USGS
science for a changing world

Water Resources Data Maryland and Delaware Water Year 1997

Volume 2. Ground-Water Data

U.S. GEOLOGICAL SURVEY WATER-DATA REPORT
MD-DE-97-2
Prepared in cooperation with the States of Maryland and Delaware and with other agencies

CALENDAR FOR WATER YEAR 1997

1996

OCTOBER

S	M	T	W	T	F	S
		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		

NOVEMBER

S	M	T	W	T	F	S
					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

DECEMBER

S	M	T	W	T	F	S
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				

1997

JANUARY

S	M	T	W	T	F	S
			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	

FEBRUARY

S	M	T	W	T	F	S
						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	

MARCH

S	M	T	W	T	F	S
						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					

APRIL

S	M	T	W	T	F	S
		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			

MAY

S	M	T	W	T	F	S
				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

JUNE

S	M	T	W	T	F	S
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					

JULY

S	M	T	W	T	F	S
		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		

AUGUST

S	M	T	W	T	F	S
					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						

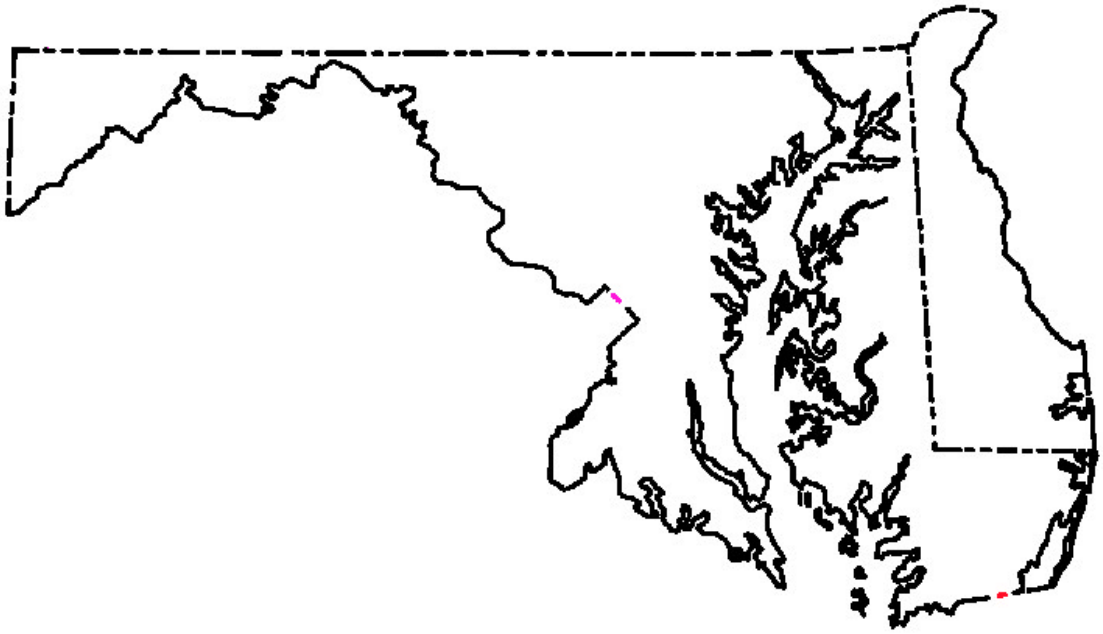
SEPTEMBER

S	M	T	W	T	F	S
	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				

Water Resources Data Maryland and Delaware Water Year 1997

Volume 2. Ground-Water Data

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



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT MD-DE-97-2

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

Thomas J. Casadevall, Acting Director

Robert M. Hirsch, Chief Hydrologist

Dedicated to the Memory of Bernard M. Helinsky (1943-1998) for his exemplary service with the U.S. Geological Survey (1961-1997) in surface-water studies. Bernie, as the Senior Hydrologic Technician, spent his entire career in the Maryland, Delaware, and Washington, D.C., Water Resources Division District. He trained and mentored almost everyone who worked in the surface-water field in the district, and was loved by all. In 1989, Bernie was instrumental in proposing the Maryland Bridge Scour Project that was responsible for identifying bridges in danger of collapse. His stream-gage designs and their construction will endure for decades, and his life-long legacy of only giving and doing the best job possible will forever be his epitaph.

For additional information write to
District Chief, Water Resources Division
U.S. Geological Survey
8987 Yellow Brick Road
Baltimore, Maryland 21237

1998

PREFACE

This volume of the annual hydrologic data report for 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 data collection, and data processing in the GWSI, ADAPS, and QWDATA data bases.

Hydrologic Surveillance and Analysis Section
Maryland Observation Well Monitoring Network
Baltimore Office

(Ground-Water Sub-Networks)

Michael J. Smigaj — Anne Arundel County Well Monitoring Network
Roger J. Starsoneck — Kent Island Well Monitoring Network
Robert H. Pentz

Cumberland Office

Jeffrey L. Griffith — Hydrologic Effects of Mining, Phase III,
Charles J. Strain — Well Monitoring Network

Dover Office

Deborah A. Bringman — Delaware Observation Well Monitoring and
Anthony J. Tallman — Ocean City Observation Well Monitoring Networks
Frank A. Danner,III

Water Quality Data Base (QWDATA)
Judy L. Tegeler
Elizabeth H. Marchand

Maryland Geological Survey
Baltimore Office

Barbara F. Cooper — Anne Arundel County Well Monitoring Network
David W. Bolton — Maryland Ground-Water Quality Networks

Annapolis Office

David C. Andreasen — Anne Arundel County Well Monitoring Network

Delaware Geological Survey
Newark Office

John H. Talley — Delaware Observation Well Monitoring Network
Roland E. Bounds

Modeling and Resources Assessment Section
Annapolis Office

Southern Maryland Power Plant Project
Frederick K. Mack (MGS)
Stephen E. Curtin

Indian Head-Bryans Road Water Supply Study
David C. Andreasen (MGS)
Paul B. Wicks
Frederick K. Mack (MGS)

Dover Office

Dover Air Force Base Long-term Monitoring Project
Kurt C. Hinaman

Hazardous Waste Hydrology Studies Section
Baltimore Office

J-Field Project
Daniel J. Phelan
Peggy R. Nemoff

Indian Head Project
Steven N. Hiortdahl
Michael J. Smigaj

Redden State Forest Wetlands Project
Martha A. Hayes (Baltimore)
Deborah A. Bringman

Andrew E. LaMotte produced figures 3 through 5, using a Geographic Information System mapping, program. Robert W. James, Hydrologic Surveillance and Analysis Supervisor, provided invaluable assistance and editing support for this volume.

This report was prepared under the general supervision of James M. Gerhart, District Chief, MD-DE-DC District, William J. Carswell, Jr., Regional Hydrologist, Northeastern Region, and in cooperation with the States of Maryland and Delaware, and with other Federal, State, and local agencies.

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

1. AGENCY USE ONLY *(Leave blank)*	2. REPORT DATE	3. REPORT TYPE AND DATES COVERED
	March 1998	Annual - Oct. 1, 1996, to Sept. 30, 1997

4. TITLE AND SUBTITLE

Water Resources Data - Maryland and Delaware, Water Year 1997

Volume 2. Ground-Water Data

5. FUNDING NUMBERS

6. AUTHOR(S)

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

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)

U.S. Geological Survey, Water Resources Division
8987 Yellow Brick Road
Baltimore, MD 21237

8. PERFORMING ORGANIZATION REPORT NUMBER

USGS-WDR-MD-DE-97-2

9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES)

U.S. Geological Survey, Water Resources Division
8987 Yellow Brick Road
Baltimore, MD 21237

10. SPONSORING / MONITORING AGENCY REPORT NUMBER

USGS-WDR-MD-DE-97-2

11. SUPPLEMENTARY NOTES

Prepared in cooperation with the states of Maryland and Delaware and with other agencies.

12a. DISTRIBUTION / AVAILABILITY STATEMENT

No restriction on distribution. This report may be purchased from the National Technical Information Service, Springfield, VA 22161

12b. DISTRIBUTION CODE

13. ABSTRACT *(Maximum 200 words)*

Water resources data for the 1997 water year for Maryland and Delaware consist of records of water levels and water quality of ground-water wells. This report (Volume 2. Ground-Water Data) contains water levels at 397 observation wells, discharge records for 6 springs and water quality at 107 wells. Locations of ground-water level wells are shown on figures 3 and 4. Locations of ground-water-quality sites are shown on figures 5 and 6. The data in this report represents that part of the National Water Data System collected by the U.S. Geological Survey and cooperating State, local, and Federal agencies in Maryland and Delaware.

14. SUBJECT TERMS

*Maryland, *Delaware, * Hydrologic data, *Ground water, *Water quality, Water levels, Water analyses, Chemical analyses, Water temperatures, Sampling sites.

15. NUMBER OF PAGES

564

16. PRICE CODE

17. SECURITY CLASSIFICATION OF REPORT	18. SECURITY CLASSIFICATION OF THIS PAGE	19. SECURITY CLASSIFICATION OF ABSTRACT	20. LIMITATION OF ABSTRACT
Unclassified	Unclassified		

CONTENTS

Page

Preface ... iii
List of ground-water wells, and springs by county or independent city, for which records of ground-water levels published in this volume ... vi
List of ground-water wells, and springs by county or independent city, for which records of ground-water quality published in this volume ... xii
Introduction ... 1
Cooperation ... 1
Summary of hydrologic conditions ... 2
Explanation of the records ... 4
  Station identification numbers ... 4
    Latitude-longitude system ... 4
    Well numbering system ... 4
  Records of ground-water levels ... 5
    Data collection and computation ... 5
    Data presentation ... 5
      Water-level tables ... 6
      Spring discharge tables ... 6
      Hydrographs ... 6
  Records of ground-water quality ... 6
    Data collection and computation ... 6
    Data presentation ... 6
    Remarks codes ... 7
    Water-quality control data ... 7
Access to USGS data ... 8
Definition of terms ... 9
Publications on Techniques of Water-Resources Investigations ... 14
Selected U.S. Geological Survey Reports on ground-water resources in Delaware ... 17
    Professional Papers ... 17
    Water-Supply Papers ... 17
    Hydrologic Investigation Atlases ... 17
    Water Resources Investigations Reports ... 19
    Open-File Reports ... 19
    Unnumbered Report ... 20
    Circulars ... 20
Selected Delaware Geological Survey Reports on ground-water resources in Delaware ... 20
    Report of Investigations ... 20
    Bulletins ... 21
    Open File Reports ... 22
    Water Level Reports ... 22
Selected U.S. Geological Survey Reports on ground-water resources in Maryland ... 22
    Professional Papers ... 22
    Water-Supply Papers ... 23
    Hydrologic Investigations Atlas ... 25
    Water-Resources Investigations Report ... 25
    Open-File Reports ... 27
    Fact Sheet ... 31
    Unnumbered Reports ... 31
    Miscellaneous Maps ... 31
    Circulars ... 31
    Unpublished Report ... 32
Selected Maryland Geological Survey Reports on ground-water resources in Maryland ... 32
    Basic Data Reports ... 32
    Bulletins ... 33
    Report of Investigations ... 34
    Open-File Reports
      Hydrogeology ... 35
    Information Circulars ... 36
    Maps
      Quadrangle Atlases ... 36
Selected U.S. Geological Survey Reports on ground-water resources in the District of Columbia ... 37
    Professional Paper ... 37
    Water Supply Papers ... 37
    Open-File Report ... 37
    Circular ... 37
Station records, ground water ... 44
  Ground-water spring discharge ... 44
  Ground-water levels ... 50
  Quality of ground water ... 520
Index ... 548

ILLUSTRATIONS

Figure 1. Monthly ground-water levels at key observation wells ... 3
2. System for numbering wells and miscellaneous sites (latitude and longitude) ... 4
3. Map of Maryland and Delaware showing location of ground-water State networks observation wells and springs ... 38
4. Map of Maryland and Delaware showing location of project ground-water observation wells ... 40
5. Map of Maryland and Delaware showing location of project ground-water-quality sample wells and springs ... 42

GROUND-WATER SPRING DISCHARGE Page

MARYLAND:
CECIL COUNTY
Spring 393459076045001 Local number CE Cc 40..... 44
FREDRICK COUNTY
Spring 392552077262201 Local number FR Dd 178..... 45
Spring 391846077370501 Local number FR Fb 12..... 46
HARFORD COUNTY
Spring 394153076325701 Local number HA Aa 9..... 47
WASHINGTON COUNTY
Spring 394227077515401 Local number WA Ag 2..... 48
Spring 392836077442701 Local number WA Di 103..... 49

GROUND-WATER LEVELS

DELAWARE:
KENT COUNTY
Well 390607075331501 Local number Jd42-03..... 50
Well 390224075391601 Local number Kc31-01..... 51
Well 385041075395601 Local number Mc51-01..... 52
Well 385310075331301 Local number Md22-01..... 53
Well 390733075264801 Local number DM102F.....54-55
Well 390734075271402 Local number DM106D.....56-57
Well 390744075270402 Local number DM110D.....58-59
Well 390833075273601 Local number DM202D.....60-61
Well 390827075290401 Local number DM204D.....62-63
Well 390707075293401 Local number DM358D.....64-65
Well 390747075292601 Local number DM378F.....66-67
Well 390629075272701 Local number DM412D.....68-69
Well 390742075300102 Local number GS4D.....70-71
Well 390647075283301 Local number MW33D.....72-73
Well 390703075272601 Local number MW48D.....74-75
NEWCASTLE COUNTY
Well 393917075401601 Local number Db15-05..... 76
Well 393856075415602 Local number Db24-17..... 77
Well 393734075371103 Local number Db33-17..... 78
Well 393734075371102 Local number Db33-18..... 79
Well 393734075371101 Local number Db33-19..... 80
Well 393755075364801 Local number Dc34-05..... 81
Well 393755075364802 Local number Dc34-06..... 82
Well 393316075421601 Local number Eb23-22..... 83
Well 393316075421602 Local number Eb23-23..... 84
Well 393316075421603 Local number Eb23-24..... 85
Well 393316075421604 Local number Eb23-25..... 86
Well 391949075410701 Local number Hb14-01..... 87
SUSSEX COUNTY
Well 384639075353101 Local number Nc45-01..... 88
Well 384504075242602 Local number Nf51-02..... 89
Well 384504075242601 Local number Nf51-03..... 90
Well 384504075242603 Local number Nf51-04..... 91
Well 384955075192801 Local number Ng11-01..... 92
Well 384558075083501 Local number Ni52-11..... 93
Well 384558075083502 Local number Ni52-12..... 94
Well 384418075231102 Local number Of12-03..... 95
Well 384418075231103 Local number Of12-04..... 96
Well 384418075231101 Local number Of12-05..... 97
Well 384433075234901 Local number Of12-06..... 98
Well 384435075234901 Local number Of12-07..... 99
Well 384436075234701 Local number Of12-08..... 100
Well 384436075234801 Local number Of12-09..... 101
Well 384437075234501 Local number Of12-10..... 102
Well 384437075234502 Local number Of12-11..... 103
Well 384438075234802 Local number Of12-12..... 104
Well 384438075234801 Local number Of12-13.....105-106
Well 384438075234803 Local number Of12-14..... 107
Well 384444075233702 Local number Of12-15..... 108
Well 384441075233701 Local number Of12-16..... 109
Well 384444075233901 Local number Of12-17..... 110
Well 384444075234101 Local number Of12-18..... 111
Well 384444075234102 Local number Of12-19..... 112
Well 384401075224903 Local number Of13-01..... 113
Well 384402075225002 Local number Of13-02..... 114
Well 384401075224901 Local number Of13-03.....115-116
Well 384403075224701 Local number Of13-04..... 117
Well 384404075225001 Local number Of13-05..... 118
Well 384405075224701 Local number Of13-06..... 119
Well 384405075224601 Local number Of13-07..... 120
Well 384406075224601 Local number Of13-08.....121-122

GROUND-WATER LEVELS-Continued Page

DELAWARE:
SUSSEX COUNTY--Continued
Well 384406075224603 Local number Of13-09..... 123
Well 384406075224602 Local number Of13-10..... 124
Well 384406075224401 Local number Of13-11..... 125
Well 384343075230402 Local number Of22-02..... 126
Well 384343075230403 Local number Of22-03..... 127
Well 384343075230401 Local number Of22-04.....128-129
Well 384343075230301 Local number Of22-05..... 130
Well 384343075230201 Local number Of22-06..... 131
Well 384343075230101 Local number Of22-07..... 132
Well 384344075230301 Local number Of22-08..... 133
Well 384344075230102 Local number Of22-09..... 134
Well 384341075230003 Local number Of22-10..... 135
Well 384341075230001 Local number Of22-11.....136-137
Well 384333075222903 Local number Of23-01..... 138
Well 384333075222902 Local number Of23-02..... 139
Well 384333075222901 Local number Of23-03.....140-141
Well 384341075223803 Local number Of23-04..... 142
Well 384341075223801 Local number Of23-05..... 143
Well 384341075223802 Local number Of23-06..... 144
Well 384038075110001 Local number Oh54-01..... 145
Well 384038075110002 Local number Oh54-02..... 146
Well 384258075063101 Local number Oi24-06..... 147
Well 383138075260201 Local number Qe44-01..... 148
Well 383050075105201 Local number Qh54-04..... 149
Well 383050075105202 Local number Qh54-05..... 150
Well 383050075105203 Local number Qh54-06..... 151
Well 383050075105204 Local number Qh54-07..... 152
Well 383210075035802 Local number Qj32-17..... 153
Well 382808075030501 Local number Rj22-05..... 154
Well 382808075030502 Local number Rj22-06..... 155
Well 382808075030503 Local number Rj22-07..... 156
Well 382808075030504 Local number Rj22-08..... 157

MARYLAND:
ALLEGANY COUNTY
Well 394024078273401 Local number AL Ah 1..... 158
Well 393930078460901 Local number AL Bd 2..... 159
Well 393009079025201 Local number AL Ca 19..... 160
Well 393148079010601 Local number AL Ca 20..... 161
ANNE ARUNDEL COUNTY
Well 391101076404001 Local number AA Ac 11..... 162
Well 391015076373501 Local number AA Ad 29..... 163
Well 391032076385902 Local number AA Ad 90..... 164
Well 391032076385904 Local number AA Ad 102..... 165
Well 391032076385906 Local number AA Ad 108..... 166
Well 391006076380101 Local number AA Ad 109.....167-168
Well 391032076385907 Local number AA Ad 110..... 169
Well 390950076391101 Local number AA Bd 91..... 170
Well 390821076365401 Local number AA Bd 152.....171-172
Well 390938076383701 Local number AA Bd 155.....173-174
Well 390922076371001 Local number AA Bd 156.....175-176
Well 390737076374401 Local number AA Bd 157.....177-178
Well 390744076390001 Local number AA Bd 158..... 179
Well 390737076374402 Local number AA Bd 159..... 180
Well 390908076394402 Local number AA Bd 160.....181-182
Well 390945076285601 Local number AA Bf 3..... 183
Well 390303076463201 Local number AA Cb 1.....184-185
Well 390423076432001 Local number AA Cc 40..... 186
Well 390450076343402 Local number AA Ce 117.....187-188
Well 390150076283003 Local number AA Cf 98..... 189
Well 390150076283002 Local number AA Cf 99..... 190
Well 390123076241602 Local number AA Cg 23.....191-192
Well 390127076240301 Local number AA Cg 25..... 193
Well 385808076373502 Local number AA Dd 42..... 194
Well 385915076340401 Local number AA De 1..... 195
Well 385920076322401 Local number AA De 140..... 196
Well 385920076322402 Local number AA De 144..... 197
Well 385921076270701 Local number AA Df 19..... 198
Well 385916076270702 Local number AA Df 20.....199-200
Well 385905076293601 Local number AA Df 79.....201-202
Well 385623076274401 Local number AA Df 103..... 203
Well 385406076383901 Local number AA Ed 45..... 204
Well 384646076352401 Local number AA Fd 43..... 205
BALTIMORE CITY
Well 391617076322001 Local number 2S5E- 1..... 206
Well 391600076353301 Local number 3S2E- 5..... 207

GROUND-WATER LEVELS-Continued Page

MARYLAND-Continued:

BALTIMORE CITY--Continued
Well 391556076315301 Local number 3S5E- 46..... 208
Well 391349076354501 Local number 5S2E- 24..... 209
BALTIMORE COUNTY
Well 393129076384201 Local number BA Cd 26..... 210
Well 393102076341801 Local number BA Ce 21..... 211
Well 392931076410301 Local number BA Dc 444..... 212
Well 392045076512501 Local number BA Ea 18..... 213
Well 392305076432001 Local number BA Ec 43..... 214
Well 391607076312901 Local number BA Fe 19..... 215
Well 391356076293501 Local number BA Gf 11..... 216
Well 391257076282501 Local number BA Gf 168..... 217
Well 391226076253401 Local number BA Gf 178..... 218
CALVERT COUNTY
Well 384331076395201 Local number CA Bb 27..... 219
Well 384334076394501 Local number CA Bb 28..... 220
Well 383930076314301 Local number CA Cc 18..... 221
Well 383605076344601 Local number CA Cc 57..... 222
Well 383239076354201 Local number CA Db 47..... 223
Well 383216076351401 Local number CA Db 65..... 224
Well 383050076305501 Local number CA Dc 35..... 225
Well 382549076260101 Local number CA Ed 52.....226-227
Well 382343076302901 Local number CA Fc 13..... 228
Well 382408076260401 Local number CA Fd 51..... 229
Well 382407076260301 Local number CA Fd 54..... 230
Well 382318076242401 Local number CA Fe 22..... 231
Well 381952076270901 Local number CA Gd 6..... 232
CAROLINE COUNTY
Well 390333075504501 Local number CO Bc 1..... 233
Well 390227075470201 Local number CO Bd 53..... 234
Well 385310075503601 Local number CO Dc 129..... 235
Well 385217075490601 Local number CO Dd 47..... 236
CARROLL COUNTY
Well 394008077005601 Local number CL Ad 47..... 237
Well 393638076510001 Local number CL Bf 1..... 238
Well 393754076512401 Local number CL Bf 184..... 239
Well 392259077052401 Local number CL Ec 75..... 240
CECIL COUNTY
Well 393637075535001 Local number CE Be 73..... 241
Well 393637075535002 Local number CE Be 74..... 242
Well 393615075475901 Local number CE Bf 81..... 243
Well 393537075492001 Local number CE Bf 82..... 244
Well 393432075593601 Local number CE Cd 51..... 245
Well 393432075593602 Local number CE Cd 52..... 246
Well 393216075564201 Local number CE Cd 53..... 247
Well 393433075544901 Local number CE Ce 54..... 248
Well 393241075500201 Local number CE Ce 55..... 249
Well 393026075523101 Local number CE Ce 56..... 250
Well 393209075541301 Local number CE Ce 82..... 251
Well 392536075593201 Local number CE Dd 81..... 252
Well 392403075521801 Local number CE Ee 29..... 253
CHARLES COUNTY
Well 383524077111802 Local number CH Bb 17.....254-255
Well 383524077094401 Local number CH Bc 5.....256-257
Well 383633077083001 Local number CH Bc 24.....258-259
Well 383644077055501 Local number CH Bc 77.....260-261
Well 383645077062402 Local number CH Bc 80.....262-263
Well 383709077061002 Local number CH Bc 81.....264-265
Well 383819076555501 Local number CH Be 43.....266-267
Well 383706076575601 Local number CH Be 57..... 268
Well 383706076575604 Local number CH Be 60..... 269
Well 383853076532601 Local number CH Bf 101.....270-271
Well 383640076545901 Local number CH Bf 133..... 272
Well 383728076531701 local number CH Bf 134..... 273
Well 383508076540701 Local number CH Bf 146..... 274
Well 383508076540703 Local number CH Bf 151.....275-276
Well 383637076545803 Local number CH Bf 157..... 277
Well 383732076531902 Local number CH Bf 158..... 278
Well 383746076482901 Local number CH Bg 12..... 279
Well 383652076495701 Local number CH Bg 13..... 280
Well 383422077114601 Local number CH Cb 7.....281-282
Well 383441077063901 Local number CH Cc 34.....283-284
Well 383236076563901 Local number CH Ce 37.....285-286
Well 383250076584001 Local number CH Ce 57.....287-288
Well 383340076511601 Local number CH Cf 33..... 289
Well 382654077152501 Local number CH Da 18.....290-291

GROUND-WATER LEVELS-Continued Page

MARYLAND-Continued:

CHARLES COUNTY--Continued
Well 382607077002601 Local number CH Dd 33..... 292
Well 382925077010101 Local number CH Dd 38..... 293
Well 382927076552301 Local number CH De 45..... 294
Well 382103076560201 Local number CH Ee 16..... 295
Well 382154076574801 Local number CH Ee 70..... 296
Well 382240076582801 Local number CH Ee 78.....297-298
Well 382456076562201 Local number CH Ee 90..... 299
DORCHESTER COUNTY
Well 383708075503801 Local number DO Bg 59..... 300
Well 383151076080801 Local number DO Cd 1..... 301
Well 383340076041601 Local number DO Ce 5..... 302
Well 383408076042402 Local number DO Ce 15..... 303
Well 383346076030301 Local number DO Ce 21..... 304
Well 383243076042301 Local number DO Ce 85..... 305
Well 383401076032001 Local number DO Ce 88..... 306
Well 382800076180701 Local number DO Db 17..... 307
Well 382807076175801 Local number DO Db 18..... 308
Well 382847076190901 Local number DO Db 19..... 309
Well 382916075491702 Local number DO Dh 27.....310-311
FREDRICK COUNTY
Well 394200077190701 Local number FR Af 27..... 312
Well 393733077274801 Local number FR Bd 96..... 313
Well 393156077135701 Local number FR Cg 1..... 314
Well 392517077190401 Local number FR Df 35..... 315
Well 392257077095601 Local number FR Eh 11..... 316
GARRETT COUNTY
Well 394017078581701 Local number GA Ag 1..... 317
Well 393749079190301 Local number GA Bc 1..... 318
Well 392439079231801 Local number GA Eb 78..... 319
Well 391512079270901 Local number GA Fa 28..... 320
Well 391512079270902 Local number GA Fa 29..... 321
Well 391539079254601 Local number GA Fa 31..... 322
Well 391539079254602 Local number GA Fa 32..... 323
Well 391539079254603 Local number GA Fa 33..... 324
Well 391539079254604 Local number GA Fa 34..... 325
Well 391501079260001 Local number GA Fa 38..... 326
Well 391530079244401 Local number GA Fb 22..... 327
Well 391530079244403 Local number GA Fb 24..... 328
Well 391530079244404 Local number GA Fb 25..... 329
Well 391513079243602 Local number GA Fb 27..... 330
Well 391513079243605 Local number GA Fb 30..... 331
Well 391602079240301 Local number GA Fb 31..... 332
Well 391602079240302 Local number GA Fb 32..... 333
Well 391602079240304 Local number GA Fb 34..... 334
Well 391715079223105 Local number GA Fb 39..... 335
Well 391420079264901 Local number GA Ga 16..... 336
HARFORD COUNTY
Well 393902076160001 Local number HA Bd 31..... 337
Well 393158076302601 Local number HA Ca 23..... 338
Well 392529076180901 Local number HA Dd 89..... 339
Well 392721076150301 Local number HA Dd 91..... 340
Well 392721076150302 Local number HA Dd 92..... 341
Well 392921076100401 Local number HA De 66..... 342
Well 392606076145801 Local number HA De 181..... 343
Well 392606076145802 Local number HA De 182..... 344
Well 392606076145803 Local number HA De 183..... 345
Well 392914076110301 Local number HA De 195..... 346
Well 392819076130902 Local number HA De 198.....347-348
Well 392435076203301 Local number HA Ec 11..... 349
Well 392408076210101 Local number HA Ec 46..... 350
Well 392343076161901 Local number HA Ed 24..... 351
Well 392455076192101 Local number HA Ed 47..... 352
Well 392455076192102 Local number HA Ed 48..... 353
Well 392455076192103 Local number HA Ed 49..... 354
Well 391817076173701 Local number HA Fd 6.....355-356
Well 391816076173801 Local number HA Fd 8.....357-358
Well 391814076173801 Local number HA Fd 21.....359-360
Well 391814076173803 Local number HA Fd 23.....361-362
Well 391825076172601 Local number HA Fd 26.....363-364
Well 391825076172603 Local number HA Fd 28.....365-366
Well 391812076173101 Local number HA Fd 29.....367-368
Well 391812076173103 Local number HA Fd 31.....369-370
Well 391809076174301 Local number HA Fd 32.....371-372
Well 391809076174303 Local number HA Fd 34.....373-374

GROUND-WATER LEVELS-Continued Page

MARYLAND-Continued:

HARFORD COUNTY--Continued
Well 391810076172801 Local number HA Fd 44.....375-376
Well 391810076172803 Local number HA Fd 46.....377-378
Well 391807076172803 Local number HA Fd 49.....379-380
Well 391808076173001 Local number HA Fd 50.....381-382
Well 391808076173003 Local number HA Fd 52.....383-384
HOWARD COUNTY
Well 391910076565701 Local number HO Bd 1..... 385
Well 391445076555101 Local number HO Cd 79..... 386
Well 391001076540001 Local number HO Ce 38..... 387
KENT COUNTY
Well 392007076075501 Local number KE Ac 20..... 388
Well 391659076050402 Local number KE Bc 185..... 389
Well 391650076050403 Local number KE Bc 186..... 390
Well 391823075594701 Local number KE Be 43..... 391
Well 391643075550901 Local number KE Be 171..... 392
Well 391815075472101 Local number KE Bg 33..... 393
Well 391815075472102 Local number KE Bg 34..... 394
Well 391400076101401 Local number KE Cb 36..... 395
Well 391124076101001 Local number KE Cb 97..... 396
Well 391124076101002 Local number KE Cb 98..... 397
Well 391124076101003 Local number KE Cb 99..... 398
Well 391124076101004 Local number KE Cb 100..... 399
Well 391251076142201 Local number KE Cb 101..... 400
Well 391124076101005 Local number KE Cb 103..... 401
Well 391432076015501 Local number KE Cd 44..... 402
Well 390837076140401 Local number KE Db 40..... 403
Well 390626076083301 Local number KE Dc 89..... 404
Well 390626076083302 Local number KE Dc 91..... 405
MONTGOMERY COUNTY
Well 391142077280601 Local number MO Cb 26..... 406
Well 391314077224201 Local number MO Cc 14..... 407
Well 390802077283801 Local number MO Db 68..... 408
Well 390917077244401 Local number MO Dc 59..... 409
Well 390451077245901 Local number MO Ec 10..... 410
Well 390434076573002 Local number MO Eh 20..... 411
PRINCE GEORGES COUNTY
Well 390151076561501 Local number PG Bc 16..... 412
Well 385130076465501 Local number PG De 21..... 413
Well 385152076431301 Local number PG Df 2..... 414
Well 384423077004501 Local number PG Fb 36..... 415
Well 384230076555501 Local number PG Fc 17..... 416
Well 384131076533301 Local number PG Fd 41..... 417
Well 383228076410601 Local number PG Hf 35..... 418
Well 383348076411301 Local number PG Hf 40.....419-420
Well 383348076411302 Local number PG Hf 41.....421-422
Well 383348076411303 Local number PG Hf 42.....423-424
Well 383250076405304 Local number PG Hf 44..... 425
QUEEN ANNES COUNTY
Well 391203076024301 Local number QA Be 15..... 426
Well 391203076024302 Local number QA Be 16..... 427
Well 391203076024303 Local number QA Be 17..... 428
Well 390841075515201 Local number QA Cg 1..... 429
Well 390201076182701 Local number QA Db 30..... 430
Well 390201076182703 Local number QA Db 32..... 431
Well 390023076174301 Local number QA Db 34..... 432
Well 390119076191001 Local number QA Db 35..... 433
Well 390023076174302 Local number QA Db 37..... 434
Well 385718076211501 Local number QA Ea 77..... 435
Well 385718076211502 Local number QA Ea 78..... 436
Well 385757076200101 Local number QA Ea 79..... 437
Well 385757076200102 Local number QA Ea 80..... 438
Well 385718076211503 Local number QA Ea 81..... 439
Well 385751076171603 Local number QA Eb 110..... 440
Well 385751076171601 Local number QA Eb 111..... 441
Well 385751076171602 Local number QA Eb 112..... 442
Well 385748076172001 Local number QA Eb 113..... 443
Well 385843076155302 Local number QA Eb 155..... 444
Well 385852076195201 Local number QA Eb 156..... 445
Well 385852076195202 Local number QA Eb 157..... 446
Well 385756076105301 Local number QA Ec 1..... 447
Well 385534075573601 Local number QA Ef 29..... 448
Well 385429076120201 Local number QA Fc 7..... 449

GROUND-WATER LEVELS-Continued Page

MARYLAND-Continued:

ST. MARYS COUNTY
Well 382838076470101 Local number SM Bb 15..... 450
Well 382838076470102 Local number SM Bb 22..... 451
Well 381616076364701 Local number SM Dd 46..... 452
Well 381616076364702 Local number SM Dd 49..... 453
Well 381807076380001 Local number SM Dd 50..... 454
Well 381616076364703 Local number SM Dd 62..... 455
Well 381615076364701 Local number SM Dd 63..... 456
Well 381841076284401 Local number SM Df 66..... 457
Well 381527076283101 Local number SM Df 71..... 458
Well 381548076272102 Local number SM Df 84..... 459
Well 381052076253001 Local number SM Ef 80..... 460
Well 381213076222801 Local number SM Eg 27..... 461
Well 380834076303401 Local number SM Fe 30..... 462
Well 380834076303402 Local number SM Fe 31..... 463
Well 380724076251901 Local number SM Ff 36..... 464
Well 380711076222201 Local number SM Fg 45..... 465
SOMERSET COUNTY
Well 381156075412501 Local number SO Be 42..... 466
Well 380927075423701 Local number SO Ce 42.....467-468
Well 380616075380701 Local number SO Cf 2..... 469
TALBOT COUNTY
Well 385242075593101 Local number TA Bf 73..... 470
Well 385242075593102 Local number TA Bf 74..... 471
Well 384923076100601 Local number TA Cc 35..... 472
Well 384514076103701 Local number TA Cc 36..... 473
Well 384709076050301 Local number TA Cd 57..... 474
Well 384643076043801 Local number TA Ce 7..... 475
WASHINGTON COUNTY
Well 394154078103501 Local number WA Ac 1..... 476
Well 393638078001301 Local number WA Be 2..... 477
Well 393851077343001 Local number WA Bk 25..... 478
Well 393414077461801 Local number WA Ch 106..... 479
Well 393402077434201 Local number WA Ci 82..... 480
Well 392904077371501 Local number WA Dj 2..... 481
WICOMICO COUNTY
Well 382150075352101 Local number WI Ce 13..... 482
Well 382404075355401 Local number WI Ce 204..... 483
Well 382037075310801 Local number WI Cf 3..... 484
Well 382429075344501 Local number WI Cf 147..... 485
Well 382329075263701 Local number WI Cg 20..... 486
WORCESTER COUNTY
Well 382621075174201 Local number WO Ae 23..... 487
Well 382621075174202 Local number WO Ae 24..... 488
Well 382621075174203 Local number WO Ae 25..... 489
Well 382632075031801 Local number WO Ah 6..... 490
Well 382635075030601 Local number WO Ah 35..... 491
Well 382635075030602 Local number WO Ah 36.....492-493
Well 382635075030603 Local number WO Ah 37..... 494
Well 382022075072401 Local number WO Bg 1..... 495
Well 382359075094501 Local number WO Bg 15..... 496
Well 382358075094501 Local number WO Bg 45..... 497
Well 382358075094502 Local number WO Bg 46..... 498
Well 382325075063301 Local number WO Bg 47.....499-500
Well 382325075063302 Local number WO Bg 48.....501-502
Well 382038075065901 Local number WO Bg 49.....503-504
Well 382215075041801 Local number WO Bh 31.....505-506
Well 382443075033501 Local number WO Bh 34.....507-508
Well 382215075041901 Local number WO Bh 84..... 509
Well 382215075041902 Local number WO Bh 85..... 510
Well 382215075041903 Local number WO Bh 89.....511-512
Well 382127075043802 Local number WO Bh 98.....513-514
Well 381939075052101 Local number WO Cg 72..... 515
Well 381037075234301 Local number WO Dd 7..... 516
Well 381457075174101 Local number WO De 36..... 517
Well 381427075081102 Local number WO Dg 21..... 518
Well 380408075335701 Local number WO Fb 2..... 519

QUALITY OF GROUND WATER Page

WATER-QUALITY DATA, WATER YEAR 1997

MARYLAND:

ALLEGANY COUNTY
Well 394311078245501 Local number AL Ai 26..... 521
Well 393342078570901 Local number AL Cb 8..... 521

ANN ARUNDEL COUNTY
Well 390613076411101 Local number AA Bc 242.....522-523
Well 390724076360601 Local number AA Bd 164.....522-523
Well 390622076272601 Local number AA Bf 64.....522-523
Well 390627076291401 Local number AA Bf 65.....522-523
Well 390122076423801 Local number AA Cc 133.....522-523
Well 390313076393001 Local number AA Cd 100.....522-523
Well 390102076251401 Local number AA Cf 145.....522-523
Well 385601076390901 Local number AA Dd 51.....522-523
Well 385702076400101 Local number AA Dd 52.....522-523
Well 385726076381701 Local number AA Dd 53.....522-523
Well 385840076380301 Local number AA Dd 54.....522-523
Well 385756076384401 Local number AA Dd 55.....522-523
Well 385617076360501 Local number AA Dd 157.....522-523
Well 385740076324001 Local number AA De 209.....522-523

BALTIMORE COUNTY
Well 394019076374501 Local number BA Ad 146.....524-532
Well 393540076455801 Local number BA Bb 145.....524-532
Well 393529076454601 Local number BA Bb 152.....524-532
Well 393553076455201 Local number BA Bb 153.....524-532
Well 393537076455401 Local number BA Bb 154.....524-532
Well 393535076454501 Local number BA Bb 155.....524-532
Well 393732076392401 Local number BA Bd 233.....524-532
Well 393739076391801 Local number BA Bd 234.....524-532
Well 393733076391301 Local number BA Bd 235.....524-532
Well 393742076390701 Local number BA Bd 236.....524-532
Well 393738076391401 Local number BA Bd 237.....524-532
Well 393736076390401 Local number BA Bd 238.....524-532
Well 392159076520101 Local number BA Ea 95.....524-532

CARROLL COUNTY
Well 394200076551201 Local number CL Ae 1.....533-534
Well 393754076512401 Local number CL Bf 184.....533-534
Well 392345077082701 Local number CL Ec 106.....533-534
Well 392332077084801 Local number CL Ec 108.....533-534
Well 392337077084201 Local number CL Ec 109.....533-534
Well 392355077085101 Local number CL Ec 110.....533-534
Well 392342077084901 Local number CL Ec 111.....533-534
Well 392347077082701 Local number CL Ec 112.....533-534
Well 392337077083201 Local number CL Ec 113.....533-534
Well 392334077083001 Local number CL Ec 114.....533-534
Well 392344077083401 Local number CL Ec 115.....533-534
Well 392348077084101 Local number CL Ec 116.....533-534

CECIL COUNTY
Spring 393459076045001 Local number CE Cc 40..... 535

CHARLES COUNTY
Well 383645077062401 Local number CH Bc 75..... 536
Well 383553077032401 Local number CH Bd 52..... 536
Well 383252076583901 Local number CH Ce 55..... 536
Well 383251076583901 Local number CH Ce 56..... 536
Well 383250076584001 Local number CH Ce 57..... 536

GARRETT COUNTY
Well 392420079221701 Local number GA Eb 72..... 537

HARFORD COUNTY
Well 393158076302601 Local number HA Ca 23..... 538
Well 392721076150301 Local number HA Dd 92..... 538

HOWARD COUNTY
Well 392056077055901 Local number HO Ab 103..... 539
Well 391626076572301 Local number HO Bd 405..... 539
Well 391839076521301 Local number HO Be 88..... 539
Well 391135076571701 Local number HO Cd 384..... 539
Well 391332076451601 Local number HO Cf 66..... 539

MONTGOMERY COUNTY
Well 391927077120801 Local number MO Be 62..... 540
Well 390802077283801 Local number MO Db 68..... 540

QUALITY OF GROUND WATER--Continued Page

MARYLAND:

QUEEN ANNES COUNTY
Well 390055076184501 Local number QA Db 14.....541-544
Well 390059076191801 Local number QA Db 17.....541-544
Well 390033076184501 Local number QA Db 23.....541-544
Well 390117076191301 Local number QA Db 27.....541-544
Well 390201076182701 Local number QA Db 30.....541-544
Well 390201076182703 Local number QA Db 32.....541-544
Well 390023076174301 Local number QA Db 34.....541-544
Well 390119076191001 Local number QA Db 35.....541-544
Well 390023076174302 Local number QA Db 37.....541-544
Well 385825076202901 Local number QA Ea 39.....541-544
Well 385820076202501 Local number QA Ea 42.....541-544
Well 385554076213801 Local number QA Ea 45.....541-544
Well 385825076261201 Local number QA Ea 48.....541-544
Well 385505076215001 Local number QA Ea 59.....541-544
Well 385701076212501 Local number QA Ea 60.....541-544
Well 385812076202801 Local number QA Ea 61.....541-544
Well 385742076205801 Local number QA Ea 71.....541-544
Well 385718076211501 Local number QA Ea 77.....541-544
Well 385718076211502 Local number QA Ea 78.....541-544
Well 385757076200101 Local number QA Ea 79.....541-544
Well 385757076200102 Local number QA Ea 80.....541-544
Well 385718076211503 Local number QA Ea 81.....541-544
Well 385705076212002 Local number QA Ea 82.....541-544
Well 385705076212001 Local number QA Ea 83.....541-544
Well 385843076155302 Local number QA Eb 155.....541-544
Well 385852076195201 Local number QA Eb 156.....541-544
Well 385852076195202 Local number QA Eb 157.....541-544
Well 385354076212701 Local number QA Fa 49.....541-544
Well 385024076222501 Local number QA Fa 54.....541-544
Well 385133076201201 Local number QA Fa 58.....541-544
Well 385254076201901 Local number QA Fa 60.....541-544
Well 385434076215601 Local number QA Fa 63..... 545
Well 385454076214901 Local number QA Fa 64..... 545
Well 385236076215201 Local number QA Fa 66..... 545
Well 385023076222201 Local number QA Fa 67..... 545
Well 385254076201301 Local number QA Fa 72..... 545
Well 385227076215401 Local number QA Fa 74..... 545
Well 385155076200401 Local number QA Fa 75..... 545
WASHINGTON COUNTY
Well 394149078052801 Local number WA Ad 101..... 546
WORCESTER COUNTY
Well 382632075031901 Local number WO Ah 34..... 547
Well 382635075030602 Local number WO Ah 36..... 547
Well 382214075041901 Local number WO Bh 28..... 547
Well 382443075033501 Local number WO Bh 34..... 547
Well 382215075041901 Local number WO Bh 84..... 547
Well 382215075041902 Local number WO Bh 85..... 547
Well 382041075045301 Local number WO Bh 88..... 547
Well 382215075041903 Local number WO Bh 89..... 547
Well 382235075040901 Local number WO Bh 91..... 547
Well 382127075043803 Local number WO Bh 97..... 547
Well 382127075043802 Local number WO Bh 98..... 547

THIS IS A BLANK PAGE.

WATER RESOURCES DATA - MARYLAND AND DELAWARE, 1998

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 U.S. 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 l975 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 1998 series and includes records of water levels and water quality of ground-water wells and springs. It contains records for water levels at 397 observation wells, discharge data for 6 springs, and water quality at 107 wells. Location of ground-water level wells are shown on figures 3 and 4. The location for the ground-water-quality sites are shown on figures 5. 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 the Branch of Information Services, Federal Center, Bldg. 41, Box 25286, Denver, CO 80225-0286.

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-98-2."** For archiving and general distribution, the reports for l971-74 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.

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)238-4200.

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 the funding or services in this report through cooperative agreements with the Survey or through the Maryland Geological Survey and Delaware Geological Survey are:

Maryland Geological Survey, Emery T. Cleaves, Director.

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

Delaware Department of Transportation, Anne P. Canby, Secretary of Transportation.

Delaware Department of Natural Resources and Environmental Control, Christopher Tulou, Secretary of Natural Resources and Environmental Control.

Maryland Department of the Environment, Drinking Water Program, John Grace.

Maryland Department of Natural Resources, Tidewater Ecosystem Assessment Program, Robert Magnien, Director.

Maryland Department of Natural Resources, Research Assessment Service, Power Plant Research Program, Peter Dunbar, Director.

Anne Arundel County Health Department, Well Construction and Well Quality Program, John Simpson, Program Manager.

Baltimore County Department of Environmental Protection and Resource Management, Water Well Program, Susan Farinetti, Supervisor.

Town of Ocean City, Water Department, Ronald Ellis, Superintendent.

U.S. Army Garrison, Aberdeen Proving Ground, Environmental Conservation and Restoration Division, Kenneth P. Stachiw, Division Chief.

U.S. Environmental Protection Agency, Office of Research and Development, Tom Pheiffer.

U.S. Navy, Naval Surface Warfare Center, Indian Head Division, James Sirinakis, Utilities Division Chief.

Dover Air Force Base, 436th Support Group, Civil Engineering Squadron, Environmental Flight, Charles Mikula, Restoration Program Manager.

Organizations and projects that provided data are acknowledged in the site Remarks description.

SUMMARY OF HYDROLOGIC CONDITIONS

Ground-Water Levels

Ground-water levels in water-table and artesian observation wells in Maryland and Delaware fluctuated in response to precipitation and ground-water withdrawal. Water-table levels were above normal levels throughout the bi-State area at the beginning of the 1997 water year (fig. 1). These above normal levels were attributed to tropical storm Fran which moved up the eastern seaboard on September 7, 1996, dumping 6 to 8 inches of precipitaion on the bi-State area. In November, heavy rains fell on the bi-state area that accounted for over 8 inches of precipitation, raising ground-water-levels even higher. As the water year progressed, the normal springtime and summer precipitation rainfall events did not occur. This decline in rainfall during the growing season affected farming, but had little effect on ground-water because of the heavy precipitation events in the beginning of the water year.

In the bi-State areas where 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 water year, in part due to tropical storm Fran, in September 1996. Several major storm systems moved from the Gulf of Mexico up along the Appalachian mountains throughout October and November. Several of these storms dumped most of their precipitation on the western mountains causing minor flooding in the valleys. The pattern of storms seemed to be all or nothing throughout the water year. Heavy, solitary storm events were followed by long periods of no percipitation. This can easily be seen in figure 1, with well GA Bc 1. Water levels at the end of the 1997 water year were slightly below normal levels. No record high or low water-table levels were recorded in the Appalachian Plateau.

Valley and Ridge.-- Ground-water-table levels were slightly below normal at the beginning of the 1997 water year. Water-table levels rose to a peak high level in January due to steady rain showers throughout most of the first half of the water year. By mid-March storm fronts that normally move over the Appalachian mountains were depleted of most of their precipitation and only small amounts of rain fell on this area for the remainder of the water year. Record high or low water-table levels were not recorded in this physiographic province during the 1997 water year.

Blue Ridge.-- Water-table levels were above normal at the beginning of the water year. A wetter than normal fall and winter kept ground-water levels above normal most of the spring. With little rainfall in the spring, ground-water-table levels dropped below normal by summer and remained below normal throughout the remainder of the water year. No record high or low water levels were recorded during the water year.

Piedmont.--Water-table levels at the beginning of the water year were above normal. Water-table levels remained above normal until June. The lack of summertime thunderstorms caused ground-water levels to drop to below normal. Water-table levels declined gradually during the summer, rising in September from several heavy storm events moving up the Atlantic Coast. No record high or low water-table levels were recorded, but levels were above normal at the end of the 1997 water year.

Coastal Plain.-- Water-table levels on the western shore of the Chesapeake Bay were at normal levels at the beginning of the 1997 water year. These water-table levels rose above normal by November and remained above normal throughout the water year. On the Delmarva Peninsula water-table levels were below normal at the start of the 1997 water year, and did not rise above normal water-table levels until January and February. Water-table levels remained above normal in the Coastal Plain through the end of the water year, with no high or low water-level records occuring.

Artesian aquifers on the western shore of the Chesapeake Bay lie close to their surface-recharge zones at the northwestern boundary with the Piedmont physiographic province. It is in this outcrop belt where these aquifers receive most of their ground-water recharge. This area is heavily populated because of its close proximity to the Baltimore-Washington and Annapolis metropolitan area. These areas rely exclusively on ground-water supplies, except for the northwestern part of Prince Georges County where the Washington Suburban Sanitary Commission supplies surface water from the Potomac and Patuxent Rivers. Artesian aquifers (identified in parentheses) in the following towns or areas of Maryland continued to decline due to the general regional increase in ground-water withdrawals: Annapolis and vicinity (Patapsco), Cecilton (Potomac), Charlotte Hall (Aquia), Indian Head and vicinity (Patapsco, Patuxent), La Plata (Patapsco), Leonardtown (Aquia, Piney Point), Lexington Park (Aquia, Piney Point), Prince Frederick (Aquia), St. Charles (Patuxent, Lower Patapsco, Magothy), Solomons Island (Aquia), southern Anne Arundel County (Aquia), and Waldorf (Patuxent, Patapsco, Magothy).

In the Glen Burnie area, the Patapsco aquifer water-levels rose because water management shifted to using the Patuxent aquifer to make better use of the area’s available ground-water resources.

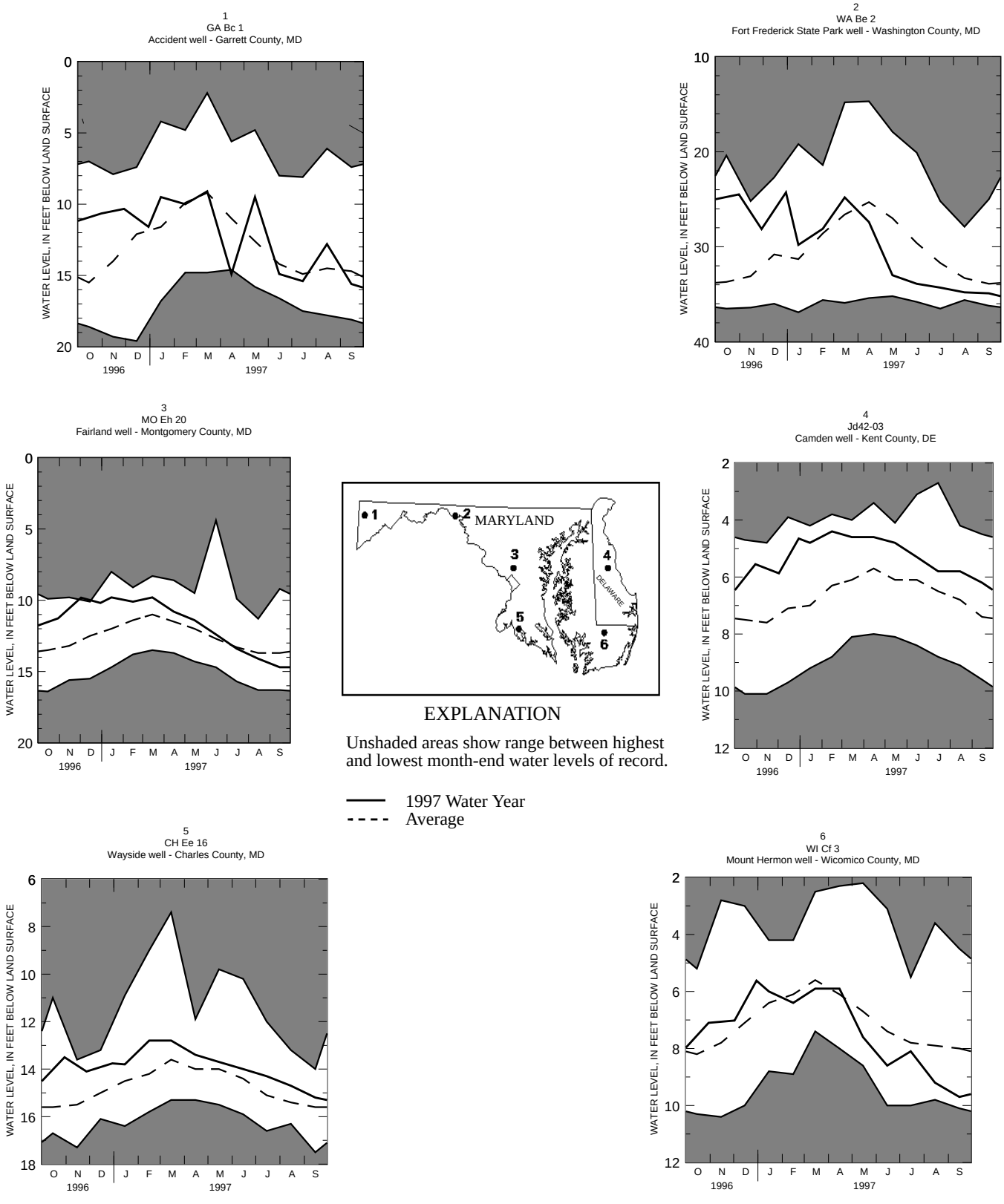


Figure 1.--Monthly ground-water levels at key observation wells.

EXPLANATION OF THE RECORDS

The ground-water-levels and quality-of-ground-water records published in this report are for the 1997 water year that began October 1, 1996, and ended September 30, 1997. 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, 4, and 5. 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.

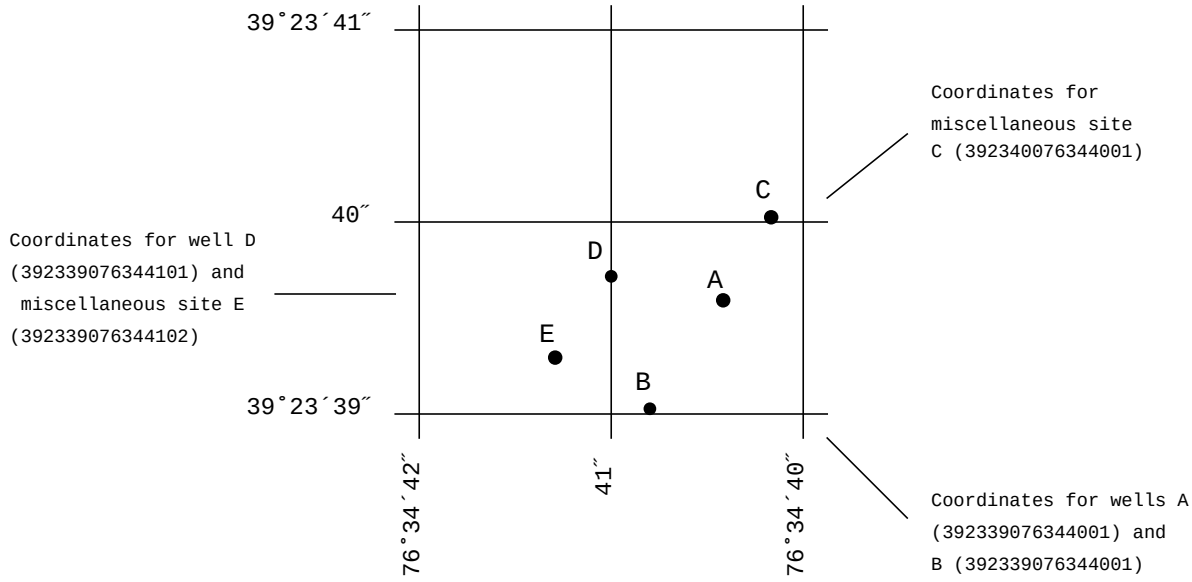


Figure 2.--System for numbering wells and miscellaneous sites (latitude and longitude)

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 each5-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 7 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. The secondary identification number is the 15-digit site identification number (see Latitude-Longitude System section on page 4).

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 Well Numbering 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. (See Latitude-Longitude System section on page 4.)

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. This document also reports the pumpage results in terms of pumping period, yield as gallons per minute and drawdown.

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 U.S. Geological Survey GWSI data base aquifer 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 continuous water-level 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, 1992 through September 30, 1997. 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. The locations of these water-quality wells in Maryland and Delaware are shown in Figure 5.

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"** publications referred to in the "On-site Measurements and Sample Collection" and the "Laboratory Measurements" sections in this data report. In addition, the **TWRI** Book 1, Chapter D2, describes guidelines for the collection and field analysis of ground-water samples for selected unstable constituents. 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. These methods are consistent with **ASTM** standards and generally follow **ISO** standards. 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.
V	Analyte was detected in both the environmental cample and the associated blank.

WATER-QUALITY CONTROL DATA

Data generated from quality-control (QC) samples are a requisite for evaluating the quality of the sampling and processing techniques as well as data from the actual samples themselves. Without QC data, environmental sample data cannot be adequately interpreted because the errors associated with the sample data are unknown. The various types of QC collected by this district are described in the following section. Procedures have been established for the storage of water-quality-control data within the USGS. These procedures allow for storage of all derived QC data and are identified so that they can be related to corresponding environmental samples.

Blank Samples

Blank samples are collected and analyzed to ensure that environmental samples have not been contaminated by the overall data-collection process. The blank solution used to develope specific types of blank samples is a solution that is free of the analytes of interest. Any measured value signal in a blank sample for an analyte (a specific component measured in a chemical analysis) that was absent in the blank solution is believed to be due to contamination. There are many types of blank samples possible, each designed to segregate a different part of the overall data-collection process. The types of blank samples collected in this district are:

Field Blank - a blank solution that is subjected to all aspects of sample collection, field processing preservation, transportation, and laboratory handling as an environmental sample.

Trip blank - a blank solution that is processed through the same type of bottle used for an environmental sample and kept with the set of sample bottles before and after sample collection.

Equipment blank -a blank solution that is processed through all equipment used for collecting and processing an environmental sample (similar to a field blank but normally done in the more controlled conditions of the office).

Sampler blank - a blank solution that is poured or pumped through the same field sampler used for collecting an environmental sample.

Filter blank - a blank solution that is filtered in the same manner and through the same filter apparatus used for an environmental sample.

Splitter blank - a blank solution that is mixed and seperated using a field splitter in the same manner and through the same apparatus used for an environmental sample.

Preservation blank - a blank solution that is treated with the sampler preservatives used for an environmental sample.

Reference Samples

Reference sample is a solution or material prepared by a laboratory whose composition is certified for one or more properties so that it can be used to assess a measurement method. Samples of reference material are submitted for analysis to ensure that an analytical method is accurate for the known properties of the reference material. Generally, the selected reference material properties are similar to the environmental sample properties.

Replicate Samples

Replicate samples are a set of environmental samples collected in a manner such that the samples are thought to be essentially identical in composition. Replicate is the general case for which a duplicate is the special case consisting of two samples. Replicate samples are collected and analyzed to establish the amount of variability in the data contributed by some part of the collection and analytical process. There are many types of replicate samples possible, each of which may yield slightly different results in a dynamic hydrologic setting, such as a flowing stream. The types of replicate samples collected in this district are collected one after the other, typically over a short time.

Split sample - a type of replicate sample in which a sample is split into subsamples contemporaneous in time and space.

Spike Samples

Spike samples are samples to which known quanities of a solution with one or more well-established analyte concentrations have been added. These samples are analyzed to determine the extent of matrix interference or degradation on the analyte concentration during sample processing and analysis

ACCESS TO USGS DATA

The USGS provides near real-time stage and discharge data for many of the gaging stations equipped with the necessary telemetry and historic daily-mean and peak-flow discharge data for most current or discontinued gaging stations through the world wide web (WWW). Thses data may be accessed at

http://water.usgs.gov/

Some water-quality and ground-water data also are available through the WWW. In addition, data can be provided in various machine-readable formats on magnetic tape or 3-1/2 inch floppy disk. 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 District Offices (See address on back of the title page).

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 (g/m^3), and periphyton and benthic organisms in grams per square mile (g/mi^2).

Dry mass refers to the mass of residue present after drying in an oven at 105˚C for zoo- plankton 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 chloro-platinate 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 um 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 ($CaCO_3$).

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 (µg/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 (UG/L, µg/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 (MG/L, 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 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 (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 U.S. 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:

Classification	Size (mm)	Method of analysis
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 (l x l0) of the amount of radioactivity represented by a curie (Ci). A curie is the amount of radioactivity that yields 3.7 x 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 ^{2}.time)] for periphyton and macrophytes and [mg C/(m^3.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_2/(m ^{2}.time)] for periphyton and macrophytes and [mg O_2/(m^3 .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 hierarchial 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	Hexagenia
Species	Hexagenia limbata

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 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, 1996, is called the "1996 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, Branch of Information Services, Federal Center, Box 25286, Denver, Colorado 80225-0286 (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 geopphysics 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 Dividian: 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. **Flurometric 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-A20. **Simulation of soluable waste transport and buildup in surface waters using tracers**, by F. A. Kilpratrick: USGS--TWRI Book 3, Chapter A20. 1993. 38 pages.

3-A21. **Stream-gaging cableways**, by C. Russell Wagner: USGS--TWRI Book 3, Chapter A21. 1995. 56 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-B7. **Analytical solutions for one-, two-, and three dimensional solute transport in ground-water systems with uniform flow**, by E¥ J. Wexler: USGS--TWRI Book 3, Chapter B7. 1992. 190 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.

PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS--Continued

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-A2. **Documentation of a computer program to simulate aquifer-system compaction using the modular finite-difference ground-water flow model,** by S.A. Leake and D.E. Prudic: USGS--TWRI Book 6, Chapter A2. 1991. 68 pages.

6-A3. **A modular finite-element model (MODFE) for areal and axisymetric 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 axisymetric 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 axisymetric ground-water-flow problems, Part 3: Design philosophy and programming details**, by L. J. Torak: USGS--TWRI Book 6, Chapter A5. 1993. 243 pages.

6-A6. **A coupled surface-water and ground-water flow model (MODBRANCH) for simulation of stream-aquifer interaction**, by E.D. Swain and E.J. Wexler: USGS--TWRI Book 6, Chapter A6. 1995. 125 pages.

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. Schaffrannek, 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, Branch of Information Services, Federal Center, Building 41, Box 25286, Denver, Colorado 80225.

Professional Papers

Water Resources of the Delaware River Basin, by G.G. Parker, A.G. Hely, W.B. Keighton, F.H. Olmsted, and others: U.S. Geological Survey Professional Paper 381. 1965. 200 pages.

Base flow as an indicator of aquifer characteristics in the Coastal Plain of Delaware, by R.H. Johnston: U.S. Geological Survey Professional Paper 750-D. 1971. pages D212-D215.

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 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 822. 1972. 58 pages.

Geohydrologic appraisel of the Northern Atlantic Coastal Plain in parts of North Carolina, Virginia, Maryland, Delaware, New Jersey, and New York, by Henry Trapp, Jr., and Harold Meisler: U.S. Geological Survey Professional Paper 1404-A. 1991. 163 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 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 1404-J. 1996.

Geohydrology and simulation of ground-water flow in the northern Atlantic Coastal Plain aquifer system, by P.P. Leahy: U.S. Geological Survey Professional Paper 1404-K. 1994. 81 pages.

Water-Supply Papers

Beach-area water supplies between Ocean City, Maryland, and Rehobeth Beach, Delaware, by T.H. Slaughter: U.S. Geological Survey Water-Supply Paper 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 1756. 1964.

Effects of eustatic sea-level changes on saltwater-freshwater in the northern Atlantic Coastal Plain, by Harold Meisler, P.P. Leahy, and L.L. Knobel: U.S. Geological Survey Water-Supply Paper 2255. 1984. 28 pages.

Delaware ground-water resources, in National Water Summary 1984, by A.L. Hodges, Jr.: U.S. Geological Survey Water-Supply Paper 2275. 1985. pages 167-172.

Delaware water supply and use, by A.L. Hodges, Jr., R.D. Varrin, and P.J. Cherry, **in** National Water Summary 1987--Water supply and use: U.S. Geological Survey Water-Supply Paper 2350. 1989, pages 207-214.

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 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 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 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 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 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 81. 1964. 1 map. scale 1:24,000.

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

Hydrologic Investigation Atlases--Continued

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 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 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 84. 1964. 1 map. scale 1:24,000.

Water-table, surface-drainage and engineering soils map of the Greenwood quadrangle, Delaware, J.K. Adams, D.H. Boggess, and others: U.S. Geological Survey Hydrologic Investigation Atlas 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 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 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 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 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 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 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 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 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 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 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 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 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 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 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 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 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 134. 1964-65. 1 map. scale 1:24,000.

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

Hydrologic Investigation Atlases--Continued

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 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 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 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 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 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 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 141. 1964-65. 1 map. scale 1:24,000.

Water-Resources Investigations Reports

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 82-53. 1983. 29 pages.

A three-dimensional ground-water flow model modified to reduce computer memory requirements and better simulate confining bed and aquifer pinchouts, by P.P. Leahy: U.S. Geological Survey Water-Resources Investigations Report 82-4023. 1982. 59 pages.

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 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 84-4007. 1985. 85 pages, 1 plate.

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 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 87-4229. 1988. 106 pages.

Water Use in the St. Jones River Basin, Kent County, Delaware, 1983-86, by D.J. Phelan: U.S. Geological Survey Water-Resources Investigation Report 90-4094. 1990. 30 pages.

Nitrate and Selected Pesticides in Ground Water of the Mid-Atlantic Region, by S.W. Ator and M.J. Ferrari U.S. Geological Survey Water-Resources Investigation Report 97-4139. 1997. 8 pages.

Open-File Reports

Availability of ground water on the Delmarva Peninsula, by A.J. Hodges, Jr.: U.S. Geological Survey Open-File Report 77-759. 1978. 6 pages.

Preliminary deliniation of salty ground-water in the northern Atlantic Coastal Plain, by Harold Meisler: U.S. Geological Survey Open-File Report 81-71. 1981. 12 pages.

Hydrologic data for the Potomac Formation in New Castle County, Delaware, by M.M. Martin: U.S. Geological Survey Open-File Report 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 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 87-112. 1988. 18 pages.

Ground-Water studies in Delaware, G.N. Paulachok: U.S. Geological Survey Open-File Report 88-148. 1989. (fact sheet).

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

Open-File Reports--Continued

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 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 91-88. 1992. 48 pages.

Water quality assessment of the Delmarve 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 93-40. 1993. 87 pages.

Potentiometric maps and ground-water-level data for the industrial area northwest of Delaware City, Delaware, 1993-94, by C.A. Donnelly, and K.C. Hinaman: U.S. Geological Survey Open-File Report 95-318. 1996. 1 plate.

Selected Hydrogeologic and Chloride-Concentration Data for the Northern and Central Coastal area of New Castle County, Delaware, by M.A. Hayes, S.W. Phillips, and J.C. Wheeler: U.S. Geological Survey Open-File Report 95-766. 1998. 37 pages.

Water-Level data for the industrial area northwest of Delaware City, Delaware, 1993-94, by C.A. Donnelly, and K.C. Hinaman: U.S. Geological Survey Open-File Report 96-125. 1996. 23 pages.

Unnumbered Report

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

Circulars

Northern Atalantic Coastal Plain regional aquifer-system study, by Harold Meisler, **in** Regional Aquifer-System Analysis Program of the U.S. Geological Survey summary of projects, 1978-1984, R.J. Sun, editor: U.S. Geological Survey Circular 1002. 1986. pages 162-194.

Are Fertilizers and Pesticides in the Ground Water? A case study of the Delmarva Peninsula, Delaware, Maryland, and Virginia, by P.A. Hamilton and R.J. Shedlock: U.S. Geological Survey Circular 1080. 1992. 16 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 or through e-mail at DGS@MVS.UDEL.EDU.

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.R. 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.

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

Report of Investigations--Continued

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 Pokomoke 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 direst 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.

Quality and Geochemistry of Ground Water in Southern New Castle County, Delaware, by L.J. Bachman and M.J. Ferrari: Delaware Geological Survey Report of Investigation No. 52. 1995. 31 pages.

Geology of the Milford and Mispillion River Quadrangles, by K.W. Ramsey, with a contribution on Palynology by, J.J. Groot: Delaware Geological Survey Report of Investigation No. 55. 1997. 40 pages.

Bulletins

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.

Digital model of the unconfined aquifer in central and southeastern Delaware, by R.H. Johnston: Delaware Geological Survey Bulletin 15. 1977. 47 pages.

Ground-water resources of the Piney Point and Cheswold aquifers in central Delaware as determined by a flow model, by P.P. Leahy: Delaware Geological Survey Bulletin 16. 1982. 68 pages.

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

Open File Reports

Geology and Hydrology of the Cockeysville Formation Northern New Castle County, Delaware, by K.D. Woodruff and M. O. Plank, Geohydrology of the Hockessin area with emphasis on the Cockeysville Aquifer, by W.H. Werkeiser: Delaware Geological Survey Bulletin No. 19. 1995. 59 pages.

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 are (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.

Water Level Reports

Ground-water level and chemistry data from coastal Sussex County, Delaware, Ground-water quality survey, by A.S. Amdres: 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 direst discharge of ground-water, by A.S. Andres: Delaware Geological Survey Open File Report No. 35. 1992. 36 pages.

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 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 550-C. 1966. p. C235-C243.

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

Professional Papers--Continued

Structural and stratigraphic framworks 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 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 813-I. 1976.

Water Resources of the Delmarva Peninsula, by E.M. Cushing, I.H. Kantrowitz, and K.R. Taylor: U.S. Geological Survey Professional Paper 822. 1973. 58 pages.

The regional aquifer system underlying the northern Atlantic Coastal Plain in parts of North Carolina, Virginia, Maryland, Delaware, New Jersey, and New York--Summary, by Henry Trapp, Jr., and Harold Meisler: U.S. Geological Survey Professional Paper 1404-A. 1992. 33 pages.

The occurrence and geochemistry of salty ground water in the northern Atlantic Coastal Plain, by Harold Meisler: U.S. Geological Survey Professional Paper 1404-D. 1989. 51 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 (RASA), U.S. Geological Survey, by D.A. Vroblesky, and W.B. Fleck: U.S. Geological Survey Professional Paper 1404-E. 1989. 45 pages.

Conceptulization 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 and R.J. Lazniak: U.S. Geological Survey Professional Paper 1404-F. 1990. 100 pages.

Hydrogeologic framework of the northern Atlantic Coastal Plain in parts of North Carolina, Virginia, Maryland, Delaware, New Jersey, and New York, by Henry Trapp, Jr.: U.S. Geological Survey Professional Paper 1404-G. 1992. 33 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--Regional Aquifer-System Analysis-Northern Atlantic Coastal Plain: U.S. Geological Survey Professional Paper 1404-J. 1996. 41 pages. 9 plates

Geohydrology and simulation of ground-water flow in the northern Atlantic Coastal Plain, by P.P. Leahy, and Mary Martin--Regional Aquifer-System Analysis-Northern Atlantic Coastal Plain: U.S. Geological Survey Professional Paper 1404-K. 1993. 81 pages.

Geochemistry of the northern Atlantic Coastal Plain aquifer system, by L.L. Knobel, F.H. Chapelle, and Harold Meisler--Regional Aquifer-System Analysis-Northern Atlantic Coastal Plain: U.S. Geological Survey Professional Paper 1404-L. (in press)

Estimated Hydrologic characteristics of shallow aquifer systems in the Valley and Ridge, the Blue Ridge, and the Piedmont Physiographic provinces based on analysis of streamflow recession and base flow, by A.T. Rutledge and T.O. Mesko--Regional Aquifer-System Analysis-Appalachian Valley and Piedmont: U.S. Geological Survey Professional Paper 1422-B. 1996. 58 pages.

Water-Supply Papers

Water resources of the Accident and Grantsville quadrangles, Maryland, in Contributions to the hydrology of the Eastern United States: Geological Survey Research, by G.C. Martin: U.S. Geological Survey Water-Supply Paper 110-A. 1905. pages 168-170.

Water resources of the Frostburg and Flintstone quadrangles, Maryland and West Virginia in Contributions to the hydrology of the Eastern United States: Geological Survey Research, by G.C. Martin: U.S. Geological Survey Water-Supply Paper 110-B. 1905. pages 171-173.

Water resources of the Pawpaw and Hancock quadrangles, West Virginia, Maryland, and Pennsylvania in Contributions to the hydrology of the Eastern United States: Geological Survey Research, by G.W. Stose, and G.C. Martin: U.S. Geological Survey Water-Supply Paper 145. 1905. page 106.

Water Levels and Artesian Pressure in Observation Wells in the United States in 1943, Part 2. Southeastern States, by O.E. Meinzer, L.K. Wenzel, and others, **in Maryland,** by R.R. Bennett, R.R. Meyer, and A.H. Horton: U.S. Geological Survey Water-Supply Paper 987. 1945. pages 87-105.

Water Levels and Artesian Pressure in Observation Wells in the United States in 1944, Part 2. Southeastern States, by A.N. Sayre and others, **in Maryland,** by R.R. Bennett: U.S. Geological Survey Water-Supply Paper 1017. 1947. pages 269-289.

Water Levels and Artesian Pressure in Observation Wells in the United States in 1945, Part 2. Southeastern States, by C.G. Paulsen and others, **in Maryland,** by R.R. Bennett: U.S. Geological Survey Water-Supply Paper 1024. 1949. pages 145-164.

Water Levels and Artesian Pressure in Observation Wells in the United States in 1946, Part 2. Southeastern States, by C.G. Paulsen and others, **in Maryland,** by R.R. Meyer: U.S. Geological Survey Water-Supply Paper 1072. 1950. pages 167-191.

Water Levels and Artesian Pressure in Observation Wells in the United States in 1947, Part 2. Southeastern States, by C.G. Paulsen and others, **in Maryland,** by R.R. Meyer: U.S. Geological Survey Water-Supply Paper 1097. 1951. pages 162-193.

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

Water-Supply Papers--Continued

Water Levels and Artesian Pressure in Observation Wells in the United States in 1948, Part 2. Southeastern States, by C.G. Paulsen and others, **in Maryland,** by Gerald Meyer: U.S. Geological Survey Water-Supply Paper 1127. 1951. pages 155-176.

Water Levels and Artesian Pressure in Observation Wells in the United States in 1949, Part 2. Southeastern States, by C.G. Paulsen and others, **in Maryland,** by Gerald Meyer: U.S. Geological Survey Water-Supply Paper 1157. 1952. pages 156-186.

