.12	2.43
31	5.95	5.20	---	---	3.94	3.41	4.32	3.63	---	---	3.08	2.47
MONTH	8.44	5.20	5.88	3.66	5.57	1.93	4.45	2.38	4.23	2.16	4.79	1.67

GROUND-WATER LEVELS  
MARYLAND--Continued  
WORCESTER COUNTY--Continued  
WO Bg 47--Continued

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DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	2.97	2.26	4.35	3.76	5.14	4.43	---	---	10.87	10.10	11.30	10.74
2	2.81	2.03	4.45	3.90	5.39	4.66	---	---	10.85	10.18	11.31	10.76
3	3.11	2.33	4.46	3.78	5.51	4.78	---	---	10.99	10.24	11.39	10.76
4	3.31	2.76	4.30	3.56	5.43	4.56	---	---	11.08	10.40	11.61	10.97
5	3.37	2.46	4.32	3.57	5.26	4.40	---	---	11.04	10.48	11.40	10.82
6	3.07	2.21	4.28	3.50	5.41	4.41	---	---	11.03	10.14	11.37	10.74
7	3.00	2.24	4.28	3.54	5.53	4.76	---	---	10.78	10.11	11.37	10.78
8	3.16	2.25	4.22	3.53	5.63	4.85	---	---	11.04	10.38	11.37	10.68
9	3.21	2.43	4.33	3.50	5.63	5.00	---	---	11.18	10.68	11.24	10.55
10	2.93	2.39	4.25	3.71	5.80	5.11	---	---	11.23	10.68	11.30	10.61
11	3.22	2.32	4.13	3.47	5.82	5.31	---	---	11.19	10.58	11.36	10.74
12	3.31	2.56	4.08	3.62	5.83	5.36	---	---	11.13	10.46	11.46	10.75
13	3.25	2.75	3.79	3.27	5.99	5.47	---	---	11.16	10.44	11.48	10.80
14	3.23	2.62	3.79	3.26	6.19	5.73	---	---	11.17	10.43	11.46	10.75
15	3.22	2.70	3.89	3.35	6.38	5.85	---	---	11.20	10.43	11.42	10.74
16	3.20	2.64	4.18	3.66	6.61	6.06	---	---	11.25	10.49	11.30	10.33
17	3.27	2.75	4.27	3.72	6.85	6.23	---	---	11.22	10.45	10.88	10.01
18	3.61	3.11	4.20	3.53	7.06	6.40	---	---	11.10	10.25	10.71	9.95
19	3.76	3.22	4.00	3.28	7.23	6.56	---	---	11.05	10.26	10.73	9.96
20	3.89	3.32	3.94	3.19	7.28	6.52	---	---	11.13	10.37	10.83	10.04
21	3.92	3.20	4.11	3.31	7.32	6.54	---	---	11.26	10.56	10.77	10.08
22	3.94	3.25	4.23	3.44	7.43	6.64	---	---	11.29	10.58	10.81	10.03
23	4.54	3.47	4.34	3.53	7.57	6.75	---	---	11.38	10.73	10.69	9.98
24	4.74	3.95	4.51	3.71	7.70	7.01	---	---	11.54	10.87	10.79	10.03
25	4.80	3.98	4.61	3.85	7.81	7.12	---	---	11.74	11.04	10.75	10.04
26	4.86	4.15	4.53	3.97	7.92	7.30	---	---	11.76	11.01	10.60	9.99
27	4.73	4.13	4.52	3.92	8.01	7.43	---	---	11.71	10.97	10.61	10.02
28	4.47	3.91	4.44	3.92	8.05	7.44	---	---	11.73	11.02	10.70	10.21
29	4.35	3.78	4.48	3.94	8.18	7.49	---	---	11.69	10.95	10.72	9.96
30	4.35	3.80	4.75	4.04	---	---	10.68	9.93	11.57	10.86	10.35	9.55
31	---	---	4.95	4.25	---	---	10.79	10.07	11.50	10.79	---	---
MONTH	4.86	2.03	4.95	3.19	8.18	4.40	10.79	9.93	11.76	10.10	11.61	9.55
YEAR	11.76	1.67										

Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

## MARYLAND--Continued

## WORCESTER COUNTY--Continued

WELL NUMBER.--WO Bg 48. SITE ID.--382325075063302. PERMIT NUMBER.--WO-73-0522.

LOCATION.--Lat 38°23'25", long 75°06'33", Hydrologic Unit 02060010, at intersection of MD Rt. 90 and Isle of Wight Rd., Isle of Wight.

Owner: U.S. Geological Survey.

AQUIFER.--Manokin aquifer of Miocene age. Aquifer code: 122MNKN.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 420 ft; casing diameter 4 in., to 410 ft; screen diameter 4 in. from 410 to 420 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

Equipped with digital water-level recorder--60-minute recording interval from July 1985 to current year.

DATUM.--Elevation of land surface is 5 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of recorder shelf, 3.87 ft above land surface.

REMARKS.--Ocean City ground-water monitoring network well. Water levels affected by nearby pumping.

Missing data due to recorder malfunctions.

PERIOD OF RECORD.--September 1975 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.59 ft below land surface, March 13 and 14, 1993; lowest measured, 13.17 ft below land surface, Aug. 26, 1993.

## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	9.43	8.75	6.26	5.75	5.01	4.51	4.17	3.30	3.57	2.92	2.94	2.56
2	9.19	8.53	6.13	5.52	4.71	4.13	4.19	3.80	3.45	2.89	3.41	2.48
3	9.16	8.66	5.91	5.44	5.14	4.31	4.18	3.73	3.26	2.52	3.56	2.96
4	8.97	8.21	5.91	5.48	5.14	4.57	4.06	3.54	3.52	2.84	3.55	2.11
5	8.27	7.44	5.90	5.44	5.58	4.70	4.19	3.47	3.63	2.98	2.65	2.00
6	8.21	7.74	5.91	5.52	5.59	4.84	4.27	3.61	3.60	2.86	3.02	2.30
7	8.41	7.96	5.99	5.49	5.15	4.67	3.99	3.18	3.34	2.69	3.40	2.83
8	8.32	7.81	5.92	5.36	5.23	4.56	3.77	2.98	3.30	2.74	3.56	3.02
9	8.12	7.39	5.92	5.35	4.87	4.09	3.57	2.68	3.44	2.83	3.69	3.12
10	7.76	7.27	5.95	5.34	4.67	2.89	3.18	2.47	3.60	2.97	3.67	2.77
11	7.65	7.09	5.85	5.24	3.12	2.13	3.44	2.72	3.63	3.04	3.56	2.76
12	7.67	7.14	5.93	5.13	3.09	2.31	3.57	3.04	3.04	2.28	3.80	3.12
13	7.72	7.21	5.56	5.08	3.39	2.74	3.40	2.80	3.27	2.08	3.38	1.59
14	7.77	7.17	5.78	5.26	3.51	2.84	3.40	2.81	3.92	3.03	4.13	1.59
15	7.66	7.05	5.72	5.07	4.01	3.13	3.37	2.84	3.90	3.41	4.57	4.10
16	7.54	6.86	5.77	5.17	4.41	3.71	3.40	2.88	3.78	3.11	4.51	3.90
17	7.45	6.76	5.55	5.06	4.39	3.88	3.40	2.72	3.88	3.26	4.02	3.29
18	7.23	6.49	5.53	4.94	4.69	4.03	3.78	3.02	3.97	3.53	3.66	3.14
19	6.82	6.30	5.30	4.69	4.69	4.12	3.86	3.34	3.92	3.24	3.42	2.90
20	6.79	6.23	5.18	4.63	4.46	3.77	3.99	3.44	3.57	2.89	3.24	2.76
21	7.08	6.55	5.14	4.57	4.59	4.08	4.04	3.20	3.34	2.62	3.32	2.94
22	7.08	6.50	5.21	4.61	4.59	3.92	3.39	2.70	3.01	2.54	3.36	2.96
23	6.93	6.38	5.20	4.55	4.27	3.55	3.53	3.00	3.36	2.62	3.37	2.81
24	6.86	6.32	5.21	4.33	4.44	3.63	3.57	3.00	3.92	3.18	3.17	2.61
25	6.93	6.30	4.67	3.94	4.61	4.04	3.71	3.09	3.96	3.42	2.99	2.51
26	6.82	6.19	4.84	4.12	4.58	4.15	3.80	3.10	3.63	2.93	3.20	2.51
27	7.04	6.44	4.85	4.31	4.68	4.01	3.28	2.76	3.11	2.77	3.09	2.01
28	6.91	6.24	4.96	4.40	4.18	3.66	3.29	2.87	3.07	2.65	2.88	2.40
29	6.75	6.12	4.91	4.36	3.99	3.49	3.89	3.02	---	---	2.81	2.36
30	6.63	6.00	5.02	4.58	3.97	3.58	4.19	3.58	---	---	2.86	2.25
31	6.33	5.70	---	---	3.83	3.38	4.08	3.45	---	---	2.82	2.01
MONTH	9.43	5.70	6.26	3.94	5.59	2.13	4.27	2.47	3.97	2.08	4.57	1.59

## GROUND-WATER LEVELS

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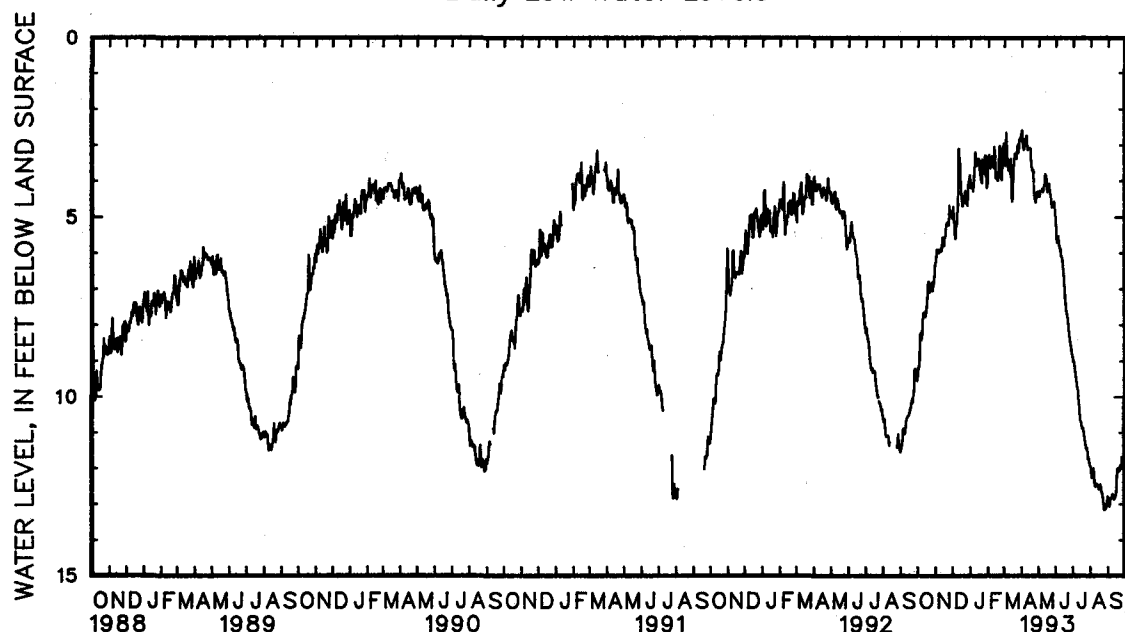
MARYLAND--Continued

WORCESTER COUNTY--Continued

WO Bg 48--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	2.68	2.10	4.42	3.90	5.15	4.55	9.02	8.37	11.96	11.35	12.79	12.31
2	2.58	1.88	4.43	3.95	5.52	4.92	9.00	8.35	11.97	11.43	12.84	12.36
3	2.91	2.01	4.43	3.83	5.71	5.10	9.09	8.49	12.14	11.51	12.88	12.37
4	3.07	2.59	4.28	3.63	5.70	4.95	9.23	8.57	12.27	11.67	13.06	12.55
5	3.12	2.38	---	---	5.54	4.78	9.36	8.69	12.24	11.77	12.89	12.39
6	2.88	2.15	---	---	5.67	4.81	9.47	8.80	12.25	11.46	12.84	12.30
7	2.82	2.18	4.27	3.64	5.79	5.11	9.61	8.96	12.01	11.44	12.84	12.32
8	2.96	2.19	4.21	3.61	5.87	5.21	9.72	9.19	12.30	11.70	12.84	12.25
9	3.02	2.34	4.29	3.60	5.89	5.35	9.79	9.30	12.45	12.02	12.72	12.11
10	2.73	2.28	4.25	3.76	6.08	5.41	9.89	9.43	12.51	12.03	12.74	12.14
11	3.03	2.21	4.12	3.58	6.12	5.70	10.03	9.61	12.49	11.96	12.80	12.27
12	3.12	2.46	4.09	3.69	6.15	5.77	10.10	9.70	12.43	11.85	12.86	12.26
13	3.09	2.65	3.81	3.40	6.31	5.86	10.29	9.83	12.46	11.87	12.85	12.28
14	3.09	2.56	3.83	3.38	6.51	6.09	10.52	10.00	12.49	11.85	12.81	12.21
15	3.09	2.65	3.93	3.47	6.72	6.27	10.69	10.13	12.52	11.87	12.74	12.16
16	3.07	2.57	4.18	3.73	6.94	6.50	10.72	10.12	12.58	11.94	12.63	11.79
17	3.13	2.66	4.30	3.83	7.18	6.68	10.82	10.16	12.56	11.90	12.22	11.47
18	3.45	3.03	4.27	3.70	7.40	6.86	10.89	10.21	12.48	11.76	12.01	11.37
19	3.61	3.16	4.11	3.50	7.61	7.00	10.88	10.20	12.45	11.79	12.01	11.36
20	3.71	3.24	4.07	3.44	7.69	7.04	10.90	10.25	12.53	11.88	12.09	11.43
21	3.71	3.09	4.24	3.57	7.74	7.06	11.08	10.30	12.66	12.04	12.02	11.44
22	3.70	3.19	4.35	3.68	7.87	7.17	11.13	10.52	12.71	12.11	12.05	11.39
23	4.28	3.41	4.44	3.76	8.06	7.33	11.25	10.65	12.79	12.24	11.92	11.31
24	4.48	3.84	4.60	3.88	8.23	7.63	11.37	10.84	12.95	12.40	11.98	11.35
25	4.52	3.84	4.72	4.04	8.35	7.77	11.46	10.95	13.14	12.57	11.92	11.33
26	4.59	3.99	4.67	4.19	8.46	7.94	11.43	10.85	13.17	12.56	11.69	10.97
27	4.50	3.90	4.66	4.15	8.58	8.10	11.53	11.02	13.11	12.50	11.72	11.24
28	4.31	3.76	4.58	4.14	8.66	8.14	11.74	11.08	13.12	12.55	11.84	11.37
29	4.31	3.86	4.58	4.11	8.81	8.22	11.70	11.04	13.10	12.49	11.86	11.23
30	4.29	3.81	4.79	4.20	8.87	8.31	11.75	11.13	13.00	12.21	11.55	10.82
31	---	---	4.95	4.38	---	---	11.88	11.30	12.94	12.34	---	---
MONTH	4.59	1.88	4.95	3.38	8.87	4.55	11.88	8.35	13.17	11.35	13.06	10.82
YEAR	13.17	1.59										

Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

## MARYLAND--Continued

## WORCESTER COUNTY--Continued

WELL NUMBER.--WO Bg 49. SITE ID.--382038075065901. PERMIT NUMBER.--WO-73-0520.

LOCATION.--Lat 38°20'38", long 75°06'59", Hydrologic Unit 020060010, near Keyser Point Rd., West Ocean City.

Owner: U.S. Geological Survey.

AQUIFER.--Ocean City aquifer of Miocene age. Aquifer code: 122OCNC.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 243 ft; casing diameter 4 in., to 233 ft; screen diameter 4 in. from 233 to 243 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

Equipped with digital water-level recorder--60-minute recording interval, May 1985 to current year.

Periodic measurements with chalked steel tape October 1975 to May 1985.

DATUM.--Elevation of land surface is 10 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring Point: Top of recorder shelf, 4.4 ft above land surface.

REMARKS.--Ocean City ground-water monitoring network. Water levels affected by nearby pumping.

Missing data due to recorder malfunction.

PERIOD OF RECORD.--October 1975 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.42 ft below land surface, March 12, 1993; lowest measured, 24.84 ft below land surface, Aug. 16, 1988.

## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	9.46	9.30	6.99	6.88	5.14	4.93	4.28	4.02	3.73	3.41	3.02	2.94
2	9.37	9.20	6.95	6.67	4.93	4.77	4.44	4.27	3.49	3.33	3.16	2.88
3	9.33	9.24	6.67	6.48	5.07	4.79	4.45	4.29	3.35	3.17	3.26	3.12
4	9.32	8.92	6.53	6.41	---	---	4.31	4.20	3.47	3.27	3.28	2.65
5	8.92	8.46	6.45	6.33	5.33	5.00	4.25	4.05	3.50	3.40	2.73	2.52
6	8.57	8.50	6.44	6.34	5.35	5.19	4.27	4.14	3.49	3.30	2.84	2.59
7	8.71	8.56	6.37	6.29	5.23	5.15	4.16	3.92	3.34	3.17	3.11	2.84
8	8.63	8.58	6.33	6.24	5.24	5.04	3.95	3.72	3.24	3.15	3.21	3.08
9	8.63	8.32	6.29	6.22	5.06	4.84	3.84	3.46	3.31	3.21	3.39	3.18
10	8.33	8.20	6.28	6.18	4.87	4.05	3.51	3.34	3.43	3.26	3.39	3.10
11	8.20	8.06	6.22	6.09	4.05	3.49	3.65	3.40	3.47	3.34	3.34	2.69
12	8.34	8.10	6.20	5.96	3.59	3.36	3.65	3.57	3.34	2.85	2.98	2.42
13	8.40	8.30	6.03	5.92	3.67	3.53	3.61	3.46	3.04	2.69	4.03	2.98
14	8.39	8.21	6.04	5.95	3.73	3.59	3.59	3.51	3.49	3.04	4.02	3.90
15	8.26	8.14	6.00	5.85	4.01	3.70	3.58	3.47	3.57	3.45	3.90	3.54
16	8.17	8.00	6.00	5.87	4.31	4.01	3.55	3.47	3.55	3.33	3.54	3.41
17	8.07	7.92	5.89	5.79	4.35	4.25	3.55	3.41	3.58	3.34	3.41	3.29
18	8.17	8.00	5.85	5.58	4.57	4.34	3.77	3.53	3.65	3.53	3.30	3.24
19	8.34	8.02	5.62	5.46	4.58	4.51	3.97	3.74	3.65	3.46	3.39	3.27
20	8.49	8.34	5.48	5.38	4.51	4.34	4.00	3.87	3.48	3.27	3.38	3.19
21	8.87	8.49	5.51	5.35	4.61	4.49	3.98	3.73	3.34	3.06	3.21	3.06
22	8.88	8.75	5.41	5.35	4.63	4.46	3.73	3.46	3.09	2.98	3.16	3.01
23	8.80	8.55	5.46	5.28	4.48	4.28	3.62	3.53	3.21	3.00	3.17	3.06
24	8.55	8.25	5.40	5.11	4.53	4.27	3.65	3.51	3.56	3.21	3.07	2.92
25	8.25	7.96	5.11	4.90	4.61	4.51	3.78	3.52	3.71	3.56	2.97	2.84
26	8.02	7.81	5.05	4.87	4.66	4.55	3.78	3.57	3.57	3.25	2.92	2.76
27	7.89	7.74	5.03	4.89	4.73	4.55	3.57	3.37	3.25	3.08	2.87	2.76
28	7.82	7.53	5.06	4.99	4.55	4.37	3.49	3.38	3.08	2.96	2.84	2.48
29	7.59	7.38	5.06	4.94	4.37	4.18	3.70	3.43	---	---	2.59	2.44
30	7.47	7.20	5.14	5.01	4.21	4.16	3.91	3.70	---	---	2.82	2.56
31	7.20	6.98	---	---	4.18	4.07	3.91	3.72	---	---	---	---
MONTH	9.46	6.98	6.99	4.87	5.35	3.36	4.45	3.34	3.73	2.69	4.03	2.42



## GROUND-WATER LEVELS

473

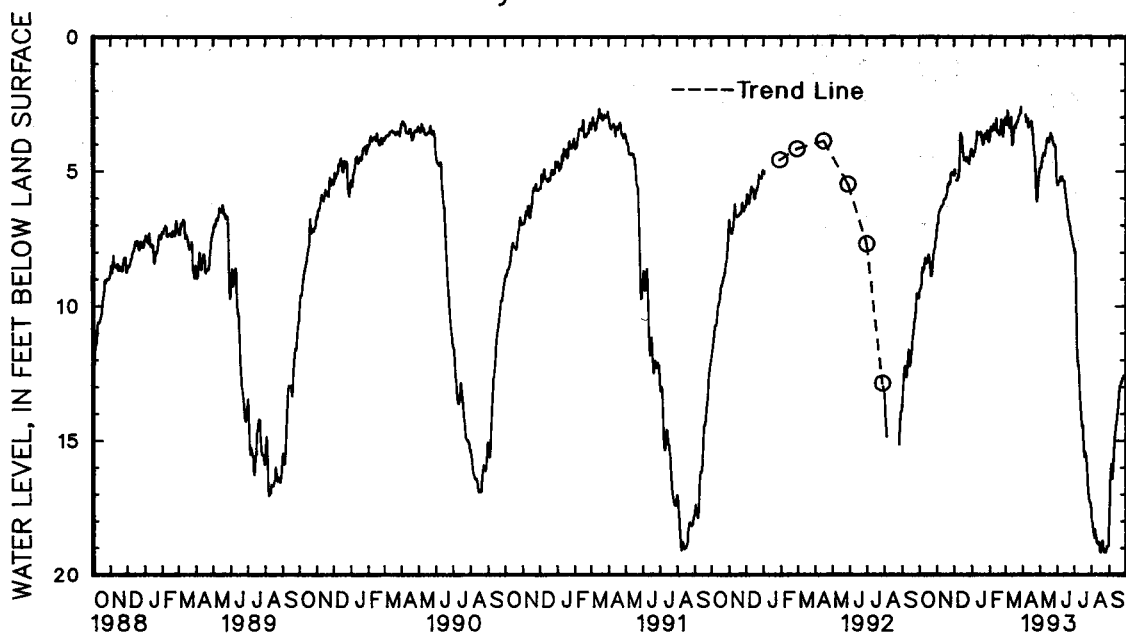
MARYLAND--Continued

WORCESTER COUNTY--Continued

WO Bg 49--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	4.90	4.80	5.48	5.37	7.93	7.71	18.00	17.55	17.35	16.60
2	---	---	4.89	4.76	5.52	5.33	7.91	7.75	18.05	17.86	16.60	16.05
3	---	---	4.87	4.65	5.42	5.32	8.32	7.78	18.21	18.00	16.05	15.75
4	---	---	4.70	4.49	---	---	9.32	8.32	18.42	18.15	15.87	15.75
5	---	---	4.51	4.35	5.38	5.06	10.49	9.32	18.51	18.42	16.16	15.77
6	2.90	2.81	4.43	4.27	5.24	5.05	11.65	10.49	18.61	18.28	16.41	16.15
7	3.16	2.87	4.34	4.24	5.21	5.09	12.05	11.65	18.32	18.25	16.15	15.73
8	3.14	3.03	4.37	4.21	5.26	5.12	12.22	12.04	18.57	18.31	15.73	15.28
9	3.18	2.99	4.33	4.18	5.20	5.11	12.22	12.04	18.64	18.55	15.28	14.90
10	3.05	2.94	4.41	4.20	5.34	5.13	12.70	12.22	18.79	18.63	14.92	14.66
11	3.37	3.01	4.20	4.09	5.36	5.24	13.20	12.70	18.83	18.59	14.71	14.51
12	3.35	3.27	4.12	3.91	5.36	5.25	13.59	13.20	18.79	18.57	14.51	14.30
13	3.30	3.21	3.91	3.77	5.39	5.27	13.94	13.59	18.79	18.59	14.30	14.12
14	3.23	3.11	3.80	3.70	5.63	5.39	14.27	13.94	18.81	18.64	14.16	13.95
15	3.20	3.09	3.78	3.70	5.80	5.62	14.52	14.27	19.10	18.77	13.95	13.78
16	3.14	2.96	3.86	3.74	5.91	5.70	14.44	14.34	19.15	19.07	13.78	13.42
17	3.18	2.95	3.91	3.78	6.05	5.81	14.92	14.40	19.15	18.88	13.42	13.07
18	3.52	3.18	3.82	3.64	6.21	5.95	15.33	14.92	18.98	18.66	13.16	12.91
19	3.64	3.52	3.72	3.50	6.40	6.14	15.62	15.31	18.78	18.61	12.96	12.84
20	4.03	3.64	3.58	3.46	6.68	6.40	15.45	15.30	18.74	18.61	12.93	12.82
21	4.24	4.03	3.66	3.47	6.83	6.64	15.52	15.34	19.02	18.65	12.82	12.70
22	4.44	4.17	3.73	3.56	6.89	6.68	15.63	15.34	19.05	18.95	12.83	12.62
23	4.90	4.43	3.79	3.65	7.00	6.80	15.94	15.59	19.15	18.95	12.67	12.53
24	5.39	4.90	3.92	3.72	7.15	6.95	16.30	15.94	19.15	18.93	12.68	12.49
25	6.03	5.37	3.99	3.83	7.33	7.09	16.70	16.30	19.17	18.99	12.57	12.46
26	6.12	5.97	4.05	3.94	7.42	7.25	16.98	16.65	19.06	18.84	12.62	12.49
27	5.97	5.48	4.06	3.94	7.51	7.36	17.16	16.98	18.95	18.77	12.65	12.59
28	5.48	5.16	4.04	3.95	7.61	7.44	17.28	17.11	18.94	18.88	12.67	12.58
29	5.16	5.00	4.18	3.92	7.71	7.54	17.29	17.22	18.93	18.83	12.63	12.46
30	5.00	4.87	4.93	4.18	7.77	7.61	17.35	17.19	18.91	18.10	12.48	12.20
31	---	---	5.42	4.93	---	---	17.55	17.30	18.10	17.35	---	---
MONTH	6.12	2.81	5.42	3.46	7.77	5.05	17.55	7.71	19.17	17.35	17.35	12.20
YEAR	19.17	2.42										

Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

## MARYLAND--Continued

## WORCESTER COUNTY--Continued

WELL NUMBER.--WO Bh 31. SITE ID.--382215075041801. PERMIT NUMBER.--WO-04-9586.

LOCATION.--Lat 38°22'15", long 75°04'18", Hydrologic Unit 020060010, at 44th St, Ocean City.

Owner: Town of Ocean City.

AQUIFER.--Ocean City aquifer of Miocene age. Aquifer code: 122OCNC.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 278 ft; casing diameter 4 in., to 263 ft; screen diameter 3 in. from 263 to 278 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel. Periodic measurements with chalked steel tape September 1970 to May 1985. Equipped with digital water-level recorder--60-minute recording interval, May 1985 to current year.

DATUM.--Elevation of land surface is 5.59 ft above National Geodetic Vertical Datum of 1929.

Measuring Point: Top of recorder shelf, 3.47 ft above land surface.

REMARKS.--Ocean City ground-water monitoring network well. Water levels affected by nearby pumping.

PERIOD OF RECORD.--September 1970 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.55 ft below land surface, March 13, 1993; lowest measured, 51.03 ft below land surface, July 27, 1986.

## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	14.34	12.42	13.22	6.07	4.55	3.92	3.62	2.33	2.72	1.94	2.11	1.38
2	16.82	12.34	11.75	6.09	4.11	3.34	10.37	2.87	2.42	1.68	2.72	1.33
3	24.89	16.73	6.64	5.84	4.72	3.49	11.49	10.01	2.74	1.37	2.74	1.83
4	25.57	19.79	6.23	5.55	4.64	3.84	11.39	4.22	3.06	1.68	2.50	.87
5	19.79	15.20	6.19	5.27	5.26	4.00	4.67	3.52	3.09	1.78	1.93	.70
6	15.25	13.76	6.14	5.30	5.20	4.17	4.44	3.08	3.20	1.55	2.50	.93
7	14.36	13.28	6.15	5.18	4.97	3.92	3.87	2.37	2.70	1.34	2.77	1.50
8	13.96	12.83	12.42	5.00	4.99	3.69	3.58	2.03	2.79	1.44	2.99	1.74
9	19.08	12.50	6.95	5.51	4.47	3.05	3.22	1.59	2.86	1.54	3.20	1.84
10	20.25	12.84	6.38	5.13	4.30	1.85	2.65	1.27	3.03	1.82	3.22	1.45
11	20.75	19.47	9.90	4.91	2.44	.98	3.03	1.76	3.04	1.42	3.08	1.59
12	20.88	15.23	6.27	4.93	2.28	.92	3.16	2.04	1.96	.80	3.36	2.02
13	15.23	11.57	5.71	4.67	2.50	1.29	2.92	1.83	2.50	.74	2.76	.55
14	11.91	9.95	5.88	4.80	2.67	1.44	2.89	1.82	3.15	1.86	3.86	.59
15	10.55	9.15	5.71	4.49	3.33	1.86	2.90	1.88	3.04	2.20	4.26	3.39
16	9.79	8.48	5.74	4.63	3.84	2.58	2.87	1.97	2.92	2.01	4.36	3.25
17	15.63	8.57	5.56	4.57	3.84	2.86	2.98	1.71	3.34	2.08	3.47	2.57
18	15.71	9.27	5.40	4.34	4.24	3.01	3.50	2.10	3.35	2.32	3.14	2.16
19	16.23	11.70	4.97	3.99	4.09	3.17	3.69	2.46	3.18	2.13	2.83	1.90
20	16.43	10.53	4.96	3.87	4.28	2.78	3.75	2.58	3.00	1.77	2.79	1.77
21	16.53	9.55	5.06	3.81	4.31	3.14	3.85	2.44	2.73	1.54	2.88	2.02
22	16.88	15.66	5.06	3.81	4.33	2.94	3.04	1.75	2.38	1.37	2.91	2.04
23	16.86	10.91	5.10	3.73	3.96	2.56	3.18	2.14	2.77	1.61	2.95	1.89
24	17.18	15.57	4.97	3.44	4.06	2.49	3.20	2.08	3.35	2.44	2.71	1.55
25	17.22	11.42	4.24	2.88	4.33	3.16	3.33	2.42	3.40	2.31	2.37	1.46
26	13.88	8.81	4.51	3.16	4.35	3.28	3.39	2.15	3.03	1.62	2.69	1.63
27	9.60	7.89	4.42	3.30	4.36	3.17	2.70	1.74	2.28	1.37	2.52	1.36
28	8.62	7.19	4.49	3.44	3.75	2.78	2.73	1.90	2.25	1.34	2.23	1.27
29	7.98	6.73	4.40	3.41	3.48	2.58	3.34	2.16	---	---	2.08	1.19
30	7.54	6.35	4.57	3.73	3.47	2.73	3.89	2.78	---	---	2.09	1.14
31	6.96	5.81	---	---	3.22	2.43	3.29	2.67	---	---	2.09	1.15
MONTH	25.57	5.81	13.22	2.88	5.26	.92	11.49	1.27	3.40	.74	4.36	.55

## GROUND-WATER LEVELS

475

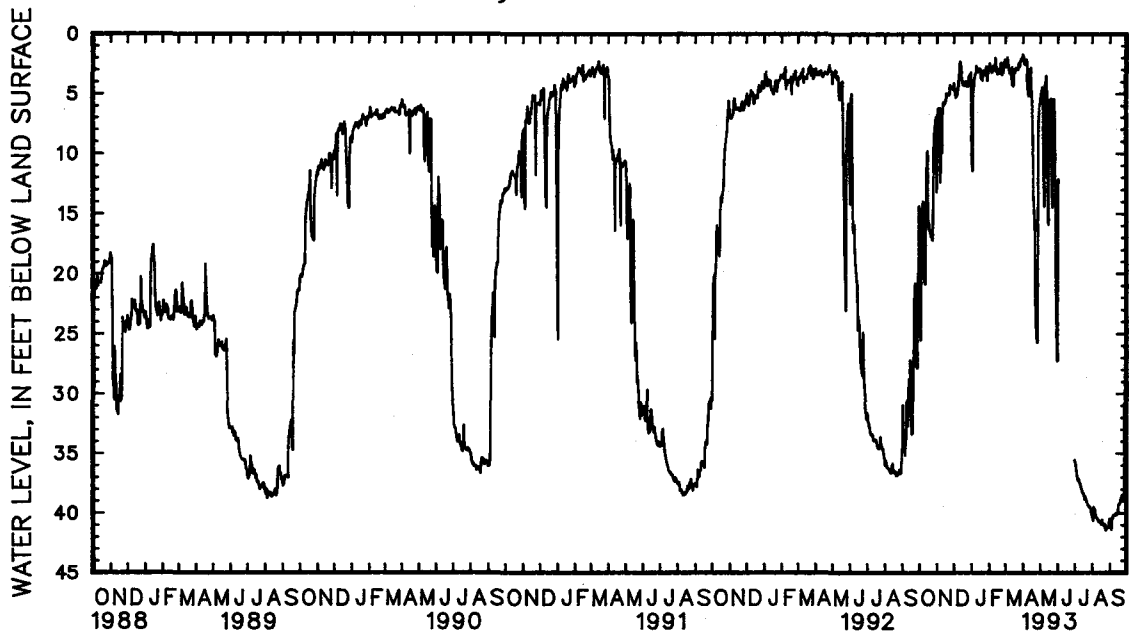
## MARYLAND--Continued

## WORCESTER COUNTY--Continued

## WO Bh 31--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	1.69	.98	5.94	4.96	27.27	14.51	35.56	34.49	40.15	38.93	40.50	39.31
2	1.81	.64	5.62	4.44	14.62	11.38	35.69	34.53	40.29	39.07	40.66	39.60
3	2.35	.89	5.35	3.91	12.16	10.21	35.85	34.77	40.64	38.79	40.70	39.62
4	2.48	1.33	4.90	3.40	---	---	36.30	35.05	39.49	37.98	41.37	40.11
5	2.54	1.07	4.72	3.24	---	---	36.84	35.52	39.80	38.65	40.56	39.60
6	2.28	.69	4.45	2.97	---	---	36.93	35.77	39.69	38.68	40.37	39.54
7	2.12	.79	5.40	3.28	---	---	37.27	35.84	39.81	38.67	40.40	39.27
8	2.30	1.02	12.09	3.50	---	---	37.13	36.16	40.37	39.23	40.20	39.23
9	3.81	1.28	14.45	5.02	---	---	37.16	36.24	40.34	39.36	40.13	39.18
10	4.31	2.83	5.49	3.53	---	---	37.35	36.35	40.46	39.64	40.11	39.20
11	4.92	3.28	4.27	3.41	---	---	37.49	36.60	40.56	39.72	40.16	38.97
12	5.19	3.37	4.03	2.97	---	---	37.68	36.75	40.54	39.69	40.06	38.97
13	3.62	2.59	3.49	2.70	---	---	37.83	36.86	40.72	39.75	40.12	38.83
14	2.92	2.22	4.87	2.52	---	---	38.05	37.08	40.73	39.39	40.08	38.85
15	2.80	2.02	15.41	4.44	---	---	38.20	37.20	40.71	39.21	40.08	38.81
16	4.27	1.97	15.92	7.41	---	---	38.37	37.18	40.75	39.49	39.75	38.13
17	5.13	3.80	8.21	4.94	---	---	38.33	37.25	40.93	39.46	39.26	37.73
18	5.51	4.57	5.47	3.81	---	---	38.43	37.31	40.70	39.29	39.26	37.82
19	8.77	3.60	7.64	3.12	---	---	38.87	37.36	40.57	35.65	39.22	37.90
20	13.92	8.58	9.52	3.17	---	---	38.60	37.15	40.97	39.38	38.94	37.60
21	14.92	13.38	5.40	3.44	---	---	38.87	37.44	40.88	39.48	38.78	37.61
22	15.65	14.49	12.72	5.27	---	---	38.84	37.55	40.99	39.66	38.63	37.46
23	22.32	15.49	14.53	8.17	---	---	39.10	37.76	41.07	39.79	38.49	37.56
24	24.22	22.32	8.58	5.41	---	---	39.17	37.91	40.95	39.97	38.59	37.59
25	25.07	23.43	6.12	4.57	---	---	39.36	37.95	41.41	40.30	38.76	37.73
26	25.79	24.27	5.42	4.13	---	---	39.35	38.02	41.30	39.87	38.70	37.67
27	25.65	12.46	6.50	4.10	---	---	39.48	38.36	41.19	40.02	38.47	26.60
28	12.46	8.08	10.06	5.73	---	---	39.55	38.21	41.19	40.20	26.74	24.20
29	8.12	6.61	21.18	9.48	---	---	39.52	38.23	41.20	40.04	24.73	22.56
30	6.76	5.74	25.03	20.60	---	---	39.66	38.32	41.20	40.13	23.16	21.43
31	---	---	27.32	24.36	---	---	39.96	38.79	40.99	39.57	---	---
MONTH	25.79	.64	27.32	2.52	27.27	10.21	39.96	34.49	41.41	35.65	41.37	21.43
YEAR	41.41	.55										

## Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

## MARYLAND--Continued

## WORCESTER COUNTY--Continued

WELL NUMBER.--WO Bh 34. SITE ID.382443075033501. PERMIT NUMBER.--WO-04-9588.

LOCATION.--Lat 38°24'43", long 75°03'35", Hydrologic Unit 02060010, north side of 100th St., 0.2 mi west of MD Rt. 528, Ocean City.

Owner: Town of Ocean City.

AQUIFER.--Manokin aquifer of Miocene age. Aquifer code: 122MNKN.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 353 ft; casing diameter 4 in., to 316.2 ft, casing diameter 2.5 in. from 316.2 to 337 ft; screen diameter 2.5 in.(?) from 337 to 353 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

Equipped with digital water-level recorder--60-minute recording interval April 1985 to current year.

Prior to April 1985, periodic measurements with chalked steel tape.

DATUM.--Elevation of land surface is 4 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of recorder shelf, 2.86 ft above land surface.

REMARKS.--Ocean City ground-water monitoring network well. Water levels affected by nearby pumping.

Missing data due to recorder malfunction.

PERIOD OF RECORD.--December 1972 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.54 ft above land surface, March 27, 1973; lowest measured, 18.73 ft below land surface, Aug. 24, 1993.

## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

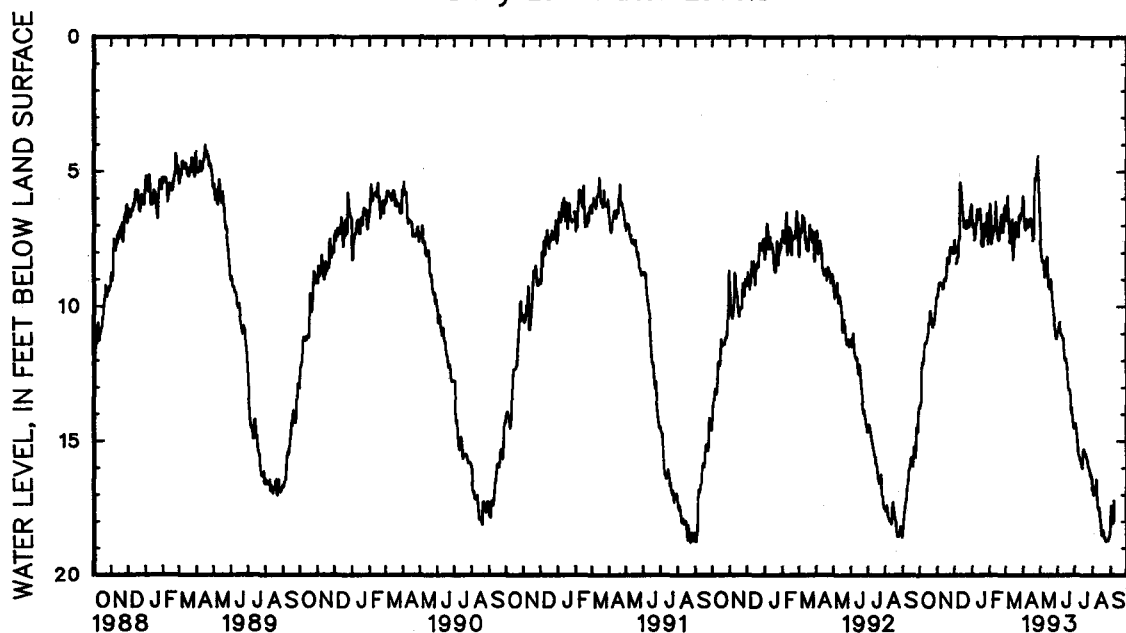
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	13.75	12.67	9.64	8.92	7.99	7.16	6.81	5.55	6.60	5.97	6.24	5.54
2	13.68	12.82	9.55	8.73	7.51	6.82	7.03	6.24	6.20	5.66	6.80	5.53
3	13.75	12.93	9.37	8.67	7.98	7.30	6.92	6.35	6.62	5.59	6.65	5.99
4	13.32	12.23	9.14	8.50	---	---	7.03	6.14	7.18	5.78	6.44	4.79
5	12.23	11.13	9.11	8.38	8.39	7.29	7.52	6.17	7.68	6.06	5.89	4.61
6	12.05	11.33	9.12	8.42	8.34	7.44	7.52	6.34	7.33	5.99	6.57	4.91
7	12.13	11.35	9.09	8.24	8.16	7.18	7.22	5.83	7.06	5.80	6.86	5.62
8	12.03	11.12	9.16	8.20	8.16	7.00	6.93	5.55	7.22	5.78	7.16	5.98
9	11.76	10.72	9.21	8.17	7.66	6.37	6.89	5.28	7.04	5.78	7.57	6.26
10	11.45	10.58	9.17	8.15	7.44	5.23	6.41	5.08	7.07	5.94	7.62	5.76
11	11.33	10.35	9.33	8.09	5.65	4.12	6.77	5.55	7.03	5.60	7.09	5.87
12	11.32	10.32	9.33	8.13	5.39	4.11	6.76	5.46	6.11	5.14	7.27	6.12
13	11.34	10.39	9.07	8.05	5.57	4.40	6.40	5.37	6.79	4.98	6.77	4.84
14	11.28	10.27	8.97	8.10	5.82	4.55	6.55	5.45	7.21	6.14	7.70	4.84
15	11.15	10.16	9.04	7.89	6.34	5.04	6.38	5.49	7.46	6.50	8.28	7.44
16	11.01	9.96	9.02	8.06	6.79	5.67	6.68	5.63	7.38	6.51	7.84	7.23
17	10.98	9.84	8.91	8.00	6.75	5.84	7.01	5.70	7.51	6.53	7.56	6.59
18	10.69	9.61	8.70	7.46	7.04	6.00	7.69	6.28	7.54	6.51	7.21	6.23
19	10.20	9.34	8.26	7.20	6.91	6.08	7.75	6.65	7.21	6.21	6.86	6.00
20	10.15	9.21	8.17	7.11	7.04	5.69	7.77	6.63	6.93	5.90	6.98	5.89
21	10.48	9.60	8.31	7.17	7.10	6.04	7.75	6.37	6.82	5.78	7.15	6.32
22	10.42	9.46	8.39	7.17	7.11	5.88	6.93	5.64	6.59	5.65	7.31	6.53
23	10.61	9.50	8.29	6.94	6.79	5.47	6.93	5.96	6.80	5.89	7.39	6.17
24	10.70	9.55	7.86	6.51	6.84	5.46	7.05	6.10	7.22	6.18	6.98	5.86
25	10.76	9.50	7.79	6.29	6.94	6.02	7.38	6.50	7.23	6.26	6.62	5.49
26	10.47	9.22	7.78	6.65	7.05	6.06	7.39	6.22	6.91	5.83	6.78	5.67
27	10.65	9.38	7.80	6.76	6.98	6.06	6.62	5.65	6.35	5.54	6.74	5.62
28	10.32	9.11	7.79	6.90	6.65	5.79	6.53	5.80	6.32	5.44	6.54	5.62
29	10.10	9.03	8.00	6.95	6.43	5.66	6.99	6.00	---	---	6.55	5.73
30	9.93	8.91	8.02	7.28	6.42	5.82	7.69	6.53	---	---	6.59	5.70
31	9.63	8.74	---	---	6.22	5.56	7.10	6.39	---	---	6.27	5.68
MONTH	13.75	8.74	9.64	6.29	8.39	4.11	7.77	5.08	7.68	4.98	8.28	4.61

GROUND-WATER LEVELS  
MARYLAND--Continued  
WORCESTER COUNTY--Continued  
WO Bh 34--Continued

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DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	5.90	5.17	6.96	5.57	10.97	9.72	14.49	13.32	16.81	15.75	18.13	16.65
2	6.08	4.97	7.71	6.29	10.96	9.73	14.41	13.17	16.84	15.91	17.41	16.53
3	6.80	5.24	7.99	6.88	10.91	9.62	14.36	13.16	17.01	15.98	17.43	16.50
4	7.10	5.90	8.17	6.89	10.75	9.45	14.50	13.48	17.00	16.10	17.81	16.82
5	7.15	5.81	8.34	7.03	10.59	9.29	14.72	13.68	16.98	16.17	17.98	17.18
6	7.01	5.55	8.36	7.07	10.83	9.66	15.07	13.92	16.92	15.58	18.05	17.23
7	6.75	5.36	8.37	7.14	10.98	9.99	15.41	14.34	16.43	15.59	18.00	16.95
8	6.90	5.69	8.32	7.28	11.06	10.00	15.50	14.66	16.73	15.91	17.23	16.19
9	7.07	5.78	8.92	7.40	11.06	10.19	15.59	14.80	17.08	16.27	---	---
10	6.79	5.68	8.82	7.70	11.13	10.25	15.68	15.00	17.43	16.70	---	---
11	6.94	5.68	8.63	7.69	11.21	10.51	15.74	15.06	17.54	16.80	---	---
12	6.98	6.01	8.58	7.87	11.19	10.60	15.81	15.10	17.49	16.68	---	---
13	6.91	6.16	8.32	7.63	11.80	10.81	15.92	15.15	17.62	16.75	---	---
14	6.72	6.05	8.17	7.27	11.99	11.26	16.02	15.02	17.90	16.91	---	---
15	6.86	6.02	8.82	7.72	11.93	11.09	15.60	14.55	18.09	17.02	---	---
16	6.89	6.22	9.27	8.43	11.96	11.10	15.36	14.26	18.44	17.29	---	---
17	7.21	6.31	9.29	8.44	12.10	11.14	15.30	14.18	18.51	17.27	---	---
18	7.50	6.69	9.35	8.25	12.14	11.23	15.43	14.22	18.39	17.01	---	---
19	7.55	6.46	9.21	8.22	12.64	11.68	15.51	14.31	18.32	17.10	---	---
20	7.06	5.56	9.01	7.66	13.01	11.90	15.49	14.27	18.46	17.31	---	---
21	6.22	4.61	9.20	8.22	13.11	12.07	15.61	14.50	18.60	17.35	---	---
22	5.23	4.16	9.68	8.66	13.07	11.91	15.67	14.66	18.59	17.43	---	---
23	5.34	4.26	10.02	9.03	13.13	12.01	15.78	14.73	18.70	17.65	---	---
24	5.30	4.12	10.05	9.01	13.40	12.22	15.94	14.91	18.73	17.74	---	---
25	5.05	4.00	10.36	9.07	13.75	12.58	16.04	15.09	18.71	17.77	---	---
26	4.84	3.84	10.55	9.42	13.95	12.98	16.08	15.08	18.71	17.75	---	---
27	4.41	3.52	10.75	9.67	13.76	12.81	16.17	15.26	18.72	17.77	---	---
28	4.75	3.51	10.82	9.88	14.11	12.94	16.30	15.20	18.69	17.62	---	---
29	5.67	4.15	11.07	10.10	14.39	13.38	16.27	15.17	18.60	17.61	---	---
30	6.34	5.07	11.18	10.27	14.54	13.44	16.37	15.33	18.53	17.50	14.56	13.29
31	---	---	11.20	10.05	---	---	16.59	15.58	18.41	17.41	---	---
MONTH	7.55	3.51	11.20	5.57	14.54	9.29	16.59	13.16	18.73	15.58	18.13	13.29
YEAR	18.73	3.51										

Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

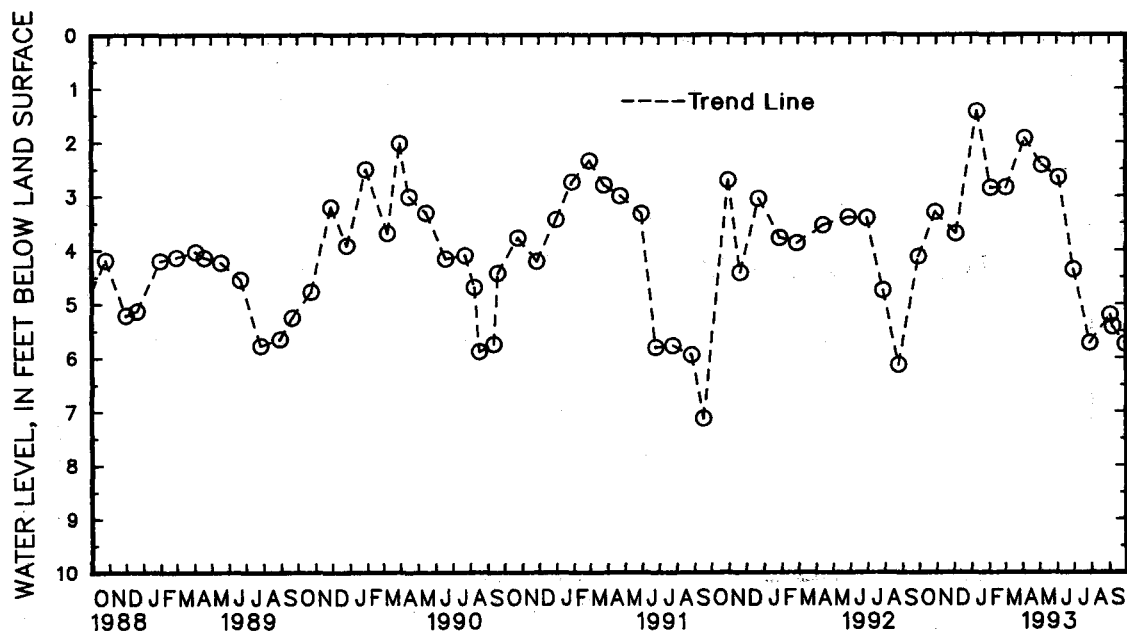
MARYLAND--Continued

**WORCESTER COUNTY--Continued**

WELL NUMBER.--WO Bh 85. SITE ID.--382215075041902. PERMIT NUMBER.--WO-73-0094.  
LOCATION.--Lat 38°22'15", long 75°04'19", Hydrologic Unit 02060010, west end of 44th St., Ocean City.  
Owner: U.S. Geological Survey.  
AQUIFER.--Pocomoke aquifer of Miocene age. Aquifer code: 122PCMK.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 195 ft; casing diameter 4 in., to 190 ft;  
screen diameter 4 in. from 190 to 195 ft.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
DATUM.--Elevation of land surface is 5 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
Measuring point: Top of 4 in. coupling, 1.78 ft above land surface.  
REMARKS.--Ocean City ground-water monitoring network well. Water levels maybe affected by seasonal pumping.  
PERIOD OF RECORD.--April 1973 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.43 ft below land surface, Jan. 11, 1993;  
lowest measured, 7.48 ft below land surface, Sept. 15, 1986.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	3.29	FEB 4	2.85	MAY 6	2.43	JUL 29	5.73	SEP 29	5.75
DEC 4	3.69	MAR 3	2.84	JUN 4	2.66	SEP 2	5.21		
JAN 11	1.43	APR 5	1.93	30	4.37	7	5.43		
WATER YEAR 1993		HIGHEST	1.43	JAN 11, 1993		LOWEST	5.75	SEP 29, 1993	



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

## MARYLAND--Continued

## WORCESTER COUNTY--Continued

WELL NUMBER.--WO Bh 89. SITE ID.--382215075041903 PERMIT NUMBER.--WO-81-1497.  
 LOCATION.--Lat 38°22'15", long 75°04'19", Hydrologic Unit 020060010, at 44th St, Ocean City.  
 Owner: Town of Ocean City.  
 AQUIFER.--Manokin aquifer of Miocene age. Aquifer code: 122MNKN.  
 WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 500 ft; casing diameter 4 in., to 388 ft; screen diameter 4 in. from 388 to 500 ft.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 Equipped with digital water-level recorder--60-minute recording interval, October 1986 to current year.  
 DATUM.--Elevation of land surface is 5.59 ft above National Geodetic Vertical Datum of 1929.  
 Measuring Point: Top of recorder shelf, 2.90 ft above land surface.  
 REMARKS.--Ocean City ground-water monitoring network well. Water levels affected by nearby pumping.  
 Missing data due to recorder malfunction.  
 PERIOD OF RECORD.--October 1986 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 0.79 ft below land surface, March 13, 1993;  
 lowest recorded, 39.83 ft below land surface, Aug. 6, 1987.

## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

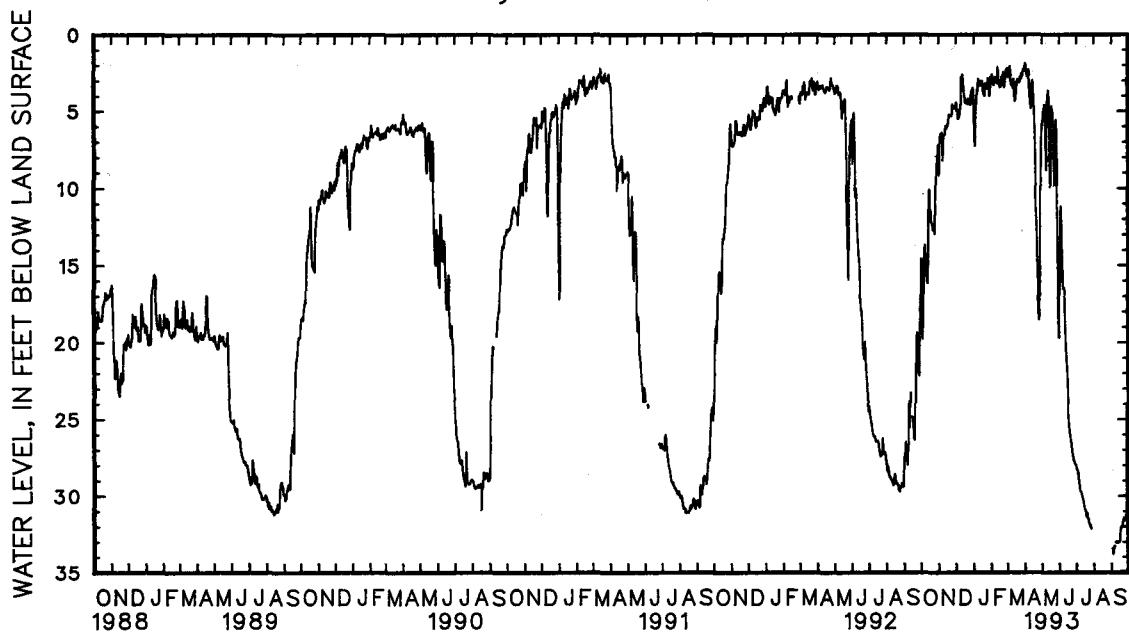
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	14.58	12.81	9.16	6.32	4.82	4.13	3.84	2.65	2.88	2.16	2.19	1.43
2	15.36	12.70	7.84	6.37	4.39	3.69	6.12	3.16	2.61	1.90	2.75	1.93
3	18.99	15.30	6.98	6.01	4.97	3.83	7.28	5.86	2.85	1.57	---	---
4	19.77	18.25	6.51	5.87	4.90	4.17	7.25	4.44	3.16	1.88	2.70	1.06
5	18.25	14.92	6.48	5.62	5.49	4.34	4.88	3.76	3.18	1.99	2.04	.90
6	14.96	13.54	6.41	5.65	5.47	4.49	4.63	3.34	3.28	1.76	2.56	1.12
7	14.07	13.07	6.42	5.55	5.20	4.25	4.04	2.65	2.79	1.55	2.87	1.70
8	13.67	12.62	8.20	5.26	5.23	4.05	3.75	2.31	2.88	1.66	3.08	1.96
9	14.55	12.29	7.16	5.85	4.74	3.41	3.40	1.88	2.95	1.74	3.30	2.06
10	15.30	12.56	6.64	5.49	4.55	2.27	2.84	1.58	3.12	1.99	3.32	1.68
11	15.87	14.83	6.52	5.26	2.76	1.38	3.20	2.04	3.13	1.63	3.19	1.76
12	16.16	14.92	6.51	5.28	2.59	1.28	3.34	2.29	2.08	.97	3.48	2.21
13	14.92	11.82	5.96	5.03	2.77	1.64	3.09	2.08	2.58	.92	2.91	.79
14	12.11	10.29	6.15	5.15	2.93	1.79	3.06	2.08	3.21	2.01	3.98	.83
15	10.81	9.53	5.97	4.85	3.55	2.20	3.06	2.12	3.12	2.35	4.37	3.59
16	10.05	8.86	5.99	4.97	4.05	2.89	3.03	2.21	3.03	2.18	4.11	3.46
17	11.53	8.91	5.83	4.92	4.07	3.17	3.14	1.96	3.41	2.23	3.71	2.80
18	11.47	9.59	5.68	4.69	4.45	3.32	3.65	2.34	3.42	2.48	3.32	2.41
19	12.17	11.14	5.24	4.37	4.36	3.48	3.83	2.69	3.26	2.03	3.01	2.14
20	12.22	10.93	5.22	4.24	4.48	3.09	3.87	2.83	2.81	1.93	2.91	2.01
21	12.35	9.84	5.29	4.18	4.50	3.46	3.99	2.69	2.69	1.62	3.03	2.26
22	12.67	11.58	5.30	4.16	4.54	3.25	3.19	2.02	2.48	1.52	3.08	2.29
23	12.68	10.96	5.32	4.10	4.17	2.89	3.33	2.39	3.23	1.76	3.11	2.14
24	12.77	11.49	5.22	3.83	4.29	2.81	3.35	2.32	3.44	2.57	2.88	1.81
25	12.92	11.56	4.51	3.28	4.51	3.46	3.47	2.67	3.35	2.45	2.56	1.71
26	11.56	9.09	4.77	3.55	4.56	3.60	3.54	2.38	2.85	1.78	2.86	1.82
27	9.80	8.22	4.69	2.99	4.58	3.49	2.86	1.98	2.31	1.45	2.71	1.62
28	8.86	7.53	4.74	3.80	3.97	3.09	2.89	2.13	2.30	1.49	2.41	1.03
29	8.24	7.07	4.66	3.76	3.71	2.90	3.48	2.37	---	---	2.27	1.49
30	7.80	6.70	4.82	4.06	3.70	3.03	3.99	2.95	---	---	2.28	1.38
31	7.21	6.15	---	---	3.47	2.73	3.49	2.87	---	---	2.28	1.40
MONTH	19.77	6.15	9.16	2.99	5.49	1.28	7.28	1.58	3.44	.92	4.37	.79



GROUND-WATER LEVELS  
MARYLAND--Continued  
WORCESTER COUNTY--Continued  
WO Bh 89--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	1.89	1.22	6.07	5.14	19.71	13.69	28.25	27.16	---	---	---	---
2	1.99	.89	5.80	4.65	13.88	10.93	28.29	27.17	---	---	---	---
3	2.51	1.14	5.48	4.14	11.64	9.84	28.44	27.40	---	---	33.42	32.52
4	2.62	1.62	5.03	3.66	11.16	9.73	28.78	27.86	---	---	33.83	32.90
5	2.71	1.33	4.85	3.50	12.79	10.96	29.18	28.21	---	---	33.44	32.53
6	2.45	.97	4.59	3.23	15.32	12.79	29.41	28.47	---	---	33.29	32.45
7	2.29	1.05	5.10	3.49	16.51	14.57	29.69	28.52	---	---	33.28	32.37
8	2.48	1.28	6.68	3.69	16.49	15.42	29.70	28.86	---	---	---	---
9	3.49	1.45	8.84	5.15	16.60	15.57	29.77	28.96	---	---	33.01	32.14
10	3.95	2.51	5.57	3.77	16.90	15.88	29.92	29.10	---	---	33.06	32.12
11	4.52	2.99	4.40	3.65	18.52	16.29	30.09	29.35	---	---	32.96	32.07
12	4.80	3.57	4.18	3.21	20.15	18.45	30.22	29.52	---	---	33.04	32.01
13	3.73	2.86	3.67	2.96	20.97	19.85	30.41	29.70	---	---	33.06	32.03
14	3.10	2.45	4.51	2.79	21.60	20.57	30.67	29.92	---	---	33.03	31.88
15	2.98	2.27	9.39	4.14	22.61	19.75	30.91	30.01	---	---	32.99	31.82
16	3.92	2.22	9.93	6.95	23.95	22.47	30.93	30.00	---	---	32.90	31.19
17	4.72	3.50	8.14	5.11	24.67	23.63	31.08	29.97	---	---	32.16	30.75
18	5.11	4.28	5.59	4.04	25.27	24.39	31.08	30.02	---	---	32.03	30.76
19	7.09	3.75	4.63	3.22	25.72	24.75	31.34	30.13	---	---	32.04	30.81
20	10.47	7.04	5.51	3.44	26.02	24.94	31.17	30.01	---	---	31.95	30.73
21	11.57	10.47	5.11	3.71	26.33	25.27	31.40	30.28	---	---	31.71	30.69
22	12.31	11.27	8.06	4.93	26.55	25.50	31.45	30.34	---	---	31.57	30.53
23	15.02	12.07	9.88	7.77	26.95	25.74	31.67	30.53	---	---	31.43	30.52
24	17.02	15.02	8.15	5.58	27.24	26.08	31.81	30.78	---	---	31.52	30.55
25	17.96	16.23	6.23	4.81	27.46	26.38	31.94	30.93	---	---	31.59	30.66
26	18.54	17.11	5.58	4.40	27.68	26.74	31.91	30.92	---	---	31.55	30.67
27	18.37	12.45	6.16	4.36	27.77	26.89	32.09	31.17	---	---	31.41	25.63
28	12.45	8.24	8.51	5.44	27.92	26.94	32.14	31.13	---	---	25.72	23.28
29	8.24	6.82	13.99	8.01	27.96	26.97	---	---	---	---	23.74	21.66
30	6.85	5.90	17.50	13.88	28.04	27.05	---	---	---	---	22.18	20.51
31	---	---	19.68	17.21	---	---	---	---	---	---	---	---
MONTH	18.54	.89	19.68	2.79	28.04	9.73	32.14	27.16	---	---	33.83	20.51
YEAR	33.83	.79										

Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

## MARYLAND--Continued

## WORCESTER COUNTY--Continued

WELL NUMBER.--WO Bh 98. SITE ID.--382127075043802. PERMIT NUMBER.--WO-81-1822.  
 LOCATION.--Lat 38°21'27", long 75°04'38", Hydrologic Unit 02060010, at 28th Street Park, Ocean City.  
 Owner: Town of Ocean City.  
 AQUIFER.--Ocean City aquifer of Miocene age. Aquifer code: 122OCNC.  
 WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 275 ft; casing diameter 4 in., to 255 ft; screen diameter 4 in. from 255 to 275 ft.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel, from January 1988 to October 1990. Equipped with digital water-level recorder--60-minute recorder interval from November 1990 to current year.  
 DATUM.--Elevation of land surface is 5 ft above National Geodetic Vertical Datum of 1929.  
 Measuring Point: Top of casing, 2.52 ft above land surface.  
 REMARKS.--Ocean City ground-water monitoring network well. Water levels affected by nearby pumping. Missing data due to recorder malfunction.  
 PERIOD OF RECORD.--January 1988 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.89 ft above land surface, April 2, 1993; lowest measured, 35.70 ft below land surface, Aug. 1, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
 (READINGS ABOVE LAND SURFACE INDICATED BY "--")

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	11.99	10.65	5.69	5.01	3.40	3.06	2.44	1.57	1.67	1.05	.78	.37
2	11.11	10.19	5.70	5.03	3.06	2.53	2.75	2.02	1.34	.83	1.26	.29
3	12.27	11.08	5.30	4.86	3.49	2.62	3.38	2.49	1.44	.54	1.31	.75
4	12.76	12.22	5.09	4.63	3.45	2.95	3.34	2.85	1.73	.80	1.21	-.09
5	12.38	11.27	5.05	4.42	4.01	3.10	3.20	2.45	1.75	.95	.48	-.25
6	11.49	10.66	4.94	4.41	4.00	3.26	3.07	2.18	1.84	.73	.94	-.09
7	11.02	10.39	4.95	4.36	3.75	3.10	2.60	1.61	1.39	.55	1.24	.45
8	10.76	10.04	5.14	4.17	3.76	2.92	2.30	1.29	1.43	.63	1.49	.75
9	10.40	9.72	5.21	4.46	3.31	2.37	1.96	.82	1.49	.66	1.68	.85
10	10.26	9.61	5.05	4.27	3.10	1.34	1.43	.59	1.67	.85	1.70	.55
11	10.55	9.89	4.88	4.11	1.54	.54	1.72	.94	1.67	.64	1.59	.58
12	10.87	10.21	4.97	4.09	1.25	.37	1.88	1.20	.79	-.07	1.86	.96
13	11.04	9.75	4.52	3.88	1.38	.65	1.69	1.02	1.10	-.13	1.37	-.32
14	9.94	8.65	4.64	3.97	1.52	.78	1.66	1.00	1.75	.79	1.69	-.32
15	8.98	8.01	4.51	3.73	2.08	1.08	1.66	1.04	1.69	1.19	2.24	1.52
16	8.36	7.46	4.52	3.82	2.59	1.72	1.66	1.11	1.65	1.02	1.96	1.59
17	7.90	7.04	4.33	3.74	2.64	2.03	1.74	.91	1.90	1.01	1.75	.88
18	7.83	7.08	4.24	3.57	2.99	2.17	2.18	1.22	1.91	1.30	1.27	.57
19	8.37	7.43	3.85	3.21	2.94	2.36	2.36	1.56	1.80	1.14	.93	.35
20	8.64	7.95	3.77	3.10	3.00	2.04	2.45	1.71	1.62	.81	.80	.21
21	8.82	8.17	3.82	3.05	3.07	2.34	2.52	1.56	1.37	.58	.88	.42
22	8.96	8.30	3.84	3.06	3.09	2.21	1.87	1.01	1.05	.43	.95	.46
23	8.96	8.25	3.86	3.00	2.90	1.97	1.89	1.26	1.36	.60	.96	.35
24	8.86	8.13	3.76	2.73	2.83	1.85	1.95	1.25	1.91	1.19	.80	.04
25	8.95	8.02	3.13	2.27	3.09	2.39	2.04	1.46	1.98	1.22	.48	-.09
26	8.62	7.54	3.31	2.49	3.15	2.51	2.12	1.29	1.69	.71	.69	-.05
27	8.05	6.93	3.27	2.60	3.19	2.39	1.55	.91	1.01	.41	.59	-.17
28	7.32	6.36	3.30	2.68	2.66	2.04	1.53	1.00	.91	.36	.31	-.25
29	6.77	5.96	3.26	2.64	2.39	1.83	2.05	1.21	---	---	.17	-.32
30	6.39	5.60	3.39	2.89	2.35	1.90	2.55	1.74	---	---	.16	-.42
31	5.87	5.09	---	---	2.16	1.68	2.20	1.67	---	---	.15	-.41
MONTH	12.76	5.09	5.70	2.27	4.01	.37	3.38	.59	1.98	-.13	2.24	-.42

## GROUND-WATER LEVELS

483

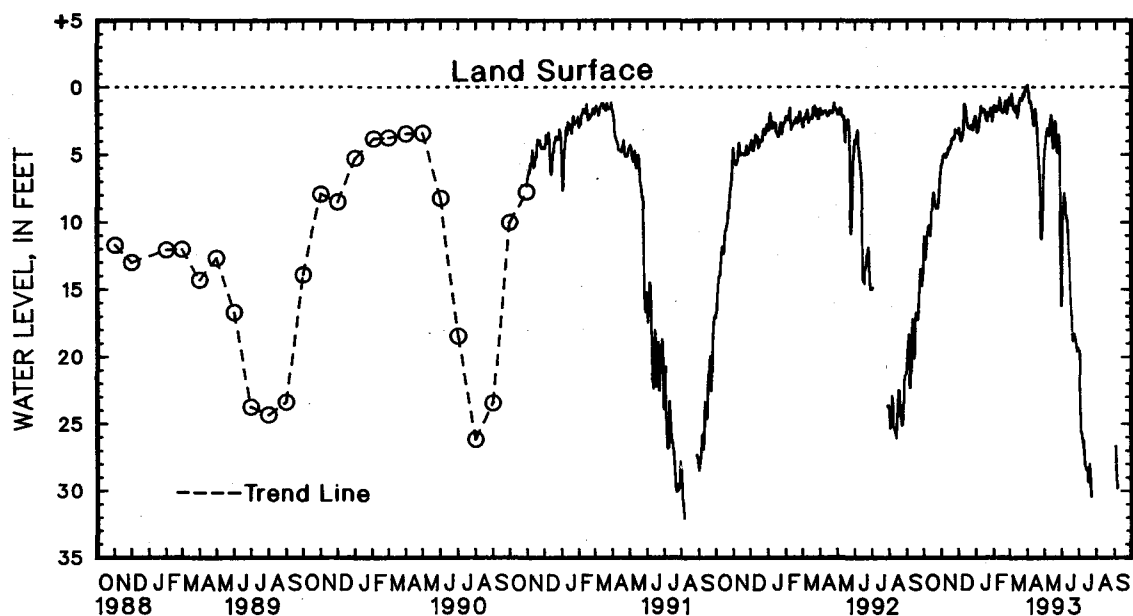
MARYLAND--Continued

WORCESTER COUNTY--Continued

WO Bh 98--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	-1.13	-1.60	4.75	4.00	16.21	12.27	19.58	18.77	---	---	---	---
2	-1.18	-1.89	4.40	3.55	12.27	9.10	19.81	18.81	---	---	---	---
3	.28	-1.69	4.06	3.06	9.35	7.73	22.30	19.76	---	---	26.70	26.01
4	.41	-1.24	3.60	2.58	8.14	6.96	24.20	22.30	---	---	28.49	26.36
5	1.14	-1.23	3.32	2.39	7.85	6.96	25.66	24.20	---	---	29.33	28.49
6	1.06	.04	3.07	2.10	8.53	7.37	25.72	24.74	---	---	29.79	27.60
7	1.03	.23	3.08	2.23	9.18	8.22	26.11	24.94	---	---	---	---
8	1.22	.42	3.05	2.28	9.43	8.60	26.40	25.54	---	---	---	---
9	1.64	.51	3.61	2.32	9.51	8.82	26.25	25.22	---	---	---	---
10	2.01	1.00	3.45	2.38	9.74	9.01	26.84	25.79	---	---	---	---
11	2.57	1.41	2.74	2.26	9.89	9.32	27.53	26.66	---	---	---	---
12	2.85	2.03	2.55	1.86	10.63	9.69	28.11	27.32	---	---	---	---
13	2.32	1.67	2.06	1.64	12.04	10.46	28.31	27.41	---	---	---	---
14	1.74	1.36	2.30	1.42	12.70	12.04	28.43	27.66	---	---	---	---
15	1.61	1.15	3.73	2.09	14.40	12.09	28.32	25.94	---	---	---	---
16	1.91	1.08	4.50	3.61	15.67	14.40	28.33	26.75	---	---	---	---
17	2.56	1.67	4.50	3.16	16.35	15.55	29.30	28.33	---	---	---	---
18	3.01	2.36	3.46	2.39	16.87	16.24	29.32	28.17	---	---	---	---
19	3.95	2.46	2.74	1.85	18.47	16.72	29.37	26.50	---	---	---	---
20	4.99	3.90	2.55	1.76	18.86	18.19	28.00	26.11	---	---	---	---
21	5.80	4.99	2.70	2.00	18.64	17.67	28.99	27.93	---	---	---	---
22	6.42	5.60	3.59	2.54	18.30	17.59	29.97	28.84	---	---	---	---
23	7.53	6.28	4.76	3.44	18.46	17.75	30.43	29.55	---	---	---	---
24	9.49	7.46	4.84	3.62	18.63	17.92	---	---	---	---	---	---
25	11.12	9.49	4.02	3.08	18.80	18.05	---	---	---	---	---	---
26	11.29	10.35	3.54	2.76	19.15	18.31	---	---	---	---	---	---
27	10.71	9.26	3.62	2.71	19.60	18.85	---	---	---	---	---	---
28	9.26	6.71	4.38	3.17	19.37	18.70	---	---	---	---	---	---
29	6.71	5.47	8.96	4.05	19.42	18.67	---	---	---	---	---	---
30	5.47	4.70	14.20	8.96	---	---	---	---	---	---	20.61	19.28
31	---	---	16.25	14.20	---	---	---	---	---	---	---	---
MONTH	11.29	-.89	16.25	1.42	19.60	6.96	30.43	18.77	---	---	29.79	19.28
YEAR	30.43	-.89										

Daily Low Water Levels



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

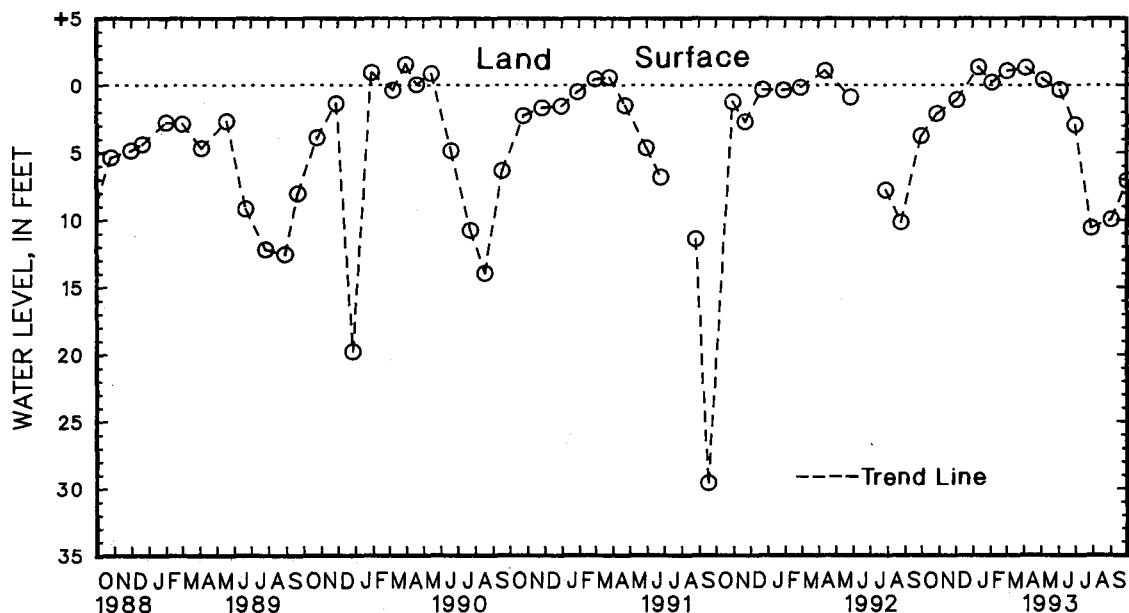
MARYLAND--Continued

WORCESTER COUNTY--Continued

WELL NUMBER.--WO Cg 72. SITE ID.--381939075052101. PERMIT NUMBER.--WO-73-1304.  
 LOCATION.--Lat 38°19'39", long 75°05'21", Hydrologic Unit 02060010, at South Division St., Ocean City.  
 Owner: Town of Ocean City.  
 AQUIFER.--Manokin aquifer of Miocene age. Aquifer code: 122MNKN.  
 WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 450 ft; casing diameter 4 in., to 384 ft, 394 to 404 ft, and 424 to 445 ft; screen diameter 4 in. from 384 to 394 ft, 404 to 424 ft, and 445 to 450 ft.  
 INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.  
 DATUM.--Elevation of land surface is 5 ft above National Geodetic Vertical Datum of 1929, from topographic map.  
 Measuring point: Top of 6 in. flange, 3.2 ft above land surface.  
 REMARKS.--Ocean City ground-water monitoring network well. Water levels affected by nearby pumping.  
 PERIOD OF RECORD.--January 1985 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.58 ft above land surface, March 30, 1990, lowest measured, 29.85 ft below land surface, July 14, 1986.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
 (READINGS ABOVE LAND SURFACE INDICATED BY "+")

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	2.10	JAN 11	+1.37	MAR 3	+1.10	MAY 6	+4.42	JUN 30	2.95	SEP 2	9.98
DEC 4	1.09	FEB 4	+2.23	APR 5	+1.33	JUN 4	.33	JUL 29	10.63	30	7.11
WATER YEAR 1993		HIGHEST	+1.37	JAN 11, 1993		LOWEST	10.63	JUL 29, 1993			



## GROUND-WATER LEVELS

MARYLAND--Continued

WORCESTER COUNTY--Continued

WELL NUMBER.--WO Dd 7. SITE ID.--381037075234301.

LOCATION.--Lat 38°10'37", long 75°23'43", Hydrologic Unit 02060009, near intersection of Green and Commerce Sts., Snow Hill.

Owner: City of Snow Hill.

AQUIFER.--Manokin aquifer of Miocene age. Aquifer code: 122MNKN.

WELL CHARACTERISTICS.--Drilled, unused, artesian well, depth 290 ft; casing diameter 6 in.; casing length unknown.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 13 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of casing extension, 0.40 ft below land surface.

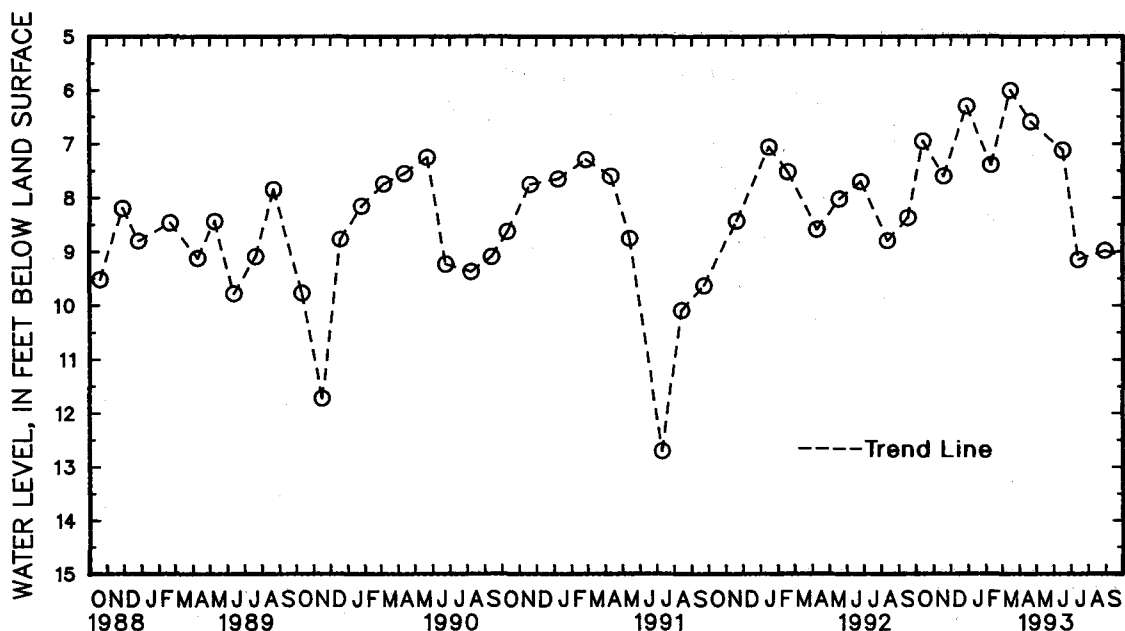
REMARKS.--Maryland Water-Level Network observation well. Water levels affected by nearby pumping.

PERIOD OF RECORD.--July 1958 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.63 ft below land surface, March 8, 1962; lowest measured, 38.02 ft below land surface, Sept. 17, 1970.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 13	6.95	DEC 29	6.30	MAR 16	6.00	JUN 16	7.12	AUG 30	8.99
NOV 18	7.60	FEB 9	7.39	APR 21	6.59	JUL 14	9.16		
WATER YEAR 1993		HIGHEST	6.00	MAR 16, 1993		LOWEST	9.16	JUL 14, 1993	



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

## GROUND-WATER LEVELS

## MARYLAND--Continued

## WORCESTER COUNTY--Continued

WELL NUMBER.--WO De 36. SITE ID.--381457075174101. PERMIT NUMBER.--WO-73-0515.

LOCATION.--Lat 38°14'57", long 75°17'41", Hydrologic Unit 02060010, at Newark.

Owner: U.S. Geological Survey.

AQUIFER.--Manokin aquifer of Miocene age. Aquifer code: 122MNKN.

WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 330 ft; casing diameter 4 in., to 320 ft; screen diameter 2 in. from 320 to 330 ft.

INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.

DATUM.--Elevation of land surface is 30 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of 4 in. coupling, 1.84 ft above land surface.

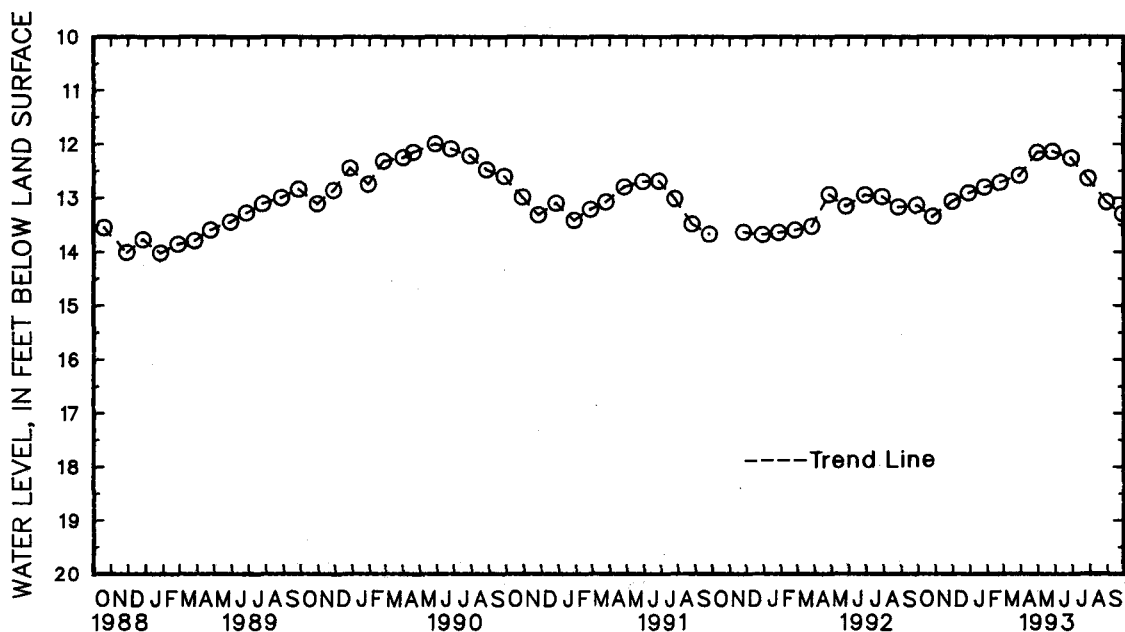
REMARKS.--Maryland Water-Level Network observation well.

PERIOD OF RECORD.--September 1975 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 11.62 ft below land surface, May 20, 1976, lowest measured, 14.75 ft below land surface, Oct. 22, 1975.

## WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 27	13.35	DEC 29	12.91	FEB 23	12.72	APR 29	12.16	JUN 28	12.26	AUG 30	13.08
NOV 30	13.07	JAN 26	12.80	MAR 29	12.59	MAY 26	12.14	JUL 28	12.64	SEP 28	13.30
WATER YEAR 1993		HIGHEST	12.14	MAY 26, 1993	LOWEST	13.35	OCT 27, 1992				



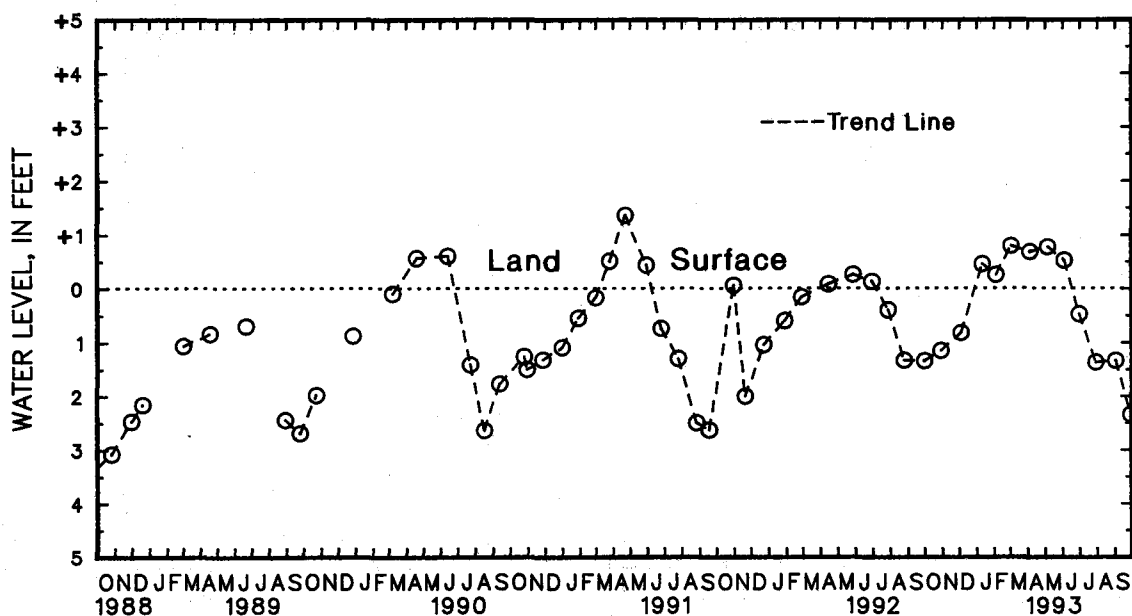
5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993

GROUND-WATER LEVELS  
MARYLAND--Continued  
WORCESTER COUNTY--Continued

WELL NUMBER.--WO Dg 21. SITE ID.--381427075081102. PERMIT NUMBER.--WO-73-0519.  
LOCATION.--Lat 38°14'27", long 75°08'11", Hydrologic Unit 020060010, at Assateague Island State Park.  
Owner: U.S. Geological Survey.  
AQUIFER.--Manokin aquifer of Miocene age. Aquifer code: 122MNKN.  
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 310 ft; casing diameter 4 in., to 300 ft; screen diameter 2 in. from 300 to 310 ft.  
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel, November 1990 to current year. Periodic measurements with chalked steel tape October 1975, to April 1985. Equipped with digital water-level recorder--60-minute recording interval, April 1985 to October 1990.  
DATUM.--Elevation of land surface is 6 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of recorder shelf, 4.06 ft above land surface.  
REMARKS.--Ocean City ground-water monitoring network well. Water levels affected by nearby pumping.  
PERIOD OF RECORD.--October 1975 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 1.37 ft above land surface, April 22, 1991; lowest recorded, 5.25 ft below land surface, Aug. 25, 1986.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
(READINGS ABOVE LAND SURFACE INDICATED BY "+")

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	1.15	JAN 11	+ .46	MAR 3	+ .81	MAY 6	+ .78	JUN 30	.47	SEP 2	1.34
DEC 4	.82	FEB 4	+ .26	APR 5	+ .69	JUN 4	+ .53	JUL 29	1.37	SEP 29	2.35
WATER YEAR 1993		HIGHEST		+ .81 MAR 3, 1993		LOWEST		2.35 SEP 29, 1993			



5 YEAR HYDROGRAPH  
OCTOBER 1, 1988 THROUGH SEPTEMBER 30, 1993





## GROUND-WATER QUALITY RECORDS

## REMARK CODES

The following remark codes may appear with the water-quality data in this section:

<u>PRINTED OUTPUT</u>	<u>REMARK</u>
E	Estimated value.
>	Actual value is known to be greater than the value shown.
<	Actual value is known to be less than the value shown.
K	Results based on colony count outside the acceptance range (non-ideal colony count).
L	Biological organism count less than 0.5 percent (organism may be observed rather than counted).
D	Biological organism count equal to or greater than 15 percent (dominant).
&	Biological organism estimated as dominant.

## Dissolved Trace-Element Concentrations

**NOTE**--Traditionally, dissolved trace-element concentrations have been reported at the microgram per liter (ug/L) level. Recent evidence, mostly from large rivers, indicates that actual dissolved-phase concentrations for a number of trace elements are within the range of 10's to 100's of nanograms per liter (ng/L). Present data above the ug/L level should be viewed with caution. Such data may actually represent elevated environmental concentrations from natural or human causes; however, these data could reflect contamination introduced during sampling, processing, or analysis. To confidently produce dissolved trace-element data with insignificant contamination, the U.S. Geological Survey will begin using new trace-element protocols in water year 1994.

## MBAS

**NOTE**--MBAS determinations made from January 1, 1970 through August 29, 1993, at the National Water Quality Laboratory in Denver (Analyzing Agency Code 80020) are positively biased. These data can be corrected on the basis of the following equation, if concentrations of dissolved nitrate plus nitrite, as nitrogen, and dissolved chloride, determined concurrently with the MBAS data, are applied:

$$MBASCOR = M - 0.0088N - 0.00019C$$

where:

MBASCOR = corrected MBAS concentration, in mg/L;  
 M = reported MBAS concentration, in mg/L;  
 N = dissolved nitrate plus nitrite, as nitrogen, concentration, in mg/L; and  
 C = dissolved chloride concentration, in mg/L.

The detection limit of the new method is 0.02 mg/L, whereas the detection limit for the old method was 0.01 mg/L. A detection limit of 0.02 mg/L should be used with corrected MBAS data from January 1, 1970 through August 29, 1993.

## QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

## NEW CASTLE COUNTY, DELAWARE

WELL NUMBER	DATE	TIME	STATION	NUMBER	GEO- LOGIC UNIT	SITE	SAM- PLING METHOD, CODES	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	DEPTH OF WELL, TOTAL (FEET)	DEPTH TO TOP OF SAMPLE INTER- VAL (FT)
Bb25-28	09-22-93	1530	394835075401501	300WSCK	GW		4040	--	220.00	--
Bc21-07	09-22-93	1141	394826075391601	300WSCK	GW		4040	5.81	205.00	--
Bc21-09	09-30-93	1208	394841075392001	300WSCK	GW		4040	4.62	260.00	--
Bc34-14	09-20-93	1514	394754075365101	300WSCK	GW		4040	28.90	312.00	--
	09-30-93	1530		300WSCK	GW		4040	28.06	300.00	--
Bc42-22	09-28-93	1308	394612075384501	300WSCK	GW		4040	25.53	175.00	--
Cc11-16	09-29-93	1419	394407075390901	300WLMG	GW		4040	12.35	100.00	--
Eb44-19	11-09-92	1030	393156075413101	211MLRL	GW		4040	38.15	45.00	40
Ec41-16	11-09-92	1330	393112075392701	211MLRL	GW		4040	15.40	44.00	39
Fb34-21	11-03-92	1400	392704075413301	125RCCS	GW		4040	31.50	72.00	67
Fb34-22	11-04-92	1030	392704075413302	125RCCS	GW		4040	31.39	40.00	35
Fb42-06	11-02-92	1120	392657075434702	125RCCS	GW		4040	14.08	71.00	66
Fb42-07	11-03-92	1050	392657075434701	125RCCS	GW		4040	14.25	40.00	35
Fc12-20	11-09-92	1530	392931075380602	125RCCS	GW		4040	24.06	35.00	30
Fc21-12	11-04-92	1500	392846075390701	125RCCS	GW		4040	29.68	65.00	60
Fc21-13	11-04-92	1330	392846075390702	125RCCS	GW		4040	28.68	40.00	35

	DEPTH TO BOT- TOM OF SAMPLE INTER- VAL (FT)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	PUMP OR FLOW PERIOD PRIOR TO SAM- PLING (MIN)	FLOW RATE, INSTAN- TANEOUS (G/M)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TEMPER- ATURE AIR (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)
Bb25-28	--	230	60	7.6	286	7.0	13.0	19.0	0.4	34
Bc21-07	--	10.0	34	6.1	168	8.2	14.5	18.5	3.0	22
Bc21-09	--	201	22	12	274	7.0	13.0	14.0	3.8	37
Bc34-14	--	321	39	7.9	344	6.1	13.5	15.5	0.4	42
	--	355	30	5.9	145	7.0	13.0	12.5	0.6	14
Bc42-22	--	237	36	9.5	184	6.0	13.0	19.0	1.6	16
Cc11-16	--	140	29	4.4	184	6.4	14.0	18.0	5.2	13
Eb44-19	45	65.0	20	1.5	312	6.1	9.0	12.0	8.2	42
Ec41-16	44	50.0	36	1.3	328	7.7	13.5	6.0	8.7	58
Fb34-21	72	60.0	70	0.1	128	5.8	15.5	24.5	6.0	7.8
Fb34-22	40	60.0	18	0.3	340	5.8	14.5	15.5	10.5	11
Fb42-06	71	60.0	27	1.2	173	6.6	13.5	10.0	0.5	11
Fb42-07	40	60.0	25	0.5	137	6.6	14.5	21.0	2.6	9.8
Fc12-20	35	40.0	6	1.2	166	5.2	15.0	6.0	8.4	10
Fc21-12	65	40.0	53	0.3	109	5.5	15.0	16.0	4.4	7.9
Fc21-13	40	40.0	18	0.3	446	5.1	14.0	16.0	E10.8	28

Geologic unit (aquifer): 125RCCS - Rancocas Formation  
 211MLRL - Mount Laurel Sand  
 300WLMG - Wilmington Complex  
 300WSCK - Wissahickon Formation

Site type: GW - Groundwater

Sampling method: 4040 - Submersible pump

## QUALITY OF GROUND WATER

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

NEW CASTLE COUNTY, DELAWARE--Continued

WELL NUMBER	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY WAT WH TOT FET FIELD (MG/L AS CACO3)	ALKA- LITY WAT WH TOT IT FIELD (MG/L AS CACO3)	BICAR- BONATE WATER WH IT FIELD (MG/L AS HCO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)
Bb25-28	7.2	7.8	2.5	76	--	--	46	8.8	<0.10	21
Bc21-07	2.1	5.2	1.5	55	--	--	13	4.3	<0.10	18
Bc21-09	8.6	6.9	2.7	93	--	--	26	5.7	0.10	27
Bc34-14	3.4	17	2.6	--	76	--	40	28	0.10	23
Bc42-22	2.4	8.2	3.0	39	--	--	15	5.9	0.20	20
Cc11-16	3.9	7.1	3.7	25	--	--	33	13	0.10	23
Eb44-19	9.4	6.0	3.1	50	--	--	8.4	8.5	<0.10	30
Ec41-16	3.2	8.0	2.5	--	29	35	80	5.6	0.30	15
Fb34-21	2.8	3.2	2.1	--	113	138	12	17	0.40	15
Fb34-22	3.0	7.6	3.6	9	9	11	0.30	11	<0.10	21
Fb42-06	9.1	34	3.1	--	27	33	15	64	<0.10	14
Fb42-07	4.7	2.8	2.7	--	55	67	10	2.5	0.30	24
Fc12-20	4.8	3.7	2.7	--	47	57	3.4	3.2	0.30	34
Fe21-12	4.1	7.5	3.7	--	5	6	0.50	39	<0.10	15
Fe21-13	2.3	5.3	3.4	--	11	13	2.2	10	<0.10	16
	9.5	32	4.0	--	9	11	0.30	88	<0.10	15
	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)
Bb25-28	183	--	<0.010	0.140	0.020	--	<0.010	--	23	<0.5
Bc21-07	110	1.19	0.010	1.20	0.020	--	0.010	--	<2	<0.5
Bc21-09	177	--	<0.010	2.90	0.020	--	<0.010	--	14	<0.5
Bc34-14	208	--	<0.010	0.230	0.090	--	0.040	--	7	<0.5
Bc42-22	91	--	<0.010	0.200	0.020	--	<0.010	--	16	<0.5
Cc11-16	124	--	<0.010	0.630	0.020	--	<0.010	--	40	<0.5
Eb44-19	112	--	<0.010	3.20	0.020	--	0.030	--	53	<0.5
Ec41-16	--	--	<0.010	9.40	<0.010	<0.20	0.810	20	--	--
Fb34-21	--	--	<0.010	0.090	0.010	<0.20	0.020	20	--	--
Fb34-22	--	7.19	0.010	7.20	0.090	<0.20	<0.010	<20	--	--
Fb42-06	--	--	<0.010	7.60	0.050	<0.20	<0.010	<20	--	--
Fb42-07	--	--	0.010	<0.020	0.010	<0.20	0.030	<20	--	--
Fc12-20	--	--	<0.010	<0.020	0.020	<0.20	0.100	<20	--	--
Fe21-12	--	--	<0.010	2.10	<0.010	<0.20	0.020	<20	--	--
Fe21-13	--	--	<0.010	6.00	0.010	<0.20	0.010	<20	--	--
	--	--	<0.010	15.0	0.050	<0.20	<0.010	30	--	--
	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	NICKEL, DIS- SOLVED (UG/L AS NI)	SILVER, DIS- SOLVED (UG/L AS AG)
Bb25-28	<1.0	<5	<3	<10	160	<10	<4	86	<10	<1.0
Bc21-07	<1.0	<5	<3	<10	12	<10	<4	2	<10	<1.0
Bc21-09	<1.0	<5	<3	<10	67	<10	<4	28	<10	<1.0
Bc34-14	<1.0	<5	<3	<10	30	<10	<4	85	<10	<1.0
Bc42-22	<1.0	<5	<3	<10	250	<10	<4	66	<10	<1.0
Cc11-16	1.0	<5	<3	<10	150	<10	<4	63	<10	<1.0
Eb44-19	<1.0	9	<3	50	10	<10	<4	2	<10	<1.0
Ec41-16	--	--	--	--	10	--	--	14	--	--
Fb34-21	--	--	--	--	100	--	--	280	--	--
Fb34-22	--	--	--	--	11	--	--	220	--	--
Fb42-06	--	--	--	--	9	--	--	330	--	--
Fb42-07	--	--	--	--	21000	--	--	170	--	--
Fc12-20	--	--	--	--	8200	--	--	1400	--	--
Fe21-12	--	--	--	--	14	--	--	41	--	--
Fe21-13	--	--	--	--	12	--	--	29	--	--
	--	--	--	--	59	--	--	390	--	--

## NEW CASTLE COUNTY, DELAWARE--Continued

WELL NUMBER	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	RADON 222 TOTAL (PCI/L)	RN-222 2 SIGMA WATER, WHOLE, TOTAL, (PCI/L)	HARD- NESS TOTAL (MG/L AS CACO3)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	BROMO- FORM TOTAL (UG/L)	BENZENE TOTAL (UG/L)	CARBON- TETRA- CHLO- RIDE TOTAL (UG/L)
Bb25-28	140	<6	<3	550	39	110	--	<0.2	<0.2	<0.2
Bc21-07	74	<6	<3	1100	44	64	--	<0.2	<0.2	<0.2
Bc21-09	130	<6	9	150	31	130	--	<0.2	<0.2	<0.2
Bc34-14	320	<6	<3	410	36	120	--	<0.2	<0.2	<0.2
	100	<6	<3	<80	28	45	--	--	--	--
Bc42-22	110	<6	<3	160	31	56	--	<0.2	<0.2	<0.2
Ce11-16	45	<6	11	1000	38	71	--	<0.2	<0.2	1.5
Eb44-19	--	--	--	440	25	120	1.2	--	--	--
Ec41-16	--	--	--	570	26	160	0.4	--	--	--
Fb34-21	--	--	--	--	--	32	0.1	--	--	--
Fb34-22	--	--	--	33	24	65	1.7	--	--	--
Fb42-06	--	--	--	470	24	47	1.5	--	--	--
Fb42-07	--	--	--	490	25	44	3.9	--	--	--
Fc12-20	--	--	--	820	37	42	0.3	--	--	--
Fc21-12	--	--	--	1300	42	29	<0.1	--	--	--
Fc21-13	--	--	--	920	27	110	<0.1	--	--	--
	CHLORO- BENZENE TOTAL (UG/L)	CHLORO- DI- BROMO- METHANE TOTAL (UG/L)	CHLORO- FORM TOTAL (UG/L)	DI- CHLORO- BROMO- METHANE TOTAL (UG/L)	DI- CHLORO- DI- FLUORO- METHANE TOTAL (UG/L)	ETHYL- BENZENE TOTAL (UG/L)	FREON- 113 WATER UNFLTRD REC (UG/L)	METHYL- ENE CHLO- RIDE TOTAL (UG/L)	STYRENE TOTAL (UG/L)	TETRA- CHLORO- ETHYL- ENE TOTAL (UG/L)
Bb25-28	<0.20	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<0.2	<0.2
Bc21-07	<0.20	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<0.2	<0.2
Bc21-09	<0.20	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<0.2	<0.2
Bc34-14	<0.20	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<0.2	<0.2
	--	--	--	--	--	--	--	--	--	--
Bc42-22	<0.20	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<0.2	<0.2
Ce11-16	<0.20	<0.2	0.2	<0.2	<0.2	<0.2	<0.5	<0.2	<0.2	<0.2
Eb44-19	--	--	--	--	--	--	--	--	--	--
Ec41-16	--	--	--	--	--	--	--	--	--	--
Fb34-21	--	--	--	--	--	--	--	--	--	--
Fb34-22	--	--	--	--	--	--	--	--	--	--
Fb42-06	--	--	--	--	--	--	--	--	--	--
Fb42-07	--	--	--	--	--	--	--	--	--	--
Fc12-20	--	--	--	--	--	--	--	--	--	--
Fc21-12	--	--	--	--	--	--	--	--	--	--
Fc21-13	--	--	--	--	--	--	--	--	--	--
	TRI- CHLORO- FLUORO- METHANE TOTAL (UG/L)	TRI- CHLORO- TOLUENE TOTAL (UG/L)	TRI- CHLORO- ETHYL- ENE TOTAL (UG/L)	VINYL CHLO- RIDE TOTAL (UG/L)	XYLENE WATER UNFLTRD REC (UG/L)	1,1-DI- CHLORO- ETHANE TOTAL (UG/L)	1,1-DI- CHLORO- ETHYL- ENE TOTAL (UG/L)	1,1,1- TRI- CHLORO- ETHANE TOTAL (UG/L)	BENZENE O- CHLORO- WATER UNFLTRD REC (UG/L)	1,2-DI- CHLORO- ETHANE TOTAL (UG/L)
Bb25-28	<0.2	<0.2	<0.2	<0.2	<0.20	<0.2	<0.2	<0.2	<0.20	<0.2
Bc21-07	<0.2	<0.2	<0.2	<0.2	<0.20	<0.2	<0.2	<0.2	<0.20	<0.2
Bc21-09	<0.2	<0.2	<0.2	<0.2	<0.20	<0.2	<0.2	<0.2	<0.20	<0.2
Bc34-14	<0.2	<0.2	<0.2	<0.2	<0.20	<0.2	<0.2	<0.2	<0.20	<0.2
	--	--	--	--	--	--	--	--	--	--
Bc42-22	<0.2	<0.2	<0.2	<0.2	<0.20	<0.2	<0.2	<0.2	<0.20	<0.2
Ce11-16	<0.2	0.5	<0.2	<0.2	0.30	<0.2	<0.2	<0.2	<0.20	<0.2
Eb44-19	--	--	--	--	--	--	--	--	--	--
Ec41-16	--	--	--	--	--	--	--	--	--	--
Fb34-21	--	--	--	--	--	--	--	--	--	--
Fb34-22	--	--	--	--	--	--	--	--	--	--
Fb42-06	--	--	--	--	--	--	--	--	--	--
Fb42-07	--	--	--	--	--	--	--	--	--	--
Fc12-20	--	--	--	--	--	--	--	--	--	--
Fc21-12	--	--	--	--	--	--	--	--	--	--
Fc21-13	--	--	--	--	--	--	--	--	--	--

## NEW CASTLE COUNTY, DELAWARE--Continued

[illegible][illegible][illegible]

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

## NEW CASTLE COUNTY. DELAWARE--Continued

[illegible][illegible][illegible]

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NEW CASTLE COUNTY, DELAWARE--Continued

[illegible]

QUALITY OF GROUND WATER  
WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
SUSSEX COUNTY, DELAWARE

SITE	DATE	TIME	STATION	NUMBER	GEO-LOGIC UNIT	SITE	SAM-PLING METHOD, CODES	DEPTH OF WELL, TOTAL (FEET)
E-14	04-08-93	1430	384338075222601	112CLMB	MP		4080	13.00
E-7	04-08-93	1130	384351075225601	112CLMB	MP		4080	13.00
Redden-B	04-07-93	1100	384429075235302	112CLMB	MP		4080	1.70

	DEPTH TO TOP OF SAMPLE INTERVAL (FT)	DEPTH TO BOTTOM OF SAMPLE INTERVAL (FT)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	FLOW RATE, INSTANTANEOUS (G/M)	SPECIFIC CONDUCTANCE (US/CM)	PH WATER WHOLE FIELD (STANDARD AIR UNITS)	TEMPERATURE WATER (DEG C)	TEMPERATURE AIR (DEG C)
E-14	--	--	50.6	--	359	6.7	8.5	20.0
E-7	--	--	48.8	--	473	7.0	9.5	15.0
Redden-B	1.6	1.7	--	0.5	56	3.8	9.0	--

	OXYGEN, DIS-SOLVED (MG/L)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNESIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	ALKALINITY WAT WH TOT IT FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)
E-14	10.1	33	12	5.8	27	30	29	<0.10
E-7	5.5	11	47	3.3	102	54	26	<0.10
Redden-B	1	0.53	0.56	3.6	0	6.4	6.6	<0.10

	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITROGEN, NITRITE DIS-SOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS N)	PHOSPHORUS ORTHO, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGANESE, DIS-SOLVED (UG/L AS MN)	HARDNESS TOTAL (MG/L AS CACO3)
E-14	3.3	<0.010	15.0	0.010	<0.010	<3	2	130
E-7	9.4	<0.010	6.70	0.010	<0.010	<3	24	220
Redden-B	9.7	<0.010	<0.050	0.040	<0.010	930	19	4

Geologic unit (aquifer): 112CLMB - Columbia Group

Site type: MP - Groundwater, mini piezometer

Sampling Method: 4080 - Peristaltic pump



## QUALITY OF GROUND WATER

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

ALLEGANY COUNTY, MARYLAND

WELL NUMBER	DATE	TIME	STATION	NUMBER	GEO- LOGIC UNIT	SITE	SAM- PLING METHOD, CODES	DEPTH OF WELL, TOTAL (FEET)	DEPTH TO TOP OF SAMPLE INTER- VAL (FT)	DEPTH TO BOT- TOM OF SAMPLE INTER- VAL (FT)
AL Ae 36	07-13-93	1430	394143078421301	344RMNY	GW		4040	40.00	29	40
AL Ai 26	07-13-93	1800	394311078245501	341JNGS	GW		4040	83.00	30	83
AL Cb 8	07-20-93	1330	393342078570901	321CNMG	GW		4040	86.00	34	86
AL Ce 4	07-13-93	1030	393438078420601	347ORSK	SP		4010	--	--	--

	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	PUMP OR FLOW PERIOD PRIOR TO SAM- PLING (MIN)	FLOW RATE, INSTAN- TANEOUS (G/M)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TEMPER- ATURE AIR (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
AL Ae 36	700	65	3.1	621	7.0	13.0	29.5	--	85	13
AL Ai 26	1250	128	2.8	193	6.5	13.0	29.0	--	13	8.8
AL Cb 8	2000	85	4.5	455	7.5	11.0	24.5	3.5	52	17
AL Ce 4	710	--	27	198	7.6	13.0	30.0	--	32	2.6

	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT WH TOT IT FIELD (MG/L AS CACO3)	BICAR- BONATE WATER WH IT FIELD (MG/L AS HCO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)
AL Ae 36	15	0.90	223	272	60	26	<0.10	18	374	<0.010
AL Ai 26	7.3	0.60	87	106	2.7	1.9	0.10	23	--	--
AL Cb 8	9.7	1.5	208	254	12	10	0.20	6.3	240	<0.010
AL Ce 4	1.9	0.80	89	109	10	0.80	<0.10	11	124	<0.010

	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)
AL Ae 36	<0.050	0.200	<0.010	0.030	<0.010	840	840	1100	1000	0.9
AL Ai 26	--	--	--	--	--	4300	2300	1300	1200	0.2
AL Cb 8	0.081	0.010	0.010	0.010	0.030	20	7	<10	5	0.2
AL Ce 4	0.140	0.030	0.070	0.060	0.070	20	<3	<10	<1	0.2

	HARD- NESS TOTAL (MG/L AS CACO3)	BROMO- FORM TOTAL (UG/L)	BENZENE TOTAL (UG/L)	CARBON- TETRA- CHLO- RIDE TOTAL (UG/L)	CHLORO- BENZENE TOTAL (UG/L)	CHLORO- DI- BROMO- METHANE TOTAL (UG/L)	CHLORO- FORM TOTAL (UG/L)	CHLORO- ETHANE TOTAL (UG/L)	DI- BROMO- METHANE WATER WHOLE RECOVER (UG/L)
AL Ae 36	270	--	--	--	--	--	--	--	--
AL Ai 26	69	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
AL Cb 8	200	--	--	--	--	--	--	--	--
AL Ce 4	91	--	--	--	--	--	--	--	--

Geologic unit (aquifer): 321CNMG - Conemaugh Formation  
 341JNGS - Jennings Formation  
 344RMNY - Romney Formation  
 347ORSK - Oriskany Group

Site type: GW - Groundwater  
 SP - Spring

Sampling method: 4010 - Thief Sample  
 4040 - Submersible pump

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

ALLEGANY COUNTY, MARYLAND--Continued

[illegible]

QUALITY OF GROUND WATER

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

ANNE ARUNDEL COUNTY, MARYLAND

WELL NUMBER	DATE	TIME	STATION	NUMBER	GEO- LOGIC UNIT	SITE	SAM- PLING METHOD, CODES	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	DEPTH OF WELL, TOTAL (FEET)	DEPTH TO TOP OF SAMPLE INTER- VAL (FT)
AA Ad 110	08-04-93	1630	391032076385907	217PFSC	GW		4040	7.68	28.00	18
AA Cg 25	08-11-93	1500	390127076240301	125AQUI	GW		4030	15.90	107.00	100
AA Df 103	08-10-93	0930	385623076274401	125AQUI	GW		4040	23.19	46.00	39

	DEPTH TO BOT- TOM OF SAMPLE INTER- VAL (FT)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	PUMP OR FLOW PERIOD PRIOR TO SAM- PLING (MIN)	FLOW RATE, INSTAN- TANEOUS (G/M)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TEMPER- ATURE AIR (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)
AA Ad 110	28	77.0	80	0.5	316	6.2	15.0	21.0	0.2	24
AA Cg 25	107	17.0	204	0.5	140	6.3	13.5	27.0	--	8.3
AA Df 103	46	22.0	75	2.7	196	5.5	14.5	23.5	--	8.7

	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT WH TOT IT MG/L AS CACO3	BICAR- BONATE WATER WH IT MG/L AS HCO3	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)
AA Ad 110	5.4	27	2.3	76	93	13	34	0.10	4.7
AA Cg 25	2.4	4.0	3.1	48	59	4.0	4.2	0.60	25
AA Df 103	3.4	16	2.5	20	24	11	33	<0.10	18

	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)
AA Ad 110	179	<0.010	<0.050	2.50	--	0.010	0.010	160	1	22
AA Cg 25	102	<0.010	<0.050	0.070	1.40	0.170	0.100	--	--	--
AA Df 103	124	<0.010	1.50	<0.010	0.060	0.040	0.050	--	--	--

	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)
AA Ad 110	<0.5	<1.0	2	<1	2	1600	1600	<1	<4
AA Cg 25	--	--	--	--	--	15000	14000	--	--
AA Df 103	--	--	--	--	--	830	35	--	--

	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	HARD- NESS TOTAL (MG/L AS CACO3)
AA Ad 110	170	170	<0.1	<1	<1	11	7	13	82
AA Cg 25	360	350	--	--	--	--	--	0.1	31
AA Df 103	<10	9	--	--	--	--	--	0.6	36

Geologic unit (aquifer): 125AQUI - Aquia Formation  
217PFSC - Patapsco Formation

Site type: GW - Groundwater

Sampling method: 4030 - Suction pump  
4040 - Submersible pump

## QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

ANNE ARUNDEL COUNTY, MARYLAND--Continued

[illegible]

## QUALITY OF GROUND WATER

501

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

BALTIMORE COUNTY, MARYLAND

WELL NUMBER	DATE	TIME	STATION	NUMBER	GEO- LOGIC UNIT	SITE	SAM- PLING METHOD, CODES	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	DEPTH OF WELL, TOTAL (FEET)	DEPTH TO TOP OF SAMPLE INTER- VAL (FT)
BA Dc 444	06-17-93	1330	392931076410301	300CCKV	GW		4040	37.54	300.00	88
	DEPTH TO BOT- TOM OF SAMPLE INTER- VAL (FT)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	PUMP OR FLOW PERIOD PRIOR TO SAM- PLING (MIN)	FLOW RATE, INSTAN- TANEOUS (G/M)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TEMPER- ATURE AIR (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)
	300	390	125	9.2	280	7.8	12.5	28.5	2.0	33
	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT WH TOT IT FIELD (MG/L AS CACO3)	BICAR- BONATE WATER WH IT FIELD (MG/L AS HCO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)
	15	1.6	1.5	142	173	1.7	3.2	<0.10	9.0	130
	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
	<0.010	0.250	0.040	<0.010	<0.010	0.010	2100	6	<10	2
	CARBON, ORGANIC TOTAL (MG/L AS C)	HARD- NESS TOTAL (MG/L AS CACO3)	1,2,3- TRI- CHLORO BENZENE WAT, WH REC (UG/L)	BROMO- BENZENE WATER, WHOLE, TOTAL (UG/L)	BROMO- FORM TOTAL (UG/L)	BENZENE TOTAL (UG/L)	CARBON- TETRA- CHLO- RIDE TOTAL (UG/L)	CHLORO- BENZENE TOTAL (UG/L)	CHLORO- DI- BROMO- METHANE TOTAL (UG/L)	CHLORO- FORM TOTAL (UG/L)
	0.5	140	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
	CHLORO- ETHANE TOTAL (UG/L)	CIS 1,3-DI- CHLORO- PROPENE TOTAL (UG/L)	DIBROMO CHLORO- PROPANE WATER WHOLE TOT.REC (UG/L)	DI- BROMO- METHANE WATER WHOLE RECOVER (UG/L)	DI- CHLORO- BROMO- METHANE TOTAL (UG/L)	DI- CHLORO- DI- FLUORO- METHANE TOTAL (UG/L)	ETHYL- BENZENE TOTAL (UG/L)	FREON- 113 WATER UNFLTRD REC (UG/L)	ISO- PROPYL- BENZENE WATER WHOLE REC (UG/L)	MESIT- YLENE WATER UNFLTRD REC (UG/L)
	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
	METHANE BROMO CHLORO- WAT UNFLTRD REC (UG/L)	METHYL- BROMIDE TOTAL (UG/L)	METHYL- CHLO- RIDE TOTAL (UG/L)	METHYL- ENE CHLO- RIDE TOTAL (UG/L)	BENZENE N-BUTYL WATER UNFLTRD REC (UG/L)	BENZENE N-PROPY WATER UNFLTRD REC (UG/L)	O- CHLORO- TOLUENE WATER WHOLE TOTAL (UG/L)	P-ISO- PROPYL- TOLUENE WATER WHOLE REC (UG/L)	TOLUENE P-CHLOR WATER UNFLTRD REC (UG/L)	PSEUDO- CUMENE WATER UNFLTRD REC (UG/L)
	<3.00	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0

Geologic unit (aquifer): 300CCKV - Cockeysville Marble

Site type: GW - Groundwater

Sampling method: 4040 - Submersible pump

## QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

BALTIMORE COUNTY, MARYLAND--Continued

WELL NUMBER	BENZENE SEC BUTYL- WATER UNFLTRD REC (UG/L)	STYRENE TOTAL (UG/L)	BENZENE TERT- BUTYL- WATER UNFLTRD REC (UG/L)	METHYL ETHER TERT- BUTYL WAT UNF REC (UG/L)	TETRA- CHLORO- ETHYL- ENE TOTAL (UG/L)	TRI- CHLORO- FLUORO- METHANE TOTAL (UG/L)	TOLUENE TOTAL (UG/L)	TRANS- 1,3-DI- CHLORO- PROPENE TOTAL (UG/L)	TRI- CHLORO- ETHYL- ENE TOTAL (UG/L)
BA Dc 444	<3.0	<3.0	<3.0	<5.0	<3.0	<3.0	<3.0	<3.0	<3.0
	TRI- FLURA- LIN TOTAL RECOVER (UG/L)	VINYL CHLO- RIDE TOTAL (UG/L)	XYLENE WATER UNFLTRD REC (UG/L)	1,1-DI- CHLORO- ETHANE TOTAL (UG/L)	1,1-DI- CHLORO- ETHYL- ENE TOTAL (UG/L)	1,1-DI- CHLORO- PRO- PENE, WAT, WH TOTAL (UG/L)	1,1,1- TRI- CHLORO- ETHANE TOTAL (UG/L)	1,1,2- TRI- CHLORO- ETHANE TOTAL (UG/L)	ETHANE, 1,1,2,2 TETRA- CHLORO- WAT UNF REC (UG/L)
	<0.10	<1.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
	ETHANE, 1112- TETRA- CHLORO- WAT UNF REC (UG/L)	1,2- DIBROMO ETHANE WATER WHOLE TOTAL (UG/L)	BENZENE O- CHLORO- WATER UNFLTRD REC (UG/L)	1,2-DI- CHLORO- ETHANE TOTAL (UG/L)	1,2-DI- CHLORO- PROPANE TOTAL (UG/L)	1,2- TRANS DI CHLORO- ETHENE TOTAL (UG/L)	123-TRI CHLORO- PROPANE WATER WHOLE TOTAL (UG/L)	BENZENE 1,2,4- TRI- CHLORO- WAT UNF REC (UG/L)	1,3-DI- CHLORO- PROPANE WAT. WH TOTAL (UG/L)
	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
	BENZENE 1,3-DI- CHLORO- WATER UNFLTRD REC (UG/L)	BENZENE 1,4-DI- CHLORO- WATER UNFLTRD REC (UG/L)	2- CHLORO- ETHYL- VINYL- ETHER TOTAL (UG/L)	2,2-DI- CHLORO- PRO- PANE WAT, WH TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	ACRO- LEIN TOTAL (UG/L)	ACRYLO- NITRILE TOTAL (UG/L)
	<3.0	<3.0	<3.0	<3.0	<0.01	<0.01	<0.01	<20	<20
	ALA- CHLOR TOTAL RECOVER (UG/L)	AME- TRYNE TOTAL (UG/L)	ATRA- ZINE WATER UNFLTRD REC (UG/L)	BUTA- CHLOR WATER WHLREC (UG/L)	BROM- ACIL WATER WHLREC (UG/L)	BUTYL- ATE WATER WHLREC (UG/L)	CARBOBX- IN WATER WHOLE RECOV- ERABLE (UG/L)	CIS-1,2 -DI- CHLORO- ETHENE WATER TOTAL (UG/L)	CYAN- AZINE TOTAL (UG/L)
	<0.10	<0.10	<0.1	<0.10	<0.20	<0.10	<0.20	<3.0	<0.20
	CYCLO- ATE WATER WHOLE RECOV- ERABLE (UG/L)	DEETHYL ATRA- ZINE, WATER, WHOLE, TOTAL (UG/L)	DE-ISO PROPYL ATRAZIN WATER, WHOLE, TOTAL (UG/L)	DIPHEN- AMID WATER WHOLE RECOV- ERABLE (UG/L)	HEXA- CHLORO- BUT- ADIENE TOTAL (UG/L)	HEXAZI- NONE WATER WHOLE RECOV- ERABLE (UG/L)	METOLA- CHLOR WATER WHOLE TOT.REC (UG/L)	METRI- BUZIN WATER WHOLE TOT.REC (UG/L)	NAPHTH- ALENE TOTAL (UG/L)
	<0.10	<0.20	<0.20	<0.10	<3.0	<0.20	<0.20	<0.10	<3.0
	PROME- TRYNE TOTAL (UG/L)	PROME- TONE TOTAL (UG/L)	PROPA- CHLOR WATER WHOLE RECOV. (UG/L)	PRO- PAZINE TOTAL (UG/L)	SILVEX, TOTAL (UG/L)	SIMA- ZINE TOTAL (UG/L)	SIME- TRYNE TOTAL (UG/L)	TER- BACIL WATER WHOLE RECOV. (UG/L)	VER- NOLATE WATER WHOLE RECOV. (UG/L)
	<0.10	<0.20	<0.10	<0.10	<0.01	<0.10	<0.10	<0.20	<0.10

## QUALITY OF GROUND WATER

503

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

CALVERT COUNTY, MARYLAND

WELL NUMBER	DATE	TIME	STATION	NUMBER	GEO- LOGIC UNIT	SITE	SAM- PLING METHOD, CODES	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	DEPTH OF WELL, TOTAL (FEET)
CA Fc 13	02-25-93	1115	382343076302901	122CSFK	GW		4040	27.69	34.00
	06-24-93	1430		122CSFK	GW		4040	24.94	34.00
CA Fc 15	02-25-93	1025	382340076303001	122CSFK	GW		4040	15.30	36.00
CA Fc 16	02-25-93	1036	382340076303002	122CSFK	GW		4040	15.59	23.00
CA Fc 18	02-25-93	0955	382340076303801	122CSFK	GW		4040	7.09	23.00
CA Fc 29	02-25-93	1350	382340076303402	111LLND	GW		4030	--	8.52
CA Fc 30	02-25-93	1345	382340076303403	111LLND	GW		4030	--	13.70
CA Fc 31	02-25-93	1315	382340076303802	111LLND	GW		4030	--	2.50
CA Fc 32	02-25-93	1310	382340076303803	111LLND	GW		4030	--	5.00
CA Fc 33	02-25-93	1215	382339076304201	111LLND	GW		4020	7.70	13.70
CA Fc 34	02-25-93	1230	382339076304202	111LLND	GW		4020	7.86	17.80
CA Fd 71	05-10-93	1730	382231076260001	217PPSC	GW		--	128.00	934.00

	DEPTH TO TOP OF SAMPLE INTER- VAL (FT)	DEPTH TO BOT- TOM OF SAMPLE INTER- VAL (FT)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	PUMP OR FLOW PERIOD PRIOR TO SAM- PLING (MIN)	FLOW RATE, INSTAN- TANEOUS (G/M)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TEMPER- ATURE AIR (DEG C)
CA Fc 13	29	34	47.4	10	1.0	618	--	14.5	-1.0
	29	35	51.0	65	0.4	553	7.2	16.5	31.5
CA Fc 15	31	36	30.6	20	0.9	573	--	13.5	-2.0
CA Fc 16	18	23	30.7	7	1.0	586	--	13.0	-2.0
CA Fc 18	18	23	15.6	15	1.0	622	--	11.5	-1.0
CA Fc 29	8.5	8.5	31.4	--	--	220	--	--	--
CA Fc 30	14	14	31.4	--	--	544	--	--	--
CA Fc 31	2.5	2.5	15.5	--	--	407	--	--	--
CA Fc 32	5.0	5.0	15.5	--	--	353	--	--	--
CA Fc 33	12	14	12.2	--	--	702	--	10.0	--
CA Fc 34	16	18	12.0	--	--	718	--	11.5	--
CA Fd 71	810	929	110	510	70	202	7.9	20.5	--

	OXYGEN, DIS- SOLVED (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT WH TOT IT FIELD (MG/L AS CACO3)	BICAR- BONATE WAT WH WH IT FIELD (MG/L AS HCO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
CA Fc 13	6.4	--	--	--	--	--	--	--	--
	7.2	93	6.4	9.6	3.7	220	268	20	10
CA Fc 15	7.4	--	--	--	--	--	--	--	--
CA Fc 16	7.2	--	--	--	--	--	--	--	--
CA Fc 18	7.9	--	--	--	--	--	--	--	--
CA Fc 29	--	--	--	--	--	--	--	--	--
CA Fc 30	--	--	--	--	--	--	--	--	--
CA Fc 31	--	--	--	--	--	--	--	--	--
CA Fc 32	--	--	--	--	--	--	--	--	--
CA Fc 33	3.2	--	--	--	--	--	--	--	--
CA Fc 34	2.9	--	--	--	--	--	--	--	--
CA Fd 71	--	0.69	0.36	44	4.4	--	--	5.1	1.9

Geologic Unit (aquifer): 111LLND - Lowland Deposits  
122CSFK - Chesapeake Group  
217PPSC - Patapsco Formation

Site type: GW - Groundwater

Sampling method: 4020 - Bailer  
4030 - Suction pump  
4040 - Submersible pump

## QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

CALVERT COUNTY, MARYLAND--Continued

WELL NUMBER	FLUO- RIDE, DIS- SOLVED (MG/L AS P)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)
CA Fc 13	--	--	--	7.48	0.020	7.50	0.020	<0.20	--
	0.20	19	336	--	<0.010	7.30	0.020	--	0.120
CA Fc 15	--	--	--	11.0	0.020	11.0	0.010	<0.20	--
CA Fc 16	--	--	--	9.99	0.010	10.0	0.010	<0.20	--
CA Fc 18	--	--	--	8.68	0.020	8.70	0.020	<0.20	--
CA Fc 29	--	--	--	--	0.010	<0.050	0.030	0.20	--
CA Fc 30	--	--	--	0.740	0.020	0.760	0.020	0.30	--
CA Fc 31	--	--	--	0.420	0.020	0.440	0.030	0.70	--
CA Fc 32	--	--	--	--	0.020	<0.050	0.020	0.40	--
CA Fc 33	--	--	--	2.71	0.090	2.80	0.020	<0.20	--
CA Fc 34	--	--	--	6.59	0.010	6.60	0.020	<0.20	--
CA Pd 71	0.30	11	126	--	--	--	--	--	--

	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)	HARD- NESS TOTAL (MG/L AS CaCO3)
CA Fc 13	--	0.140	--	--	--	--	--	--
	0.110	0.120	20	<3	<10	<1	0.4	260
CA Fc 15	--	0.200	--	--	--	--	--	--
CA Fc 16	--	0.180	--	--	--	--	--	--
CA Fc 18	--	0.150	--	--	--	--	--	--
CA Fc 29	--	<0.010	--	--	--	--	--	--
CA Fc 30	--	0.250	--	--	--	--	--	--
CA Fc 31	--	0.040	--	--	--	--	--	--
CA Fc 32	--	0.070	--	--	--	--	--	--
CA Fc 33	--	0.110	--	--	--	--	--	--
CA Fc 34	--	0.120	--	--	--	--	--	--
CA Pd 71	--	--	240	110	30	18	--	3



## QUALITY OF GROUND WATER

505

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

CAROLINE COUNTY, MARYLAND

WELL NUMBER	DATE	TIME	STATION	NUMBER	GEO- LOGIC UNIT	SITE	SAM- PLING METHOD, CODES	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	DEPTH OF WELL, TOTAL (FEET)
CO Dc 146	07-01-93	1500	385302075540101	112PCPC	GW		4040	7.79	20.00
CO De 16	07-01-93	1215	385009075445002	112CLMB	GW		4020	7.10	17.00
	DEPTH TO TOP OF SAMPLE INTER- VAL (FT)	DEPTH TO BOT- TOM OF SAMPLE INTER- VAL (FT)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	PUMP OR FLOW PERIOD PRIOR TO SAM- PLING (MIN)	FLOW RATE, INSTAN- TANEOUS (G/M)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TEMPER- ATURE AIR (DEG C)
CO Dc 146	17	20	45.0	68	0.5	181	5.1	14.5	29.0
CO De 16	14	17	61.0	--	--	383	4.5	15.5	27.0
	OXYGEN, DIS- SOLVED (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT WH TOT IT FIELD MG/L AS CACO3	BICAR- BONATE WATER WH IT FIELD MG/L AS HCO3	SULFATE DIS- SOLVED (MG/L AS SO4)	
CO Dc 146	8.9	6.5	11	2.1	3.0	3	3	11	
CO De 16	--	4.0	11	37	5.3	1	1	1.3	
	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	
CO Dc 146	15	<0.10	12	104	<0.010	9.40	<0.010	<0.010	
CO De 16	83	0.20	14	214	<0.010	8.40	0.030	0.020	
	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)	HARD- NESS TOTAL (MG/L AS CACO3)	
CO Dc 146	<0.010	<0.010	40	<3	10	17	0.8	62	
CO De 16	<0.010	<0.010	140	7	30	35	1.6	55	

Geologic unit (aquifer): 112CLMB - Columbia Group  
112PCPC - Pleistocene-Pliocene series

Site type: GW - Groundwater

Sampling method: 4020 - Bailer  
4040 - Submersible pump

## QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

## CARROLL COUNTY, MARYLAND

WELL NUMBER	DATE	TIME	STATION	NUMBER	GEO- LOGIC UNIT	SITE	SAM- PLING METHOD, CODES	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	DEPTH OF WELL, TOTAL (FEET)	DEPTH TO TOP OF SAMPLE INTER- VAL (FT)
CL Ae 1	05-04-93	1115	394200076551201	300MRBG	GW		4040	--	100.00	17
CL Bf 184	05-04-93	0945	393754076512401	300FRTB	GW		4030	0.93	340.00	50
	DEPTH TO BOT- TOM OF SAMPLE INTER- VAL (FT)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	PUMP OR FLOW PERIOD PRIOR TO SAM- PLING (MIN)	FLOW RATE, INSTAN- TANEOUS (G/M)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TEMPER- ATURE AIR (DEG C)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
CL Ae 1	100	1005	30	2.3	84	5.4	11.5	17.5	3.6	2.6
CL Bf 184	340	785	55	32	211	6.6	12.0	15.5	25	4.9
	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT WH TOT IT FIELD MG/L AS CACO3	BICAR- BONATE WAT WH TOT IT FIELD MG/L AS HCO3	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	NITRO- GEN, DIS- SOLVED (MG/L AS N)
CL Ae 1	5.6	0.60	6	7	0.60	15	<0.10	5.6	44	<0.010
CL Bf 184	3.9	0.50	36	44	3.7	11	<0.10	10	144	<0.010
	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)
CL Ae 1	1.30	0.020	<0.010	0.030	<0.010	40	45	10	5	0.5
CL Bf 184	7.80	0.010	0.020	0.010	0.010	330	19	10	4	0.3
	HARD- NESS TOTAL (MG/L AS CACO3)	1,2,3- TRI- CHLORO BENZENE WAT, WH REC (UG/L)	BROMO- BENZENE WATER, WHOLE, TOTAL (UG/L)	BROMO- FORM TOTAL (UG/L)	BENZENE TOTAL (UG/L)	CARBON- TETRA- CHLO- RIDE TOTAL (UG/L)	CHLORO- BENZENE TOTAL (UG/L)	CHLORO- DI- BROMO- METHANE TOTAL (UG/L)	CHLORO- FORM TOTAL (UG/L)	CHLORO- ETHANE TOTAL (UG/L)
CL Ae 1	20	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
CL Bf 184	83	--	--	--	--	--	--	--	--	--
	CIS 1,3-DI- CHLORO- PROPENE TOTAL (UG/L)	DIBROMO CHLORO- PROPANE WATER WHOLE TOT REC (UG/L)	DI- BROMO- METHANE WATER WHOLE RECOVER (UG/L)	DI- CHLORO- BROMO- METHANE TOTAL (UG/L)	DI- CHLORO- DI- FLUORO- METHANE TOTAL (UG/L)	ETHYL- BENZENE TOTAL (UG/L)	FREON- 113 WATER UNFLTRD REC (UG/L)	ISO- PROPYL- BENZENE WATER WHOLE REC (UG/L)	MESIT- YLENE WATER UNFLTRD REC (UG/L)	
CL Ae 1	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	
CL Bf 184	--	--	--	--	--	--	--	--	--	
	METHANE BROMO CHLORO- WAT UNFLTRD REC (UG/L)	METHYL- BROMIDE TOTAL (UG/L)	METHYL- CHLO- RIDE TOTAL (UG/L)	METHYL- CHLO- RIDE TOTAL (UG/L)	BENZENE N-BUTYL WATER UNFLTRD REC (UG/L)	BENZENE N-PROPYL WATER UNFLTRD REC (UG/L)	O- CHLORO- TOLUENE WATER WHOLE TOTAL (UG/L)	P-ISO- PROPYL- TOLUENE WATER WHOLE REC (UG/L)	TOLUENE P-CHLOR WATER UNFLTRD REC (UG/L)	
CL Ae 1	<3.00	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	
CL Bf 184	--	--	--	--	--	--	--	--	--	

Geologic unit (aquifer): 300FRTB - Prettyboy Schist  
300MRBG - Marburg Formation

Site type: GW - Groundwater

Sampling method: 4030 - Suction pump  
4040 - Submersible pump

## QUALITY OF GROUND WATER

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

CARROLL COUNTY, MARYLAND--Continued

WELL NUMBER	PSEUDO- CUMENE WATER UNFLTRD REC (UG/L)	BENZENE SEC BUTYL- WATER UNFLTRD REC (UG/L)	STYRENE TOTAL (UG/L)	BENZENE TERT- BUTYL- WATER UNFLTRD REC (UG/L)	METHYL ETHER TERT- BUTYL- WAT UNF REC (UG/L)	TETRA- CHLORO- ETHYL- ENE TOTAL (UG/L)	TRI- CHLORO- FLUORO- METHANE TOTAL (UG/L)	TOLUENE TOTAL (UG/L)	TRANS- 1,3-DI- CHLORO- PROPENE TOTAL (UG/L)
CL Ae 1 CL Bf 184	<3.0 --	<3.0 --	<3.0 --	<3.0 --	<5.0 --	<3.0 --	<3.0 --	<3.0 --	<3.0 --
	TRI- CHLORO- ETHYL- ENE TOTAL (UG/L)	TRI- FLURA- LIN TOTAL RECOVER (UG/L)	VINYL CHLO- RIDE TOTAL (UG/L)	XYLENE WATER UNFLTRD REC (UG/L)	1,1-DI- CHLORO- ETHANE TOTAL (UG/L)	1,1-DI- CHLORO- ETHYL- ENE TOTAL (UG/L)	1,1-DI- CHLORO- PRO- PENE, WAT, WH TOTAL (UG/L)	1,1,1- TRI- CHLORO- ETHANE TOTAL (UG/L)	1,1,2- TRI- CHLORO- ETHANE TOTAL (UG/L)
CL Ae 1 CL Bf 184	<3.0 --	<0.10 --	<1.0 --	<3.0 --	<3.0 --	<3.0 --	<3.0 --	<3.0 --	<3.0 --
	ETHANE, 1,1,2,2 TETRA- CHLORO- WAT UNF REC (UG/L)	ETHANE, 1112- TETRA- CHLORO- WAT UNF REC (UG/L)	1,2- DIBROMO ETHANE WATER WHOLE TOTAL (UG/L)	BENZENE O- CHLORO- WATER UNFLTRD REC (UG/L)	1,2-DI- CHLORO- ETHANE TOTAL (UG/L)	1,2-DI- CHLORO- PROPANE TOTAL (UG/L)	1,2- TRANS DI CHLORO- ETHENE TOTAL (UG/L)	123-TRI CHLORO- PROPANE WATER WHOLE TOTAL (UG/L)	BENZENE 1,2,4- TRI- CHLORO- WAT UNF REC (UG/L)
CL Ae 1 CL Bf 184	<3.0 --	<3.0 --	<3.0 --	<3.0 --	<3.0 --	<3.0 --	<3.0 --	<3.0 --	<3.0 --
	1,3-DI- CHLORO- PROPANE WAT. WH TOTAL (UG/L)	BENZENE 1,3-DI- CHLORO- WATER UNFLTRD REC (UG/L)	BENZENE 1,4-DI- CHLORO- WATER UNFLTRD REC (UG/L)	2- CHLORO- ETHYL- VINYL- ETHER TOTAL (UG/L)	2,2-DI- CHLORO- PRO- PANE WAT, WH TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	ACRO- LEIN TOTAL (UG/L)
CL Ae 1 CL Bf 184	<3.0 --	<3.0 --	<3.0 --	<3.0 --	<3.0 --	<0.01 --	<0.01 --	<0.01 --	<20 --
	ACRYLO- NITRILE TOTAL (UG/L)	ALA- CHLOR TOTAL RECOVER (UG/L)	AME- TRYNE TOTAL (UG/L)	ATRA- ZINE WATER UNFLTRD REC (UG/L)	BUTA- CHLOR WATER WHLREC (UG/L)	BROM- ACIL WATER WHLREC (UG/L)	BUTYL- ATE WATER WHLREC (UG/L)	CARBOBX- IN WATER WHOLE RECOV- ERABLE (UG/L)	CIS-1,2 -DI- CHLORO- ETHENE WATER TOTAL (UG/L)
CL Ae 1 CL Bf 184	<20 --	<0.10 --	<0.10 --	<0.1 --	<0.10 --	<0.20 --	<0.10 --	<0.20 --	<3.0 --
	CYAN- AZINE TOTAL (UG/L)	CYCLO- ATE WATER WHOLE RECOV- ERABLE (UG/L)	DEETHYL ATRA- ZINE, WATER, WHOLE, TOTAL (UG/L)	DIPHEN- AMID WATER WHOLE RECOV- ERABLE (UG/L)	HEXA- CHLORO- BUT- ADIENE TOTAL (UG/L)	HEXAZI- NONE WATER WHOLE RECOV- ERABLE (UG/L)	METOLA- CHLOR WATER WHOLE TOT. REC (UG/L)	METRI- BUZIN WATER WHOLE TOT. REC (UG/L)	NAPHTH- ALENE TOTAL (UG/L)
CL Ae 1 CL Bf 184	<0.20 --	<0.10 --	<0.20 --	<0.10 --	<3.0 --	<0.20 --	<0.20 --	<0.10 --	<3.0 --
	PROME- TRYNE TOTAL (UG/L)	PROME- TONE TOTAL RECOV. (UG/L)	PROPA- CHLOR WATER WHOLE RECOV. (UG/L)	PRO- PAZINE TOTAL (UG/L)	SILVEX, TOTAL (UG/L)	SIMA- ZINE TOTAL (UG/L)	SIME- TRYNE TOTAL (UG/L)	TER- BACIL WATER WHOLE RECOV. (UG/L)	VER- NOLATE WATER WHOLE RECOV. (UG/L)
CL Ae 1 CL Bf 184	<0.10 --	<0.20 --	<0.10 --	<0.10 --	<0.01 --	<0.10 --	<0.10 --	<0.20 --	<0.10 --

## QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

CECIL COUNTY, MARYLAND

WELL NUMBER	DATE	TIME	STATION	NUMBER	GEO- LOGIC UNIT	SITE	SAM- PLING METHOD, CODES	DEPTH OF WELL, TOTAL (FEET)	DEPTH TO TOP OF SAMPLE INTER- VAL (FT)	DEPTH TO BOT- TOM OF SAMPLE INTER- VAL (FT)
CE Cc 40	06-15-93	0945	393459076045001	300LFPP	SP		4010	--	--	--
CE Dd 102	06-28-93	1030	392544075574803	217PTMC	GW		4010	112.00	107	112
	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	FLOW RATE, INSTAN- TANEOUS (G/M)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TEMPER- ATURE AIR (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
CE Cc 40	180	4.3	735	5.3	12.0	22.0	7.0	17	9.8	24
CE Dd 102	65.0	--	57	5.1	15.5	24.0	--	1.9	1.1	4.0
	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT WH TOT IT FIELD (MG/L AS CACO3)	BICAR- BONATE WATER WH IT FIELD (MG/L AS HCO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)
CE Cc 40	0.80	7	9	1.1	84	<0.10	22	244	<0.010	0.990
CE Dd 102	1.3	2	2	3.0	6.9	<0.10	12	36	<0.010	1.50
	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)	HARD- NESS TOTAL (MG/L AS CACO3)
CE Cc 40	0.030	0.080	0.090	0.010	30	17	10	9	0.6	83
CE Dd 102	0.030	<0.010	0.010	<0.010	250	330	<10	12	0.6	9

Geologic unit (aquifer): 217PTMC - Potomac Formation  
 300LFPP - Little Northeast Creek, Frenchtown, Principio Furnace Members,  
 James Run Formation

Sample type: GW - Groundwater  
 SP - Spring

Sampling method: 4010 - Thief sampler

QUALITY OF GROUND WATER

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

CHARLES COUNTY, MARYLAND

WELL NUMBER	DATE	TIME	STATION	NUMBER	GEO- LOGIC UNIT	SITE	SAM- FLING METHOD, CODES	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	DEPTH OF WELL, TOTAL (FEET)
CH Cb 7	08-10-93	1700	383422077114601	217PFSC	GW	4040	4040	85.68	167.00
CH Ee 90	06-24-93	1050	382456076562201	124NNJM	GW	4040	4040	5.23	21.00
	DEPTH TO TOP OF SAMPLE INTER- VAL (FT)	DEPTH TO BOT- TOM OF SAMPLE INTER- VAL (FT)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	PUMP OR FLOW PERIOD PRIOR TO SAM- PLING (MIN)	FLOW RATE, INSTAN- TANEOUS (G/M)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TEMPER- ATURE AIR (DEG C)
CH Cb 7	154	167	36.0	230	4.4	314	7.5	15.5	27.0
CH Ee 90	11	16	7.0	55	0.7	245	5.7	14.0	25.0
	OXYGEN, DIS- SOLVED (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT WH TOT IT FIELD MG/L AS CACO3	BICAR- BONATE WATER WH IT FIELD MG/L AS HCO3	SULFATE DIS- SOLVED (MG/L AS SO4)	
CH Cb 7	--	2.7	1.6	62	2.9	130	159	6.8	
CH Ee 90	5.9	22	5.2	11	5.5	27	33	43	
	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)
CH Cb 7	11	0.90	32	208	<0.010	<0.050	0.670	--	1.60
CH Ee 90	12	<0.10	13	144	<0.010	4.60	0.020	0.030	0.020
	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)	HARD- NESS TOTAL (MG/L AS CACO3)	TRI- FLURA- LIN TOTAL RECOVER (UG/L)	2,4-D, TOTAL (UG/L)
CH Cb 7	1.70	660	600	30	39	0.4	13	<0.10	<0.01
CH Ee 90	0.010	690	6	30	18	1.8	76	--	--
	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	ALA- CHLOR TOTAL RECOVER (UG/L)	AME- TRYNE TOTAL (UG/L)	ATRA- ZINE WATER UNFLTRD REC (UG/L)	BUTA- CHLOR WATER WHLREC (UG/L)	BROM- ACIL WATER WHLREC (UG/L)	BUTYL- ATE WATER WHLREC (UG/L)	CARBOXY- IN WATER WHOLE RECOV- ERABLE (UG/L)
CH Cb 7	<0.01	<0.01	<0.10	<0.10	<0.1	<0.10	<0.20	<0.10	<0.20
CH Ee 90	--	--	--	--	--	--	--	--	--

Geologic unit (aquifer): 124NNJM - Nanjemoy Formation  
217PFSC - Patapsco Formation

Site type: GW - Groundwater

Sampling method: 4040 - Submersible pump

**CHARLES COUNTY, MARYLAND--Continued**

[illegible]

**DORCHESTER COUNTY, MARYLAND**

Sampling method: 4040 - Submersible pump

## DORCHESTER COUNTY, MARYLAND--Continued

[illegible]



QUALITY OF GROUND WATER

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

FREDERICK COUNTY, MARYLAND

WELL NUMBER	DATE	TIME	STATION	NUMBER	GEO- LOGIC UNIT	SITE	SAM- PLING METHOD, CODES	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	DEPTH OF WELL, TOTAL (FEET)	DEPTH TO TOP OF SAMPLE INTER- VAL (FT)
FR Af 27	05-03-93	1235	394200077190701	231GBRG	GW		4040	0.52	365.00	39
FR Cd 38	04-27-93	1010	393218077271001	377WVRN	SP		4010	--	--	--
FR Dd 178	05-03-93	1050	392552077262201	377FDCK	SP		4010	--	--	--
FR Df 35	05-03-93	1705	392517077190401	300SMCK	GW		4040	46.95	302.00	26
FR Fb 12	04-21-93	1150	391846077370501	400PCMB	SP		4010	--	--	--

	DEPTH TO BOT- TOM OF SAMPLE INTER- VAL (FT)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	PUMP OR FLOW PERIOD PRIOR TO SAM- PLING (MIN)	FLOW RATE, INSTAN- TANEOUS (G/M)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TEMPER- ATURE AIR (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)
FR Af 27	365	385	195	0.5	516	7.6	14.0	21.5	1.9	57
FR Cd 38	--	820	--	--	26	5.0	11.0	9.0	8.9	0.79
FR Dd 178	--	315	--	15	625	7.2	12.5	18.0	6.8	91
FR Df 35	302	570	150	7.7	91	6.4	12.5	22.0	--	9.3
FR Fb 12	--	300	--	12	363	6.3	12.0	16.0	9.6	31

	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY WAT WH TOT IT FIELD MG/L AS CACO3	BICAR- BONATE WATER WH IT FIELD MG/L AS HCO3	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)
FR Af 27	20	19	0.40	179	218	70	8.9	0.20	26	306
FR Cd 38	0.92	1.3	1.4	3	3	3.1	1.7	<0.10	6.0	11
FR Dd 178	11	23	1.9	195	238	24	50	<0.10	9.0	332
FR Df 35	4.1	1.6	0.50	38	46	<0.10	1.8	<0.10	9.9	52
FR Fb 12	12	16	1.1	29	35	58	42	<0.10	23	200

	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
FR Af 27	<0.010	2.00	<0.010	0.010	<0.010	<0.010	20	10	20	1
FR Cd 38	<0.010	0.260	0.010	<0.010	0.020	<0.010	10	4	<10	9
FR Dd 178	<0.010	5.50	<0.010	0.030	0.020	0.010	10	<3	10	<1
FR Df 35	<0.010	0.310	0.020	0.110	0.100	0.090	230	8	50	1
FR Fb 12	<0.010	4.30	0.010	0.060	0.060	0.070	20	6	<10	<1

	CARBON, ORGANIC TOTAL (MG/L AS C)	HARD- NESS TOTAL (MG/L AS CACO3)	TRI- FLURA- LIN TOTAL RECOVER (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	ALA- CHLOR TOTAL RECOVER (UG/L)	AME- TYRNE TOTAL (UG/L)	ATRA- ZINE WATER UNFLTRD REC (UG/L)	BUTA- CHLOR WATER WHLREC (UG/L)
FR Af 27	0.2	220	<0.10	<0.01	<0.01	<0.01	<0.10	<0.10	<0.1	<0.10
FR Cd 38	0.9	6	--	--	--	--	--	--	--	--
FR Dd 178	0.5	270	--	--	--	--	--	--	--	--
FR Df 35	0.4	40	--	--	--	--	--	--	--	--
FR Fb 12	1.2	130	--	<0.01	<0.01	<0.01	--	--	--	--

Geologic unit (aquifer): 231GBRG - Gettysburg Shale  
300SMCK - Sams Creek Metabasalt  
377FDCK - Frederick Limestone  
377WVRN - Weverton Formation  
400PCMB - Precambrian Erathem

Sampling method: 4010 - Thief sampler  
4040 - Submersible pump

Site type: GW - Groundwater  
SP - Spring

## QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

FREDERICK COUNTY, MARYLAND--Continued

WELL NUMBER	BROM- ACIL WATER WHLREC (UG/L)	BUTYL- ATE WATER WHLREC (UG/L)	CARBOX- IN WATER WHOLE RECOV- ERABLE (UG/L)	CYAN- AZINE TOTAL (UG/L)	CYCLO- ATE WATER WHOLE RECOV- ERABLE (UG/L)	DEETHYL ATRA- ZINE, WATER, WHOLE, TOTAL (UG/L)	DIPHEN- AMID WATER WHOLE RECOV- ERABLE (UG/L)	HEXAZI- NONE WATER WHOLE RECOV- ERABLE (UG/L)	METOLA- CHLOR WATER WHOLE TOT.REC (UG/L)	METRI- BUZIN WATER WHOLE TOT.REC (UG/L)
FR Af 27	<0.20	<0.10	<0.20	<0.20	<0.10	<0.20	<0.10	<0.20	<0.20	<0.10
FR Cd 38	--	--	--	--	--	--	--	--	--	--
FR Dd 178	--	--	--	--	--	--	--	--	--	--
FR Df 35	--	--	--	--	--	--	--	--	--	--
FR Fb 12	--	--	--	--	--	--	--	--	--	--

WELL NUMBER	PROME- TRYNE TOTAL (UG/L)	PROME- TONE TOTAL (UG/L)	PROPA- CHLOR WATER WHOLE RECOV. (UG/L)	PRO- PAZINE TOTAL (UG/L)	SILVEX, TOTAL (UG/L)	SIMA- ZINE TOTAL (UG/L)	SIME- TRYNE TOTAL (UG/L)	TER- BACIL WATER WHOLE RECOV. (UG/L)	VER- NOLATE WATER WHOLE RECOV. (UG/L)
FR Af 27	<0.10	<0.20	<0.10	<0.10	<0.01	<0.10	<0.10	<0.20	<0.10
FR Cd 38	--	--	--	--	--	--	--	--	--
FR Dd 178	--	--	--	--	--	--	--	--	--
FR Df 35	--	--	--	--	--	--	--	--	--
FR Fb 12	--	--	--	--	<0.01	--	--	--	--

QUALITY OF GROUND WATER

515

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

GARRETT COUNTY, MARYLAND

WELL NUMBER	DATE	TIME	STATION	NUMBER	GEO- LOGIC UNIT	SITE	SAM- PLING METHOD, CODES	DEPTH OF WELL, TOTAL (FEET)	DEPTH TO TOP OF SAMPLE INTER- VAL (FT)
GA Ae 50	07-12-93	1600	394202079093901	321CNMG	GW		4010	90.00	21
GA Eb 72	07-12-93	1800	392420079221701	341JNGS	SP		4010	--	--
	DEPTH TO BOT- TOM OF SAMPLE INTER- VAL (FT)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	PUMP OR FLOW PERIOD PRIOR TO SAM- PLING (MIN)	FLOW RATE, INSTAN- TANEOUS (G/M)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TEMPER- ATURE AIR (DEG C)	OXYGEN, DIS- SOLVED (MG/L)
GA Ae 50	90	2410	140	2.8	810	6.8	14.0	27.0	0.9
GA Eb 72	--	2410	--	15	79	5.1	9.0	21.5	--
	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT WH TOT FET FIELD MG/L AS CACO3	ALKA- LINITY WAT WH TOT IT FIELD MG/L AS CACO3	BICAR- BONATE WATER WH IT FIELD MG/L AS HCO3	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
GA Ae 50	89	26	19	2.4	184	184	224	28	95
GA Eb 72	5.2	1.7	3.8	1.1	3	3	4	11	9.0
	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	
GA Ae 50	<0.10	5.9	492	9.58	0.120	9.70	0.030	<0.010	
GA Eb 72	<0.10	4.8	36	--	<0.010	0.650	0.030	0.010	
	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)	HARD- NESS TOTAL (MG/L AS CACO3)	
GA Ae 50	0.010	<0.010	20	6	50	48	0.4	330	
GA Eb 72	<0.010	<0.010	20	<3	70	62	0.5	20	

Geologic unit (aquifer): 321CNMG - Conemaugh Formation  
341JNGS - Jennings Formation

Site type: GW - Groundwater  
SP - Spring

Sampling method: 4010 - Thief sample

QUALITY OF GROUND WATER  
WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
HARFORD COUNTY, MARYLAND

WELL NUMBER	DATE	TIME	STATION	NUMBER	GEO- LOGIC UNIT	SITE	SAM- PLING METHOD, CODES	DEPTH BELOW SURFACE (WATER LEVEL) (FEET)	DEPTH OF WELL, TOTAL (FEET)	DEPTH TO TOP OF SAMPLE INTER- VAL (FT)
HA Aa 9	08-03-93	1030	394153076325701	300WSCK	SP		4010	--	--	--
HA Bc 31	08-03-93	1230	393800076240101	300WSCK	SP		4010	--	--	--
HA Ca 23	06-17-93	0940	393158076302601	300LCRV	GW		4040	5.90	200.00	24
HA Dd 92	06-15-93	1330	392721076150302	112TLBT	GW		4040	9.68	38.00	18
	DEPTH TO BOT- TOM OF SAMPLE INTER- VAL (FT)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	PUMP OR FLOW PERIOD PRIOR TO SAM- PLING (MIN)	FLOW RATE, INSTAN- TANEOUS (G/M)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TEMPER- ATURE AIR (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)
HA Aa 9	--	660	--	10	149	5.2	11.5	24.0	9.6	8.0
HA Bc 31	--	290	--	--	29	5.6	11.5	26.5	6.1	1.4
HA Ca 23	200	470	50	0.7	127	6.1	13.5	25.0	10.0	7.6
HA Dd 92	28	20.0	110	0.6	494	5.9	16.0	29.0	0.2	16
	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY WAT WH TOT IT FIELD (MG/L AS CACO3)	BICAR- BONATE WATER WH IT FIELD (MG/L AS HCO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)
HA Aa 9	6.7	5.0	1.1	4	5	2.6	11	<0.10	9.8	112
HA Bc 31	1.0	2.1	0.30	9	10	0.40	2.5	<0.10	10	28
HA Ca 23	4.2	7.1	2.1	18	22	1.6	7.5	0.10	23	91
HA Dd 92	13	54	0.70	47	57	43	90	0.10	31	268
	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
HA Aa 9	<0.010	10.0	0.020	0.010	0.010	<0.010	20	4	20	11
HA Bc 31	<0.010	0.200	0.020	0.010	0.020	0.010	<10	<3	<10	1
HA Ca 23	<0.010	6.70	<0.010	0.040	<0.010	<0.010	100	8	<10	6
HA Dd 92	<0.010	<0.050	0.130	0.040	0.050	<0.010	3900	3700	220	210
	CARBON, ORGANIC TOTAL (MG/L AS C)	HARD- NESS TOTAL (MG/L AS CACO3)	1,2,3- TRI- CHLORO BENZENE WAT, WH REC (UG/L)	BROMO- BENZENE WATER, WHOLE, TOTAL (UG/L)	BROMO- FORM TOTAL (UG/L)	BENZENE TOTAL (UG/L)	CARBON- TETRA- CHLO- RIDE TOTAL (UG/L)	CHLORO- BENZENE TOTAL (UG/L)	CHLORO- DI- BROMO- METHANE TOTAL (UG/L)	CHLORO- FORM TOTAL (UG/L)
HA Aa 9	0.1	48	--	--	--	--	--	--	--	--
HA Bc 31	0.3	8	--	--	--	--	--	--	--	--
HA Ca 23	0.4	36	--	--	--	--	--	--	--	--
HA Dd 92	1.3	94	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0

Geologic unit (aquifer): 112TLBT - Talbot Formation  
300LCRV - Loch Raven Schist  
300WSCK - Wissahickon Formation