Water Levels and Artesian Pressure in Observation Wells in the United States in 1950, Part 2. Southeastern States, by C.G. Paulsen and others, **in Maryland,** by C.A. Richard**son:** U.S. Geological Survey Water-Supply Paper 1166. 1953. pages 180-207.

Water Levels and Artesian Pressure in Observation Wells in the United States in 1951, Part 2. Southeastern States, by A.N. Sayre and others, **in Maryland,** by C.A. Richard**son:** U.S. Geological Survey Water-Supply Paper 1192. 1954. pages 146-170.

Water Levels and Artesian Pressure in Observation Wells in the United States in 1952, Part 2. Southeastern States, by A.N. Sayre and others, **in Maryland,** by C.A. Richard**son:** U.S. Geological Survey Water-Supply Paper 1222. 1955. pages 168-199.

Water Levels and Artesian Pressure in Observation Wells in the United States in 1953, Part 2. Southeastern States, by A.N. Sayre and others, **in Maryland,** by C.A. Richard**son:** U.S. Geological Survey Water-Supply Paper 1266. 1956. pages 179-210.

Water Levels and Artesian Pressure in Observation Wells in the United States in 1954, Part 2. Southeastern States, by A.N. Sayre and others, **in Maryland,** by C.A. Richard**son:** U.S. Geological Survey Water-Supply Paper 1322. 1956. pages 185-206.

Water Levels and Artesian Pressure in Observation Wells in the United States in 1955, Part 2. Southeastern States, by A.N. Sayre and others, **in Maryland,** by C.A. Richard**son:** U.S. Geological Survey Water-Supply Paper 1405. 1957. pages 180-200.

Hydrologic budget of the Beaver Creek basin, Maryland, by W.C. Rasmussen, and G.E. Andreasen: U.S. Geological Survey Water-Supply Paper 1472. 1959. 106 pages.

Water resourceses of the Baltimore area, Maryland, by E.G. Otton, R.O.R. Martin and W.H. Durum: U.S. Geological Survey Water-Supply Paper 1499-F. 1964. pages 105.

Ground-Water Levels in the United States 1956-1958 Southeastern States, by O.M. Hackett and others, in Maryland, by C.A. Richardson: U.S. Geological Survey Water-Supply Paper 1538. 1962. pages 126-135.

Reverse Water-Level Fluctuations, by G.E. Andreasen and J.W. Brookhart in **Methods of Collecting and Interpreting Ground-Water Data**, compiled by Ray Bentall: U.S. Geological Survey Water-Supply Paper 1544-H. 1963. pages H30-H35.

Beach-area water supplies between Ocean City, Maryland, and Rehobeth Beach, Delaware, by T.H. Slaughter: U.S. Geological Survey Water-Supply Paper 1619-T. 1962.

Geology and ground-water Resources of Washington, D.C., and vicinity, by P.M. Johnston: U.S. Geological Survey Water-Supply Paper 1776. 1964. 97 pages.

Ground-Water Levels in the United States 1959-1963 Southeastern States, by O.M. Hackett and others, in Maryland, by C.A. Richardson: U.S. Geological Survey Water-Supply Paper 1803. 1965. pages 167-176.

Ground-Water Levels in the United States 1964-1968 Southeastern States, by O.M. Hackett and others, in Maryland, by C.A. Richardson: U.S. Geological Survey Water-Supply Paper 1978. 1971. pages 145-152.

Geohydrologic reconnaissance of the Upper Potomac River basin, by F.W. Trainer, and F.A. Watkins, Jr.: U.S. Geological Water-Supply Paper 2035. 1975. 68 pages.

Ground Water in the Piedmont Upland of Central Maryland, by C.A. Richardson: U.S. Geological Survey Water-Supply Paper 2077. 1982. 42 pages.

Ground-Water Levels in the United States 1974 Southeastern States, by O.M. Hackett and others, **in Maryland,** by C.A. Richard**son:** U.S. Geological Survey Water-Supply Paper 2165. 1975. pages 147-153.

Ground-Water Levels in the United States 1969-1973 Southeastern States, by J.S. Cragwall and others, **in Maryland,** by C.A. Richard**son:** U.S. Geological Survey Water-Supply Paper 2171. 1975. pages 147-153.

Test well DO-Ce 88 at Cambridge,Dorchester county, Maryland, by H. Trapp, Jr., L.L. Knobel, Harold Meisler, and P.P. Leahy: U.S. Geological Survey Water-Supply Paper 2229. 1984. 48 pages.

The effect of eustatic sea-level changes on saltwater-freshwater relations in the northern Atlantic Coastal Plain, by Harold Meisler, P.P. Leahy, and L.L. Knobel: U.S. Geological Survey Water-Supply Paper 2255. 1984. 28 pages.

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

Water-Supply Papers--Continued

Maryland and the District of Columbia in National Water summery 1984, Hydrologic events--Selected water-quality trends, and ground-water resources, by L.J. McGreevy, and J.C. Wheeler: U.S. Geological Survey Water-Supply Paper 2275. 1985. pages 243-248.

Evaluation of the ground-water resources of the lower Susquehanna Basin, Pennsylvania and Maryland, by J.M. Gerhart, and G.J. Lazorchick: U.S. Geological Survey Water-Supply Paper 2284, 1988. 128 pages.

Aqueous geochemistry of the Magothy aquifer, by L.L. Knbel, and S.W. Phillips: U.S. Geological Survey Water-Supply Paper 2323, 1988. 28 pages.

Maryland and the District of Columbia water supply and use, by J.C. Wheeler, **in** National Water Summary 1987--Water supply and use: U.S. Geological Survey Water-Supply Paper 2350, pp. 291-298.

Ground-Water-Quality assesment 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 2355-B. 1989. 186 pages.

Ground-Water, Surface-Water, and Bottom Sediment Contamination in the O-Field area, Aberdeen Proving Ground, Maryland and the possible effects of selected remedial actions on Ground Water, by D.A. Vroblesky, M.M. Lorah, and J.P. Oliveros: U.S. Geological Survey Water-Supply Paper 2399. 1995. 95 pages.

Ground-Water Flow, Geochemistry, and Effects of Agricultural Practices on Nitrogen Transport at Study Sites in the Piedmont and Coastal Plain Physiographic Provinces, Patuxent River Basin, Maryland, by E.R. McFarland: U.S. Geological Survey Water-Supply Paper 2449. 1996. 72 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 365. 1970.

Water-Resources Investigations Reports

Ground Water in the Piedmont Upland of Central Maryland, by C. A. Richardson: U.S. Geological Survey Water- Resources Investigations 80-18. 1980. 42 pages.

Map showing the potentiometric surface of the Magothy aquifer in southern Maryland, September 1982, F.K. Mack, J.C. Wheeler, and S.E. Curtin: U.S. Geological Survey Water-Resources Investigations Report 83-4282. 1983. 1 sheet, 1:250,000.

Map showing 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, and S.E. Curtin: U.S. Geological Survey Water-Resources Investigations Report 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 84-4322. 51 pages.

Map showing the potentiometric surfaces of the Magothy aquifer of September 1975, in southern Maryland, September 1983, by F.K. Mack, J.C. Wheeler, and S.E. Curtin: U.S. Geological Survey Water-Resources Investigations Report 85-4000. 1985. 1 sheet, 1:250,000.

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 85-4203. 1985. 1 sheet, 1:250,000.

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 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 85-4337. 1985. 1 sheet, 1:250,000.

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 85-4338. 1985. 1 sheet, 1:250,000.

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 85-4339. 1985. 1 sheet, 1:250,000.

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 86-4097. 1986. 49 pages.

The Potentiometric surface of the Magothy aquifer in southern Maryland, September 1985, by F.K. Mack, J.C. Wheeler, S.E. Curtin, and D.C. Andreasen: U.S. Geological Survey Water-Resources Investigations Report 87-4025. 1987. 1 sheet, 1:250,000.

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

Water-Resources Investigations Reports--Continued

The Potentiometric surface of the Aquia aquifer in southern Maryland, September 1985, by F.K. Mack, J.C. Wheeler, S.E. Curtin, and D.C. Andreasen: U.S. Geological Survey Water-Resources Investigations Report 87-4029. 1987. 1 sheet.

Potentiometric surface of the Aquia aquifer in southern Maryland during the fall of 1986, by F.K. Mack, J.C. Wheeler, S.E. Curtin, and D.C. Andreasen: U.S. Geological Survey Water-Resources Investigations Report 87-4214. 1987. 1 sheet, 1:250,000.

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, S.E. Curtin, and D.C. Andreasen: U.S. Geological Survey Water-Resources Investigations Report 87-4215. 1987. 1 sheet, 1:250,000.

Potentiometric surface of the Magothy aquifer in southern Maryland, during fall of 1986, by F.K. Mack, D.C. Andreasen, S.E. Curtin, and J.C. Wheeler: U.S. Geological Survey Water-Resources Investigations Report 87-4216. 1987. 1 sheet, 1:250,000.

Difference between the potentiometric surfaces of the Magothy aquifer in fall of 1975 and fall of 1986 in southern Maryland, by F.K. Mack, D.C. Andreasen, S.E. Curtin, and J.C. Wheeler: U.S. Geological Survey Water-Resources Investigations Report 87-4217. 1987. 1 sheet, 1:250,000.

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 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, S.E. Curtin, and D.C. Andreasen: U.S. Geological Survey Water-Resources Investigations Report 89-4012. 1989. 1 sheet, 1:250,000.

Potentiometric surface of the Magothy aquifer in southern Maryland, during the fall of 1987, by F.K. Mack, D.C. Andreasen, S.E. Curtin, and J.C. Wheeler: U.S. Geological Survey Water-Resources Investigations Report 89-4013. 1989. 1 sheet, 1:250,000.

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 89-4021. 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 89-4022. 1989. 97 pages.

Potentiometric surface of the Aquia aquifer in southern Maryland, during September 1988, by F.K. Mack, D.C. Andreasen, S.E. Curtin, and J.C. Wheeler: U.S. Geological Survey Water-Resources Investigations Report 90-4037. 1990. 1 sheet, 1:250,000.

The difference between the potentiometric surfaces of the Magothy aquifer of September 1986 and September 1988 in southern Maryland, by F.K. Mack, D.C. Andreasen, S.E. Curtin, and J.C. Wheeler: U.S. Geological Survey Water-Resources Investigations Report 90-4038. 1990. 1 sheet, 1:250,000.

The difference between the potentiometric surfaces of the Aquia aquifer of September 1986 and September 1988 in southern Maryland, by F.K. Mack, D.C. Andreasen, S.E. Curtin, and J.C. Wheeler: U.S. Geological Survey Water-Resources Investigations Report 90-4039. 1990. 1 sheet, 1:250,000.

Potentiometric surface of the Magothy aquifer in southern Maryland, during September 1988, by F.K. Mack, D.C. Andreasen, S.E. Curtin, and J.C. Wheeler: U.S. Geological Survey Water-Resources Investigations Report 90-4040. 1990. 1 sheet, 1:250,000.

Geologic Framework, Hydrogeology, and Ground-Water Quality of the Potomac Group aquifer system, northwestern Charles County, Maryland, by S.N. Hiortdahl: U.S. Geological Survey Water-Resources Investigations Report 91-4059. 1997. 111 pages.

Potentiometric surface of the Magothy aquifer in southern Maryland, September 1989, by F.K. Mack, S.E. Curtin, D.C. Andreasen, and J.C. Wheeler: U.S. Geological Survey Water-Resources Investigations Report 91-4093. 1991. 1 sheet, 1:250,000.

Potentiometric surface of the Aquia aquifer in southern Maryland, September 1989, by F.K. Mack, S.E. Curtin, D.C. Andreasen, and J.C. Wheeler: U.S. Geological Survey Water-Resources Investigations Report 91-4094. 1991. 1 sheet, 1:250,000.

Water withdrawal and use in Maryland, 1988-89, by J.C. Wheeler: U.S. Geological Survey Water-Resources Investigations Report 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 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 93-4225. 1993. 42 pages.

Relation of land use to nitrogen concentration in Ground Water in the Patuxent River Basin, Maryland, by E.R. McFarland: U.S. Geological Survey Water-Resources Investigations Report 94-4170. 1995. 20 pages.

Hydrogeology and Water Quality in the Graces Quarters area of Aberdeen Proving Ground, Maryland, by F.J. Tenbus and J.D. Blomquist: U.S. Geological Survey Water-Resources Investigations Report 94-4175. 1995. 115 pages.

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

Water-Resources Investigations Reports--Continued

Ground-Water flow and the possible effects of remedial actions at J-Field, Aberdeen Proving Ground, Maryland, by W.B. Hughes: U.S. Geological Survey Water-Resources Investigations Report 95-4075. 1995. 39 pages.

Nitrate in Ground Water in the Great Valley Carbonate subunit of the Potomac River Basin, by M.J. Ferrari and S.W. Ator: U.S. Geological Survey Water-Resources Investigations Report 95-4099. 1995. 6 pages.

Water-Quality Assessment of the Potomac River Basin: Basin Description and Analysis of available nutrient data, 1970-1990, by J.D. Blomquist, G.T. Fisher, J.M. Denis, W.H. Werkheiser and J.W. Brakebill: U.S. Geological Survey Water-Resources Investigations Report 95-4221. 1996. 88 pages.

Hydrogeologic setting, Hydraulic properties, and Ground-Water Flow at the O-Field area of Aberdeen Proving Ground, Maryland, by W.S.L. Banks, B.S. Smith and C.A. Donnelly: U.S. Geological Survey Water-Resources Investigations Report 95-4248. 1996. 29 pages.

Ground-water flow and the potential effects of remediation at Graces Quarters, Aberdeen Proving Ground, Maryland, by F.J. Tenbus, and W.B. Fleck: U.S. Geological Survey Water-Resources Investigations Report 96-4044. 1996. 31 pages.

Radon in Ground Water of the Lower Susquehanna and Potomac River Basins, by B.D. Lindsey and S.W. Ator: U.S. Geological Survey Water-Resources Investigations Report 96-4156. 1996. 6 pages.

Hydrogeology and Chemical Quality of Water and Soil at Carroll Island, Aberdeen Proving Ground, Maryland, by F.J. Tenbus and S.W. Phillips: U.S. Geological Survey Water-Resources Investigations Report 96-4169. 1996. 156 pages.

Relation of Nitrogen and Phosphorus in Ground Water to Land Use in Four subunits of the Potomac River Basin, by S.W. Ator and J.M. Denis: U.S. Geological Survey Water-Resources Investigations Report 96-4268. 1997. 26 pages.

Water withdrawal and use in Maryland, 1992-93, by J.C. Wheeler: U.S. Geological Survey Water-Resources Investigations Report 96-4314. 1997. 42 pages.

Nitrate and Selected Pesticides in Ground Water of the Mid-Atlantic Region, by S.W. Ator and M.J. Ferrari: U.S. Geological Survey Water-Resources Investigations Report 97-4139. 1997. 8 pages.

Natural attenuation of Chlorinated Volatile Organic Compounds in a Freshwater Tidal Wetland, Aberdeen Proving Ground, Maryland, by M.M. Lorah, L.D. Olsen, B.L. Smith, M.A. Johnson, and W.B. Flech: U.S. Geological Survey Water-Resources Investigations Report 97-4171. 1997. 95 pages.

Open-File Reports

Geochemistry of water in the Salisbury, Maryland well field, by S.G. Heidel and E.G. Otton: U.S. Geological Survey Open-File Report. 1963. 48 pages.

The Ground-Water Situation in the Cambridge Area, Maryland, by F.K. Mack and E.G. Otton: U.S. Geological Survey Open-File Report. 1969. 55 pages.

Progress Report on the analog model study of the Magothy aquifer in the Annapolis, Maryland Area, by F.K. Mack: U.S. Geological Survey Open-File Report. 1971. 23 pages.

Geologic and Hydrologic Data from a test well drilled near Chestertown, Maryland, by I.H. Kantrowitz and W.E. Webb: U.S. Geological Survey Open-File Report. 1971. 18 pages.

Enviromental geohydrology folio no. 1, White Marsh 7-1/2 minute quadrangle, Maryland, by E.G. Otton: U.S. Geological Survey Open-File Report 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 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 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 76-322. 1976. 31 pages.

Approximate depth to water table, Montgomery County, Maryland, by C.A. Richardson: U.S. Geological Survey Open-File Report 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 76-882. 1976. 6 pages. 1 plate.

Availability of Ground Water on the Delmarva Peninsula, by A.L. Hodges: U.S. Geological Survey Open-File Report 77-759. 1977. 6 pages.

Westminister quadrangle: Hydrogeologic atlas, by E.G. Otton: U.S. Geological Survey Open-File Report 77-793. 1977. 4 sheets 1:24,000

New Windsor quadrangle: Hydrogeologic atlas, by E. G. Otton: U.S. Geological Survey Open-File Report 78-769. 1978

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

Open-File Reports--Continued

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 78-999. 1978. 1 sheet.

Finksburg quadrangle, Maryland, by J.F. Williams III: U.S. Geological Survey Open-File Report 79-1536. 1979. 50 pages.

Hampstead quadrangle, Maryland: Hydrogeology, by M.T. Duigon: U.S. Geological Survey Open-File Report 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 80-959. 1980. 1 sheet.

Hereford quadrangle, Maryland: Hydrogeology, by M.T. Duigon: U.S. Geological Survey Open-File Report 80-962. 1980. 50 pages.

Reisterstown quadrangle, Maryland: Hydrogeology, by M.T. Duigon: U.S. Geological Survey Open-File Report 80-1009. 1980. 55 pages.

Lineboro quadrangle, Maryland: Hydrogeology, by M.T. Duigon: U.S. Geological Survey Open-File Report 80-1010. 1980. 50 pages.

Ellicott City quadrangle, Maryland: Hydrogeology, by M.T. Duigon: U.S. Geological Survey Open-File Report 80-1011. 1980. 56 pages.

New Freedom quadrangle, Maryland: Hydrogeology, by M.T. Duigon: U.S. Geological Survey Open-File Report 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 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 80-1014. 1981. 40 pages.

Hydrogeologic Atlas, Littlestown quadrangle, Carroll County, Maryland, by J.M. Weigle: U.S. Geological Survey Open-File Report 80-1015. 1981. 44 pages.

Phoenix quadrangle, Baltimore and Harford counties, Maryland: Hydrogeology, by E.G. Otton: U.S. Geological Survey Open-File Report 81-65. 1982. 46 pages.

Manchester quadrangle, Carroll County, Maryland: Hydrology, by E.G. Otton: U.S. Geological Survey Open-File Report 81-126. 1982. 68 pages.

Norrisville quadrangle, Baltimore and Harford Counties, Maryland, Hydrology, by E.G. Otton: U.S. Geological Survey Open-File Report 81-127. 1982. 52 pages.

Map showing the potentiometric surface of the Aquia aquifer May 19-23, 1980, by F.J. Chapelle, D.D. Drummond, and Tracey Curley: U.S. Geological Survey Open-File Report 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, in southern Maryland, by F.K. Mack, J.C. Wheeler, and S.E. Curtin: U.S. Geological Survey Open-File Report 81-631. 1982. 1 sheet.

Map showing how the potentiometric surface of the Magothy aquifer of September 1979 differed from the potentiometric surface of September 1977, in southern Maryland, by F.K. Mack, J.C. Wheeler, and S.E. Curtin: U.S. Geological Survey Open-File Report 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 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 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 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 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 82-919. 1983. 29 pages.

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

Open-File Reports--Continued

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 83-339. 1984. 1 sheet.

Preliminary 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 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 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 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 85-154. 1986. pp. 42-55.

Ground-water quality assessmeent 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 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 87-540. 1989. 173 pages.

Maryland and the District of Columbia ground-water quality, by J.C. Wheeler: U.S. Geological Survey Open-File Report 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 87-112. 18 pages.

Ground-water use un the Coastal Plain of Maryland, 1900-1980, by J.C. Wheeler and Franceska D. Wilde: U.S. Geological Survey Open-File Report 87-540. 1989. 173 pages.

Water withdrawal and use in Maryland, 1986, by J.C. Wheeler: U.S. Geological Survey Open-File Report 88-714. 1990. 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 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 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 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 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 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 90-181. 1991. 68 pages.

Water withdrawal and use in Maryland, 1987, by J.C. Wheeler: U.S. Geological Survey Open-File Report 90-572. 1991. 28 pages.

Hydrogeologic data for Graces Quarters, Aberdeen Proving Ground, Maryland, by L.K. Ham, F.J. Tenbus, L.N. Sears, and S.W. Phillips: U.S. Geological Survey Open-File Report 91-71. 1991. 68 pages.

Potentiometric surface of the Aquia aquifer in southern Maryland, September 1990, by F.K. Mack, S.E. Curtin, D.C. Andreasen, and J.C. Wheeler: U.S. Geological Survey Open-File Report 92-459. 1992. 1 sheet, 1:250,000.

Potentiometric surface of the Magothy aquifer in southern Maryland, September 1990, by F.K. Mack, S.E. Curtin, D.C. Andreasen, and J.C. Wheeler: U.S. Geological Survey Open-File Report 92-460. 1992. 1 sheet, 1:250,000.

Potentiometric surface of the Upper Patapsco aquifer in southern Maryland, September 1990, by F.K. Mack, S.E. Curtin, D.C. Andreasen, and J.C. Wheeler: U.S. Geological Survey Open-File Report 92-461. 1992. 1 sheet 1:250,000.

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

Open-File Reports--Continued

Potentiometric surface of the Lower Patapsco aquifer in southern Maryland, September 1990, by F.K. Mack, S.E. Curtin, D.C. Andreasen, and J.C. Wheeler: U.S. Geological Survey Open-File Report 92-462. 1992. 1 sheet, 1:250,000.

The difference between the potentiometeric surfaces of the Aquia aquifer of September 1982 and September 1990 in southern Maryland, by F.K. Mack, S.E. Curtin, D.C. Andreasen, and J.C. Wheeler: U.S. Geological Survey Open-File Report 92-463. 1992. 1 sheet, 1:250,000.

The difference between the potentiometeric surfaces of the Magothy aquifer of September 1975 and September 1990 in southern Maryland, by F.K. Mack, S.E. Curtin, D.C. Andreasen, and J.C. Wheeler: U.S. Geological Survey Open-File Report 92-464. 1992. 1 sheet, 1:250,000.

Water quality assessment of the Delmarve 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 93-40. 1993. 87 pages.

Potentiometric surface of the Aquia aquifer in southern Maryland, September 1991, by S.E. Curtin, D.C. Andreasen, and F.K. Mack: U.S. Geological Survey Open-File Report 93-652. 1994. 1 sheet.

Potentiometric surface of the Magothy aquifer in southern Maryland, September 1991, by S.E. Curtin, D.C. Andreasen, and F.K. Mack: U.S. Geological Survey Open-File Report 93-653. 1994. 1 sheet, 1:250,000.

Potentiometric surface of the Upper Patapsco aquifer in southern Maryland, September 1991, by S.E. Curtin, D.C. Andreasen, and F.K. Mack: U.S. Geological Survey Open-File Report 93-654. 1994. 1 sheet, 1:250,000.

Potentiometric surface of the Lower Patapsco aquifer in southern Maryland, September 1991 by S.E. Curtin, D.C. Andreasen, and F.K. Mack: U.S. Geological Survey Open-File Report 93-655. 1994. 1 sheet, 1:250,000.

Potentiometric surface of the Aquia aquifer in southern Maryland, September 1993, by S.E. Curtin, F.K. Mack, and D.C. Andreasen: U.S. Geological Survey Open-File Report 94-390. 1995. 1 sheet, 1:250,000.

Potentiometric surface of the Magothy aquifer in southern Maryland, September 1993, by S.E. Curtin, F.K. Mack, and D.C. Andreasen: U.S. Geological Survey Open-File Report 94-391. 1995. 1 sheet, 1:250,000.

Potentiometric surface of the Upper Patapsco aquifer in southern Maryland, September 1993, by S.E. Curtin, F.K. Mack, and D.C. Andreasen: U.S. Geological Survey Open-File Report 94-392. 1995. 1 sheet, 1:250,000.

Potentiometric surface of the Lower Patapsco aquifer in southern Maryland, September 1991, by S.E. Curtin, F.K. Mack, and D.C. Andreasen,: U.S. Geological Survey Open-File Report 94-393. 1995. 1 sheet 1:250,000.

The difference between the potentiometeric surfaces of the Aquia aquifer of September 1982 and September 1993 in southern Maryland, by S.E. Curtin, F.K. Mack, and D.C. Andreasen: U.S. Geological Survey Open-File Report 94-394. 1995. 1 sheet, 1:250,000.

The difference between the potentiometeric surfaces of the Magothy aquifer of September 1975 and September 1993 in southern Maryland, by S.E. Curtin, F.K. Mack, and D.C. Andreasen: U.S. Geological Survey Open-File Report 94-395. 1995. 1 sheet, 1:250,000.

Documentation of hydrochemical-facies data and ranges of dissolved-solids concentrations for the northern Atlantic Coastal Plain Aquifer System: New Jersey, Delaware, Maryland, Virginia, and North Carolina, by Harold Meisler and L.L. Knobel: U.S. Geological Survey Open-File Report 94-492. 1994. 6 pages. 1 - 3 1/2 inch floppy disc.

Ground-water Flow, Geochemistry, and Effects of Agricultural Practices on Nitrogen Transport at study sites in the Piedmont and Coastal Plain Physiographic Provinces, Patuxent river Basin, Maryland, by E. Randolph McFarland: U.S. Geological Survey Open-File Report 94-507. 1995. 78 pages.

Potentiometric Surface of the Aquia Aquifer in Southern Maryland, September 1994, by S. E. Curtin, F.K. Mack, and D.C. Andreasen: U.S. Geological Survey Open-File Report 95-743. 1995. 1 sheet, 1:250,000.

Potentiometric Surface of the Magothy Aquifer in Southern Maryland, September 1994, by S. E. Curtin, F.K. Mack, and D.C. Andreasen: U.S. Geological Survey Open-File Report 95-744. 1995. 1 sheet, 1:250,000.

Potentiometric Surface of the Magothy Aquifer in Southern Maryland, September 1994, by S. E. Curtin, F.K. Mack, and D.C. Andreasen: U.S. Geological Survey Open-File Report 95-744. 1995. 1 sheet 1:250,000.

Potentiometric Surface of the Upper Patapsco Aquifer in Southern Maryland, September 1994, by S. E. Curtin, F.K. Mack, and D.C. Andreasen: U.S. Geological Survey Open-File Report 95-745. 1995. 1 sheet, 1:250,000.

Potentiometric Surface of the Lower Patapsco Aquifer in Southern Maryland, September 1994, by S. E. Curtin, and D.C. Andreasen: U.S. Geological Survey Open-File Report 95-746. 1995. 1 sheet, 1:250,000.

Contamination of ground water, surface water, and soil, and evaluation of selected ground-water pumping alternatives in the Canal Creek area of Aberdeen Proving Ground, Maryland, by M.M. Lorah, and J.S. Clark: U.S. Geological Survey Open-File Report 95-282. 1996. 318 pages.

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

Open-File Reports--Continued

Hydrogeologic, Soil. and Water-Quality Data for J-Field, Aberdeen Proving Ground, Maryland, 1989-94, by D.J. Phelan, E. H. Marchand, M.L. Cashel, M.T. Koterba, L.D. Olsen, and P.R. Nemoff: U.S. Geological Survey Open-File Report 96-128. 1996. 191 pages.

Potentiometric Surface of the Aquia aquifer in Southern Maryland, September 1995, by S.E. Curtin, D.C. Andreasen, and F.K. Mack: U.S. Geological Survey Open-File Report 96-620. 1996. 1 sheet, 1:250,000.

Potentiometric Surface of the Magothy aquifer in Southern Maryland, September 1995, by S.E. Curtin, D.C. Andreasen, and F.K. Mack: U.S. Geological Survey Open-File Report 96-621. 1996. 1 sheet, 1:250,000.

Potentiometric Surface of the Upper Patapsco aquifer in Southern Maryland, September 1995, by S.E. Curtin, D.C. Andreasen, and F.K. Mack: U.S. Geological Survey Open-File Report 96-622. 1996. 1 sheet, 1:250,000.

Potentiometric Surface of the Lower Patapsco aquifer in Southern Maryland, September 1995, by S.E. Curtin, D.C. Andreasen, and F.K. Mack: U.S. Geological Survey Open-File Report 96-623. 1996. 1 sheet, 1:250,000.

The difference between the potentiometric surfaces of the Aquia aquifer of September 1982 and September 1995 in Southern Maryland, by S.E. Curtin, D.C. Andreasen, and F.K. Mack: U.S. Geological Survey Open-File Report 96-624. 1996. 1 sheet, 1:250,000.

The difference between the potentiometric surfaces of the Magothy aquifer of September 1975 and September 1995 in Southern Maryland, by S.E. Curtin, D.C. Andreasen, and F.K. Mack: U.S. Geological Survey Open-File Report 96-625. 1996. 1 sheet, 1:250,000.

Stratigraphy and geophysical logs from a corehole drilled to bedrock at Robins Point, J-Field, Edgewood area, Aberdeen Proving Ground, Maryland, by D.S. Powars: U.S. Geological Survey Open-File Report 97-357. 1997. 68 pages.

Hydrogeologic, Water-Quality, and Sediment-Quality Data for a Freshwater Tidal Wetland, West Branch Cannal Creek, Aberdeen Proving Ground, Maryland, 1992-96, by L.D. Olsen, M.M. Lorah, E.H. Marchand, B.L. Smith, and M.A. Johnson: U.S. Geological Survey Open-File Report 97-560. 1997. 267 pages.

Water-Quality Assessment of the Lower Susquehanna River Basin, Pennsylvania and Maryland: Design and Implementation of Water-Quality Studies, 1992-95, by S.F. Siwiec, R.A. Hainly, B.D. Lindsey, M.D. Bilger, and R.A. Brithtbill: U.S. Geological Survey Open-File Report 97-583. 1997. 121 pages.

Fact Sheet

Monitoring Ground Water at Jefferson Patterson Park Museum, The Effects of Agricultural Practices on Ground-Water Quality, by M.A. Hayes and L.J. Bachman: U.S. Geological Survey Fact Sheet FS-185-96. 1996. 4 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.

Enviromental 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.

Circulars

Are Fertilizers and Pesticides in the Ground Water? A case study of the Delmarva Peninsula, Delaware, Maryland, and Virginia, by P.A. Hamilton and R.J. Shedlock: U.S. Geological Survey Circular 1080. 1992. 16 pages.

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

Unpublished Report

Map showing the potentiometric surface of the Magothy aquifer in southern Maryland, September 1975, by F.K. Mack, J.C. Wheeler, and S.E. Curtin: U.S. Geological Survey, 1978. 1 sheet.

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 Janes 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.

Hydrologic 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.

Ground-Water and Surface-Water data for Kent County, Maryland, by M. D. Tompkins, B.F. Cooper, and D.D. Drummond: Maryland Geological Survey Basic Data Report No. 20. 1994. 155 pages.

Ground-Water Level Data in Southern Maryland, 1946-94, by S.E. Curtin and J.R. Dine: Maryland Geological Survey Basic Data Report No. 21. 1995. 365 pages.

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

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.

Water Resources of Howard County, by J. R. Dine, J.C. Adamski, and M. T. Duigon: Maryland Geological Survey Bulletin No. 38. 1995. 128 pages

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

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 enviroment 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-Nanjemoy 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.

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

Report of Investigations--Continued

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.

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.

Geochemistry and Factors affecting Ground-Water Quality at three Storm-Water management sites in Maryland, by F. D. Wilde: Maryland Geological Survey Report of Investigation No. 59. 1994, 201 pages.

Delineation of Wellhead Protection areas using particle tracking analysis and hydrogeologic mapping, Northern Anne Arundel County, Maryland, by J.M. Wilson and G. Achmad: Maryland Geological Survey Report of Investigation No. 61. 1995. 121 pages.

Geohydrologic framework, ground-water quality and flow, and brackish-water intrusion in east-central Anne Arundel County, Maryland, with a section on potential for brackish-water intrusion in the Aquia aquifer in the Annapolis area, Maryland, by W.B. Fleck, D.C. Andreasen, and B.S. Smith: Maryland Geological Survey Report of Investigation No. 62. 1996. 136 pages

Hydrogeology and estimation of Ground-Water contributing areas of the Perryman Well Field, Harford County, Maryland, by D.D. Drummond and R.B. Johnston: Maryland Geological Survey Report of Investigation No. 63. 1997. 143 pages.

Hydrogeology, Model simulation, and Water-Supply potential of the Aquia and Piney Point-Nanjemoy aquifers in Calvert and St. Mary"s Counties Maryland, by Grufron Achmad and H.J. Hansen: Maryland Geological Survey Report of Investigation No. 64. 1997. 197 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.

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

Open-File Reports--Continued
Hydrogeology

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.

Stratigraphy of Upper Cretaceous and Tertiary sediments in a core-hole drilled near Chesterville, Kent County, Maryland, by H.J. Hansen: Maryland Geological Survey Open-File Report No. 93-02-7. 1992. 38 pages.

Hydrostratigraphic framework of the Piney Point-Nanjemoy aquifer and Aquia aquifer in Calvert and St. Mary's Counties, Maryland, by H.J. Hansen: Maryland Geological Survey Open-File Report No. 96-02-8. 1996. 45 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.

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

Maps--Continued
Quadrangle Atlases

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

Hydrogeologic Atlas Union Bridge-Woodsboro 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 Norrisville 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.

Professional Paper

Hydrogeologic framework of the Coastal Plain of Maryland, Delaware, and the District of Columbia, as developed for the Northern Atlantic Regional Aquifer System Analysis (RASA), U.S. Geological Survey, by D.A. Vroblesky, and W.B. Fleck: U.S. Geological Survey Professional Paper 1404-E, 1991, 45 pages.

Water-Supply Papers

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.

Maryland and the District of Columbia in National Water Summary 1984, Hydrologic events--Selected water-quality trends, and ground-water resources, by L.J. McGreevy, and J.C. Wheeler: U.S. Geological Survey Water-Supply Paper 2275, 1989. pages 243-248.

Maryland and the District of Columbia water supply and use, by J.C. Wheeler, **in** National Water Summary 1987--Water supply and use: U.S. Geological Survey Water-Supply Paper 2350, 1989. pages 291-298.

Open-File Report

Maryland and the District of Columbia ground-water quality, by J.C. Wheeler and L.B. Maclin: U. S. Geological Survey Open-File Report 87-0730. 1988. 10 pages.

Circular

Water from the Coastal Plain aquifers in the Washington, D.C., metropolitan area, by S.S. Papadopulos, R.R. Bennett, F.K. Mack, and P.C. Trescott: U.S. Geological Survey Circular 697. 1974. 11 pages.

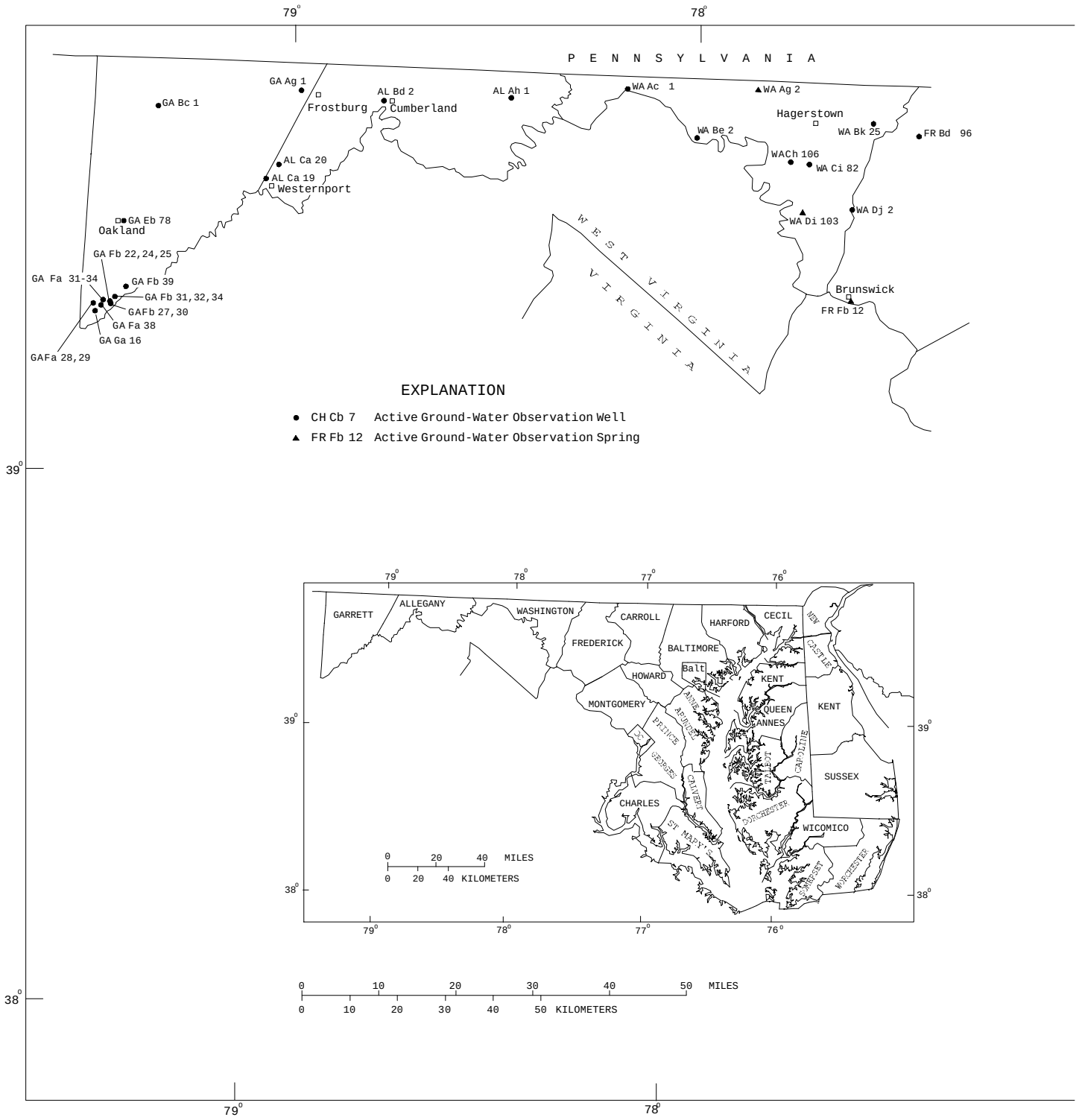
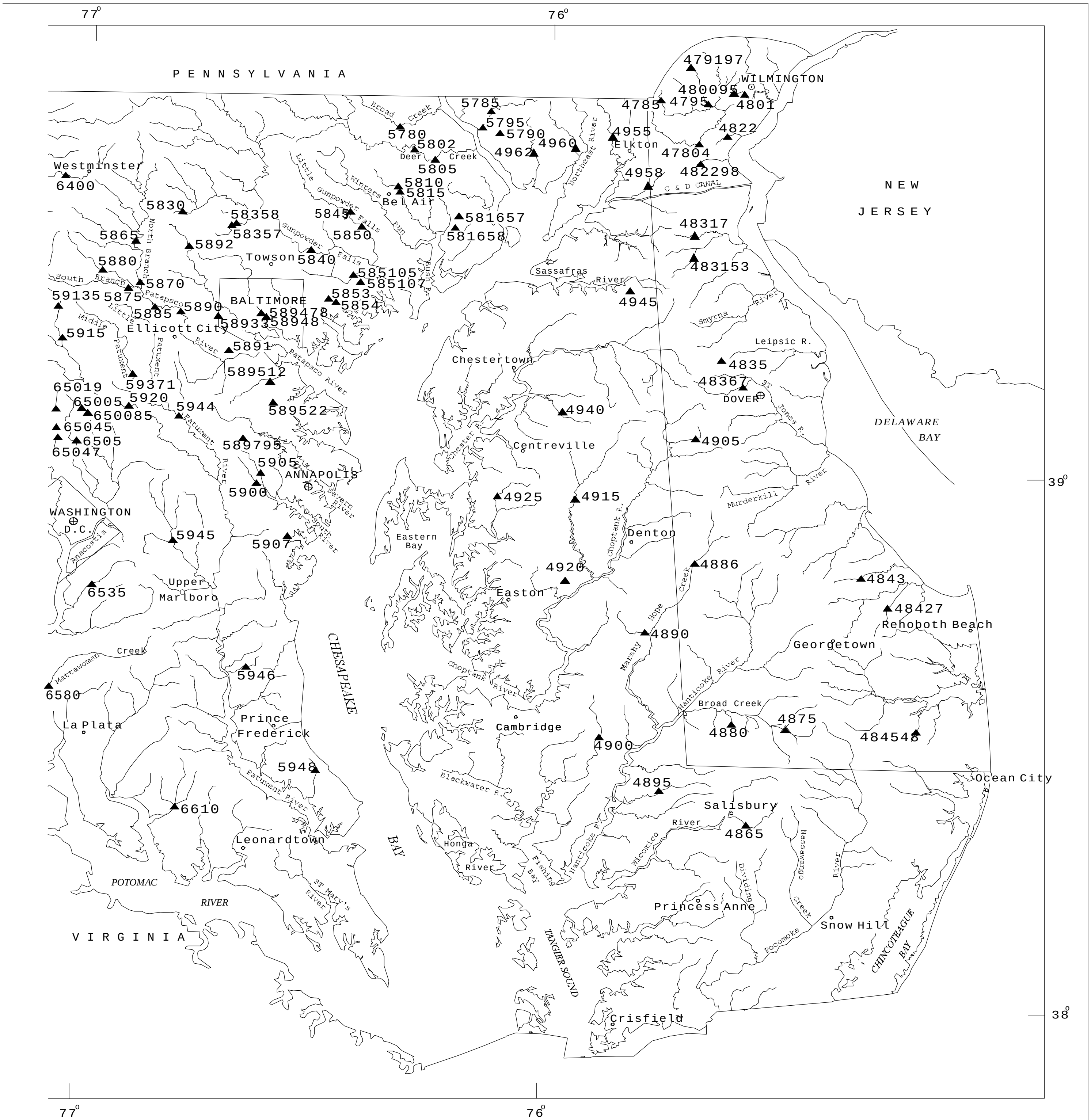
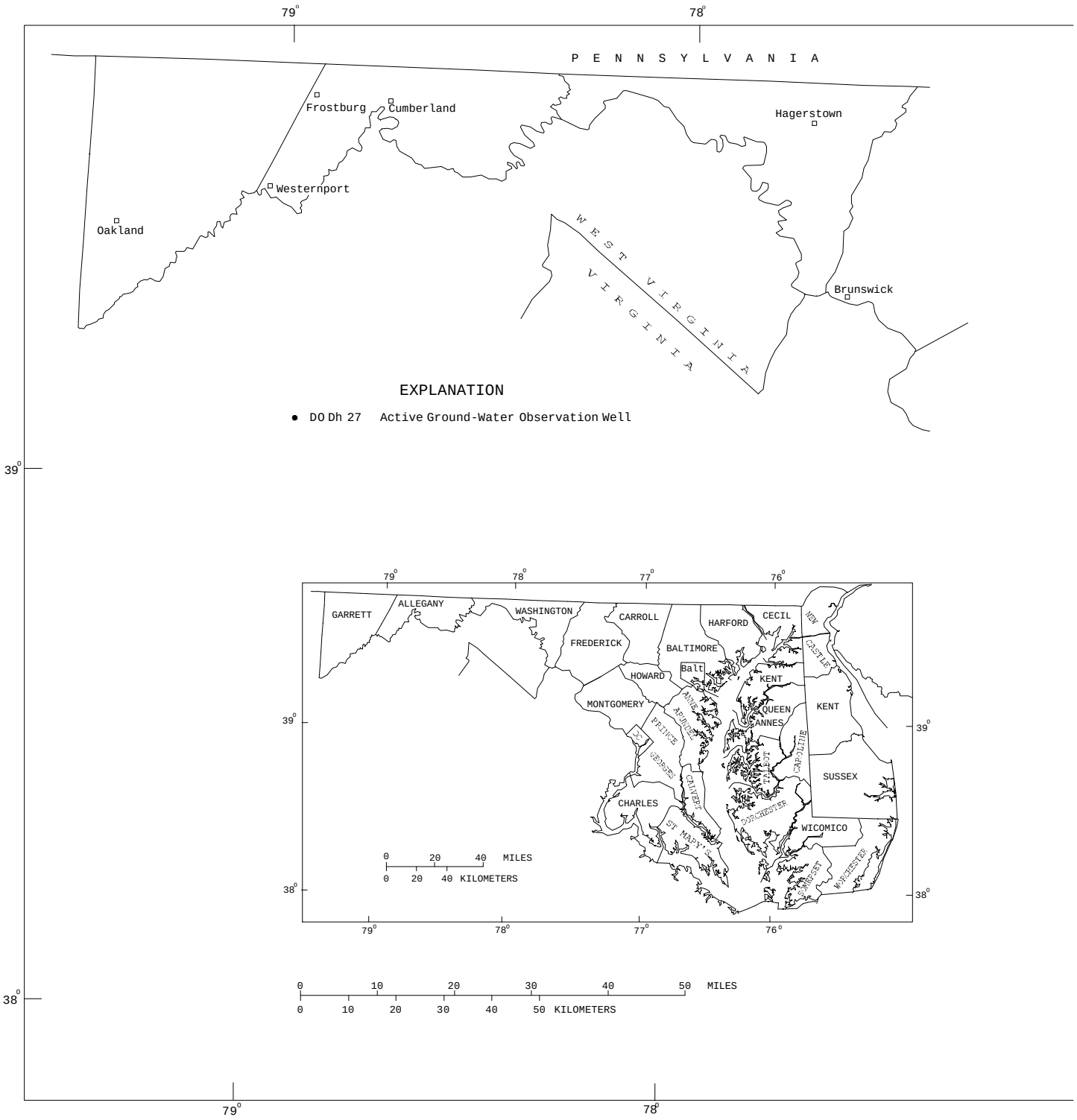


Figure 3. Location of Maryland and Delaware ground-water network observation wells and springs.

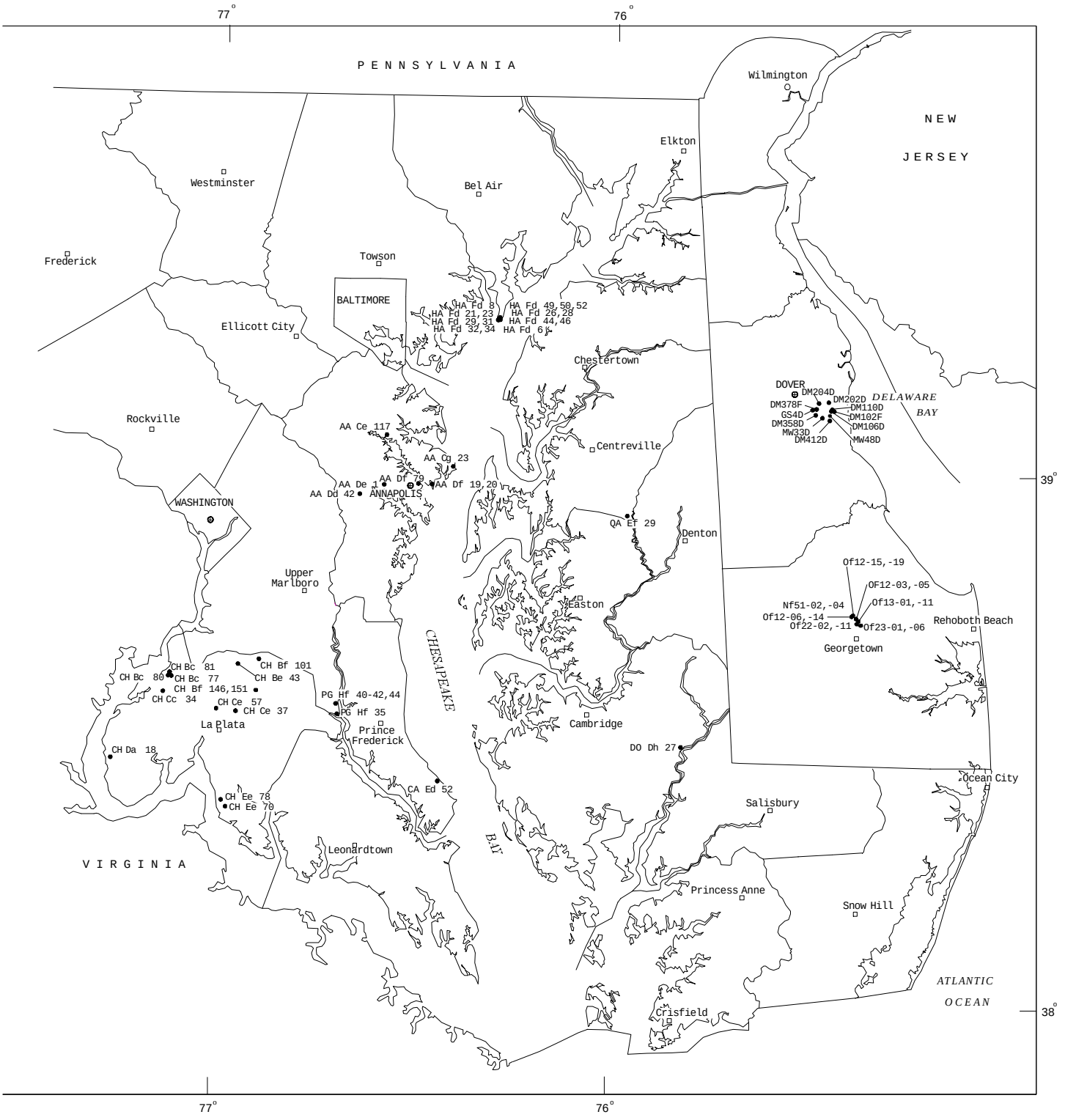

77°
76°
PENNSYLVANIA
NEW JERSEY
DELAWARE BAY
39°
38°
VIRGINIA
POTOMAC RIVER
CHESAPEAKE BAY
TANGIER SOUND
CHINCOTEAGUE BAY
WASHINGTON D.C.
BALTIMORE
ANNAPOLIS
WILMINGTON
DOVER
Westminster
Towson
Bel Air
Ellicott City
Elkton
Chestertown
Centreville
Denton
Easton
Cambridge
Upper Marlboro
La Plata
Prince Frederick
Leonardtown
Salisbury
Princess Anne
Snow Hill
Crisfield
Ocean City
Rehoboth Beach
Georgetown
C & D CANAL
Eastern Bay
Broad Creek
Deer Creek
Winters Run
Little Gunpowder Falls
Gunpowder Falls
Bush R.
Northeast River
Sassafras River
Smyrna River
Leipsic R.
St Jones R.
Murderkill River
Chester R.
Choptank R.
Choptank River
Marshy Hope Creek
Nanticoke River
Blackwater R.
Honga River
Fishing Bay
Wicomico River
Nassawango Creek
Dividing Creek
Pocomoke River
North Branch
South Branch
Patapsco
Patapsco River
Little Patuxent
Patuxent
Middle Patuxent
Patuxent River
Severn River
South River
Anacostia
Mattawoman Creek
St Mary's River
479197
480095
4801
4785
4795
4822
4955
47804
482298
4958
4960
4962
5785
5795
5790
5780
5802
5805
5810
5815
581657
581658
5845
5850
5840
585105
585107
5853
5854
5830
58358
58357
5892
5865
5880
5870
5875
5885
5890
59135
589478
58933
58948
5915
5891
589512
589522
59371
65019
65005
650085
5920
5944
65045
6505
65047
589795
5905
5900
5945
5907
6400
6535
6580
5946
5948
6610
48317
483153
4945
4835
48367
4940
4905
4925
4915
4920
4886
4843
48427
4890
4875
4880
484548
4900
4895
4865

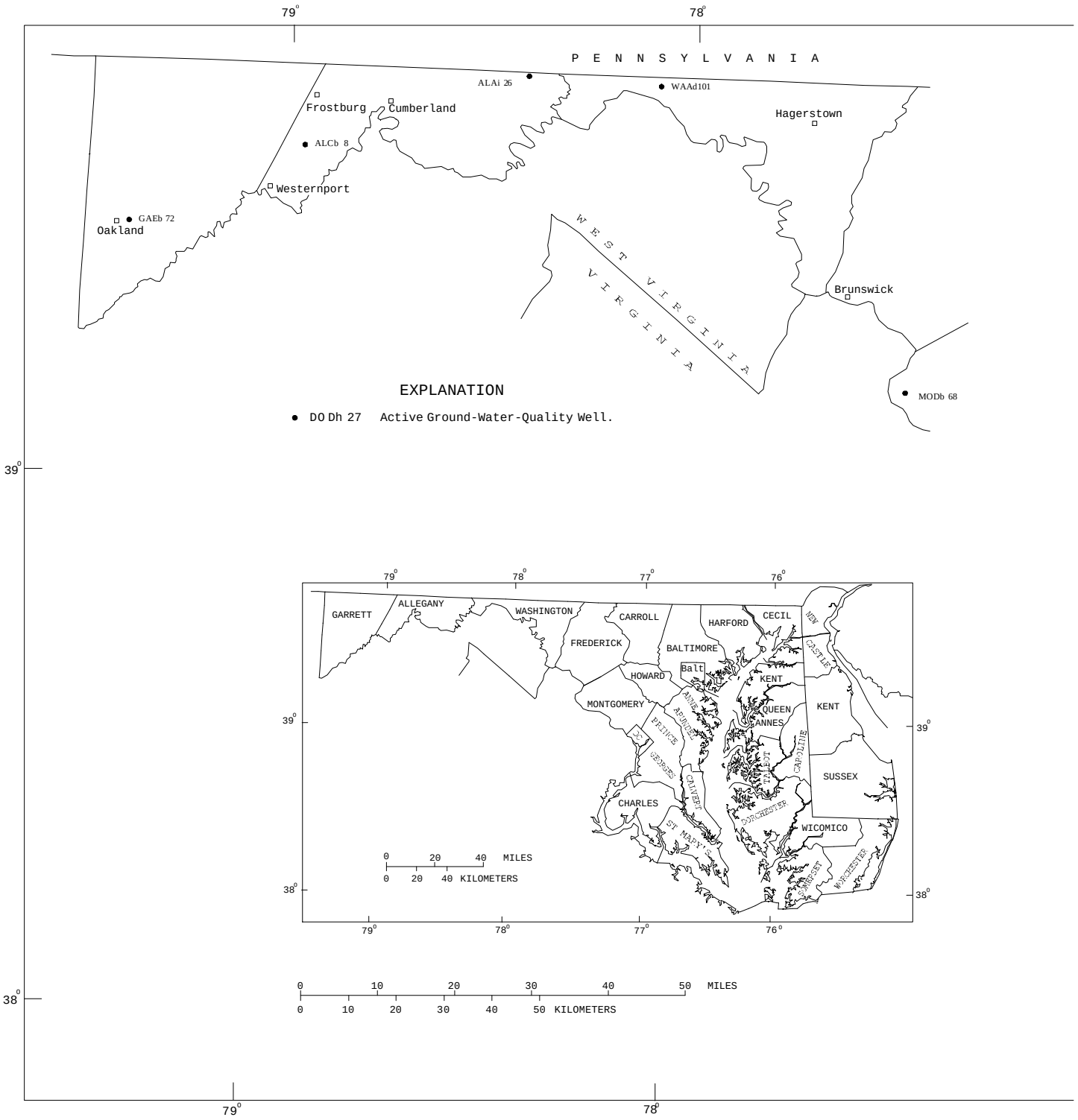


Base map modified from US geological Survey 1:100 000 DLG

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

WATER RESOURCES DATA - MARYLAND AND DELAWARE, 1997

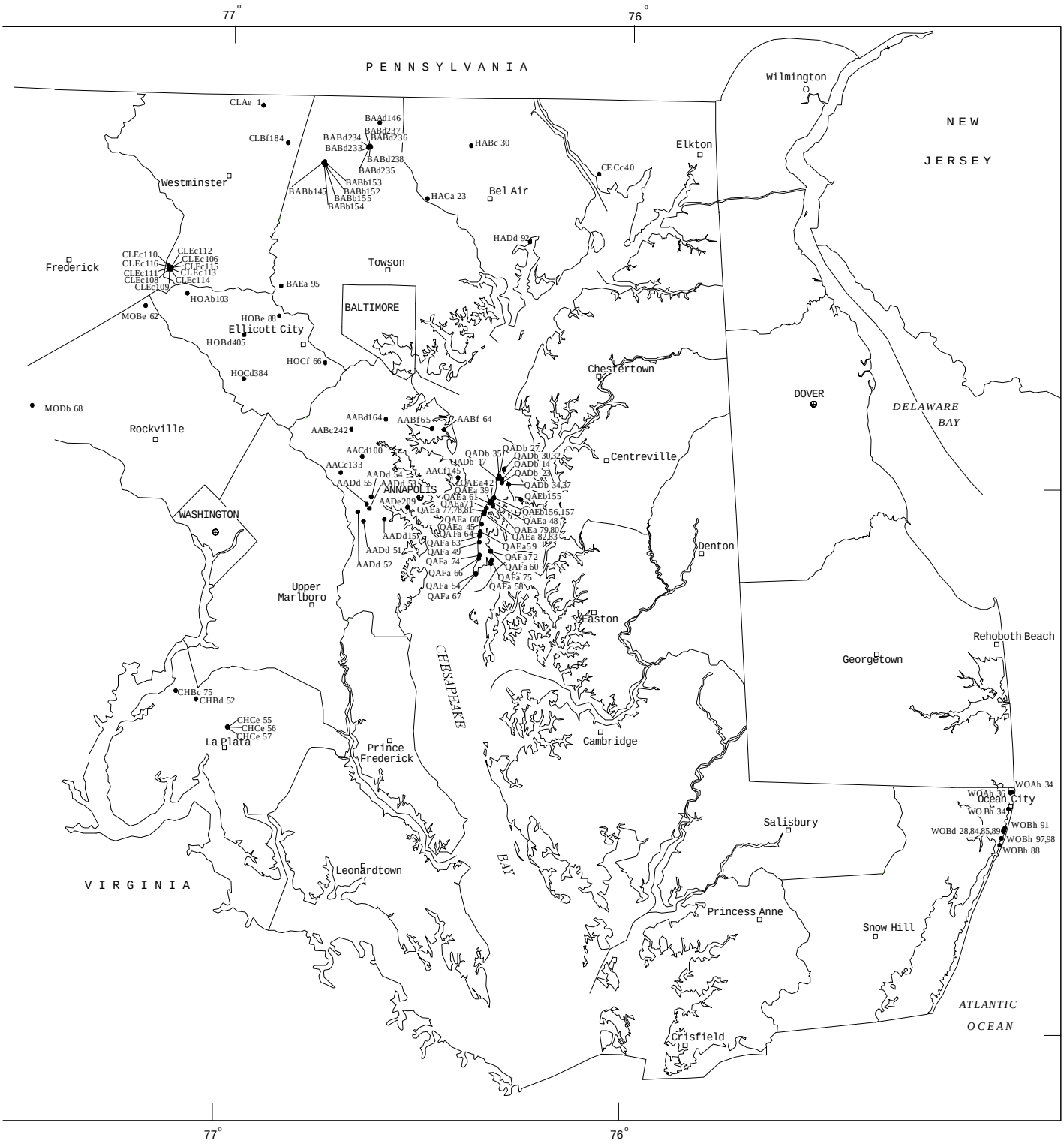




Base map modified from US geological Survey 1:100 000 DLG

Figure 5. Location of Maryland and Delaware ground-water-quality wells.

WATER RESOURCES DATA - MARYLAND AND DELAWARE, 1997



GROUND-WATER SPRING DISCHARGE

MARYLAND

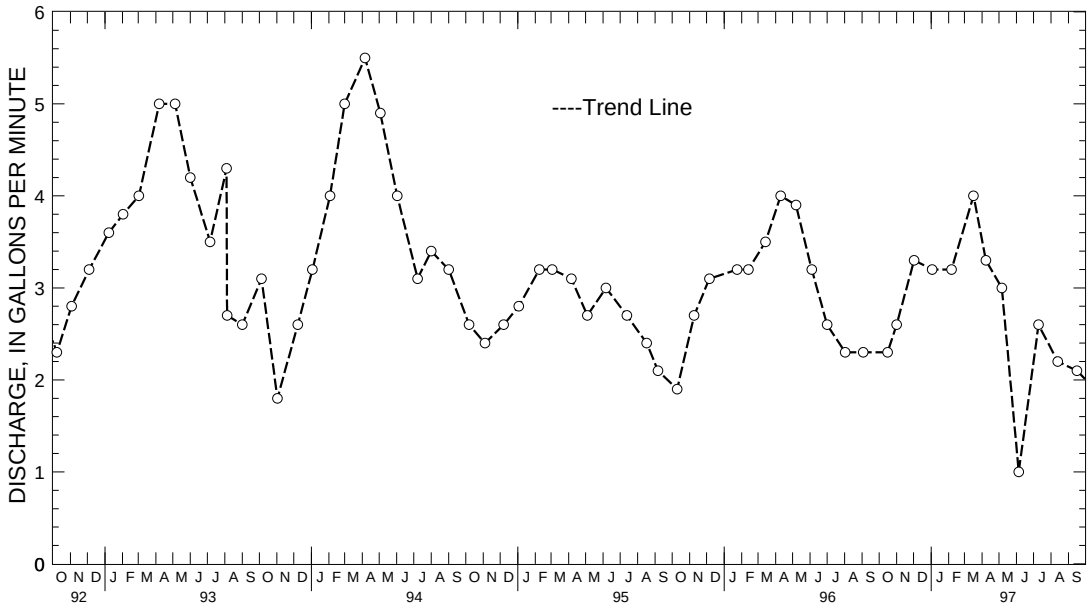
CECIL COUNTY

SPRING NUMBER.--CE Cc 40. SITE ID.--393459076045001.
LOCATION.--Lat 39°34´59˝, long 76°04´50˝, Hydrologic Unit 02050306, 0.1 mi north of intersection of Cokesbury and St. Marks Church Rd., 0.8 mi northeast of Perryman.
Owner: John McMullen.
AQUIFER.--James Run Formation, Frenchtown Member of Paleozoic age. Aquifer code: 300JMSR.
SPRING IMPROVEMENTS.--2 in. outflow pipe.
INSTRUMENTATION.--Monthly volumetric measurements by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 180 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.--April 1981, August 1989 to current year.
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge measured, 5.91 gal/min, June 7, 1990; minimum discharge measured, 1.0 gal/min, June 5, 1997.

DISCHARGE, IN GALLONS PER MINUTE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	DISCHARGE	DATE	DISCHARGE	DATE	DISCHARGE	DATE	DISCHARGE
OCT 16, 1996	2.3	JAN 3, 1997	3.2	APR 8, 1997	3.3	JUL 10, 1997	2.6
NOV 1	2.6	FEB 6	3.2	MAY 6	3.0	AUG 13	2.2
DEC 2	3.3	MAR 17	4.0	JUN 5	1.0	SEP 16	2.1

WATER YEAR 1997 MAXIMUM 4.0 MAR 17, 1997 MINIMUM 1.0 JUN 5, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER SPRING DISCHARGE

MARYLAND--Continued

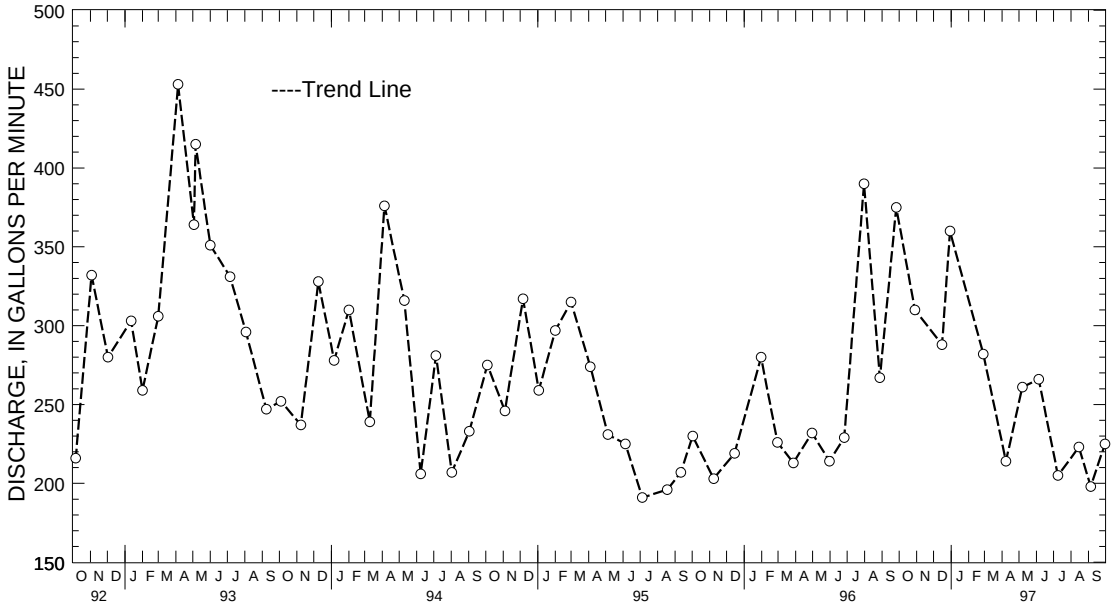
FREDERICK COUNTY

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. Temperature readings 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 1996 TO SEPTEMBER 1997

DATE	DISCHARGE	DATE	DISCHARGE	DATE	DISCHARGE	DATE	DISCHARGE
OCT 29, 1996	310.0	FEB 27, 1997	282.0	JUN 5, 1997	266.0	SEP 5, 1997	198.0
DEC 16	288.0	APR 8	214.0	JUL 9	205.0	SEP 30	225.0
DEC 30	360.0	MAY 7	261.0	AUG 15	223.0		

WATER YEAR 1997 MAXIMUM 360.0 DEC 30, 1996 MINIMUM 198.0 SEP 5, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER SPRING DISCHARGE

MARYLAND--Continued

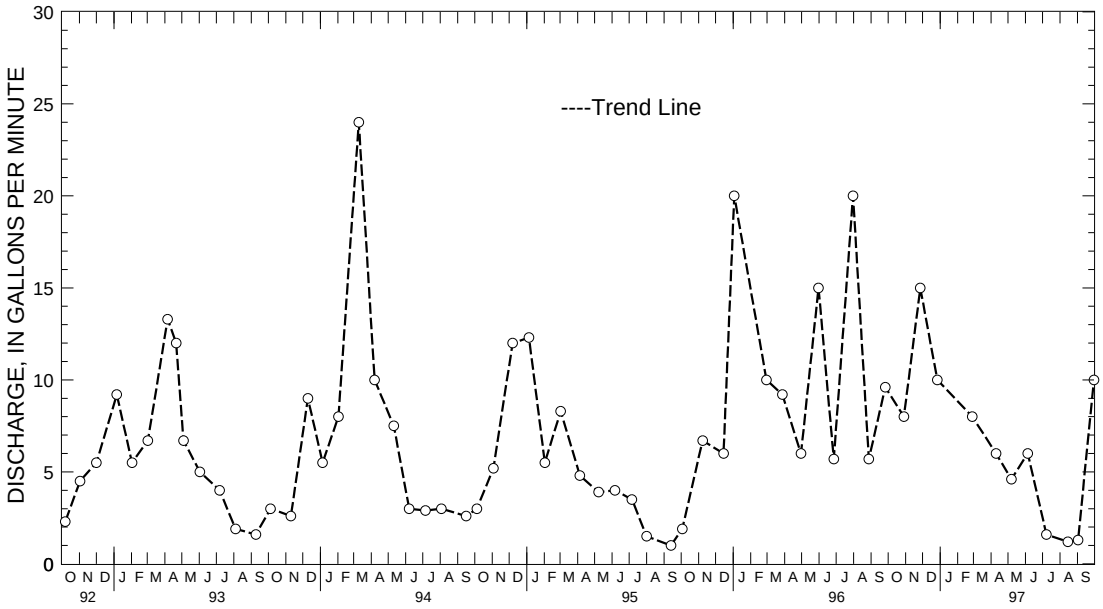
FREDERICK COUNTY--Continued

SPRING NUMBER.--FR Fb 12. SITE ID.--391846077370501.
LOCATION.--Lat 39°18´46˝, long 77°37´05˝, Hydrologic Unit 02070008, at Brunswick, off Park Ave., 300 ft north of intersection of Potomac St.
Owner: Town of Brunswick.
AQUIFER.--Precambrian Erathem of Precambrian age. Aquifer code: 400PCMB.
SPRING IMPROVEMENTS.--2 in. outflow pipe.
INSTRUMENTATION.--Monthly volumetric measurements by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 300 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.--January 1960 to April 1964, March 1965, August 1967, December 1968, July 1972, April 1974 to current year.
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge measured, 36.0 gal/min, April 30, 1964; minimum discharge measured, 0.8 gal/min, Oct. 1, 1986.

DISCHARGE, IN GALLONS PER MINUTE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	DISCHARGE	DATE	DISCHARGE	DATE	DISCHARGE	DATE	DISCHARGE
OCT 29, 1996	8.0	FEB 27, 1997	8.0	JUN 5, 1997	6.0	SEP 2, 1997	1.3
NOV 27	15.0	APR 10	6.0	JUL 8	1.6	SEP 30	10.0
DEC 27	10.0	MAY 7	4.6	AUG 15	1.2		

WATER YEAR 1997 MAXIMUM 15.0 NOV 27, 1997 MINIMUM 1.2 AUG 15, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER SPRING DISCHARGE

MARYLAND--Continued

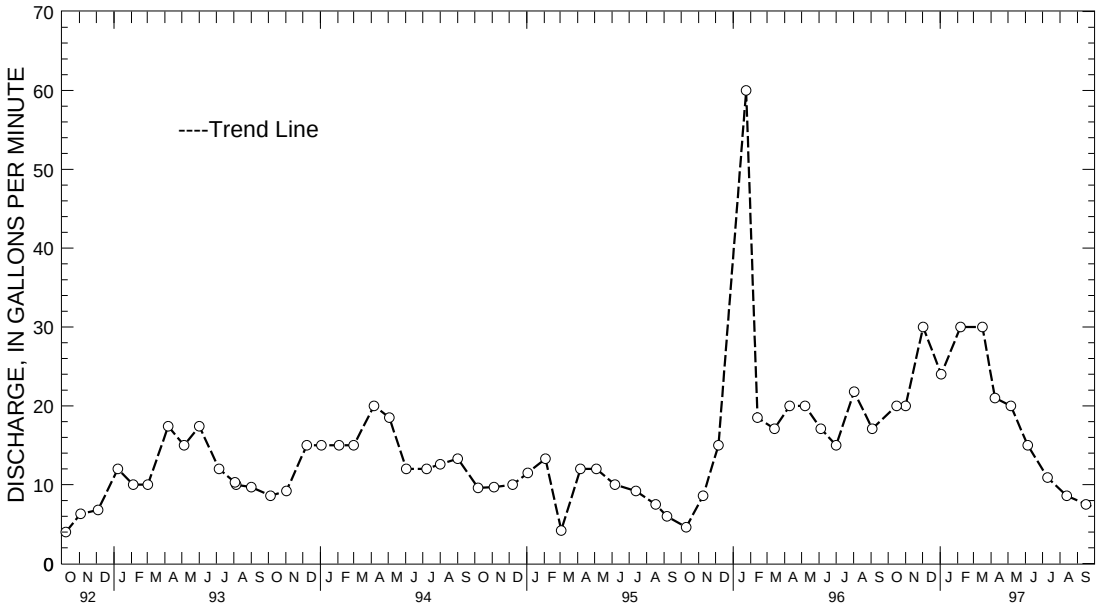
HARFORD COUNTY

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, 60.0 gal/min, Jan. 24, 1996; minimum discharge measured, 4.0 gal/min, Oct. 8, 1992.

DISCHARGE, IN GALLONS PER MINUTE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	DISCHARGE	DATE	DISCHARGE	DATE	DISCHARGE	DATE	DISCHARGE
OCT 16, 1996	20.0	JAN 3, 1997	24.0	APR 8, 1997	21.0	JUL 10, 1997	10.9
NOV 1	20.0	FEB 6	30.0	MAY 6	20.0	AUG 13	8.6
DEC 2	30.0	MAR 17	30.0	JUN 5	15.0	SEP 16	7.5

WATER YEAR 1997 MAXIMUM 30.0 DEC 2, 1996, FEB 6, 1997, and MAR 17, 1997 MINIMUM 7.5 SEP 16, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER SPRING DISCHARGE

MARYLAND--Continued

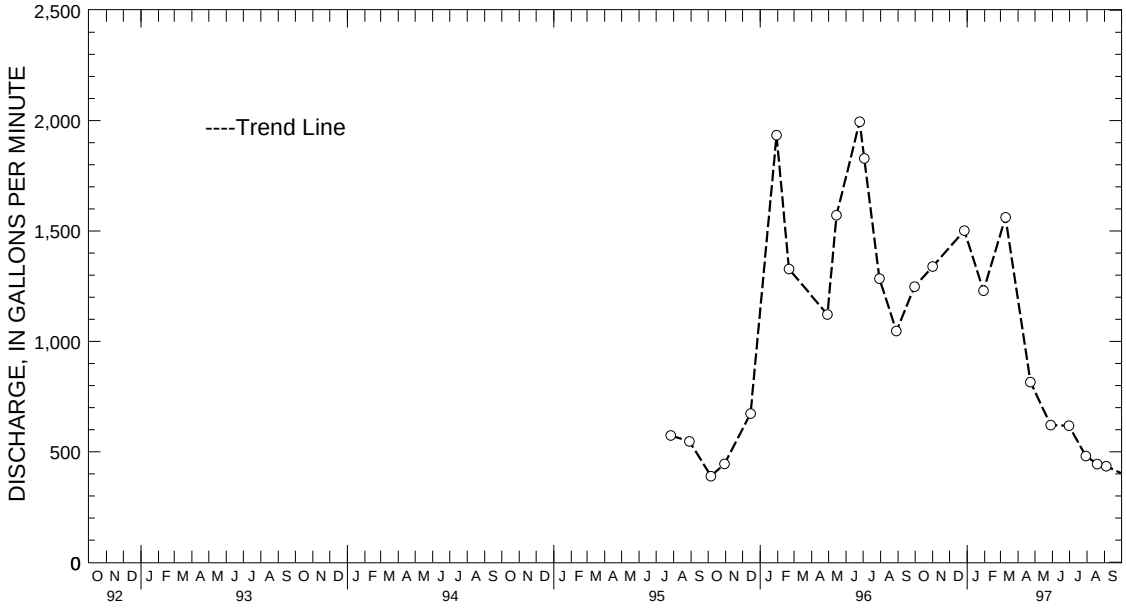
WASHINGTON COUNTY

SPRING NUMBER.--WA Ag 2. SITE ID.--394227077515401.
LOCATION.--Lat 39°42´27˝, long 77°51´54˝, Hydrologic Unit 02070004, at Cushwa Spring.
Owner: R. Leon Cushwa.
AQUIFER.--Stonehenge Limestone of Lower Ordovician age. Aquifer code: 367SNNG.
SPRING IMPROVEMENTS.--Discharges from a rock crevice into a concrete and stone walled flume.
INSTRUMENTATION.--Monthly volumetric discharge measurements by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 500 ft above National Geodetic Vertical Datum of 1929, from topographic map.
REMARKS.--Maryland Water-Level Network observation spring. Temperature readings are available.
PERIOD OF RECORD.--May 1958 to January 1960, June 1995 to current year.
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge measured, 1,995 gal/min, June 25, 1996;
minimum discharge measured, 330 gal/min, Jan. 5, 1959.

DISCHARGE, IN GALLONS PER MINUTE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	DISCHARGE	DATE	DISCHARGE	DATE	DISCHARGE	DATE	DISCHARGE
NOV 1, 1996	1,339	MAR 10, 1997	1,562	JUN 30, 1997	618	SEP 4, 1997	435
DEC 27	1,502	APR 23	816	JUL 30	481		
JAN 30, 1997	1,230	MAY 29	621	AUG 19	444		

WATER YEAR 1997 MAXIMUM 1,562 MAR 10, 1997 MINIMUM 435 SEP 4, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER SPRING DISCHARGE

MARYLAND--Continued

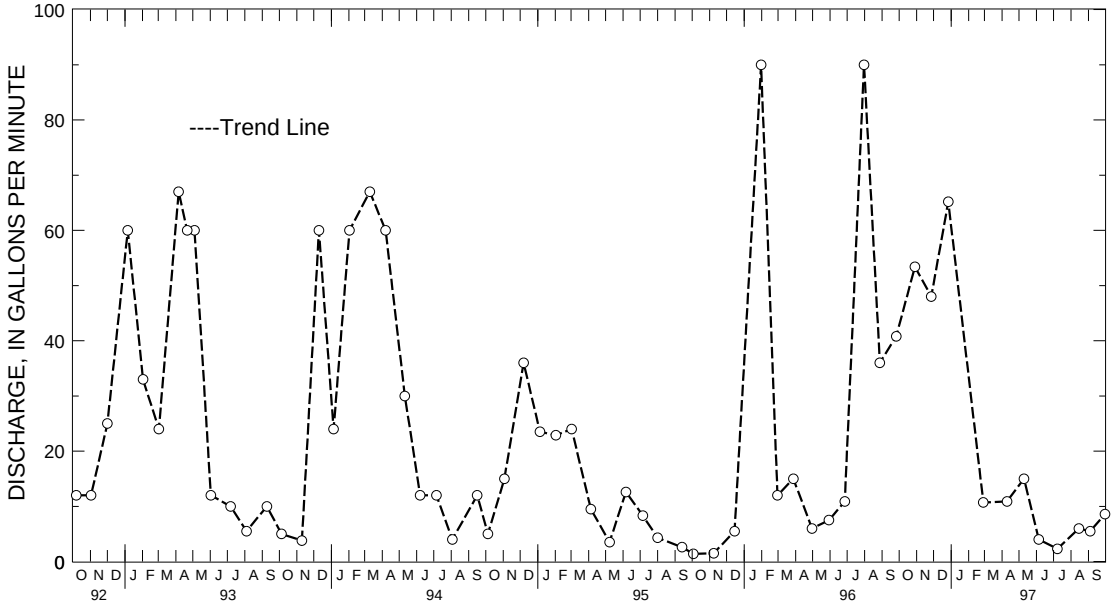
WASHINGTON COUNTY

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.--Springhouse 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, 90.0 gal/min, Jan. 31 and July 31, 1996,; minimum discharge measured, 0.3 gal/min, Oct. 4, 1991 and Nov. 7, 1991.

DISCHARGE, IN GALLONS PER MINUTE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	DISCHARGE	DATE	DISCHARGE	DATE	DISCHARGE	DATE	DISCHARGE
OCT 29, 1996	53.4	FEB 27, 1997	10.7	JUN 5, 1997	4.0	SEP 4, 1997	5.5
NOV 27	48.0	APR 10	10.9	JUL 8	2.3	SEP 30	8.6
DEC 27	65.2	MAY 10	15.0	AUG 15	6.0		

WATER YEAR 1997 MAXIMUM 65.2 DEC 27, 1996 MINIMUM 2.3 JUL 6, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

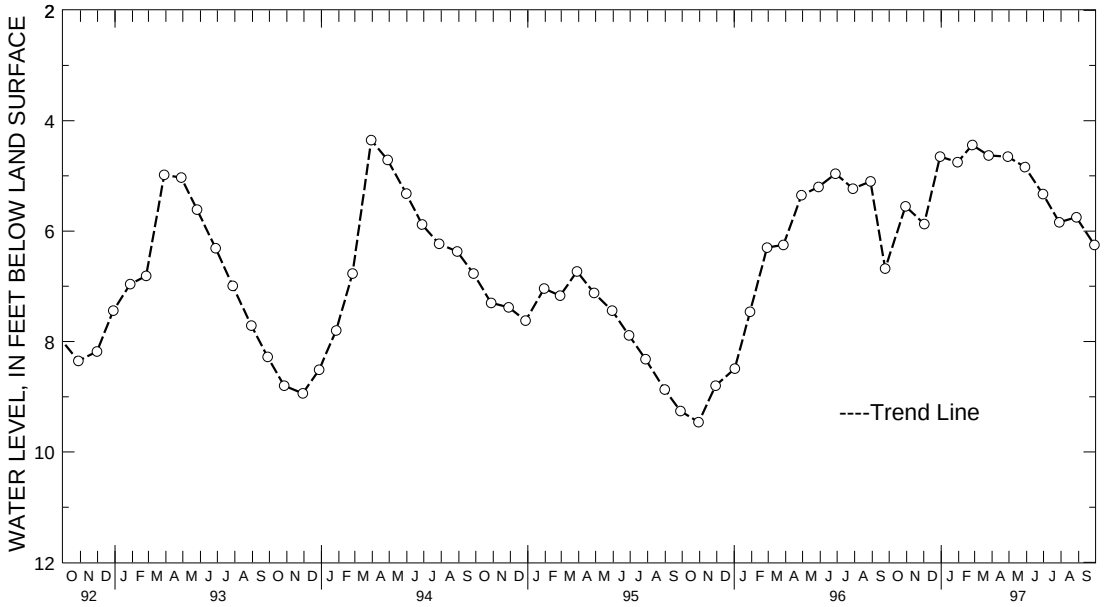
KENT COUNTY--Continued

WELL NUMBER.--Jd42-03. SITE ID.--390607075331501. PERMIT NUMBER.--10230.
LOCATION.--Lat 39°06´07˝, long 75°33´l5˝, Hydrologic Unit 02040207, l 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 ll ft; casing diameter l.25 in., to 8.5 ft; well point from 8.5 to ll 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 l950 to December l96l, August l97l to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.69 ft below land surface, July l8, l975; lowest measured, 10.10 ft below land surface, Nov. 28, l986.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30, 1996	5.55	JAN 30, 1997	4.75	APR 29, 1997	4.65	JUL 29, 1997	5.84
DEC 02	5.87	FEB 25	4.44	MAY 29	4.84	AUG 28	5.75
30	4.65	MAR 26	4.63	JUN 30	5.33	SEP 29	6.25

WATER YEAR 1997 HIGHEST 4.44 FEB 25, 1997 LOWEST 6.25 SEP 29, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE

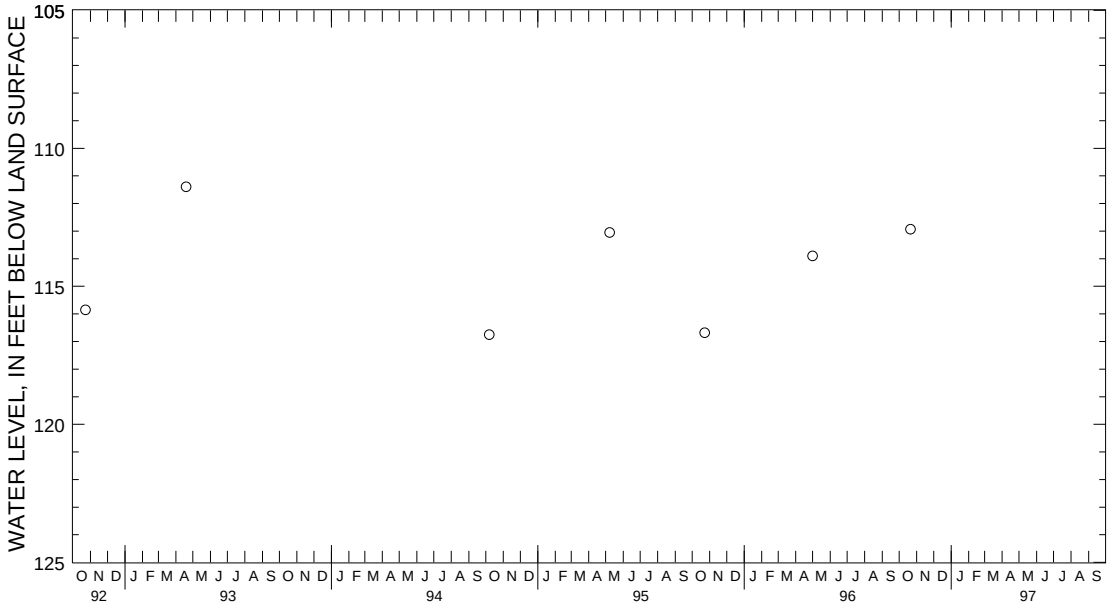
KENT COUNTY

WELL NUMBER.--Kc31-01. SITE ID.--390224075391601. PERMIT NUMBER.--33610.
LOCATION.--Lat 39°02´24˝, long 75°39´l6˝, Hydrologic Unit 02060005, 1.1 mi southwest of Petersburg, off Ironmine Rd., at Norman G. Wilder State Wildlife Area.
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 2 in., to 370 ft; screen diameter 2 in. from 370 to 380 ft.
INSTRUMENTATION.--Twice yearly 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.
REMARKS.--No Spring 1997, water-level measurement.
PERIOD OF RECORD.--February 1975 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 92.99 ft below land surface, Feb. 20, l975; lowest measured, 116.77 ft below land surface, Oct. 29, l991.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL
OCT 21, 1996	112.93

WATER YEAR 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

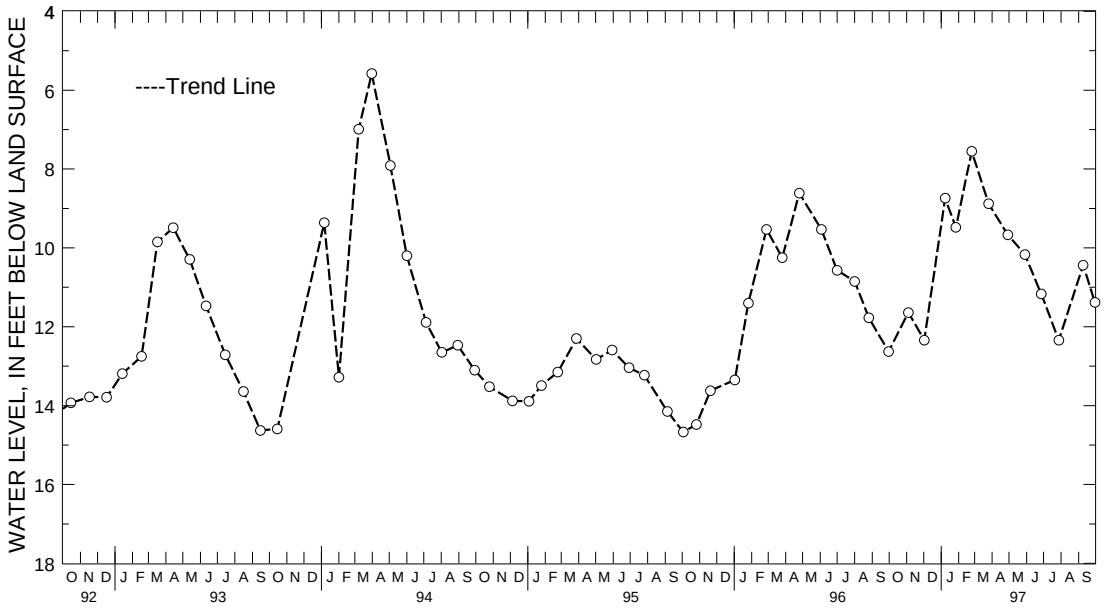
KENT COUNTY--Continued

WELL NUMBER.--Mc5l-01. SITE ID.--385041075395601.
LOCATION.--Lat 38°50´4l˝, long 75°39´56˝, Hydrologic Unit 02060008, l.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 l9 ft; casing diameter 2 in., to 15 ft; well point from 15 to 19 ft.
INSTRUMENTATION.--Monthly measurements with chalked steel tape by Delaware 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 l958 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.28 ft below land surface, May 3l, l984; lowest measured, l6.29 ft below land surface, Jan. 19, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 04, 1996	11.64	JAN 27, 1997	9.48	APR 29, 1997	9.67	JUL 28, 1997	12.34
DEC 02	12.34	FEB 24	7.55	MAY 29	10.17	SEP 09	10.44
JAN 08, 1997	8.74	MAR 26	8.88	JUN 27	11.17	30	11.38

WATER YEAR 1997 HIGHEST 7.55 FEB 24, 1997 LOWEST 12.34 DEC 02, 1996 JUL 28, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

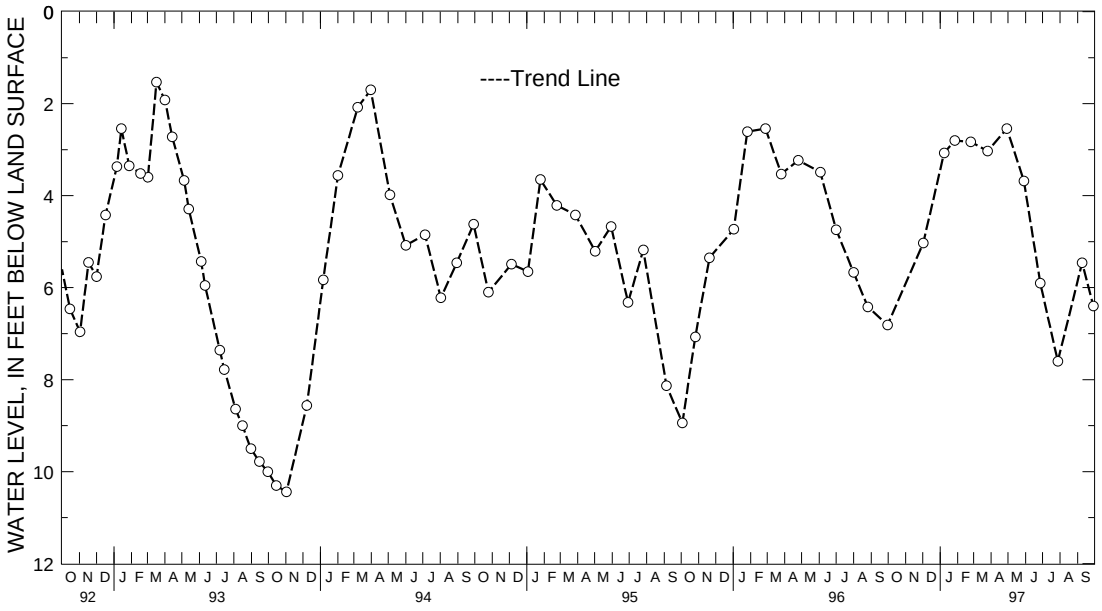
KENT COUNTY--Continued

WELL NUMBER.--Md22-01. SITE ID.--385310075331301. PERMIT NUMBER.--10221.
LOCATION.--Lat 38°53´l0˝, long 75°33´l3˝, 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 l7 ft; casing diameter l in., to 14 ft; well point from 14 to l7 ft.
INSTRUMENTATION.--Monthly measurements with electric or 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 l958 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, l.07 ft below land surface, July l4, l975; lowest measured, ll.l4 ft below land surface, Jan. 6, l966.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 02, 1996	5.03	FEB 24, 1997	2.83	MAY 29, 1997	3.68	SEP 09, 1997	5.46
JAN 08, 1997	3.07	MAR 26	3.03	JUN 27	5.90	29	6.40
27	2.80	APR 29	2.54	JUL 28	7.60		

WATER YEAR 1997 HIGHEST 2.54 APR 29, 1997 LOWEST 7.60 JUL 28, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--DM102F. SITE ID.--390733075264801. PERMIT NUMBER.--96950.
LOCATION.--Lat 39°07´33˝, long 75°26´48˝, Hydrologic Unit 02040207, at Dover Air Force Base, Dover.
Owner: U.S. Air Force.
AQUIFER.--Frederica aquifer of Miocene age. Aquifer code: 122FRDC.
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 112.5 ft; casing diameter 3 in., to 102.5 ft; screen diameter 2 in. from 102.5 to 112.5 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. 1, 1995, to current year.
DATUM.--Altitude of land surface is 18.54 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of recorder platform 2.32 ft above land surface.
REMARKS.--Dover Air Force Base Project observation well. Water levels may be affected by agricultural irrigation. Missing data due to recorder malfunction.
PERIOD OF RECORD.--October 1995 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.82 ft above sea level, Feb. 21, and 22, 1997; lowest measured, 4.34 ft below sea level, Aug. 15, and 16, 1997.

WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
(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	3.65	3.60	---	---	---	---	---	---	6.37	6.36	6.67	6.63
2	3.74	3.65	---	---	---	---	---	---	6.36	6.35	6.69	6.65
3	3.76	3.74	---	---	---	---	---	---	6.36	6.34	6.69	6.64
4	3.77	3.76	---	---	---	---	---	---	6.40	6.34	6.69	6.65
5	3.80	3.77	---	---	---	---	---	---	6.47	6.40	6.72	6.65
6	3.87	3.80	---	---	---	---	---	---	6.46	6.45	6.75	6.69
7	3.92	3.87	---	---	---	---	---	---	6.47	6.45	6.69	6.67
8	4.20	3.92	---	---	---	---	6.43	6.41	6.56	6.47	6.70	6.67
9	4.20	4.16	---	---	---	---	6.52	6.41	6.58	6.56	6.68	6.66
10	4.22	4.20	---	---	---	---	6.52	6.48	6.61	6.58	6.74	6.68
11	4.21	4.21	---	---	---	---	6.48	6.43	6.62	6.61	6.75	6.73
12	4.26	4.21	---	---	---	---	6.43	6.39	6.64	6.62	6.73	6.70
13	4.33	4.26	---	---	---	---	6.39	6.36	6.64	6.60	6.70	6.66
14	4.39	4.33	---	---	---	---	6.36	6.34	6.70	6.60	6.76	6.66
15	4.41	4.39	---	---	---	---	6.34	6.32	6.73	6.70	6.76	6.68
16	4.46	4.41	---	---	---	---	6.43	6.33	6.71	6.69	6.68	6.64
17	4.51	4.46	---	---	---	---	6.39	6.35	6.72	6.70	6.65	6.64
18	4.55	4.51	---	---	---	---	6.35	6.32	6.75	6.70	6.65	6.63
19	4.69	4.55	---	---	---	---	6.32	6.31	6.79	6.75	6.66	6.63
20	4.71	4.69	---	---	---	---	6.31	6.31	6.79	6.76	6.68	6.66
21	4.74	4.71	---	---	---	---	6.31	6.25	6.82	6.76	6.68	6.66
22	4.77	4.74	---	---	---	---	6.28	6.25	6.82	6.79	6.70	6.65
23	4.81	4.77	---	---	---	---	6.28	6.23	6.79	6.75	6.65	6.61
24	4.84	4.81	---	---	---	---	6.24	6.21	6.75	6.73	6.61	6.56
25	4.86	4.84	---	---	---	---	6.29	6.24	6.73	6.71	6.58	6.55
26	4.88	4.86	---	---	---	---	6.26	6.20	6.72	6.71	6.61	6.58
27	4.92	4.88	---	---	---	---	6.22	6.19	6.73	6.71	6.59	6.57
28	4.94	4.92	---	---	---	---	6.29	6.22	6.71	6.63	6.57	6.55
29	4.96	4.94	---	---	---	---	6.26	6.24	---	---	6.56	6.55
30	---	---	---	---	---	---	6.29	6.24	---	---	6.56	6.53
31	---	---	---	---	---	---	6.36	6.29	---	---	6.57	6.53
MONTH	4.96	3.60	---	---	---	---	6.52	6.19	6.82	6.34	6.76	6.53

GROUND-WATER LEVELS

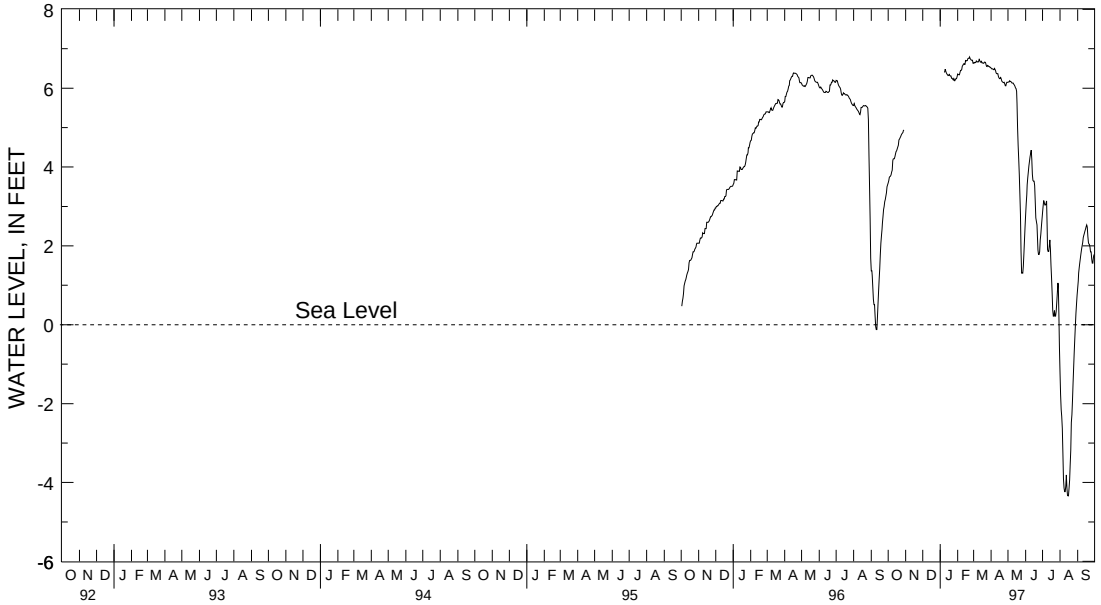
DELAWARE-Continued

KENT COUNTY--Continued

DM102F--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	6.57	6.51	6.21	6.15	3.07	2.80	3.01	2.84	-.58	-1.22	1.11	.93
2	6.51	6.49	6.19	6.16	3.30	3.07	3.15	3.01	-1.22	-1.77	1.31	1.11
3	6.50	6.49	6.24	6.16	3.55	3.30	3.25	3.15	-1.77	-2.15	1.45	1.31
4	6.50	6.49	6.23	6.19	3.73	3.55	3.25	3.10	-2.15	-2.33	1.57	1.45
5	6.49	6.47	6.19	6.17	3.88	3.73	3.10	3.04	-2.33	-2.63	1.69	1.57
6	6.51	6.47	6.19	6.17	4.03	3.88	3.07	3.04	-2.63	-3.27	1.80	1.69
7	6.51	6.50	6.18	6.15	4.15	4.03	3.14	3.07	-3.27	-3.91	1.91	1.80
8	6.50	6.47	6.15	6.13	4.26	4.15	3.17	3.14	-3.91	-4.14	2.00	1.91
9	6.47	6.43	6.15	6.13	4.35	4.26	3.14	2.48	-4.14	-4.23	2.08	2.00
10	6.43	6.39	6.15	6.13	4.43	4.35	2.48	1.91	-4.09	-4.23	2.21	2.08
11	6.39	6.37	6.13	6.10	4.48	4.43	1.91	1.86	-3.81	-4.09	2.27	2.21
12	6.40	6.37	6.10	6.08	4.48	4.20	1.99	1.86	-3.78	-3.81	2.32	2.27
13	6.41	6.37	6.08	6.05	4.20	3.81	2.15	1.99	-3.78	-4.14	2.38	2.32
14	6.37	6.30	6.05	6.01	3.81	3.66	2.26	2.15	-4.14	-4.33	2.43	2.38
15	6.30	6.26	6.01	5.99	3.66	3.64	2.25	1.92	-4.33	-4.34	2.49	2.43
16	6.26	6.24	5.99	5.92	3.72	3.64	1.92	1.51	-4.15	-4.34	2.53	2.49
17	6.28	6.25	5.92	5.62	3.72	3.53	1.51	1.18	-3.94	-4.15	2.57	2.53
18	6.28	6.27	5.62	5.00	3.53	3.12	1.18	.81	-3.55	-3.94	2.57	2.48
19	6.27	6.23	5.00	4.54	3.12	2.71	.81	.37	-3.18	-3.55	2.48	2.24
20	6.23	6.18	4.54	4.18	2.71	2.62	.37	.22	-2.48	-3.18	2.24	2.09
21	6.18	6.16	4.18	3.80	2.62	2.53	.36	.22	-2.28	-2.48	2.09	2.05
22	6.16	6.15	3.80	3.30	2.53	2.29	.38	.36	-1.91	-2.28	2.08	2.04
23	6.15	6.14	3.30	2.80	2.29	1.90	.36	.22	-1.48	-1.91	2.09	1.97
24	6.17	6.15	2.80	1.85	1.90	1.78	.34	.22	-1.08	-1.48	1.97	1.85
25	6.15	6.11	1.85	1.31	1.85	1.78	.56	.34	-.70	-1.08	1.87	1.85
26	6.11	6.06	1.50	1.31	2.15	1.85	.81	.56	-.35	-.70	1.86	1.67
27	6.11	6.06	1.49	1.31	2.30	2.15	1.06	.81	-.01	-.35	1.67	1.56
28	6.19	6.11	1.81	1.49	2.49	2.30	1.22	1.06	.29	-.01	1.72	1.56
29	6.16	6.15	2.16	1.81	2.67	2.49	1.22	1.01	.53	.29	1.78	1.71
30	6.15	6.15	2.49	2.16	2.84	2.67	1.01	.31	.75	.53	1.85	1.78
31	---	---	2.80	2.49	---	---	.31	-.58	.93	.75	---	---
MONTH	6.57	6.06	6.24	1.31	4.48	1.78	3.25	-.58	.93	-4.34	2.57	.93
YEAR	6.82	-4.34										

Daily Low Water Levels



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--DM106D. SITE ID.--390734075271402. PERMIT NUMBER.--96636.
LOCATION.--Lat 39°07′34″, long 75°27′14″, Hydrologic Unit 02040207, at Dover Air Force Base, Dover.
Owner: U.S. Air Force.
AQUIFER.--Columbia aquifer of Pleistocene age. Aquifer code: 112CLMB.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 82 ft; casing diameter 2 in., to 72 ft; screen diameter 2 in. from 72 to 82 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. 25, 1996, to current year.
DATUM.--Altitude of land surface is 23.51 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of recorder platform 3.60 ft above land surface.
REMARKS.--Dover Air Force Base Project observation well. Missing data due to recorder malfunction.
PERIOD OF RECORD.--December 1995 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 15.65 ft above sea level, Feb. 16, and 17, 1997; lowest measured, 10.20 ft above sea level, Sept. 30, 1997.

WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	12.29	12.27	11.57	11.34	14.67	14.51	14.72	14.42	14.58	14.31
2	---	---	12.27	12.14	11.63	11.32	14.74	14.67	14.42	14.31	14.76	14.57
3	---	---	12.14	12.00	11.45	11.32	14.73	14.54	14.31	14.16	14.79	14.47
4	---	---	12.00	11.96	11.47	11.41	14.54	14.41	14.38	14.13	15.01	14.79
5	---	---	12.01	11.97	11.73	11.41	14.57	14.41	14.91	14.38	15.45	15.01
6	---	---	12.01	11.97	11.91	11.69	14.48	14.17	14.99	14.91	15.51	15.14
7	---	---	12.05	11.97	12.11	11.69	14.17	14.06	15.01	14.99	15.14	14.94
8	---	---	12.19	12.05	12.44	12.11	14.06	14.01	15.06	15.00	15.10	14.88
9	---	---	12.19	11.89	12.49	12.44	14.42	14.01	15.04	14.98	14.89	14.72
10	---	---	11.89	11.84	12.71	12.46	14.39	14.19	15.04	14.98	15.08	14.89
11	---	---	11.84	11.72	12.76	12.71	14.21	13.91	15.04	14.95	15.08	14.88
12	---	---	11.72	11.65	12.74	12.70	13.91	13.80	14.95	14.88	14.88	14.71
13	---	---	11.67	11.65	13.21	12.71	13.80	13.78	14.88	14.64	14.71	14.58
14	---	---	11.69	11.65	14.33	13.21	13.78	13.75	15.27	14.73	14.98	14.59
15	---	---	11.65	11.57	14.66	14.33	13.91	13.74	15.58	15.27	14.98	14.62
16	---	---	11.63	11.57	14.87	14.66	14.22	13.91	15.65	15.49	14.62	14.54
17	---	---	11.73	11.63	14.99	14.87	14.07	13.90	15.65	15.40	14.65	14.54
18	---	---	11.83	11.73	14.96	14.88	13.99	13.83	15.51	15.40	14.65	14.49
19	---	---	11.83	11.72	15.12	14.88	13.83	13.78	15.51	15.40	14.75	14.49
20	---	---	11.72	11.61	15.04	14.77	13.86	13.73	15.40	15.12	14.91	14.75
21	---	---	11.61	11.59	14.77	14.73	13.73	13.46	15.37	15.12	14.99	14.84
22	---	---	11.59	11.45	14.84	14.76	13.76	13.46	15.38	14.89	15.04	14.65
23	---	---	11.45	11.42	14.84	14.81	13.77	13.41	14.89	14.73	14.65	14.46
24	---	---	11.45	11.39	14.98	14.84	13.73	13.38	14.77	14.70	14.46	14.27
25	---	---	11.46	11.39	14.89	14.66	13.96	13.73	14.76	14.65	14.56	14.27
26	12.36	12.32	11.60	11.33	14.74	14.59	13.89	13.74	14.72	14.66	14.63	14.38
27	12.45	12.32	11.33	11.20	14.81	14.74	14.05	13.74	14.78	14.62	14.40	14.36
28	12.57	12.45	11.29	11.20	14.89	14.81	14.20	14.05	14.62	14.31	14.37	14.31
29	12.47	12.36	11.29	11.26	14.93	14.85	14.28	14.18	---	---	14.44	14.29
30	12.60	12.36	11.34	11.26	14.85	14.65	14.55	14.28	---	---	14.29	14.19
31	12.42	12.29	---	---	14.76	14.53	14.69	14.55	---	---	14.45	14.22
MONTH	12.60	12.29	12.29	11.20	15.12	11.32	14.74	13.38	15.65	14.13	15.51	14.19

GROUND-WATER LEVELS

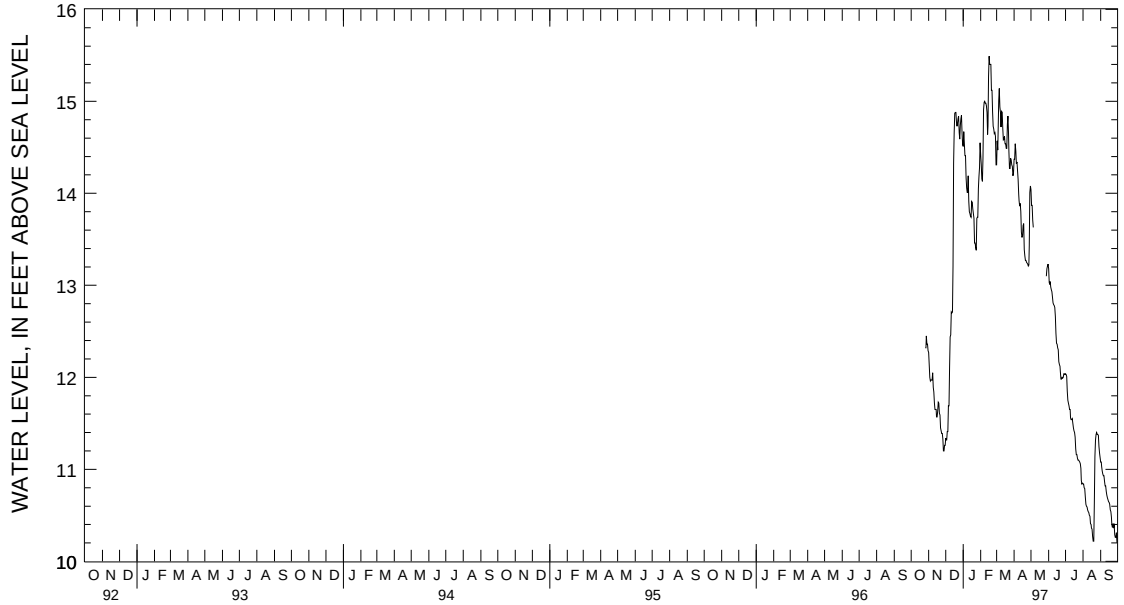
DELAWARE-Continued

KENT COUNTY--Continued

DM106D--Continued

DAY	APRIL MAX	APRIL MIN	MAY MAX	MAY MIN	JUNE MAX	JUNE MIN	JULY MAX	JULY MIN	AUGUST MAX	AUGUST MIN	SEPTEMBER MAX	SEPTEMBER MIN
1	14.45	14.37	14.24	14.04	13.24	13.18	12.07	12.04	10.85	10.84	11.13	11.08
2	14.54	14.37	14.04	13.87	13.18	13.03	12.07	12.03	10.84	10.84	11.10	11.08
3	14.60	14.54	14.10	13.87	13.04	13.01	12.03	12.01	10.84	10.80	11.12	11.03
4	14.60	14.46	14.01	13.71	13.09	13.04	12.01	11.85	10.80	10.79	11.03	10.98
5	14.46	14.32	13.71	13.63	13.07	12.98	11.85	11.75	10.79	10.70	10.98	10.95
6	14.42	14.34	---	---	12.98	12.95	11.75	11.72	10.70	10.62	10.95	10.93
7	14.44	14.25	---	---	12.95	12.93	11.72	11.69	10.62	10.60	10.93	10.93
8	14.25	14.15	---	---	12.93	12.87	11.69	11.65	10.60	10.59	10.93	10.87
9	14.18	13.99	---	---	12.87	12.81	11.68	11.65	10.59	10.56	10.87	10.82
10	13.99	13.92	---	---	12.81	12.79	11.65	11.56	10.56	10.54	10.82	10.82
11	13.92	13.86	---	---	12.79	12.78	11.56	11.54	10.54	10.53	10.82	10.76
12	14.04	13.89	---	---	12.78	12.76	11.56	11.54	10.53	10.50	10.76	10.72
13	14.07	13.80	---	---	12.76	12.66	11.56	11.55	10.51	10.49	10.72	10.69
14	13.80	13.58	---	---	12.66	12.48	11.55	11.50	10.49	10.41	10.69	10.67
15	13.58	13.52	---	---	12.48	12.37	11.51	11.45	10.41	10.40	10.67	10.65
16	13.65	13.54	---	---	12.38	12.36	11.45	11.42	10.40	10.36	10.65	10.64
17	13.70	13.65	---	---	12.38	12.32	11.42	11.40	10.36	10.35	10.64	10.62
18	13.70	13.67	---	---	12.33	12.30	11.40	11.35	10.35	10.27	10.62	10.56
19	13.67	13.39	---	---	12.32	12.17	11.35	11.22	10.27	10.22	10.56	10.54
20	13.39	13.32	---	---	12.17	12.14	11.22	11.16	10.63	10.22	10.58	10.48
21	13.32	13.27	---	---	12.14	12.12	11.19	11.16	11.14	10.63	10.48	10.40
22	13.30	13.27	---	---	12.12	12.06	11.19	11.12	11.32	11.14	10.41	10.37
23	13.27	13.25	---	---	12.06	11.98	11.12	11.10	11.38	11.32	10.49	10.41
24	13.30	13.24	---	---	12.00	11.98	11.11	11.10	11.40	11.38	10.44	10.36
25	13.24	13.23	---	---	12.01	12.00	11.11	11.09	11.40	11.40	10.49	10.41
26	13.23	13.21	---	---	12.01	11.99	11.09	11.08	11.40	11.38	10.45	10.29
27	13.43	13.22	---	---	12.04	12.00	11.08	11.06	11.39	11.38	10.29	10.26
28	14.01	13.43	13.18	13.10	12.04	12.04	11.06	11.01	11.39	11.37	10.49	10.26
29	14.08	14.01	13.21	13.18	12.05	12.04	11.01	10.88	11.37	11.25	10.49	10.31
30	14.12	14.08	13.23	13.21	12.04	12.03	10.88	10.84	11.25	11.18	10.31	10.20
31	---	---	13.24	13.23	---	---	10.85	10.85	11.18	11.13	---	---
MONTH	14.60	13.21	14.24	13.10	13.24	11.98	12.07	10.84	11.40	10.22	11.13	10.20
YEAR	15.65	10.20										

Daily Low Water Levels



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--DM110D. SITE ID.--390744075270402. PERMIT NUMBER.--95553.
LOCATION.--Lat 39°07′44″, long 75°27′04″, Hydrologic Unit 02040207, at Dover Air Force Base, Dover.
Owner: U.S. Air Force.
AQUIFER.--Columbia aquifer of Pleistocene age. Aquifer code: 112CLMB.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 74 ft; casing diameter 2 in., to 64 ft; screen diameter 2 in. from 64 to 74 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. 25, 1995, to current year.
DATUM.--Altitude of land surface is 25.37 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of recorder platform 4.94 ft above land surface.
REMARKS.--Dover Air Force Base Project observation well.
Missing data due to recorder malfunction.
PERIOD OF RECORD.--October 1995 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 15.17 ft above sea level, Feb. 15, 1997; lowest measured, 8.18 ft above sea level, Nov. 9, and 10, 1995.

WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	10.82	10.81	11.93	11.92	11.20	10.98	14.17	14.07	14.25	14.03	14.05	13.83
2	10.88	10.81	11.92	11.90	11.25	11.07	14.24	14.17	14.03	13.92	14.23	14.05
3	10.89	10.75	11.90	11.65	11.16	11.07	14.23	14.08	13.92	13.79	14.33	14.02
4	10.75	10.72	11.65	11.61	11.17	11.15	14.08	13.96	13.94	13.75	14.54	14.33
5	10.72	10.71	11.62	11.61	11.34	11.15	14.05	13.96	14.54	13.94	14.85	14.54
6	10.76	10.71	11.62	11.58	11.54	11.34	14.01	13.76	14.58	14.54	14.94	14.65
7	---	---	11.64	11.58	11.84	11.45	13.76	13.62	14.58	14.57	14.65	14.46
8	---	---	11.76	11.64	12.19	11.84	13.62	13.56	14.59	14.57	14.55	14.41
9	---	---	11.76	11.55	12.26	12.19	13.87	13.56	14.59	14.53	14.41	14.25
10	---	---	11.55	11.50	12.43	12.26	13.87	13.76	14.56	14.53	14.52	14.32
11	---	---	11.50	11.40	12.48	12.43	13.76	13.53	14.56	14.50	14.53	14.42
12	11.45	11.32	11.40	11.33	12.48	12.44	13.53	13.44	14.50	14.45	14.42	14.23
13	11.52	11.45	11.33	11.32	13.03	12.44	13.44	13.41	14.45	14.23	14.23	14.10
14	11.61	11.52	11.33	11.31	14.18	13.03	13.41	13.38	14.80	14.27	14.43	14.10
15	11.58	11.52	11.31	11.24	14.39	14.18	13.45	13.37	15.17	14.80	14.43	14.17
16	11.58	11.53	11.25	11.24	14.49	14.39	13.76	13.45	15.16	15.09	14.17	14.07
17	11.58	11.57	11.34	11.25	14.59	14.49	13.71	13.57	15.16	14.93	14.13	14.05
18	11.61	11.57	11.42	11.34	14.57	14.49	13.60	13.52	14.99	14.93	14.13	14.03
19	11.90	11.61	11.42	11.36	14.70	14.49	13.52	13.46	14.99	14.92	14.23	14.03
20	11.94	11.90	11.36	11.26	14.66	14.41	13.47	13.42	14.92	14.63	14.39	14.23
21	11.99	11.94	11.26	11.24	14.41	14.34	13.42	13.15	14.81	14.63	14.44	14.36
22	12.05	11.99	11.24	11.13	14.38	14.34	13.34	13.15	14.81	14.44	14.49	14.20
23	12.16	12.05	11.13	11.10	14.38	14.37	13.35	13.11	14.44	14.26	14.20	14.01
24	12.16	12.14	11.10	11.06	14.47	14.37	13.28	13.05	14.26	14.20	14.01	13.82
25	12.14	12.13	11.08	11.06	14.43	14.25	13.56	13.28	14.23	14.16	13.99	13.81
26	12.13	11.96	11.22	11.02	14.26	14.18	13.54	13.42	14.16	14.15	14.06	13.91
27	12.04	11.96	11.02	10.90	14.36	14.26	13.60	13.42	14.22	14.14	13.91	13.88
28	12.14	12.04	10.95	10.90	14.41	14.36	13.84	13.60	14.14	13.84	13.88	13.83
29	12.08	11.98	10.95	10.94	14.44	14.39	13.90	13.84	---	---	13.90	13.83
30	12.13	11.98	10.98	10.94	14.39	14.22	14.11	13.90	---	---	13.84	13.75
31	12.08	11.93	---	---	14.28	14.12	14.23	14.11	---	---	13.98	13.75
MONTH	12.16	10.71	11.93	10.90	14.70	10.98	14.24	13.05	15.17	13.75	14.94	13.75

GROUND-WATER LEVELS

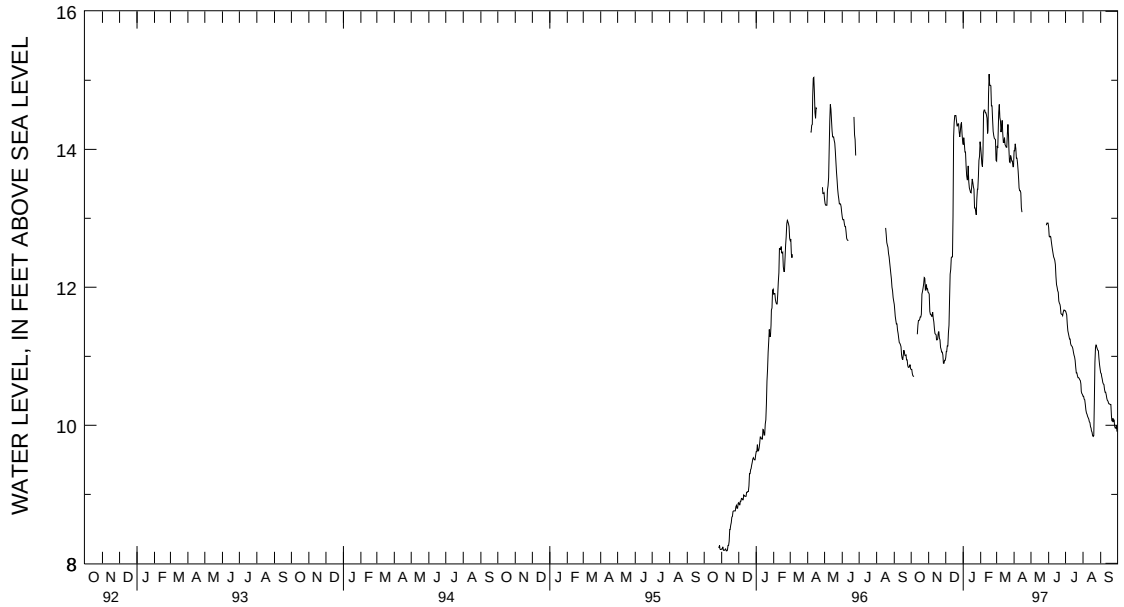
DELAWARE-Continued

KENT COUNTY--Continued

DM110D--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	13.99	13.98	---	---	12.93	12.87	11.67	11.66	10.45	10.42	10.82	10.76
2	14.08	13.98	---	---	12.87	12.74	11.67	11.63	10.43	10.42	10.76	10.75
3	14.12	14.08	---	---	12.74	12.73	11.63	11.60	10.42	10.38	10.78	10.71
4	14.12	14.01	---	---	12.78	12.74	11.60	11.47	10.38	10.37	10.71	10.67
5	14.01	13.87	---	---	12.78	12.73	11.47	11.37	10.37	10.30	10.67	10.62
6	13.92	13.87	---	---	12.73	12.66	11.37	11.33	10.30	10.22	10.62	10.60
7	13.94	13.80	---	---	12.66	12.60	11.33	11.29	10.22	10.18	10.60	10.59
8	13.80	13.69	---	---	12.60	12.54	11.29	11.25	10.18	10.16	10.59	10.52
9	13.69	13.55	---	---	12.54	12.49	11.26	11.25	10.16	10.13	10.52	10.48
10	13.55	13.44	---	---	12.49	12.44	11.26	11.19	10.13	10.11	10.48	10.48
11	13.44	13.40	---	---	12.44	12.42	11.19	11.16	10.11	10.09	10.48	10.44
12	13.52	13.40	---	---	12.42	12.39	11.16	11.15	10.09	10.05	10.44	10.39
13	13.54	13.37	---	---	12.39	12.33	11.15	11.14	10.06	10.04	10.39	10.36
14	13.37	13.15	---	---	12.33	12.16	11.14	11.11	10.06	9.98	10.36	10.35
15	13.15	13.09	---	---	12.16	12.04	11.11	11.06	9.98	9.96	10.35	10.32
16	---	---	---	---	12.04	12.00	11.06	11.02	9.96	9.92	10.32	10.31
17	---	---	---	---	12.00	11.95	11.02	10.99	9.92	9.90	10.31	10.31
18	---	---	---	---	11.95	11.93	10.99	10.94	9.90	9.85	10.31	10.30
19	---	---	---	---	11.93	11.80	10.94	10.84	9.85	9.84	10.30	10.30
20	---	---	---	---	11.80	11.77	10.84	10.76	10.33	9.85	10.30	10.14
21	---	---	---	---	11.77	11.75	10.77	10.76	10.91	10.33	10.14	10.07
22	---	---	---	---	11.75	11.72	10.77	10.72	11.13	10.91	10.10	10.06
23	---	---	---	---	11.72	11.62	10.72	10.69	11.16	11.13	10.14	10.10
24	---	---	---	---	11.62	11.61	10.70	10.69	11.16	11.16	10.11	10.06
25	---	---	---	---	11.61	11.61	10.70	10.68	11.16	11.14	10.14	10.07
26	---	---	---	---	11.64	11.59	10.68	10.66	11.14	11.11	10.14	9.98
27	---	---	---	---	11.68	11.64	10.66	10.65	11.11	11.09	9.98	9.96
28	---	---	12.93	12.90	11.68	11.67	10.65	10.60	11.09	11.08	10.13	9.96
29	---	---	12.93	12.93	11.67	11.67	10.60	10.49	11.08	10.97	10.15	10.00
30	---	---	12.93	12.93	11.67	11.66	10.49	10.46	10.97	10.88	10.00	9.91
31	---	---	12.93	12.93	---	---	10.46	10.45	10.88	10.82	---	---
MONTH	14.12	13.09	12.93	12.90	12.93	11.59	11.67	10.45	11.16	9.84	10.82	9.91
YEAR	15.17	9.84										

Daily Low Water Levels



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--DM202D. SITE ID.--390833075273601. PERMIT NUMBER.--95544.
LOCATION.--Lat 39°08´33˝, long 75°27´36˝, Hydrologic Unit 02040207, at Dover Air Force Base, Dover.
Owner: U.S. Air Force.
AQUIFER.--Columbia aquifer of Pleistocene age. Aquifer code: 112CLMB.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 28 ft; casing diameter 2 in., to 18 ft; screen diameter 2 in. from 18 to 28 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. 25, 1995, to current year.
DATUM.--Altitude of land surface is 13.74 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of recorder platform 4.19 ft above land surface.
REMARKS.--Dover Air Force Base Project observation well.
Missing data due to recorder malfunction.
PERIOD OF RECORD.--October 1995 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.23 ft above sea level, Dec. 14, and 15, 1996; lowest measured, 4.90 ft above sea level, Oct. 26, and 27, 1995.

WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	6.21	6.19	6.91	6.90	6.53	6.41	8.42	8.39	8.61	8.47	8.34	8.17
2	6.19	6.18	6.90	6.86	6.58	6.53	8.41	8.39	8.47	8.38	8.43	8.34
3	6.18	6.17	6.86	6.80	6.64	6.58	8.39	8.30	8.38	8.29	8.80	8.31
4	6.17	6.15	6.80	6.76	6.66	6.64	8.30	8.24	8.41	8.25	8.96	8.80
5	6.15	6.13	6.76	6.73	6.69	6.66	8.26	8.23	9.19	8.41	9.07	8.96
6	6.13	6.12	6.73	6.72	6.91	6.69	8.23	8.13	9.19	9.12	9.10	8.87
7	6.12	6.12	6.73	6.71	7.32	6.91	8.13	8.02	9.12	8.98	8.87	8.72
8	6.44	6.12	6.74	6.71	7.56	7.32	8.02	7.97	8.98	8.92	8.74	8.62
9	6.56	6.44	6.74	6.72	7.61	7.56	8.10	7.96	8.92	8.85	8.62	8.54
10	6.79	6.56	6.72	6.70	7.61	7.61	8.10	8.05	8.85	8.80	8.69	8.58
11	6.81	6.79	6.70	6.67	7.61	7.55	8.05	7.95	8.80	8.69	8.70	8.58
12	6.82	6.81	6.67	6.64	7.56	7.51	7.95	7.88	8.69	8.64	8.58	8.47
13	6.82	6.81	6.64	6.62	8.36	7.51	7.88	7.83	8.64	8.53	8.47	8.39
14	6.82	6.81	6.62	6.60	10.23	8.36	7.83	7.78	9.23	8.53	8.54	8.39
15	6.81	6.78	6.60	6.57	10.23	9.75	7.78	7.76	9.85	9.23	8.55	8.44
16	6.78	6.76	6.58	6.57	9.75	9.50	8.07	7.77	9.75	9.58	8.44	8.37
17	6.76	6.72	6.57	6.57	9.50	9.33	8.07	8.04	9.58	9.24	8.37	8.35
18	6.72	6.71	6.58	6.57	9.33	9.13	8.04	7.96	9.24	9.18	8.36	8.28
19	7.04	6.72	6.58	6.57	9.38	9.13	7.96	7.92	9.18	9.02	8.49	8.28
20	7.14	7.04	6.58	6.56	9.30	9.04	7.92	7.86	9.02	8.83	8.57	8.49
21	7.16	7.14	6.56	6.54	9.04	8.91	7.86	7.74	8.91	8.83	8.60	8.55
22	7.17	7.16	6.54	6.51	8.91	8.82	7.78	7.74	8.88	8.64	8.60	8.44
23	7.19	7.17	6.51	6.49	8.82	8.74	7.78	7.73	8.64	8.53	8.44	8.32
24	7.19	7.13	6.49	6.47	8.74	8.71	7.80	7.70	8.53	8.46	8.32	8.20
25	7.13	7.06	6.48	6.46	8.71	8.64	8.16	7.80	8.46	8.40	8.28	8.17
26	7.06	7.02	6.52	6.46	8.64	8.58	8.16	8.13	8.40	8.36	8.28	8.17
27	7.02	7.01	6.47	6.43	8.65	8.58	8.17	8.13	8.38	8.31	8.17	8.14
28	7.04	7.00	6.43	6.43	8.66	8.65	8.52	8.17	8.31	8.18	8.14	8.11
29	7.00	6.97	6.43	6.41	8.66	8.60	8.54	8.52	---	---	8.11	8.08
30	7.03	6.97	6.42	6.41	8.60	8.49	8.58	8.54	---	---	8.08	8.04
31	6.97	6.91	---	---	8.49	8.42	8.60	8.58	---	---	8.33	8.04
MONTH	7.19	6.12	6.91	6.41	10.23	6.41	8.60	7.70	9.85	8.18	9.10	8.04

GROUND-WATER LEVELS

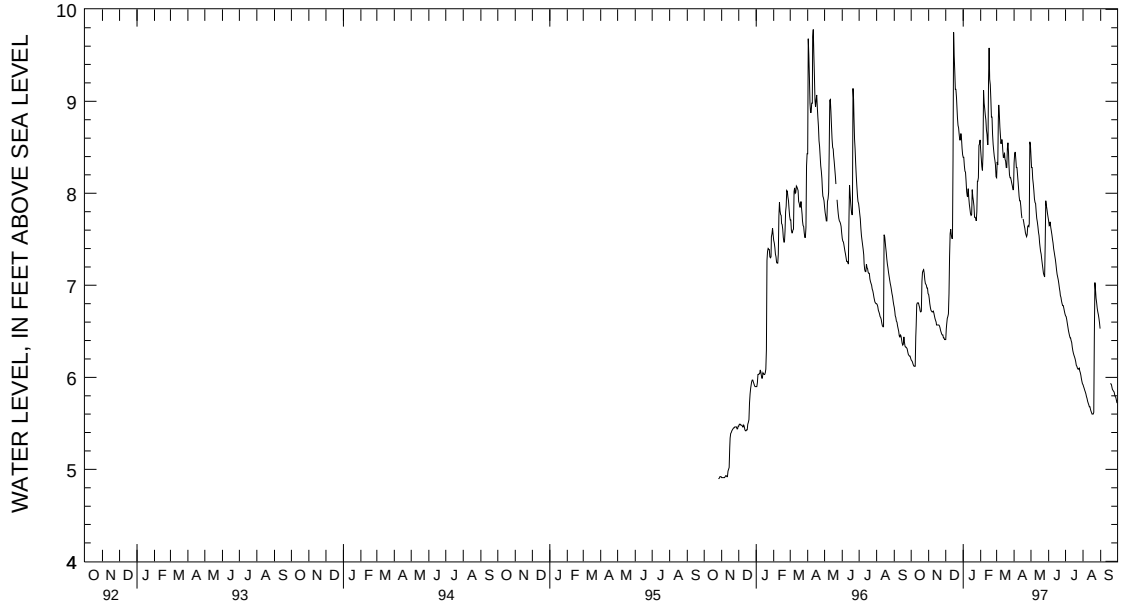
DELAWARE-Continued

KENT COUNTY--Continued

DM202D--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	8.43	8.33	8.53	8.41	7.74	7.70	6.69	6.67	5.94	5.92	---	---
2	8.47	8.43	8.41	8.28	7.70	7.65	6.67	6.66	5.92	5.90	---	---
3	8.46	8.45	8.34	8.28	7.73	7.66	6.66	6.63	5.90	5.88	---	---
4	8.45	8.37	8.29	8.16	7.73	7.69	6.63	6.59	5.88	5.86	---	---
5	8.37	8.28	8.16	8.10	7.69	7.63	6.59	6.55	5.86	5.84	---	---
6	8.28	8.28	8.10	8.03	7.63	7.59	6.55	6.51	5.84	5.82	---	---
7	8.29	8.20	8.03	7.94	7.59	7.55	6.51	6.48	5.82	5.79	---	---
8	8.20	8.12	7.94	7.90	7.55	7.50	6.48	6.45	5.79	5.77	---	---
9	8.12	8.03	7.91	7.89	7.50	7.46	6.45	6.43	5.77	5.74	---	---
10	8.03	7.97	7.89	7.80	7.46	7.40	6.43	6.43	5.74	5.72	---	---
11	7.97	7.92	7.80	7.73	7.40	7.36	6.43	6.40	5.72	5.70	---	---
12	7.93	7.92	7.73	7.69	7.36	7.32	6.40	6.38	5.70	5.68	---	---
13	7.95	7.86	7.69	7.64	7.32	7.28	6.38	6.33	5.68	5.68	---	---
14	7.86	7.78	7.64	7.58	7.28	7.23	6.33	6.29	5.68	5.65	---	---
15	7.78	7.73	7.58	7.54	7.23	7.17	6.29	6.26	5.65	5.63	---	---
16	---	---	7.54	7.46	7.17	7.12	6.26	6.24	5.64	5.62	---	---
17	7.72	7.72	7.46	7.42	7.12	7.09	6.24	6.22	5.62	5.60	---	---
18	7.72	7.69	7.42	7.37	7.09	7.06	6.23	6.20	5.60	5.60	5.93	5.93
19	7.69	7.65	7.37	7.34	7.06	7.02	6.20	6.17	5.62	5.60	5.93	5.93
20	7.65	7.62	7.34	7.28	7.02	6.97	6.17	6.13	6.44	5.62	5.93	5.92
21	7.62	7.57	7.28	7.23	6.97	6.93	6.13	6.12	7.31	6.44	5.92	5.90
22	7.57	7.55	7.23	7.18	6.93	6.89	6.12	6.10	7.13	7.03	5.90	5.87
23	7.55	7.53	7.18	7.13	6.90	6.87	6.10	6.09	7.03	6.95	5.87	5.86
24	7.64	7.55	7.13	7.11	6.87	6.83	6.10	6.09	6.95	6.86	5.86	5.85
25	7.68	7.64	7.44	7.09	6.83	6.80	6.11	6.10	6.86	6.81	5.85	5.84
26	7.68	7.65	7.96	7.44	6.80	6.78	6.10	6.07	6.81	6.75	5.84	5.81
27	7.67	7.64	7.96	7.92	6.81	6.78	6.07	6.05	6.75	6.71	5.81	5.79
28	8.56	7.67	7.92	7.87	6.78	6.75	6.05	6.02	6.71	6.68	5.79	5.78
29	8.59	8.56	7.87	7.83	6.75	6.72	6.02	5.99	6.68	6.64	5.78	5.75
30	8.59	8.53	7.83	7.78	6.72	6.69	5.99	5.96	6.64	6.59	5.75	5.72
31	---	---	7.78	7.74	---	---	5.96	5.93	6.59	6.53	---	---
MONTH	8.59	7.53	8.53	7.09	7.74	6.69	6.69	5.93	7.31	5.60	5.93	5.72
YEAR	10.23	5.60										

Daily Low Water Levels



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--DM204D. SITE ID.--390827075290401. PERMIT NUMBER.--95546.
LOCATION.--Lat 39°08´27˝, long 75°29´04˝, Hydrologic Unit 02040207, at Dover Air Force Base, Dover.
Owner: U.S. Air Force.
AQUIFER.--Columbia aquifer of Pleistocene age. Aquifer code: 112CLMB.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 34 ft; casing diameter 2 in., to 24 ft; screen diameter 2 in. from 24 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. 25, 1995, to current year.
DATUM.--Altitude of land surface is 22.28 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of recorder platform 3.52 ft above land surface.
REMARKS.--Dover Air Force Base Project observation well.
Missing data due to recorder malfunction.
PERIOD OF RECORD.--October 1995 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 18.43 ft above sea level, March 6, 1997; lowest measured, 11.74 ft above sea level, Oct. 29, and 30, 1995.

WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	15.09	15.06	15.94	15.89	15.41	15.07	17.76	17.53	18.01	17.67	17.76	17.37
2	15.25	15.09	15.91	15.74	15.45	15.16	17.83	17.76	17.67	17.56	17.94	17.69
3	15.26	14.97	15.74	15.58	15.40	15.16	17.82	17.64	17.58	17.43	17.85	17.63
4	14.97	14.90	15.58	15.52	15.42	15.33	17.64	17.53	17.71	17.41	17.97	17.85
5	14.93	14.90	15.63	15.57	15.72	15.33	17.80	17.56	18.03	17.71	18.37	17.95
6	15.02	14.92	15.61	15.56	15.92	15.70	17.69	17.39	18.02	17.95	18.43	17.96
7	15.07	15.02	15.70	15.57	16.13	15.71	17.41	17.33	17.96	17.91	17.96	17.75
8	15.50	15.07	15.88	15.70	16.36	16.13	17.33	17.28	17.97	17.91	17.98	17.72
9	15.57	15.37	15.86	15.57	16.37	16.24	17.84	17.31	17.93	17.85	17.82	17.58
10	15.77	15.57	15.59	15.55	16.44	16.23	17.80	17.60	17.92	17.86	18.02	17.82
11	15.76	15.71	15.56	15.43	16.51	16.44	17.63	17.29	17.92	17.84	18.04	17.82
12	15.88	15.76	15.43	15.35	16.47	16.40	17.29	17.19	17.87	17.79	17.82	17.68
13	15.99	15.88	15.39	15.34	16.85	16.42	17.20	17.19	17.79	17.55	17.69	17.54
14	16.03	15.91	15.42	15.34	17.44	16.85	17.20	17.17	18.17	17.69	18.07	17.60
15	15.91	15.78	15.34	15.24	17.63	17.44	17.38	17.17	18.30	18.17	18.07	17.68
16	15.92	15.85	15.33	15.25	17.76	17.63	17.76	17.38	18.24	18.08	17.68	17.59
17	15.90	15.82	15.46	15.33	17.86	17.76	17.58	17.34	18.24	17.95	17.79	17.61
18	15.96	15.81	15.59	15.46	17.79	17.70	17.45	17.25	18.14	17.95	17.79	17.62
19	16.22	15.96	15.59	15.45	17.91	17.70	17.25	17.20	18.16	18.05	17.92	17.62
20	16.24	16.21	15.45	15.31	17.80	17.52	17.31	17.18	18.05	17.78	18.05	17.92
21	16.22	16.19	15.31	15.28	17.54	17.47	17.18	16.90	18.21	17.82	18.13	17.93
22	16.26	16.22	15.28	15.12	17.65	17.54	17.31	16.92	18.20	17.68	18.18	17.72
23	16.43	16.26	15.13	15.08	17.69	17.63	17.33	17.00	17.68	17.55	17.72	17.56
24	16.42	16.16	15.13	15.05	17.87	17.69	17.39	16.97	17.66	17.56	17.56	17.36
25	16.16	16.03	15.17	15.05	17.72	17.52	17.62	17.39	17.64	17.55	17.82	17.39
26	16.03	15.95	15.34	15.00	17.66	17.48	17.47	17.23	17.75	17.60	17.90	17.62
27	16.11	15.96	15.00	14.88	17.73	17.66	17.60	17.25	17.85	17.65	17.70	17.62
28	16.25	16.11	15.04	14.88	17.81	17.73	17.74	17.60	17.65	17.37	17.66	17.60
29	16.12	15.98	15.04	15.00	17.86	17.77	17.65	17.56	---	---	17.80	17.63
30	16.31	15.99	15.07	15.01	17.77	17.61	17.85	17.62	---	---	17.63	17.54
31	16.06	15.91	---	---	17.77	17.54	17.96	17.85	---	---	17.83	17.62
MONTH	16.43	14.90	15.94	14.88	17.91	15.07	17.96	16.90	18.30	17.37	18.43	17.36

GROUND-WATER LEVELS

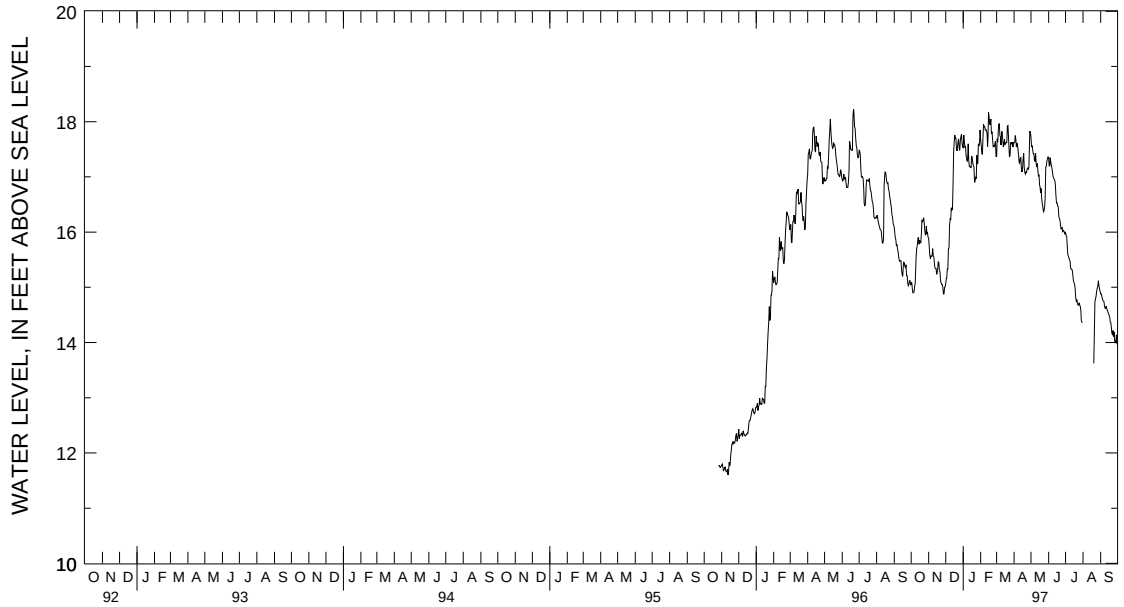
DELAWARE-Continued

KENT COUNTY--Continued

DM204D--Continued

DAY	APRIL MAX	APRIL MIN	MAY MAX	MAY MIN	JUNE MAX	JUNE MIN	JULY MAX	JULY MIN	AUGUST MAX	AUGUST MIN	SEPTEMBER MAX	SEPTEMBER MIN
1	17.83	17.62	17.99	17.72	17.39	17.34	16.01	15.99	---	---	14.93	14.88
2	17.78	17.62	17.72	17.54	17.34	17.20	16.00	15.94	---	---	14.96	14.88
3	17.83	17.75	17.91	17.57	17.35	17.20	15.98	15.92	---	---	14.99	14.86
4	17.83	17.68	17.79	17.49	17.43	17.35	15.92	15.74	---	---	14.86	14.80
5	17.68	17.54	17.53	17.42	17.39	17.27	15.74	15.59	---	---	14.80	14.77
6	17.78	17.61	17.62	17.42	17.27	17.21	15.59	15.56	---	---	14.77	14.75
7	17.80	17.58	17.42	17.31	17.21	17.16	15.57	15.53	---	---	14.77	14.74
8	17.58	17.47	17.43	17.28	17.16	17.08	15.53	15.49	---	---	14.74	14.66
9	17.57	17.37	17.53	17.43	17.08	17.01	15.56	15.47	---	---	14.66	14.62
10	17.37	17.27	17.51	17.25	17.01	16.98	15.47	15.36	---	---	14.69	14.62
11	17.34	17.25	17.25	17.18	16.98	16.96	15.36	15.33	---	---	14.71	14.66
12	17.61	17.34	17.30	17.24	16.96	16.94	15.37	15.33	---	---	14.66	14.61
13	17.66	17.35	17.25	17.11	16.94	16.86	15.36	15.31	---	---	14.61	14.58
14	17.35	17.15	17.11	17.02	16.86	16.66	15.31	15.22	---	---	14.59	14.55
15	17.16	17.09	17.10	17.03	16.66	16.53	15.22	15.12	---	---	14.55	14.53
16	17.33	17.16	17.03	16.84	16.58	16.53	15.12	15.08	---	---	14.53	14.49
17	17.43	17.33	16.92	16.83	16.57	16.47	15.09	15.06	---	---	14.50	14.47
18	17.49	17.43	16.83	16.71	16.51	16.46	15.06	14.98	---	---	14.47	14.37
19	17.44	17.16	16.83	16.79	16.47	16.29	14.98	14.81	---	---	14.40	14.36
20	17.16	17.08	16.79	16.59	16.29	16.24	14.81	14.75	14.15	13.62	14.46	14.26
21	17.09	17.05	16.59	16.51	16.24	16.22	14.83	14.78	14.74	14.15	14.26	14.17
22	17.14	17.09	16.52	16.45	16.22	16.15	14.82	14.71	14.81	14.74	14.25	14.15
23	17.14	17.08	16.45	16.37	16.15	16.06	14.71	14.68	14.84	14.79	14.31	14.22
24	17.22	17.14	16.46	16.39	16.11	16.06	14.75	14.68	14.93	14.84	14.22	14.11
25	17.19	17.16	16.63	16.46	16.11	16.08	14.74	14.72	14.98	14.93	14.32	14.19
26	17.18	17.14	17.20	16.63	16.09	16.01	14.72	14.68	15.02	14.98	14.26	14.01
27	17.44	17.17	17.22	17.18	16.06	16.03	14.68	14.65	15.12	15.02	14.02	14.00
28	17.91	17.44	17.29	17.19	16.04	16.02	14.65	14.57	15.17	15.12	14.32	14.02
29	17.88	17.83	17.33	17.29	16.03	16.00	14.57	14.40	15.15	15.03	14.35	14.14
30	17.85	17.80	17.36	17.33	16.00	15.97	14.40	14.37	15.03	14.97	14.14	13.97
31	---	---	17.39	17.36	---	---	14.38	14.36	14.97	14.93	---	---
MONTH	17.91	17.05	17.99	16.37	17.43	15.97	16.01	14.36	15.17	13.62	14.99	13.97
YEAR	18.43	13.62										

Daily Low Water Levels



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--DM358D. SITE ID.--390707075293401. PERMIT NUMBER.--96066.
LOCATION.--Lat 39°07′07″, long 75°29′34″, Hydrologic Unit 02040207, at Dover Air Force Base, Dover.
Owner: U.S. Air Force.
AQUIFER.--Columbia aquifer of Pleistocene age. Aquifer code: 112CLMB.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 22 ft; casing diameter 2 in., to 7 ft; screen diameter 2 in. from 7 to 22 ft.
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel. Equipped with pressure transducer water-level recorder--60-minute recorder interval from Oct. 30, 1995, to current year.
DATUM.--Altitude of land surface is 12.32 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of casing 2.85 ft above land surface.
REMARKS.--Dover Air Force Base Project observation well.
PERIOD OF RECORD.--October 1995 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.08 ft above sea level, Dec. 15, 1996; lowest measured, 1.92 ft above sea level, Dec. 12, and 13, 1995.

WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	2.56	2.37	2.75	2.46	2.57	2.27	2.84	2.53	2.89	2.58	2.64	2.29
2	2.58	2.36	2.68	2.46	2.62	2.30	2.80	2.57	2.78	2.54	2.72	2.37
3	2.49	2.31	2.49	2.35	2.51	2.26	2.76	2.54	2.75	2.51	2.74	2.36
4	2.59	2.29	2.39	2.28	2.54	2.31	2.91	2.52	2.87	2.47	3.10	2.61
5	2.59	2.35	2.33	2.22	2.55	2.27	3.05	2.72	3.08	2.71	3.14	2.85
6	2.56	2.34	2.46	2.21	2.79	2.47	2.95	2.65	3.01	2.74	3.02	2.60
7	2.60	2.35	2.54	2.28	3.12	2.57	2.77	2.48	3.02	2.72	2.60	2.47
8	3.25	2.41	2.70	2.35	3.28	2.96	2.49	2.38	3.14	2.75	2.67	2.46
9	3.25	2.88	2.71	2.40	3.20	2.84	2.82	2.34	3.28	2.98	2.81	2.45
10	3.13	2.73	2.57	2.34	3.12	2.75	3.01	2.73	3.21	2.83	2.99	2.68
11	2.89	2.64	2.54	2.30	3.07	2.72	2.89	2.43	3.03	2.71	2.96	2.65
12	2.85	2.61	2.42	2.22	3.12	2.74	2.45	2.31	2.98	2.68	2.89	2.56
13	2.82	2.57	2.40	2.18	3.45	2.91	2.36	2.27	2.80	2.58	2.75	2.49
14	2.72	2.52	2.43	2.17	4.02	3.45	2.39	2.25	2.95	2.58	2.88	2.49
15	2.71	2.49	2.52	2.19	4.08	3.79	2.50	2.25	3.08	2.71	2.85	2.44
16	2.60	2.43	2.59	2.31	3.91	3.50	2.63	2.34	2.94	2.79	2.52	2.36
17	2.60	2.39	2.65	2.33	3.61	3.27	2.41	2.27	2.84	2.69	2.53	2.36
18	2.85	2.41	2.78	2.47	3.43	3.16	2.33	2.24	2.90	2.66	2.46	2.33
19	3.19	2.76	2.86	2.58	3.38	3.09	2.39	2.23	2.66	2.56	2.69	2.34
20	3.35	2.97	2.84	2.54	3.11	2.78	2.47	2.28	2.64	2.49	2.77	2.50
21	3.22	2.89	2.67	2.41	2.81	2.69	2.36	2.23	2.79	2.50	2.84	2.49
22	3.13	2.84	2.57	2.33	2.86	2.65	2.52	2.25	2.77	2.47	2.84	2.53
23	3.10	2.81	2.56	2.28	2.89	2.62	2.53	2.30	2.51	2.40	2.73	2.48
24	3.09	2.72	2.51	2.27	2.93	2.64	2.74	2.24	2.50	2.37	2.77	2.48
25	2.96	2.66	2.55	2.24	2.81	2.55	3.00	2.68	2.49	2.35	2.61	2.43
26	2.87	2.61	2.63	2.28	2.75	2.49	2.74	2.40	2.53	2.36	2.65	2.36
27	2.85	2.59	2.29	2.14	2.83	2.53	2.59	2.36	2.49	2.31	2.54	2.32
28	2.86	2.56	2.45	2.12	2.89	2.57	2.68	2.47	2.41	2.28	2.55	2.32
29	2.78	2.52	2.41	2.17	2.90	2.62	2.57	2.44	---	---	2.69	2.41
30	2.88	2.52	2.47	2.17	2.74	2.53	2.68	2.44	---	---	2.65	2.37
31	2.78	2.51	---	---	2.76	2.53	2.84	2.53	---	---	2.72	2.35
MONTH	3.35	2.29	2.86	2.12	4.08	2.26	3.05	2.23	3.28	2.28	3.14	2.29

GROUND-WATER LEVELS

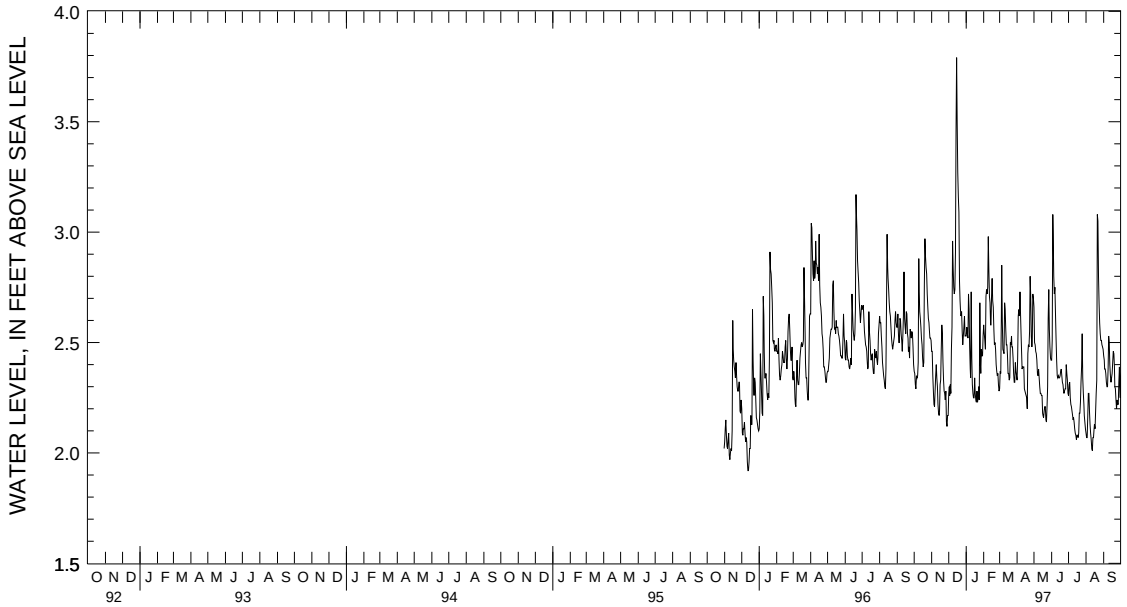
DELAWARE-Continued

KENT COUNTY--Continued

DM358D--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	2.59	2.33	2.93	2.66	2.73	2.42	2.58	2.26	2.36	2.09	2.72	2.44
2	2.85	2.43	2.71	2.50	3.11	2.51	2.62	2.31	2.33	2.07	2.66	2.42
3	2.94	2.62	2.80	2.49	3.41	3.08	2.64	2.32	2.30	2.07	2.63	2.38
4	2.94	2.65	2.78	2.46	3.43	2.99	2.62	2.25	2.34	2.16	2.57	2.38
5	2.98	2.62	2.72	2.45	3.33	2.80	2.52	2.22	2.48	2.27	2.56	2.36
6	3.00	2.73	2.75	2.42	3.11	2.72	2.49	2.21	2.57	2.27	2.51	2.32
7	3.01	2.63	2.67	2.36	3.07	2.75	2.47	2.19	2.48	2.19	2.47	2.30
8	2.89	2.53	2.61	2.35	3.05	2.63	2.43	2.17	2.37	2.13	2.54	2.30
9	2.79	2.44	2.63	2.38	2.90	2.52	2.39	2.15	2.28	2.09	2.69	2.38
10	2.62	2.38	2.68	2.34	2.75	2.42	2.39	2.16	2.21	2.06	2.84	2.53
11	2.62	2.39	2.54	2.30	2.60	2.35	2.37	2.14	2.21	2.02	2.76	2.50
12	2.65	2.39	2.51	2.27	2.55	2.34	2.28	2.11	2.26	2.01	2.65	2.40
13	2.72	2.39	2.45	2.27	2.57	2.35	2.28	2.09	2.31	2.07	2.60	2.35
14	2.45	2.29	2.49	2.26	2.57	2.34	2.29	2.08	2.37	2.07	2.59	2.32
15	2.47	2.28	2.46	2.26	2.62	2.34	2.31	2.06	2.44	2.11	2.60	2.34
16	2.39	2.27	2.31	2.18	2.64	2.35	2.35	2.08	2.44	2.13	2.62	2.36
17	2.43	2.26	2.29	2.17	2.69	2.37	2.37	2.08	2.40	2.11	2.64	2.41
18	2.43	2.25	2.42	2.16	2.70	2.38	2.37	2.07	2.41	2.19	2.71	2.46
19	2.54	2.20	2.45	2.19	2.71	2.35	2.36	2.09	2.53	2.27	2.69	2.45
20	2.81	2.45	2.47	2.21	2.65	2.32	2.41	2.18	3.08	2.33	2.67	2.39
21	2.82	2.49	2.48	2.21	2.64	2.31	2.46	2.18	3.88	3.08	2.51	2.30
22	2.77	2.48	2.42	2.15	2.62	2.29	2.46	2.23	3.58	3.05	2.50	2.29
23	2.80	2.55	2.39	2.14	2.59	2.27	2.57	2.32	3.16	2.80	2.40	2.24
24	3.04	2.80	2.43	2.21	2.55	2.28	2.75	2.39	2.89	2.68	2.41	2.20
25	3.18	2.71	2.61	2.30	2.57	2.29	2.80	2.54	2.79	2.59	2.51	2.24
26	2.98	2.53	3.11	2.61	2.58	2.29	2.68	2.34	2.78	2.54	2.45	2.22
27	2.77	2.48	3.13	2.74	2.67	2.40	2.51	2.27	2.78	2.51	2.49	2.22
28	3.07	2.51	3.02	2.56	2.63	2.36	2.48	2.22	2.79	2.51	2.78	2.32
29	3.10	2.72	2.72	2.48	2.60	2.33	2.42	2.17	2.78	2.49	2.80	2.39
30	2.98	2.70	2.65	2.43	2.54	2.27	2.41	2.14	2.76	2.48	2.55	2.25
31	---	---	2.68	2.42	---	---	2.41	2.11	2.77	2.47	---	---
MONTH	3.18	2.20	3.13	2.14	3.43	2.27	2.80	2.06	3.88	2.01	2.84	2.20
YEAR	4.08	2.01										

Daily Low Water Levels



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--DM378F. SITE ID.--390747075292601. PERMIT NUMBER.--96947.
LOCATION.--Lat 39°07´47˝, long 75°29´26˝, Hydrologic Unit 02040207, at Dover Air Force Base, Dover.
Owner: U.S. Air Force.
AQUIFER.--Frederica aquifer of Miocene age. Aquifer code: 122FRDC.
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 80 ft; casing diameter 8 in. to 50 ft, and casing diameter 3 in., to 70 ft; screen diameter 3 in. from 70 to 80 ft.
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.
Equipped with pressure transducer water-level recorder--60-minute recorder interval from Oct. 30, 1995, to current year.
DATUM.--Altitude of land surface is 32.40 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of PVC casing 1.49 ft above land surface.
REMARKS.--Dover Air Force Base Project observation well.
Missing data due to recorder malfunction.
PERIOD OF RECORD.--October 1995 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 7.16 ft above sea level, June 21, 1996, July 1, 1996, and March 10, 1997; lowest measured, 3.80 ft above sea level, Oct. 31, 1995.

WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	6.01	5.95	6.18	6.11	5.89	5.73	6.82	6.69	6.77	6.71	6.95	6.83
2	5.98	5.94	6.16	6.07	5.88	5.77	6.83	6.76	6.74	6.69	7.03	6.94
3	5.97	5.89	6.11	6.00	5.81	5.75	6.82	6.76	6.74	6.68	7.04	6.89
4	5.91	5.86	6.02	5.96	5.81	5.75	6.85	6.75	6.80	6.66	7.11	6.99
5	5.90	5.85	5.99	5.92	5.83	5.72	6.92	6.81	6.88	6.78	7.14	7.05
6	5.93	5.86	5.96	5.89	5.93	5.82	6.89	6.82	6.86	6.81	7.14	7.04
7	5.92	5.86	6.01	5.92	6.01	5.86	6.83	6.75	6.88	6.80	7.05	6.92
8	6.14	5.88	6.09	5.96	6.06	5.99	6.79	6.67	6.94	6.82	7.03	6.92
9	6.16	6.10	6.09	5.99	6.06	5.98	6.84	6.64	6.99	6.91	7.01	6.91
10	6.17	6.07	6.03	5.96	6.05	5.98	6.90	6.81	7.01	6.96	7.16	7.01
11	6.09	6.02	6.01	5.94	6.09	6.01	6.87	6.74	7.00	6.93	7.14	7.06
12	6.07	6.00	5.96	5.87	6.11	6.04	6.74	6.65	6.96	6.91	7.11	7.02
13	6.07	6.02	5.89	5.83	6.28	6.11	6.68	6.58	6.92	6.86	7.04	6.99
14	6.10	6.01	5.89	5.83	6.42	6.27	6.61	6.56	7.07	6.89	7.13	6.99
15	6.06	6.01	5.86	5.80	6.52	6.40	6.64	6.55	7.03	6.96	7.11	6.99
16	6.05	5.99	5.88	5.81	6.60	6.50	6.77	6.60	6.98	6.91	7.01	6.94
17	6.05	5.99	5.92	5.84	6.61	6.54	6.72	6.59	6.97	6.89	7.01	6.92
18	6.09	5.97	5.98	5.88	6.61	6.57	6.64	6.56	6.97	6.89	6.97	6.90
19	6.25	6.07	6.02	5.96	6.70	6.59	6.64	6.53	6.98	6.90	7.01	6.93
20	6.30	6.21	6.05	5.95	6.65	6.51	6.65	6.57	6.95	6.85	7.07	7.00
21	6.30	6.22	5.98	5.91	6.55	6.47	6.59	6.53	7.01	6.89	7.10	7.01
22	6.28	6.19	5.94	5.85	6.56	6.49	6.66	6.53	7.05	6.94	7.12	7.02
23	6.27	6.21	5.91	5.84	6.61	6.52	6.66	6.56	6.96	6.87	7.06	6.99
24	6.27	6.16	5.88	5.79	6.71	6.59	6.67	6.53	6.95	6.86	7.04	6.97
25	6.21	6.15	5.86	5.77	6.70	6.58	6.77	6.64	6.92	6.86	6.99	6.93
26	6.18	6.13	5.92	5.81	6.65	6.55	6.72	6.60	6.92	6.86	6.99	6.92
27	6.19	6.13	5.84	5.71	6.70	6.63	6.63	6.57	6.95	6.87	6.99	6.91
28	6.22	6.15	5.76	5.69	6.76	6.66	6.70	6.60	6.89	6.83	6.96	6.90
29	6.19	6.13	5.76	5.70	6.78	6.70	6.64	6.59	---	---	7.01	6.93
30	6.22	6.14	5.75	5.69	6.75	6.71	6.67	6.59	---	---	6.99	6.94
31	6.21	6.13	---	---	6.76	6.70	6.76	6.65	---	---	7.04	6.95
MONTH	6.30	5.85	6.18	5.69	6.78	5.72	6.92	6.53	7.07	6.66	7.16	6.83

GROUND-WATER LEVELS

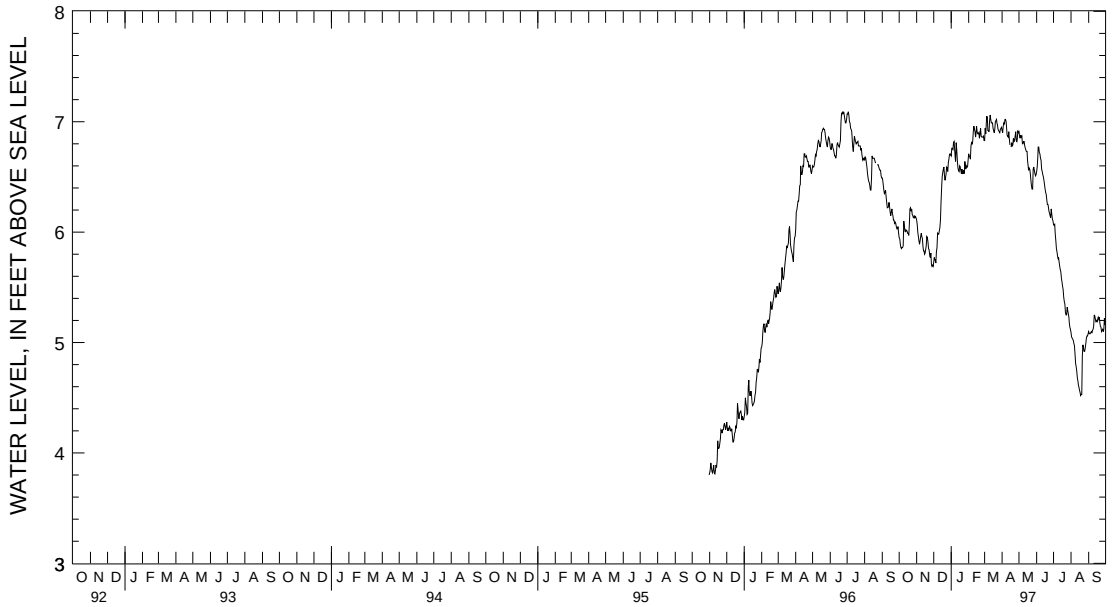
DELAWARE-Continued

KENT COUNTY--Continued

DM378F--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	6.99	6.92	7.00	6.91	6.63	6.55	6.14	6.07	5.18	5.09	5.20	5.10
2	7.01	6.90	6.94	6.87	6.68	6.59	6.14	6.06	5.17	5.05	5.16	5.08
3	7.05	6.96	6.96	6.85	6.82	6.68	6.13	6.07	5.12	5.04	5.18	5.08
4	7.07	6.99	6.97	6.88	6.86	6.77	6.09	5.98	5.08	5.03	5.22	5.08
5	7.06	6.98	6.92	6.86	6.89	6.77	6.01	5.92	5.12	5.02	5.20	5.09
6	7.11	7.02	6.94	6.87	6.79	6.72	5.96	5.85	5.09	4.99	5.19	5.10
7	7.10	7.02	6.92	6.80	6.75	6.71	5.88	5.82	5.05	4.97	5.24	5.09
8	7.06	7.00	6.88	6.80	6.74	6.67	5.86	5.78	5.00	4.89	5.18	5.11
9	7.03	6.93	6.89	6.82	6.71	6.65	5.83	5.76	4.96	4.81	5.23	5.12
10	6.97	6.88	6.91	6.82	6.66	6.57	5.86	5.77	4.86	4.78	5.30	5.15
11	6.91	6.87	6.87	6.78	6.64	6.55	5.80	5.73	4.84	4.74	5.35	5.25
12	6.96	6.86	6.86	6.76	6.62	6.52	5.74	5.69	4.76	4.68	5.31	5.24
13	7.00	6.91	6.82	6.74	6.57	6.50	5.75	5.66	4.76	4.65	5.29	5.21
14	6.93	6.84	6.80	6.73	6.53	6.47	5.72	5.64	4.69	4.61	5.29	5.19
15	6.84	6.79	6.86	6.73	6.50	6.43	5.66	5.58	4.70	4.59	5.27	5.20
16	---	---	6.75	6.64	6.47	6.39	5.67	5.55	4.69	4.57	5.29	5.19
17	6.86	6.77	6.68	6.61	6.44	6.36	5.67	5.51	4.68	4.55	5.27	5.21
18	6.89	6.81	6.65	6.56	6.41	6.34	5.56	5.48	4.60	4.52	5.32	5.23
19	6.85	6.78	6.65	6.58	6.40	6.29	5.53	5.41	4.64	4.53	5.32	5.21
20	6.88	6.79	6.64	6.57	6.32	6.25	5.48	5.37	4.88	4.53	5.32	5.23
21	6.89	6.85	6.62	6.53	6.33	6.25	5.42	5.35	5.08	4.88	5.26	5.18
22	6.89	6.82	6.58	6.47	6.31	6.23	5.39	5.27	5.05	4.98	5.26	5.15
23	6.90	6.83	6.50	6.42	6.25	6.19	5.31	5.25	5.03	4.95	5.25	5.14
24	6.99	6.87	6.45	6.39	6.26	6.17	5.41	5.25	4.98	4.92	5.19	5.10
25	7.00	6.91	6.57	6.39	6.23	6.15	5.43	5.32	5.04	4.92	5.20	5.11
26	6.92	6.83	6.68	6.57	6.28	6.13	5.38	5.29	5.02	4.95	5.22	5.12
27	6.88	6.82	6.66	6.59	6.27	6.21	5.38	5.26	5.11	4.99	5.18	5.10
28	7.01	6.84	6.63	6.56	6.22	6.16	5.35	5.23	5.17	5.04	5.30	5.12
29	6.98	6.92	6.60	6.53	6.23	6.12	5.27	5.18	5.18	5.06	5.35	5.22
30	6.99	6.90	6.59	6.51	6.19	6.10	5.23	5.14	5.19	5.06	5.28	5.16
31	---	---	6.62	6.52	---	---	5.27	5.12	5.14	5.08	---	---
MONTH	7.11	6.77	7.00	6.39	6.89	6.10	6.14	5.12	5.19	4.52	5.35	5.08
YEAR	7.16	4.52										

Daily Low Water Levels



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--DM412D. SITE ID.--390629075272701. PERMIT NUMBER.--95941.
LOCATION.--Lat 39°06´29˝, long 75°27´27˝, Hydrologic Unit 02040207, at Dover Air Force Base, Dover.
Owner: U.S. Air Force.
AQUIFER.--Columbia aquifer of Pleistocene age. Aquifer code: 112CLMB.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 70 ft; casing diameter 2 in., to 60 ft; screen diameter 2 in. from 60 to 70 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. 25, 1995, to current year.
DATUM.--Altitude of land surface is 21.19 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of casing 2.86 ft above land surface.
REMARKS.--Dover Air Force Base Project observation well.
PERIOD OF RECORD.--October 1995 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.77 ft above sea level, Feb. 21, 1997; lowest measured, 6.08 ft above sea level, Oct. 27, 1995, and Nov. 6, 7, 10, and 11, 1995.

WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	7.85	7.83	8.16	8.16	7.93	7.85	9.36	9.30	9.06	9.01	9.46	9.40
2	7.83	7.82	8.16	8.14	7.94	7.85	9.36	9.35	9.01	8.99	9.46	9.36
3	7.82	7.77	8.14	8.11	7.85	7.84	9.36	9.31	9.01	8.98	9.43	9.35
4	7.77	7.75	8.11	8.10	7.85	7.82	9.31	9.29	9.09	8.97	9.39	9.36
5	7.75	7.72	8.10	8.10	7.88	7.81	9.34	9.28	9.11	9.08	9.54	9.38
6	7.72	7.71	8.10	8.09	7.97	7.86	9.28	9.22	9.14	9.09	9.54	9.43
7	7.71	7.69	8.10	8.09	7.99	7.86	9.22	9.19	9.22	9.14	9.43	9.40
8	7.87	7.69	8.15	8.10	7.99	7.97	9.19	9.16	9.27	9.22	9.47	9.39
9	7.88	7.81	8.15	8.09	8.03	7.99	9.30	9.15	9.30	9.27	9.45	9.37
10	7.91	7.88	8.09	8.07	8.10	8.03	9.26	9.15	9.34	9.30	9.50	9.45
11	7.90	7.89	8.07	8.04	8.12	8.10	9.17	9.09	9.34	9.33	9.47	9.41
12	7.92	7.90	8.04	8.02	8.15	8.12	9.09	9.05	9.36	9.32	9.41	9.36
13	7.95	7.92	8.02	8.01	8.27	8.15	9.05	9.02	9.32	9.28	9.36	9.33
14	7.96	7.95	8.01	8.00	8.54	8.27	9.02	8.98	9.41	9.32	9.45	9.33
15	7.96	7.95	8.00	7.98	8.87	8.54	9.02	8.96	9.43	9.39	9.44	9.30
16	7.97	7.96	7.98	7.97	9.14	8.87	9.11	8.99	9.54	9.42	9.30	9.28
17	7.97	7.97	7.98	7.97	9.28	9.14	8.99	8.94	9.59	9.53	9.31	9.28
18	8.00	7.97	8.01	7.98	9.38	9.28	8.95	8.91	9.68	9.59	9.30	9.25
19	8.08	8.00	8.02	7.98	9.46	9.38	8.91	8.90	9.72	9.68	9.27	9.25
20	8.05	8.05	7.98	7.96	9.42	9.39	8.92	8.89	9.69	9.64	9.30	9.27
21	8.09	8.05	7.96	7.95	9.40	9.39	8.89	8.84	9.77	9.68	9.32	9.26
22	8.11	8.09	7.95	7.93	9.43	9.40	8.94	8.86	9.74	9.61	9.32	9.23
23	8.12	8.11	7.93	7.92	9.44	9.42	8.94	8.85	9.61	9.56	9.23	9.20
24	8.12	8.12	7.92	7.90	9.47	9.43	8.92	8.84	9.56	9.54	9.20	9.16
25	8.12	8.12	7.91	7.90	9.43	9.38	8.95	8.85	9.54	9.51	9.23	9.16
26	8.12	8.12	7.96	7.89	9.40	9.36	8.85	8.81	9.54	9.50	9.24	9.16
27	8.15	8.12	7.89	7.87	9.41	9.38	8.89	8.81	9.55	9.47	9.16	9.14
28	8.18	8.15	7.87	7.86	9.39	9.37	8.92	8.87	9.47	9.41	9.14	9.13
29	8.18	8.17	7.86	7.84	9.41	9.37	8.90	8.85	---	---	9.15	9.12
30	8.20	8.17	7.85	7.84	9.37	9.33	8.98	8.90	---	---	9.12	9.10
31	8.18	8.16	---	---	9.37	9.31	9.06	8.98	---	---	9.13	9.10
MONTH	8.20	7.69	8.16	7.84	9.47	7.81	9.36	8.81	9.77	8.97	9.54	9.10

GROUND-WATER LEVELS

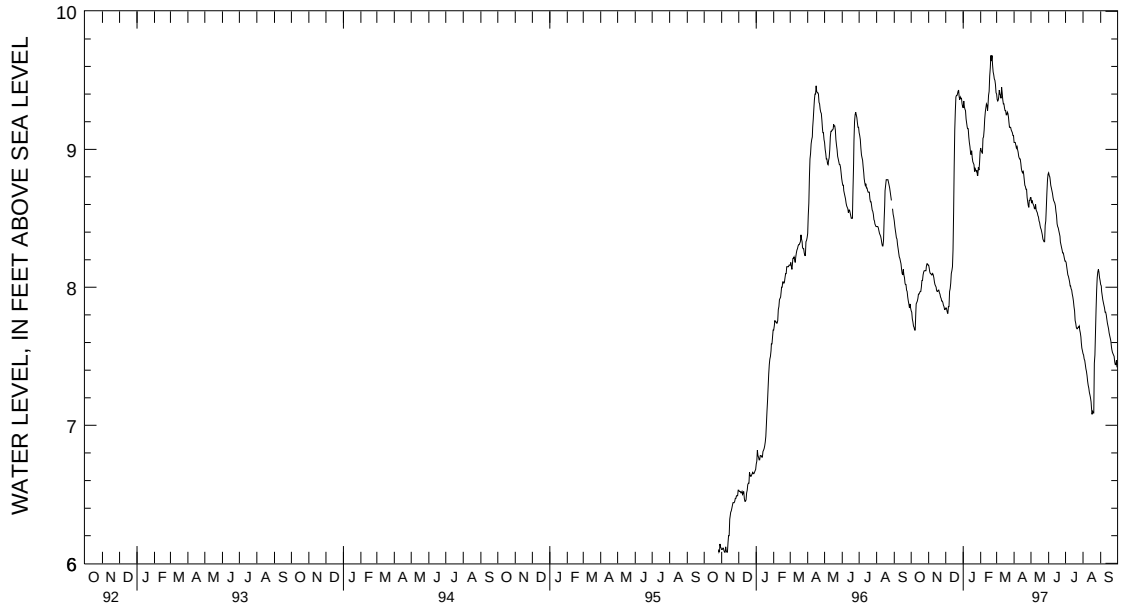
DELAWARE-Continued

KENT COUNTY--Continued

DM412D--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	9.12	9.05	8.70	8.65	8.83	8.83	8.19	8.19	7.54	7.52	8.05	8.02
2	9.06	9.05	8.65	8.61	8.83	8.81	8.19	8.18	7.52	7.51	8.02	8.01
3	9.07	9.05	8.71	8.63	8.81	8.80	8.18	8.15	7.51	7.48	8.01	7.97
4	9.07	9.03	8.67	8.61	8.80	8.78	8.15	8.12	7.48	7.47	7.97	7.94
5	9.03	9.01	8.61	8.60	8.78	8.74	8.12	8.09	7.47	7.44	7.94	7.91
6	9.06	9.02	8.63	8.59	8.74	8.72	8.09	8.08	7.44	7.41	7.91	7.89
7	9.06	9.00	8.59	8.57	8.72	8.70	8.08	8.06	7.41	7.39	7.89	7.87
8	9.00	8.98	8.60	8.57	8.70	8.68	8.06	8.04	7.39	7.36	7.87	7.85
9	8.98	8.95	8.61	8.60	8.68	8.65	8.04	8.01	7.36	7.32	7.85	7.82
10	8.95	8.94	8.60	8.56	8.65	8.63	8.03	8.01	7.32	7.29	7.84	7.82
11	8.94	8.93	8.56	8.55	8.63	8.62	8.01	7.99	7.29	7.27	7.84	7.80
12	8.97	8.93	8.55	8.54	8.62	8.61	7.99	7.98	7.27	7.24	7.80	7.77
13	8.97	8.90	8.54	8.52	8.61	8.59	7.98	7.95	7.24	7.22	7.77	7.74
14	8.90	8.86	8.52	8.51	8.59	8.55	7.96	7.93	7.22	7.20	7.74	7.72
15	8.86	8.84	8.51	8.48	8.55	8.52	7.93	7.90	7.20	7.17	7.72	7.70
16	8.84	8.83	8.50	8.47	8.49	8.46	7.90	7.86	7.17	7.13	7.70	7.67
17	8.84	8.84	8.47	8.45	8.46	8.44	7.86	7.83	7.13	7.08	7.67	7.65
18	8.84	8.82	8.45	8.43	8.44	8.43	7.83	7.76	7.11	7.10	7.65	7.63
19	8.82	8.78	8.44	8.42	8.44	8.41	7.77	7.74	7.11	7.09	7.63	7.61
20	8.78	8.74	8.42	8.40	8.41	8.39	7.74	7.71	7.45	7.09	7.61	7.57
21	8.74	8.73	8.40	8.38	8.39	8.37	7.71	7.70	7.58	7.45	7.57	7.55
22	8.73	8.71	8.38	8.35	8.37	8.33	7.71	7.70	7.68	7.51	7.55	7.53
23	8.71	8.71	8.35	8.34	8.34	8.31	7.71	7.71	7.84	7.68	7.53	7.52
24	8.71	8.65	8.34	8.33	8.31	8.29	7.74	7.71	7.98	7.84	7.52	7.51
25	8.65	8.62	8.53	8.33	8.29	8.27	7.74	7.72	8.07	7.98	7.51	7.50
26	8.62	8.59	8.53	8.45	8.27	8.25	7.72	7.69	8.11	8.07	7.50	7.46
27	8.63	8.58	8.58	8.48	8.27	8.25	7.69	7.67	8.13	8.11	7.46	7.44
28	8.70	8.63	8.69	8.58	8.25	8.23	7.67	7.64	8.14	8.13	7.51	7.44
29	8.65	8.63	8.78	8.69	8.23	8.21	7.64	7.60	8.14	8.11	7.51	7.47
30	8.66	8.65	8.82	8.78	8.21	8.19	7.60	7.56	8.11	8.07	7.47	7.42
31	---	---	8.83	8.82	---	---	7.56	7.54	8.07	8.05	---	---
MONTH	9.12	8.58	8.83	8.33	8.83	8.19	8.19	7.54	8.14	7.08	8.05	7.42
YEAR	9.77	7.08										

Daily Low Water Levels



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--GS4D. SITE ID.--390742075300102. PERMIT NUMBER.--104544.
LOCATION.--Lat 39°07´42˝, long 75°30´01˝, Hydrologic Unit 02040207, at Dover Air Force Base, Dover.
Owner: U.S. Air Force.
AQUIFER.--Columbia aquifer of Pleistocene age. Aquifer code: 112CLMB.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 25 ft; casing diameter 2 in., to 22 ft; screen diameter 2 in. from 22 to 25 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. 1, 1995, to current year.
DATUM.--Altitude of land surface is 4.20 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of recorder platform 7.55 ft above land surface.
REMARKS.--Dover Air Force Base Project observation well.
Missing data due to recorder malfunction.
PERIOD OF RECORD.--September 1995 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.42 ft above sea level, Dec. 14, 1996; lowest measured, 4.60 ft above sea level, Oct. 2, and 3, 1995.

WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	6.54	6.48	---	---	7.52	7.47	7.51	7.41	7.75	7.36
2	---	---	6.49	6.45	6.54	6.25	7.52	7.51	7.41	7.38	7.55	7.41
3	---	---	6.45	6.40	6.25	6.24	7.51	7.45	7.38	7.33	8.20	7.38
4	---	---	---	---	6.24	6.22	7.45	7.43	7.78	7.33	7.87	7.64
5	---	---	---	---	6.25	6.21	7.56	7.43	8.20	7.72	7.75	7.64
6	---	---	---	---	6.95	6.25	7.44	7.34	7.72	7.66	7.76	7.61
7	---	---	---	---	7.20	6.39	7.34	7.29	7.68	7.65	7.61	7.54
8	---	---	---	---	7.03	6.64	7.32	7.29	7.83	7.65	7.59	7.51
9	6.83	6.31	6.70	6.40	6.64	6.59	7.58	7.29	7.91	7.75	7.65	7.47
10	6.85	6.37	6.40	6.36	---	---	7.58	7.35	7.84	7.78	7.78	7.61
11	---	---	6.37	6.32	---	---	7.35	7.35	7.83	7.79	7.65	7.51
12	---	---	6.32	6.30	6.99	6.76	7.35	7.35	7.79	7.68	7.51	7.44
13	---	---	6.31	6.29	7.98	6.97	7.35	7.35	7.68	7.66	7.44	7.40
14	---	---	6.32	6.27	8.42	7.85	7.35	7.35	8.20	7.66	7.69	7.40
15	---	---	6.31	6.26	7.85	7.65	7.35	7.34	8.36	7.81	7.62	7.40
16	---	---	6.32	6.25	7.71	7.65	7.83	7.34	7.92	7.89	7.40	7.37
17	---	---	6.35	6.26	7.71	7.66	7.34	7.33	7.89	7.82	7.38	7.37
18	---	---	6.38	6.29	7.68	7.63	7.33	7.32	7.85	7.82	7.41	7.36
19	7.19	6.42	6.37	6.28	7.83	7.63	7.32	7.31	7.85	7.80	7.54	7.40
20	6.67	6.53	6.31	6.24	7.78	7.78	7.38	7.30	7.80	7.70	7.52	7.47
21	6.64	6.53	6.26	6.23	7.78	7.78	7.35	7.12	7.77	7.70	7.49	7.44
22	6.62	6.55	6.24	6.19	7.78	7.67	7.20	7.12	7.77	7.60	7.49	7.35
23	6.68	6.57	6.21	6.18	7.67	7.60	7.20	7.06	7.60	7.55	7.35	7.32
24	6.61	6.57	6.18	6.16	7.73	7.60	7.27	7.05	7.55	7.52	7.34	7.27
25	6.61	6.54	6.23	6.16	7.73	7.55	7.92	7.27	7.53	7.51	7.36	7.27
26	6.59	6.53	6.40	6.17	7.55	7.55	7.27	7.19	7.55	7.50	7.50	7.30
27	6.62	6.53	---	---	7.67	7.55	7.25	7.19	7.55	7.46	7.30	7.27
28	6.68	6.57	---	---	7.64	7.59	7.88	7.25	7.46	7.36	7.27	7.27
29	6.60	6.53	---	---	7.62	7.58	7.44	7.44	---	---	7.33	7.26
30	---	---	---	---	7.58	7.51	7.50	7.44	---	---	7.26	7.22
31	6.55	6.50	---	---	7.55	7.47	7.50	7.47	---	---	7.58	7.22
MONTH	7.19	6.31	6.70	6.16	8.42	6.21	7.92	7.05	8.36	7.33	8.20	7.22

GROUND-WATER LEVELS

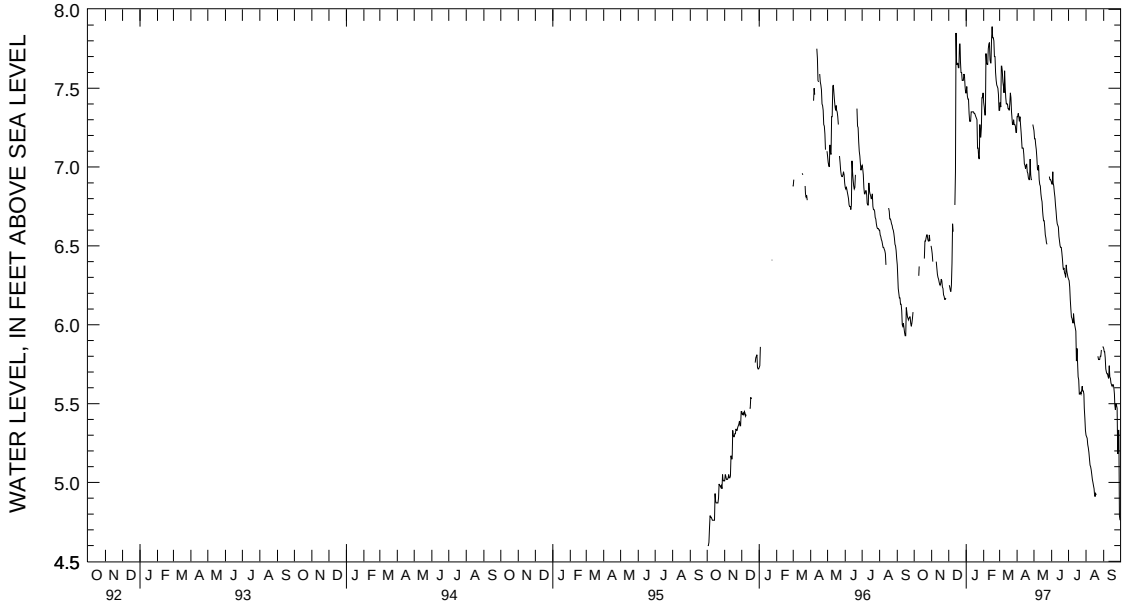
DELAWARE-Continued

KENT COUNTY--Continued

GS4D--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	7.44	7.32	7.29	7.23	6.97	6.90	6.39	6.29	5.34	5.30	5.90	5.85
2	7.36	7.32	7.23	7.18	7.12	6.89	6.40	6.28	5.32	5.29	5.86	5.83
3	7.41	7.34	7.32	7.18	7.13	6.97	6.36	6.24	5.32	5.28	5.85	5.83
4	7.40	7.32	7.26	7.14	7.13	6.90	6.31	6.16	5.32	5.24	5.83	5.79
5	7.37	7.29	7.18	7.11	7.08	6.88	6.23	6.10	5.33	5.22	5.79	5.72
6	7.44	7.32	7.17	7.06	6.98	6.84	6.14	6.05	5.31	5.19	5.72	5.70
7	7.44	7.27	7.11	6.99	6.95	6.81	6.11	6.04	5.21	5.15	5.70	5.69
8	7.31	7.22	7.07	6.98	6.90	6.76	6.06	6.02	5.15	5.11	5.72	5.69
9	7.27	7.16	7.09	7.01	6.82	6.72	6.51	6.01	5.11	5.10	5.74	5.67
10	7.16	7.12	7.12	6.92	6.75	6.67	6.51	6.07	5.10	5.08	5.83	5.66
11	7.15	7.12	6.93	6.89	6.67	6.64	6.07	6.03	5.08	5.05	6.03	5.74
12	7.24	7.12	6.91	6.88	6.65	6.63	6.03	6.00	5.05	5.02	5.74	5.67
13	7.24	7.08	6.88	6.83	6.66	6.62	6.00	5.98	5.02	5.00	5.73	5.66
14	7.08	7.02	6.83	6.80	6.62	6.56	6.00	5.96	5.03	4.98	5.73	5.63
15	7.02	7.01	6.80	6.78	6.56	6.53	5.96	5.77	5.04	4.96	5.74	5.62
16	7.01	6.99	6.78	6.72	6.59	6.50	5.90	5.85	5.01	4.93	5.76	5.61
17	7.13	7.01	6.72	6.69	6.59	6.49	5.85	5.76	4.99	4.91	5.75	5.62
18	7.09	7.02	6.72	6.66	6.66	6.49	5.82	5.67	5.06	4.93	5.76	5.62
19	7.02	6.97	6.73	6.66	6.66	6.46	5.74	5.65	5.07	4.92	5.72	5.60
20	7.01	6.96	6.72	6.62	6.54	6.42	5.71	5.56	---	---	5.65	5.56
21	7.00	6.93	6.65	6.57	6.54	6.37	5.67	5.56	---	---	5.57	5.49
22	6.98	6.92	6.61	6.55	6.81	6.35	5.67	5.57	5.95	5.80	5.56	5.46
23	7.12	6.92	6.63	6.52	6.67	6.36	5.69	5.56	5.80	5.78	5.51	5.50
24	7.29	7.05	6.63	6.51	6.48	6.33	5.81	5.58	5.81	5.78	5.50	5.49
25	7.17	6.95	---	---	6.44	6.32	5.72	5.61	5.82	5.78	5.51	5.47
26	7.00	6.92	---	---	7.22	6.30	5.62	5.58	5.84	5.80	5.47	5.18
27	7.14	6.92	---	---	6.87	6.38	5.64	5.58	5.88	5.80	5.37	5.33
28	---	---	7.00	6.94	6.40	6.34	5.59	5.56	5.90	5.84	5.73	5.33
29	7.34	7.27	6.94	6.92	6.38	6.32	5.56	5.47	---	---	5.61	4.79
30	7.27	7.25	6.92	6.92	6.37	6.30	5.47	5.41	5.93	5.86	5.03	4.76
31	---	---	6.94	6.91	---	---	5.41	5.33	5.93	5.86	---	---
MONTH	7.44	6.92	7.32	6.51	7.22	6.30	6.51	5.33	5.95	4.91	6.03	4.76
YEAR	8.42	4.76										

Daily Low Water Levels



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--MW33D. SITE ID.--390647075283301. PERMIT NUMBER.--73713.
LOCATION.--Lat 39°06´47˝, long 75°28´33˝, Hydrologic Unit 02040207, at Dover Air Force Base, Dover.
Owner: U.S. Air Force.
AQUIFER.--Columbia aquifer of Pleistocene age. Aquifer code: 112CLMB.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 55 ft; casing diameter 2 in., to 50 ft; screen diameter 2 in. from 50 to 55 ft.
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.
Equipped with pressure transducer water-level recorder--60-minute recorder interval from June 19, 1996, to current year.
DATUM.--Altitude of land surface is 8.92 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of PVC casing 1.77 ft above land surface.
REMARKS.--Dover Air Force Base Project observation well.
Missing data due to recorder malfunction.
PERIOD OF RECORD.--June 1996 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.98 ft above sea level, Dec. 14, 1996; lowest measured, 1.60 ft above sea level, May 25, 1997.

WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	4.31	4.29	4.41	4.38	4.41	4.28	5.32	5.25	4.84	4.66	5.07	4.92
2	4.33	4.30	4.39	4.33	4.50	4.41	5.32	5.28	4.73	4.70	5.10	4.97
3	4.31	4.23	4.33	4.30	4.47	4.43	5.30	5.20	4.73	4.68	5.27	4.97
4	4.24	4.21	4.31	4.28	4.47	4.39	5.23	5.20	4.87	4.69	5.27	5.21
5	4.22	4.19	4.30	4.27	4.45	4.38	5.24	5.13	5.09	4.87	5.29	5.19
6	4.23	4.20	4.29	4.26	4.61	4.45	5.16	5.06	5.03	4.97	5.27	5.09
7	4.23	4.21	4.32	4.22	4.87	4.53	5.07	5.00	4.97	4.92	5.12	5.04
8	4.70	4.23	4.41	4.24	4.88	4.83	5.01	4.94	5.01	4.93	5.13	5.03
9	4.73	4.55	4.42	4.34	4.83	4.75	5.09	4.92	5.08	4.98	5.17	5.02
10	4.75	4.66	4.36	4.32	4.78	4.72	5.07	4.91	5.10	5.04	5.20	5.15
11	4.66	4.59	4.36	4.33	4.74	4.67	4.94	4.81	5.07	5.00	5.18	5.04
12	4.59	4.55	4.35	4.31	4.72	4.63	4.82	4.78	5.01	4.92	5.07	4.98
13	4.56	4.53	4.32	4.28	5.26	4.72	4.80	4.77	4.93	4.87	4.98	4.88
14	4.55	4.45	4.29	4.26	5.98	5.26	4.79	4.77	5.12	4.93	4.93	4.87
15	4.50	4.45	4.26	4.23	5.97	5.76	4.83	4.77	5.30	5.12	4.88	4.72
16	4.49	4.44	4.27	4.22	5.77	5.63	4.96	4.81	5.27	5.23	4.72	4.63
17	4.46	4.39	4.30	4.25	5.63	5.48	4.87	4.80	5.25	5.17	4.64	4.57
18	4.50	4.42	4.34	4.26	5.48	5.35	4.83	4.77	5.24	5.09	4.57	4.50
19	4.74	4.48	4.34	4.24	5.46	5.35	4.80	4.76	5.22	4.97	4.59	4.51
20	4.70	4.65	4.32	4.26	5.35	5.27	4.81	4.75	5.12	5.06	4.56	4.45
21	4.66	4.59	4.27	4.24	5.27	5.23	4.75	4.69	5.13	4.98	4.45	4.25
22	4.62	4.57	4.24	4.19	5.27	5.24	4.74	4.58	5.11	5.00	4.42	4.24
23	4.58	4.47	4.21	4.18	5.27	5.23	4.74	4.57	5.04	5.00	4.26	4.19
24	4.57	4.50	4.20	4.17	5.26	5.11	4.72	4.61	5.06	5.01	4.19	4.10
25	4.51	4.47	4.25	4.19	5.26	5.21	4.86	4.72	5.01	4.97	4.10	4.05
26	4.48	4.44	4.30	4.17	5.25	5.19	4.75	4.68	5.03	4.96	4.07	3.96
27	4.49	4.44	4.23	4.20	5.31	5.25	4.75	4.68	5.03	4.85	3.97	3.71
28	4.51	4.45	4.25	4.20	5.33	5.27	4.90	4.75	4.94	4.91	3.87	3.79
29	4.48	4.44	4.24	4.21	5.33	5.28	4.86	4.79	---	---	3.80	3.57
30	4.48	4.37	4.28	4.23	5.29	5.24	4.84	4.81	---	---	3.71	3.63
31	4.43	4.39	---	---	5.32	5.24	4.84	4.81	---	---	3.73	3.64
MONTH	4.75	4.19	4.42	4.17	5.98	4.28	5.32	4.57	5.30	4.66	5.29	3.57

GROUND-WATER LEVELS

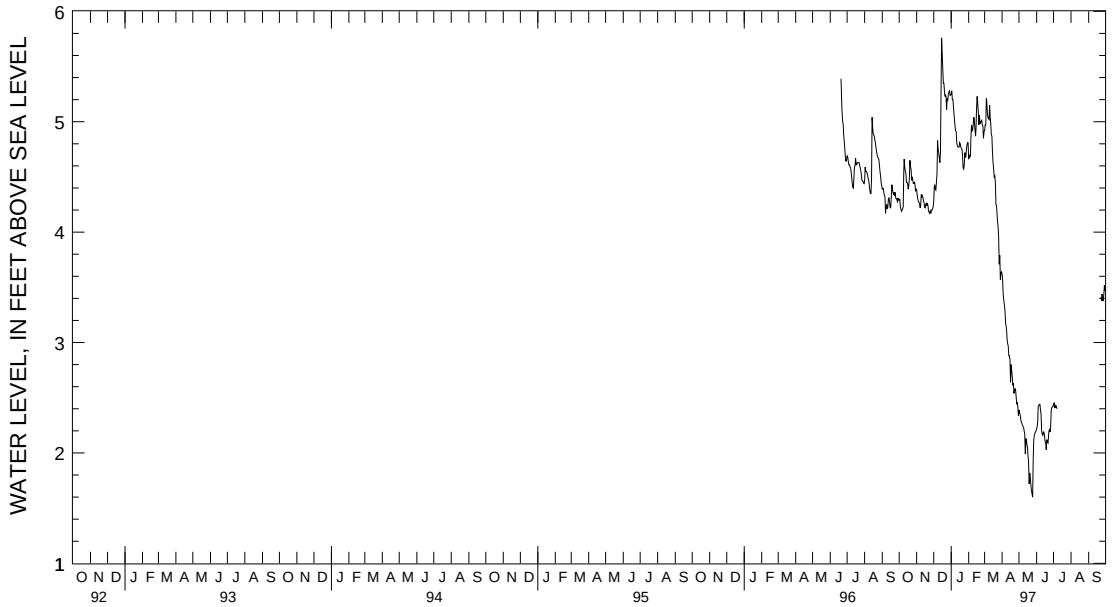
DELAWARE-Continued

KENT COUNTY--Continued

MW33D--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	3.71	3.62	2.46	2.39	2.25	2.22	2.46	2.44	---	---	---	---
2	3.63	3.56	2.41	2.36	2.30	2.24	2.48	2.45	---	---	---	---
3	3.56	3.43	2.38	2.35	2.43	2.30	2.49	2.41	---	---	---	---
4	3.50	3.38	2.35	2.31	2.46	2.42	2.49	2.41	---	---	---	---
5	3.41	3.34	2.31	2.28	2.46	2.43	2.47	2.43	---	---	---	---
6	3.35	3.29	2.31	2.27	2.46	2.44	2.46	2.42	---	---	---	---
7	3.30	3.18	2.29	2.25	2.47	2.44	2.44	2.40	---	---	---	---
8	3.22	3.15	2.28	2.24	2.46	2.39	---	---	---	---	---	---
9	3.15	3.10	2.27	2.23	2.41	2.35	---	---	---	---	---	---
10	3.10	3.03	2.26	2.20	2.37	2.20	---	---	---	---	---	---
11	3.03	2.99	2.21	2.17	2.30	2.17	---	---	---	---	---	---
12	3.00	2.97	2.18	1.99	2.26	2.16	---	---	---	---	---	---
13	2.98	2.88	2.15	2.13	2.24	2.19	---	---	---	---	---	---
14	2.93	2.88	2.14	2.11	2.22	2.19	---	---	---	---	---	---
15	2.88	2.85	2.12	2.07	2.19	2.16	---	---	---	---	---	---
16	2.85	2.64	2.09	2.04	2.15	2.10	---	---	---	---	---	---
17	2.80	2.80	2.04	1.97	2.12	2.09	---	---	---	---	---	---
18	2.80	2.75	1.97	1.92	2.14	2.03	---	---	---	---	---	---
19	2.76	2.69	1.93	1.72	2.15	2.12	---	---	---	---	---	---
20	2.71	2.62	1.88	1.82	2.17	2.10	---	---	---	---	---	---
21	2.69	2.63	1.84	1.77	2.17	2.09	---	---	---	---	---	---
22	2.65	2.54	1.78	1.71	2.20	2.13	---	---	---	---	---	---
23	2.61	2.57	1.72	1.66	2.21	2.20	---	---	---	---	3.46	3.41
24	2.65	2.58	1.68	1.63	2.24	2.21	---	---	---	---	3.45	3.38
25	2.65	2.56	1.93	1.60	2.25	2.19	---	---	---	---	3.48	3.44
26	2.57	2.49	2.13	1.93	2.39	2.24	---	---	---	---	3.44	3.38
27	2.49	2.44	2.16	2.12	2.41	2.39	---	---	---	---	3.44	3.38
28	2.68	2.46	2.19	2.16	2.42	2.41	---	---	---	---	3.62	3.44
29	2.62	2.42	2.20	2.18	2.44	2.42	---	---	---	---	3.62	3.52
30	2.51	2.34	2.21	2.19	2.45	2.42	---	---	---	---	3.55	3.47
31	---	---	2.24	2.20	---	---	---	---	---	---	---	---
MONTH	3.71	2.34	2.46	1.60	2.47	2.03	2.49	2.40	---	---	3.62	3.38
YEAR	5.98	1.60										

Daily Low Water Levels



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--MW48D. SITE ID.--390703075272601. PERMIT NUMBER.--73749.
LOCATION.--Lat 39°07´03˝, long 75°27´26˝, Hydrologic Unit 02040207, at Dover Air Force Base, Dover.
Owner: U.S. Air Force.
AQUIFER.--Columbia aquifer of Pleistocene age. Aquifer code: 112CLMB.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 78.4 ft; casing diameter 2 in., to 73.4 ft; screen diameter 2 in. from 73.4 to 78.4 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 1995 to current year.
DATUM.--Altitude of land surface is 27.54 ft above National Geodetic Vertical Datum.
Measuring Point: Top of PVC casing, 1.57 ft above land surface.
REMARKS.--Dover Air Force Base Project. Missing data due to recorder malfunction.
PERIOD OF RECORD.--September 1995 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 16.54 ft above sea level, Feb. 21, and 22, 1997; lowest measured, 8.05 ft above sea level, Oct. 16, and 17, 1995.

WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	12.48	12.45	11.83	11.66	15.23	14.96	15.08	14.72	15.45	15.15
2	---	---	12.49	12.35	11.85	11.54	15.32	15.23	14.72	14.61	15.63	15.27
3	---	---	12.35	12.24	11.64	11.54	15.32	15.11	14.69	14.50	15.35	15.16
4	11.75	11.72	12.24	12.20	11.64	11.56	15.11	14.96	14.85	14.49	15.51	15.35
5	11.73	11.72	12.29	12.24	11.83	11.56	15.23	15.00	15.10	14.85	16.15	15.51
6	11.77	11.72	12.26	12.23	11.94	11.65	15.09	14.73	15.23	15.10	16.21	15.77
7	11.79	11.77	12.36	12.26	11.87	11.66	14.73	14.58	15.37	15.23	15.77	15.56
8	12.03	11.79	12.51	12.36	11.95	11.86	14.58	14.52	15.55	15.37	15.89	15.58
9	11.88	11.78	12.48	12.18	11.97	11.94	15.11	14.53	15.50	15.43	15.72	15.40
10	11.87	11.84	12.19	12.14	12.13	11.94	15.04	14.71	15.61	15.47	15.94	15.72
11	11.85	11.81	12.14	12.04	12.20	12.13	14.76	14.29	15.61	15.53	15.90	15.62
12	11.96	11.85	12.04	12.00	12.21	12.18	14.29	14.19	15.61	15.44	15.62	15.42
13	12.08	11.96	12.01	11.99	12.41	12.21	14.21	14.17	15.44	15.14	15.42	15.24
14	12.14	12.06	12.03	11.96	13.06	12.41	14.21	14.17	15.78	15.31	15.84	15.32
15	12.07	12.01	11.96	11.92	13.62	13.06	14.44	14.17	15.97	15.78	15.83	15.23
16	12.14	12.07	11.97	11.92	14.13	13.62	14.76	14.42	16.30	15.93	15.23	15.14
17	12.13	12.12	12.05	11.97	14.41	14.13	14.42	14.17	16.30	16.06	15.35	15.14
18	12.24	12.13	12.13	12.05	14.57	14.40	14.33	14.14	16.45	16.14	15.35	15.15
19	12.29	12.24	12.13	12.02	14.90	14.57	14.24	14.13	16.53	16.38	15.34	15.15
20	12.27	12.26	12.02	11.93	14.78	14.62	14.35	14.19	16.38	16.05	15.53	15.34
21	12.32	12.26	11.94	11.91	14.86	14.66	14.19	13.90	16.54	16.10	15.65	15.38
22	12.38	12.32	11.91	11.82	15.05	14.86	14.30	13.95	16.54	15.86	15.72	15.17
23	12.54	12.38	11.84	11.79	15.18	15.05	14.31	13.88	15.86	15.67	15.17	15.00
24	12.54	12.43	11.83	11.76	15.42	15.18	14.22	13.84	15.74	15.64	15.00	14.78
25	12.43	12.38	11.82	11.76	15.22	14.94	14.30	14.09	15.71	15.57	15.27	14.82
26	12.38	12.35	11.93	11.66	15.14	14.89	14.09	13.87	15.76	15.63	15.35	14.96
27	12.53	12.38	11.66	11.59	15.19	15.14	14.29	13.88	15.83	15.54	15.00	14.94
28	12.63	12.53	11.67	11.59	15.27	15.16	14.44	14.25	15.54	15.15	14.94	14.88
29	12.54	12.46	11.66	11.62	15.39	15.26	14.37	14.20	---	---	15.09	14.86
30	12.73	12.50	11.66	11.62	15.26	15.07	14.80	14.37	---	---	14.86	14.75
31	12.53	12.44	---	---	15.27	14.96	15.05	14.80	---	---	14.91	14.81
MONTH	12.73	11.72	12.51	11.59	15.42	11.54	15.32	13.84	16.54	14.49	16.21	14.75

GROUND-WATER LEVELS

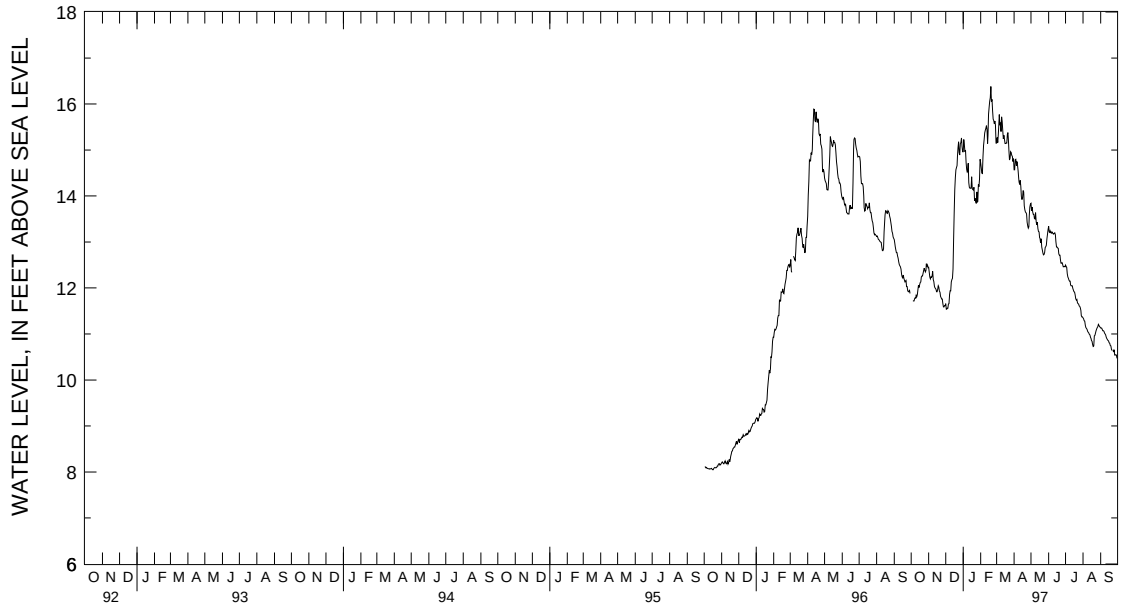
DELAWARE--Continued

KENT COUNTY--Continued

MW48D--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	14.89	14.57	14.11	13.84	13.36	13.34	12.53	12.50	11.37	11.35	11.15	11.13
2	14.81	14.57	13.84	13.68	13.35	13.22	12.53	12.47	11.36	11.33	11.19	11.13
3	14.92	14.79	14.10	13.76	13.26	13.21	12.50	12.45	11.33	11.29	11.21	11.13
4	14.92	14.80	13.96	13.65	13.29	13.24	12.45	12.31	11.29	11.28	11.15	11.10
5	14.80	14.66	13.75	13.60	13.26	13.21	12.31	12.24	11.28	11.19	11.10	11.07
6	14.91	14.75	13.85	13.60	13.22	13.19	12.24	12.21	11.19	11.14	11.08	11.07
7	14.93	14.67	13.60	13.51	13.24	13.22	12.21	12.17	11.14	11.12	11.08	11.06
8	14.67	14.55	13.64	13.50	13.24	13.20	12.17	12.15	11.12	11.10	11.06	11.02
9	14.64	14.38	13.74	13.64	13.20	13.18	12.20	12.15	11.10	11.06	11.02	11.00
10	14.38	14.30	13.71	13.44	13.20	13.17	12.15	12.07	11.06	11.04	11.00	10.98
11	14.34	14.25	13.44	13.37	13.20	13.19	12.07	12.05	11.04	11.02	10.98	10.93
12	14.57	14.34	13.48	13.43	13.23	13.20	12.08	12.05	11.02	10.99	10.93	10.90
13	14.61	14.21	13.44	13.29	13.23	13.16	12.08	12.05	11.01	10.98	10.90	10.88
14	14.21	13.99	13.29	13.23	13.16	13.00	12.05	11.99	10.98	10.93	10.88	10.86
15	13.99	13.92	13.30	13.22	13.00	12.89	11.99	11.95	10.93	10.90	10.86	10.85
16	14.12	13.96	13.23	13.09	12.95	12.89	11.95	11.92	10.91	10.86	10.85	10.81
17	14.17	14.12	13.16	13.08	12.95	12.87	11.93	11.91	10.86	10.84	10.82	10.80
18	14.17	14.09	13.09	12.98	12.91	12.86	11.92	11.85	10.85	10.77	10.80	10.75
19	14.09	13.79	13.10	13.07	12.87	12.74	11.85	11.77	10.77	10.73	10.77	10.74
20	13.79	13.70	13.07	12.89	12.74	12.71	11.77	11.74	10.96	10.74	10.79	10.67
21	13.70	13.65	12.89	12.83	12.71	12.71	11.76	11.75	11.03	10.96	10.67	10.64
22	13.71	13.64	12.83	12.76	12.71	12.63	11.76	11.68	11.03	10.97	---	---
23	13.65	13.61	12.76	12.72	12.63	12.54	11.68	11.66	11.07	11.02	10.71	10.66
24	13.67	13.43	12.77	12.73	12.57	12.54	11.67	11.65	11.11	11.07	10.66	10.61
25	13.43	13.35	12.88	12.77	12.58	12.55	11.65	11.61	11.14	11.11	10.71	10.66
26	13.35	13.30	12.91	12.88	12.56	12.51	11.61	11.60	11.16	11.14	10.67	10.54
27	13.57	13.33	12.93	12.90	12.51	12.46	11.60	11.57	11.22	11.16	10.55	10.54
28	13.81	13.57	13.07	12.93	12.48	12.46	11.57	11.51	11.24	11.21	10.71	10.55
29	13.83	13.76	13.17	13.07	12.49	12.47	11.51	11.40	11.23	11.19	10.71	10.54
30	13.93	13.82	13.27	13.17	12.50	12.46	11.40	11.37	11.19	11.16	10.56	10.47
31	---	---	13.34	13.27	---	---	11.37	11.37	11.17	11.15	---	---
MONTH	14.93	13.30	14.11	12.72	13.36	12.46	12.53	11.37	11.37	10.73	11.21	10.47
YEAR	16.54	10.47										

Daily Low Water Levels



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

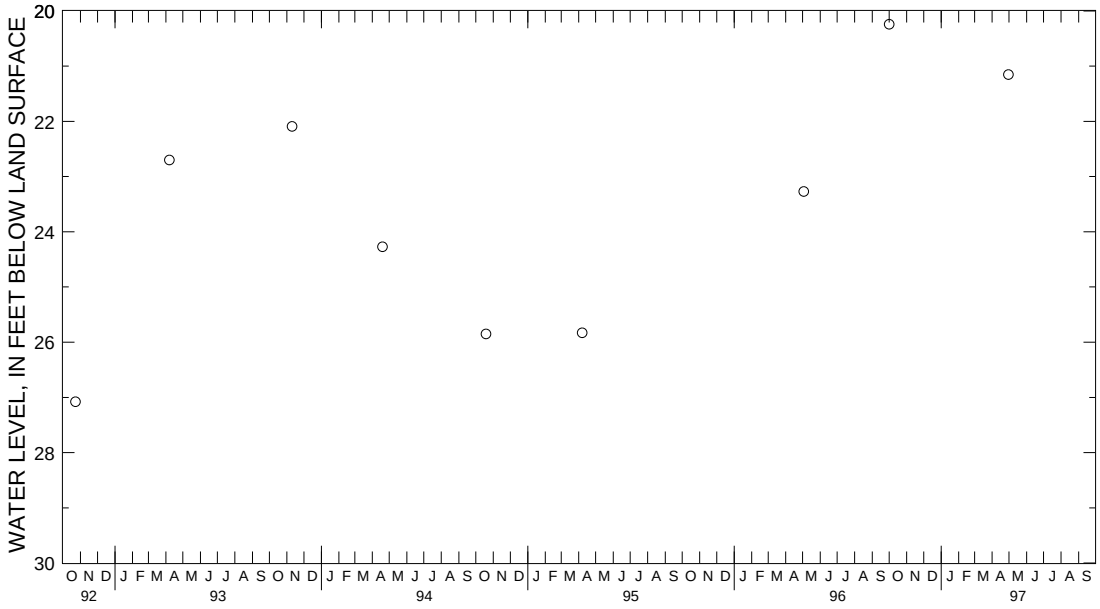
NEW CASTLE COUNTY

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 electric 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, 20.24 ft below land surface, Oct. 1, 1996;
lowest measured, 39.31 ft below land surface, Sept. 30, 1981.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1996	20.24	APR 30, 1997	21.15

WATER YEAR 1997 HIGHEST 20.24 OCT 01, 1996 LOWEST 21.15 APR 30, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

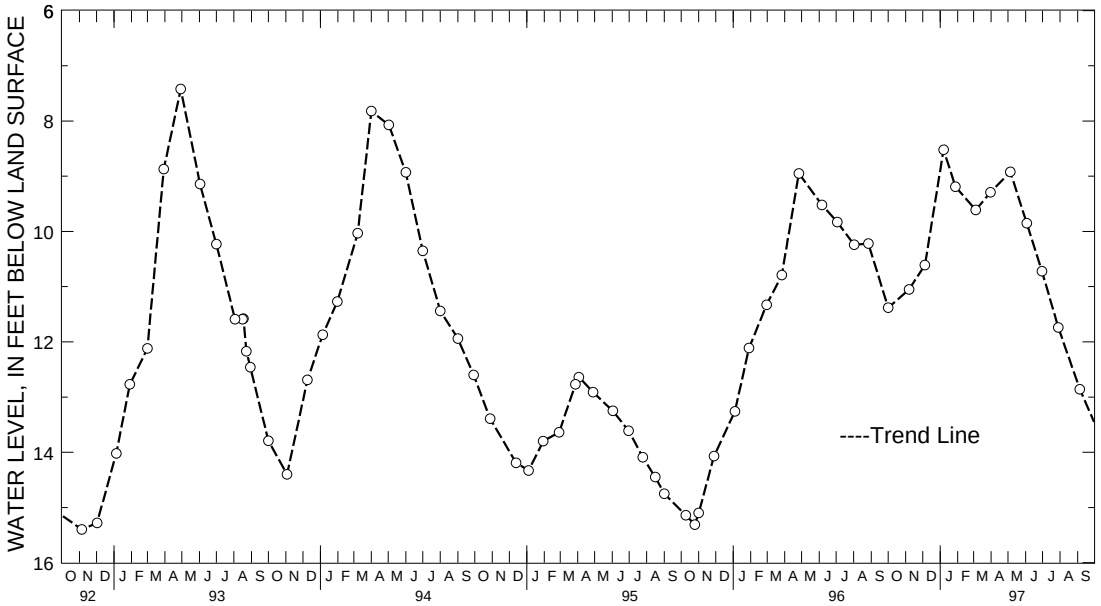
NEW CASTLE COUNTY--Continued

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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1996	11.38	JAN 07, 1997	8.52	MAR 31, 1997	9.29	JUN 30, 1997	10.72
NOV 07	11.05	28	9.19	MAY 05	8.92	JUL 29	11.74
DEC 05	10.61	MAR 05	9.61	JUN 03	9.85	SEP 05	12.86

WATER YEAR 1997 HIGHEST 8.52 JAN 07, 1997 LOWEST 12.86 SEP 05, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

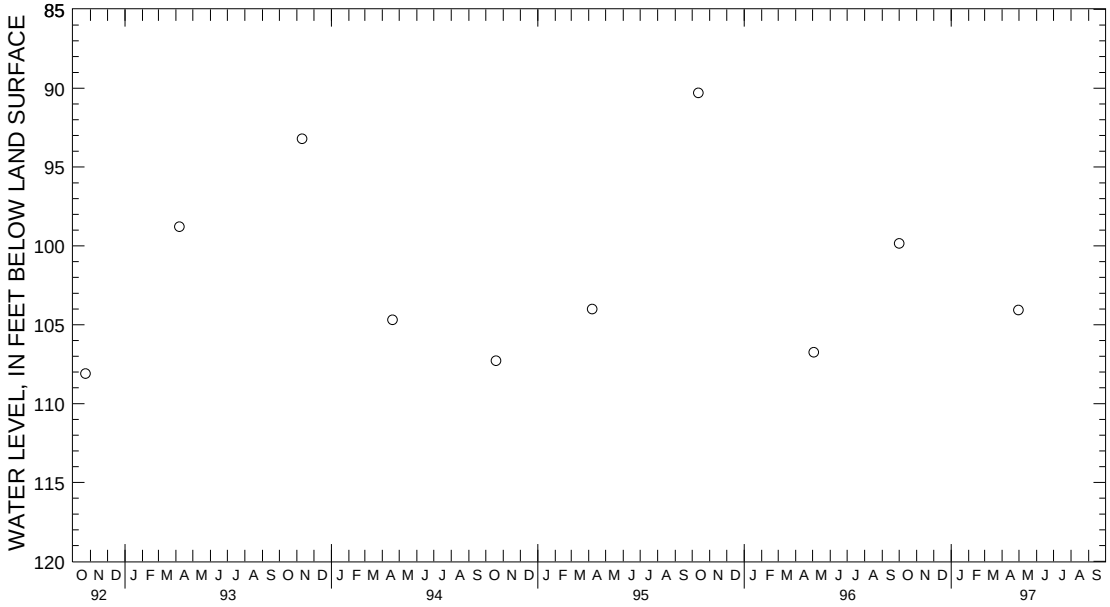
NEW CASTLE COUNTY--Continued

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 electric 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.
REMARKS.--Delaware Water-Level Network observation well.
PERIOD OF RECORD.--October 1980 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 90.30 ft below land surface, Oct. 12, 1995; lowest measured, 115.82 ft below land surface, Oct. 15, 1990.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1996	99.84	APR 30, 1997	104.07

WATER YEAR 1997 HIGHEST 99.84 OCT 01, 1996 LOWEST 104.07 APR 30, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

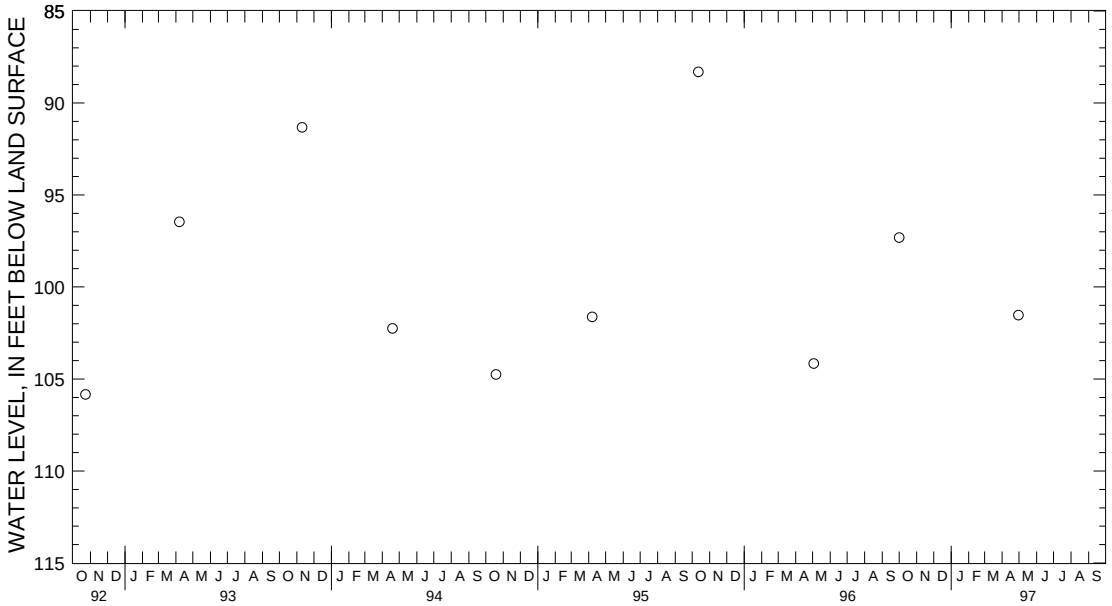
NEW CASTLE COUNTY--Continued

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 electric 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.
REMARKS.--Delaware Water-Level Network observation well.
PERIOD OF RECORD.--October 1980 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 88.31 ft below land surface, Oct. 12, 1995; lowest measured, 113.44 ft below land surface, Oct. 15, 1990.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1996	97.31	APR 30, 1997	101.53

WATER YEAR 1997 HIGHEST 97.31 OCT 01, 1996 LOWEST 101.53 APR 30, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

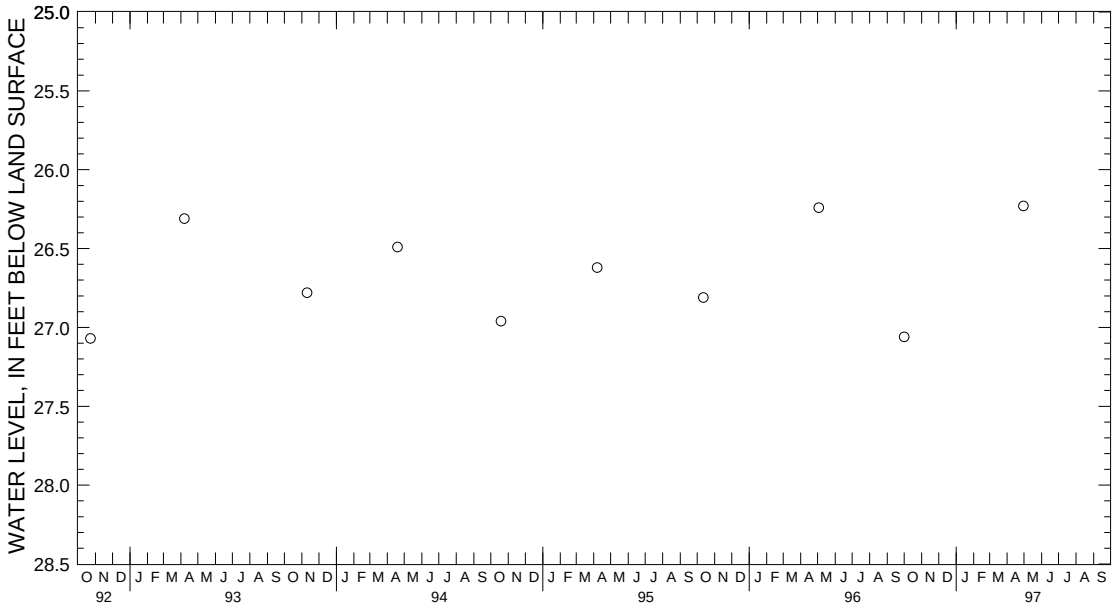
NEW CASTLE COUNTY--Continued

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 electric 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.
REMARKS.--Delaware Water-Level Network observation well.
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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1996	27.06	APR 30, 1997	26.23

WATER YEAR 1997 HIGHEST 26.23 APR 30, 1997 LOWEST 27.06 OCT 01, 1996



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

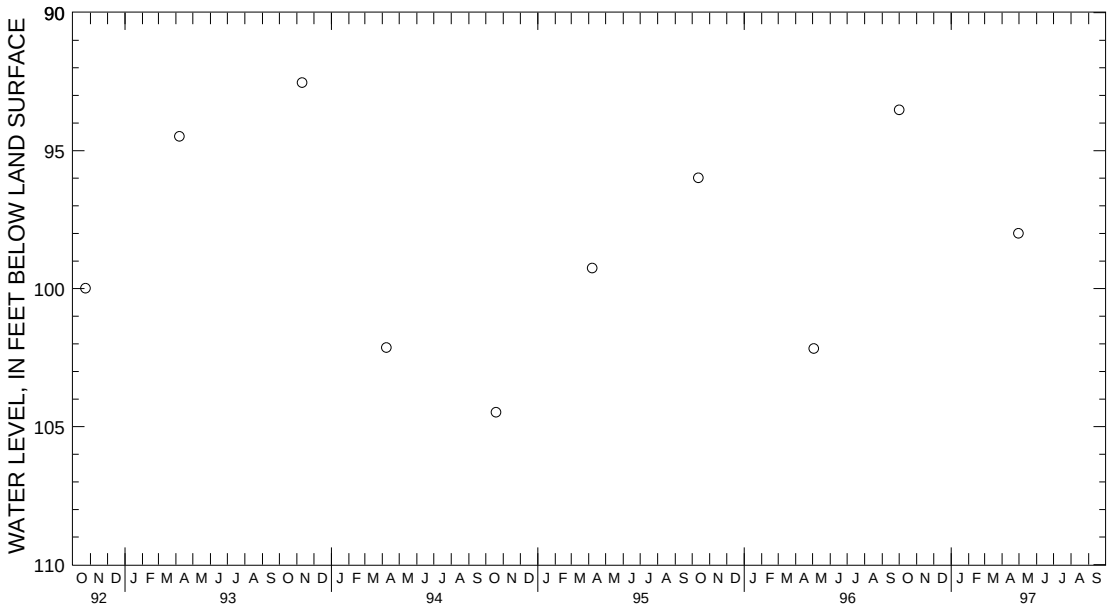
NEW CASTLE COUNTY--Continued

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 electric 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.
REMARKS.--Delaware Water-Level Network observation well.
PERIOD OF RECORD.--November 1975 to curent 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1996	93.52	APR 30, 1997	97.99