Sampling method: 4010 - Thief sample  
4040 - Submersible pump

Site Type: GW - Groundwater  
SP - Spring

QUALITY OF GROUND WATER

517

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

HARFORD COUNTY, MARYLAND--Continued

WELL NUMBER	CHLORO- ETHANE TOTAL (UG/L)	CIS 1,3-DI- CHLORO- PROPENE TOTAL (UG/L)	DIBROMO CHLORO- PROPANE WATER WHOLE TOT. REC (UG/L)	DI- BROMO- METHANE WATER WHOLE RECOVER (UG/L)	DI- CHLORO- BROMO- METHANE TOTAL (UG/L)	DI- CHLORO- DI- FLUORO- METHANE TOTAL (UG/L)	ETHYL- BENZENE TOTAL (UG/L)	FREON- 113 WATER UNFLTRD REC (UG/L)	ISO- PROPYL- BENZENE WATER WHOLE REC (UG/L)	MESIT- YLENE WATER UNFLTRD REC (UG/L)
HA Aa 9	--	--	--	--	--	--	--	--	--	--
HA Bc 31	--	--	--	--	--	--	--	--	--	--
HA Ca 23	--	--	--	--	--	--	--	--	--	--
HA Dd 92	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
	METHANE BROMO CHLORO- WAT UNFLTRD REC (UG/L)	METHYL- BROMIDE TOTAL (UG/L)	METHYL- CHLO- RIDE TOTAL (UG/L)	METHYL- ENE CHLO- RIDE TOTAL (UG/L)	BENZENE N-BUTYL WATER UNFLTRD REC (UG/L)	BENZENE N-PROPY WATER UNFLTRD REC (UG/L)	O- CHLORO- TOLUENE WATER WHOLE TOTAL (UG/L)	P-ISO- PROPYL- TOLUENE WATER WHOLE REC (UG/L)	TOLUENE P-CHLOR WATER UNFLTRD REC (UG/L)	PSEUDO- CUMENE WATER UNFLTRD REC (UG/L)
HA Aa 9	--	--	--	--	--	--	--	--	--	--
HA Bc 31	--	--	--	--	--	--	--	--	--	--
HA Ca 23	--	--	--	--	--	--	--	--	--	--
HA Dd 92	<3.00	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
	BENZENE SEC BUTYL- WATER UNFLTRD REC (UG/L)	STYRENE TOTAL (UG/L)	BENZENE TERT- BUTYL- WATER UNFLTRD REC (UG/L)	METHYL ETHER TERT- BUTYL WAT UNF REC (UG/L)	TETRA- CHLORO- ETHYL- ENE TOTAL (UG/L)	TRI- CHLORO- FLUORO- METHANE TOTAL (UG/L)	TOLUENE TOTAL (UG/L)	TRANS- 1,3-DI- CHLORO- PROPENE TOTAL (UG/L)	TRI- CHLORO- ETHYL- ENE TOTAL (UG/L)	VINYL CHLO- RIDE TOTAL (UG/L)
HA Aa 9	--	--	--	--	--	--	--	--	--	--
HA Bc 31	--	--	--	--	--	--	--	--	--	--
HA Ca 23	--	--	--	--	--	--	--	--	--	--
HA Dd 92	<3.0	<3.0	<3.0	<5.0	<3.0	<3.0	<3.0	<3.0	<3.0	<1.0
	XYLENE WATER UNFLTRD REC (UG/L)	1,1-DI- CHLORO- ETHANE TOTAL (UG/L)	1,1-DI- CHLORO- ETHYL- ENE TOTAL (UG/L)	1,1-DI- CHLORO- PRO- PENE, WH TOTAL (UG/L)	1,1,1- TRI- CHLORO- ETHANE TOTAL (UG/L)	1,1,2- TRI- CHLORO- ETHANE TOTAL (UG/L)	ETHANE, 1,1,2,2 TETRA- CHLORO- WAT UNF REC (UG/L)	ETHANE, 1112- TETRA- CHLORO- WAT UNF REC (UG/L)	1,2- DIBROMO ETHANE WATER WHOLE TOTAL (UG/L)	BENZENE O- CHLORO- WATER UNFLTRD REC (UG/L)
HA Aa 9	--	--	--	--	--	--	--	--	--	--
HA Bc 31	--	--	--	--	--	--	--	--	--	--
HA Ca 23	--	--	--	--	--	--	--	--	--	--
HA Dd 92	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
	1,2-DI- CHLORO- ETHANE TOTAL (UG/L)	1,2-DI- CHLORO- PROPANE TOTAL (UG/L)	1,2- TRANS DI CHLORO- ETHENE TOTAL (UG/L)	123-TRI CHLORO- PROPANE WATER WHOLE TOTAL (UG/L)	BENZENE 1,2,4- TRI- CHLORO- WAT UNF REC (UG/L)	1,3-DI- CHLORO- PROPANE WAT. WH TOTAL (UG/L)	BENZENE 1,3-DI- CHLORO- WATER UNFLTRD REC (UG/L)	BENZENE 1,4-DI- CHLORO- WATER UNFLTRD REC (UG/L)	2- CHLORO- ETHYL- VINYL- ETHER TOTAL (UG/L)	2,2-DI CHLORO- PRO- PANE WAT, WH TOTAL (UG/L)
HA Aa 9	--	--	--	--	--	--	--	--	--	--
HA Bc 31	--	--	--	--	--	--	--	--	--	--
HA Ca 23	--	--	--	--	--	--	--	--	--	--
HA Dd 92	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
	2,4-D, TOTAL (UG/L)	2,4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	ACRO- LEIN TOTAL (UG/L)	ACRYLO- NITRILE TOTAL (UG/L)	CIS-1,2 -DI- CHLORO- ETHENE WATER TOTAL (UG/L)	HEXA- CHLORO- BUT- ADIENE TOTAL (UG/L)	NAPHTH- ALENE TOTAL (UG/L)	SILVEX, TOTAL (UG/L)	
HA Aa 9	--	--	--	--	--	--	--	--	--	
HA Bc 31	--	--	--	--	--	--	--	--	--	
HA Ca 23	--	--	--	--	--	--	--	--	--	
HA Dd 92	<0.01	<0.01	<0.01	<20	<20	<3.0	<3.0	<3.0	<0.01	

QUALITY OF GROUND WATER  
WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
KENT COUNTY, MARYLAND

WELL NUMBER	DATE	TIME	STATION	NUMBER	GEO- LOGIC UNIT	SITE	SAM- PLING METHOD, CODES	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	DEPTH OF WELL, TOTAL (FEET)	DEPTH TO TOP OF SAMPLE INTER- VAL (FT)
KE Ag 20	07-28-93	1000	392212075475501	125AQUI	GW		4040	--	70.00	60
KE Ag 54	05-18-93	1220	392233075493201	211MNMT	GW		4040	58.90	184.00	174
	07-28-93	1045		211MNMT	GW		4040	--	184.00	174
KE Bc 172	07-07-93	1435	391543076052201	211MNMT	GW		4040	--	180.00	155
KE Bc 174	07-29-93	1340	391537076055401	125AQUI	GW		4040	--	65.00	60
	08-04-93	1115		125AQUI	GW		4040	--	65.00	60
KE Bd 136	05-13-93	1405	391702076013101	211MNMT	GW		4040	--	145.00	135
KE Be 47	06-28-93	1300	391832075560802	112CLMB	GW		4040	11.87	24.00	21
KE Be 151	05-18-93	1030	391522075573901	211MNMT	GW		4040	--	263.00	243
KE Bf 91	07-28-93	1510	391751075524001	125AQUI	GW		4040	--	164.00	140
KE Bg 91	07-28-93	1200	391515075461901	125AQUI	GW		4040	--	179.00	138
KE Cb 41	07-29-93	1105	391308076100301	125AQUI	GW		4040	--	96.00	86
	08-04-93	1040		125AQUI	GW		4040	--	96.00	86
KE Cb 58	07-20-93	1050	391113076115801	125AQUI	GW		4040	--	67.00	40
	07-21-93	1135		125AQUI	GW		4040	--	67.00	40
KE Cc 45	07-21-93	1030	391300076073701	125AQUI	GW		4040	--	115.00	105
KE Cd 2	06-29-93	1410	391246076035001	125AQUI	GW		8010	--	82.00	39
KE Cd 33	06-29-93	1505	391244076034701	125AQUI	GW		8010	--	95.00	50
KE Cd 86	05-04-93	1215	391407076022801	211MNMT	GW		4040	--	147.00	87
KE Cd 99	06-29-93	1400	391246076034701	125AQUI	GW		8010	--	127.00	40
KE Cd 100	06-29-93	1135	391246076035002	125AQUI	GW		8010	--	116.00	37
KE Cd 101	06-29-93	1035	391245076035201	125AQUI	GW		8010	--	120.00	40
KE Cd 104	06-29-93	1530	391246076034702	125AQUI	GW		8010	--	428.00	392
KE Cd 137	06-30-93	1650	391333076043501	217PTMC	GW		4040	68.36	413.00	393
KE Da 15	07-07-93	1110	390949076162901	211MNMT	GW		4040	--	112.00	104
KE Db 94	07-21-93	0900	390740076125501	125AQUI	GW		4040	--	150.00	140
KE Dc 92	05-13-93	1125	390709076072701	125AQUI	GW		4040	--	100.00	90
KE Eb 10	07-29-93	0900	390148076140601	125AQUI	GW		4040	--	100.00	90
	08-04-93	0945		125AQUI	GW		4040	--	100.00	90
KE Eb 13	07-21-93	1430	390423076131301	125AQUI	GW		4040	--	135.00	125

Geologic unit (aquifer): 112CLMB - Columbia Group  
125AQUI - Aquia Formation  
211MGTY - Magothy Formation  
211MNMT - Monmouth Formation  
217PTMC - Potomac Group

Site type: GW - Groundwater  
SP - Spring

Sampling Method: 4040 - Submersible pump  
8010 - Turbine pump

## QUALITY OF GROUND WATER

519

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

KENT COUNTY, MARYLAND--Continued

WELL NUMBER	DEPTH TO BOT- TOM OF SAMPLE INTER- VAL (FT)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	PUMP OR FLOW PERIOD PRIOR TO SAM- PLING (MIN)	FLOW RATE, INSTAN- TANEOUS (G/M)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TEMPER- ATURE AIR (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)
KE Ag 20	70	35.0	40	--	343	7.0	14.5	32.0	0.2	9.7
KE Ag 54	184	60.0	30	--	239	6.9	13.5	17.0	0.1	38
	184	60.0	10	--	--	--	--	--	--	--
KE Bc 172	178	70.0	40	--	216	6.6	15.5	42.0	0	35
KE Bc 174	65	85.0	25	--	84	5.4	18.0	37.0	0	2.3
	65	85.0	10	--	--	--	--	--	--	--
KE Bd 136	145	15.0	30	--	246	6.5	13.5	22.5	0	36
KE Be 47	24	64.0	74	0.5	306	5.9	14.5	35.5	8.5	19
KE Be 151	263	35.0	30	--	240	7.6	14.0	15.5	0.1	0.05
KE Bf 91	164	45.0	30	--	239	7.4	15.0	35.5	1.8	46
KE Bg 91	179	62.0	40	--	364	7.5	16.0	37.0	0.1	42
KE Cb 41	96	90.0	15	--	70	5.9	17.0	33.0	0.8	0.19
	96	90.0	13	--	--	--	--	--	--	--
KE Cb 58	67	25.0	40	--	137	6.0	15.5	32.0	0	5.4
	67	25.0	25	--	140	--	14.5	--	--	--
KE Cc 45	115	70.0	35	--	155	6.2	14.5	32.0	0	11
KE Cd 2	82	10.0	30	--	--	--	--	--	--	--
KE Cd 33	85	20.0	45	--	895	5.6	16.5	36.0	2.7	44
KE Cd 86	147	10.0	45	--	267	6.1	14.5	21.0	0	52
KE Cd 99	127	20.0	45	--	130	5.4	16.0	34.0	6.9	12
KE Cd 100	116	15.0	30	--	235	5.4	15.5	32.5	6.4	16
KE Cd 101	120	20.0	45	--	262	5.4	15.0	32.0	7.4	21
KE Cd 104	428	20.0	30	--	--	--	--	--	--	--
KE Cd 137	413	60.0	240	--	202	6.5	15.5	34.0	0	23
KE Da 15	112	10.0	40	--	271	6.6	16.0	36.5	0	0.25
KE Db 94	150	10.0	35	--	144	5.6	16.0	29.0	0	6.4
KE Dc 92	100	10.0	45	--	2	6.8	16.5	21.0	0	79
KE Eb 10	95	25.0	30	--	141	6.4	20.5	30.5	0	9.3
	95	25.0	15	--	--	--	--	--	--	--
KE Eb 13	135	5.0	35	--	377	7.2	16.5	32.5	0	66

QUALITY OF GROUND WATER  
WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

KENT COUNTY, MARYLAND--Continued

WELL NUMBER	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT WH TOT IT FIELD MG/L AS CACO3	BICAR- BONATE WATER WH IT FIELD MG/L AS HCO3	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	BROMIDE DIS- SOLVED (MG/L AS BR)
KE Ag 20	2.4	4.8	3.6	179	--	3.2	7.3	0.20	0.010
KE Ag 54	3.7	4.9	4.5	119	--	4.6	2.2	0.30	0.020
	--	--	--	--	--	--	--	--	--
KE Bc 172	2.0	2.0	4.3	98	--	13	2.6	0.20	0.060
KE Bc 174	1.8	2.8	4.5	10	--	19	6.8	<0.10	0.080
	--	--	--	--	--	--	--	--	--
KE Bd 136	1.6	1.9	2.3	118	--	10	1.9	0.30	0.030
KE Be 47	12	11	3.3	24	29	26	17	<0.10	--
KE Be 151	<0.01	58	1.2	117	--	11	1.7	0.20	0.020
KE Bf 91	1.3	2.8	2.2	121	--	13	2.2	0.20	0.020
	--	--	--	--	--	--	--	--	--
KE Bg 91	6.7	4.2	3.3	142	--	4.6	1.9	0.20	0.020
KE Cb 41	0.01	13	0.50	11	--	15	5.0	<0.10	0.030
	--	--	--	--	--	--	--	--	--
KE Cb 58	3.6	3.7	3.4	54	--	10	3.7	0.60	0.040
	--	--	--	--	--	--	--	--	--
KE Cc 45	1.9	3.7	3.3	33	--	36	4.9	0.10	0.060
KE Cd 2	--	--	--	--	--	--	2.7	--	--
KE Cd 33	10	110	3.7	39	--	27	230	0.10	0.63
KE Cd 86	4.4	2.4	4.4	122	--	12	6.6	0.10	0.030
KE Cd 99	2.7	7.4	2.8	17	--	1.8	16	<0.10	--
	--	--	--	--	--	--	--	--	--
KE Cd 100	4.3	17	2.7	22	--	4.1	42	<0.10	--
KE Cd 101	5.7	17	3.2	16	--	2.5	59	<0.10	--
KE Cd 104	--	--	--	--	--	--	15	--	--
KE Cd 137	5.4	2.3	5.4	94	--	12	1.7	0.20	0.030
	--	--	--	--	--	--	--	--	--
KE Da 15	0.03	67	0.40	127	--	<0.10	15	0.20	0.050
KE Db 94	0.95	4.8	1.6	56	--	1.4	8.3	0.50	0.050
KE Dc 92	3.8	9.1	3.6	275	--	25	9.4	0.20	0.060
KE Eb 10	2.4	4.6	2.9	78	--	3.5	15	0.30	4.8
	--	--	--	--	--	--	--	--	--
KE Eb 13	2.2	5.9	1.9	200	--	1.0	9.3	0.10	0.050



## QUALITY OF GROUND WATER

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

KENT COUNTY, MARYLAND--Continued

WELL NUMBER	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	IODIDE, DIS- SOLVED (MG/L AS I)
KE Ag 20	53	236	<0.010	0.210	0.030	--	--	<0.010	--
KE Ag 54	17	152	<0.010	<0.050	0.110	--	--	<0.010	0.002
	--	--	--	--	--	--	--	--	--
KE Bc 172	33	158	<0.010	<0.050	0.040	--	--	0.010	0.001
KE Bc 174	30	76	<0.010	<0.050	0.040	--	--	0.010	0.002
	--	--	--	--	--	--	--	--	--
KE Bd 136	23	157	<0.010	<0.050	0.050	--	--	0.060	0.001
KE Be 47	9.8	190	<0.010	15.0	0.020	0.010	0.020	0.010	--
KE Be 151	13	158	<0.010	<0.050	0.050	--	--	<0.010	0.005
KE Bf 91	20	160	<0.010	<0.050	0.040	--	--	0.010	0.003
	--	--	--	--	--	--	--	--	--
KE Bg 91	30	174	<0.010	<0.050	0.180	--	--	0.020	0.001
KE Cb 41	36	82	<0.010	<0.050	0.020	--	--	0.010	0.001
	--	--	--	--	--	--	--	--	--
KE Cb 58	29	104	<0.010	0.051	0.230	--	--	0.410	0.005
	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--
KE Cc 45	22	98	<0.010	<0.050	0.030	--	--	0.020	0.001
KE Cd 2	--	--	--	--	--	--	--	--	--
KE Cd 33	14	724	<0.010	5.00	0.020	--	--	<0.010	0.007
KE Cd 86	24	174	<0.010	<0.050	0.060	--	--	<0.010	--
KE Cd 99	12	114	<0.010	4.40	<0.010	--	--	<0.010	--
	--	--	--	--	--	--	--	--	--
KE Cd 100	12	160	<0.010	5.30	0.010	--	--	0.020	0.003
KE Cd 101	12	240	<0.010	4.20	<0.010	--	--	<0.010	0.002
KE Cd 104	--	--	--	--	--	--	--	--	--
KE Cd 137	7.4	122	<0.010	<0.050	0.080	--	--	<0.010	0.003
	--	--	--	--	--	--	--	--	--
KE Da 15	37	186	<0.010	<0.050	0.100	--	--	1.20	0.007
KE Db 94	36	88	<0.010	<0.050	0.240	--	--	0.020	0.003
KE Dc 92	37	346	<0.010	<0.050	0.220	--	--	0.070	0.011
KE Eb 10	55	--	<0.010	<0.050	0.210	--	--	<0.010	--
	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--
KE Eb 13	36	252	<0.010	<0.050	0.490	--	--	0.030	0.009

## QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

KENT COUNTY, MARYLAND--Continued

WELL NUMBER	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	RADON 222 TOTAL (PCI/L)	RN-222 2 SIGMA WATER, WHOLE, TOTAL, (PCI/L)	CARBON, ORGANIC TOTAL (MG/L AS C)	HARD- NESS TOTAL (MG/L AS CACO3)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)
KE Ag 20	--	18000	--	160	500	31	--	34	0.5
KE Ag 54	--	200	--	6	--	--	--	110	0.5
	--	--	--	--	740	47	--	--	--
KE Bc 172	--	2000	--	20	600	26	--	96	0.5
KE Bc 174	--	5700	--	15	--	--	--	13	0.2
	--	--	--	--	1100	42	--	--	--
KE Bd 136	--	1000	--	16	570	27	--	96	0.4
KE Be 47	100	63	780	800	--	--	0.9	97	--
KE Be 151	--	9	--	1	790	28	--	--	0.4
KE Bf 91	--	260	--	9	460	29	--	120	0.3
KE Bg 91	--	350	--	7	270	31	--	130	0.7
KE Cb 41	--	180	--	2	--	--	--	1	0.3
	--	--	--	--	1400	45	--	--	--
KE Cb 58	--	15000	--	210	--	--	--	28	1.1
	--	--	--	--	470	30	--	--	--
KE Cc 45	--	8300	--	43	600	29	--	35	0.3
KE Cd 2	--	--	--	--	--	--	--	--	--
KE Cd 33	--	31	--	35	370	25	--	150	0.7
KE Cd 86	--	360	--	11	590	32	--	150	2.2
KE Cd 99	--	10	--	10	380	25	--	41	0.2
KE Cd 100	--	20	--	20	390	27	--	58	0.4
KE Cd 101	--	10	--	20	450	39	--	76	0.5
KE Cd 104	--	--	--	--	--	--	--	--	--
KE Cd 137	--	5900	--	85	96	29	--	80	0.7
KE Da 15	--	220	--	4	240	24	--	1	1.3
KE Db 94	--	22000	--	170	110	28	--	20	0.4
KE Dc 92	--	1700	--	11	190	25	--	210	1.7
KE Eb 10	--	18000	--	160	--	--	--	33	0.9
	--	--	--	--	220	51	--	--	--
KE Eb 13	--	2700	--	76	190	27	--	170	0.6

QUALITY OF GROUND WATER

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

MONTGOMERY COUNTY, MARYLAND

WELL NUMBER	DATE	TIME	STATION	NUMBER	GEO- LOGIC UNIT	SITE	SAM- PLING METHOD, CODES	DEPTH BELOW SURFACE (WATER LEVEL) (FEET)	DEPTH OF WELL, TOTAL (FEET)	DEPTH TO TOP OF SAMPLE INTER- VAL (FT)
MO Be 62	06-16-93	1645	391927077120801	300IJMV	GW		4040	34.02	180.00	29
	06-21-93	1030		300IJMV	GW		4040	34.43	180.00	29
MO Db 68	06-16-93	1230	390802077283801	231NOXF	GW		4040	17.54	252.00	40
	DEPTH TO BOT- TOM OF SAMPLE INTER- VAL (FT)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	PUMP OR FLOW PERIOD PRIOR TO SAM- PLING (MIN)	FLOW RATE, INSTAN- TANEOUS (G/M)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TEMPER- ATURE AIR (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)
MO Be 62	180	790	135	5.0	82	5.3	14.0	25.0	8.0	2.9
	180	790	100	6.6	83	5.3	14.0	25.5	--	3.0
MO Db 68	252	260	115	9.2	241	7.5	13.5	28.0	6.1	33
	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT WH TOT IT FIELD (MG/L AS CACO3)	BICAR- BONATE WAT WH WH IT FIELD (MG/L AS HCO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)
MO Be 62	4.4	3.3	1.1	9	11	3.8	8.0	<0.10	6.9	40
	4.4	3.2	1.3	5	6	2.9	7.9	<0.10	6.7	44
MO Db 68	6.7	6.0	0.40	105	128	1.1	2.8	0.10	22	140
	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)
MO Be 62	--	--	--	0.100	--	--	--	--	--	--
	<0.010	2.80	0.030	--	0.040	0.060	<10	--	<1	<0.5
MO Db 68	<0.010	1.30	0.040	0.110	0.120	0.060	--	--	--	--
	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
MO Be 62	--	--	--	--	70	5	--	--	10	8
	<1.0	<1	<1	17	10	7	5	<4	<10	7
MO Db 68	--	--	--	--	300	10	--	--	<10	<1
	MERCURY DIS- SOLVED (UG/L AS HG)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	RADON 222 TOTAL (PCI/L)	RN-222 2 SIGMA WATER, WHOLE, TOTAL (PCI/L)	CARBON, ORGANIC TOTAL (MG/L AS C)	HARD- NESS TOTAL (MG/L AS CACO3)	1,2,3- TRI- CHLORO BENZENE WAT, WH REC (UG/L)
MO Be 62	--	--	--	--	--	--	--	0.4	25	<3.0
	<0.1	5	<1	<1	23	3600	37	<0.1	26	--
MO Db 68	--	--	--	--	--	--	--	0.4	110	--

Geologic unit (aquifer): 231NOXF - New Oxford Formation  
300IJMV - Ijamsville Formation

Sampling method: 4040 - Submersible pump

Site type: GW - Groundwater

## MONTGOMERY COUNTY, MARYLAND--Continued

[illegible][illegible][illegible][illegible][illegible]

## MONTGOMERY COUNTY, MARYLAND--Continued

[illegible]

## QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

PRINCE GEORGES COUNTY, MARYLAND

WELL NUMBER	DATE	TIME	STATION	NUMBER	GEO- LOGIC UNIT	SITE	SAM- PLING METHOD, CODES	DEPTH BELOW SURFACE (WATER LEVEL) (FEET)	DEPTH OF WELL, TOTAL (FEET)	DEPTH TO TOP OF SAMPLE INTER- VAL (FT)
PG Bc 16	11-05-92	1415	390151076561501	217PTXN	GW		4040	24.53	27.40	--
PG Bc 37	08-05-93	1000	385920076571701	217PTXN	GW		4040	11.18	25.00	15
	DEPTH TO BOT- TOM OF SAMPLE INTER- VAL (FT)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	PUMP OR FLOW PERIOD PRIOR TO SAM- PLING (MIN)	FLOW RATE, INSTAN- TANEOUS (G/M)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TEMPER- ATURE AIR (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)
PG Bc 16	--	190	55	1.0	200	5.3	16.0	--	6.4	16
PG Bc 37	25	165	130	0.3	1530	5.2	15.5	25.0	5.9	11
	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT WH TOT IT FIELD (MG/L AS CACO3)	BICAR- BONATE WATER WH IT FIELD (MG/L AS HCO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	BROMIDE DIS- SOLVED (MG/L AS BR)	SILICA, DIS- SOLVED (MG/L AS SIO2)
PG Bc 16	6.6	57	1.8	--	--	23	100	<0.10	0.040	6.6
PG Bc 37	7.7	240	4.1	14	16	22	420	0.20	--	7.8
	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)
PG Bc 16	--	<0.010	6.30	<0.010	<0.20	<0.20	--	<0.010	<0.010	30
PG Bc 37	780	<0.010	0.430	0.130	--	--	0.010	<0.010	<0.010	--
	ANTI- MONY, DIS- SOLVED (UG/L AS SB)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)
PG Bc 16	<1	<1	120	<0.5	30	1.0	<5	<3	<10	--
PG Bc 37	--	--	--	--	--	--	--	--	--	8900
	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)
PG Bc 16	20	<10	<4	--	41	<0.1	<10	<1	2.0	120
PG Bc 37	8200	--	--	770	720	--	--	--	--	--

Geologic unit (aquifer): 217PTXN - Patuxent Formation

Site type: GW - Groundwater

Sampling method: 4040 - Submersible pump

## PRINCE GEORGES COUNTY, MARYLAND--Continued

WELL NUMBER	VANADIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C)	HARDNESS TOTAL (MG/L AS CaCO3)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	METHYLENE BLUE ACTIVE SUB-STANCE (MG/L)	1,2,3-TRI-CHLORO BENZENE WAT, WH REC (UG/L)	BROMO-BENZENE WATER, WHOLE, TOTAL (UG/L)	BROMO-FORM TOTAL (UG/L)
PG Bc 16	<6	11	--	<0.1	67	0.8	0.07	--	--	--
PG Bc 37	--	--	2.3	--	59	--	--	<3.0	<3.0	<3.0
	BENZENE TOTAL (UG/L)	CARBON-TETRA-CHLORIDE TOTAL (UG/L)	CHLORO-BENZENE TOTAL (UG/L)	CHLORO-DI-BROMO-METHANE TOTAL (UG/L)	CHLORO-FORM TOTAL (UG/L)	CHLORO-ETHANE TOTAL (UG/L)	CIS 1,3-DI-CHLORO-PROPENE TOTAL (UG/L)	DIBROMO-CHLORO-PROPANE WATER WHOLE TOT.REC (UG/L)	DI-BROMO-METHANE WATER WHOLE RECOVER (UG/L)	DI-CHLORO-BROMO-METHANE TOTAL (UG/L)
PG Bc 16	--	--	--	--	--	--	--	--	--	--
PG Bc 37	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
	DI-CHLORO-DI-FLUORO-METHANE TOTAL (UG/L)	ETHYL-BENZENE TOTAL (UG/L)	FREON-113 WATER UNFLTRD REC (UG/L)	ISO-PROPYL-BENZENE WATER WHOLE REC (UG/L)	MESITYLENE WATER UNFLTRD REC (UG/L)	METHANE BROMO-CHLORO-WAT UNFLTRD REC (UG/L)	METHYL-BROMIDE TOTAL (UG/L)	METHYL-CHLORIDE TOTAL (UG/L)	METHYLENE-CHLORIDE TOTAL (UG/L)	BENZENE N-BUTYL WATER UNFLTRD REC (UG/L)
PG Bc 16	--	--	--	--	--	--	--	--	--	--
PG Bc 37	<3.0	<3.0	<3.0	<3.0	<3.0	<3.00	<3.0	<3.0	<3.0	<3.0
	BENZENE N-PROPYL WATER UNFLTRD REC (UG/L)	O-CHLORO-TOLUENE WATER WHOLE TOTAL (UG/L)	P-ISO-PROPYL-TOLUENE WATER WHOLE REC (UG/L)	TOLUENE P-CHLOR WATER UNFLTRD REC (UG/L)	PCN DISSOLV (UG/L)	PSEUDO-CUMENE WATER UNFLTRD REC (UG/L)	BENZENE SEC BUTYL-WATER UNFLTRD REC (UG/L)	STYRENE TOTAL (UG/L)	BENZENE TERT-BUTYL-WATER UNFLTRD REC (UG/L)	METHYL ETHER TERT-BUTYL WAT UNF REC (UG/L)
PG Bc 16	--	--	--	--	--	--	--	--	--	--
PG Bc 37	<3.0	<3.0	<3.0	<3.0	<0.10	<3.0	<3.0	<3.0	<3.0	<5.0
	TETRA-CHLORO-ETHYLENE TOTAL (UG/L)	TRI-CHLORO-FLUORO-METHANE TOTAL (UG/L)	TOLUENE TOTAL (UG/L)	TRANS-1,3-DI-CHLORO-PROPENE TOTAL (UG/L)	TRI-CHLORO-ETHYLENE TOTAL (UG/L)	TRI-FLURALIN TOTAL RECOVER (UG/L)	VINYL CHLORIDE TOTAL (UG/L)	XYLENE WATER UNFLTRD REC (UG/L)	1,1-DI-CHLORO-ETHANE TOTAL (UG/L)	1,1-DI-CHLORO-ETHYLENE TOTAL (UG/L)
PG Bc 16	--	--	--	--	--	--	--	--	--	--
PG Bc 37	<3.0	<3.0	<3.0	<3.0	<3.0	<0.10	<1.0	<3.0	<3.0	<3.0
	1,1-DI-CHLORO-PROPENE, WAT, WH TOTAL (UG/L)	1,1,1-TRI-CHLORO-ETHANE TOTAL (UG/L)	1,1,2-TRI-CHLORO-ETHANE TOTAL (UG/L)	ETHANE, 1,1,2,2 TETRA-CHLORO-WAT UNF REC (UG/L)	ETHANE, 1112-TETRA-CHLORO-WAT UNF REC (UG/L)	1,2-DIBROMO-ETHANE WATER WHOLE TOTAL (UG/L)	BENZENE O-CHLORO-WATER UNFLTRD REC (UG/L)	1,2-DI-CHLORO-ETHANE TOTAL (UG/L)	1,2-DI-CHLORO-PROPANE TOTAL (UG/L)	1,2-TRANS-DI-CHLORO-ETHENE TOTAL (UG/L)
PG Bc 16	--	--	--	--	--	--	--	--	--	--
PG Bc 37	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
	123-TRI-CHLORO-PROPANE WATER WHOLE TOTAL (UG/L)	BENZENE 1,2,4-TRI-CHLORO-WAT UNF REC (UG/L)	1,3-DI-CHLORO-PROPANE WAT. WH TOTAL (UG/L)	BENZENE 1,3-DI-CHLORO-WATER UNFLTRD REC (UG/L)	BENZENE 1,4-DI-CHLORO-WATER UNFLTRD REC (UG/L)	2-CHLORO-ETHYL-VINYL-ETHER TOTAL (UG/L)	2,2-DI-CHLORO-PROPANE WAT, WH TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2, 4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)
PG Bc 16	--	--	--	--	--	--	--	<0.01	<0.01	<0.01
PG Bc 37	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	--	--	--

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

## PRINCE GEORGES COUNTY, MARYLAND--Continued

WELL NUMBER	2,6-DI- ETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L)	ACRO- LEIN TOTAL (UG/L)	ACRYLO- NITRILE TOTAL (UG/L)	ALA- CHLOR TOTAL RECOVER (UG/L)	ALA- CHLOR, WATER, DISS, REC, (UG/L)	ALDRIN, TOTAL (UG/L)	ALDRIN, DIS- SOLVED (UG/L)	ALPHA BHC DIS- SOLVED (UG/L)	AME- TRYNE TOTAL (UG/L)	ATRA- ZINE WATER UNFLTRD REC (UG/L)
PG Bc 16	<0.002	--	--	--	<0.003	<0.010	--	<0.01	--	--
PG Bc 37	--	<20	<20	<0.10	--	--	<0.01	--	<0.10	<0.1
	ATRA- ZINE, WATER, DISS, REC (UG/L)	BEN- FLUR- ALIN WAT FLD 0.7 U GF, REC (UG/L)	BUTA- CHLOR WATER WHLREC (UG/L)	BROM- ACIL WATER WHLREC (UG/L)	BUTYL- ATE, WATER, DISS, REC (UG/L)	BUTYL- ATE WATER WHLREC (UG/L)	CARBO- FURAN WATER FLTRD 0.7 U GF, REC (UG/L)	CARBOX- IN WATER WHOLE RECOV- ERABLE (UG/L)	CAR- BARYL WATER FLTRD 0.7 U GF, REC (UG/L)	CHLOR- DANE, TOTAL (UG/L)
PG Bc 16	0.03	<0.005	--	--	<0.005	--	<0.005	--	<0.01	1.0
PG Bc 37	--	--	<0.10	<0.20	--	<0.10	--	<0.20	--	--
	CHLOR- DANE, DIS- SOLVED (UG/L)	CHLOR- PYRIFOS DIS- SOLVED (UG/L)	CIS-1,2 -DI- CHLORO- ETHENE WATER TOTAL (UG/L)	CYAN- AZINE TOTAL (UG/L)	CYANA- ZINE, WATER, DISS, REC (UG/L)	CYCLO- ATE WATER WHOLE RECOV- ERABLE (UG/L)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L)	DDD, TOTAL (UG/L)	DDD, DIS- SOLVED (UG/L)	DDE, TOTAL (UG/L)
PG Bc 16	--	<0.002	--	--	<0.01	--	<0.002	0.60	--	0.050
PG Bc 37	<0.1	--	<3.0	<0.20	--	<0.10	--	--	<0.01	--
	DDE, DIS- SOLVED (UG/L)	P,P' DDE DISSOLV (UG/L)	DDT, TOTAL (UG/L)	DDT, DIS- SOLVED (UG/L)	DEETHYL ATRA- ZINE, WATER, DISS, REC (UG/L)	DEETHYL ATRA- ZINE, WATER, WHOLE, TOTAL (UG/L)	DE-ISO PROPYL ATRAZIN WATER, WHOLE, TOTAL (UG/L)	DI- AZINON, DIS- SOLVED (UG/L)	DICAMBA (MED- IBEN) (BAN- VEL D) TOTAL (UG/L)	DI- ELDRIN TOTAL (UG/L)
PG Bc 16	--	0.005	2.7	--	<0.02	--	--	<0.005	<0.01	0.080
PG Bc 37	<0.01	--	--	<0.01	--	<0.20	<0.20	<0.01	--	--
	DI- ELDRIN DIS- SOLVED (UG/L)	DIMETH- OATE WATER FLTRD 0.7 U GG, REC (UG/L)	DIPHEN- AMID WATER WHOLE RECOV- ERABLE (UG/L)	ENDO- SULFAN, TOTAL (UG/L)	ENDO- SULFAN DISSOLV (UG/L)	ENDRIN WATER UNFLTRD REC (UG/L)	ENDRIN, DIS- SOLVED (UG/L)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L)	ETHAL- FLUR- ALIN WAT FLT 0.7 U GF, REC (UG/L)	ETHION DISSOLV (UG/L)
PG Bc 16	0.03	<0.02	--	<0.010	--	<0.200	--	<0.002	<0.005	--
PG Bc 37	<0.01	--	<0.10	--	<0.01	--	<0.01	--	--	<0.01
	ETHO- PROP WATER FLTRD 0.7 U GF, REC (UG/L)	FONOFOS WATER DISS REC (UG/L)	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR, DIS- SOLVED (UG/L)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE DIS- SOLVED (UG/L)	HEXA- CHLORO- BUT- ADIENE TOTAL (UG/L)	HEXAZI- NONE WATER WHOLE RECOV- ERABLE (UG/L)	LINDANE TOTAL (UG/L)	LINDANE DIS- SOLVED (UG/L)
PG Bc 16	<0.005	<0.005	<0.010	--	0.010	--	--	--	<0.010	0.03
PG Bc 37	--	--	--	<0.01	--	<0.01	<3.0	<0.20	--	<0.01



## WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

## PRINCE GEORGES COUNTY, MARYLAND--Continued

WELL NUMBER	LIN- URON WATER FLTRD 0.7 U GF, REC (UG/L)	MALA- THION, DIS- SOLVED (UG/L)	METH- OXY- CHLOR, TOTAL (UG/L)	METH- OXY- CHLOR DISSOLV (UG/L)	METHYL AZIN- PHOS WAT FLT 0.7 U GF, REC (UG/L)	METHYL PARA- THION, DIS- SOLVED (UG/L)	METHYL PARA- THION WAT FLT 0.7 U GF, REC (UG/L)	METOLA- CHLOR WATER WHOLE TOT.REC (UG/L)	METO- LACHLOR WATER DISSOLV (UG/L)	METRI- BUZIN WATER WHOLE TOT.REC (UG/L)
PG Bc 16	<0.01	<0.01	<0.01	--	<0.01	--	<0.005	--	0.01	--
PG Bc 37	--	<0.01	--	<0.01	--	<0.01	--	<0.20	--	<0.10
	METRI- BUZIN SENCOR WATER DISSOLV (UG/L)	MIREX, TOTAL (UG/L)	MIREX, DIS- SOLVED (UG/L)	MOL- INATE WATER FLTRD 0.7 U GF, REC (UG/L)	NAPHTH- ALENE TOTAL (UG/L)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L)	NAPROP- AMIDE WATER FLTRD 0.7 U GF, REC (UG/L)	PARA- THION, DIS- SOLVED (UG/L)	PCB, TOTAL (UG/L)	PCB, DIS- SOLVED (UG/L)
PG Bc 16	<0.01	<0.01	--	<0.005	--	<0.10	<0.002	<0.01	<2.0	--
PG Bc 37	--	--	<0.01	--	<3.0	--	--	<0.01	--	<0.1
	PENDI- METH- ALIN WAT FLT 0.7 U GF, REC (UG/L)	PER- THANE TOTAL (UG/L)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L)	PER- METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L)	PER- THANE DISSOLV (UG/L)	PHENOLS TOTAL (UG/L)	PICLO- RAM (TOR- DON) TOTAL (UG/L)	PROME- TRYNE TOTAL (UG/L)	PROME- TONE TOTAL (UG/L)	PRO- METON, WATER, DISS, REC (UG/L)
PG Bc 16	<0.01	<0.1	<0.02	<0.01	--	--	<1	<0.01	--	<0.01
PG Bc 37	--	--	--	--	<0.10	--	--	<0.10	<0.20	--
	PROP- CHLOR, WATER, DISS, REC (UG/L)	PROPA- CHLOR WATER WHOLE RECOV. (UG/L)	PRO- PANIL WATER FLTRD 0.7 U GF, REC (UG/L)	PRO- PARGITE WATER FLTRD 0.7 U GF, REC (UG/L)	PRO- PAZINE TOTAL (UG/L)	SILVEX, TOTAL (UG/L)	SIMA- ZINE TOTAL (UG/L)	SI- MAZINE, WATER, DISS, REC (UG/L)	SIME- TRYNE TOTAL (UG/L)	TER- BACIL WATER WHOLE RECOV. (UG/L)
PG Bc 16	<0.002	--	0.005	<0.01	--	<0.01	--	0.17	--	--
PG Bc 37	--	<0.10	--	--	<0.10	--	<0.10	--	<0.10	<0.20
	TER- BACIL WATER FLTRD 0.7 U GF, REC (UG/L)	TER- BUFOS WATER FLTRD 0.7 U GF, REC (UG/L)	THIO- BENCARB WATER FLTRD 0.7 U GF, REC (UG/L)	TOX- APHENE, TOTAL (UG/L)	TOX- APHENE, DIS- SOLVED (UG/L)	TRIAL- LATE WATER FLTRD 0.7 U GF, REC (UG/L)	TRI- FLUR- ALIN WAT FLT 0.7 U GF, REC (UG/L)	TRI- THION DISSOLV (UG/L)	VER- NOLATE WATER WHOLE RECOV. (UG/L)	
PG Bc 16	<0.01	<0.01	<0.01	<1	--	<0.002	<0.005	--	--	
PG Bc 37	--	--	--	--	<1.0	--	--	<0.01	<0.10	

QUALITY OF GROUND WATER  
WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
QUEEN ANNES COUNTY, MARYLAND

WELL NUMBER	DATE	TIME	STATION	NUMBER	GEO- LOGIC UNIT	SITE	SAM- PLING METHOD, CODES	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	DEPTH OF WELL, TOTAL (FEET)
QA Cg 1	08-11-93	1130	390841075515201	112WCML	GW	4030	--	60.00	
QA Db 14	03-08-93	0930	390055076184501	125AQUI	GW	4010	--	165.00	
	08-19-93	1215		125AQUI	GW	4040	--	165.00	
QA Db 15	03-08-93	1115	390022076191801	125AQUI	GW	4010	--	103.00	
	08-19-93	1400		125AQUI	GW	4040	--	103.00	
QA Db 17	03-08-93	1020	390059076191801	125AQUI	GW	4010	--	--	
	08-19-93	1115		125AQUI	GW	4040	--	--	
QA Db 23	03-08-93	1200	390033076184501	125AQUI	GW	4010	--	185.00	
	08-19-93	1315		125AQUI	GW	4040	--	185.00	
QA Db 27	04-06-93	1320	390117076191301	125AQUI	GW	4010	--	145.00	
	08-16-93	1500		125AQUI	GW	4040	--	145.00	
QA Db 30	04-05-93	1445	390201076182701	125AQUI	GW	4040	16.15	220.00	
	08-18-93	1200		125AQUI	GW	4040	16.21	220.00	
QA Db 32	04-05-93	1205	390201076182703	125AQUI	GW	4040	15.76	116.00	
	08-18-93	1300		125AQUI	GW	4040	15.93	116.00	
QA Db 34	03-24-93	1205	390023076174301	125AQUI	GW	4030	8.03	180.00	
	08-18-93	1400		125AQUI	GW	4030	9.74	180.00	
QA Db 35	04-06-93	1405	390119076191001	125AQUI	GW	4030	6.64	200.00	
	08-16-93	1530		125AQUI	GW	4030	5.88	200.00	
QA Db 37	03-24-93	1250	390023076174302	125AQUI	GW	4040	7.40	250.00	
	08-18-93	1500		125AQUI	GW	4040	8.78	250.00	
QA Ea 39	03-09-93	1105	385825076202901	125AQUI	GW	4010	--	95.00	
	08-19-93	1600		125AQUI	GW	4040	--	95.00	
QA Ea 42	03-08-93	1430	385820076202501	125AQUI	GW	4010	--	120.00	
	08-20-93	0935		125AQUI	GW	4040	--	120.00	
QA Ea 45	03-11-93	1400	385554076213801	125AQUI	GW	4010	--	210.00	
	08-20-93	1350		125AQUI	GW	4040	--	210.00	
QA Ea 48	03-08-93	1350	385825076201201	125AQUI	GW	4010	--	160.00	
	08-19-93	1515		125AQUI	GW	4040	--	160.00	
QA Ea 59	03-09-93	1350	385505076215001	125AQUI	GW	4010	--	215.00	
	08-20-93	1305		125AQUI	GW	4040	--	215.00	
QA Ea 60	08-20-93	1035	385701076212501	125AQUI	GW	4040	--	185.00	
QA Ea 61	03-11-93	1520	385812076202801	125AQUI	GW	4010	--	170.00	
QA Ea 71	03-08-93	1525	385742076205801	125AQUI	GW	4010	--	135.00	
	08-23-93	1240		125AQUI	GW	4040	--	135.00	
QA Ea 77	03-23-93	1410	385718076211501	125AQUI	GW	4040	--	205.00	
	08-17-93	1300		125AQUI	GW	4040	12.91	205.00	
QA Ea 78	03-23-93	1245	385718076211502	125AQUI	GW	4040	--	135.00	
	08-17-93	1400		125AQUI	GW	4040	12.94	135.00	
	08-17-93	1405		125AQUI	GW	4040	12.94	135.00	

Geologic unit (aquifer): 112WCML - Wicomico Formation  
125AQUI - Aquia Formation

Site type: GW - Groundwater

Sampling Method: 4010 - Thief sample  
4030 - Suction pump  
4040 - Submersible pump

## QUALITY OF GROUND WATER

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

QUEEN ANNES COUNTY, MARYLAND--Continued

WELL NUMBER	DEPTH TO TOP OF SAMPLE INTER- VAL (FT)	DEPTH TO BOT- TOM OF SAMPLE INTER- VAL (FT)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	PUMP OR FLOW PERIOD PRIOR TO SAM- PLING (MIN)	FLOW RATE, INSTAN- TANEOUS (G/M)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TEMPER- ATURE AIR (DEG C)
QA Cg 1	50	60	69.0	52	5.0	224	5.9	16.0	25.0
QA Db 14	145	165	15.0	--	--	463	7.3	14.0	8.0
	145	165	15.0	25	--	464	7.2	15.5	--
QA Db 15	96	103	15.0	--	--	1060	7.1	12.5	11.5
	96	103	15.0	45	--	1030	6.9	17.5	28.0
QA Db 17	--	--	20.0	--	--	648	7.2	13.0	12.0
	--	--	20.0	35	--	656	7.1	15.5	25.5
QA Db 23	165	185	18.0	--	--	452	7.5	14.5	11.0
	165	185	18.0	--	--	458	7.2	15.0	27.5
QA Db 27	110	145	15.0	--	--	1410	7.2	14.5	12.0
	110	145	15.0	--	--	1410	7.0	15.0	29.0
QA Db 30	210	220	23.4	135	5.1	17	6.5	15.5	8.5
	210	220	23.4	82	5.1	17	6.5	15.5	24.5
QA Db 32	106	116	21.2	175	5.7	9350	6.9	14.5	10.0
	106	116	21.2	70	5.7	9090	6.8	15.0	25.5
QA Db 34	170	180	7.4	25	40	528	7.3	15.0	9.0
	170	180	7.4	20	48	529	7.5	16.0	28.0
QA Db 35	190	200	7.5	154	2.7	16	7.0	16.5	15.0
	190	210	7.5	57	3.4	16	6.7	16.5	29.0
QA Db 37	240	250	7.1	76	6.0	589	7.4	15.5	9.5
	240	250	7.1	90	5.4	599	7.5	16.0	28.0
QA Ea 39	80	95	15.0	--	--	398	7.4	14.5	10.0
	80	95	15.0	--	--	434	7.4	15.5	--
QA Ea 42	100	120	18.0	--	--	616	7.7	14.0	5.0
	100	120	18.0	25	--	643	7.4	17.5	23.5
QA Ea 45	200	210	15.0	--	--	363	7.7	15.0	4.5
	200	210	15.0	25	--	361	7.7	16.0	26.5
QA Ea 48	129	160	5.0	--	--	1080	7.6	14.0	12.5
	129	160	5.0	--	--	1200	7.4	15.5	27.0
QA Ea 59	195	215	10.0	--	--	637	7.9	15.0	9.5
	195	215	10.0	30	--	650	7.8	16.5	28.0
QA Ea 60	165	185	7.0	25	--	1280	7.5	15.5	26.0
QA Ea 61	150	170	18.0	--	--	3020	7.3	14.5	6.0
QA Ea 71	115	135	20.0	--	--	625	7.8	14.5	10.5
	115	135	20.0	20	--	599	7.6	16.0	--
QA Ea 77	195	205	10.8	68	6.0	16	7.2	15.5	5.0
	195	205	12.2	65	6.2	15900	7.0	16.0	28.0
QA Ea 78	125	135	11.9	40	6.0	323	7.6	15.0	6.0
	125	135	11.9	40	6.3	327	7.6	15.5	28.5
	125	135	11.9	40	6.3	327	7.6	15.5	28.5

## QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

QUEEN ANNES COUNTY, MARYLAND--Continued

WELL NUMBER	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT WH TOT IT FIELD MG/L AS CACO3	BICAR- BONATE WATER WH IT FIELD MG/L AS HCO3	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
QA Cg 1	13	6.2	11	6.8	19	23	19	16	<0.10
QA Db 14	--	--	--	--	--	--	--	14	--
QA Db 15	--	--	--	--	--	--	--	14	--
	--	--	--	--	--	--	--	110	--
	--	--	--	--	--	--	--	120	--
QA Db 17	--	--	--	--	--	--	--	67	--
	--	--	--	--	--	--	--	74	--
QA Db 23	--	--	--	--	--	--	--	18	--
	--	--	--	--	--	--	--	16	--
QA Db 27	--	--	--	--	--	--	--	300	--
	--	--	--	--	--	--	--	270	--
QA Db 30	--	--	--	--	--	--	--	6000	--
	--	--	--	--	--	--	--	5500	--
QA Db 32	--	--	--	--	--	--	--	3000	--
	--	--	--	--	--	--	--	2800	--
QA Db 34	--	--	--	--	--	--	--	9.7	--
	--	--	--	--	--	--	--	9.8	--
QA Db 35	--	--	--	--	--	--	--	5700	--
	--	--	--	--	--	--	--	5400	--
QA Db 37	--	--	--	--	--	--	--	13	--
	--	--	--	--	--	--	--	12	--
QA Ea 39	--	--	--	--	--	--	--	33	--
	--	--	--	--	--	--	--	33	--
QA Ea 42	--	--	--	--	--	--	--	85	--
	--	--	--	--	--	--	--	94	--
QA Ea 45	--	--	--	--	--	--	--	4.8	--
	--	--	--	--	--	--	--	5.1	--
QA Ea 48	--	--	--	--	--	--	--	210	--
	--	--	--	--	--	--	--	270	--
QA Ea 59	--	--	--	--	--	--	--	96	--
	--	--	--	--	--	--	--	100	--
QA Ea 60	--	--	--	--	--	--	--	300	--
QA Ea 61	--	--	--	--	--	--	--	860	--
QA Ea 71	--	--	--	--	--	--	--	92	--
	--	--	--	--	--	--	--	83	--
QA Ea 77	--	--	--	--	--	--	--	5500	--
	--	--	--	--	--	--	--	5700	--
QA Ea 78	--	--	--	--	--	--	--	4.3	--
	--	--	--	--	--	--	--	3.9	--
	42	7.4	10	1.1	164	200	0.30	4.2	0.20

QUALITY OF GROUND WATER

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

QUEEN ANNES COUNTY, MARYLAND--Continued

WELL NUMBER	BROMIDE DIS- SOLVED (MG/L AS BR)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)
QA Cg 1	--	19	154	8.08	0.020	8.10	0.830	0.020
QA Db 14	0.050	--	--	--	--	--	--	--
	0.050	--	--	--	--	--	--	--
QA Db 15	0.33	--	--	--	--	--	--	--
	0.35	--	--	--	--	--	--	--
QA Db 17	0.24	--	--	--	--	--	--	--
	0.25	--	--	--	--	--	--	--
QA Db 23	0.050	--	--	--	--	--	--	--
	0.060	--	--	--	--	--	--	--
QA Db 27	1.1	--	--	--	--	--	--	--
	0.54	--	--	--	--	--	--	--
QA Db 30	12	--	--	--	--	--	--	--
	16	--	--	--	--	--	--	--
QA Db 32	11	--	--	--	--	--	--	--
	3.0	--	--	--	--	--	--	--
QA Db 34	--	--	--	--	--	--	--	--
	0.010	--	--	--	--	--	--	--
QA Db 35	27	--	--	--	--	--	--	--
	16	--	--	--	--	--	--	--
QA Db 37	0.010	--	--	--	--	--	--	--
	0.030	--	--	--	--	--	--	--
QA Ea 39	0.10	--	--	--	--	--	--	--
	0.11	--	--	--	--	--	--	--
QA Ea 42	0.27	--	--	--	--	--	--	--
	0.31	--	--	--	--	--	--	--
QA Ea 45	<0.010	--	--	--	--	--	--	--
	0.010	--	--	--	--	--	--	--
QA Ea 48	0.040	--	--	--	--	--	--	--
	0.36	--	--	--	--	--	--	--
QA Ea 59	0.33	--	--	--	--	--	--	--
	0.36	--	--	--	--	--	--	--
QA Ea 60	0.57	--	--	--	--	--	--	--
QA Ea 61	2.9	--	--	--	--	--	--	--
QA Ea 71	0.29	--	--	--	--	--	--	--
	0.28	--	--	--	--	--	--	--
QA Ea 77	20	--	--	--	--	--	--	--
	19	--	--	--	--	--	--	--
QA Ea 78	<0.010	--	--	--	--	--	--	--
	0.020	--	--	--	--	--	--	--
	--	26	182	--	<0.010	<0.050	0.920	0.160

## QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

QUEEN ANNES COUNTY, MARYLAND--Continued

WELL NUMBER	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)	HARD- NESS TOTAL (MG/L AS CaCO3)
QA Cg 1	<0.010	<0.010	260	230	70	75	0.6	58
QA Db 14	--	--	--	--	--	--	--	--
QA Db 15	--	--	--	--	--	--	--	--
QA Db 17	--	--	--	--	--	--	--	--
QA Db 23	--	--	--	--	--	--	--	--
QA Db 27	--	--	--	--	--	--	--	--
QA Db 30	--	--	--	--	--	--	--	--
QA Db 32	--	--	--	--	--	--	--	--
QA Db 34	--	--	--	--	--	--	--	--
QA Db 35	--	--	--	--	--	--	--	--
QA Db 37	--	--	--	--	--	--	--	--
QA Ea 39	--	--	--	--	--	--	--	--
QA Ea 42	--	--	--	--	--	--	--	--
QA Ea 45	--	--	--	--	--	--	--	--
QA Ea 48	--	--	--	--	--	--	--	--
QA Ea 59	--	--	--	--	--	--	--	--
QA Ea 60	--	--	--	--	--	--	--	--
QA Ea 61	--	--	--	--	--	--	--	--
QA Ea 71	--	--	--	--	--	--	--	--
QA Ea 77	--	--	--	--	--	--	--	--
QA Ea 78	--	--	--	--	--	--	--	--
	0.160	0.150	1700	1600	40	28	1.1	140

## QUALITY OF GROUND WATER

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## WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

## QUEEN ANNES COUNTY, MARYLAND--Continued

WELL NUMBER	DATE	TIME	STATION	NUMBER	GEO- LOGIC UNIT	SITE	SAM- PLING METHOD, CODES	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	DEPTH OF WELL, TOTAL (FEET)
QA Ea 79	03-24-93	1035	385757076200101	125AQUI	GW		4040	10.25	298.00
	08-17-93	1030		125AQUI	GW		4040	12.34	298.00
QA Ea 80	03-24-93	0925	385757076200102	125AQUI	GW		4030	10.54	130.00
	08-17-93	0930		125AQUI	GW		4030	11.53	130.00
QA Ea 81	03-23-93	1145	385718076211503	125AQUI	GW		4040	11.99	310.00
	08-17-93	1500		125AQUI	GW		4040	12.64	310.00
QA Ea 82	03-09-93	1205	385705076212002	125AQUI	GW		4010	--	170.00
	08-20-93	1145		125AQUI	GW		4040	--	170.00
QA Ea 83	03-09-93	1235	385705076212001	125AQUI	GW		4010	--	170.00
	08-20-93	1115		125AQUI	GW		4040	--	170.00
QA Eb 155	03-24-93	1400	385843076155302	125AQUI	GW		4030	8.10	245.00
	08-16-93	1200		125AQUI	GW		4030	10.67	245.00
QA Eb 156	04-06-93	1055	385852076195201	125AQUI	GW		4030	12.85	220.00
	08-16-93	1000		125AQUI	GW		4030	12.10	220.00
QA Eb 157	04-06-93	0945	385852076195202	125AQUI	GW		4030	11.54	120.00
	08-16-93	0930		125AQUI	GW		4030	13.04	120.00
QA Fa 49	08-20-93	1500	385354076212701	125AQUI	GW		4040	--	210.00
QA Fa 54	03-11-93	0915	385024076222501	125AQUI	GW		4010	--	260.00
	08-20-93	0930		125AQUI	GW		4040	--	260.00
QA Fa 58	03-31-93	1415	385133076201201	125AQUI	GW		4010	--	280.00
	08-20-93	1100		125AQUI	GW		4040	--	280.00
QA Fa 60	03-31-93	1500	385254076201901	125AQUI	GW		4010	--	240.00
QA Fa 63	03-11-93	1300	385434076215601	125AQUI	GW		4010	--	235.00
	08-23-93	1000		125AQUI	GW		4040	--	235.00
QA Fa 64	03-09-93	1450	385454076214901	125AQUI	GW		4010	--	231.00
	08-23-93	1200		125AQUI	GW		4040	--	231.00
QA Fa 66	03-11-93	1035	385236076215201	125AQUI	GW		4010	--	270.00
	08-20-93	1015		125AQUI	GW		4040	--	270.00
QA Fa 67	03-09-93	1550	385023076222201	125AQUI	GW		4010	--	270.00
	08-20-93	1400		125AQUI	GW		4040	--	270.00
QA Fa 72	03-11-93	1210	385254076201301	125AQUI	GW		4010	--	220.00
	08-20-93	1315		125AQUI	GW		4040	--	220.00
QA Fa 74	03-11-93	1000	385227076215401	125AQUI	GW		4010	--	280.00
	08-23-93	1110		125AQUI	GW		4040	--	280.00
QA Fa 75	03-11-93	1125	385155076200401	125AQUI	GW		4010	--	200.00
	08-20-93	1200		125AQUI	GW		4040	--	200.00

Geologic unit (aquifer): 125AQUIA - Aquia Formation

Site type: GW - Groundwater

Sampling Method: 4010 - Thief sample  
 4030 - Suction pump  
 4040 - Submersible pump

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

## QUEEN ANNES COUNTY, MARYLAND--Continued

WELL NUMBER	DEPTH TO TOP OF SAMPLE INTER- VAL (FT)	DEPTH TO BOT- TOM OF SAMPLE INTER- VAL (FT)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	PUMP OR FLOW PERIOD PRIOR TO SAM- PLING (MIN)	FLOW RATE, INSTAN- TANEOUS (G/M)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TEMPER- ATURE AIR (DEG C)
QA Ea 79	288	298	8.3	101	6.0	372	9.3	15.5	9.0
	288	298	8.3	113	5.7	375	<9.6	16.0	26.0
QA Ea 80	120	130	8.5	20	30	354	7.7	14.5	10.5
	120	130	8.5	58	34	358	7.9	15.5	26.0
QA Ea 81	300	310	12.4	135	6.0	585	7.9	15.5	7.0
	300	310	12.4	137	4.4	590	7.8	16.0	27.5
QA Ea 82	155	170	10.0	--	--	992	7.6	14.5	8.0
	155	170	10.0	25	--	989	7.6	16.0	25.0
QA Ea 83	160	170	10.0	--	--	395	7.7	14.5	8.0
	160	170	10.0	25	--	397	7.6	16.0	25.0
QA Eb 155	235	245	3.9	30	15	333	7.7	16.0	10.0
	235	245	3.9	37	14	335	7.9	16.0	30.0
QA Eb 156	210	220	12.0	54	9.2	16	7.0	15.5	9.0
	210	220	12.0	63	9.2	17	6.8	16.0	30.0
QA Eb 157	110	120	11.9	19	34	339	7.4	14.5	9.5
	110	120	11.9	40	36	342	7.4	15.5	29.5
QA Fa 49	185	210	8.0	--	--	949	7.6	17.0	28.0
QA Fa 54	240	260	10.0	--	--	355	7.8	15.5	5.0
	240	260	10.0	--	--	362	7.7	16.0	25.5
QA Fa 58	260	280	10.0	--	--	470	--	15.5	14.5
	260	280	10.0	--	--	475	7.9	16.5	27.5
QA Fa 60	230	240	10.0	--	--	420	--	14.5	14.5
QA Fa 63	200	235	15.0	--	--	468	7.2	15.0	5.5
	200	235	15.0	20	--	461	7.3	15.5	--
QA Fa 64	191	231	5.0	--	--	927	7.9	16.0	10.0
	191	231	5.0	25	--	941	7.7	17.0	--
QA Fa 66	250	270	13.0	--	--	520	7.9	15.0	5.5
	250	270	13.0	--	--	524	7.8	16.5	26.0
QA Fa 67	250	270	10.0	--	--	353	7.8	15.5	11.5
	250	270	10.0	--	--	358	7.8	16.0	28.0
QA Fa 72	200	220	12.0	--	--	490	8.0	15.0	5.0
	200	220	12.0	--	--	495	7.9	16.0	29.5
QA Fa 74	--	280	10.0	--	--	464	7.7	14.5	4.0
	--	280	10.0	25	--	459	7.6	16.0	--
QA Fa 75	180	200	10.0	--	--	529	8.0	14.0	6.5
	180	200	10.0	--	--	536	7.9	18.5	31.0



## WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

## QUEEN ANNES COUNTY, MARYLAND--Continued

WELL NUMBER	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMID DIS- SOLVED (MG/L AS BR)
QA Ea 79	1.4	0.030
	1.0	0.010
QA Ea 80	2.4	<0.010
	2.3	<0.010
QA Ea 81	78	0.28
	68	0.28
QA Ea 82	210	0.42
	210	0.49
QA Ea 83	20	0.050
	19	0.060
QA Eb 155	1.8	<0.010
	1.9	<0.010
QA Eb 156	4500	13
	6600	21
QA Eb 157	4.4	0.030
	3.5	0.020
QA Fa 49	150	0.28
QA Fa 54	11	0.040
	13	0.040
QA Fa 58	9.0	0.050
	8.5	0.030
QA Fa 60	10	0.050
QA Fa 63	8.5	0.020
	8.0	0.040
QA Fa 64	190	0.63
	180	0.53
QA Fa 66	21	0.070
	19	0.080
QA Fa 67	11	0.050
	11	0.040
QA Fa 72	14	0.050
	14	0.060
QA Fa 74	12	0.040
	12	0.040
QA Fa 75	22	0.080
	21	0.080