WATER YEAR 1997 HIGHEST 93.52 OCT 01, 1996 LOWEST 97.99 APR 30, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

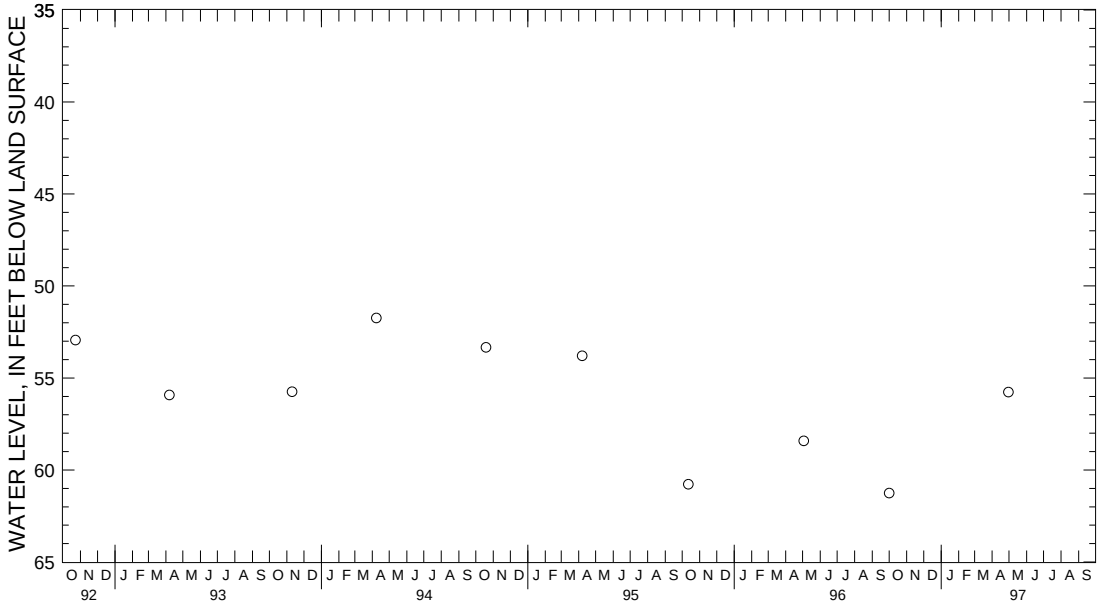
NEW CASTLE COUNTY--Continued

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 electric 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.
REMARKS.--Delaware Water-Level Network observation well.
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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1996	61.25	APR 30, 1997	55.77

WATER YEAR 1997 HIGHEST 55.77 APR 30, 1997 LOWEST 61.25 OCT 01, 1996



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

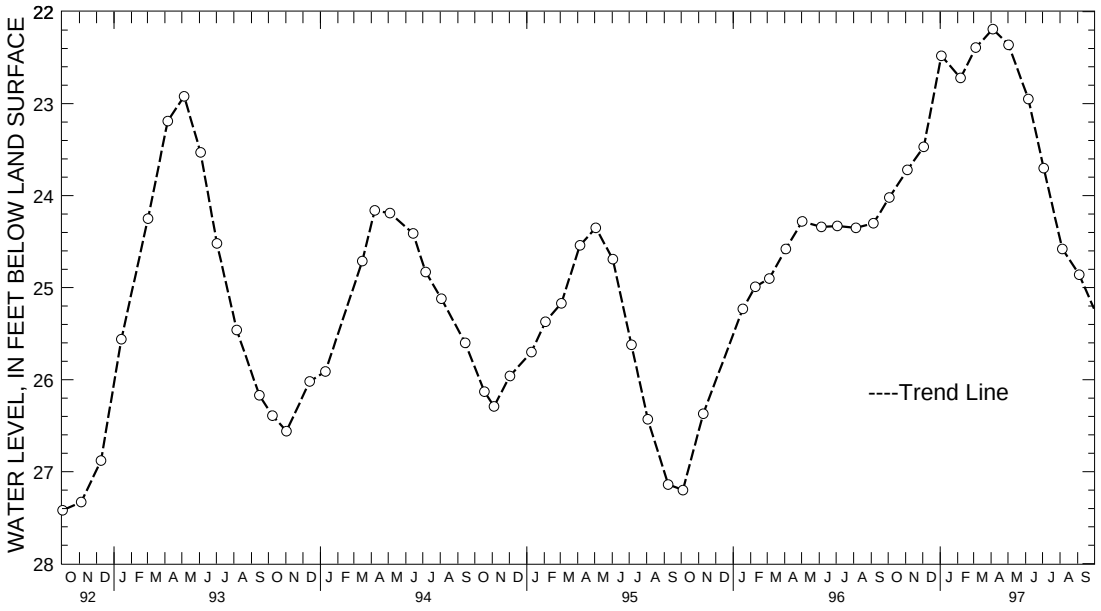
NEW CASTLE COUNTY--Continued

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 electric 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.
REMARKS.--Delaware Water-Level Network observation well.
PERIOD OF RECORD.--November 1980 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 22.19 ft below land surface, April 4, 1997; lowest measured, 27.42 ft below land surface, Oct. 2, 1992.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 03, 1996	24.02	JAN 03, 1997	22.48	APR 04, 1997	22.19	JUL 03, 1997	23.70
NOV 04	23.72	FEB 06	22.72	MAY 02	22.36	AUG 05	24.58
DEC 03	23.47	MAR 05	22.39	JUN 06	22.95	SEP 04	24.86

WATER YEAR 1997 HIGHEST 22.19 APR 04, 1997 LOWEST 24.86 SEP 04, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

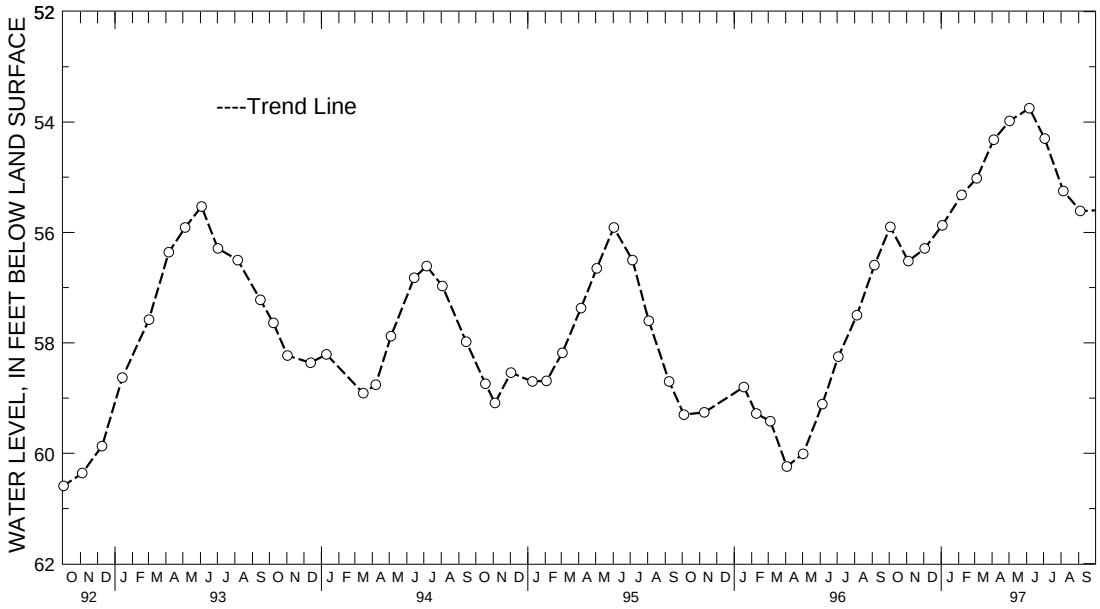
NEW CASTLE COUNTY--Continued

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 electric 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, 2.35 ft above land surface.
REMARKS.--Delaware Water-Level Network observation well.
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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 03, 1996	55.90	JAN 03, 1997	55.87	APR 04, 1997	54.32	JUL 03, 1997	54.30
NOV 04	56.52	FEB 06	55.32	MAY 02	53.98	AUG 05	55.25
DEC 03	56.29	MAR 05	55.02	JUN 06	53.75	SEP 04	55.61

WATER YEAR 1997 HIGHEST 53.75 JUN 06, 1997 LOWEST 56.52 NOV 04, 1996



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

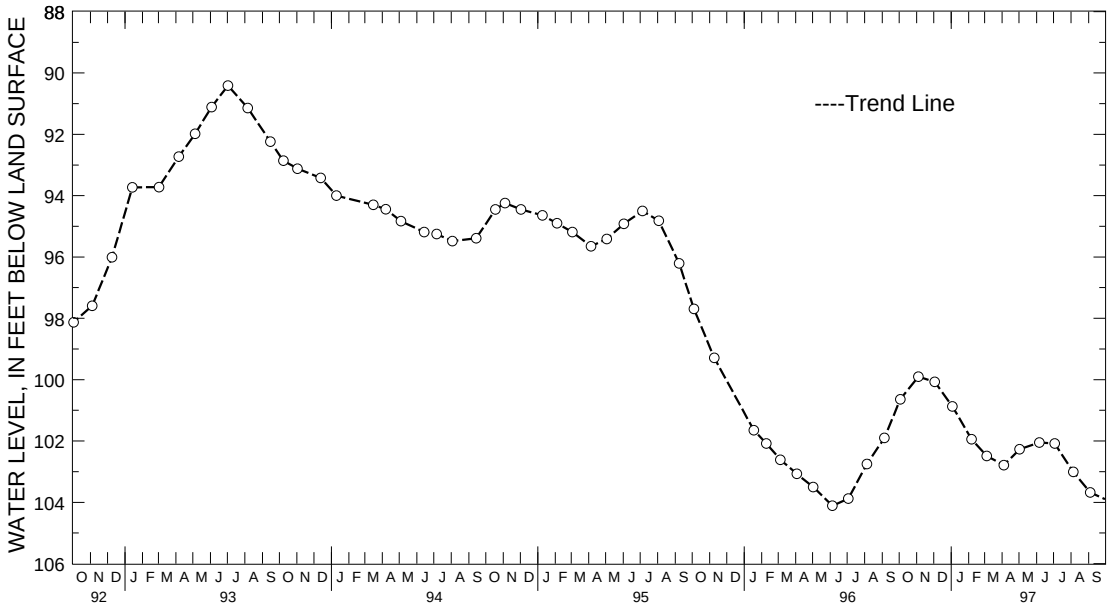
NEW CASTLE COUNTY--Continued

WELL NUMBER.--Eb23-24. SITE ID.--393316075421603.
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 electric 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, 2.38 ft above land surface.
REMARKS.--Delaware Water-Level Network observation well.
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, 104.11 ft below land surface, June 5, 1996.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 03, 1996	100.64	JAN 03, 1997	100.87	APR 04, 1997	102.79	JUL 03, 1997	102.08
NOV 04	99.90	FEB 06	101.94	MAY 02	102.27	AUG 05	103.01
DEC 03	100.07	MAR 05	102.49	JUN 06	102.05	SEP 04	103.68

WATER YEAR 1997 HIGHEST 99.90 NOV 04, 1996 LOWEST 103.68 SEP 04, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

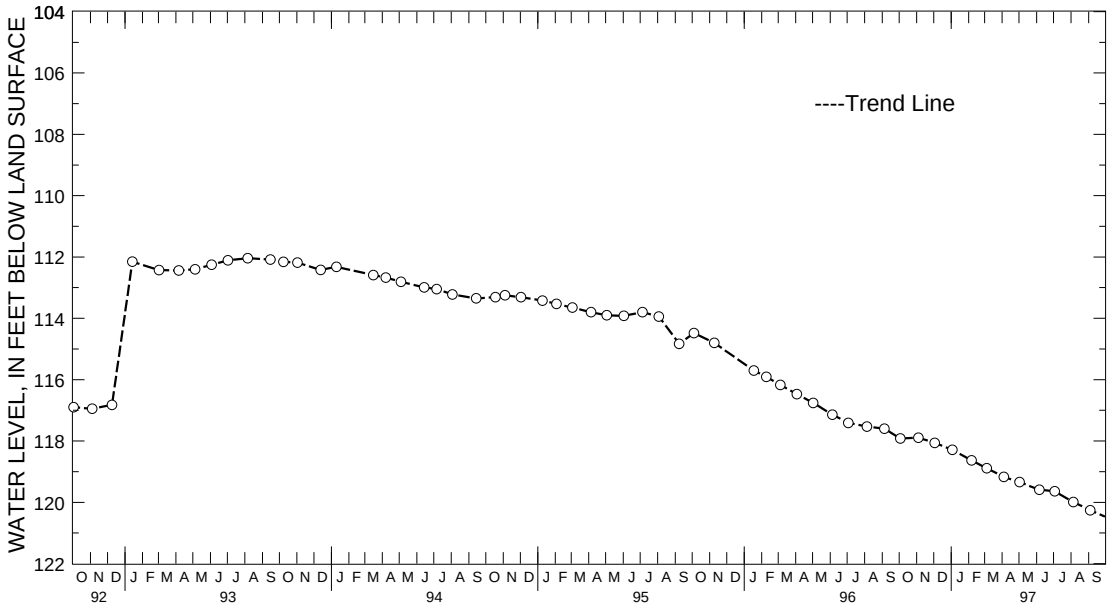
NEW CASTLE COUNTY--Continued

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 electric 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, 2.0 ft above land surface.
REMARKS.--Delaware Water-Level Network observation well.
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, 120.26 ft below land surface, Sept. 4, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 03, 1996	117.92	JAN 03, 1997	118.29	APR 04, 1997	119.17	JUL 03, 1997	119.64
NOV 04	117.89	FEB 06	118.63	MAY 02	119.34	AUG 05	119.99
DEC 03	118.06	MAR 05	118.89	JUN 06	119.59	SEP 04	120.26

WATER YEAR 1997 HIGHEST 117.89 NOV 04, 1996 LOWEST 120.26 SEP 04, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

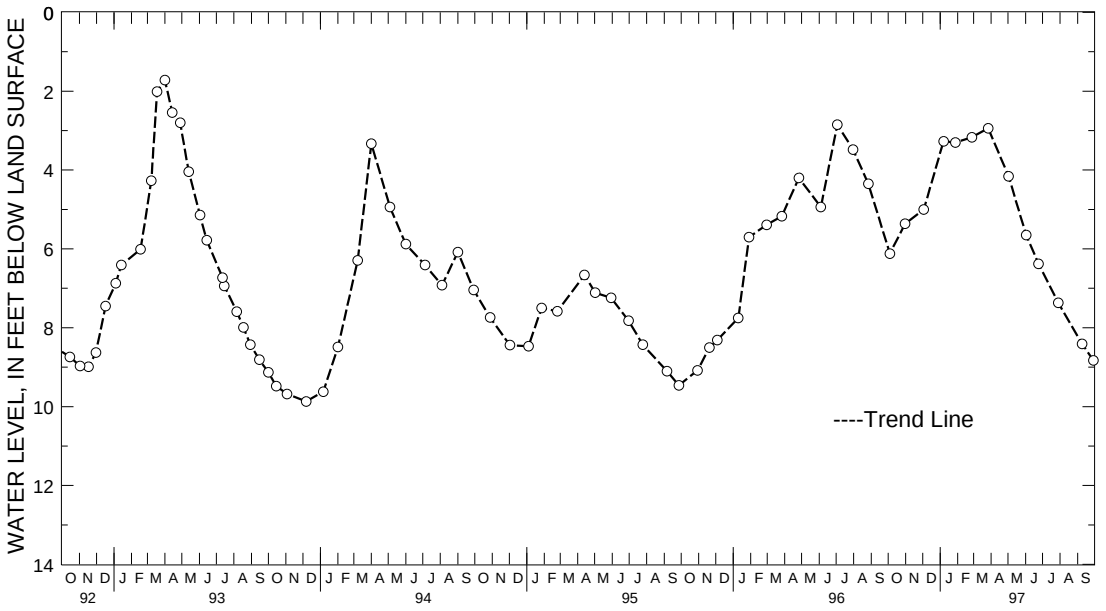
NEW CASTLE COUNTY--Continued

WELL NUMBER.--Hbl4-01. SITE ID.--391949075410701.
LOCATION.--Lat 39°l9´49˝, long 75°4l´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 l9 ft; casing diameter l in., to 16 ft;
   well point from 16 to l9 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 l957 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, l.49 ft below land surface, April 7, l958;
   lowest measured, ll.95 ft below land surface, Aug. 3l, l966.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 04, 1996	6.12	JAN 28, 1997	3.30	JUN 02, 1997	5.65	SEP 29, 1997	8.83
31	5.36	FEB 26	3.17	24	6.38		
DEC 03	5.00	MAR 27	2.94	JUL 29	7.37		
JAN 07, 1997	3.27	MAY 02	4.16	SEP 09	8.41		

WATER YEAR 1997 HIGHEST 2.94 MAR 27, 1997 LOWEST 8.83 SEP 29, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

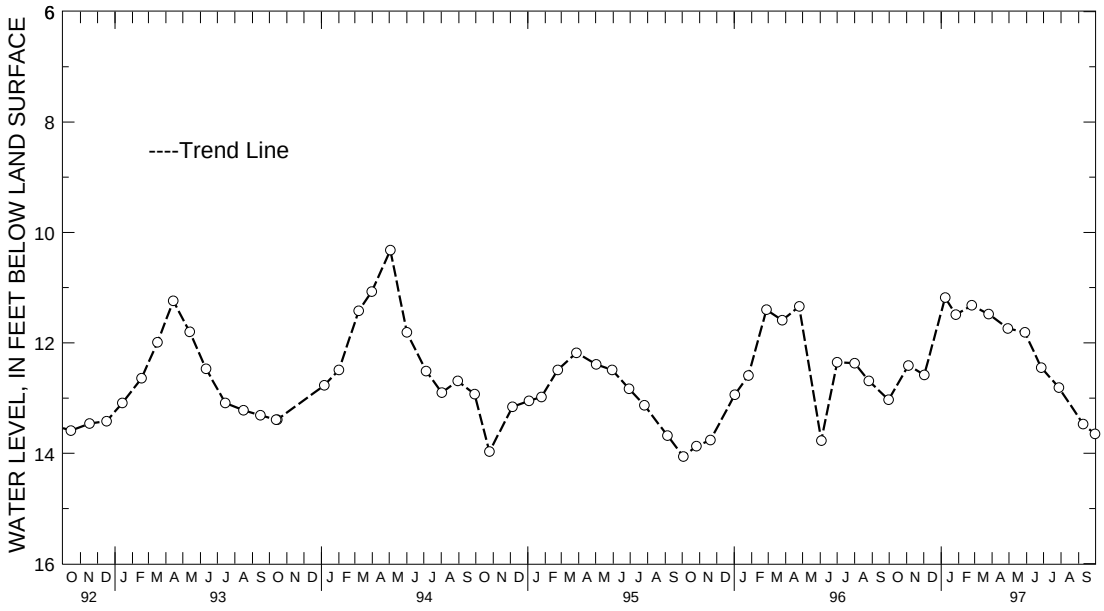
SUSSEX COUNTY

WELL NUMBER.--Nc45-01. SITE ID.--384639075353101. PERMIT NUMBER.--10226.
LOCATION.--Lat 38˚46´39˝, long 75˚35´3l˝, 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 l5 ft; casing diameter l in., to 14 ft; screened from l4 to l5 ft.
INSTRUMENTATION.--Monthly measurements with chalked steel tape by Delaware Geological Survey personnel.
DATUM.--Elevation of land surface is 43 ft above National Geodectic Vertical Datum of 1929, from topographic map.
Measuring point: Top of casing, l.0 ft above land surface.
REMARKS.--Delaware Water-Level Network observation well.
PERIOD OF RECORD.--January l956 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.82 ft below land surface, April 9, 1958; lowest measured, l4.66 ft below land surface, Dec. ll, l978.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 04, 1996	12.41	JAN 27, 1997	11.49	APR 29, 1997	11.74	JUL 28, 1997	12.81
DEC 02	12.58	FEB 24	11.32	MAY 29	11.81	SEP 09	13.47
JAN 08, 1997	11.18	MAR 26	11.48	JUN 27	12.45	30	13.65

WATER YEAR 1997 HIGHEST 11.18 JAN 08, 1997 LOWEST 13.65 SEP 30, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE---Continued

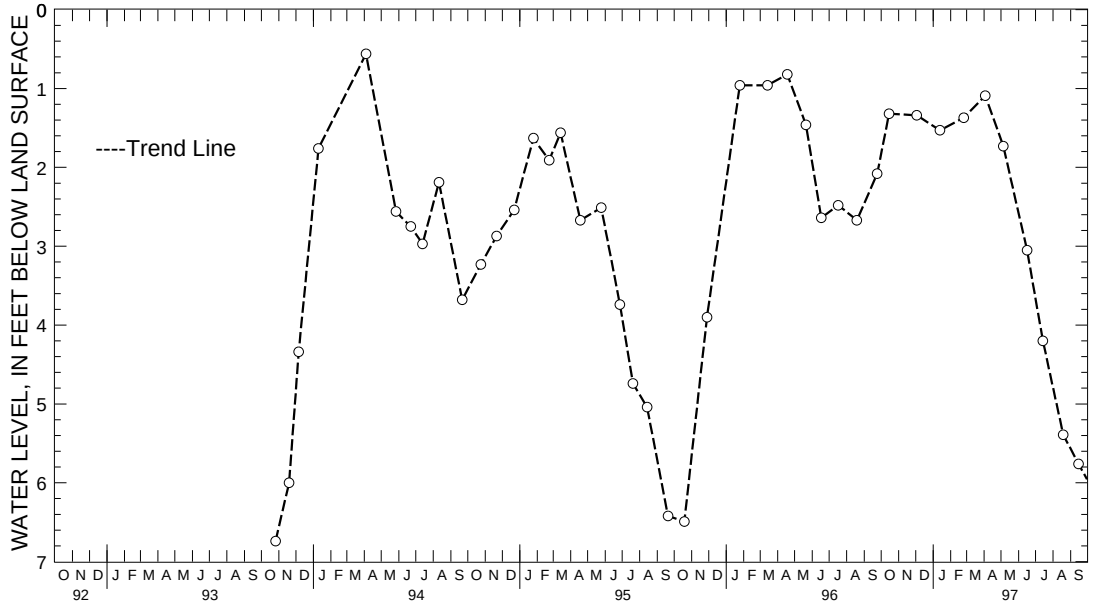
SUSSEX COUNTY---Continued

WELL NUMBER.--Nf51-02. SITE ID.--384504075242602. PERMIT NUMBER.--95733.
LOCATION.--Lat 38°45´04˝, long 75°24´26˝, Hydrologic Unit 02040207, near Redden State Forest.
Owner: Delaware Department of Transportation.
AQUIFER.--Pleistocene-Pliocene Series. Aquifer code: 112PCPC.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 53 ft; casing diameter 2 in., to 50 ft; screen diameter 2 in. from 50 to 53 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 44.72 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of metal sleeve, 1.91 ft above land surface.
REMARKS.--Delaware Department of Transportation Project observation well.
PERIOD OF RECORD.--September 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.56 ft below land surface, April 4, 1994; lowest measured, 7.38 ft below land surface, Sept. 30, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	1.32	FEB 24, 1997	1.37	JUN 16, 1997	3.05	SEP 15, 1997	5.76
DEC 03	1.34	APR 03	1.09	JUL 14	4.20		
JAN 13, 1997	1.53	MAY 05	1.73	AUG 19	5.39		

WATER YEAR 1997 HIGHEST 1.09 APR 03, 1997 LOWEST 5.76 SEP 15, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE---Continued

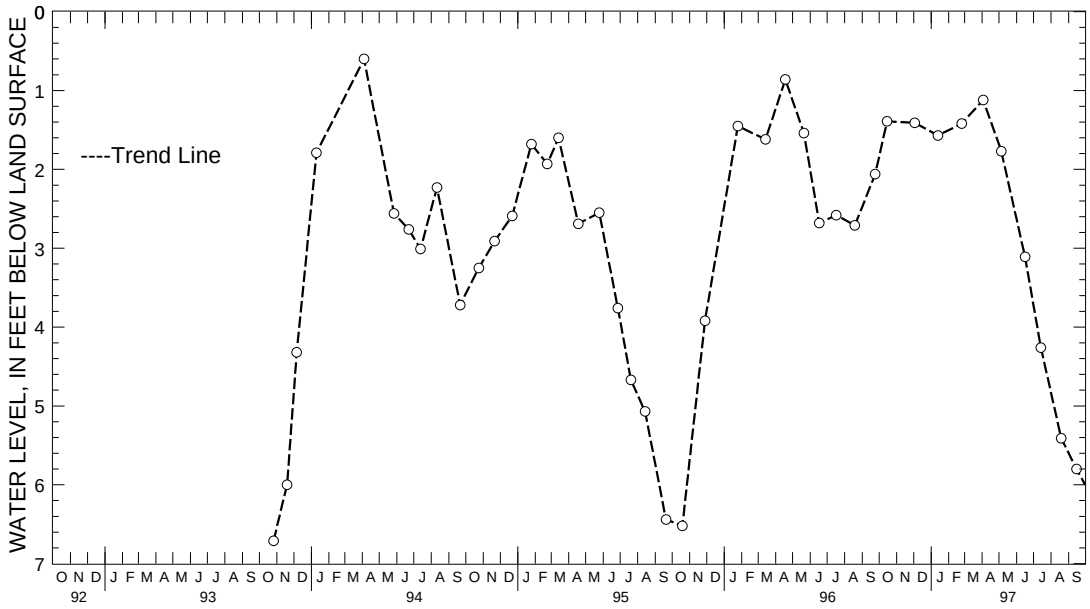
SUSSEX COUNTY---Continued

WELL NUMBER.--Nf51-03. SITE ID.--384504075242601. PERMIT NUMBER.--95750.
LOCATION.--Lat 38°45´04˝, long 75°24´26˝, Hydrologic Unit 02040207, near Redden State Forest.
Owner: Delaware Department of Transportation.
AQUIFER.--Pleistocene-Pliocene Series. Aquifer code: 112PCPC.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 18 ft; casing diameter 2 in., to 15 ft; screen diameter 2 in. from 15 to 18 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 44.71 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of metal sleeve, 2.23 ft above land surface.
REMARKS.--Delaware Department of Transportation Project observation well.
PERIOD OF RECORD.--September 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.60 ft below land surface, April 4, 1994; lowest measured, 6.71 ft below land surface, Oct. 26, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	1.39	FEB 24, 1997	1.42	JUN 16, 1997	3.11	SEP 15, 1997	5.80
DEC 03	1.41	APR 03	1.12	JUL 14	4.26		
JAN 13, 1997	1.57	MAY 05	1.77	AUG 19	5.41		

WATER YEAR 1997 HIGHEST 1.12 APR 03, 1997 LOWEST 5.80 SEP 15, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE---Continued

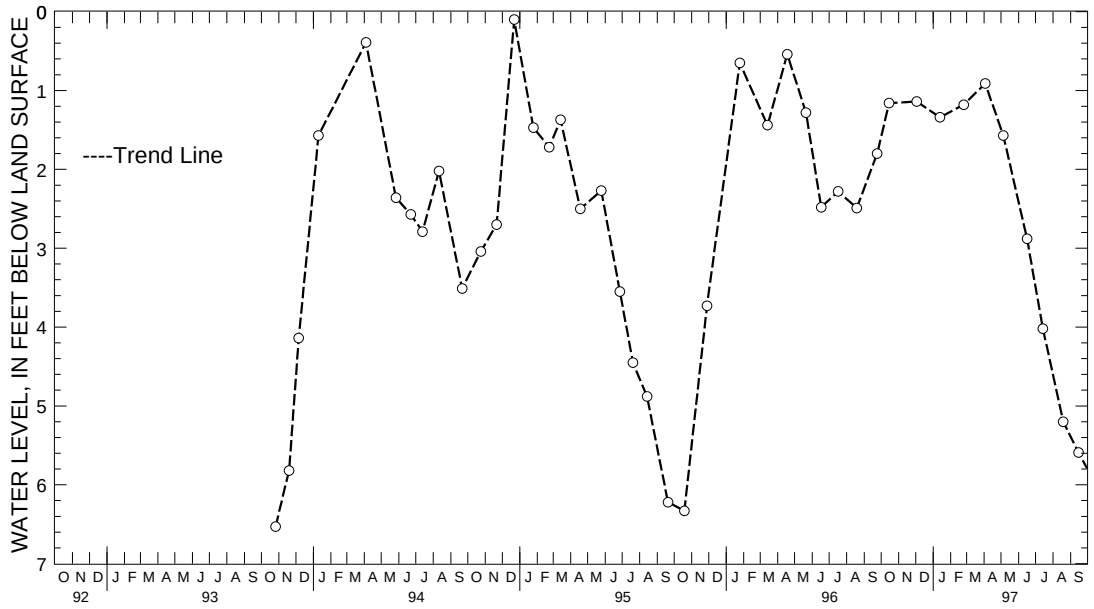
SUSSEX COUNTY---Continued

WELL NUMBER.--Nf51-04. SITE ID.--384504075242603. PERMIT NUMBER.--95747.
LOCATION.--Lat 38°45´04˝, long 75°24´26˝, Hydrologic Unit 02040207, near Redden State Forest.
Owner: Delaware Department of Transportation.
AQUIFER.--Pleistocene-Pliocene Series. Aquifer code: 112PCPC.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 80 ft; casing diameter 2 in., to 77 ft; screen diameter 2 in. from 77 to 80 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 44.52 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of metal sleeve, 2.3 ft above land surface.
REMARKS.--Delaware Department of Transportation Project observation well.
PERIOD OF RECORD.--September 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.10 ft below land surface, Dec. 22, 1994; lowest measured, 6.53 ft below land surface, Oct. 26, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	1.16	FEB 24, 1997	1.18	JUN 16, 1997	2.88	SEP 15, 1997	5.59
DEC 03	1.14	APR 03	.91	JUL 14	4.02		
JAN 13, 1997	1.34	MAY 05	1.57	AUG 19	5.20		

WATER YEAR 1997 HIGHEST .91 APR 03, 1997 LOWEST 5.59 SEP 15, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

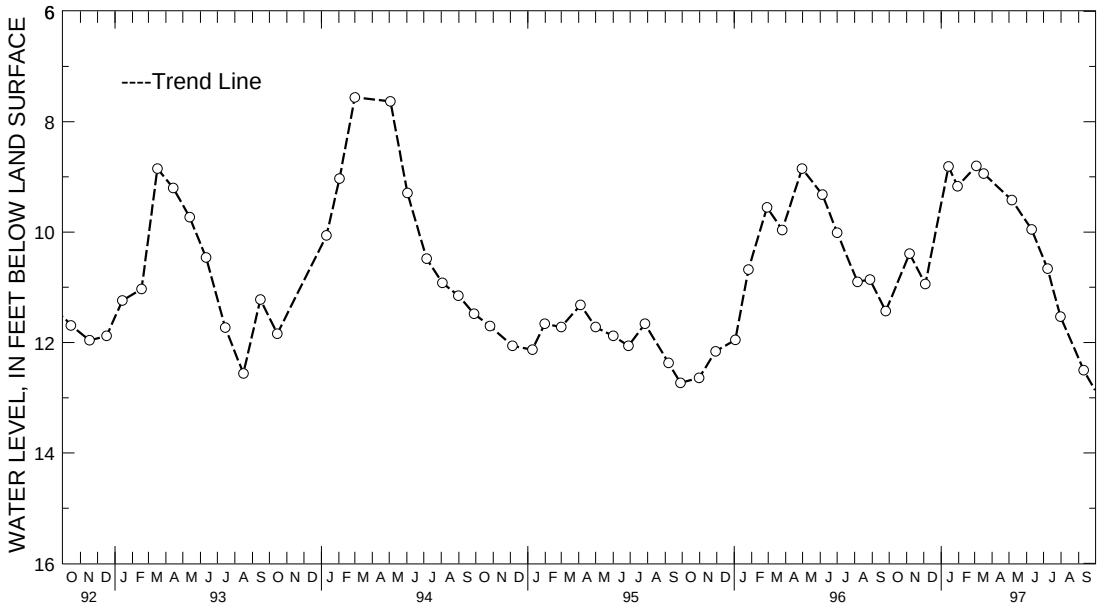
SUSSEX COUNTY--Continued

WELL NUMBER.--Ngll-0l. SITE ID.--384955075192801. PERMIT NUMBER.--10227.
LOCATION.--Lat 38˚49´55˝, long 75˚l9´28˝, Hydrologic Unit 02040207, l.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 l9 ft; casing diameter l in., to 16 ft; well point from 16 to 19 ft.
INSTRUMENTATION.--Monthly measurements with chalked steel tape by Delaware 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 l959 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.9l ft below land surface, April l0, l984; lowest measured, l4.64 ft below land surface, Jan. 7, l966.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 06, 1996	10.39	JAN 30, 1997	9.17	MAY 06, 1997	9.42	JUL 31, 1997	11.53
DEC 04	10.94	MAR 04	8.80	JUN 10	9.95	SEP 10	12.50
JAN 14, 1997	8.81	17	8.94	JUL 08	10.66		

WATER YEAR 1997 HIGHEST 8.80 MAR 04, 1997 LOWEST 12.50 SEP 10, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

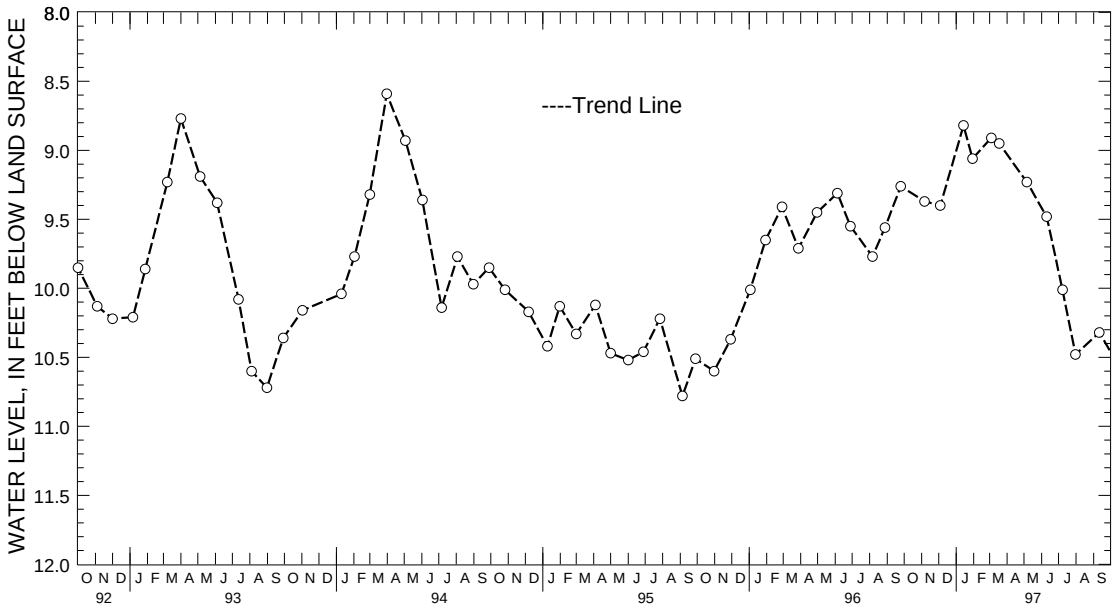
SUSSEX COUNTY--Continued

WELL NUMBER.--Ni52-11. SITE ID.--384558075083501. PERMIT NUMBER.--057363.
LOCATION.--Lat 38°45´58˝, long 75°08´35˝, Hydrologic Unit 02040207, in Lewes Library Park, nr railroad tracks.
Owner: Town of Lewes.
AQUIFER.--Pocomoke aquifer of Upper Miocene-Pliocene age. Aquifer code: 122PCMK.
WELL CHARACTERISTICS.--Drilled, observation, artisian well, depth 155 ft; casing diameter 4 in., to 145 ft; screened from 145 to 155 ft.
INSTRUMENTATION.--Monthly measurements with chalked steel tape by Delaware Geological Survey personnel. Intermittent measurements from May 1985 to July 1987. Twice yearly measurements February 1988 to January 1992.
Equipped with digital water-level recorder--60-minute recorder interval from 1985 to current year.
DATUM.--Elevation of land surface is 16 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of recorder platform, 0.5 ft above land surface.
REMARKS.--Delaware Water-Level Network observation well.
PERIOD OF RECORD.-- May 1985 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.59 ft below land surface, March 31, 1994; lowest measured, 11.47 ft below land surface, Nov. 10, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 06, 1996	9.37	JAN 30, 1997	9.06	MAY 06, 1997	9.23	JUL 31, 1997	10.48
DEC 04	9.40	MAR 04	8.91	JUN 10	9.48	SEP 11	10.32
JAN 14, 1997	8.82	18	8.95	JUL 08	10.01		

WATER YEAR 1997 HIGHEST 8.82 JAN 14, 1997 LOWEST 10.48 JUL 31, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

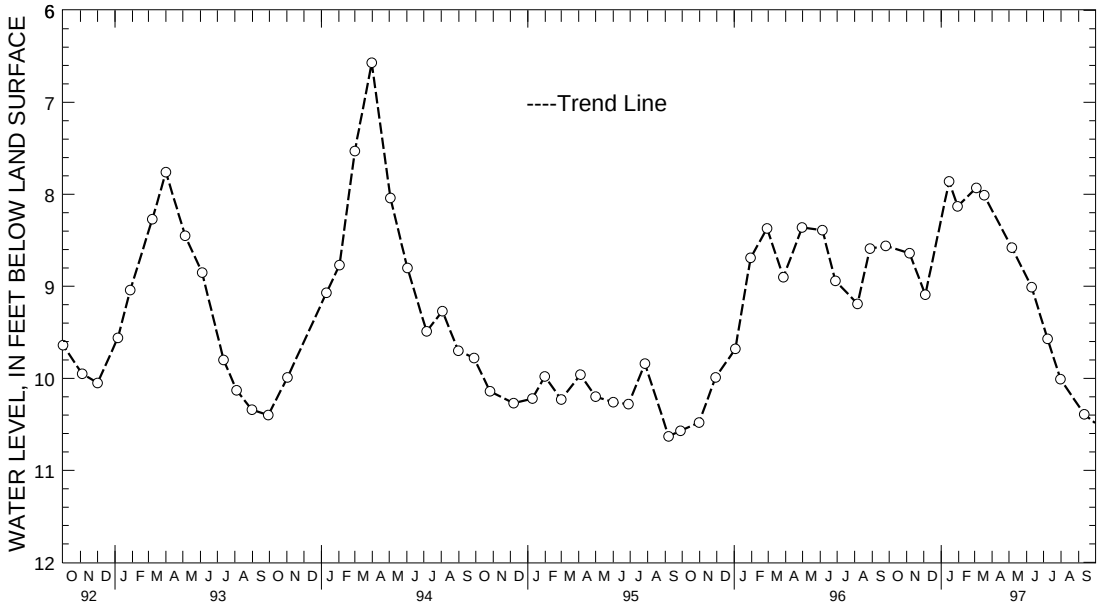
SUSSEX COUNTY--Continued

WELL NUMBER.--Ni52-12. 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, 6.57 ft below land surface, March 31, 1994; lowest measured, 11.70 ft below land surface, Nov. 20, 1986.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 06, 1996	8.64	JAN 30, 1997	8.13	MAY 06, 1997	8.58	JUL 31, 1997	10.01
DEC 04	9.09	MAR 04	7.93	JUN 10	9.01	SEP 11	10.39
JAN 15, 1997	7.86	18	8.01	JUL 08	9.57		

WATER YEAR 1997 HIGHEST 7.86 JAN 15, 1997 LOWEST 10.39 SEP 11, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE---Continued

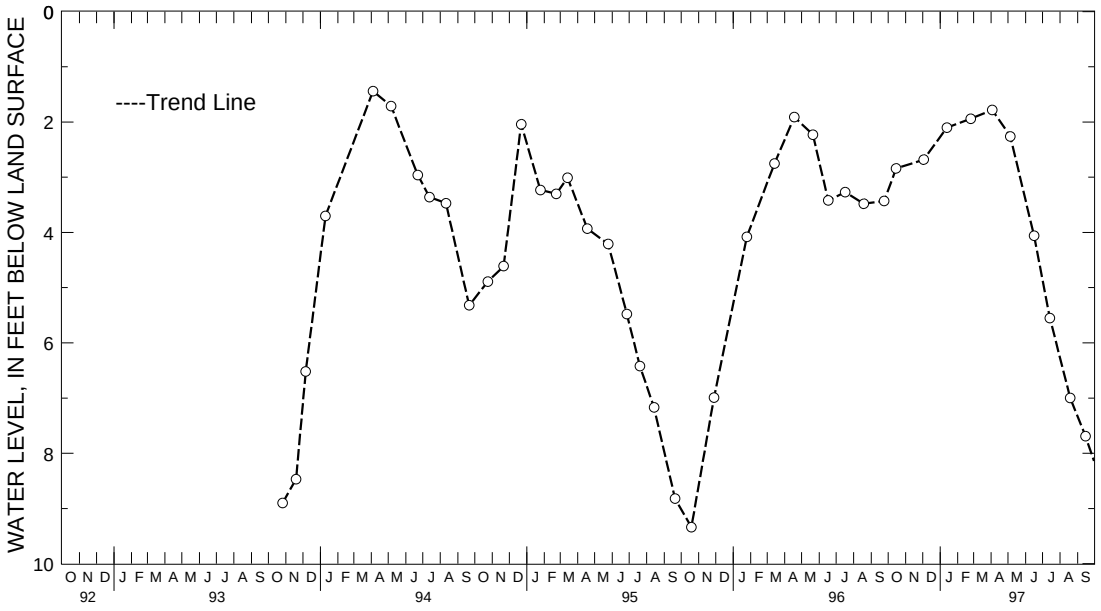
SUSSEX COUNTY---Continued

WELL NUMBER.--Of12-03. SITE ID.--384418075231102. PERMIT NUMBER.--97464.
LOCATION.--Lat 38°44´18˝, long 75°23´11˝, Hydrologic Unit 02040207, near Redden State Forest.
Owner: Delaware Department of Transportation.
AQUIFER.--Pleistocene-Pliocene Series. Aquifer code: 112PCPC.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 35 ft; casing diameter 2 in., to 32 ft; screen diameter 2 in. from 32 to 35 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 49.09 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of metal sleeve, 2.36 ft above land surface.
REMARKS.--Delaware Department of Transportation Project observation well.
PERIOD OF RECORD.--September 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.44 ft below land surface, April 4, 1994 lowest measured, 9.34 ft below land surface, Oct. 13, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	2.84	FEB 24, 1997	1.94	JUN 16, 1997	4.06	SEP 15, 1997	7.69
DEC 03	2.68	APR 03	1.78	JUL 14	5.55		
JAN 13, 1997	2.10	MAY 05	2.26	AUG 19	7.00		

WATER YEAR 1997 HIGHEST 1.78 APR 03, 1997 LOWEST 7.69 SEP 15, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE---Continued

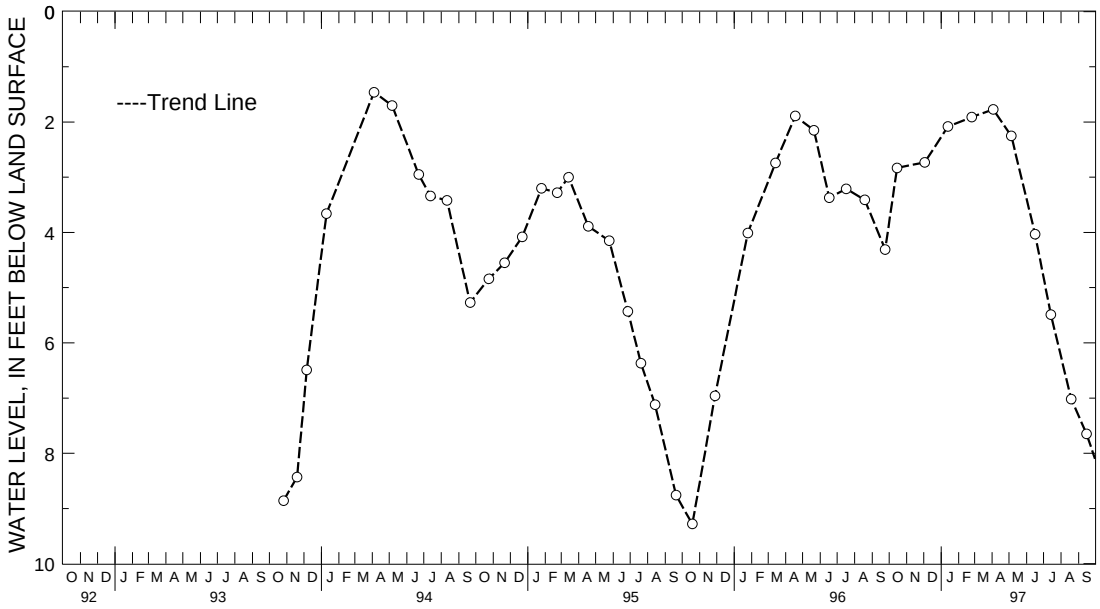
SUSSEX COUNTY---Continued

WELL NUMBER.--Of12-04. SITE ID.--384418075231103. PERMIT NUMBER.--97467.
LOCATION.--Lat 38°44′18″, long 75°23′11″, Hydrologic Unit 02040207, near Redden State Forest.
Owner: Delaware Department of Transportation.
AQUIFER.--Pleistocene-Pliocene Series. Aquifer code: 112PCPC.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 77 ft; casing diameter 2 in., to 74 ft; screen diameter 2 in. from 74 to 77 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 48.98 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of metal sleeve, 2.32 ft above land surface.
REMARKS.--Delaware Department of Transportation Project observation well.
PERIOD OF RECORD.--September 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.46 ft below land surface, April 4, 1994; lowest measured, 9.28 ft below land surface, Oct. 19, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	2.83	FEB 24, 1997	1.91	JUN 16, 1997	4.03	SEP 15, 1997	7.65
DEC 03	2.73	APR 03	1.77	JUL 14	5.49		
JAN 13, 1997	2.08	MAY 05	2.25	AUG 19	7.02		

WATER YEAR 1997 HIGHEST 1.77 APR 03, 1997 LOWEST 7.65 SEP 15, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE---Continued

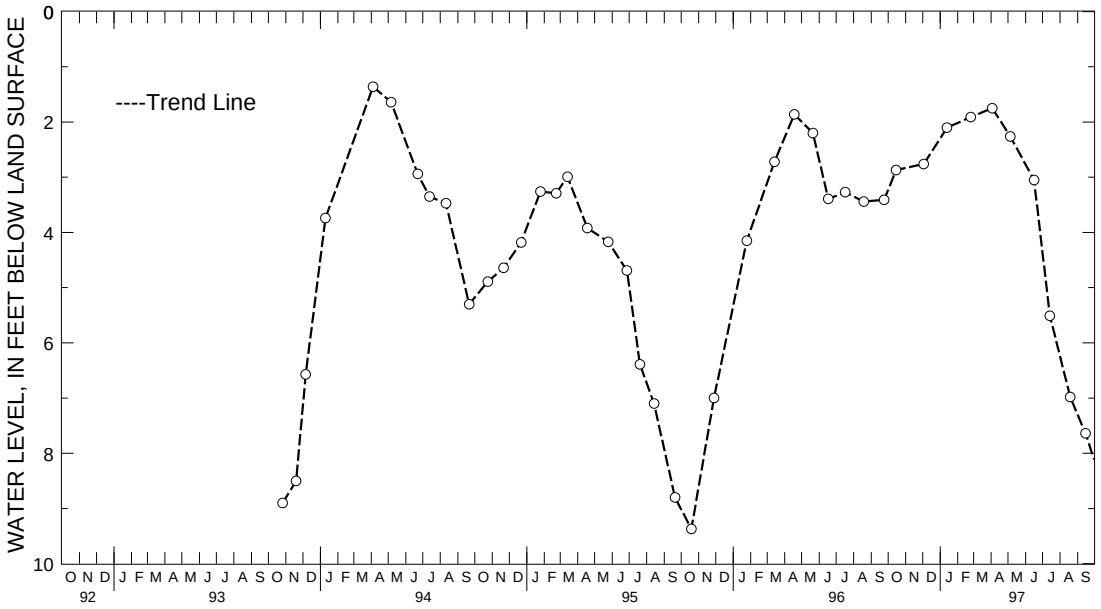
SUSSEX COUNTY---Continued

WELL NUMBER.--Of12-05. SITE ID.--384418075231101. PERMIT NUMBER.--97471.
LOCATION.--Lat 38°44´18˝, long 75°23´11˝, Hydrologic Unit 02040207, near Redden State Forest.
Owner: Delaware Department of Transportation.
AQUIFER.--Pleistocene-Pliocene Series. Aquifer code: 112PCPC.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 13 ft; casing diameter 2 in., to 10 ft; screen diameter 2 in. from 10 to 13 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 49.13 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of metal sleeve, 2.4 ft above land surface.
REMARKS.--Delaware Department of Transportation Project observation well.
PERIOD OF RECORD.--September 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.36 ft below land surface, April 4, 1994; lowest measured, 9.37 ft below land surface, Oct. 19, 1995 .

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	2.87	FEB 24, 1997	1.91	JUN 16, 1997	3.05	SEP 15, 1997	7.64
DEC 03	2.76	APR 03	1.75	JUL 14	5.51		
JAN 13, 1997	2.10	MAY 05	2.26	AUG 19	6.98		

WATER YEAR 1997 HIGHEST 1.75 APR 03, 1997 LOWEST 7.64 SEP 15, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE---Continued

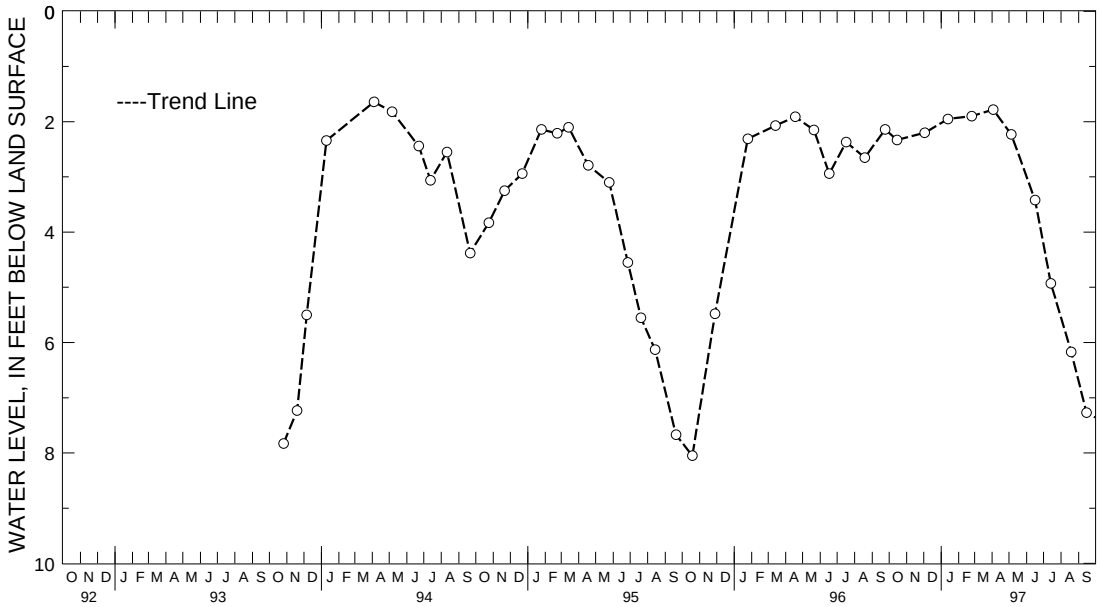
SUSSEX COUNTY---Continued

WELL NUMBER.--Of12-06. SITE ID.--384433075234901. PERMIT NUMBER.--97472.
LOCATION.--Lat 38°44´33˝, long 75°23´49˝, Hydrologic Unit 02040207, near Redden State Forest.
Owner: Delaware Department of Transportation.
AQUIFER.--Pleistocene-Pliocene Series. Aquifer code: 112PCPC.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 16 ft; casing diameter 2 in., to 13 ft; screen diameter 2 in. from 13 to 16 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 47.50 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of metal sleeve, 2.24 ft above land surface.
REMARKS.--Delaware Department of Transportation Project observation well.
PERIOD OF RECORD.--September 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.64 ft below land surface, April 4, 1994; lowest measured, 8.05 ft below land surface, Oct. 19, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	2.33	FEB 24, 1997	1.90	JUN 16, 1997	3.42	SEP 15, 1997	7.27
DEC 03	2.20	APR 03	1.78	JUL 14	4.93		
JAN 13, 1997	1.95	MAY 05	2.23	AUG 19	6.17		

WATER YEAR 1997 HIGHEST 1.78 APR 03, 1997 LOWEST 7.27 SEP 15, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE---Continued

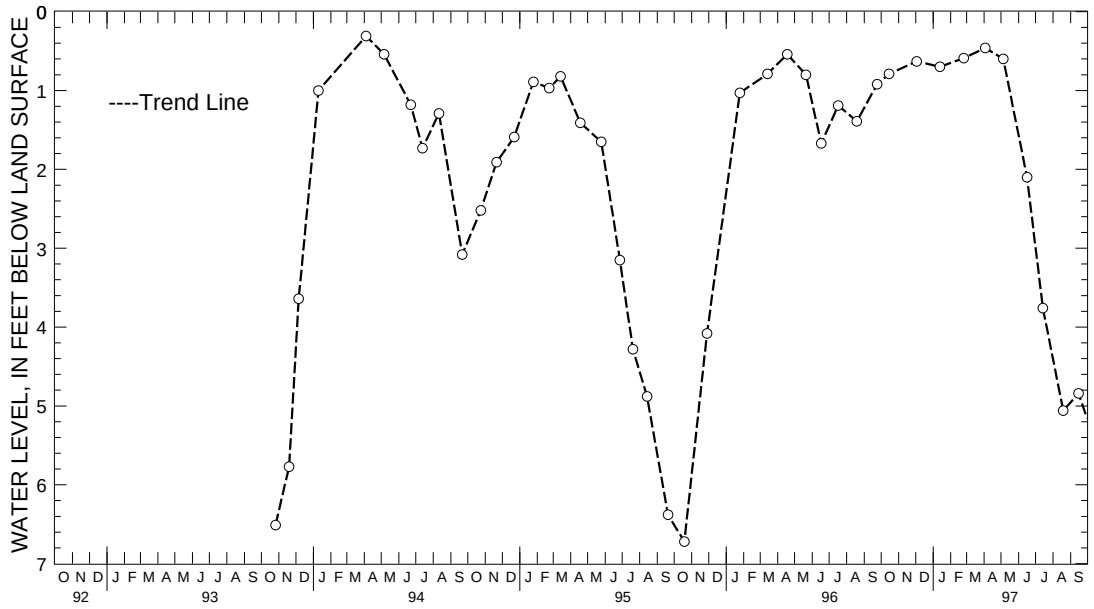
SUSSEX COUNTY---Continued

WELL NUMBER.--Of12-07. SITE ID.--384435075234901. PERMIT NUMBER.--95736.
LOCATION.--Lat 38°44´35˝, long 75°23´49˝, Hydrologic Unit 02040207, near Redden State Forest.
Owner: Delaware Department of Transportation.
AQUIFER.--Pleistocene-Pliocene Series. Aquifer code: 112PCPC.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 16 ft; casing diameter 2 in., to 13 ft; screen diameter 2 in. from 13 to 16 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 46.13 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of metal sleeve, 2.27 ft above land surface.
REMARKS.--Delaware Department of Transportation Project observation well.
PERIOD OF RECORD.--September 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.31 ft below land surface, April 4, 1994; lowest measured, 6.72 ft below land surface, Oct. 19, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	.79	FEB 24, 1997	.59	JUN 16, 1997	2.10	SEP 15, 1997	4.84
DEC 03	.63	APR 03	.46	JUL 14	3.76		
JAN 13, 1997	.70	MAY 05	.60	AUG 19	5.06		

WATER YEAR 1997 HIGHEST .46 APR 03, 1997 LOWEST 5.06 AUG 19, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE---Continued

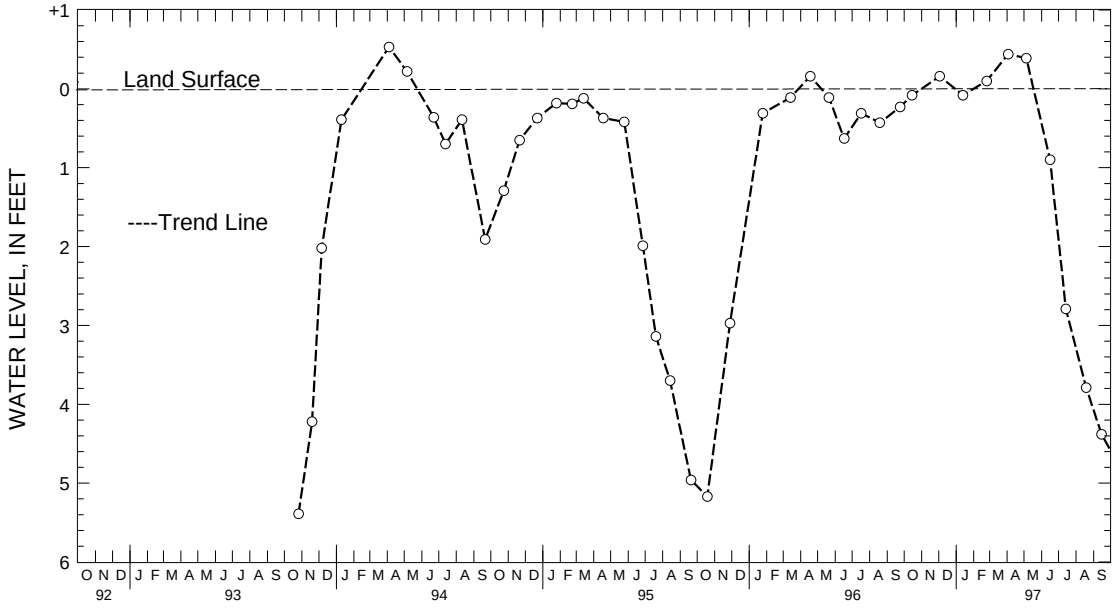
SUSSEX COUNTY---Continued

WELL NUMBER.--Of12-08. SITE ID.--384436075234701. PERMIT NUMBER.--95734.
LOCATION.--Lat 38°44´36˝, long 75°23´47˝, Hydrologic Unit 02040207, near Redden State Forest.
Owner: Delaware Department of Transportation.
AQUIFER.--Pleistocene-Pliocene Series. Aquifer code: 112PCPC.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 13 ft; casing diameter 2 in., to 10 ft; screen diameter 2 in. from 10 to 13 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 45.08 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of metal sleeve, 2.01 ft above land surface.
REMARKS.--Delaware Department of Transportation Project observation well.
PERIOD OF RECORD.--September 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.53 ft above land surface, April 4, 1994; lowest measured, 5.39 ft below land surface, Oct. 26, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
(READINGS ABOVE LAND SURFACE INDICATED BY "+")

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	.08	FEB 24, 1997	+.10	JUN 16, 1997	.90	SEP 15, 1997	4.38
DEC 03	+.16	APR 03	+.44	JUL 14	2.79		
JAN 13, 1997	.08	MAY 05	+.39	AUG 19	3.79		

WATER YEAR 1997 HIGHEST +.44 APR 03, 1997 LOWEST 4.38 SEP 15, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE---Continued

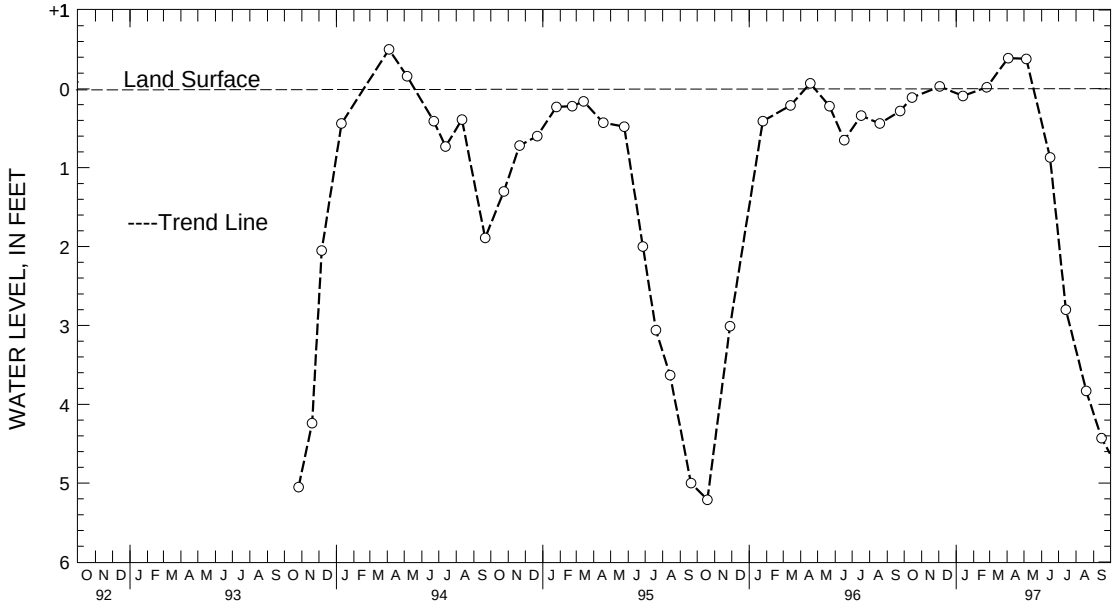
SUSSEX COUNTY---Continued

WELL NUMBER.--Of12-09. SITE ID.--384436075234801. PERMIT NUMBER.--95751.
LOCATION.--Lat 38°44´36˝, long 75°23´48˝, Hydrologic Unit 02040207, near Redden State Forest.
Owner: Delaware Department of Transportation.
AQUIFER.--Pleistocene-Pliocene Series. Aquifer code: 112PCPC.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 13 ft; casing diameter 2 in., to 10 ft; screen diameter 2 in. from 10 to 13 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 45.13 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of metal sleeve, 2.34 ft above land surface.
REMARKS.--Delaware Department of Transportation Project observation well.
PERIOD OF RECORD.--September 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.50 ft above land surface, April 4, 1994; lowest measured, 5.21 ft below land surface, Oct. 19, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
(READINGS ABOVE LAND SURFACE INDICATED BY "+")

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	.11	FEB 24, 1997	+.02	JUN 16, 1997	.87	SEP 15, 1997	4.43
DEC 03	+.03	APR 03	+.39	JUL 14	2.80		
JAN 13, 1997	.09	MAY 05	+.38	AUG 19	3.83		

WATER YEAR 1997 HIGHEST +.39 APR 03, 1997 LOWEST 4.43 SEP 15, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE---Continued

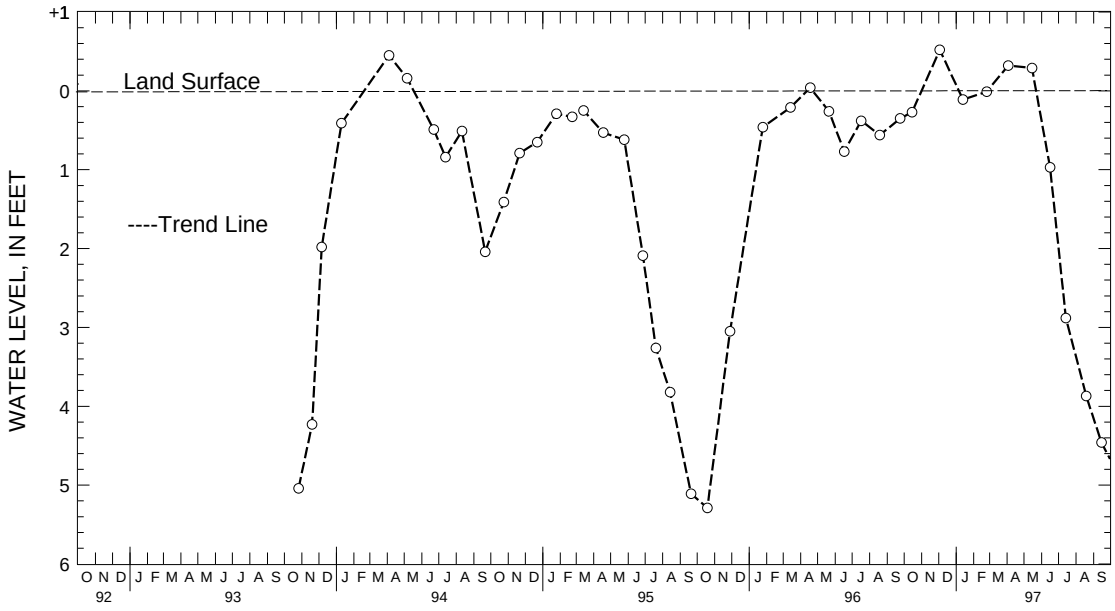
SUSSEX COUNTY---Continued

WELL NUMBER.--Of12-10. SITE ID.--384437075234501. PERMIT NUMBER.--95735.
LOCATION.--Lat 38°44´37˝, long 75°23´45˝, Hydrologic Unit 02040207, near Redden State Forest.
Owner: Delaware Department of Transportation.
AQUIFER.--Pleistocene-Pliocene Series. Aquifer code: 112PCPC.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 15 ft; casing diameter 2 in., to 12 ft; screen diameter 2 in. from 12 to 15 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 45.07 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of metal sleeve, 2.31 ft above land surface.
REMARKS.--Delaware Department of Transportation Project observation well.
PERIOD OF RECORD.--September 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.52 ft above land surface, Dec. 3, 1996; lowest measured, 5.29 ft below land surface, Oct. 19, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
(READINGS ABOVE LAND SURFACE INDICATED BY "+")

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	.27	FEB 24, 1997	.01	JUN 16, 1997	.97	SEP 15, 1997	4.46
DEC 03	+.52	APR 03	+.32	JUL 14	2.88		
JAN 13, 1997	.11	MAY 15	+.29	AUG 19	3.87		

WATER YEAR 1997 HIGHEST +.52 DEC 03, 1996 LOWEST 4.46 SEP 15, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE---Continued

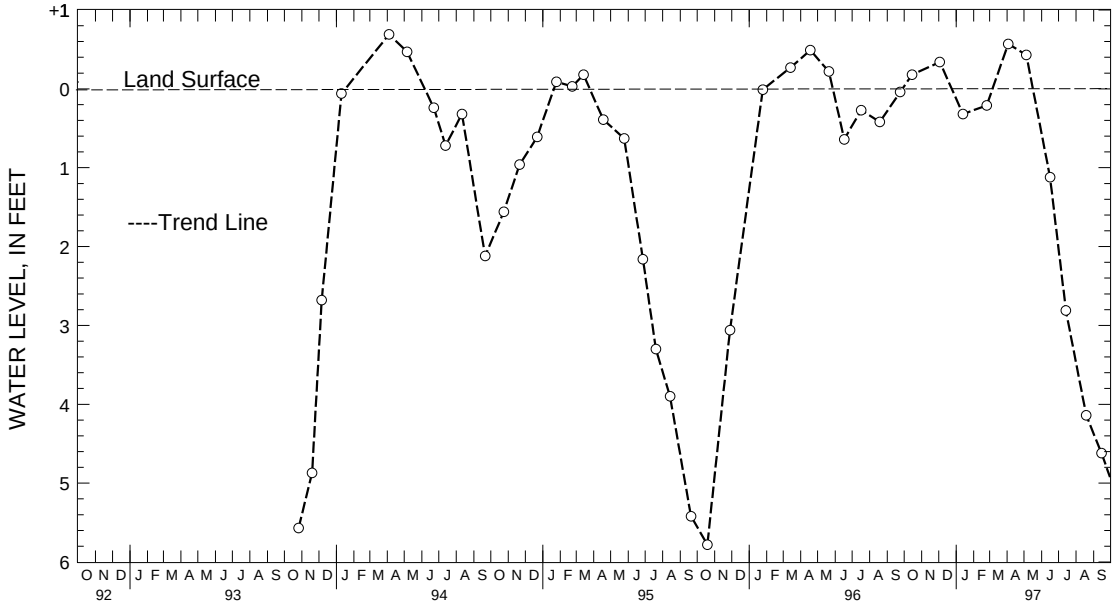
SUSSEX COUNTY---Continued

WELL NUMBER.--Of12-11. SITE ID.--384437075234502. PERMIT NUMBER.--95748.
LOCATION.--Lat 38°44´37˝, long 75°23´45˝, Hydrologic Unit 02040207, near Redden State Forest.
Owner: Delaware Department of Transportation.
AQUIFER.--Pleistocene-Pliocene Series. Aquifer code: 112PCPC.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 73 ft; casing diameter 2 in., to 70 ft; screen diameter 2 in. from 70 to 73 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 45.11 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of metal sleeve, 2.07 ft above land surface.
REMARKS.--Delaware Department of Transportation Project observation well.
PERIOD OF RECORD.--September 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.69 ft above land surface, April 4, 1994; lowest measured, 5.78 ft below land surface, Oct. 19, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
(READINGS ABOVE LAND SURFACE INDICATED BY "+")

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	+.18	FEB 24, 1997	.21	JUN 16, 1997	1.12	SEP 15, 1997	4.62
DEC 03	+.34	APR 03	+.57	JUL 14	2.81		
JAN 13, 1997	.32	MAY 05	+.43	AUG 19	4.14		

WATER YEAR 1997 HIGHEST +.57 APR 03, 1997 LOWEST 4.62 SEP 15, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE---Continued

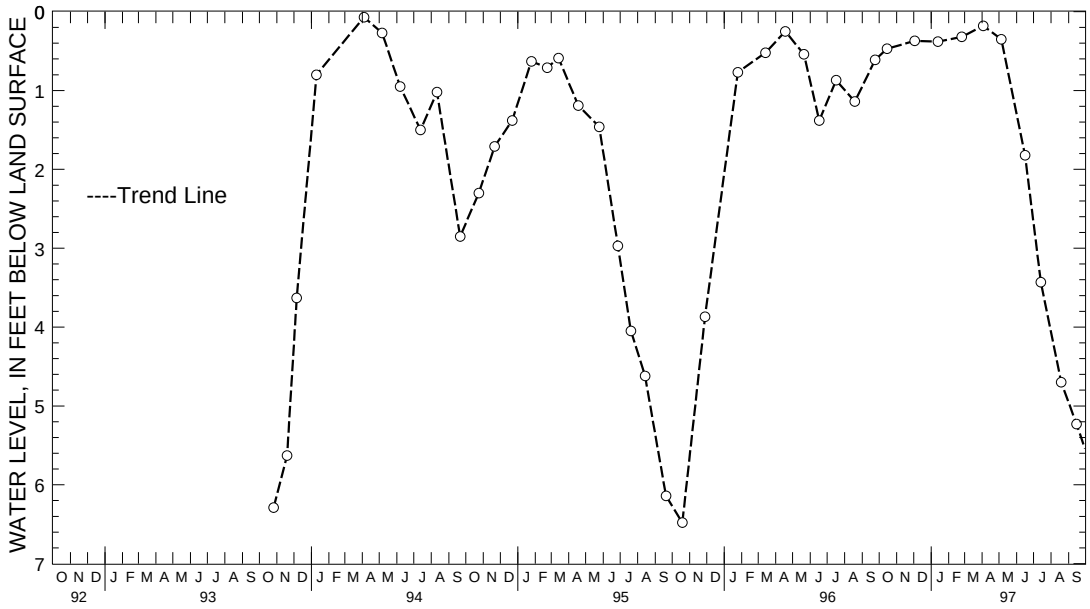
SUSSEX COUNTY---Continued

WELL NUMBER.--Of12-12. SITE ID.--384438075234802. PERMIT NUMBER.--97465.
LOCATION.--Lat 38°44´38˝, long 75°23´48˝, Hydrologic Unit 02040207, near Redden State Forest.
Owner: Delaware Department of Transportation.
AQUIFER.--Pleistocene-Pliocene Series. Aquifer code: 112PCPC.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 59 ft; casing diameter 2 in., to 56 ft; screen diameter 2 in. from 56 to 59 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 45.89 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of metal sleeve, 2.5 ft above land surface.
REMARKS.--Delaware Department of Transportation Project observation well.
PERIOD OF RECORD.--September 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.07 ft below land surface, April 4, 1994; lowest measured, 6.48 ft below land surface, Oct. 19, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	.47	FEB 24, 1997	.32	JUN 16, 1997	1.82	SEP 15, 1997	5.23
DEC 03	.37	APR 03	.18	JUL 14	3.43		
JAN 13, 1997	.38	MAY 05	.35	AUG 19	4.70		

WATER YEAR 1997 HIGHEST .18 APR 03, 1997 LOWEST 5.23 SEP 15, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--Of12-13. SITE ID.--384438075234801. PERMIT NUMBER.--07473.
LOCATION.--Lat 38°44´38˝, long 75°23´48˝, Hydrologic Unit 02060008, near Redden State Forest.
Owner: Delaware Department of Transportation.
AQUIFER.--Pleistocene-Pliocene Series. Aquifer code: 112PCPC.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 17 ft; casing diameter 2 in., to 14 ft; screen diameter 2 in. from 14 to 17 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
Equipped with digital level recorder--60-minute recorder interval from Dec. 7, 1993, to current year.
DATUM.--Altitude of land surface is 46.36 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of recorder platform, 2.58 ft above land surface.
REMARKS.--Delaware Department of Transportation Wetlands Project observation well.
Missing data due to recorder malfunction.
PERIOD OF RECORD.--September 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.06 ft below land surface, March 3, 1994; lowest measured, 6.90 ft below land surface, Oct. 19, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	1.07	.99	1.03	1.01	1.10	.76	.67	.66	.65	.59	.74	.68
2	1.11	1.07	1.04	1.00	.76	.68	.66	.66	.68	.65	.73	.66
3	1.24	1.11	1.09	1.04	.78	.72	.70	.66	.72	.68	.74	.49
4	1.33	1.24	1.11	1.09	.85	.78	.71	.70	.72	.60	.56	.49
5	1.40	1.33	1.13	1.11	.87	.81	.72	.69	.60	.46	.57	.35
6	1.45	1.40	1.14	1.13	.81	.56	.76	.72	.56	.49	.49	.35
7	1.47	1.45	1.14	1.14	.66	.41	.79	.76	.61	.56	.53	.49
8	1.47	.53	1.14	1.00	.51	.41	.80	.79	.61	.51	.60	.53
9	.63	.50	1.00	.88	.60	.51	.79	.53	.54	.51	.61	.60
10	.61	.49	1.00	.95	.63	.60	.65	.55	.56	.54	.60	.53
11	.70	.61	1.08	1.00	.67	.63	.73	.65	.60	.56	.64	.56
12	.75	.70	1.13	1.08	.70	.67	.77	.73	.62	.60	.67	.64
13	.80	.75	1.15	1.13	.70	.37	.80	.77	.65	.62	.69	.67
14	.86	.80	1.18	1.15	.37	.18	.82	.80	.65	.42	.69	.45
15	.91	.86	1.21	1.18	.29	.19	.83	.80	.44	.36	.54	.45
16	.94	.91	1.23	1.21	.34	.29	.80	.49	.43	.40	.59	.54
17	.98	.94	1.23	1.23	.39	.34	.64	.57	.52	.43	.61	.59
18	.98	.92	1.23	1.23	.45	.39	.67	.64	.54	.52	.66	.61
19	.92	.53	1.23	1.16	.44	.33	.70	.67	.60	.54	.66	.48
20	.66	.59	1.24	1.17	.45	.38	.72	.70	.64	.60	.54	.49
21	.71	.66	1.26	1.24	.50	.45	.74	.72	.64	.62	.57	.54
22	.74	.71	1.32	1.26	.53	.50	.74	.69	.70	.61	.67	.57
23	.76	.74	1.34	1.32	.56	.53	.75	.69	.71	.70	.70	.67
24	.83	.76	1.38	1.34	.58	.52	.75	.69	.72	.71	.73	.70
25	.88	.83	1.38	1.38	.54	.50	.69	.55	.74	.72	.73	.70
26	.91	.88	1.38	.84	.57	.54	.69	.62	.74	.66	.70	.44
27	.91	.91	1.00	.92	.57	.50	.70	.68	.69	.64	.55	.49
28	.92	.89	1.03	1.00	.55	.52	.68	.44	.74	.69	.59	.55
29	.96	.92	1.09	1.03	.59	.55	.54	.46	---	---	.60	.55
30	.98	.91	1.10	1.09	.63	.59	.57	.54	---	---	.58	.55
31	1.01	.98	---	---	.67	.63	.60	.57	---	---	.58	.43
MONTH	1.47	.49	1.38	.84	1.10	.18	.83	.44	.74	.36	.74	.35

GROUND-WATER LEVELS

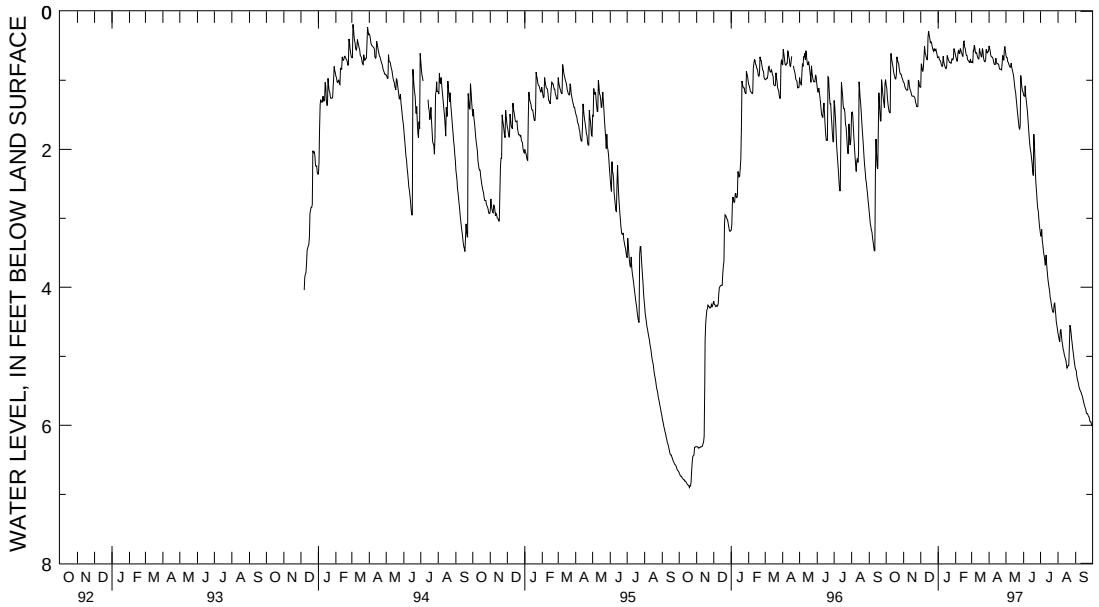
DELAWARE-Continued

SUSSEX COUNTY--Continued

Of12-13--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	.50	.46	.64	.57	1.22	1.17	3.23	3.17	4.67	4.61	5.19	5.16
2	.54	.50	.67	.64	1.23	1.22	3.26	3.05	4.71	4.67	5.21	5.19
3	.58	.54	.67	.60	1.23	.98	3.16	3.02	4.76	4.71	5.27	5.21
4	.64	.58	.73	.65	1.08	.97	3.32	3.16	4.79	4.63	5.32	5.27
5	.66	.64	.74	.73	1.23	1.08	3.39	3.31	4.63	4.56	5.36	5.32
6	.66	.60	.77	.72	1.30	1.23	3.47	3.39	4.61	4.56	5.39	5.36
7	.67	.60	.79	.74	1.38	1.30	3.53	3.47	4.70	4.61	5.44	5.39
8	.69	.67	.81	.79	1.47	1.38	3.58	3.53	4.79	4.70	5.47	5.44
9	.74	.69	.81	.68	1.58	1.47	3.67	3.58	4.84	4.79	5.49	5.47
10	.76	.74	.75	.68	1.71	1.58	3.66	3.38	4.90	4.84	5.51	5.49
11	.77	.76	.81	.75	1.83	1.71	3.53	3.39	4.93	4.90	5.53	5.51
12	.77	.61	.85	.81	1.93	1.83	3.68	3.53	4.98	4.93	5.56	5.53
13	.68	.58	.89	.85	2.00	1.93	3.77	3.68	5.01	4.98	5.58	5.56
14	.73	.68	.92	.89	2.05	2.00	3.87	3.77	5.04	5.01	5.62	5.58
15	.76	.73	1.00	.92	2.13	2.01	3.94	3.87	5.07	5.04	5.66	5.62
16	.76	.76	1.08	1.00	2.20	2.13	4.00	3.94	5.12	5.07	5.69	5.66
17	.76	.73	1.13	1.08	2.31	2.20	4.05	4.00	5.17	5.12	5.72	5.69
18	.77	.73	1.17	1.13	2.38	1.78	4.14	4.05	5.15	5.11	5.75	5.72
19	.82	.77	1.26	1.17	1.78	1.59	4.18	4.14	5.13	5.11	5.78	5.75
20	.84	.82	1.35	1.26	1.93	1.69	4.25	4.18	5.13	4.87	5.82	5.78
21	.84	.84	1.44	1.35	2.15	1.93	4.29	4.25	4.87	4.55	5.83	5.82
22	.84	.84	1.52	1.44	2.33	2.14	4.34	4.29	4.55	4.51	5.83	5.83
23	.85	.75	1.60	1.52	2.50	2.33	4.36	4.34	4.58	4.52	5.85	5.83
24	.75	.57	1.68	1.60	2.61	2.50	4.36	4.24	4.66	4.58	5.87	5.85
25	.64	.58	1.71	1.66	2.74	2.61	4.24	4.16	4.75	4.66	5.88	5.87
26	.69	.64	1.66	.78	2.85	2.74	4.23	4.16	4.82	4.75	5.93	5.88
27	.71	.57	.93	.81	2.89	2.78	4.33	4.23	4.90	4.82	5.95	5.93
28	.57	.37	1.03	.93	3.00	2.89	4.42	4.33	4.96	4.90	5.95	5.92
29	.51	.44	1.10	1.03	3.10	3.00	4.50	4.42	5.04	4.96	5.98	5.92
30	.57	.51	1.16	1.10	3.17	3.10	4.55	4.50	5.10	5.04	6.01	5.98
31	---	---	1.17	1.16	---	---	4.61	4.55	5.16	5.10	---	---
MONTH	.85	.37	1.71	.57	3.17	.97	4.61	3.02	5.17	4.51	6.01	5.16
YEAR	6.01	.18										

Daily Low Water Levels



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

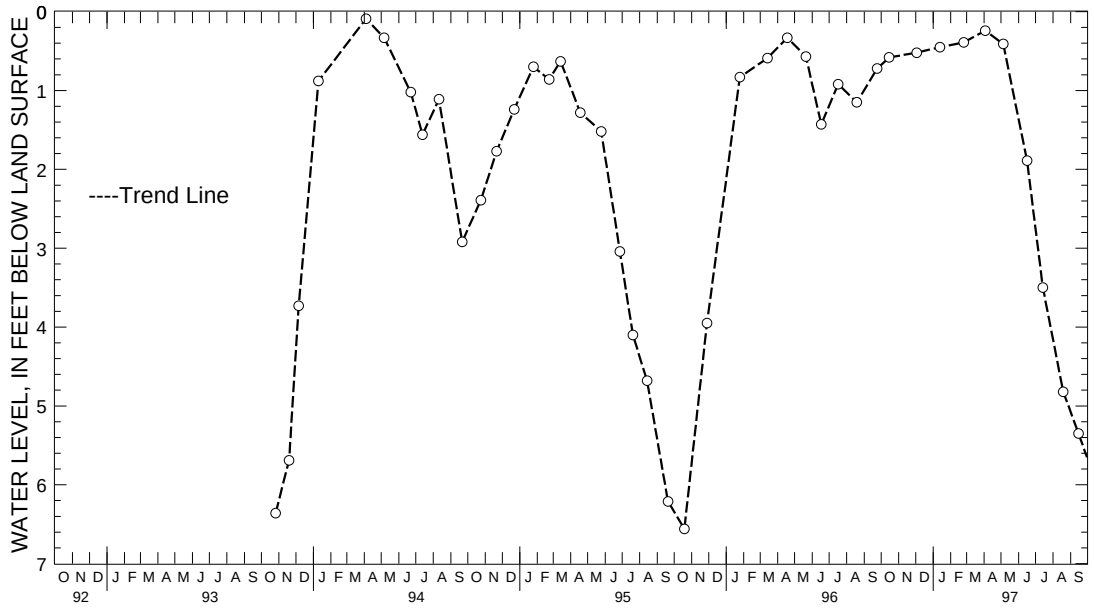
SUSSEX COUNTY--Continued

WELL NUMBER.--Of12-14. SITE ID.--384438075234803. PERMIT NUMBER.--97468.
LOCATION.--Lat 38°44´38˝, long 75°23´48˝, Hydrologic Unit 02060008, near Redden State Forest.
Owner: Delaware Department of Transportation.
AQUIFER.--Pleistocene-Pliocene Series. Aquifer code: 112PCPC.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 80 ft; casing diameter 2 in., to 77 ft; screen diameter 2 in. from 77 to 80 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 45.94 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of metal sleeve, 2.56 ft above land surface.
REMARKS.--Delaware Department of Transportation Project observation well.
PERIOD OF RECORD.--September 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.09 ft below land surface, April 4, 1994; lowest measured, 6.56 ft below land surface, Oct. 19, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	.58	FEB 24, 1997	.39	JUN 16, 1997	1.89	SEP 15, 1997	5.35
DEC 03	.52	APR 03	.24	JUL 14	3.50		
JAN 13, 1997	.45	MAY 05	.41	AUG 19	4.82		

WATER YEAR 1997 HIGHEST .24 APR 03, 1997 LOWEST 5.35 SEP 15, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

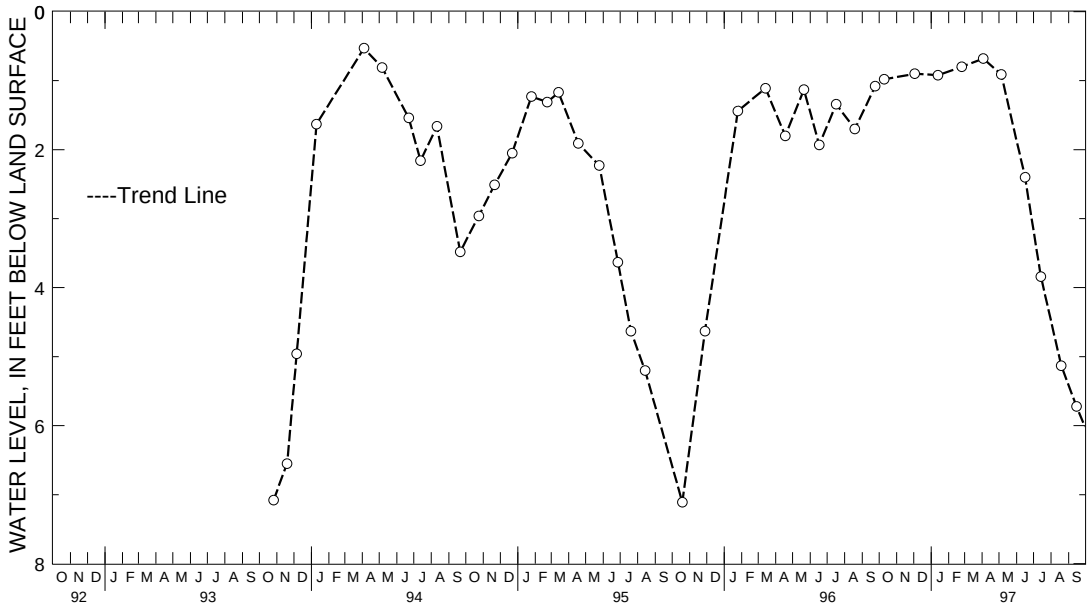
SUSSEX COUNTY--Continued

WELL NUMBER.--Of12-15. SITE ID.--384441075233702. PERMIT NUMBER.--95737.
LOCATION.--Lat 38°44´41˝, long 75°23´37˝, Hydrologic Unit 02060008, near Redden State Forest.
Owner: Delaware Department of Transportation.
AQUIFER.--Pleistocene-Pliocene Series. Aquifer code: 112PCPC.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 82 ft; casing diameter 2 in., to 79 ft; screen diameter 2 in. from 79 to 82 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 46.72 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of metal sleeve, 2.59 ft above land surface.
REMARKS.--Delaware Department of Transportation Project observation well.
PERIOD OF RECORD.--September 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.53 ft below land surface, April 4, 1994; lowest measured, 7.11 ft below land surface, Oct. 19, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 10, 1996	.98	FEB 24, 1997	.80	JUN 16, 1997	2.40	SEP 15, 1997	5.72
DEC 03	.90	APR 03	.68	JUL 14	3.84		
JAN 13, 1997	.92	MAY 05	.91	AUG 19	5.13		

WATER YEAR 1997 HIGHEST .68 APR 03, 1997 LOWEST 5.72 SEP 15, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

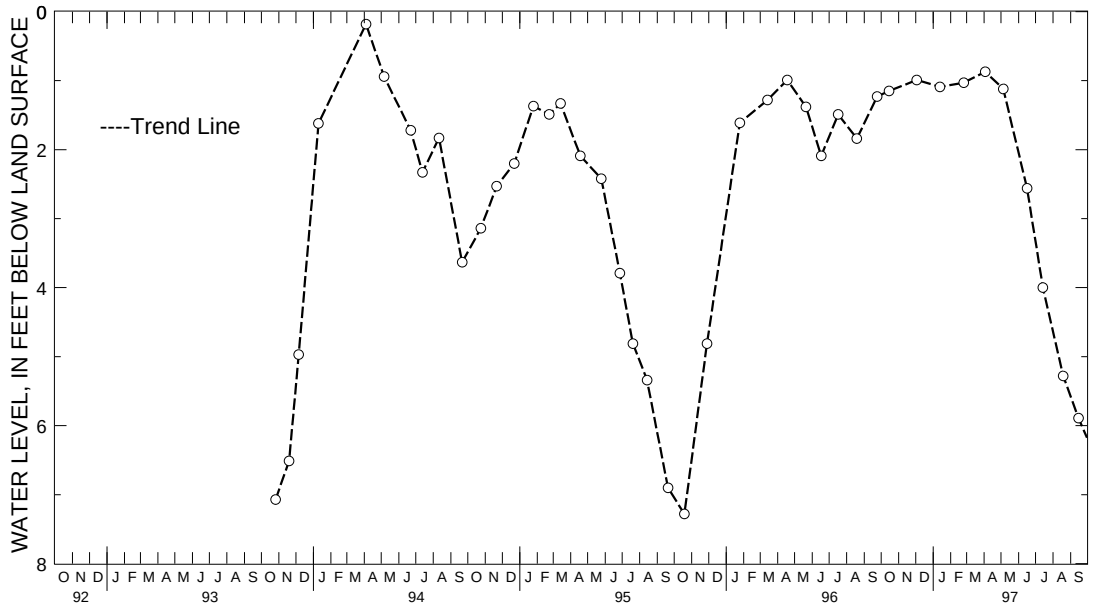
SUSSEX COUNTY--Continued

WELL NUMBER.--Of12-16. SITE ID.--384441075233701. PERMIT NUMBER.--95738.
LOCATION.--Lat 38°44´41˝, long 75°23´37˝, Hydrologic Unit 02060008, near Redden State Forest.
Owner: Delaware Department of Transportation.
AQUIFER.--Pleistocene-Pliocene Series. Aquifer code: 112PCPC.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 16 ft; casing diameter 2 in., to 13 ft; screen diameter 2 in. from 13 to 16 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 46.72 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of metal sleeve, 2.46 ft above land surface.
REMARKS.--Delaware Department of Transportation Project observation well.
PERIOD OF RECORD.--September 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.18 ft below land surface, April 4, 1994; lowest measured, 7.28 ft below land surface, Oct. 19, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	1.15	FEB 24, 1997	1.03	JUN 16, 1997	2.56	SEP 15, 1997	5.89
DEC 03	.99	APR 03	.87	JUL 14	4.00		
JAN 13, 1997	1.09	MAY 05	1.12	AUG 19	5.28		

WATER YEAR 1997 HIGHEST .87 APR 03, 1997 LOWEST 5.89 SEP 15, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

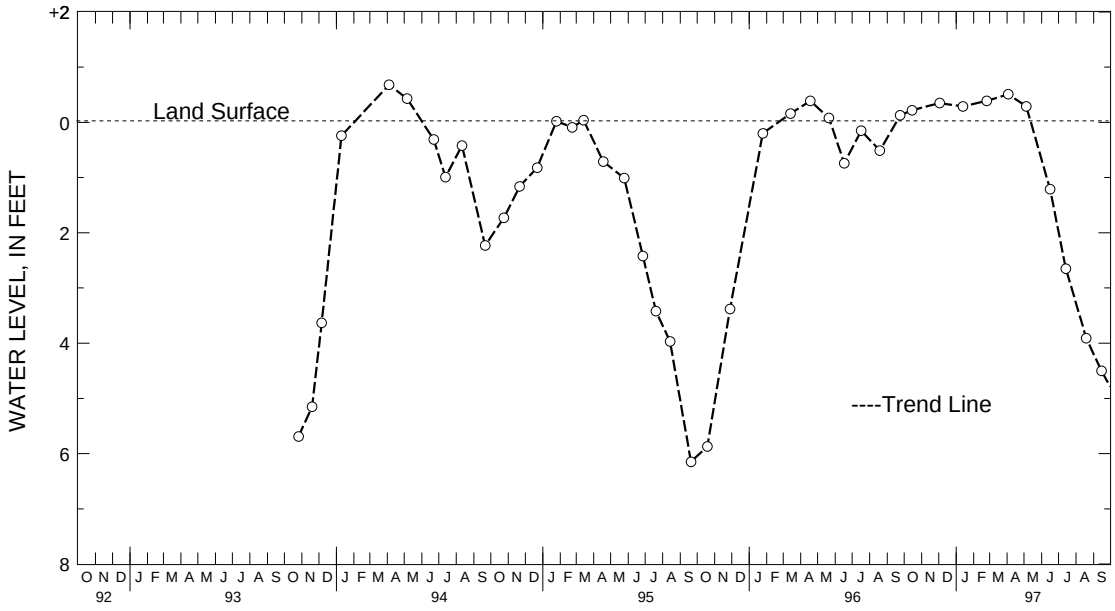
SUSSEX COUNTY--Continued

WELL NUMBER.--Of12-17. SITE ID.--384444075233901. PERMIT NUMBER.--95739.
LOCATION.--Lat 38°44´44˝, long 75°23´39˝, Hydrologic Unit 02060008, near Redden State Forest.
Owner: Delaware Department of Transportation.
AQUIFER.--Pleistocene-Pliocene Series. Aquifer code: 112PCPC.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 39 ft; casing diameter 2 in., to 36 ft; screen diameter 2 in. from 36 to 39 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 45.32 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of metal sleeve, 3.18 ft above land surface.
REMARKS.--Delaware Department of Transportation Project observation well.
PERIOD OF RECORD.--September 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.68 ft above land surface, April 4, 1994; lowest measured, 6.15 ft below land surface, Sept. 20, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
(READINGS ABOVE LAND SURFACE INDICATED BY "+")

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	+.22	FEB 24, 1997	+.39	JUN 16, 1997	1.21	SEP 15, 1997	4.50
DEC 03	+.35	APR 03	+.51	JUL 14	2.65		
JAN 13, 1997	+.29	MAY 05	+.29	AUG 19	3.91		

WATER YEAR 1997 HIGHEST +.51 APR 03, 1997 LOWEST 4.50 SEP 15, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

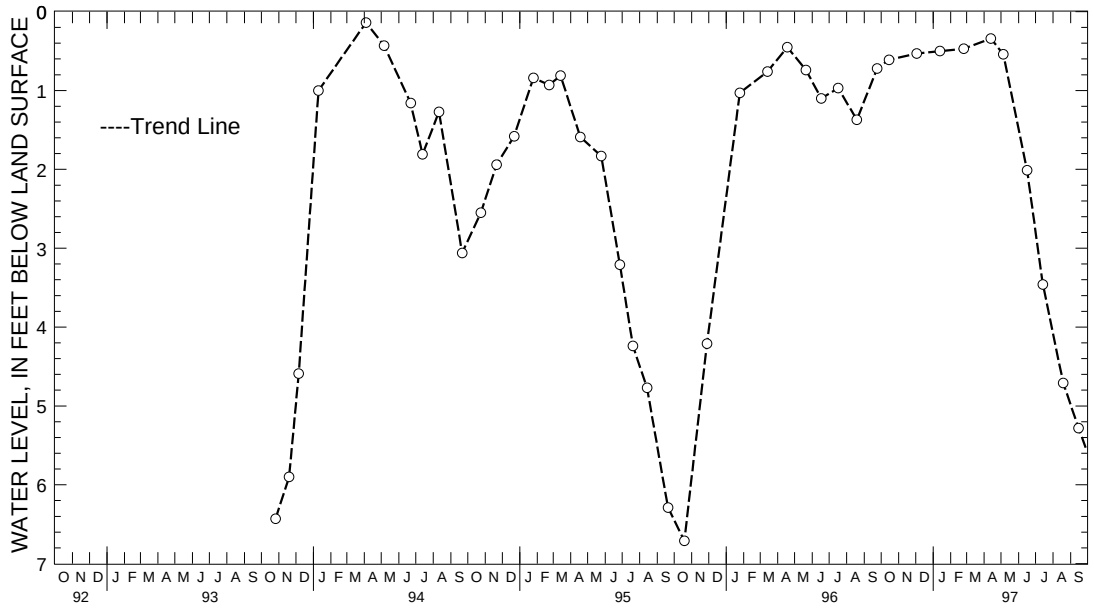
SUSSEX COUNTY--Continued

WELL NUMBER.--Of12-18. SITE ID.--384444075234101. PERMIT NUMBER.--95752.
LOCATION.--Lat 38°44´44˝, long 75°23´41˝, Hydrologic Unit 02060008, near Redden State Forest.
Owner: Delaware Department of Transportation.
AQUIFER.--Pleistocene-Pliocene Series. Aquifer code: 112PCPC.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 15 ft; casing diameter 2 in., to 12 ft; screen diameter 2 in. from 12 to 15 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 46.07 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of metal sleeve, 2.39 ft above land surface.
REMARKS.--Delaware Department of Transportation Project observation well.
PERIOD OF RECORD.--September 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.14 ft below land surface, April 4, 1994; lowest measured, 6.71 ft below land surface, Oct. 19, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	.61	FEB 24, 1997	.47	JUN 16, 1997	2.01	SEP 15, 1997	5.28
DEC 03	.53	APR 13	.34	JUL 14	3.46		
JAN 13, 1997	.50	MAY 05	.54	AUG 19	4.71		

WATER YEAR 1997 HIGHEST .34 APR 13, 1997 LOWEST 5.28 SEP 15, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

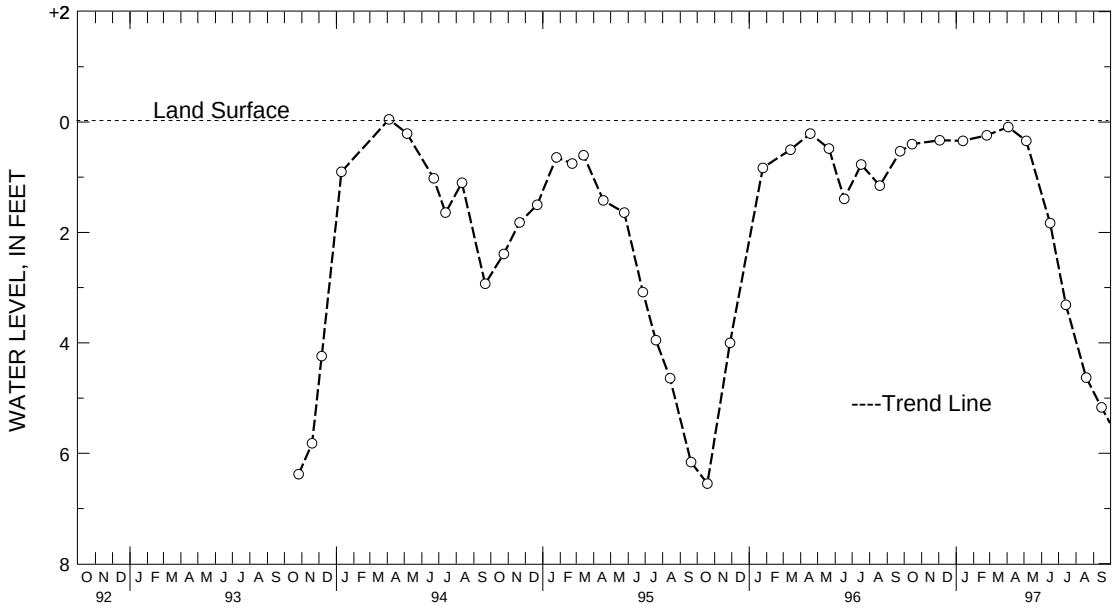
SUSSEX COUNTY--Continued

WELL NUMBER.--Of12-19. SITE ID.--384444075234102. PERMIT NUMBER.--95749.
LOCATION.--Lat 38°44´44˝, long 75°23´41˝, Hydrologic Unit 02060008, near Redden State Forest.
Owner: Delaware Department of Transportation.
AQUIFER.--Pleistocene-Pliocene Series. Aquifer code: 112PCPC.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 79 ft; casing diameter 2 in., to 76 ft; screen diameter 2 in. from 76 to 79 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 45.96 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of metal sleeve, 2.62 ft above land surface.
REMARKS.--Delaware Department of Transportation Project observation well.
PERIOD OF RECORD.--September 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.05 ft above land surface, April 4, 1994; lowest measured, 6.55 ft below land surface, Oct. 19, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	.40	FEB 24, 1997	.24	JUN 16, 1997	1.83	SEP 15, 1997	5.17
DEC 03	.33	APR 03	.09	JUL 14	3.31		
JAN 13, 1997	.34	MAY 05	.34	AUG 19	4.63		

WATER YEAR 1997 HIGHEST .09 APR 03, 1997 LOWEST 5.17 SEP 15, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

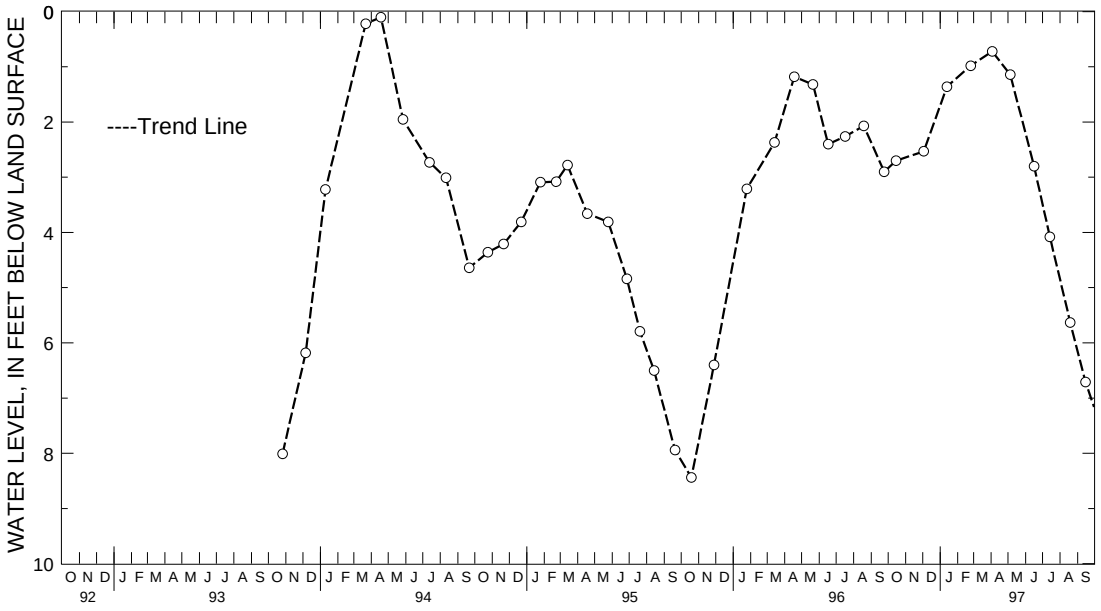
SUSSEX COUNTY--Continued

WELL NUMBER.--Of13-01. SITE ID.--384401075224903. PERMIT NUMBER.--95778.
LOCATION.--Lat 38°44´02˝, long 75°22´50˝, Hydrologic Unit 02060008, near Redden State Forest.
Owner: Delaware Department of Transportation.
AQUIFER.--Pleistocene-Pliocene Series. Aquifer code: 112PCPC.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 103 ft; casing diameter 2 in., to 100 ft; screen diameter 2 in. from 100 to 103 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 48.29 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of metal sleeve, 2.29 ft above land surface.
REMARKS.--Delaware Department of Transportation Project observation well.
PERIOD OF RECORD.--September 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.10 ft below land surface, April 18, 1994; lowest measured, 8.44 ft below land surface, Oct. 19, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	2.70	FEB 24, 1997	.98	JUN 16, 1997	2.80	SEP 15, 1997	6.71
DEC 03	2.53	APR 03	.72	JUL 14	4.08		
JAN 13, 1997	1.36	MAY 05	1.14	AUG 19	5.63		

WATER YEAR 1997 HIGHEST .72 APR 03, 1997 LOWEST 6.71 SEP 15, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

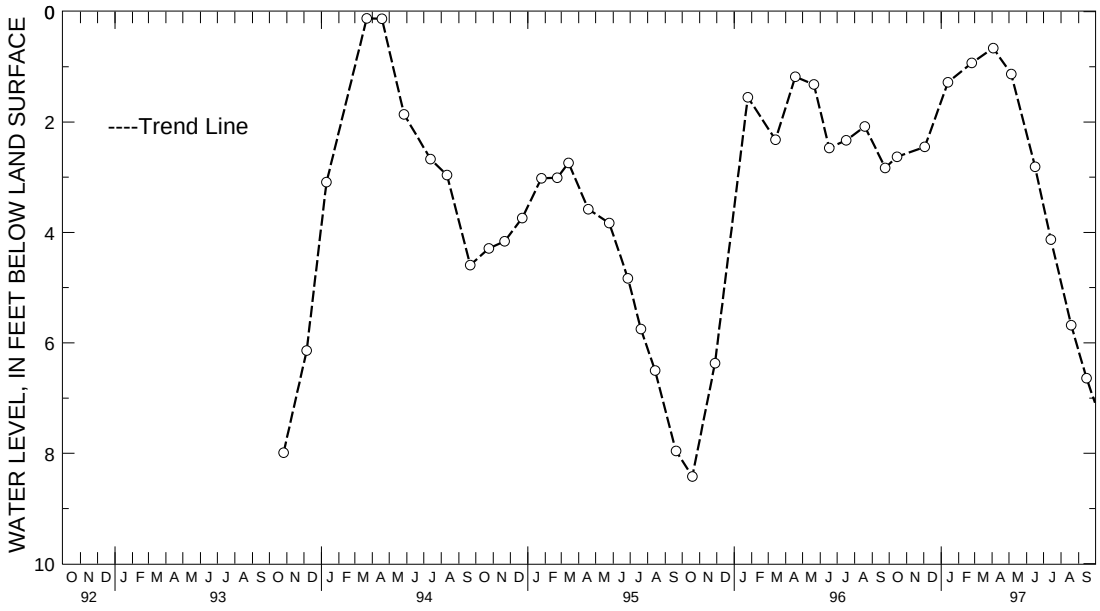
SUSSEX COUNTY--Continued

WELL NUMBER.--Of13-02. SITE ID.--384402075225002. PERMIT NUMBER.--95787.
LOCATION.--Lat 38°44´02˝, long 75°22´50˝, Hydrologic Unit 02060008, near Redden State Forest.
Owner: Delaware Department of Transportation.
AQUIFER.--Pleistocene-Pliocene Series. Aquifer code: 112PCPC.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 52 ft; casing diameter 2 in., to 49 ft; screen diameter 2 in. from 49 to 52 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 48.28 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of metal sleeve, 2.33 ft above land surface.
REMARKS.--Delaware Department of Transportation Project observation well.
PERIOD OF RECORD.--September 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, .12 ft below land surface, March 22, 1994; lowest measured, 8.42 ft below land surface, Oct. 19, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	2.63	FEB 24, 1997	.93	JUN 16, 1997	2.81	SEP 15, 1997	6.64
DEC 03	2.45	APR 03	.66	JUL 14	4.13		
JAN 13, 1997	1.28	MAY 05	1.13	AUG 19	5.68		

WATER YEAR 1997 HIGHEST .66 APR 03, 1997 LOWEST 6.64 SEP 15, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--Of13-03. SITE ID.--384401075224901. PERMIT NUMBER.--95801.
LOCATION.--Lat 38°44´01˝, long 75°22´49˝, Hydrologic Unit 02060008, near Redden State Forest.
Owner: Delaware Department of Transportation.
AQUIFER.--Pleistocene-Pliocene Series. Aquifer code:112PCPC.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 20 ft; casing diameter 2 in., to 17 ft; screen diameter 2 in. from 17 to 20 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
Equipped with digital water-level recorder--60-minute recorder interval from Dec. 7, 1993 to current year.
DATUM.--Altitude of land surface is 48.37 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of recorder platform, 3.28 ft above land surface.
REMARKS.--Delaware Department of Transportation Wetlands Project observation well. Missing data due to recorder malfunction.
PERIOD OF RECORD.--September 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.06 ft above land surface, March 3, 1994; lowest measured, 8.65 ft below land surface, Oct. 21, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	3.07	2.96	2.94	2.92	3.17	2.83	1.15	1.12	1.16	1.06	1.14	1.07
2	3.11	3.07	2.98	2.92	2.83	2.62	1.15	1.11	1.20	1.16	1.15	1.05
3	3.23	3.11	3.04	2.98	2.66	2.59	1.20	1.15	1.28	1.20	1.17	.83
4	3.34	3.23	3.06	3.04	2.68	2.59	1.23	1.20	1.30	.96	.93	.83
5	3.39	3.34	3.07	3.06	2.69	2.58	1.24	1.19	.96	.86	.94	.62
6	3.42	3.39	3.08	3.07	2.58	2.22	1.33	1.24	1.01	.92	.78	.62
7	3.44	3.42	3.08	3.07	2.25	1.63	1.38	1.33	1.06	1.01	.85	.78
8	3.44	2.28	3.07	2.99	1.71	1.63	1.42	1.38	1.06	.90	.91	.85
9	2.42	2.28	2.99	2.87	1.89	1.71	1.42	1.02	.93	.90	.94	.91
10	2.39	2.08	3.03	2.97	1.94	1.89	1.16	1.03	.98	.91	.91	.79
11	2.40	2.23	3.11	3.03	2.00	1.92	1.29	1.16	1.00	.98	.94	.85
12	2.53	2.40	3.15	3.11	2.07	1.96	1.37	1.29	1.06	.98	.99	.94
13	2.62	2.53	3.16	3.15	1.96	1.29	1.43	1.37	1.06	.73	1.02	.99
14	2.73	2.62	3.19	3.16	1.29	.77	1.48	1.43	.77	.62	1.02	.70
15	2.82	2.73	3.21	3.19	.85	.77	1.50	1.45	.75	.62	.83	.70
16	2.90	2.82	3.22	3.21	.89	.85	1.45	.97	.83	.75	.89	.83
17	2.97	2.90	3.22	3.22	.93	.89	1.19	1.06	.84	.83	.91	.89
18	2.98	2.92	3.22	3.19	.99	.93	1.32	1.19	.86	.84	.96	.90
19	2.92	2.11	3.19	3.17	.98	.74	1.36	1.32	.94	.86	.96	.71
20	2.29	2.15	3.23	3.18	.94	.81	1.43	1.36	.94	.94	.82	.73
21	2.40	2.29	3.25	3.23	.99	.94	1.53	1.43	.94	.90	.84	.82
22	2.47	2.40	3.30	3.25	1.02	.99	1.52	1.36	1.06	.94	.95	.84
23	2.51	2.47	3.31	3.30	1.03	1.01	1.45	1.35	---	---	1.00	.95
24	2.63	2.51	3.34	3.31	1.04	.92	1.47	1.38	---	---	1.05	1.00
25	2.72	2.63	3.35	3.34	1.02	.91	1.38	1.16	1.11	1.08	1.05	1.01
26	2.77	2.72	3.35	2.98	1.05	1.02	1.39	1.25	1.12	.98	1.01	.68
27	2.77	2.76	3.11	3.04	1.03	.89	1.41	1.36	1.06	.97	.83	.75
28	2.79	2.73	3.12	3.11	.98	.93	1.36	.92	1.14	1.06	.87	.83
29	2.85	2.79	3.16	3.12	1.03	.98	1.04	.96	---	---	.87	.77
30	2.87	2.77	3.17	3.16	1.10	1.03	1.06	1.04	---	---	.85	.78
31	2.92	2.87	---	---	1.14	1.07	1.07	1.06	---	---	.85	.64
MONTH	3.44	2.08	3.35	2.87	3.17	.74	1.53	.92	1.30	.62	1.17	.62

GROUND-WATER LEVELS

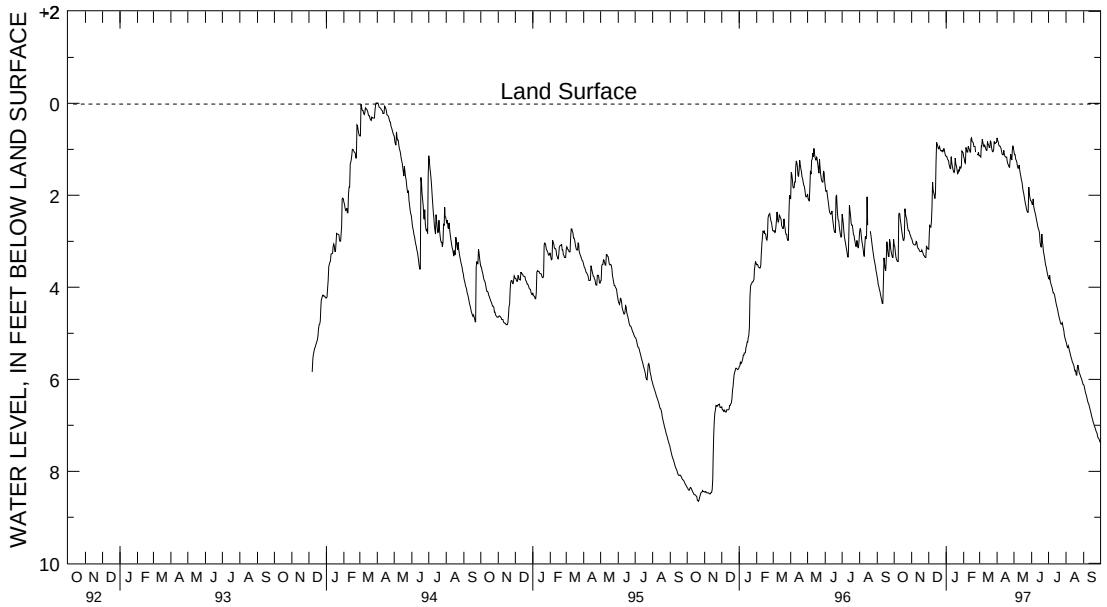
DELAWARE--Continued

SUSSEX COUNTY--Continued

Of13-03--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	.75	.67	1.05	.97	2.15	2.12	3.80	3.75	5.18	5.14	6.12	6.11
2	.81	.75	1.12	1.05	2.20	2.15	3.82	3.69	5.23	5.18	6.15	6.12
3	.84	.81	1.12	1.02	2.20	1.97	3.74	3.67	5.29	5.23	6.20	6.15
4	.91	.84	1.22	1.10	2.08	1.97	3.87	3.74	5.31	5.27	6.26	6.20
5	.93	.91	1.24	1.22	2.25	2.08	3.92	3.87	5.27	5.26	6.31	6.26
6	.93	.86	1.28	1.23	2.31	2.25	3.96	3.92	5.32	5.27	6.35	6.31
7	.95	.86	1.37	1.28	2.36	2.31	4.00	3.96	5.38	5.32	6.40	6.35
8	.99	.95	1.41	1.37	2.41	2.36	4.06	4.00	5.43	5.38	6.46	6.40
9	1.06	.99	1.41	1.19	2.48	2.41	4.12	4.06	5.48	5.43	6.51	6.46
10	1.10	1.06	1.34	1.19	2.55	2.48	4.12	4.07	5.53	5.48	6.53	6.51
11	1.12	1.10	1.45	1.34	2.61	2.55	4.14	4.07	5.57	5.53	6.58	6.53
12	1.12	.90	1.53	1.45	2.68	2.61	4.18	4.14	5.62	5.57	6.63	6.58
13	1.02	.88	1.60	1.53	2.73	2.68	4.25	4.18	5.65	5.62	6.68	6.63
14	1.11	1.02	1.67	1.60	2.76	2.73	4.32	4.25	5.68	5.65	6.73	6.68
15	1.15	1.11	1.72	1.67	2.83	2.76	4.38	4.32	5.72	5.68	6.79	6.73
16	1.17	1.15	1.82	1.72	3.03	2.83	4.43	4.38	5.78	5.72	6.84	6.79
17	1.17	1.13	1.89	1.82	3.09	3.03	4.48	4.43	5.82	5.78	6.88	6.84
18	1.17	1.13	1.94	1.89	3.13	2.84	4.55	4.48	5.81	5.81	6.94	6.88
19	1.27	1.17	2.02	1.94	2.84	2.75	4.61	4.55	5.90	5.81	6.97	6.94
20	1.32	1.27	2.10	2.02	3.00	2.83	4.67	4.61	5.91	5.75	7.02	6.97
21	1.34	1.32	2.17	2.10	3.11	3.00	4.71	4.67	5.75	5.68	7.04	7.02
22	1.38	1.34	2.23	2.17	3.21	3.11	4.77	4.71	5.69	5.67	7.07	7.04
23	1.39	1.23	2.29	2.23	3.28	3.21	4.80	4.77	5.76	5.69	7.12	7.07
24	1.23	.98	2.34	2.29	3.35	3.28	4.80	4.77	5.84	5.76	7.15	7.12
25	1.11	1.01	2.37	2.34	3.44	3.35	4.77	4.77	5.88	5.84	7.18	7.15
26	1.20	1.11	2.37	1.57	3.52	3.44	4.83	4.77	5.91	5.88	7.25	7.18
27	1.23	1.03	1.82	1.63	3.56	3.52	4.89	4.83	5.95	5.91	7.28	7.25
28	1.03	.72	1.96	1.82	3.64	3.56	4.95	4.89	5.98	5.95	7.29	7.28
29	.92	.81	2.05	1.96	3.70	3.64	5.03	4.95	6.02	5.98	7.32	7.28
30	.97	.92	2.11	2.05	3.75	3.70	5.09	5.03	6.07	6.02	7.37	7.32
31	---	---	2.12	2.11	---	---	5.14	5.09	6.11	6.07	---	---
MONTH	1.39	.67	2.37	.97	3.75	1.97	5.14	3.67	6.11	5.14	7.37	6.11
YEAR	7.37	.62										

Daily Low Water Levels



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

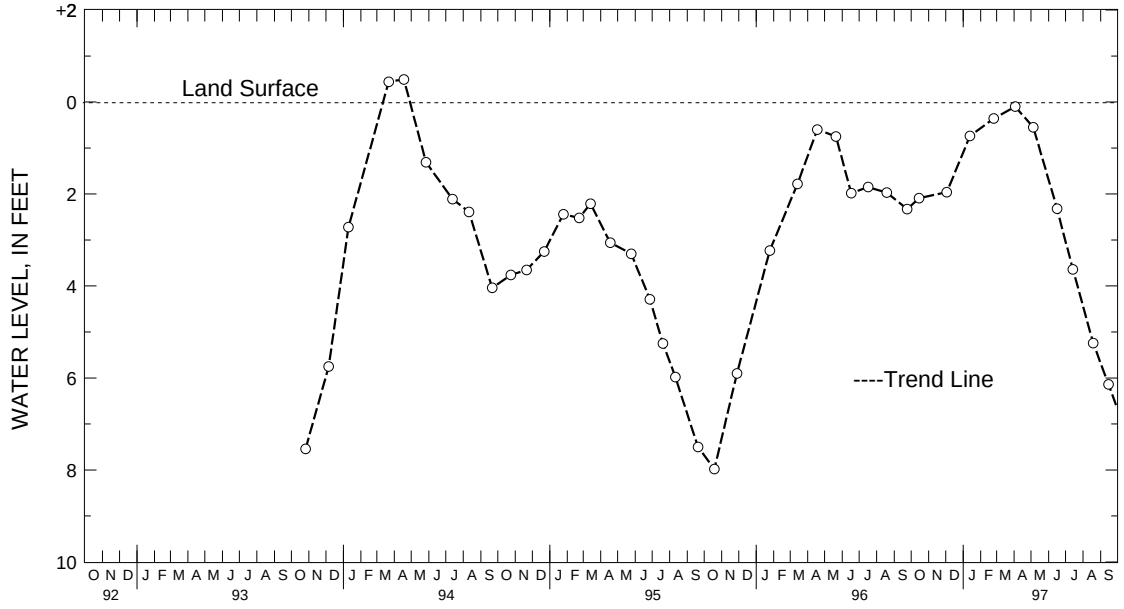
SUSSEX COUNTY--Continued

WELL NUMBER.--Of13-04. SITE ID.--384403075224701. PERMIT NUMBER.--95779.
LOCATION.--Lat 38°44´03˝, long 75°22´47˝, Hydrologic Unit 02060008, near Redden State Forest.
Owner: Delaware Department of Transportation.
AQUIFER.--Pleistocene-Pliocene Series. Aquifer code: 112PCPC.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 16 ft; casing diameter 2 in., to 13 ft; screen diameter 2 in. from 13 to 16 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 47.75 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of metal sleeve, 2.41 ft above land surface.
REMARKS.--Delaware Department of Transportation Project observation well.
PERIOD OF RECORD.--September 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.49 ft above land surface, April 18, 1994; lowest measured, 7.98 ft below land surface, Oct. 19, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
(READINGS ABOVE LAND SURFACE INDICATED BY "+")

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	2.09	FEB 24, 1997	.36	JUN 16, 1997	2.32	SEP 15, 1997	6.14
DEC 03	1.96	APR 03	.10	JUL 14	3.64		
JAN 13, 1997	.74	MAY 05	.55	AUG 19	5.24		

WATER YEAR 1997 HIGHEST .10 APR 03, 1997 LOWEST 6.14 SEP 15, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

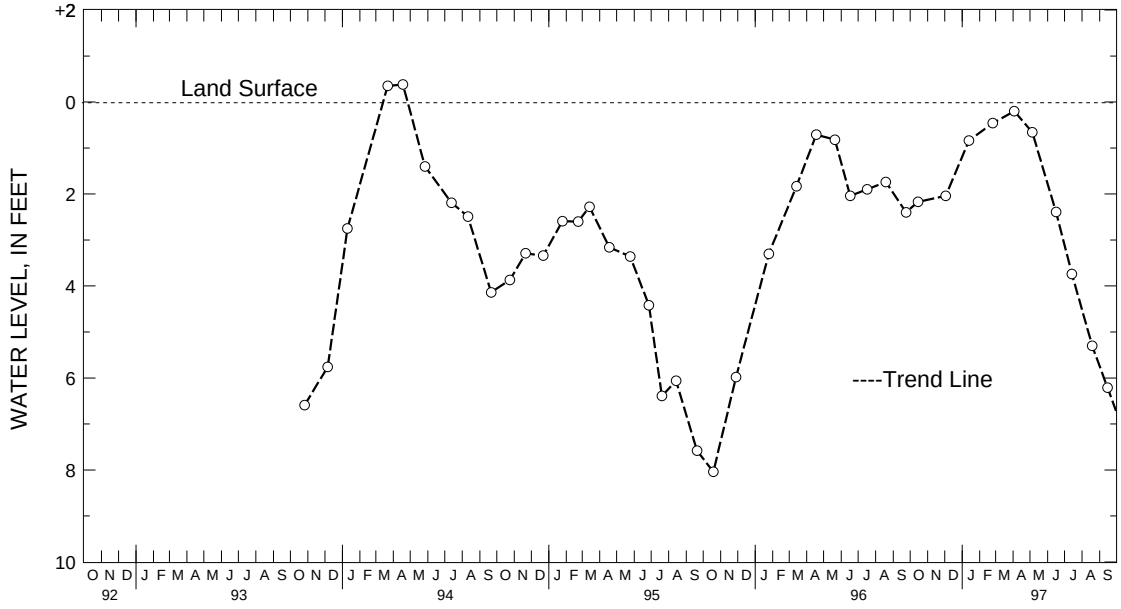
SUSSEX COUNTY--Continued

WELL NUMBER.--Of13-05. SITE ID.--384404075225001. PERMIT NUMBER.--95802.
LOCATION.--Lat 38°44´04˝, long 75°22´50˝, Hydrologic Unit 02060008, near Redden State Forest.
Owner: Delaware Department of Transportation.
AQUIFER.--Pleistocene-Pliocene Series. Aquifer code: 112PCPC.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 16 ft; casing diameter 2 in., to 13 ft; screen diameter 2 in. from 13 to 16 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 47.84 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of metal sleeve, 2.26 ft above land surface.
REMARKS.--Delaware Department of Transportation Project observation well.
PERIOD OF RECORD.--September 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.38 ft above land surface, April 18, 1994; lowest measured, 8.04 ft below land surface, Oct. 19, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
(READINGS ABOVE LAND SURFACE INDICATED BY "+")

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	2.17	FEB 24, 1997	.46	JUN 16, 1997	2.39	SEP 15, 1997	6.21
DEC 03	2.04	APR 03	.20	JUL 14	3.74		
JAN 13, 1997	.84	MAY 05	.66	AUG 19	5.30		

WATER YEAR 1997 HIGHEST .20 APR 03, 1997 LOWEST 6.21 SEP 15, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

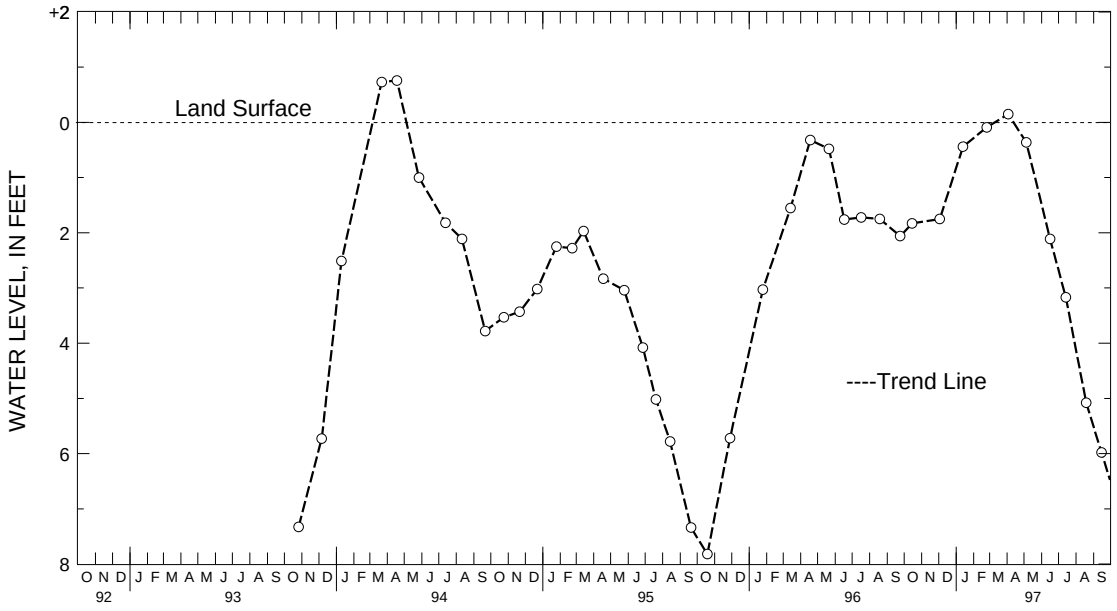
SUSSEX COUNTY--Continued

WELL NUMBER.--Of13-06. SITE ID.--384405075224701. PERMIT NUMBER.--95780.
LOCATION.--Lat 38°44´05˝, long 75°22´47˝, Hydrologic Unit 02060008, near Redden State Forest.
Owner: Delaware Department of Transportation.
AQUIFER.--Pleistocene-Pliocene Series. Aquifer code: 112PCPC.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 16 ft; casing diameter 2 in., to 13 ft; screen diameter 2 in. from 13 to 16 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 47.49 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of metal sleeve, 2.22 ft above land surface.
REMARKS.--Delaware Department of Transportation Project observation well.
PERIOD OF RECORD.--September 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.76 ft above land surface, April 18, 1994; lowest measured, 7.82 ft below land surface, Oct. 19, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
(READINGS ABOVE LAND SURFACE INDICATED BY "+")

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	1.83	FEB 24, 1997	.09	JUN 16, 1997	2.11	SEP 15, 1997	5.98
DEC 03	1.75	APR 03	+.15	JUL 14	3.17		
JAN 13, 1997	.44	MAY 05	.36	AUG 19	5.08		

WATER YEAR 1997 HIGHEST +.15 APR 03, 1997 LOWEST 5.98 SEP 15, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

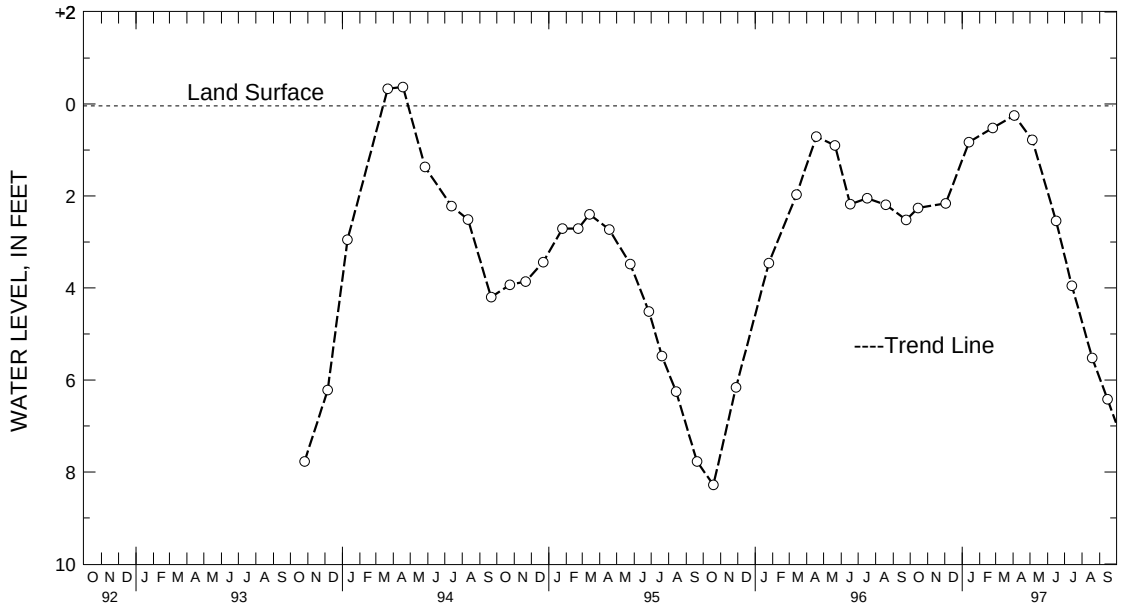
SUSSEX COUNTY--Continued

WELL NUMBER.--Of13-07. SITE ID.--384405075224601. PERMIT NUMBER.--95781.
LOCATION.--Lat 38°44´05˝, long 75°22´46˝, Hydrologic Unit 02060008, near Redden State Forest.
Owner: Delaware Department of Transportation.
AQUIFER.--Pleistocene-Pliocene Series. Aquifer code: 112PCPC.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 16 ft; casing diameter 2 in., to 13 ft; screen diameter 2 in. from 13 to 16 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 47.92 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of metal sleeve, 2.38 ft above land surface.
REMARKS.--Delaware Department of Transportation Project observation well.
PERIOD OF RECORD.--September 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.37 ft above land surface, April 18, 1994; lowest measured, 8.28 ft below land surface, Oct. 19, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
(READINGS ABOVE LAND SURFACE INDICATED BY "+")

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	2.26	FEB 24, 1997	.52	JUN 16, 1997	2.54	SEP 15, 1997	6.42
DEC 03	2.16	APR 03	.25	JUL 14	3.95		
JAN 13, 1997	.83	MAY 05	.78	AUG 19	5.52		

WATER YEAR 1997 HIGHEST .25 APR 03, 1997 LOWEST 6.42 SEP 15, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--Of13-08. SITE ID.--384406075224601. PERMIT NUMBER.--97463.
LOCATION.--Lat 38°44´06˝, long 75°22´46˝, Hydrologic Unit 02040207, near Redden State Forest.
Owner: Delaware Department of Transportation.
AQUIFER.--Pleistocene-Pliocene Series. Aquifer code: 112PCPC.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 16 ft; casing diameter 2 in; to 13 ft; screen diameter 2 in. from 13 to 16 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
Equipped with water-level recorder--60-minute recorder interval from Dec. 7, 1993 to current year.
DATUM.--Altitude of land surface is 48.91 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of recorder platform, 3.28 ft above land surface.
REMARKS.--Delaware Department of Transportation Wetlands Project observation well.
Missing data due to recorder malfunction.
PERIOD OF RECORD.--September 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.40 ft below land surface, March 3, 1994; lowest measured, 9.36 ft below land surface, Oct. 19, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	3.60	3.49	---	---	---	---	1.52	1.51	1.56	1.45	1.59	1.50
2	3.66	3.60	---	---	---	---	1.53	1.52	1.63	1.56	1.60	1.48
3	3.79	3.66	---	---	---	---	1.59	1.53	1.70	1.63	1.62	1.14
4	3.88	3.79	---	---	3.20	3.12	1.64	1.59	1.73	1.53	1.31	1.14
5	3.94	3.88	---	---	3.21	3.20	1.66	1.64	1.53	1.16	1.33	.92
6	3.97	3.94	---	---	3.20	2.90	1.74	1.66	1.35	1.24	1.15	.92
7	4.00	3.97	---	---	2.90	2.24	1.81	1.74	1.43	1.35	1.25	1.15
8	4.00	2.98	---	---	2.24	2.19	1.85	1.81	1.43	1.23	1.30	1.25
9	2.98	2.85	---	---	2.38	2.21	1.85	1.36	1.27	1.23	1.34	1.30
10	2.85	2.71	---	---	2.45	2.38	1.53	1.36	1.29	1.26	1.34	1.16
11	2.95	2.79	---	---	2.54	2.45	1.70	1.53	1.34	1.29	1.34	1.23
12	3.05	2.95	---	---	2.61	2.54	1.78	1.70	1.38	1.34	1.40	1.34
13	3.12	3.05	---	---	2.59	1.89	1.85	1.78	1.44	1.36	1.45	1.40
14	3.21	3.12	---	---	1.89	1.05	1.89	1.85	1.44	1.00	1.45	1.02
15	3.26	3.21	---	---	1.20	1.05	1.91	1.89	1.08	.91	1.21	1.02
16	3.33	3.26	---	---	1.26	1.20	1.90	1.24	1.10	1.02	1.29	1.21
17	3.41	3.33	---	---	1.31	1.26	1.52	1.35	1.20	1.10	1.31	1.29
18	3.42	3.41	---	---	1.37	1.31	1.66	1.52	1.21	1.20	1.37	1.31
19	3.41	2.67	---	---	1.37	1.06	1.75	1.66	1.26	1.21	1.37	1.06
20	2.75	2.67	---	---	1.29	1.13	1.83	1.75	1.34	1.26	1.21	1.09
21	2.87	2.75	---	---	1.37	1.29	1.92	1.83	1.34	1.33	1.25	1.21
22	2.93	2.87	---	---	1.40	1.37	1.92	1.84	1.41	1.33	1.39	1.25
23	---	---	---	---	1.43	1.40	1.90	1.81	1.46	1.41	1.43	1.39
24	---	---	---	---	1.42	1.23	1.92	1.87	1.50	1.46	1.50	1.43
25	---	---	---	---	1.36	1.22	1.87	1.58	1.53	1.50	1.50	1.48
26	---	---	---	---	1.43	1.36	1.81	1.63	1.54	1.38	1.48	.97
27	---	---	---	---	1.43	1.20	1.85	1.81	1.47	1.35	1.23	1.10
28	---	---	---	---	1.36	1.28	1.84	1.19	1.58	1.47	1.29	1.23
29	---	---	---	---	1.41	1.36	1.39	1.24	---	---	1.29	1.15
30	---	---	---	---	1.48	1.41	1.42	1.39	---	---	1.28	1.16
31	---	---	---	---	1.51	1.48	1.45	1.42	---	---	1.28	1.00
MONTH	4.00	2.67	---	---	3.21	1.05	1.92	1.19	1.73	.91	1.62	.92

GROUND-WATER LEVELS

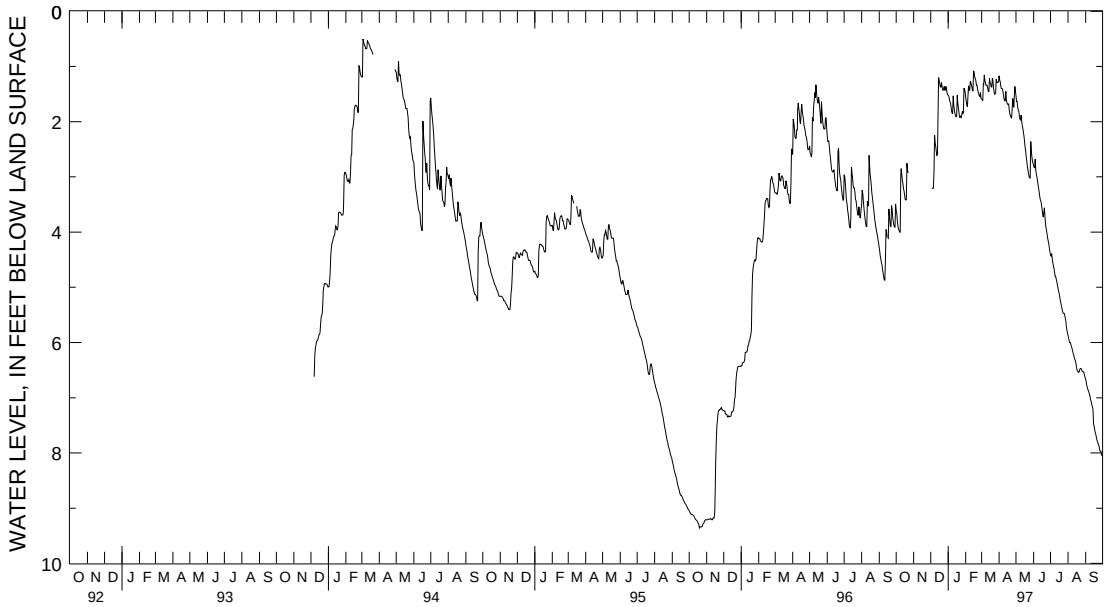
DELAWARE--Continued

SUSSEX COUNTY--Continued

Of13-08--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	1.17	1.05	1.53	1.44	2.79	2.75	4.42	4.36	5.87	5.82	6.67	6.63
2	1.24	1.17	1.63	1.53	2.83	2.79	4.43	4.39	5.92	5.87	6.71	6.67
3	1.28	1.24	1.63	1.55	2.83	2.61	4.39	4.34	5.97	5.92	6.77	6.71
4	1.36	1.28	1.74	1.58	2.68	2.58	4.49	4.38	6.00	5.97	6.81	6.77
5	1.40	1.36	1.79	1.74	2.88	2.68	4.56	4.49	6.00	6.00	6.85	6.81
6	1.40	1.30	1.81	1.79	2.95	2.88	4.61	4.56	6.04	6.00	6.87	6.85
7	1.41	1.30	1.91	1.81	3.00	2.95	4.66	4.61	6.07	6.04	6.90	6.87
8	1.47	1.41	1.96	1.91	3.07	3.00	4.73	4.66	6.11	6.07	6.94	6.90
9	1.54	1.47	1.97	1.73	3.14	3.07	4.80	4.73	6.15	6.11	6.98	6.94
10	1.59	1.54	1.88	1.73	3.21	3.14	4.80	4.80	6.20	6.15	7.04	6.98
11	1.62	1.59	2.00	1.88	3.28	3.21	4.84	4.80	6.23	6.20	7.07	7.04
12	1.62	1.34	2.07	2.00	3.36	3.28	4.89	4.84	6.28	6.23	7.13	7.07
13	1.45	1.28	2.13	2.07	3.42	3.36	4.94	4.89	6.31	6.28	7.16	7.13
14	1.60	1.45	2.20	2.13	3.44	3.42	5.00	4.94	6.34	6.31	7.21	7.16
15	1.66	1.60	2.27	2.20	3.51	3.44	5.06	5.00	6.39	6.34	7.47	7.21
16	1.68	1.66	2.37	2.27	3.59	3.51	5.10	5.06	6.44	6.39	7.52	7.47
17	1.69	1.66	2.45	2.37	3.68	3.59	5.15	5.10	6.50	6.44	7.58	7.52
18	1.68	1.66	2.52	2.45	3.73	3.64	5.22	5.15	6.51	6.50	7.63	7.58
19	1.79	1.68	2.63	2.52	3.64	3.38	5.27	5.22	6.54	6.51	7.67	7.63
20	1.86	1.79	2.71	2.63	3.56	3.40	5.33	5.27	6.54	6.52	7.72	7.67
21	1.89	1.86	2.80	2.71	3.73	3.56	5.37	5.33	6.52	6.48	7.76	7.72
22	1.92	1.89	2.87	2.80	3.82	3.73	5.43	5.37	6.48	6.46	7.79	7.76
23	1.93	1.79	2.93	2.87	3.91	3.82	5.46	5.43	6.47	6.46	7.82	7.79
24	1.79	1.37	2.99	2.93	3.97	3.91	5.47	5.46	6.47	6.47	7.86	7.82
25	1.58	1.41	3.02	2.99	4.04	3.97	5.47	5.47	6.49	6.47	7.88	7.86
26	1.70	1.58	3.02	2.16	4.11	4.04	5.51	5.47	6.52	6.49	7.95	7.88
27	1.74	1.55	2.36	2.17	4.16	4.11	5.56	5.51	6.53	6.52	7.97	7.95
28	1.55	1.04	2.53	2.36	4.22	4.16	5.62	5.56	6.53	6.53	7.97	7.97
29	1.36	1.19	2.64	2.53	4.29	4.22	5.70	5.62	6.55	6.53	8.01	7.97
30	1.44	1.36	2.72	2.64	4.36	4.29	5.77	5.70	6.60	6.55	8.06	8.01
31	---	---	2.75	2.72	---	---	5.82	5.77	6.63	6.60	---	---
MONTH	1.93	1.04	3.02	1.44	4.36	2.58	5.82	4.34	6.63	5.82	8.06	6.63
YEAR	8.06	.91										

Daily Low Water Levels



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

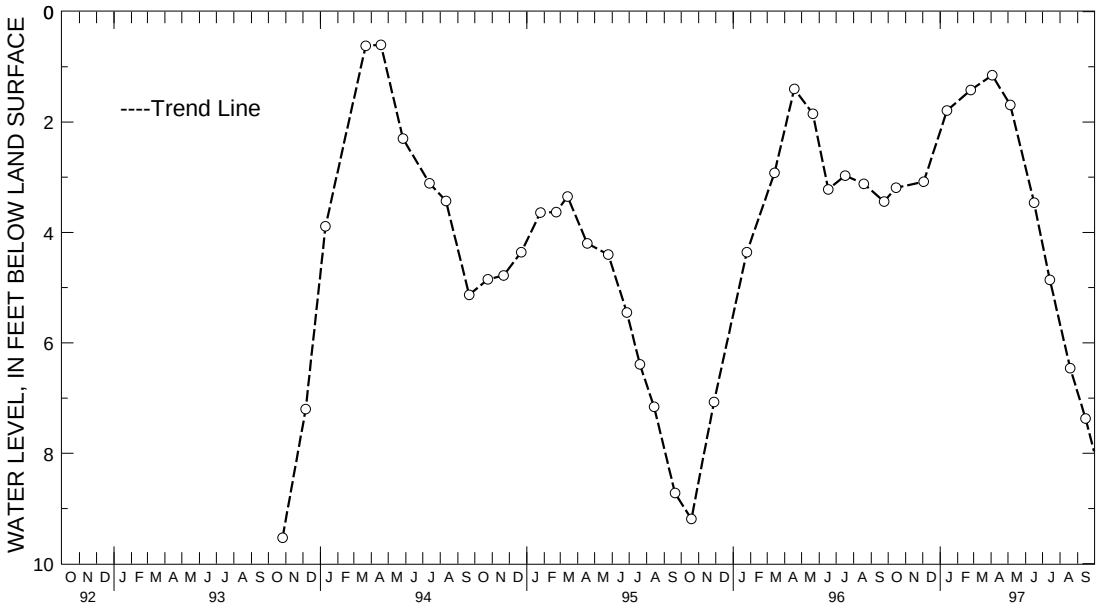
SUSSEX COUNTY--Continued

WELL NUMBER.--Of13-09. SITE ID.--384406075224603. PERMIT NUMBER.--97469.
LOCATION.--Lat 38°44´06˝, long 75°22´46˝, Hydrologic Unit 02060008, near Redden State Forest.
Owner: Delaware Department of Transportation.
AQUIFER.--Pleistocene-Pliocene Series. Aquifer code: 112PCPC.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 80 ft; casing diameter 2 in., to 77 ft; screen diameter 2 in. from 77 to 80 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 48.82 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of metal sleeve, 2.30 ft above land surface.
REMARKS.--Delaware Department of Transportation Project observation well.
PERIOD OF RECORD.--September 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.60 ft below land surface, April 18, 1994; lowest measured, 9.53 ft below land surface, Oct. 26, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	3.19	FEB 24, 1997	1.42	JUN 16, 1997	3.46	SEP 15, 1997	7.37
DEC 03	3.08	APR 03	1.15	JUL 14	4.86		
JAN 13, 1997	1.79	MAY 05	1.69	AUG 19	6.46		

WATER YEAR 1997 HIGHEST 1.15 APR 03, 1997 LOWEST 7.37 SEP 15, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