QUALITY OF GROUND WATER  
WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
SOMERSET COUNTY, MARYLAND

WELL NUMBER	DATE	TIME	STATION	NUMBER	GEO- LOGIC UNIT	SITE	SAM- PLING METHOD, CODES	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	DEPTH OF WELL, TOTAL (FEET)	DEPTH TO TOP OF SAMPLE INTER- VAL (FT)	
SO Co 98	08-09-93	1200	380920075420501	112BVDM		GW	4040	6.10	60.00	35	
DEPTH TO BOT- TOM OF SAMPLE INTER- VAL (FT)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	FLOW RATE, INSTAN- TANEOUS (G/M)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TEMPER- ATURE AIR (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)
55	15.0	0.5	73	5.7	16.5	27.5	0.4	2.0	0.74	6.7	1.0
ALKA- LINITY WAT WH TOT IT FIELD MG/L AS CACO3	BICAR- BONATE WATER WH IT FIELD MG/L AS HCO3	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	
5	6	13	6.9	<0.10	24	102	<0.010	<0.050	0.020	0.010	
PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)	HARD- NESS TOTAL (MG/L AS CACO3)	1,2,3- TRI- CHLORO BENZENE WAT, WH REC (UG/L)	BROMO- BENZENE WATER, WHOLE, TOTAL (UG/L)	BROMO- FORM TOTAL (UG/L)	
<0.010	<0.010	3500	3500	30	32	0.2	8	<3.0	<3.0	<3.0	
BENZENE TOTAL (UG/L)	CARBON- TETRA- CHLO- RIDE TOTAL (UG/L)	CHLORO- BENZENE TOTAL (UG/L)	CHLORO- DI- BROMO- METHANE TOTAL (UG/L)	CHLORO- FORM TOTAL (UG/L)	CHLORO- ETHANE TOTAL (UG/L)	CIS 1,3-DI- CHLORO- PROPENE TOTAL (UG/L)	DIBROMO CHLORO- PROPANE WATER WHOLE TOT.REC (UG/L)	DI- BROMO- METHANE WATER WHOLE RECOVER (UG/L)	DI- CHLORO- BROMO- METHANE TOTAL (UG/L)	DI- CHLORO- DI- FLUORO- METHANE TOTAL (UG/L)	
<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	
ETHYL- BENZENE TOTAL (UG/L)	FREON- 113 WATER UNFLTRD REC (UG/L)	ISO- PROPYL- BENZENE WATER WHOLE REC (UG/L)	MESIT- YLENE WATER UNFLTRD REC (UG/L)	METHANE BROMO CHLORO- WAT UNFLTRD REC (UG/L)	METHYL- BUTYL- WATER UNFLTRD REC (UG/L)	METHYL- CHLO- RIDE TOTAL (UG/L)	METHYL- ENE CHLO- RIDE TOTAL (UG/L)	BENZENE N-BUTYL WATER UNFLTRD REC (UG/L)	BENZENE N-PROPY WATER UNFLTRD REC (UG/L)	O- CHLORO- TOLUENE WATER WHOLE TOTAL (UG/L)	
<3.0	<3.0	<3.0	<3.0	<3.00	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	
P-ISO- PROPYL- TOLUENE WATER WHOLE REC (UG/L)	TOLUENE P-CHLOR WATER UNFLTRD REC (UG/L)	PSEUDO- CUMENE WATER UNFLTRD REC (UG/L)	BENZENE SEC BUTYL- WATER UNFLTRD REC (UG/L)	STYRENE TOTAL (UG/L)	BENZENE TERT- BUTYL- WATER UNFLTRD REC (UG/L)	METHYL ETHER TERT- BUTYL WAT UNF REC (UG/L)	TETRA- CHLORO- ETHYL- ENE TOTAL (UG/L)	TRI- CHLORO- FLUORO- METHANE TOTAL (UG/L)	TOLUENE TOTAL (UG/L)	TRANS- 1,3-DI- CHLORO- PROPENE TOTAL (UG/L)	
<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<5.0	<3.0	<3.0	<3.0	<3.0	

Geologic unit (aquifer): 112BVDM - Beaverdam Sand

Site type: GW - Groundwater

Sampling method: 4040 - Submersible pump

## QUALITY OF GROUND WATER

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

SOMERSET COUNTY, MARYLAND--Continued

WELL NUMBER	TRI- CHLORO- ETHYL- ENE TOTAL (UG/L)	TRI- FLURA- LIN TOTAL RECOVER (UG/L)	VINYL CHLO- RIDE TOTAL (UG/L)	XYLENE WATER UNFLTRD REC (UG/L)	1,1-DI- CHLORO- ETHANE TOTAL (UG/L)	1,1-DI- CHLORO- ETHYL- ENE TOTAL (UG/L)	1,1-DI- CHLORO- PRO- PENE, WAT, WH TOTAL (UG/L)	1,1,1- TRI- CHLORO- ETHANE TOTAL (UG/L)	1,1,2- TRI- CHLORO- ETHANE TOTAL (UG/L)	ETHANE, 1,1,2,2 TETRA- CHLORO- WAT UNF REC (UG/L)	ETHANE, 1112- TETRA- CHLORO- WAT UNF REC (UG/L)
SO Cc 98	<3.0	<0.10	<1.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
	1,2- DIBROMO ETHANE WATER WHOLE TOTAL (UG/L)	BENZENE O- CHLORO- WATER UNFLTRD REC (UG/L)	1,2-DI- CHLORO- ETHANE TOTAL (UG/L)	1,2-DI- CHLORO- PROPANE TOTAL (UG/L)	1,2- TRANSDI CHLORO- ETHENE TOTAL (UG/L)	123-TRI CHLORO- PROPANE WATER WHOLE TOTAL (UG/L)	BENZENE 1,2,4- TRI- CHLORO- WAT UNF REC (UG/L)	1,3-DI- CHLORO- PROPANE WAT. WH TOTAL (UG/L)	BENZENE 1,3-DI- CHLORO- WATER UNFLTRD REC (UG/L)	BENZENE 1,4-DI- CHLORO- WATER UNFLTRD REC (UG/L)	2- CHLORO- ETHYL- VINYL- ETHER TOTAL (UG/L)
	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
	2,2-DI CHLORO- PRO- PANE WAT, WH TOTAL (UG/L)	2,4-D, TOTAL (UG/L)	2,4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	ACRO- LEIN TOTAL (UG/L)	ACRYLO- NITRILE TOTAL (UG/L)	ALA- CHLOR TOTAL RECOVER (UG/L)	AME- TRYNE TOTAL (UG/L)	ATRA- ZINE WATER UNFLTRD REC (UG/L)	BUTA- CHLOR WATER WHLREC (UG/L)	BROM- ACIL WATER WHLREC (UG/L)
	<3.0	<0.01	<0.01	<0.01	<20	<20	<0.10	<0.10	<0.1	<0.10	<0.20
	BUTYL- ATE WATER WHLREC (UG/L)	CARBOX- IN WATER WHOLE RECOV- ERABLE (UG/L)	CIS-1,2 -DI- CHLORO- ETHENE WATER TOTAL (UG/L)	CYAN- AZINE TOTAL (UG/L)	CYCLO- ATE WATER WHOLE RECOV- ERABLE (UG/L)	DEETHYL ATRA- ZINE, WATER, WHOLE, TOTAL (UG/L)	DE-ISO PROPYL ATRAZIN WATER, WHOLE, TOTAL (UG/L)	DIPHEN- AMID WATER WHOLE RECOV- ERABLE (UG/L)	HEXA- CHLORO- BUT- ADIENE TOTAL (UG/L)	HEXAZI- NONE WATER WHOLE RECOV- ERABLE (UG/L)	METOLA- CHLOR WATER WHOLE TOT.REC (UG/L)
	<0.10	<0.20	<3.0	<0.20	<0.10	<0.20	<0.20	<0.10	<3.0	<0.20	<0.20
	METRI- BUZIN WATER WHOLE TOT.REC (UG/L)	NAPHTH- ALENE TOTAL (UG/L)	PROME- TRYNE TOTAL (UG/L)	PROME- TONE TOTAL (UG/L)	PROPA- CHLOR WATER WHOLE RECOV. (UG/L)	PRO- PAZINE TOTAL (UG/L)	SILVEX, TOTAL (UG/L)	SIMA- ZINE TOTAL (UG/L)	SIME- TRYNE TOTAL (UG/L)	TER- BACIL WATER WHOLE RECOV. (UG/L)	VER- NOLATE WATER WHOLE RECOV. (UG/L)
	<0.10	<3.0	<0.10	<0.20	<0.10	<0.10	<0.01	<0.10	<0.10	<0.20	<0.10

QUALITY OF GROUND WATER  
WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993  
TALBOT COUNTY, MARYLAND

WELL NUMBER	DATE	TIME	STATION	NUMBER	GEO- LOGIC UNIT	SITE	SAM- PLING METHOD, CODES	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	DEPTH OF WELL, TOTAL (FEET)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)
TA Co 7	08-09-93	1830	384643076043801	122CLVR	GW		4040	26.67	104.00	13.0
	PUMP OR FLOW PERIOD PRIOR TO SAM- PLING (MIN)	FLOW RATE, INSTAN- TANEOUS (G/M)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TEMPER- ATURE AIR (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
TA Co 7	65	5.5	362	8.0	16.5	24.5	0.1	41	12	14
	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT WH TOT IT FIELD MG/L AS CACO3	BICAR- BONATE WATER WH IT FIELD MG/L AS HCO3	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)
TA Co 7	5.6	178	217	2.9	2.7	0.30	57	244	<0.010	<0.050
	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)	HARD- NESS TOTAL (MG/L AS CACO3)
TA Co 7	0.170	0.030	<0.010	<0.010	230	110	<10	5	0.5	150

Geologic unit (aquifer): 122CLVR - Calvert Formation

Site type: GW - Groundwater

Sampling method: 4040 - Submersible pump

QUALITY OF GROUND WATER

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

WASHINGTON COUNTY, MARYLAND

WELL NUMBER	DATE	TIME	STATION	NUMBER	GEO- LOGIC UNIT	SITE	SAM- PLING METHOD, CODES	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	DEPTH OF WELL, TOTAL (FEET)	DEPTH TO TOP OF SAMPLE INTER- VAL (FT)
WA Ad 101	07-19-93	1530	394149078052801	344RMNY	GW		4040	20.67	120.00	21
WA Ah 63	07-21-93	1400	394115077461501	367RCKR	GW		4040	17.53	25.00	--
WA Ak 99	07-19-93	1200	394219077335301	377TMSN	GW		4040	--	32.00	20
WA Bj 51	06-03-93	1000	393815077353001	377TMSN	GW		4040	25.60	166.00	57
WA Ci 168	06-08-93	1035	393419077405901	371ELBK	GW		4040	82.60	225.00	21
WA Cj 132	06-09-93	0800	393210077392901	377TMSN	GW		4040	34.70	100.00	83
WA Di 103	04-21-93	1020	392836077442701	371CCCG	SP		4010	--	--	--

	DEPTH TO BOT- TOM OF SAMPLE INTER- VAL (FT)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	PUMP OR FLOW PERIOD PRIOR TO SAM- PLING (MIN)	FLOW RATE, INSTAN- TANEOUS (G/M)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD) UNITS)	TEMPER- ATURE WATER (DEG C)	TEMPER- ATURE AIR (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)
WA Ad 101	120	560	80	4.1	163	6.9	13.5	28.0	--	0.5
WA Ah 63	25	515	75	0.2	699	6.9	13.5	26.5	--	4.7
WA Ak 99	32	670	65	1.1	728	7.1	13.5	27.0	--	--
WA Bj 51	166	705	210	--	487	7.2	13.0	23.5	742	8.2
WA Ci 168	225	520	140	4.0	644	7.4	14.0	34.0	--	7.6
WA Cj 132	100	560	105	3.3	331	7.4	13.0	32.5	746	8.8
WA Di 103	--	475	--	60	467	7.2	12.0	13.0	--	8.7

	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT WH TOT IT FIELD MG/L AS CACO3	BICAR- BONATE WATER WH IT FIELD MG/L AS HCO3	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
WA Ad 101	19	5.1	5.6	1.1	66	80	14	1.0	<0.10
WA Ah 63	100	11	10	4.9	218	266	40	24	0.10
WA Ak 99	89	30	12	2.5	242	295	25	37	0.20
WA Bj 51	64	21	3.5	1.3	223	272	8.0	8.0	<0.10
WA Ci 168	79	33	1.9	1.8	244	298	46	8.9	0.30
WA Cj 132	41	13	2.2	2.0	121	148	7.8	7.7	0.30
WA Di 103	58	19	3.5	1.9	172	210	24	6.1	0.30

	BROMIDE DIS- SOLVED (MG/L AS BR)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)
WA Ad 101	--	20	102	<0.010	<0.050	0.030	--	0.020	<0.010	0.020
WA Ah 63	--	8.0	412	<0.010	15.0	0.020	--	0.020	<0.010	<0.010
WA Ak 99	--	8.7	414	<0.010	11.0	0.030	--	<0.010	<0.010	<0.010
WA Bj 51	0.030	9.1	269	<0.010	4.80	0.030	<0.20	--	<0.010	0.010
WA Ci 168	0.040	10	372	<0.010	11.0	0.020	<0.20	--	0.010	<0.010
WA Cj 132	0.020	10	181	<0.010	7.40	0.030	<0.20	--	0.020	0.010
WA Di 103	--	11	254	<0.010	7.40	0.020	--	0.030	0.020	<0.010

Geologic unit (aquifer): 344RMNY - Romney Formation  
 367RCKR - Rockdale Run Formation  
 371CCCG - Conococheague Limestone  
 371ELBK - Elbrook Formation  
 377TMSN - Tomstown Dolomite

Site type: GW - Groundwater  
 SP - Spring

Sampling method: 4010 - Thief sampler  
 4040 - Submersible pump

## WASHINGTON COUNTY, MARYLAND--Continued

[illegible]

## WASHINGTON COUNTY, MARYLAND--Continued

[illegible]

## WASHINGTON COUNTY, MARYLAND--Continued

WELL NUMBER	DI- AZINON, DIS- SOLVED (UG/L)	DI- ELDRIN DIS- SOLVED (UG/L)	DIMETH- OATE WATER FLTRD 0.7 U GF, REC (UG/L)	DIPHEN- AMID WATER WHOLE RECOV- ERABLE (UG/L)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L)	ETHAL- FLUR- ALIN WAT FLT 0.7 U GF, REC (UG/L)	ETHO- PROP WATER FLTRD 0.7 U GF, REC (UG/L)	FONOFOS WATER DISS REC (UG/L)	HEXA- CHLORO- BUT- ADIENE TOTAL (UG/L)
WA Ad 101	--	--	--	<0.10	--	--	--	--	<3.0
WA Ah 63	--	--	--	--	--	--	--	--	<3.0
WA Ak 99	--	--	--	--	--	--	--	--	--
WA Bj 51	<0.01	<0.02	<0.02	--	0.003	<0.01	<0.01	<0.01	--
WA Ci 168	<0.01	<0.02	<0.02	--	<0.005	<0.01	<0.01	<0.01	<0.2
WA Cj 132	<0.01	<0.02	<0.02	--	<0.005	<0.01	<0.01	<0.01	<0.2
WA Di 103	--	--	--	--	--	--	--	--	--
	HEXAZI- NONE WATER WHOLE RECOV- ERABLE (UG/L)	LINDANE DIS- SOLVED (UG/L)	LIN- URON WATER FLTRD 0.7 U GF, REC (UG/L)	MALA- THION, DIS- SOLVED (UG/L)	METHYL AZIN- PHOS WAT FLT 0.7 U GF, REC (UG/L)	METHYL PARA- THION WAT FLT 0.7 U GF, REC (UG/L)	METOLA- CHLOR WATER WHOLE TOT.REC (UG/L)	METO- LACHLOR WATER DISSOLV (UG/L)	METRI- BUZIN WATER WHOLE TOT.REC (UG/L)
WA Ad 101	<0.20	--	--	--	--	--	<0.20	--	<0.10
WA Ah 63	--	--	--	--	--	--	--	--	--
WA Ak 99	--	--	--	--	--	--	--	--	--
WA Bj 51	--	<0.01	<0.04	<0.01	<0.04	<0.03	--	0.01	--
WA Ci 168	--	<0.01	<0.04	<0.01	<0.04	<0.03	--	0.01	--
WA Cj 132	--	<0.01	<0.04	<0.01	<0.04	<0.03	--	0.01	--
WA Di 103	--	--	--	--	--	--	--	--	--
	METRI- BUZIN WATER DISSOLV (UG/L)	MOL- INATE WATER FLTRD 0.7 U GF, REC (UG/L)	NAPHTH- ALENE TOTAL (UG/L)	NAPROP- AMIDE WATER FLTRD 0.7 U GF, REC (UG/L)	PARA- THION, DIS- SOLVED (UG/L)	PENDI- METH- ALIN WAT FLT 0.7 U GF, REC (UG/L)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L)	PER- METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L)	PROME- TRYNE TOTAL (UG/L)
WA Ad 101	--	--	<3.0	--	--	--	--	--	<0.10
WA Ah 63	--	--	<3.0	--	--	--	--	--	--
WA Ak 99	--	--	--	--	--	--	--	--	--
WA Bj 51	<0.01	<0.01	--	<0.01	<0.02	<0.02	<0.02	<0.02	--
WA Ci 168	<0.01	<0.01	<0.2	<0.01	<0.02	<0.02	<0.02	<0.02	--
WA Cj 132	<0.01	<0.01	<0.2	<0.01	<0.02	<0.02	<0.02	<0.02	--
WA Di 103	--	--	--	--	--	--	--	--	--
	PROME- TONE TOTAL (UG/L)	PRO- METON, WATER, DISS, REC (UG/L)	PROP- CHLOR, WATER, DISS, REC (UG/L)	PROPA- CHLOR WATER WHOLE RECOV. (UG/L)	PRO- PANIL WATER FLTRD 0.7 U GF, REC (UG/L)	PRO- PARGITE WATER FLTRD 0.7 U GF, REC (UG/L)	PRO- PAZINE TOTAL (UG/L)	SILVEX, DIS- SOLVED (UG/L)	SIMA- ZINE TOTAL (UG/L)
WA Ad 101	<0.20	--	--	<0.10	--	--	<0.10	--	<0.10
WA Ah 63	--	--	--	--	--	--	--	--	--
WA Ak 99	--	--	--	--	--	--	--	--	--
WA Bj 51	--	0.01	<0.02	--	<0.02	<0.01	--	<0.05	--
WA Ci 168	--	0.90	<0.02	--	<0.02	<0.01	--	<0.05	--
WA Cj 132	--	<0.01	<0.02	--	<0.02	<0.01	--	<0.05	--
WA Di 103	--	--	--	--	--	--	--	--	--
	SI- MAZINE, WATER, DISS, REC (UG/L)	SIME- TRYNE TOTAL (UG/L)	TER- BACIL WATER WHOLE RECOV. (UG/L)	TER- BACIL WATER FLTRD 0.7 U GF, REC (UG/L)	TER- BUFOS WATER FLTRD 0.7 U GF, REC (UG/L)	THIO- BENCARB WATER FLTRD 0.7 U GF, REC (UG/L)	TRIAL- LATE WATER FLTRD 0.7 U GF, REC (UG/L)	TRI- FLUR- ALIN WAT FLT 0.7 U GF, REC (UG/L)	VER- NOLATE WATER WHOLE RECOV. (UG/L)
WA Ad 101	--	<0.10	<0.20	--	--	--	--	--	<0.10
WA Ah 63	--	--	--	--	--	--	--	--	--
WA Ak 99	--	--	--	--	--	--	--	--	--
WA Bj 51	0.05	--	--	<0.03	<0.01	<0.01	<0.01	<0.01	--
WA Ci 168	0.14	--	--	<0.03	<0.01	<0.01	<0.01	<0.01	--
WA Cj 132	0.01	--	--	<0.03	<0.01	<0.01	<0.01	<0.01	--
WA Di 103	--	--	--	--	--	--	--	--	--



## QUALITY OF GROUND WATER

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

WICOMICO COUNTY, MARYLAND

WELL NUMBER	DATE	TIME	STATION	NUMBER	GEO- LOGIC UNIT	SITE	SAM- PLING METHOD, CODES	DEPTH BELOW SURFACE (WATER LEVEL) (FEET)	DEPTH OF WELL, TOTAL (FEET)	DEPTH TO TOP OF SAMPLE INTER- VAL (FT)
WI Cd 71	07-28-93	1130	382329075412002	112CLMB	GW		4040	5.15	18.00	15
WI Ce 13	07-27-93	0900	382150075352101	112BVDM	GW		4040	3.13	65.00	45
	DEPTH TO BOT- TOM OF SAMPLE INTER- VAL (FT)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	PUMP OR FLOW PERIOD PRIOR TO SAM- PLING (MIN)	FLOW RATE, INSTAN- TANEOUS (G/M)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TEMPER- ATURE AIR (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)
WI Cd 71	18	35.0	50	0.5	51	5.0	15.5	31.0	2.8	1.5
WI Ce 13	65	7.0	--	0.6	142	5.8	16.5	26.5	4.2	7.2
	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT WH TOT IT FIELD (MG/L AS CACO3)	BICAR- BONATE WATER WH IT FIELD (MG/L AS HCO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)
WI Cd 71	1.3	3.6	1.4	2	2	9.9	4.4	<0.10	12	32
WI Ce 13	2.1	12	1.9	14	17	6.3	12	<0.10	27	118
	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS TOTAL (MG/L AS P)	PHOS- PHORUS DIS- SOLVED (MG/L AS P)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	
WI Cd 71	--	<0.010	0.099	<0.010	<0.010	<0.010	<0.010	<10	4	
WI Ce 13	5.78	0.020	5.80	0.020	<0.010	<0.010	<0.010	2400	460	
	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)	HARD- NESS TOTAL (MG/L AS CACO3)	PCN DISSOLV (UG/L)	ALDRIN, DIS- SOLVED (UG/L)	CHLOR- DANE, DIS- SOLVED (UG/L)	DDD, DIS- SOLVED (UG/L)	DDE, DIS- SOLVED (UG/L)	
WI Cd 71	<10	4	0.8	9	--	--	--	--	--	
WI Ce 13	80	68	0.3	27	<0.10	<0.01	<0.1	<0.01	<0.01	
	DDT, DIS- SOLVED (UG/L)	DI- AZINON, DIS- SOLVED (UG/L)	DI- ELDRIN DIS- SOLVED (UG/L)	ENDO- SULFAN DIS- SOLVED (UG/L)	ENDRIN, DIS- SOLVED (UG/L)	ETHION DISSOLV (UG/L)	HEPTA- CHLOR, DIS- SOLVED (UG/L)	HEPTA- CHLOR EPOXIDE DIS- SOLVED (UG/L)	LINDANE DIS- SOLVED (UG/L)	
WI Cd 71	--	--	--	--	--	--	--	--	--	
WI Ce 13	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
	MALA- THION, DIS- SOLVED (UG/L)	METH- OXY- CHLOR DISSOLV (UG/L)	METHYL PARA- THION, DIS- SOLVED (UG/L)	MIREX, DIS- SOLVED (UG/L)	PARA- THION, DIS- SOLVED (UG/L)	PCB, DIS- SOLVED (UG/L)	PER- THANE DISSOLV (UG/L)	TOX- APHENE, DIS- SOLVED (UG/L)	TRI- THION DISSOLV (UG/L)	
WI Cd 71	--	--	--	--	--	--	--	--	--	
WI Ce 13	<0.01	<0.01	<0.01	<0.01	<0.01	<0.1	<0.10	<1.0	<0.01	

Geologic unit (aquifer): 112BVDM - Beaverdam Sand  
112CLMB - Columbia Group

Site type: GW - Groundwater

Sampling method: 4040 - Submersible pump

## QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

WORCESTER COUNTY, MARYLAND

WELL NUMBER	DATE	TIME	STATION	NUMBER	GEO- LOGIC UNIT	SITE	SAM- PLING METHOD, CODES	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	DEPTH OF WELL, TOTAL (FEET)	DEPTH TO TOP OF SAMPLE INTER- VAL (FT)
WO Ah 34	09-09-93	1145	382632075031901	122MNKN	GW		4040	--	450.00	350
WO Ah 36	09-09-93	1300	382635075030602	122MNKN	GW		4040	--	430.00	420
WO Bf 87	07-27-93	1630	382332075141802	112BVDM	GW		4040	6.39	18.00	15
WO Bh 28	09-08-93	1000	382214075041901	122OCNC	GW		4040	--	294.00	248
WO Bh 34	09-09-93	0930	382443075033501	122MNKN	GW		4040	--	353.00	337
WO Bh 84	07-26-93	1530	382215075041901	112CLMB	GW		4040	4.20	89.00	84
	09-07-93	1315		112CLMB	GW		4030	4.02	89.00	84
WO Bh 85	09-07-93	1400	382215075041902	122PCMK	GW		4030	5.43	195.00	190
WO Bh 88	09-07-93	1100	382041075045301	122MNKN	GW		4040	--	445.00	362
WO Bh 89	09-08-93	1130	382215075041903	122MNKN	GW		4040	33.11	500.00	388
WO Bh 97	09-08-93	1600	382127075043803	122MNKN	GW		4040	23.12	445.00	370
WO Bh 98	09-08-93	1800	382127075043802	122OCNC	GW		4040	--	310.00	255
WO Cc 3	07-27-93	1330	381543075273802	112CLMB	GW		4040	4.50	17.00	18
WO Cg 75	09-07-93	1000	381939075052102	122MNKN	GW		4040	--	433.00	367

	DEPTH TO BOT- TOM OF SAMPLE INTER- VAL (FT)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	PUMP OR FLOW PERIOD PRIOR TO SAM- PLING (MIN)	FLOW RATE, INSTAN- TANEOUS (G/M)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TEMPER- ATURE AIR (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)
WO Ah 34	450	5.0	20	1500	499	6.8	17.0	--	--	21
WO Ah 36	440	15.4	105	8.0	759	6.7	17.0	--	--	24
WO Bf 87	18	33.0	45	0.5	331	5.6	18.0	31.0	7.1	21
WO Bh 28	294	5.0	--	1500	861	6.6	17.0	--	--	18
WO Bh 34	353	4.0	120	8.0	227	7.0	17.0	--	--	15
WO Bh 84	89	5.0	--	0.7	379	6.9	17.0	26.0	0.3	15
	89	5.0	25	48	362	6.7	16.5	--	--	17
WO Bh 85	195	5.0	40	16	406	6.5	17.0	--	--	15
WO Bh 88	442	8.0	60	--	537	6.7	18.0	--	--	14
WO Bh 89	500	5.0	120	8.0	1880	7.1	17.5	--	--	28
WO Bh 97	440	6.0	130	8.0	406	7.0	17.5	--	--	14
WO Bh 98	310	5.0	120	8.0	413	7.4	17.0	--	--	36
WO Cc 3	21	30.0	44	0.5	54	5.4	15.0	28.5	0.4	1.6
WO Cg 75	427	5.0	60	1500	461	6.6	17.5	--	--	9.6

	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT WH TOT IT FIELD MG/L AS CACO3	BICAR- BONATE WAT WH WH IT FIELD MG/L AS HCO3	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	BROMIDE DIS- SOLVED (MG/L AS BR)
WO Ah 34	4.9	57	3.8	105	128	0.30	86	0.10	0.29
WO Ah 36	6.5	100	4.9	143	174	<0.10	160	0.10	0.43
WO Bf 87	15	9.6	2.5	8	10	32	33	<0.10	--
WO Bh 28	17	120	9.4	140	171	0.80	190	0.20	0.56
WO Bh 34	6.2	12	4.5	101	123	0.10	12	0.10	0.080
WO Bh 84	9.4	31	13	123	150	0.30	39	0.20	--
	10	32	12	127	155	<0.10	41	0.10	0.30
WO Bh 85	14	39	9.6	133	162	<0.10	44	0.20	0.17
WO Bh 88	12	76	8.4	119	133	0.10	96	0.20	0.39
WO Bh 89	42	270	2.2	204	249	6.2	500	0.20	1.4
WO Bh 97	9.7	36	10	113	139	0.30	58	0.20	0.30
WO Bh 98	14	22	9.7	179	218	<0.10	24	0.20	0.060
WO Cc 3	0.96	5.3	1.2	7	9	4.6	6.6	<0.10	--
WO Cg 75	8.6	72	6.5	114	148	0.20	72	0.30	0.38

Geologic unit (aquifer): 112BVDM - Beaverdam Sand  
 112CLMB - Columbia Group  
 122MNKN - Manokin Aquifer  
 122OCNC - Ocean City Aquifer  
 122PCMK - Pocomoke Aquifer

Site type: GW - Groundwater

Sampling method: 4030 - Suction pump  
 4040 - Submersible pump

**WORCESTER COUNTY, MARYLAND--Continued**

[illegible]

WORCESTER COUNTY, MARYLAND--Continued

[illegible]

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**WORCESTER COUNTY, MARYLAND--Continued**

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## CONVERSION FACTORS AND VERTICAL DATUM

Multiply	By	To obtain
<i>Length</i>		
inch (in.)	$2.54 \times 10^1$	millimeter
	$2.54 \times 10^{-2}$	meter
foot (ft)	$3.048 \times 10^{-1}$	meter
mile (mi)	$1.609 \times 10^0$	kilometer
<i>Area</i>		
acre	$4.047 \times 10^3$	square meter
	$4.047 \times 10^{-1}$	square hectometer
	$4.047 \times 10^{-3}$	square kilometer
square mile (mi <sup>2</sup> )	$2.590 \times 10^0$	square kilometer
<i>Volume</i>		
gallon (gal)	$3.785 \times 10^0$	liter
	$3.785 \times 10^0$	cubic decimeter
	$3.785 \times 10^{-3}$	cubic meter
million gallons (Mgal)	$3.785 \times 10^3$	cubic meter
	$3.785 \times 10^{-3}$	cubic hectometer
cubic foot (ft <sup>3</sup> )	$2.832 \times 10^1$	cubic decimeter
	$2.832 \times 10^{-2}$	cubic meter
cubic-foot-per-second day [(ft <sup>3</sup> /s) d]	$2.447 \times 10^3$	cubic meter
	$2.447 \times 10^{-3}$	cubic hectometer
acre-foot (acre-ft)	$1.233 \times 10^3$	cubic meter
	$1.233 \times 10^{-3}$	cubic hectometer
	$1.233 \times 10^{-6}$	cubic kilometer
<i>Flow</i>		
cubic foot per second (ft <sup>3</sup> /s)	$2.832 \times 10^1$	liter per second
	$2.832 \times 10^1$	cubic decimeter per second
	$2.832 \times 10^{-2}$	cubic meter per second
gallon per minute (gal/min)	$6.309 \times 10^{-2}$	liter per second
	$6.309 \times 10^{-2}$	cubic decimeter per second
	$6.309 \times 10^{-5}$	cubic meter per second
million gallons per day (Mgal/d)	$4.381 \times 10^1$	cubic decimeter per second
	$4.381 \times 10^{-2}$	cubic meter per second
<i>Mass</i>		
ton (short)	$9.072 \times 10^{-1}$	megagram or metric ton

*Sea level:* In this report “sea level” refers to the National Geodetic Vertical Datum of 1929 (NGVD of 1929)—a geodetic datum derived from a general adjustment for the first-order level nets of both the United States and Canada, formerly called Sea Level Datum of 1929.



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