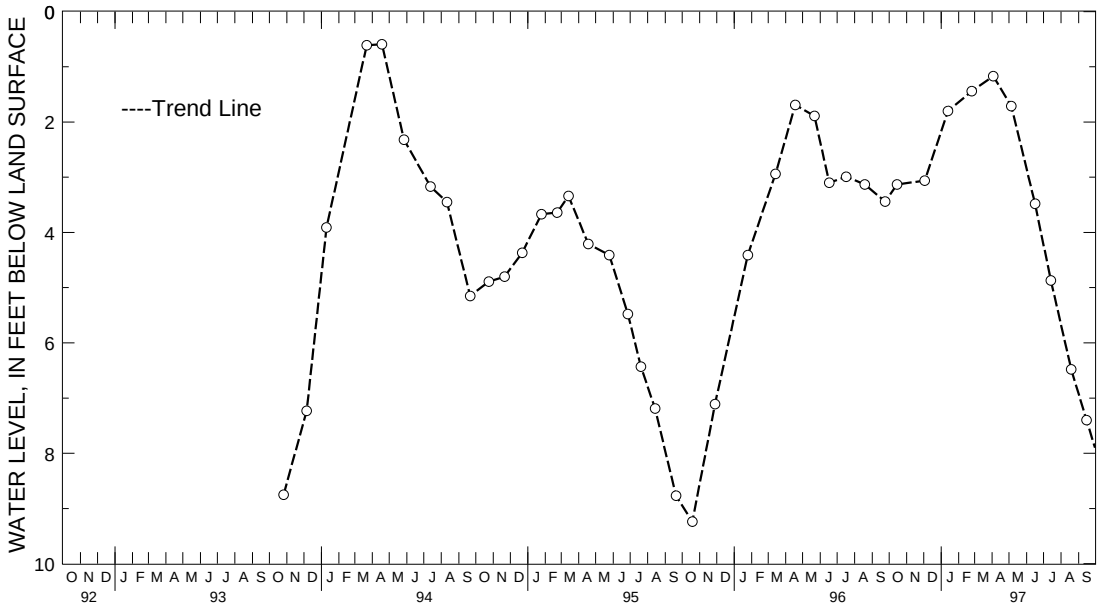
SUSSEX COUNTY--Continued

WELL NUMBER.--Of13-10. SITE ID.--384406075224602. PERMIT NUMBER.--95789.
LOCATION.--Lat 38°44´06˝, long 75°22´46˝, Hydrologic Unit 02060008, near Redden State Forest.
Owner: Delaware Department of Transportation.
AQUIFER.--Pleistocene-Pliocene Series. Aquifer code: 112PCPC.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 48 ft; casing diameter 2 in., to 45 ft; screen diameter 2 in. from 43 to 45 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 48.86 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of metal sleeve, 2.43 ft above land surface.
REMARKS.--Delaware Department of Transportation Project observation well.
PERIOD OF RECORD.--September 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.59 ft below land surface, April 18, 1994; lowest measured, 9.24 ft below land surface, Oct. 19, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	3.13	FEB 24, 1997	1.44	JUN 16, 1997	3.48	SEP 15, 1997	7.40
DEC 03	3.06	APR 03	1.17	JUL 14	4.87		
JAN 13, 1997	1.80	MAY 05	1.71	AUG 19	6.48		

WATER YEAR 1997 HIGHEST 1.17 APR 03, 1997 LOWEST 7.40 SEP 15, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

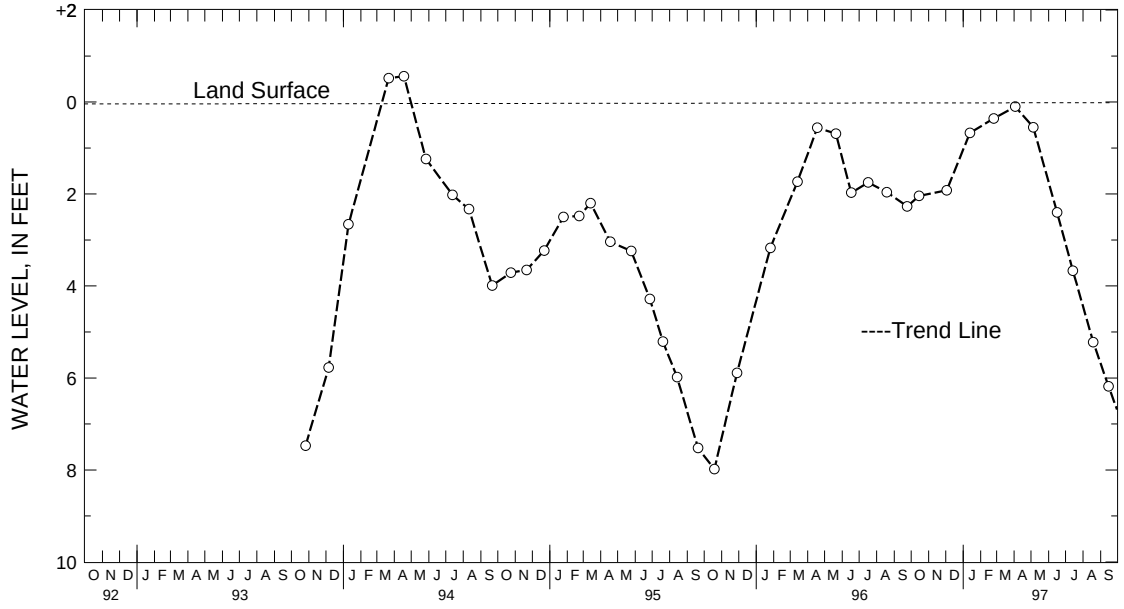
SUSSEX COUNTY--Continued

WELL NUMBER.--Of13-11. SITE ID.--384406075224401. PERMIT NUMBER.--95788.
LOCATION.--Lat 38°44´06˝, long 75°22´44˝, Hydrologic Unit 02060008, near Redden State Forest.
Owner: Delaware Department of Transportation.
AQUIFER.--Pleistocene-Pliocene Series. Aquifer code: 112PCPC.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 16 ft; casing diameter 2 in., to 13 ft; screen diameter 2 in. from 13 to 16 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 47.67 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of metal sleeve, 2.12 ft above land surface.
REMARKS.--Delaware Department of Transportation Project observation well.
PERIOD OF RECORD.--September 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.56 ft above land surface, April 18, 1994; lowest measured, 7.98 ft below land surface, Oct. 19, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
(READINGS ABOVE LAND SURFACE INDICATED BY "+")

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	2.04	FEB 24, 1997	.36	JUN 16, 1997	2.40	SEP 15, 1997	6.18
DEC 03	1.92	APR 03	.10	JUL 14	3.67		
JAN 13, 1997	.67	MAY 05	.55	AUG 19	5.22		

WATER YEAR 1997 HIGHEST .10 APR 03, 1997 LOWEST 6.18 SEP 15, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

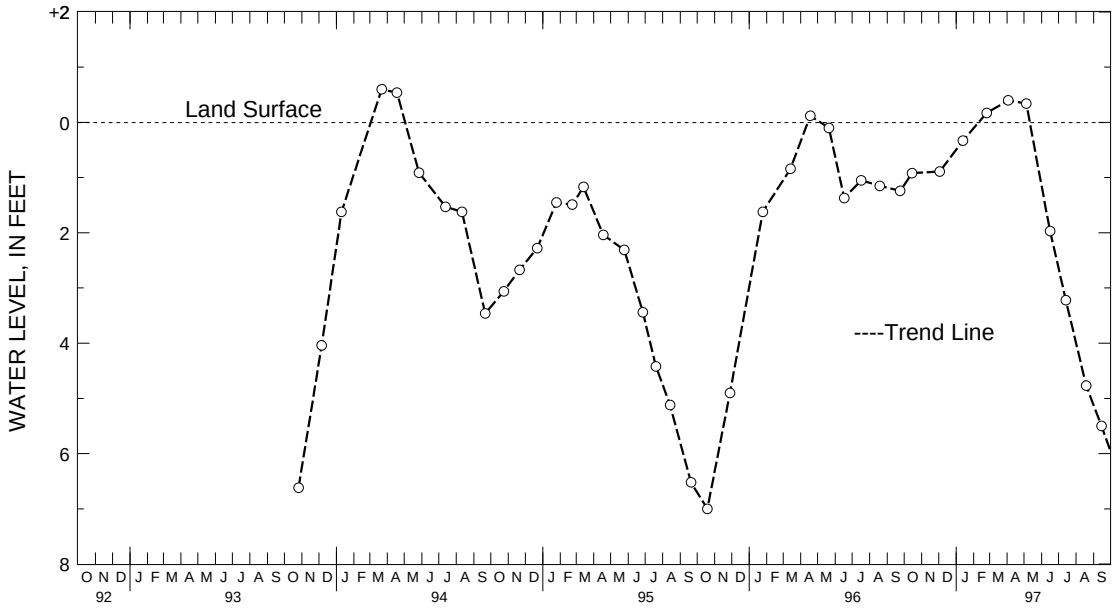
SUSSEX COUNTY--Continued

WELL NUMBER.--Of22-02. SITE ID.--384343075230402. PERMIT NUMBER.--95785.
LOCATION.--Lat 38°43´43˝, long 75°23´04˝, Hydrologic Unit 02060008, near Redden State Forest.
Owner: Delaware Department of Transportation.
AQUIFER.--Pleistocene-Pliocene Series. Aquifer code: 112PCPC.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 56 ft; casing diameter 2 in., to 53 ft; screen diameter 2 in. from 53 to 56 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 47.36 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of metal sleeve, 2.18 ft above land surface.
REMARKS.--Delaware Department of Transportation Project observation well.
PERIOD OF RECORD.--September 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.60 ft above land surface, March 22, 1994; lowest measured, 7.00 ft below land surface, Oct. 19, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
(READINGS ABOVE LAND SURFACE INDICATED BY "+")

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	.92	FEB 24, 1997	+.17	JUN 16, 1997	1.97	SEP 15, 1997	5.50
DEC 03	.89	APR 03	+.40	JUL 14	3.22		
JAN 13, 1997	.33	MAY 05	+.34	AUG 19	4.77		

WATER YEAR 1997 HIGHEST +.40 APR 03, 1997 LOWEST 5.50 SEP 15, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

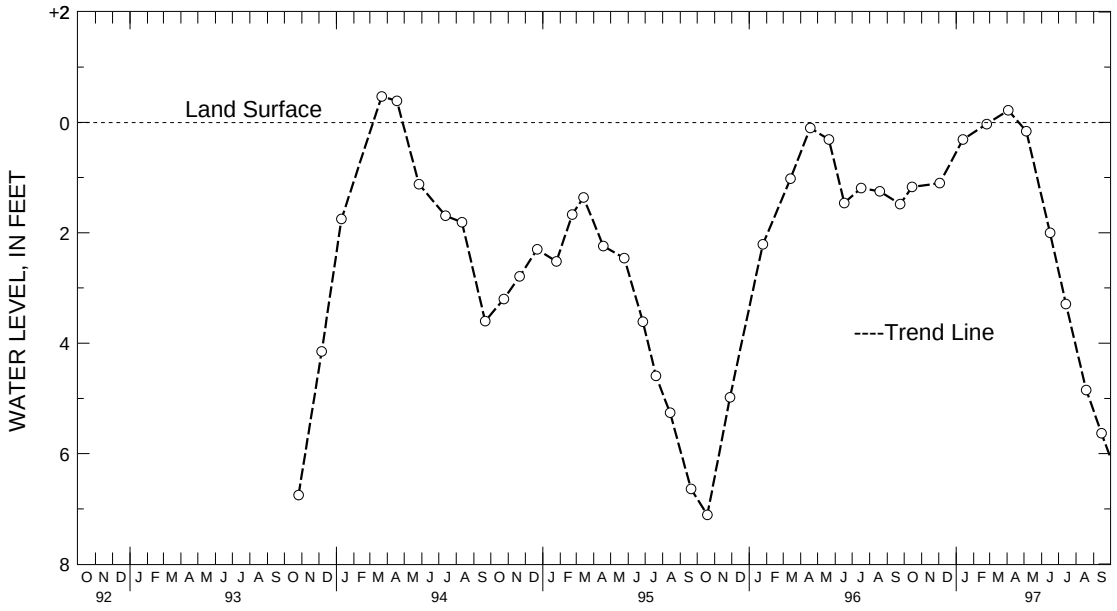
SUSSEX COUNTY--Continued

WELL NUMBER.--Of22-03. SITE ID.--384343075230403. PERMIT NUMBER.--95798.
LOCATION.--Lat 38°43´43˝, long 75°23´04˝, Hydrologic Unit 02060008, near Redden State Forest.
Owner: Delaware Department of Transportation.
AQUIFER.--Pleistocene-Pliocene Series. Aquifer code: 112PCPC.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 118 ft; casing diameter 2 in., to 96 ft; screen diameter 2 in. from 96 to 99 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 47.41 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of metal sleeve, 2.38 ft above land surface.
REMARKS.--Delaware Department of Transportation Project observation well.
PERIOD OF RECORD.--September 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.47 ft above land surface, March 22, 1994; lowest measured, 7.11 ft below land surface, Oct. 19, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
(READINGS ABOVE LAND SURFACE INDICATED BY "+")

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	1.17	FEB 24, 1997	.03	JUN 16, 1997	2.00	SEP 15, 1997	5.63
DEC 03	1.10	APR 03	+.22	JUL 14	3.29		
JAN 13, 1997	.31	MAY 05	.16	AUG 19	4.85		

WATER YEAR 1997 HIGHEST +.22 APR 03, 1997 LOWEST 5.63 SEP 15, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--Of22-04. SITE ID.--384343075230401. PERMIT NUMBER.--95800.
LOCATION.--Lat 38°43´43˝, long 75°23´04˝, Hydrologic Unit 02040207, near Redden State Forest.
Owner: Delaware Department of Transportation.
AQUIFER.--Pleistocene-Pliocene Series. Aquifer code: 112PCPC.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 15 ft; casing diameter 2 in., to 12 ft; screen diameter 2 in. from 12 to 15 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
Equipped with digital water-level recorder--60-minute recorder interval from Dec. 7, 1993 to current year.
DATUM.--Altitude of land surface is 47.62 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of recorder platform, 3.83 ft above land surface.
REMARKS.--Delaware Department of Transportation wetlands Project observation well.
Missing data due to recorder malfunction.
PERIOD OF RECORD.--September 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.75 ft above land surface, March 3, 1994; lowest measured, 7.20 ft below land surface, Oct. 19, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
(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	1.49	1.29	1.35	1.31	1.70	1.00	-.15	-.16	-.08	-.11	-.12	-.14
2	1.57	1.49	1.39	1.32	1.00	.71	-.14	-.15	-.05	-.08	-.12	-.14
3	1.74	1.57	1.50	1.39	.92	.82	-.11	-.14	-.02	-.05	-.11	-.24
4	1.84	1.74	1.55	1.50	1.06	.92	-.09	-.11	-.01	-.08	-.23	-.24
5	1.91	1.84	1.57	1.55	1.11	1.01	-.08	-.09	-.08	-.19	-.22	-.38
6	1.96	1.91	1.60	1.57	1.01	.51	-.04	-.08	-.15	-.19	-.34	-.39
7	1.97	1.96	1.60	1.60	.60	.15	-.01	-.04	-.13	-.15	-.30	-.34
8	1.97	.36	1.60	1.29	.15	.15	.02	-.01	-.13	-.20	-.27	-.30
9	.43	.27	1.29	1.09	.22	.15	.02	-.12	-.20	-.21	-.26	-.27
10	.28	.24	1.43	1.27	.26	.22	-.08	-.11	-.21	-.21	-.26	-.29
11	.42	.28	1.58	1.43	.32	.26	-.03	-.08	-.19	-.21	-.26	-.29
12	.54	.42	1.67	1.58	.38	.32	.02	-.03	-.18	-.19	-.21	-.26
13	.66	.54	1.70	1.67	.34	-.02	.07	.02	-.15	-.18	-.19	-.21
14	.80	.66	1.73	1.70	-.02	-.35	.10	.07	-.15	-.30	-.19	-.32
15	.94	.80	1.78	1.73	-.35	-.35	.12	.10	-.30	-.39	-.30	-.32
16	1.04	.94	1.80	1.78	-.32	-.35	.12	-.11	-.35	-.38	-.27	-.30
17	1.15	1.04	1.80	1.79	-.30	-.32	-.05	-.10	-.30	-.35	-.25	-.27
18	1.17	1.08	1.79	1.74	-.26	-.30	.01	-.05	-.28	-.30	-.22	-.25
19	1.08	.27	1.74	1.66	-.26	-.36	.08	.00	-.26	-.29	-.22	-.32
20	.32	.27	1.80	1.70	-.28	-.35	.13	.08	-.24	-.26	-.31	-.32
21	.42	.32	1.83	1.80	-.24	-.28	.19	.13	-.24	-.24	-.29	-.31
22	.52	.42	1.88	1.83	-.22	-.24	.19	.05	-.19	-.24	-.23	-.29
23	.60	.52	1.90	1.88	-.22	-.22	.05	.04	-.17	-.19	-.20	-.23
24	.74	.60	1.94	1.90	-.22	-.24	.07	.05	-.15	-.17	-.17	-.20
25	.87	.74	1.95	1.94	-.23	-.25	.06	-.03	-.14	-.15	-.16	-.17
26	.99	.87	1.94	1.19	-.21	-.23	.04	-.02	-.13	-.16	-.16	-.33
27	1.04	.99	1.55	1.32	-.21	-.26	.06	.04	-.16	-.17	-.30	-.33
28	1.09	1.04	1.60	1.55	-.24	-.26	.06	-.14	-.12	-.16	-.28	-.30
29	1.19	1.09	1.67	1.60	-.21	-.24	-.13	-.15	---	---	-.27	-.30
30	1.21	1.15	1.70	1.67	-.18	-.21	-.12	-.13	---	---	-.29	-.30
31	1.31	1.21	---	---	-.16	-.18	-.11	-.12	---	---	-.29	-.37
MONTH	1.97	.24	1.95	1.09	1.70	-.36	.19	-.16	-.01	-.39	-.11	-.39

GROUND-WATER LEVELS

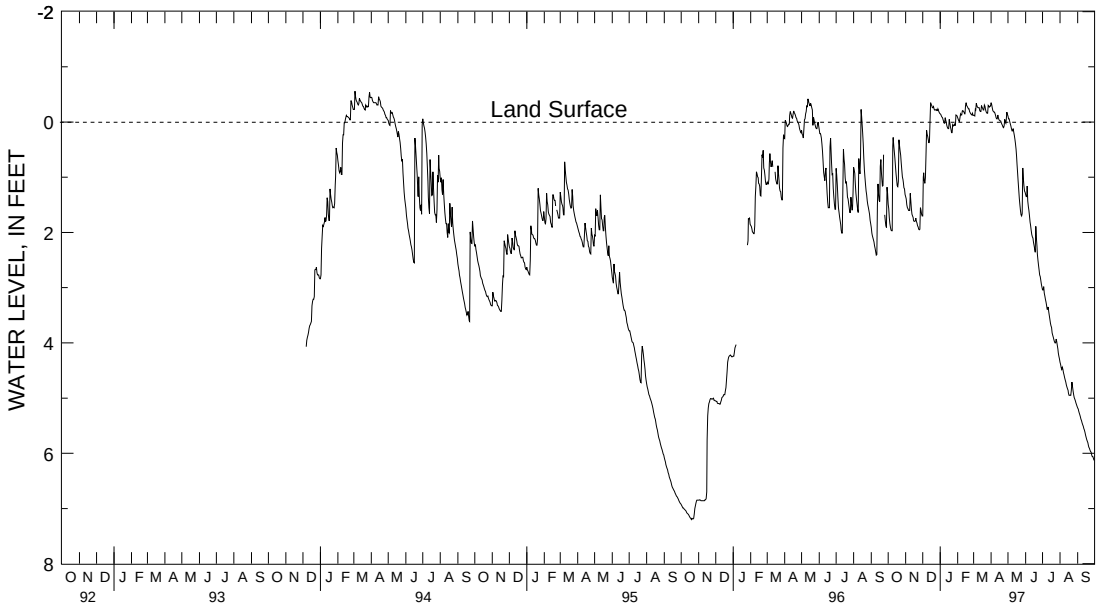
DELAWARE--Continued

SUSSEX COUNTY--Continued

Of22-04--Continued

DAY	APRIL MAX	APRIL MIN	MAY MAX	MAY MIN	JUNE MAX	JUNE MIN	JULY MAX	JULY MIN	AUGUST MAX	AUGUST MIN	SEPTEMBER MAX	SEPTEMBER MIN
1	-.35	-.37	-.11	-.14	1.31	1.27	3.04	2.99	4.35	4.29	5.18	5.15
2	-.32	-.35	-.06	-.11	1.35	1.31	3.04	2.88	4.39	4.35	5.20	5.18
3	-.26	-.32	-.06	-.07	1.35	.92	2.98	2.87	4.45	4.39	5.23	5.20
4	-.21	-.26	-.01	-.07	1.16	.92	3.10	2.98	4.48	4.44	5.27	5.23
5	-.19	-.21	.03	-.01	1.43	1.16	3.15	3.10	4.44	4.41	5.30	5.27
6	-.18	-.20	.07	.03	1.53	1.43	3.21	3.15	4.48	4.42	5.34	5.30
7	-.18	-.20	.12	.07	1.60	1.53	3.26	3.21	4.54	4.48	5.38	5.34
8	-.15	-.18	.16	.12	1.70	1.60	3.32	3.26	4.58	4.54	5.41	5.38
9	-.11	-.15	.16	.07	1.81	1.70	3.39	3.32	4.63	4.58	5.45	5.41
10	-.08	-.11	.12	.07	1.88	1.81	3.39	3.23	4.67	4.63	5.48	5.45
11	-.06	-.08	.18	.12	1.97	1.88	3.35	3.24	4.71	4.67	5.51	5.48
12	-.06	-.13	.24	.18	2.04	1.97	3.43	3.35	4.76	4.71	5.55	5.51
13	-.13	-.14	.31	.24	2.08	2.04	3.50	3.43	4.80	4.76	5.58	5.55
14	-.08	-.13	.39	.31	2.10	2.08	3.57	3.50	4.83	4.80	5.62	5.58
15	-.04	-.08	.49	.39	2.18	2.08	3.64	3.57	4.86	4.83	5.67	5.62
16	-.03	-.04	.63	.49	2.24	2.18	3.69	3.64	4.91	4.86	5.71	5.67
17	-.02	-.03	.76	.63	2.30	2.24	3.72	3.69	4.95	4.91	5.75	5.71
18	-.02	-.02	.91	.76	2.36	1.75	3.82	3.72	4.95	4.95	5.78	5.75
19	.01	-.02	1.08	.91	1.89	1.71	3.86	3.82	4.95	4.95	5.81	5.78
20	.04	.01	1.23	1.08	2.10	1.89	3.90	3.86	4.95	4.86	5.86	5.81
21	.06	.04	1.38	1.23	2.25	2.10	3.94	3.90	4.86	4.71	5.89	5.86
22	.09	.06	1.50	1.38	2.39	2.25	3.98	3.94	4.71	4.70	5.91	5.89
23	.10	.07	1.60	1.50	2.50	2.39	4.00	3.98	4.79	4.71	5.94	5.91
24	.07	-.06	1.68	1.60	2.59	2.50	4.00	3.93	4.87	4.79	5.97	5.94
25	-.05	-.06	1.70	1.66	2.68	2.59	3.93	3.90	4.94	4.87	5.98	5.97
26	.00	-.05	1.66	.54	2.77	2.68	3.98	3.90	4.99	4.94	6.03	5.98
27	.02	-.04	.83	.59	2.80	2.72	4.05	3.98	5.02	4.99	6.06	6.03
28	-.04	-.21	1.02	.83	2.87	2.80	4.11	4.05	5.05	5.02	6.06	6.06
29	-.18	-.21	1.15	1.02	2.94	2.87	4.18	4.11	5.09	5.05	6.09	6.06
30	-.14	-.18	1.25	1.15	2.99	2.94	4.24	4.18	5.12	5.09	6.13	6.09
31	---	---	1.27	1.25	---	---	4.29	4.24	5.15	5.12	---	---
MONTH	.10	-.37	1.70	-.14	2.99	.92	4.29	2.87	5.15	4.29	6.13	5.15
YEAR	6.13	-.39										

Daily Low Water Levels



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

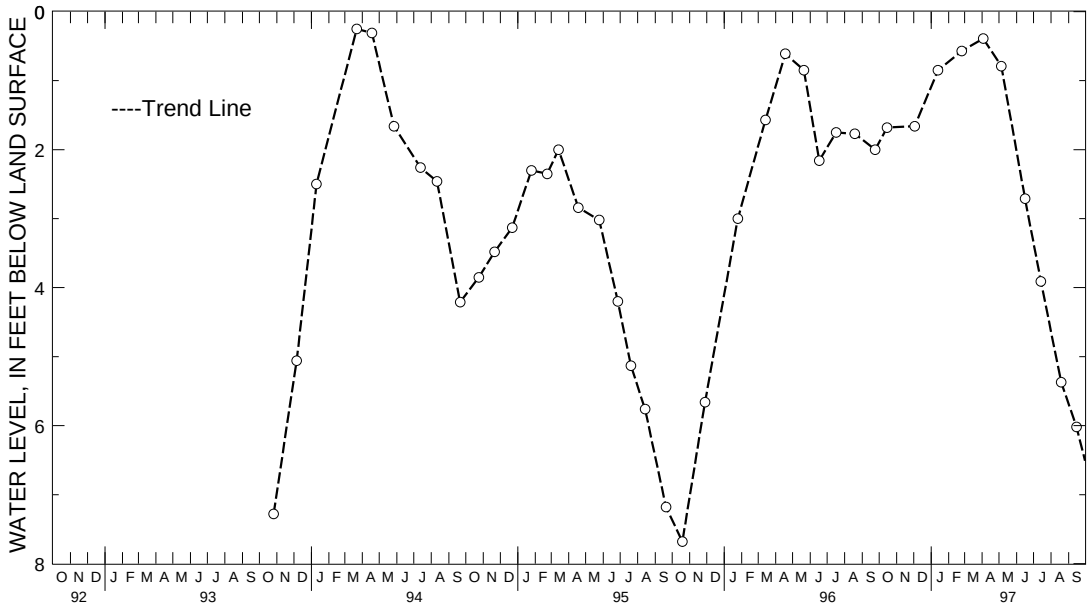
SUSSEX COUNTY--Continued

WELL NUMBER.--Of22-05. SITE ID.--384343075230301. PERMIT NUMBER.--95786.
LOCATION.--Lat 38°43´43˝, long 75°23´03˝, Hydrologic Unit 02060008, near Redden State Forest.
Owner: Delaware Department of Transportation.
AQUIFER.--Pleistocene-Pliocene Series. Aquifer code: 112PCPC.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 16 ft; casing diameter 2 in., to 13 ft; screen diameter 2 in. from 13 to 16 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 48.31 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of metal sleeve, 2.29 ft above land surface.
REMARKS.--Delaware Department of Transportation Project observation well.
PERIOD OF RECORD.--September 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.25 ft below land surface, March 22, 1994; lowest measured, 7.68 ft below land surface, Oct. 19, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	1.68	FEB 24, 1997	.57	JUN 16, 1997	2.71	SEP 15, 1997	6.02
DEC 03	1.66	APR 03	.39	JUL 14	3.91		
JAN 13, 1997	.85	MAY 05	.79	AUG 19	5.37		

WATER YEAR 1997 HIGHEST .39 APR 03, 1997 LOWEST 6.02 SEP 15, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

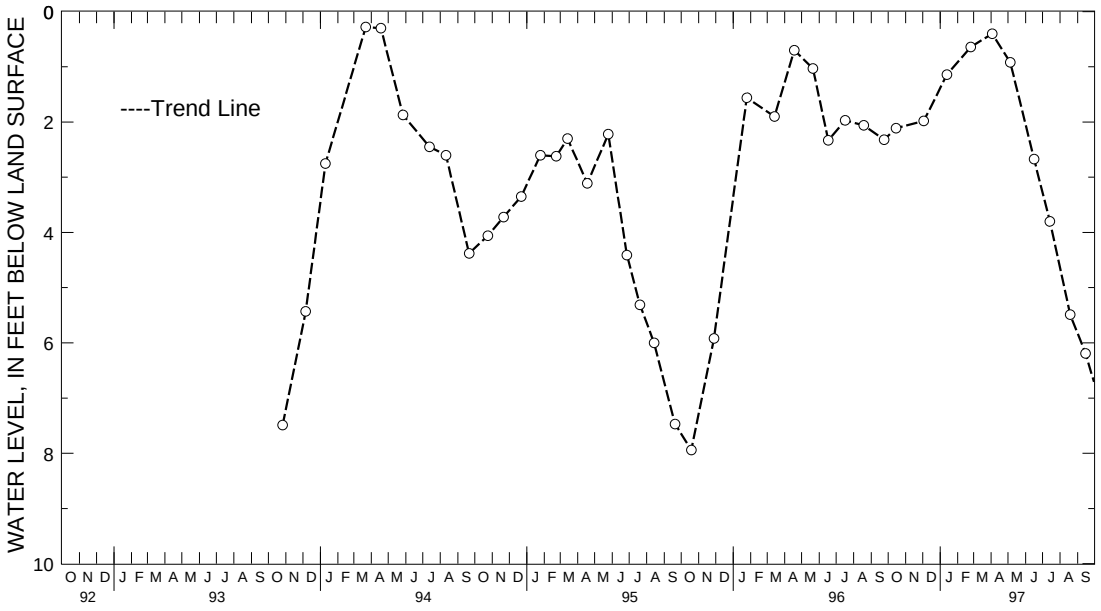
SUSSEX COUNTY--Continued

WELL NUMBER.--Of22-06. SITE ID.--384343075230201. PERMIT NUMBER.--95797.
LOCATION.--Lat 38°43´43˝, long 75°23´02˝, Hydrologic Unit 02060008, near Redden State Forest.
Owner: Delaware Department of Transportation.
AQUIFER.--Pleistocene-Pliocene Series. Aquifer code: 112PCPC.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 16 ft; casing diameter 2 in., to 13 ft; screen diameter 2 in. from 13 to 16 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 48.46 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of metal sleeve, 2.32 ft above land surface.
REMARKS.--Delaware Department of Transportation Project observation well.
PERIOD OF RECORD.--September 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, .28 ft. below land surface, March 22, 1994; lowest measured, 7.94 ft below land surface, Oct. 19, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	2.11	FEB 24, 1997	.64	JUN 16, 1997	2.67	SEP 15, 1997	6.19
DEC 03	1.98	APR 03	.40	JUL 14	3.80		
JAN 13, 1997	1.14	MAY 05	.92	AUG 19	5.49		

WATER YEAR 1997 HIGHEST .40 APR 03, 1997 LOWEST 6.19 SEP 15, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

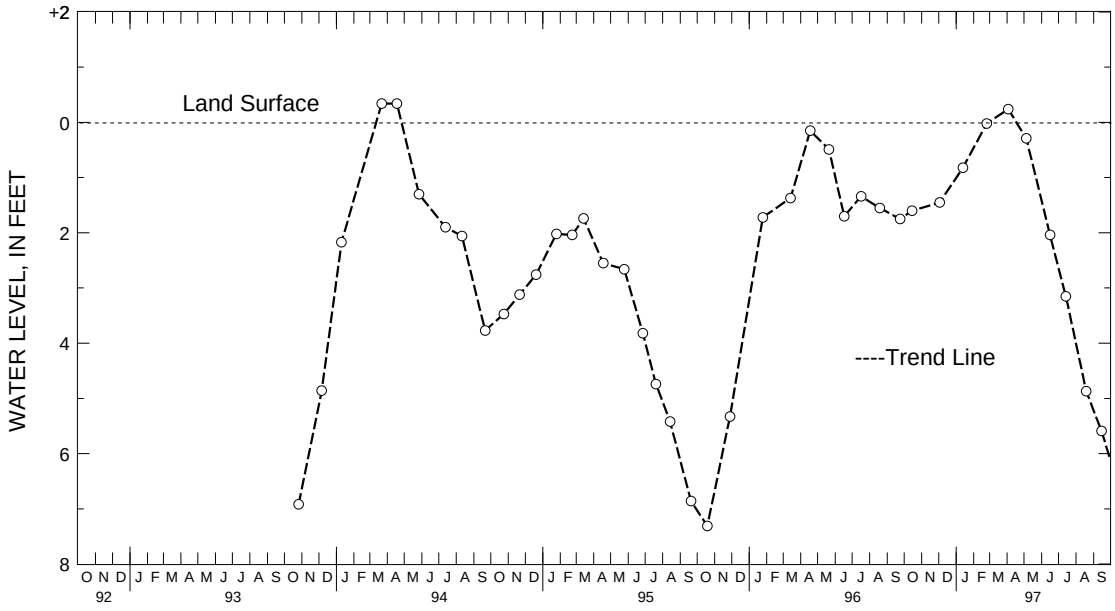
SUSSEX COUNTY--Continued

WELL NUMBER.--Of22-07. SITE ID.--384343075230101. PERMIT NUMBER.--95796.
LOCATION.--Lat 38°43´43˝, long 75°23´01˝, Hydrologic Unit 02060008, near Redden State Forest.
Owner: Delaware Department of Transportation.
AQUIFER.--Pleistocene-Pliocene Series. Aquifer code: 112PCPC.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 16 ft; casing diameter 2 in., to 13 ft; screen diameter 2 in. from 13 to 16 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 47.85 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of metal sleeve, 2.13 ft above land surface.
REMARKS.--Delaware Department of Transportation Project observation well.
PERIOD OF RECORD.--September 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.34 ft above land surface, March 22, 1994, and April 18, 1994; lowest measured, 7.31 ft below land surface, Oct. 19, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
(READINGS ABOVE LAND SURFACE INDICATED BY "+")

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	1.60	FEB 24, 1997	.02	JUN 16, 1997	2.04	SEP 15, 1997	5.59
DEC 03	1.45	APR 03	+.24	JUL 14	3.15		
JAN 13, 1997	.82	MAY 05	.29	AUG 19	4.87		

WATER YEAR 1997 HIGHEST +.24 APR 03, 1997 LOWEST 5.59 SEP 15, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

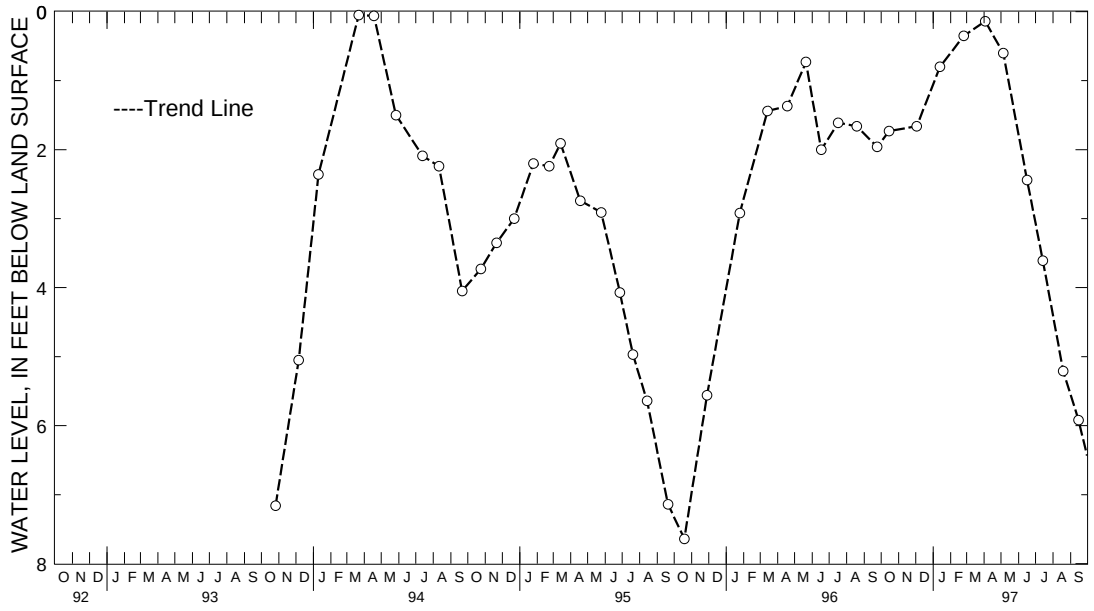
SUSSEX COUNTY--Continued

WELL NUMBER.--Of22-08. SITE ID.--384344075230301. PERMIT NUMBER.--95799.
LOCATION.--Lat 38°43´44˝, long 75°23´03˝, Hydrologic Unit 02060008, near Redden State Forest.
Owner: Delaware Department of Transportation.
AQUIFER.--Pleistocene-Pliocene Series. Aquifer code: 112PCPC.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 16 ft; casing diameter 2 in., to 13 ft; screen diameter 2 in. from 13 to 16 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 48.13 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of metal sleeve, 1.96 ft above land surface.
REMARKS.--Delaware Department of Transportation Project observation well.
PERIOD OF RECORD.--September 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.05 ft below land surface, March 22, 1994; lowest measured, 7.64 ft below land surface, Oct. 19, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	1.73	FEB 24, 1997	.35	JUN 16, 1997	2.44	SEP 15, 1997	5.92
DEC 03	1.66	APR 03	.14	JUL 14	3.61		
JAN 13, 1997	.80	MAY 05	.60	AUG 19	5.21		

WATER YEAR 1997 HIGHEST .14 APR 03, 1997 LOWEST 5.92 SEP 15, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

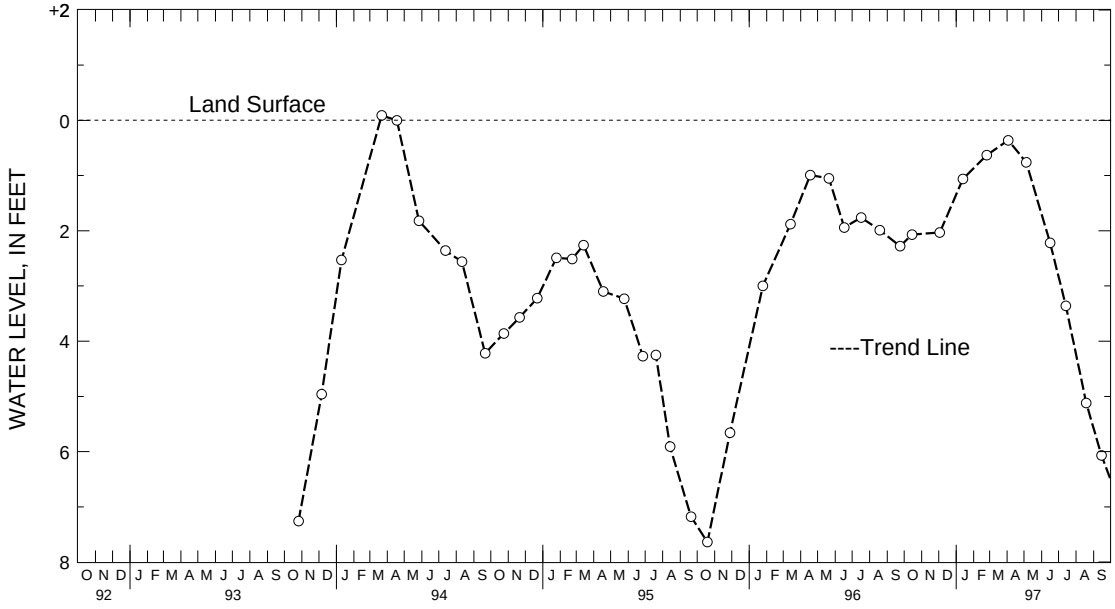
SUSSEX COUNTY--Continued

WELL NUMBER.--Of22-09. SITE ID.--384344075230102. PERMIT NUMBER.--95784.
LOCATION.--Lat 38°43´44˝, long 75°23´01˝, Hydrologic Unit 02060008, near Redden State Forest.
Owner: Delaware Department of Transportation.
AQUIFER.--Pleistocene-Pliocene Series. Aquifer code: 112PCPC.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 55 ft; casing diameter 2 in., to 52 ft; screen diameter 2 in. from 52 to 55 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 47.85 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of metal sleeve, 2.34 ft above land surface.
REMARKS.--Delaware Department of Transportation Project observation well.
PERIOD OF RECORD.--September 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.09 ft above land surface, March 22, 1994; lowest measured, 7.64 ft below land surface, Oct. 19, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
(READINGS ABOVE LAND SURFACE INDICATED BY "+")

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	2.07	FEB 24, 1997	.63	JUN 16, 1997	2.22	SEP 15, 1997	6.07
DEC 03	2.03	APR 03	.36	JUL 14	3.36		
JAN 13, 1997	1.06	MAY 05	.76	AUG 19	5.12		

WATER YEAR 1997 HIGHEST .36 APR 03, 1997 LOWEST 6.07 SEP 15, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

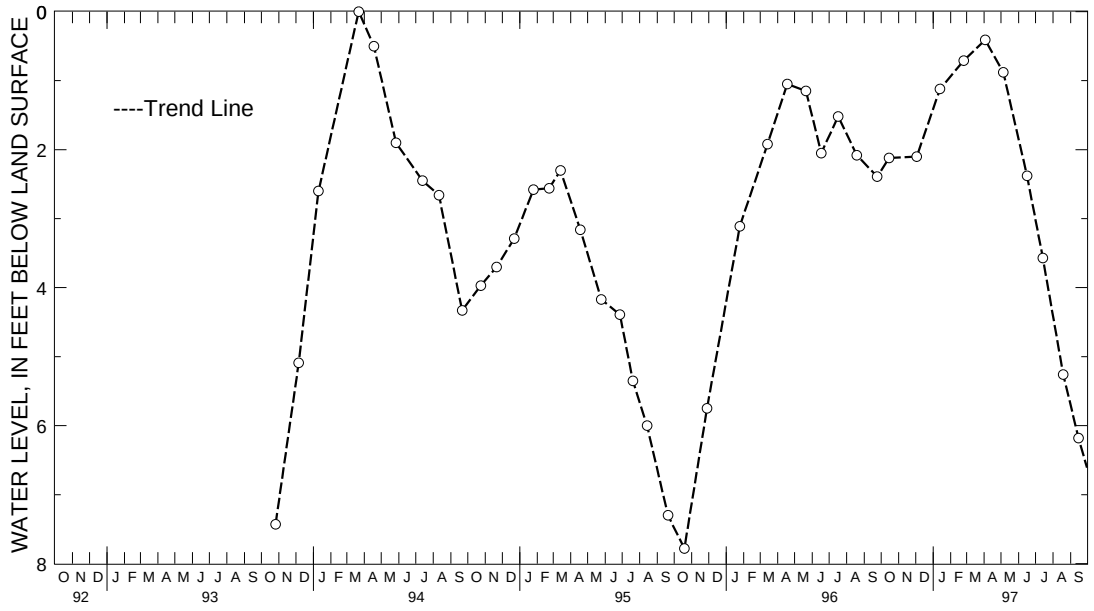
SUSSEX COUNTY--Continued

WELL NUMBER.--Of22-10. SITE ID.--384341075230003. PERMIT NUMBER.--95777.
LOCATION.--Lat 38°43´41˝, long 75°23´00˝, Hydrologic Unit 02060008, near Redden State Forest.
Owner: Delaware Department of Transportation.
AQUIFER.--Pleistocene-Pliocene Series. Aquifer code: 112PCPC.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 118 ft; casing diameter 2 in., to 115 ft; screen diameter 2 in. from 115 to 118 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 47.95 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of metal sleeve, 2.20 ft above land surface.
REMARKS.--Delaware Department of Transportation Project observation well.
PERIOD OF RECORD.--September 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.00 ft at land surface, March 22, 1994; lowest measured, 7.78 ft below land surface, Oct. 19, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	2.12	FEB 24, 1997	.71	JUN 16, 1997	2.38	SEP 15, 1997	6.18
DEC 03	2.10	APR 03	.41	JUL 14	3.57		
JAN 13, 1997	1.12	MAY 05	.88	AUG 19	5.26		

WATER YEAR 1997 HIGHEST .41 APR 03, 1997 LOWEST 6.18 SEP 15, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--Of22-11. SITE ID.--384341075230001. PERMIT NUMBER.--95795.
LOCATION.--Lat 38°43´44˝, long 75°23´01˝, Hydrologic Unit 02040207, near Redden State Forest.
Owner: Delaware Department of Transportation.
AQUIFER.--Pleistocene-Pliocene Series. Aquifer code: 112PCPC.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 16 ft; casing diameter 2 in., to 13 ft; screen diameter 2 in. from 13 to 16 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
Equipped with digital water-level recorder--60-minute recorder interval from Dec. 7, 1993 to current year.
DATUM.--Altitude of land surface is 47.92 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of recorder platform, 3.73 ft above land surface.
REMARKS.--Delaware Department of Transportation Wetlands Project observation well.
Missing data due to recorder malfunction.
PERIOD OF RECORD.--September 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.53 ft above land surface, March 3, 1994; lowest measured, 7.41 ft below land surface, Oct. 19, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
(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	1.94	1.81	2.00	1.98	2.19	1.73	.15	.12	.29	.16	.22	.08
2	1.98	1.94	2.04	1.96	1.73	1.38	.21	.15	.36	.29	.22	.11
3	2.13	1.98	2.10	2.04	1.57	1.49	.29	.21	.48	.36	.25	-.13
4	2.23	2.13	2.12	2.09	1.73	1.56	.36	.29	.50	.07	-.03	-.09
5	2.27	2.23	2.13	2.12	1.76	1.65	.38	.33	.07	-.04	-.02	-.30
6	2.30	2.27	2.14	2.13	1.65	1.01	.53	.38	.10	.01	-.23	-.30
7	2.31	2.30	2.14	2.12	1.25	.34	.62	.53	.15	.10	-.18	-.23
8	2.31	.74	2.12	1.97	.61	.34	.67	.62	.15	-.05	-.14	-.18
9	1.07	.57	1.97	1.82	.93	.61	.67	.14	-.04	-.06	-.12	-.14
10	.99	.57	2.04	1.97	1.01	.93	.33	.17	-.03	-.06	-.12	-.19
11	1.27	.99	2.16	2.04	1.13	1.01	.52	.33	.02	-.04	-.11	-.17
12	1.39	1.27	2.21	2.16	1.22	1.03	.64	.52	.05	.00	-.05	-.11
13	1.49	1.39	2.22	2.20	1.03	.15	.73	.64	.13	.05	.00	-.05
14	1.63	1.49	2.25	2.21	.15	-.22	.78	.72	.11	-.17	.00	-.22
15	1.76	1.63	2.28	2.25	-.20	-.22	.81	.68	-.17	-.28	-.19	-.23
16	1.81	1.76	2.30	2.28	-.19	-.20	.68	.00	-.23	-.27	-.14	-.19
17	1.88	1.81	2.28	2.28	-.18	-.19	.33	.15	-.19	-.23	-.12	-.14
18	1.88	1.77	2.28	2.24	-.16	-.18	.52	.33	-.18	-.19	-.07	-.12
19	1.77	.54	2.24	2.18	-.16	-.22	.72	.52	-.11	-.19	-.07	-.22
20	1.07	.80	2.28	2.21	-.18	-.20	.77	.71	-.07	-.11	-.19	-.22
21	1.28	1.07	2.30	2.28	-.10	-.18	.88	.77	-.07	-.08	-.18	-.19
22	1.38	1.28	2.35	2.30	-.05	-.10	.82	.47	-.01	-.09	-.10	-.18
23	1.45	1.38	2.37	2.35	-.01	-.05	.62	.47	.05	-.01	-.04	-.10
24	1.64	1.45	2.39	2.37	-.01	-.09	.65	.42	.12	.05	.04	-.04
25	1.75	1.64	2.40	2.38	-.05	-.09	.42	.18	.18	.12	.04	.03
26	1.82	1.75	2.38	1.88	-.02	-.05	.56	.35	.20	.02	.04	-.27
27	1.82	1.79	2.11	1.97	-.03	-.11	.59	.49	.11	.01	-.20	-.23
28	1.85	1.76	2.13	2.11	-.07	-.09	.49	-.05	.22	.11	-.18	-.20
29	1.91	1.85	2.18	2.13	-.05	-.07	.13	.03	---	---	-.14	-.26
30	1.91	1.82	2.19	2.18	.03	-.05	.17	.13	---	---	-.23	-.25
31	1.98	1.91	---	---	.12	.03	.18	.16	---	---	-.21	-.31
MONTH	2.31	.54	2.40	1.82	2.19	-.22	.88	-.05	.50	-.28	.25	-.31

GROUND-WATER LEVELS

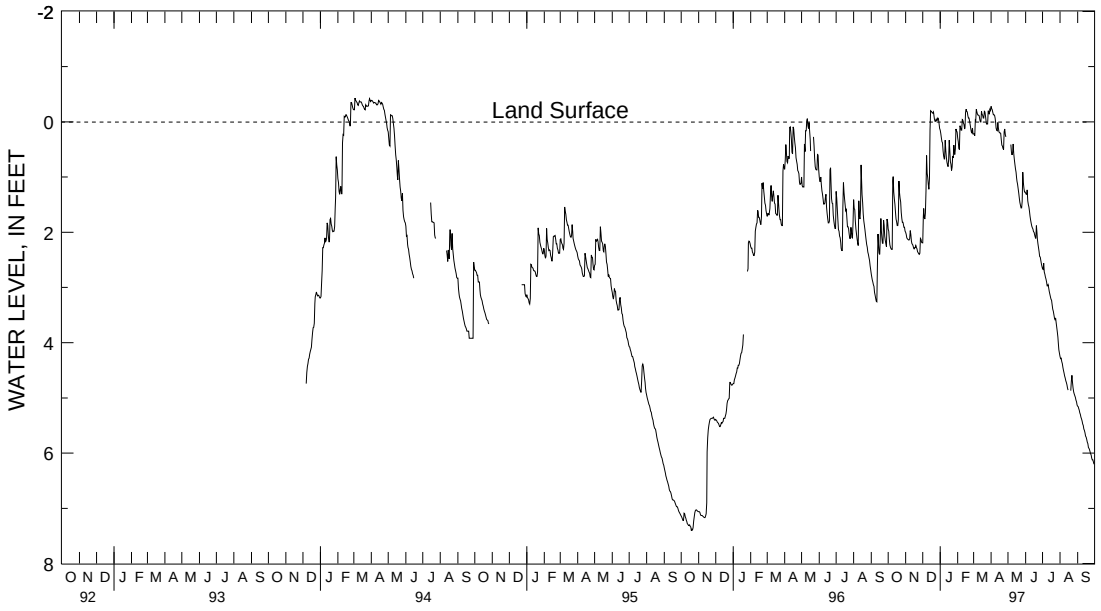
DELAWARE--Continued

SUSSEX COUNTY-Continued

Of22-11--Continued

DAY	APRIL MAX	APRIL MIN	MAY MAX	MAY MIN	JUNE MAX	JUNE MIN	JULY MAX	JULY MIN	AUGUST MAX	AUGUST MIN	SEPTEMBER MAX	SEPTEMBER MIN
1	-.28	-.31	---	---	1.29	1.26	2.66	2.62	4.25	4.19	5.15	5.13
2	-.24	-.28	---	---	1.31	1.29	2.67	2.52	4.29	4.23	5.16	5.15
3	-.22	-.24	---	---	1.31	.90	2.56	2.49	4.28	4.23	5.19	5.16
4	-.17	-.22	---	---	1.23	.95	2.72	2.56	4.34	4.28	5.22	5.19
5	-.13	-.17	---	---	1.43	1.23	2.76	2.72	4.38	4.34	5.27	5.22
6	-.13	-.19	.41	.28	1.50	1.43	2.81	2.76	4.45	4.38	5.30	5.27
7	-.12	-.18	.55	.41	1.54	1.47	2.85	2.81	4.50	4.45	5.35	5.30
8	-.07	-.12	.60	.55	1.62	1.54	2.90	2.85	4.55	4.50	5.38	5.35
9	.02	-.07	.56	.13	1.71	1.62	2.97	2.90	4.60	4.55	5.42	5.38
10	.11	.02	.40	.15	1.78	1.70	2.97	2.82	4.64	4.60	5.47	5.42
11	.15	.11	.57	.40	1.84	1.76	2.95	2.84	4.69	4.64	5.50	5.47
12	.16	-.09	.68	.57	1.89	1.81	3.01	2.95	4.72	4.69	5.56	5.50
13	.01	-.10	.77	.68	1.92	1.86	3.07	3.00	4.76	4.72	5.59	5.56
14	.11	.01	.85	.77	1.94	1.86	3.12	3.05	4.82	4.76	5.63	5.59
15	.18	.11	.91	.82	1.99	1.88	3.17	3.12	4.86	4.82	5.69	5.63
16	.20	.18	1.02	.90	2.00	1.99	3.21	3.17	---	---	5.71	5.67
17	.20	.10	1.08	1.01	2.05	2.00	3.23	3.21	---	---	5.75	5.71
18	.21	.11	1.13	1.08	2.09	2.05	3.31	3.23	---	---	5.80	5.75
19	.32	.21	1.21	1.11	2.11	1.38	3.39	3.31	---	---	5.83	5.80
20	.42	.32	1.29	1.21	1.88	1.63	3.43	3.39	4.87	4.70	5.90	5.83
21	.44	.42	1.38	1.29	2.01	1.88	3.49	3.43	4.70	4.55	5.91	5.90
22	.48	.42	1.46	1.38	2.12	2.01	3.55	3.49	4.59	4.54	5.93	5.91
23	.50	.18	1.51	1.46	2.21	2.12	3.58	3.55	4.72	4.59	5.97	5.93
24	.18	-.02	1.56	1.50	2.28	2.21	3.55	3.52	4.82	4.72	6.01	5.97
25	.13	.02	1.56	1.44	2.35	2.28	3.64	3.54	4.89	4.82	6.03	6.00
26	.23	.13	1.44	.24	2.44	2.35	3.72	3.64	4.93	4.89	6.09	6.03
27	.27	.04	.91	.55	2.45	2.37	3.81	3.72	4.96	4.93	6.12	6.09
28	---	---	1.10	.91	2.51	2.45	3.90	3.81	4.99	4.96	6.12	6.12
29	---	---	1.20	1.10	2.57	2.51	4.00	3.90	5.04	4.99	6.16	6.12
30	---	---	1.27	1.20	2.62	2.57	4.13	4.00	5.07	5.03	6.20	6.16
31	---	---	1.27	1.26	---	---	4.19	4.13	5.13	5.07	---	---
MONTH	.50	-.31	1.56	.13	2.62	.90	4.19	2.49	5.13	4.19	6.20	5.13
YEAR	6.20	-.31										

Daily Low Water Levels



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

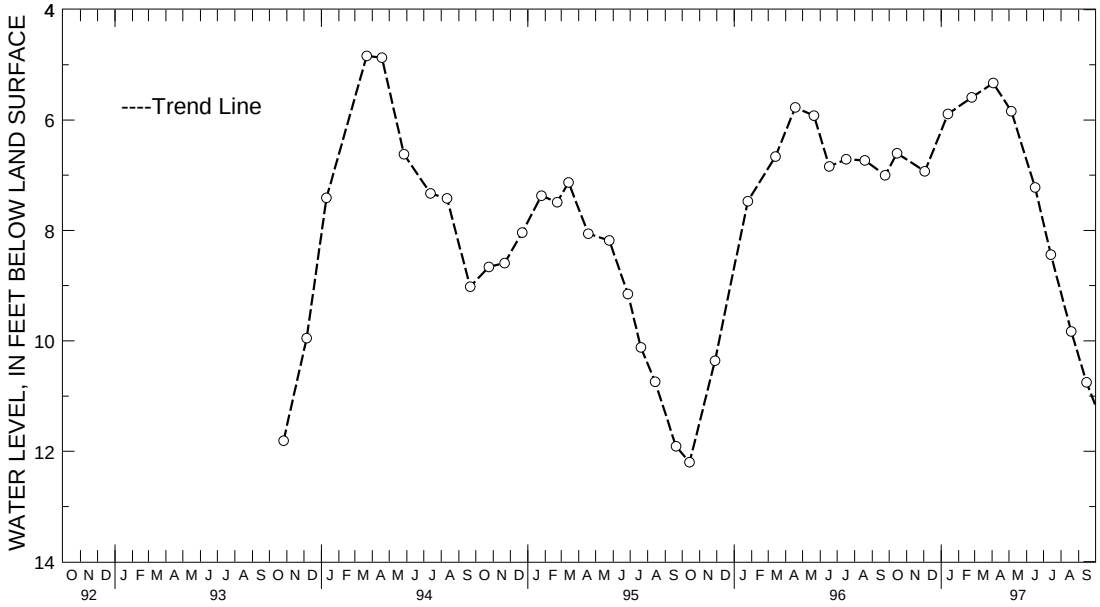
SUSSEX COUNTY--Continued

WELL NUMBER.--Of23-01. SITE ID.--384338075222303. PERMIT NUMBER.---95775.
LOCATION.--Lat 38°43´33˝, long 75°22´29˝, Hydrologic Unit 02060008, near Redden State Forest.
Owner: Delaware Department of Transportation.
AQUIFER.--Pleistocene-Pliocene Series. Aquifer code: 112PCPC.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 99 ft; casing diameter 2 in., to 96 ft; screen diameter 2 in. from 96 to 99 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 51.22 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of metal sleeve, 2.38 ft above land surface.
REMARKS.--Delaware Department of Transportation Project observation well.
PERIOD OF RECORD.--September 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.84 ft below land surface, March 22, 1994; lowest measured, 12.20 ft below land surface, Oct. 14, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	6.60	FEB 24, 1997	5.59	JUN 16, 1997	7.22	SEP 15, 1997	10.75
DEC 03	6.93	APR 03	5.33	JUL 14	8.44		
JAN 13, 1997	5.89	MAY 05	5.84	AUG 19	9.83		

WATER YEAR 1997 HIGHEST 5.33 APR 03, 1997 LOWEST 10.75 SEP 15, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

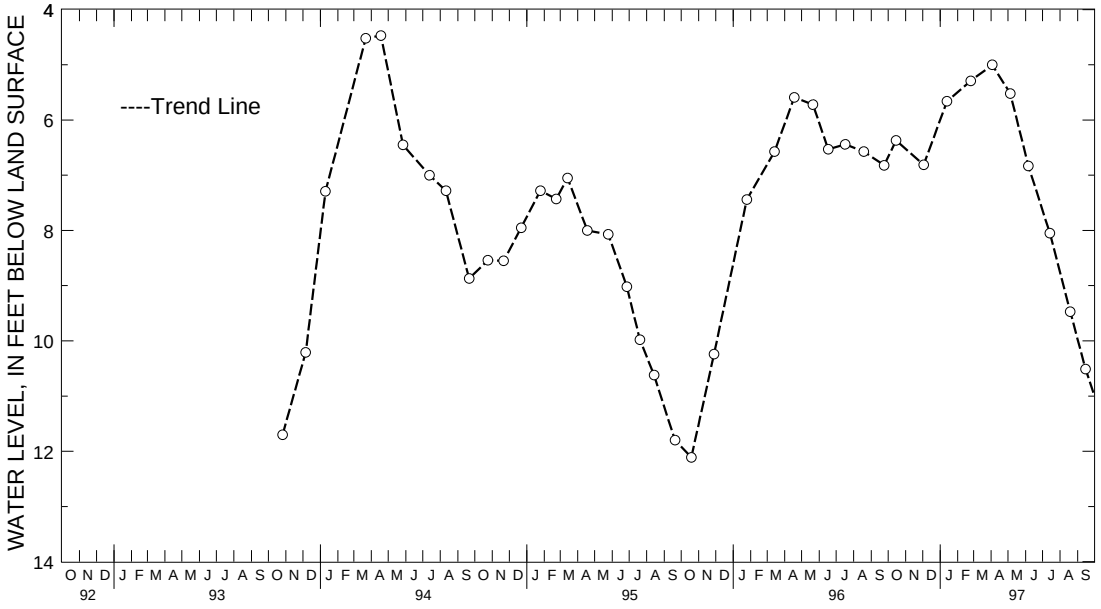
SUSSEX COUNTY--Continued

WELL NUMBER.--Of23-02. SITE ID.--384333075222902. PERMIT NUMBER.--95782.
LOCATION.--Lat 38°43´33˝, long 75°22´29˝, Hydrologic Unit 02060008, near Redden State Forest.
Owner: Delaware Department of Transportation.
AQUIFER.--Pleistocene-Pliocene Series. Aquifer code: 112PCPC.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 50 ft; casing diameter 2 in., to 47 ft; screen diameter 2 in. from 47 to 50 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 51.25 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of metal sleeve, 2.25 ft above land surface.
REMARKS.--Delaware Department of Transportation Project observation well.
PERIOD OF RECORD.--September 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.47 ft below land surface, April 18, 1994; lowest measured, 12.11 ft below land surface, Oct. 19, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	6.37	FEB 24, 1997	5.29	JUN 06, 1997	6.83	SEP 15, 1997	10.51
DEC 03	6.81	APR 03	5.00	JUL 14	8.05		
JAN 13, 1997	5.66	MAY 05	5.52	AUG 19	9.47		

WATER YEAR 1997 HIGHEST 5.00 APR 03, 1997 LOWEST 10.51 SEP 15, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--Of23-03. SITE ID.--384333075222901. PERMIT NUMBER.--95793.
LOCATION.--Lat 38°43´33˝, long 75°22´29˝, Hydrologic Unit 02040207, near Redden State Forest.
Owner: Delaware Department of Transportation.
AQUIFER.--Pleistocene-Pliocene Series. Aquifer code: 112PCPC.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 20 ft; casing diameter 2 in., to 17 ft; screen diameter 2 in. from 17 to 20 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
Equipped with digital water-level recorder--60-minute recorder interval from Dec. 7, 1993 to current year.
DATUM.--Altitude of land surface is 51.40 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of recorder platform, 3.22 ft above land surface.
REMARKS.--Delaware Department of Transportation Wetlands Project observation well.
Missing data due to recorder malfunction.
PERIOD OF RECORD.--September 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.34 ft below land surface, April 1, 1994; lowest measured, 12.23 ft below land surface, Oct. 19, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	5.88	5.87	6.55	6.52	7.08	6.96	5.36	5.34	5.46	5.37	5.41	5.38
2	5.92	5.86	6.60	6.55	6.96	6.91	5.35	5.33	5.50	5.46	5.42	5.35
3	6.06	5.92	6.66	6.60	6.91	6.80	5.39	5.34	5.58	5.50	5.44	5.32
4	6.19	6.06	6.69	6.66	6.80	6.78	5.43	5.39	5.60	5.52	5.32	5.30
5	6.30	6.19	6.71	6.69	6.78	6.67	5.44	5.40	5.52	5.41	5.30	5.11
6	6.39	6.30	6.73	6.71	6.67	6.62	5.52	5.44	5.41	5.41	5.11	5.04
7	6.48	6.39	6.74	6.73	6.62	6.39	5.57	5.52	5.41	5.40	5.05	5.04
8	6.51	6.18	6.74	6.71	6.39	6.09	5.60	5.57	5.40	5.35	5.10	5.03
9	6.18	5.87	6.77	6.72	6.09	6.08	5.62	5.44	5.35	5.32	5.14	5.10
10	5.87	5.84	6.79	6.77	6.10	6.09	5.54	5.46	5.32	5.30	5.10	5.05
11	5.94	5.87	6.84	6.79	6.12	6.09	5.63	5.53	5.31	5.30	5.17	5.08
12	6.03	5.94	6.87	6.84	6.16	6.12	5.66	5.63	5.32	5.31	5.23	5.17
13	6.12	6.03	6.88	6.87	6.16	6.04	5.70	5.66	5.38	5.32	5.27	5.23
14	6.27	6.12	6.91	6.88	6.04	5.02	5.71	5.69	5.36	5.16	5.27	5.09
15	6.35	6.27	6.93	6.90	5.02	4.99	5.72	5.69	5.16	4.98	5.14	5.09
16	6.39	6.35	6.94	6.93	5.01	4.99	5.69	5.53	4.98	4.94	5.16	5.14
17	6.45	6.39	6.94	6.94	5.07	5.01	5.63	5.56	5.01	4.94	5.17	5.14
18	6.46	6.43	6.94	6.93	5.15	5.07	5.66	5.62	5.02	5.01	5.20	5.14
19	6.43	6.19	6.95	6.93	5.14	5.02	5.68	5.66	5.08	5.01	5.20	5.09
20	6.19	6.14	6.99	6.95	5.10	5.04	5.71	5.68	5.15	5.08	5.09	5.06
21	6.14	6.13	7.00	6.99	5.14	5.10	5.77	5.71	5.15	5.12	5.09	5.07
22	6.14	6.13	7.05	7.00	5.16	5.14	5.77	5.71	5.24	5.10	5.18	5.07
23	6.14	6.14	7.06	7.05	5.19	5.16	5.78	5.71	5.28	5.24	5.23	5.18
24	6.22	6.14	7.09	7.06	5.21	5.19	5.78	5.71	5.31	5.28	5.30	5.23
25	6.30	6.22	7.10	7.09	5.27	5.21	5.71	5.67	5.33	5.30	5.30	5.26
26	6.35	6.30	7.09	7.02	5.30	5.27	5.78	5.71	5.34	5.31	5.26	5.12
27	6.36	6.35	7.08	7.06	5.28	5.23	5.78	5.73	5.34	5.30	5.12	5.09
28	6.39	6.35	7.08	7.06	5.23	5.22	5.73	5.56	5.41	5.34	5.10	5.09
29	6.44	6.39	7.08	7.06	5.23	5.21	5.56	5.45	---	---	5.10	5.07
30	6.47	6.39	7.08	7.08	5.30	5.23	5.45	5.39	---	---	5.08	5.07
31	6.52	6.47	---	---	5.35	5.28	5.39	5.38	---	---	5.08	4.96
MONTH	6.52	5.84	7.10	6.52	7.08	4.99	5.78	5.33	5.60	4.94	5.44	4.96

GROUND-WATER LEVELS

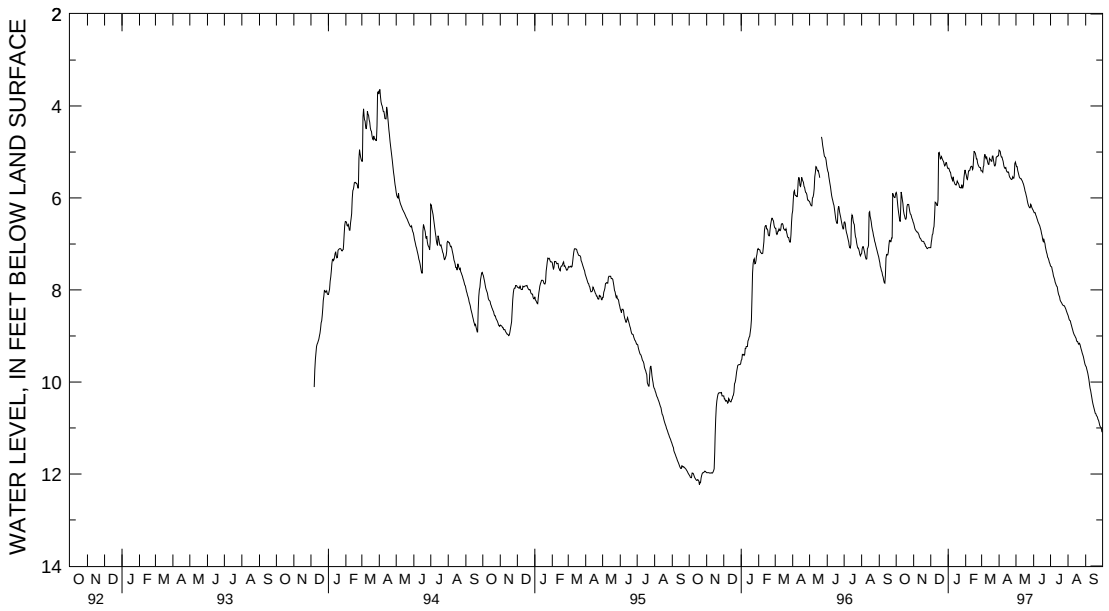
DELAWARE--Continued

SUSSEX COUNTY--Continued

Of23-03--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	4.96	4.96	5.27	5.22	6.29	6.26	7.48	7.43	8.55	8.52	9.65	9.62
2	4.97	4.96	5.32	5.27	6.32	6.29	7.49	7.48	8.59	8.55	9.67	9.65
3	4.99	4.97	5.32	5.26	6.32	6.31	7.50	7.48	8.64	8.59	9.71	9.67
4	5.07	4.99	5.40	5.30	6.32	6.31	7.57	7.50	8.66	8.64	9.76	9.71
5	5.11	5.07	5.45	5.40	6.37	6.32	7.62	7.57	8.67	8.66	9.81	9.76
6	5.11	5.09	5.50	5.44	6.40	6.37	7.69	7.62	8.73	8.67	9.88	9.81
7	5.16	5.09	5.55	5.50	6.44	6.40	7.73	7.69	8.77	8.73	9.95	9.88
8	5.20	5.16	5.57	5.55	6.48	6.44	7.77	7.73	8.82	8.77	10.05	9.95
9	5.28	5.20	5.58	5.55	6.52	6.48	7.83	7.77	8.86	8.82	10.14	10.05
10	5.32	5.28	5.58	5.55	6.55	6.52	7.85	7.82	8.91	8.86	10.19	10.14
11	5.35	5.32	5.61	5.58	6.58	6.55	7.89	7.85	8.95	8.91	10.27	10.17
12	5.35	5.29	5.63	5.61	6.61	6.58	7.92	7.89	8.98	8.95	10.34	10.17
13	5.34	5.26	5.67	5.63	6.66	6.61	7.93	7.92	9.00	8.98	10.42	10.34
14	5.40	5.34	5.70	5.67	6.70	6.49	8.02	7.93	9.03	9.00	10.48	10.42
15	5.43	5.40	5.75	5.70	6.77	6.60	8.08	8.02	9.05	9.03	10.53	10.48
16	5.44	5.43	5.80	5.75	6.82	6.77	8.12	8.08	9.09	9.05	10.58	10.53
17	5.43	5.43	5.85	5.80	6.90	6.82	8.15	8.12	9.12	9.09	10.63	10.58
18	5.45	5.43	5.88	5.85	6.94	6.89	8.22	8.15	9.12	9.12	10.68	10.63
19	5.52	5.45	5.94	5.88	6.90	6.87	8.25	8.22	9.16	9.12	10.69	10.68
20	5.55	5.52	5.99	5.94	6.95	6.90	8.27	8.25	9.18	9.15	10.73	10.69
21	5.57	5.55	6.06	5.99	6.99	6.95	8.29	8.27	9.16	9.14	10.74	10.73
22	5.59	5.57	6.12	6.06	7.06	6.99	8.32	8.29	9.18	9.16	10.76	10.74
23	5.60	5.59	6.16	6.12	7.12	7.06	8.33	8.32	9.23	9.18	10.81	10.76
24	5.59	5.53	6.19	6.16	7.18	7.12	8.34	8.33	9.28	9.23	10.83	10.81
25	5.54	5.53	6.21	6.19	7.22	7.18	8.34	8.34	9.32	9.28	10.88	10.83
26	5.57	5.54	6.21	6.11	7.29	7.22	8.36	8.34	9.37	9.32	10.94	10.88
27	5.57	5.51	6.14	6.11	7.31	7.29	8.39	8.36	9.41	9.37	10.97	10.94
28	5.51	5.25	6.17	6.14	7.35	7.31	8.42	8.39	9.45	9.41	10.99	10.97
29	5.25	5.22	6.21	6.17	7.40	7.35	8.45	8.42	9.51	9.45	11.02	10.99
30	5.22	5.22	6.24	6.21	7.43	7.40	8.48	8.45	9.57	9.51	11.09	11.02
31	---	---	6.26	6.24	---	---	8.52	8.48	9.62	9.57	---	---
MONTH	5.60	4.96	6.26	5.22	7.43	6.26	8.52	7.43	9.62	8.52	11.09	9.62
YEAR	11.09	4.94										

Daily Low Water Levels



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

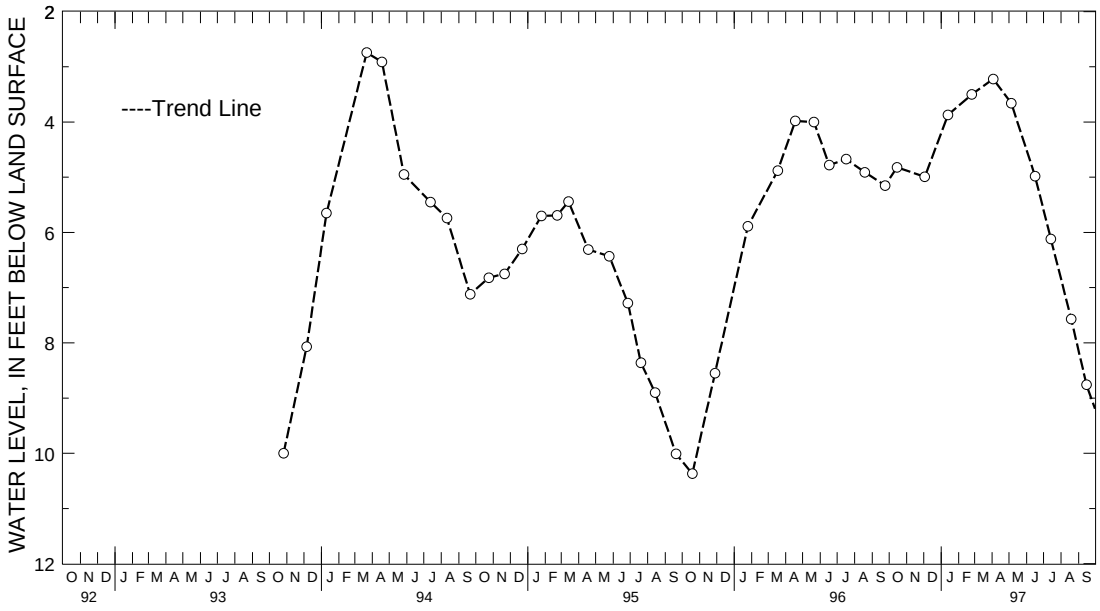
SUSSEX COUNTY--Continued

WELL NUMBER.-Of23-04. SITE ID.--384341075223803. PERMIT NUMBER.--95776.
LOCATION.--Lat 38°43´41˝, long 75°22´38˝, Hydrologic Unit 02060008, near Redden State Forest.
Owner: Delaware Department of Transportation.
AQUIFER.--Pleistocene-Pliocene Series. Aquifer code: 112PCPC.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 104 ft; casing diameter 2 in., to 101 ft; screen diameter 2 in. from 101 to 104 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 49.95 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of metal sleeve, 2.24 ft above land surface.
REMARKS.--Delaware Department of Transportation Project observation well.
PERIOD OF RECORD.--September 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.74 ft below land surface, March 22, 1994; lowest measured, 10.37 ft below land surface, Oct. 19, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	4.82	FEB 24, 1997	3.50	JUN 16, 1997	4.98	SEP 15, 1997	8.76
DEC 03	4.99	APR 03	3.22	JUL 14	6.12		
JAN 13, 1997	3.87	MAY 05	3.66	AUG 19	7.57		

WATER YEAR 1997 HIGHEST 3.22 APR 03, 1997 LOWEST 8.76 SEP 15, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

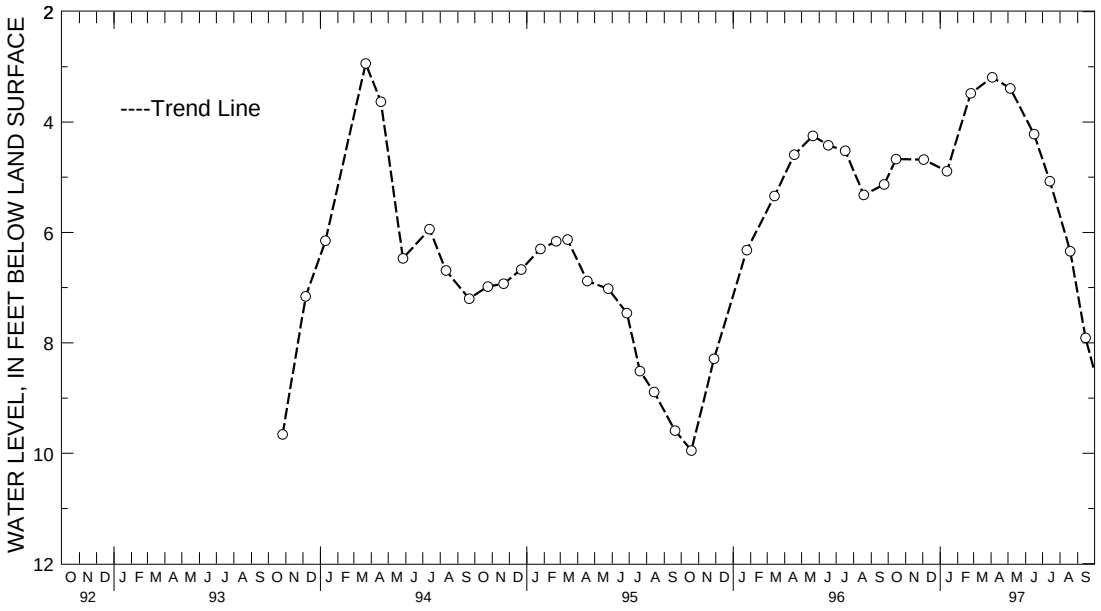
SUSSEX COUNTY--Continued

WELL NUMBER.--Of23-05. SITE ID.--384341075223801. PERMIT NUMBER.--95794.
LOCATION.--Lat 38°43´41˝, long 75°22´38˝, Hydrologic Unit 02060008, near Redden State Forest.
Owner: Delaware Department of Transportation.
AQUIFER.--Pleistocene-Pliocene Series. Aquifer code: 112PCPC.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 18 ft; casing diameter 2 in., to 15 ft; screen diameter 2 in. from 15 to 18 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 50.13 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of metal sleeve, 1.83 ft above land surface.
REMARKS.--Delaware Department of Transportation Project observation well.
PERIOD OF RECORD.--September 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.94 ft below land surface, March 22, 1994; lowest measured, 9.95 ft below land surface, Oct. 19, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	4.67	FEB 24, 1997	3.48	JUN 16, 1997	4.22	SEP 15, 1997	7.91
DEC 03	4.68	APR 03	3.19	JUL 14	5.07		
JAN 13, 1997	4.89	MAY 05	3.39	AUG 19	6.34		

WATER YEAR 1997 HIGHEST 3.19 APR 03, 1997 LOWEST 7.91 SEP 15, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

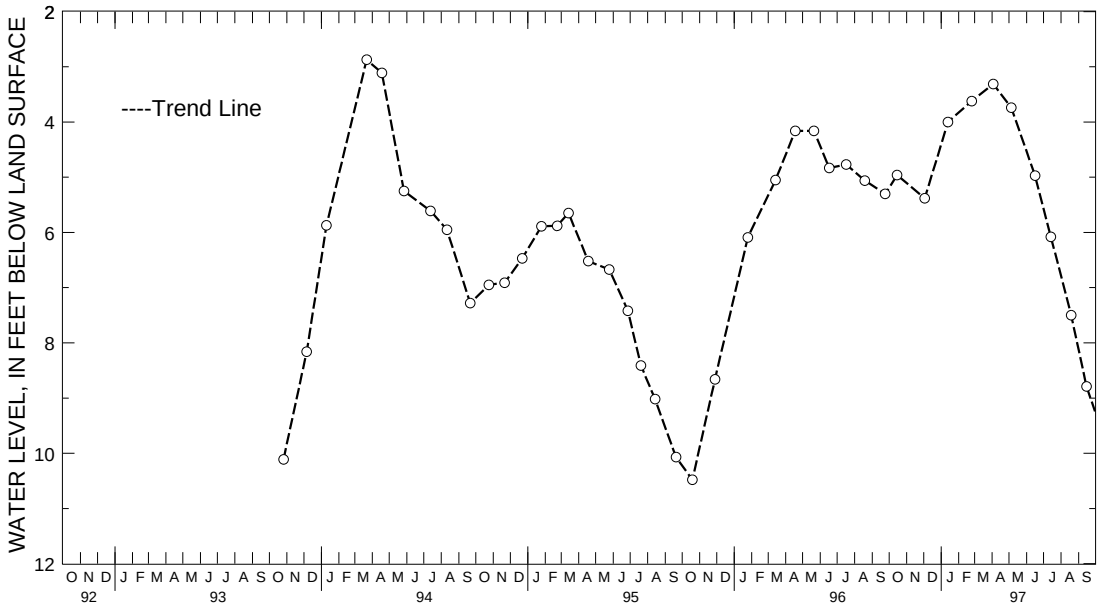
SUSSEX COUNTY--Continued

WELL NUMBER.--Of23-06. SITE ID.--384341075223802. PERMIT NUMBER.--95783.
LOCATION.--Lat 38°43´41˝, long 75°22´38˝, Hydrologic Unit 02060008, near Redden State Forest.
Owner: Delaware Department of Transportation.
AQUIFER.--Pleistocene-Pliocene Series. Aquifer code: 112PCPC.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 55 ft; casing diameter 2 in., to 52 ft; screen diameter 2 in. from 52 to 55 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 50.14 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of metal sleeve, 2.42 ft above land surface.
REMARKS.--Delaware Department of Transportation Project observation well.
PERIOD OF RECORD.--September 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.87 ft below land surface, March 22, 1994; lowest measured, 10.48 ft below land surface, Oct. 19, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	4.96	FEB 24, 1997	3.62	JUN 16, 1997	4.97	SEP 15, 1997	8.79
DEC 03	5.38	APR 03	3.31	JUL 14	6.08		
JAN 13, 1997	4.00	MAY 05	3.74	AUG 19	7.50		

WATER YEAR 1997 HIGHEST 3.31 APR 03, 1997 LOWEST 8.79 SEP 15, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

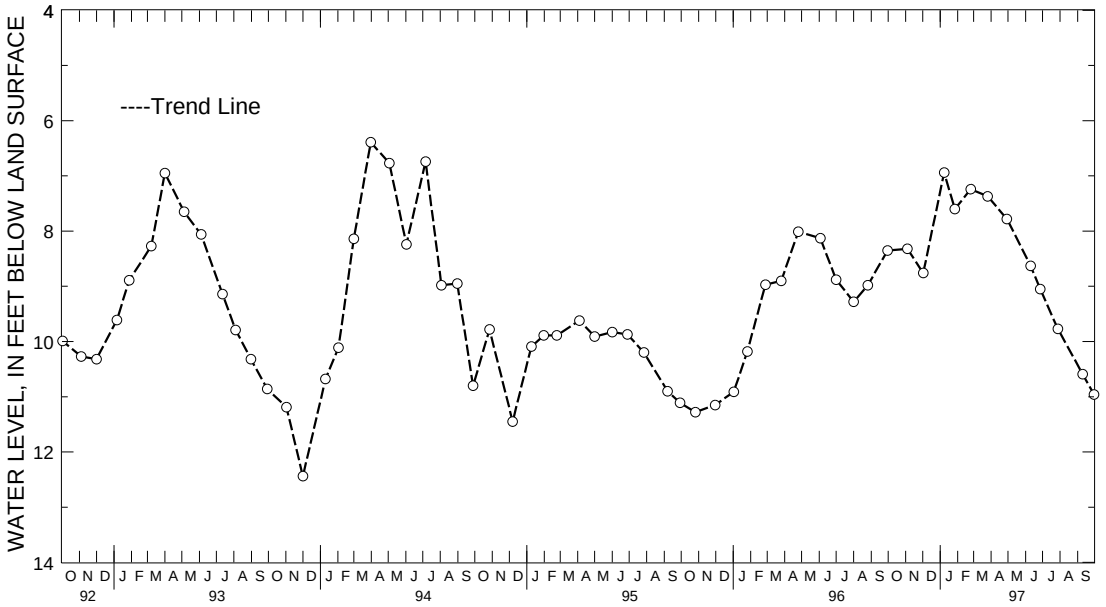
SUSSEX COUNTY--Continued

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 Upper 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, 12.44 ft below land surface, Dec. 1, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 04, 1996	8.32	JAN 27, 1997	7.60	APR 29, 1997	7.78	JUL 28, 1997	9.77
DEC 02	8.76	FEB 24	7.24	JUN 10	8.63	SEP 10	10.59
JAN 08, 1997	6.94	MAR 26	7.37	27	9.05	30	10.96

WATER YEAR 1997 HIGHEST 6.94 JAN 08, 1997 LOWEST 10.96 SEP 30, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

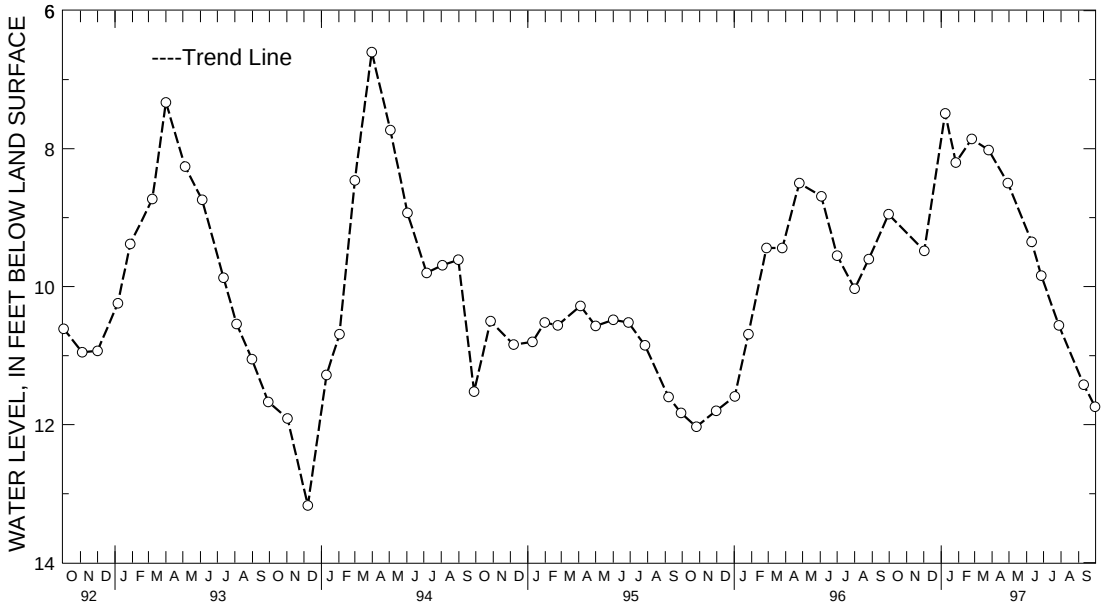
SUSSEX COUNTY--Continued

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 Upper Miocene-Pliocene 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 02, 1996	9.48	FEB 24, 1997	7.86	JUN 10, 1997	9.35	SEP 10, 1997	11.42
JAN 08, 1997	7.49	MAR 26	8.02	27	9.84	30	11.74
27	8.20	APR 29	8.50	JUL 28	10.56		

WATER YEAR 1997 HIGHEST 7.49 JAN 08, 1997 LOWEST 11.74 SEP 30, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

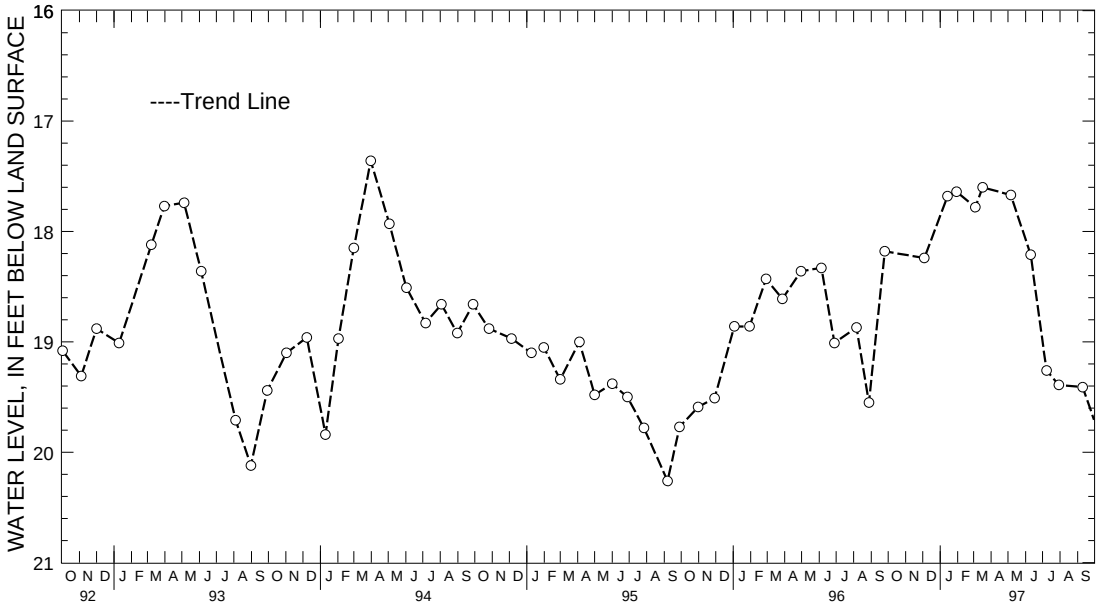
SUSSEX COUNTY--Continued

WELL NUMBER.--Oi24-06. SITE ID.--384258075063101. PERMIT NUMBER.--03489.
LOCATION.--Lat 38°42´58˝, long 75°06´31˝, Hydrologic Unit 02060010, nr DE Rt. 1, at Rehobeth Water Pumping Station.
Owner: City of Rehobeth.
AQUIFER.--Manokin aquifer of Upper Miocene age. Aquifer code: 122MNKN.
WELL CHARACTERISTICS.--Drilled, observation, artisian 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 casing, 0.70 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 04, 1996	18.24	MAR 04, 1997	17.78	JUN 10, 1997	18.21	SEP 10, 1997	19.41
JAN 14, 1997	17.68	17	17.60	JUL 08	19.26		
30	17.64	MAY 06	17.67	30	19.39		

WATER YEAR 1997 HIGHEST 17.60 MAR 17, 1997 LOWEST 19.41 SEP 10, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE-- Continued

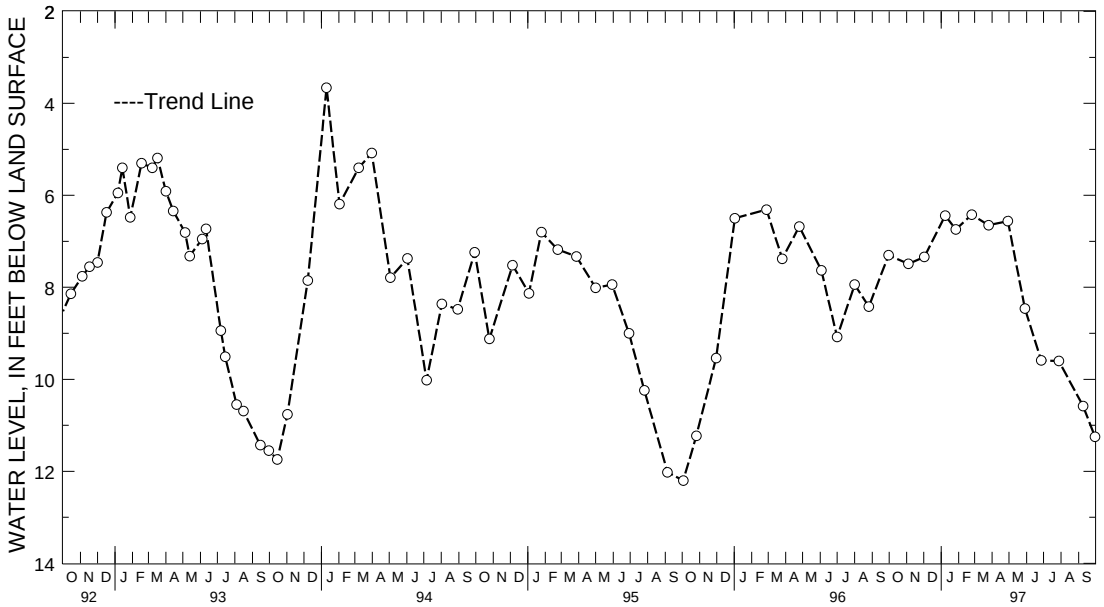
SUSSEX COUNTY--Continued

WELL NUMBER.--Qe44-0l. SITE ID.--383138075260201. PERMIT NUMBER.--49320.
LOCATION.--Lat 38°3l´38˝, long 75°26´02˝, Hydrologic Unit 02060008, l.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 l in., to 22 ft; well point from 22 to 25 ft.
INSTRUMENTATION.--Monthly measurements with chalked steel tape by 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 l959 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.66 ft below land surface, Jan. 10, l994; lowest measured, l2.22 ft below land surface, Dec. 2, l98l.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 04, 1996	7.49	JAN 27, 1997	6.74	APR 29, 1997	6.56	JUL 28, 1997	9.60
DEC 02	7.34	FEB 24	6.42	MAY 29	8.46	SEP 09	10.58
JAN 08, 1997	6.44	MAR 26	6.65	JUN 27	9.59	30	11.25

WATER YEAR 1997 HIGHEST 6.42 FEB 24, 1997 LOWEST 11.25 SEP 30, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

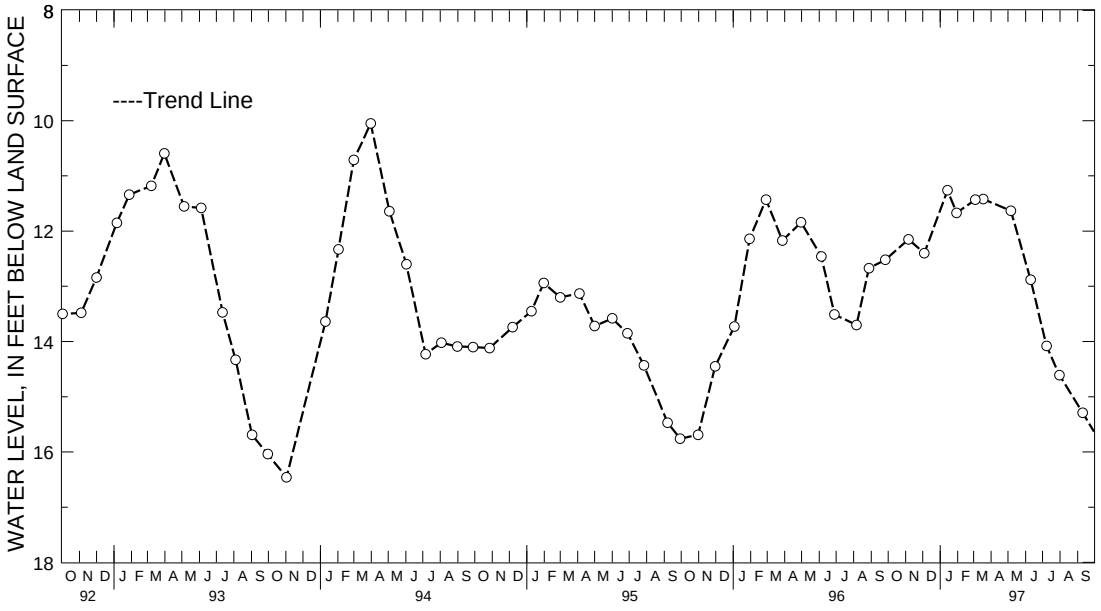
SUSSEX COUNTY--Continued

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 Upper 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.--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, 9.07 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 06, 1996	12.15	JAN 30, 1997	11.67	MAY 06, 1997	11.63	JUL 31, 1997	14.61
DEC 04	12.40	MAR 04	11.43	JUN 10	12.88	SEP 10	15.29
JAN 14, 1997	11.26	18	11.42	JUL 08	14.08		

WATER YEAR 1997 HIGHEST 11.26 JAN 14, 1997 LOWEST 15.29 SEP 10, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

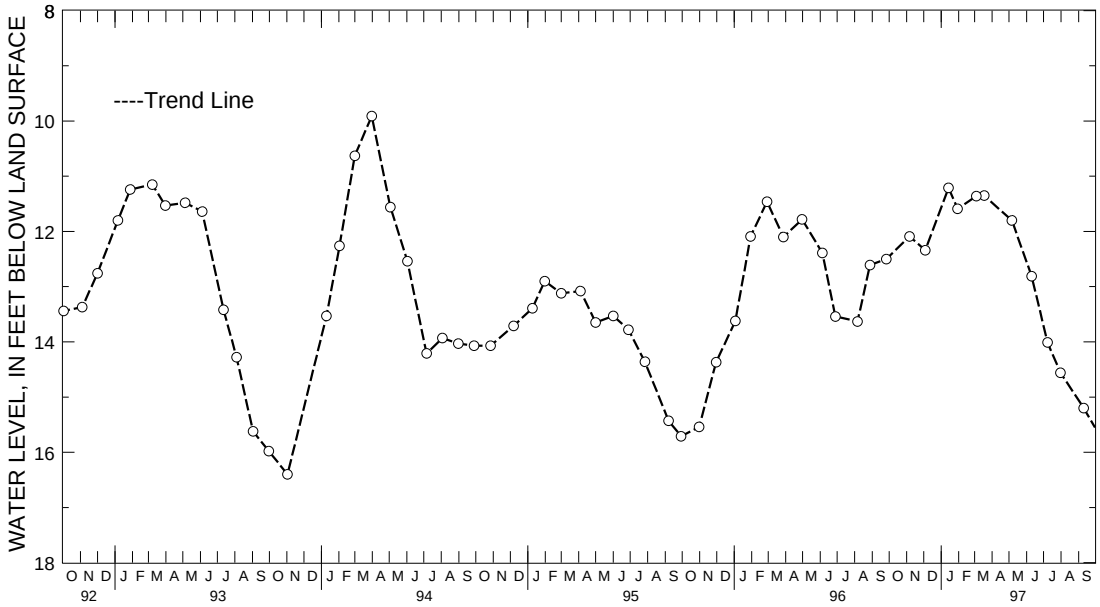
SUSSEX COUNTY--Continued

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 Upper 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 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.--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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 06, 1996	12.09	JAN 30, 1997	11.59	MAY 06, 1997	11.80	JUL 31, 1997	14.56
DEC 04	12.34	MAR 04	11.36	JUN 10	12.81	SEP 10	15.20
JAN 14, 1997	11.21	18	11.35	JUL 08	14.01		

WATER YEAR 1997 HIGHEST 11.21 JAN 14, 1997 LOWEST 15.20 SEP 10, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

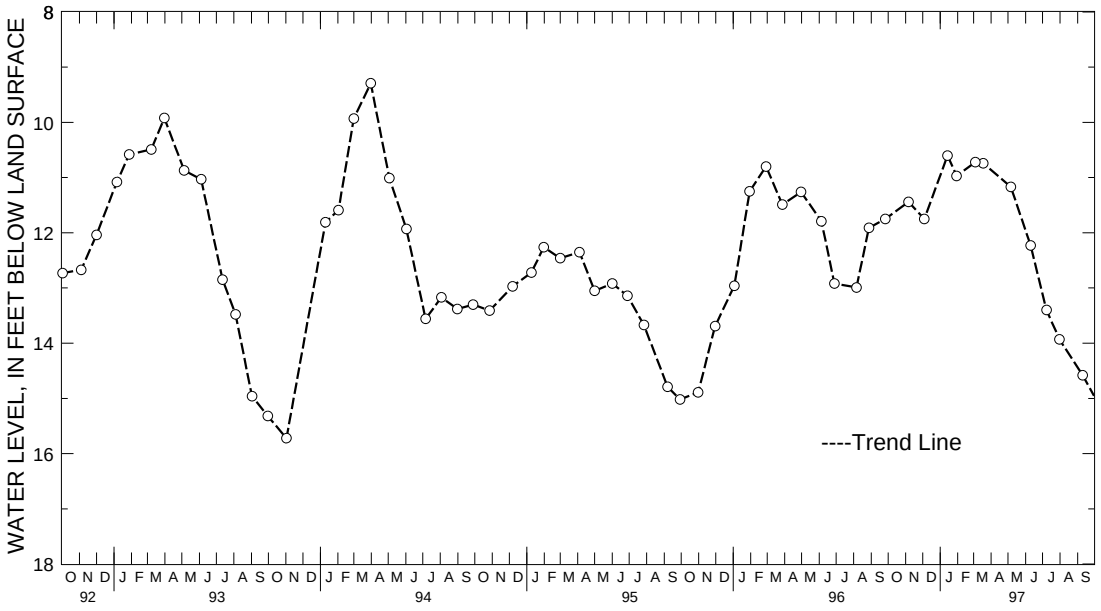
SUSSEX COUNTY--Continued

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 Upper Miocene-Pliocene 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 06, 1996	11.44	JAN 30, 1997	10.97	MAY 06, 1997	11.17	JUL 31, 1997	13.93
DEC 04	11.75	MAR 04	10.72	JUN 10	12.23	SEP 10	14.58
JAN 14, 1997	10.60	18	10.74	JUL 08	13.40		

WATER YEAR 1997 HIGHEST 10.60 JAN 14, 1997 LOWEST 14.58 SEP 10, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

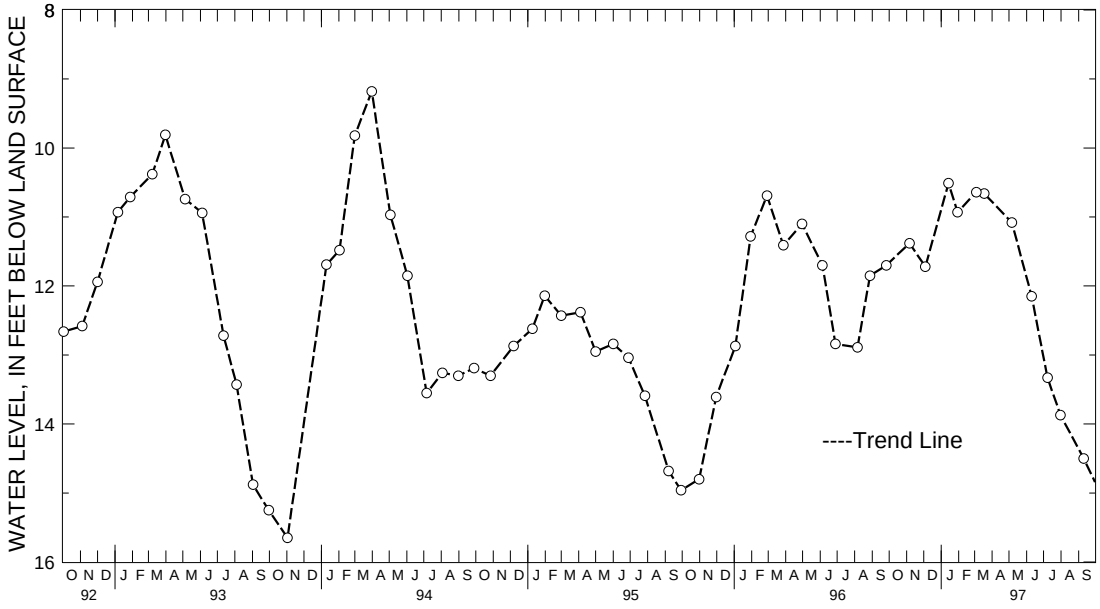
SUSSEX COUNTY--Continued

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.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 06, 1996	11.38	JAN 30, 1997	10.93	MAY 06, 1997	11.08	JUL 31, 1997	13.87
DEC 04	11.72	MAR 04	10.64	JUN 10	12.15	SEP 10	14.50
JAN 14, 1997	10.51	18	10.66	JUL 08	13.33		

WATER YEAR 1997 HIGHEST 10.51 JAN 14, 1997 LOWEST 14.50 SEP 10, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

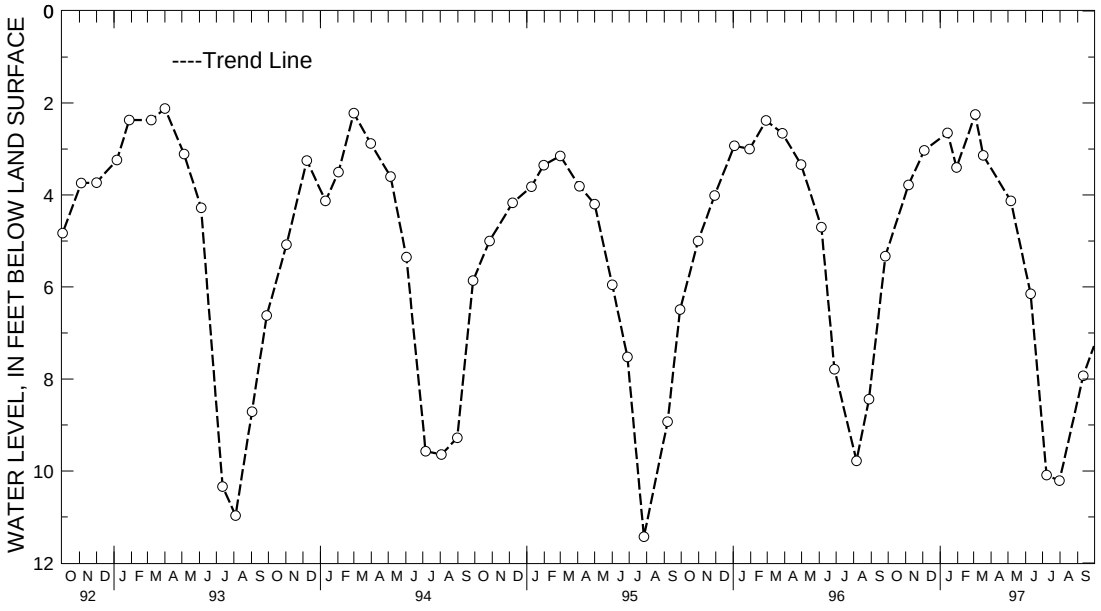
SUSSEX COUNTY--Continued

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 Upper Miocene age. Aquifer code: 122MNKN.
WELL CHARACTERISTICS.--Drilled, observation, artisian 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, 11.43 ft below land surface, July 27, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 06, 1996	3.78	JAN 30, 1997	3.40	MAY 06, 1997	4.13	JUL 31, 1997	10.21
DEC 04	3.03	MAR 04	2.25	JUN 10	6.15	SEP 11	7.93
JAN 14, 1997	2.65	18	3.14	JUL 08	10.09		

WATER YEAR 1997 HIGHEST 2.25 MAR 04, 1997 LOWEST 10.21 JUL 31, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

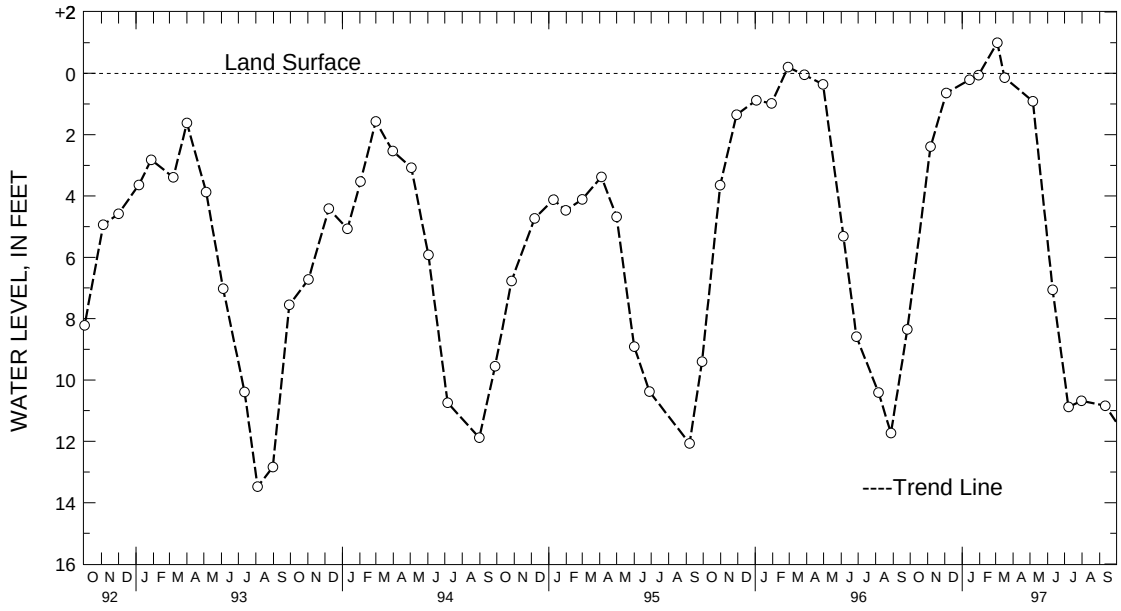
SUSSEX COUNTY--Continued

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 Upper 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, 1.00 ft above land surface, March 4, 1997; lowest measured, 13.81 ft below land surface, July 30, 1992.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
(READINGS ABOVE LAND SURFACE INDICATED BY "+")

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 06, 1996	2.39	JAN 30, 1997	.06	MAY 06, 1997	.91	JUL 31, 1997	10.68
DEC 04	.64	MAR 04	+1.00	JUN 10	7.06	SEP 11	10.84
JAN 14, 1997	.21	17	.14	JUL 08	10.88		

WATER YEAR 1997 HIGHEST +1.00 MAR 04, 1997 LOWEST 10.88 JUL 08, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

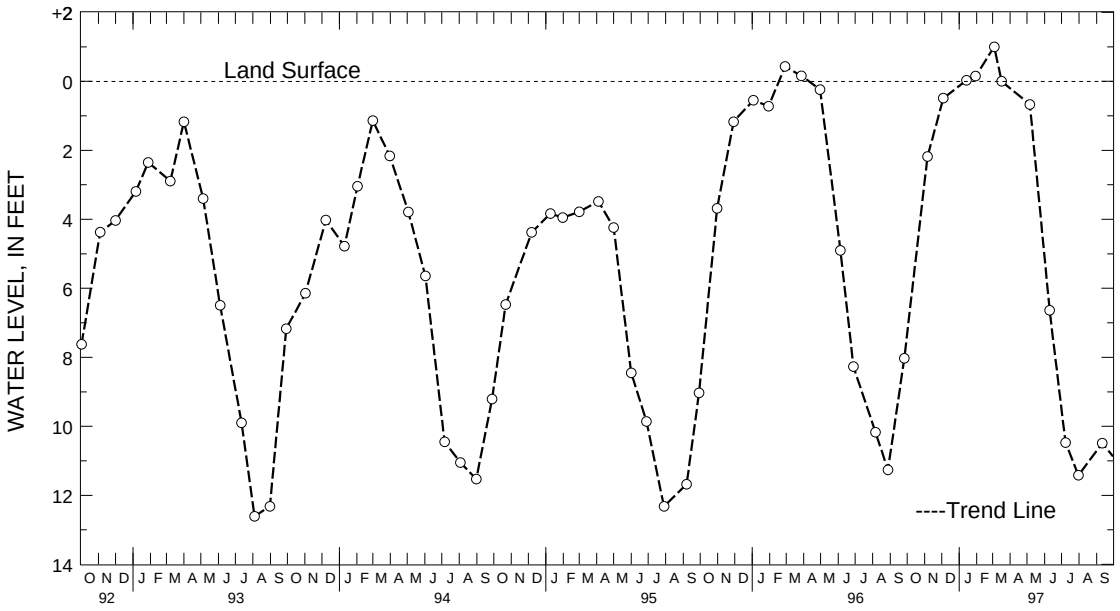
SUSSEX COUNTY--Continued

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 Upper 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, April 4, 1984, and March 4, 1997; lowest measured, 12.86 ft below land surface, July 30, 1992.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
(READINGS ABOVE LAND SURFACE INDICATED BY "+")

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 06, 1996	2.18	JAN 30, 1997	+.15	MAY 06, 1997	.67	JUL 31, 1997	11.42
DEC 04	.49	MAR 04	+1.00	JUN 10	6.64	SEP 11	10.49
JAN 14, 1997	+.03	17	.00	JUL 08	10.47		

WATER YEAR 1997 HIGHEST +1.00 MAR 04, 1997 LOWEST 11.42 JUL 31, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

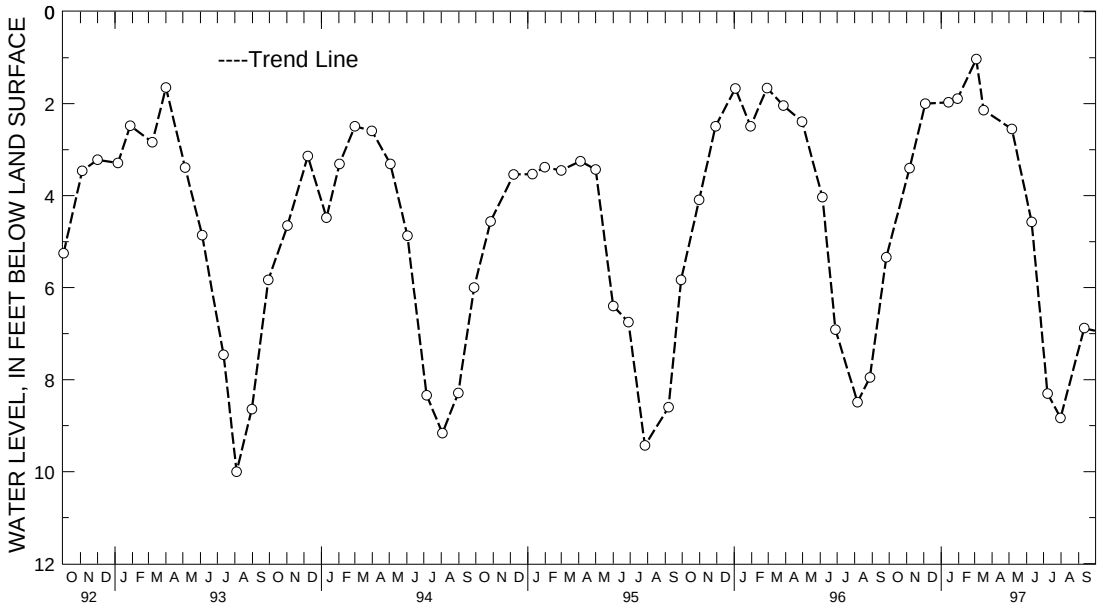
SUSSEX COUNTY--Continued

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 Upper 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, 0.33 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 06, 1996	3.40	JAN 30, 1997	1.89	MAY 06, 1997	2.55	JUL 31, 1997	8.83
DEC 04	2.00	MAR 04	1.03	JUN 10	4.57	SEP 11	6.88
JAN 14, 1997	1.97	17	2.14	JUL 08	8.30		

WATER YEAR 1997 HIGHEST 1.03 MAR 04, 1997 LOWEST 8.83 JUL 31, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

DELAWARE--Continued

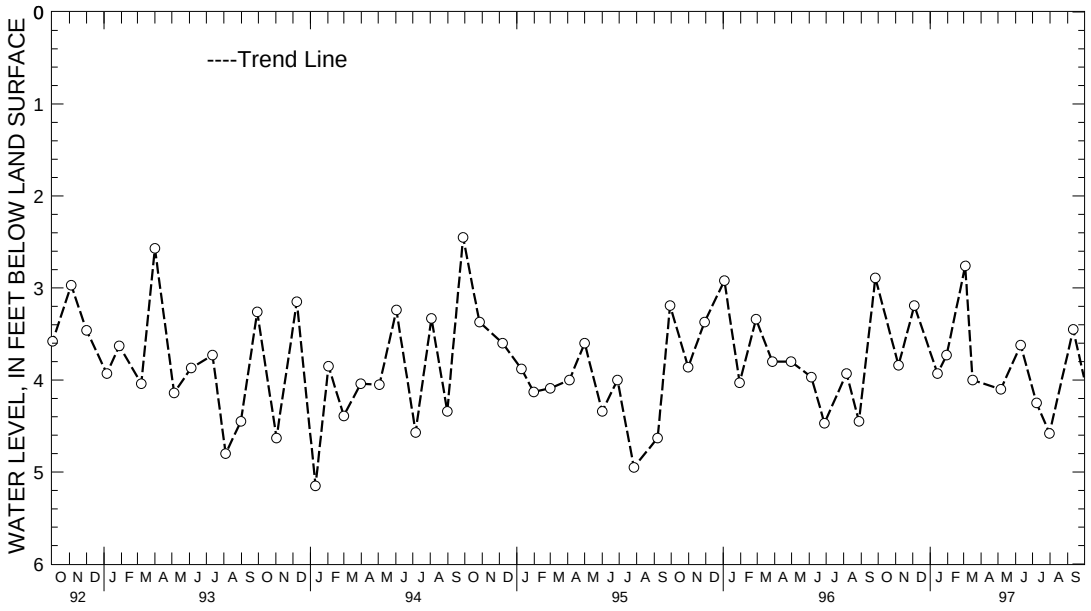
SUSSEX COUNTY--Continued

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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 06, 1996	3.84	JAN 30, 1997	3.73	MAY 06, 1997	4.10	JUL 31, 1997	4.58
DEC 04	3.19	MAR 04	2.76	JUN 10	3.62	SEP 11	3.45
JAN 14, 1997	3.93	17	4.00	JUL 08	4.25		

WATER YEAR 1997 HIGHEST 2.76 MAR 04, 1997 LOWEST 4.58 JUL 31, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND

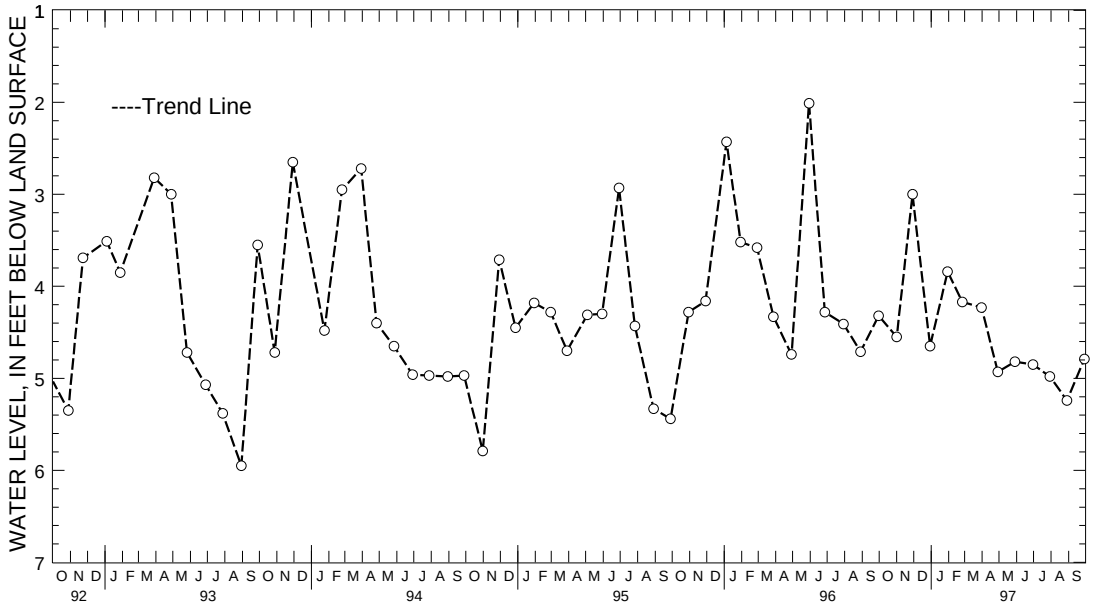
ALLEGANY COUNTY

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.--Altitude 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 01, 1996	4.55	JAN 30, 1997	3.84	APR 29, 1997	4.93	JUL 30, 1997	4.98
29	3.00	FEB 25	4.17	MAY 29	4.82	AUG 29	5.24
DEC 30	4.65	MAR 31	4.23	JUN 30	4.85	SEP 29	4.79

WATER YEAR 1997 HIGHEST 3.00 NOV 29, 1996 LOWEST 5.24 AUG 29, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

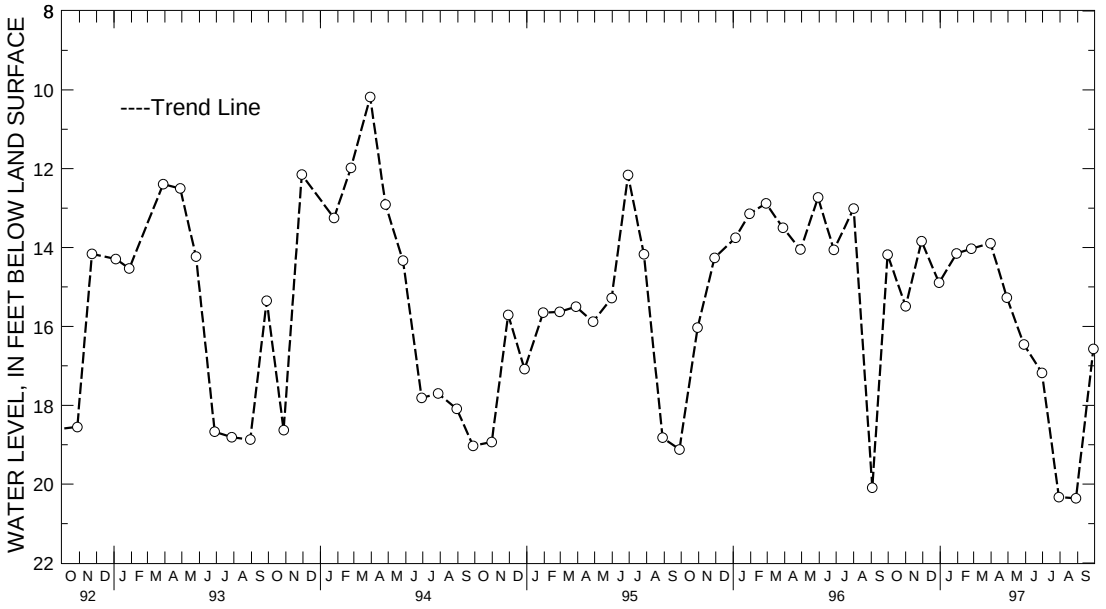
ALLEGANY COUNTY--Continued

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.--Altitude 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 01, 1996	15.49	JAN 30, 1997	14.15	APR 29, 1997	15.27	JUL 30, 1997	20.33
29	13.84	FEB 25	14.03	MAY 29	16.46	AUG 29	20.36
DEC 30	14.89	MAR 31	13.89	JUN 30	17.18	SEP 29	16.57

WATER YEAR 1997 HIGHEST 13.84 NOV 29, 1996 LOWEST 20.36 AUG 29, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

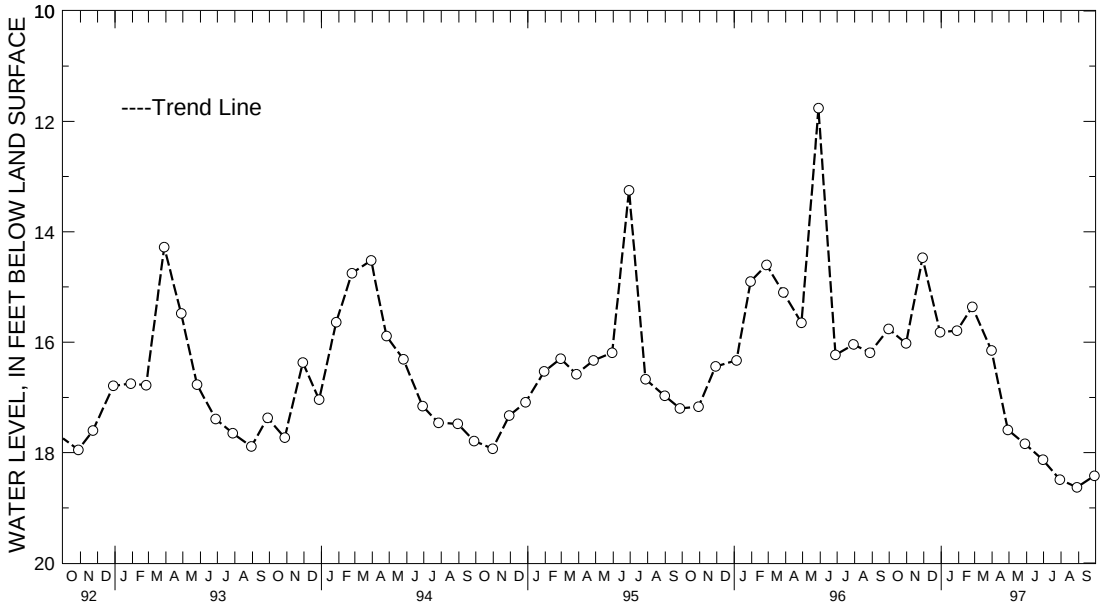
ALLEGANY COUNTY--Continued

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.--Altitude 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 31, 1996	16.02	JAN 29, 1997	15.79	APR 29, 1997	17.59	JUL 30, 1997	18.49
NOV 29	14.47	FEB 25	15.36	MAY 29	17.84	AUG 29	18.63
DEC 30	15.82	MAR 31	16.15	JUN 30	18.13	SEP 29	18.42

WATER YEAR 1997 HIGHEST 14.47 NOV 29, 1996 LOWEST 18.63 AUG 29, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

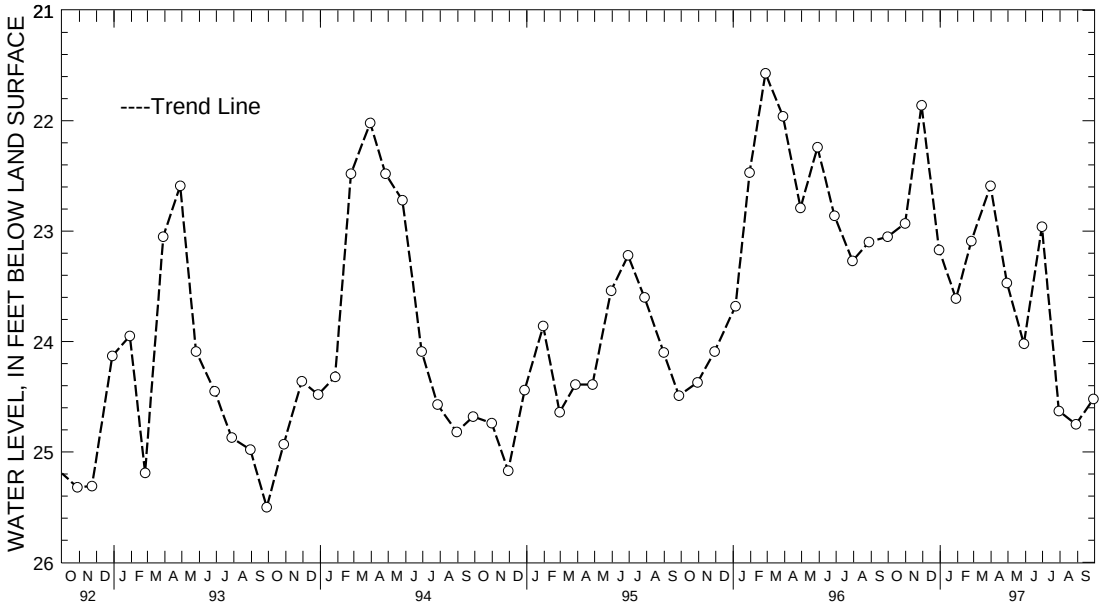
ALLEGANY COUNTY--Continued

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.--Altitude 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, 21.57 ft below land surface, Feb. 27, 1996; lowest measured, 26.00 ft below land surface, March 17, 1992.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 31, 1996	22.93	JAN 29, 1997	23.61	APR 29, 1997	23.47	JUL 30, 1997	24.63
NOV 29	21.86	FEB 25	23.09	MAY 29	24.02	AUG 29	24.75
DEC 30	23.17	MAR 31	22.59	JUN 30	22.96	SEP 29	24.52

WATER YEAR 1997 HIGHEST 21.86 NOV 29, 1996 LOWEST 24.75 AUG 29, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

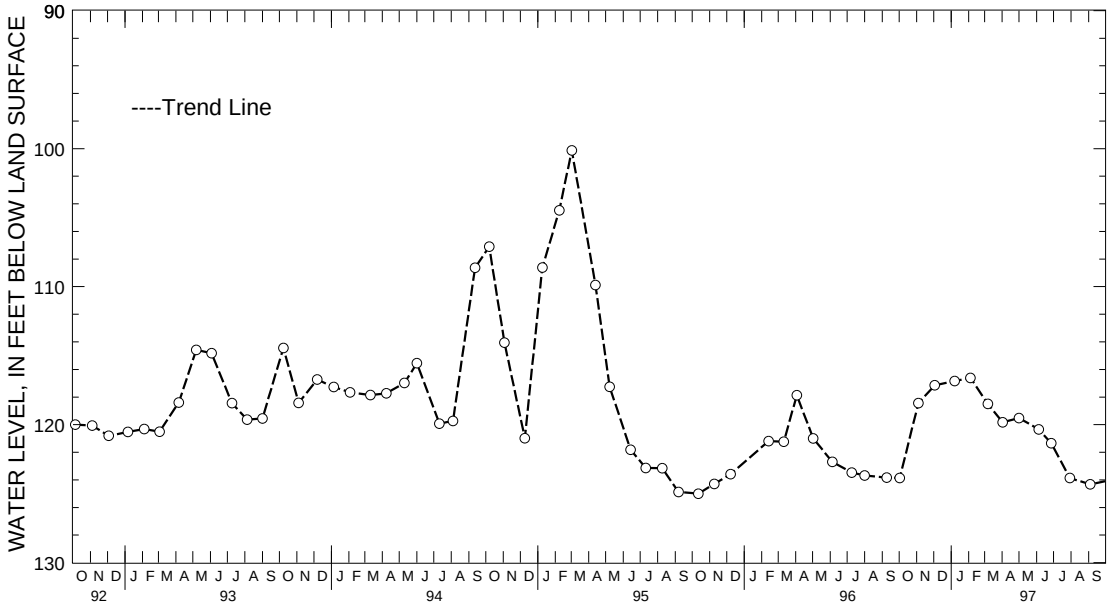
ANNE ARUNDEL COUNTY

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.
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 electric tape by U.S. Geological Survey personnel.
DATUM.--Altitude 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1996	123.87	JAN 07, 1997	116.84	APR 02, 1997	119.83	JUN 27, 1997	121.35
NOV 04	118.44	FEB 04	116.61	MAY 01	119.52	JUL 30	123.87
DEC 03	117.15	MAR 07	118.50	JUN 05	120.34	SEP 04	124.33

WATER YEAR 1997 HIGHEST 116.61 FEB 04,1997 LOWEST 124.33 SEP 04,1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

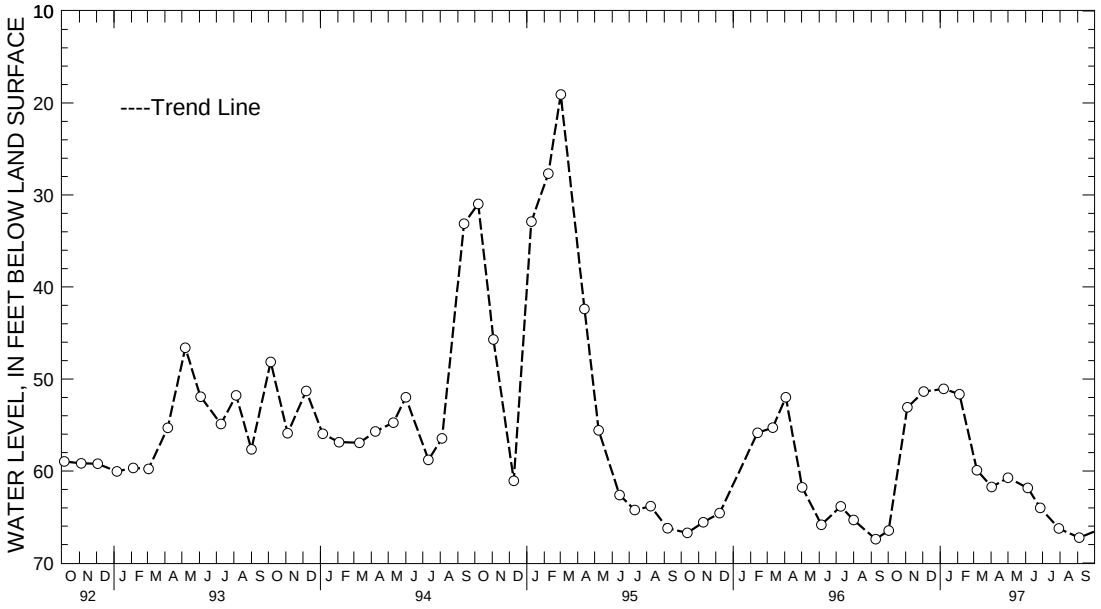
ANNE ARUNDEL COUNTY--Continued

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 electric tape by U.S. Geological Survey personnel. Equipped with graphic water-level recorder from July 19, 1948 to Jan. 18, 1968.
DATUM.--Altitude of land surface is 37.0 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.47 ft above land surface.
REMARKS.--Maryland Water-Level Network observation well. Water levels are affected by nearby pumping.
PERIOD OF RECORD.--June 1948 to February 1968, April 1974 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 14.04 ft above land surface, Sept. 2, 1952; lowest measured, 67.41 ft below land surface, Sept. 9, 1996.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1996	66.47	JAN 07, 1997	51.07	APR 02, 1997	61.73	JUN 27, 1997	64.01
NOV 04	53.08	FEB 04	51.65	MAY 01	60.74	JUL 30	66.25
DEC 03	51.37	MAR 07	59.91	JUN 05	61.85	SEP 04	67.24

WATER YEAR 1997 HIGHEST 51.07 JAN 07, 1997 LOWEST 67.24 SEP 04, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

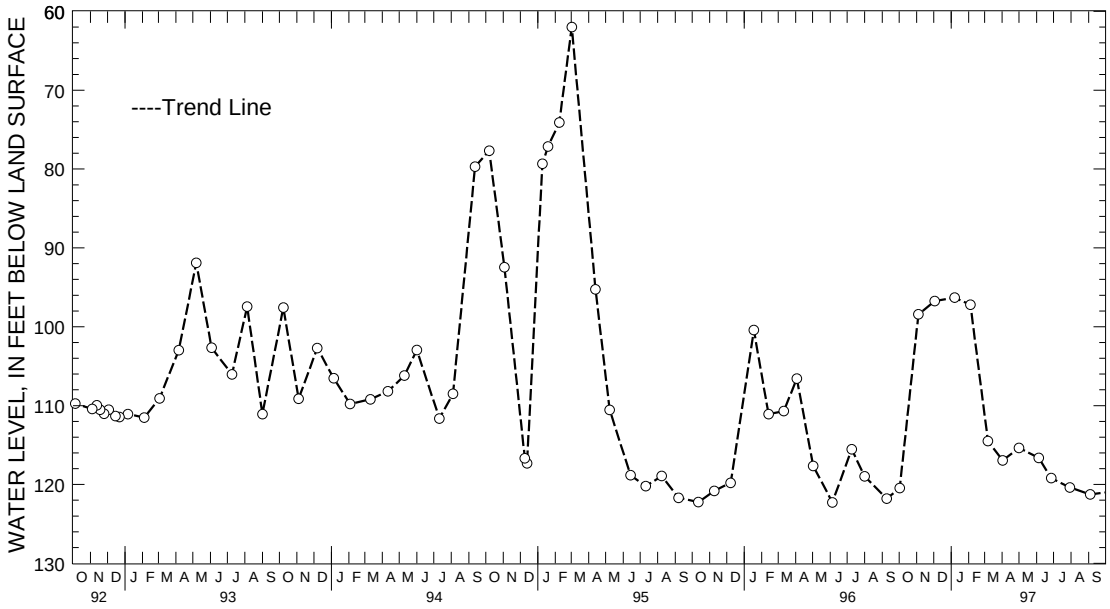
ANNE ARUNDEL COUNTY--Continued

WELL NUMBER.--AA Ad 90. SITE ID.--391032076385902. PERMIT NUMBER.--AA-04-0298.
LOCATION.--Lat 39°10´32˝, long 76°38´59˝, Hydrologic Unit 02060003, off Aviation Blvd, 0.5 mi north of Dorsey Rd. intersection.
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 453 ft; casing diameter 6 in., to 443 ft; screen diameter 6 in. from 443 to 453 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel. Equipped with graphic water-level recorder from Aug. 19, 1977 to Sept. 4, 1979. Periodic measurements from September 1979 to March 1980. Equipped with digital water-level recorder--30--minute recorder interval from March 1980 to Dec. 31, 1984, and August 1989 to current year.
DATUM.--Altitude of land surface is 77.85 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 observartion well. Water levels are affected by nearby pumping.
PERIOD OF RECORD.--April 1977 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 54.98 ft below land surface, Nov. 20, 1978; lowest measured, 122.27 ft below land surface, June 5, 1996.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1996	120.45	JAN 07, 1997	96.31	APR 02, 1997	116.94	JUN 27, 1997	119.20
NOV 04	98.43	FEB 04	97.21	MAY 01	115.37	JUL 30	120.38
DEC 03	96.74	MAR 07	114.50	JUN 05	116.63	SEP 04	121.27

WATER YEAR 1997 HIGHEST 96.31 JAN 07, 1997 LOWEST 121.27 SEP 04, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

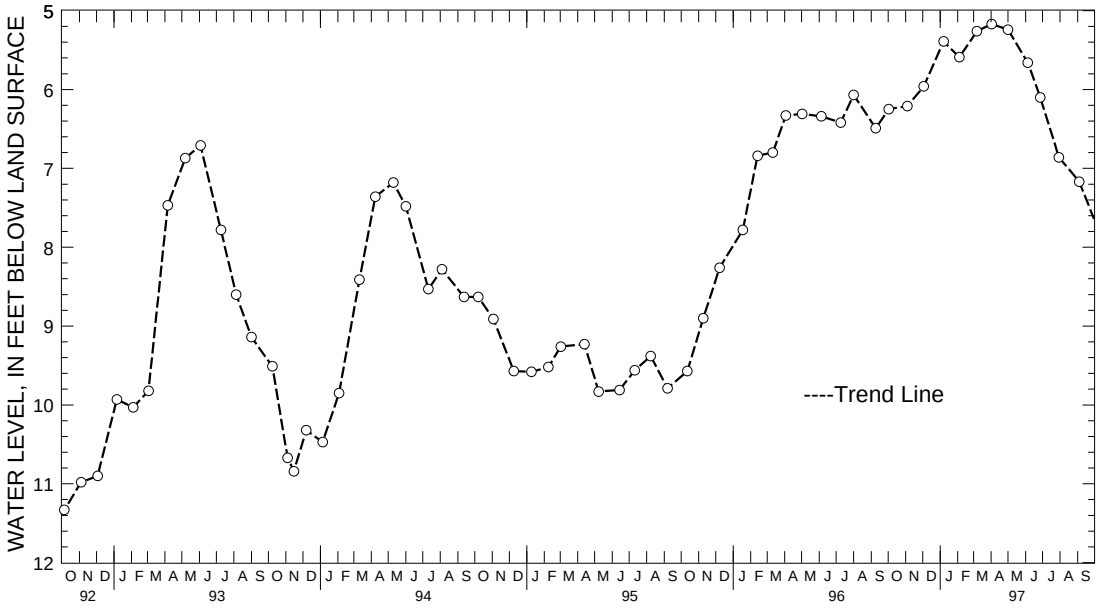
ANNE ARUNDEL COUNTY--Continued

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 Aviation Blvd., 0.5 mi north of Dorsey Rd. intersection.
Owner: U.S. Geological Survey.
AQUIFER.--Lower Patapsco aquifer in the Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSCL.
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 90; casing diameter 6 in., to 80 ft; screen diameter 6 in. from 80 to 90 ft.
INSTRUMENTATION.--Monthly measurements with electric 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.--Altitude of land surface is 73.72 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of recorder platform, 5.27 ft above land surface.
REMARKS.--Maryland Water-Level Network observation well. Water levels maybe affected by nearby pumping.
PERIOD OF RECORD.--December 1983 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.17 ft below land surface, April 2, 1997; 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1996	6.25	JAN 07, 1997	5.39	APR 02, 1997	5.17	JUN 27, 1997	6.10
NOV 04	6.21	FEB 04	5.59	MAY 01	5.24	JUL 30	6.86
DEC 03	5.96	MAR 07	5.26	JUN 05	5.66	SEP 04	7.17

WATER YEAR 1997 HIGHEST 5.17 APR 02, 1997 LOWEST 7.17 SEP 04, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

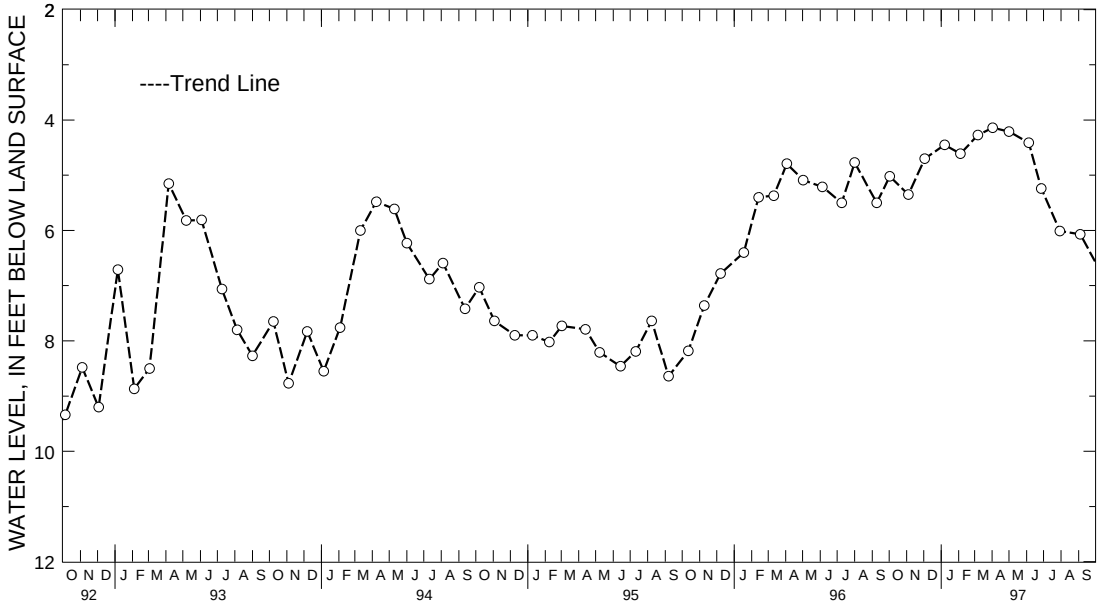
ANNE ARUNDEL COUNTY--Continued

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 Aviation Blvd., 0.5 mi north of Dorsey Rd. intersection.
Owner: U.S. Geological Survey.
AQUIFER.--Upper Patapsco aquifer in the Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSCU.
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 electric 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.--Altitude 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, 4.14 ft below land surface, April 2, 1997; 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1996	5.02	JAN 07, 1997	4.45	APR 02, 1997	4.14	JUN 27, 1997	5.24
NOV 04	5.35	FEB 04	4.61	MAY 01	4.21	JUL 30	6.01
DEC 03	4.70	MAR 07	4.27	JUN 05	4.41	SEP 04	6.07

WATER YEAR 1997 HIGHEST 4.14 APR 02, 1997 LOWEST 6.07 SEP 04, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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, nr Robert Pascal Senior Center.
Owner: U.S. Geological Survey.
AQUIFER.--Lower Patapsco aquifer in the Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSCL.
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.--Altitude of land surface is 35.78 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of recorder platform, 4.29 ft above land surface. On Aug. 1, 1996, 1.15 ft of casing were added. The new MP height is 5.44 ft. This extended casing was later removed on March 24, 1997.
REMARKS.--Anne Arundel Co. observation well network. Water levels before Feb. 23, 1986 are not currently available. Water are 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, (See Measuring Point) 39.17 ft above sea level (flowing), April 13-30, 1994, and May 1-17, 25, 26, 1994; with added casing highest level measured, 39.99 ft above sea level(flowing), January 8-15, 1997; lowest measured, 20.20 ft above sea level, Oct. 15, 1987.

WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	39.54	39.52	39.73	39.70	39.90	39.66	---	---	---	---	---	---
2	39.70	39.54	39.74	39.65	39.90	39.71	---	---	---	---	---	---
3	39.71	39.53	39.65	39.52	39.75	39.69	---	---	---	---	---	---
4	39.53	39.45	39.53	39.48	39.75	39.65	---	---	---	---	---	---
5	39.48	39.45	39.60	39.53	39.90	39.65	---	---	---	---	---	---
6	39.61	39.48	39.60	39.58	---	---	---	---	---	---	---	---
7	39.69	39.61	39.75	39.60	---	---	---	---	---	---	---	---
8	39.91	39.69	39.91	39.75	---	---	39.99	39.99	---	---	---	---
9	39.91	39.91	39.91	39.76	---	---	39.99	39.99	---	---	---	---
10	39.91	39.62	39.76	39.68	39.84	39.73	39.99	39.99	---	---	---	---
11	39.62	39.52	39.68	39.56	39.87	39.84	39.99	39.99	---	---	---	---
12	39.55	39.50	39.56	39.49	39.86	39.82	39.99	39.99	---	---	---	---
13	39.66	39.55	39.53	39.49	---	---	39.99	39.99	---	---	---	---
14	39.71	39.64	39.57	39.53	---	---	39.99	39.99	---	---	---	---
15	39.64	39.56	39.53	39.47	---	---	39.99	39.99	---	---	---	---
16	39.69	39.60	39.56	39.47	---	---	---	---	---	---	---	---
17	39.69	39.67	39.72	39.56	---	---	---	---	---	---	---	---
18	39.89	39.67	39.86	39.72	---	---	---	---	---	---	---	---
19	39.89	39.89	39.86	39.81	---	---	---	---	---	---	---	---
20	39.89	39.75	39.81	39.74	---	---	---	---	---	---	---	---
21	39.75	39.69	39.76	39.73	---	---	---	---	---	---	---	---
22	39.69	39.68	39.75	39.61	---	---	---	---	---	---	---	---
23	39.83	39.68	39.65	39.59	---	---	---	---	---	---	---	---
24	39.83	39.68	39.65	39.58	---	---	---	---	---	---	---	---
25	39.68	39.59	39.69	39.58	---	---	---	---	---	---	39.17	39.17
26	39.59	39.55	39.88	39.61	---	---	---	---	---	---	39.17	39.17
27	39.70	39.55	39.61	39.44	---	---	---	---	---	---	39.17	39.17
28	39.83	39.70	39.55	39.44	---	---	---	---	---	---	39.17	39.17
29	39.77	39.70	39.55	39.53	---	---	---	---	---	---	39.17	39.17
30	39.89	39.73	39.66	39.55	---	---	---	---	---	---	39.17	39.17
31	39.83	39.71	---	---	---	---	---	---	---	---	39.17	39.17
MONTH	39.91	39.45	39.91	39.44	39.90	39.65	39.99	39.99	---	---	39.17	39.17

GROUND-WATER LEVELS

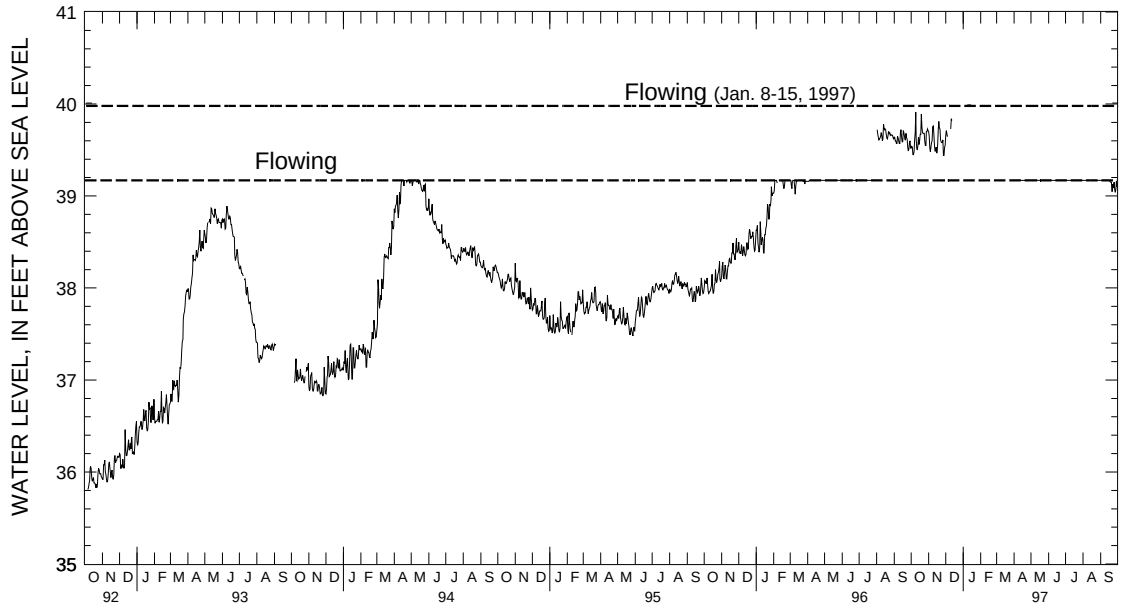
MARYLAND--Continued

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	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17
2	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17
3	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17
4	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17
5	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17
6	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17
7	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17
8	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17
9	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17
10	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17
11	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17
12	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17
13	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17
14	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17
15	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17
16	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17
17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17
18	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.15
19	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.16	39.15
20	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.16	39.15
21	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.15	39.05
22	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.13	39.05
23	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.16	39.13
24	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.15	39.09
25	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.16	39.15
26	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.16	39.07
27	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.07	39.04
28	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.16	39.07
29	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.16	39.16
30	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.16	39.10
31	---	---	39.17	39.17	---	---	39.17	39.17	39.17	39.17	---	---
MONTH	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.17	39.04
YEAR	39.99	39.04										

Daily Low Water Levels



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

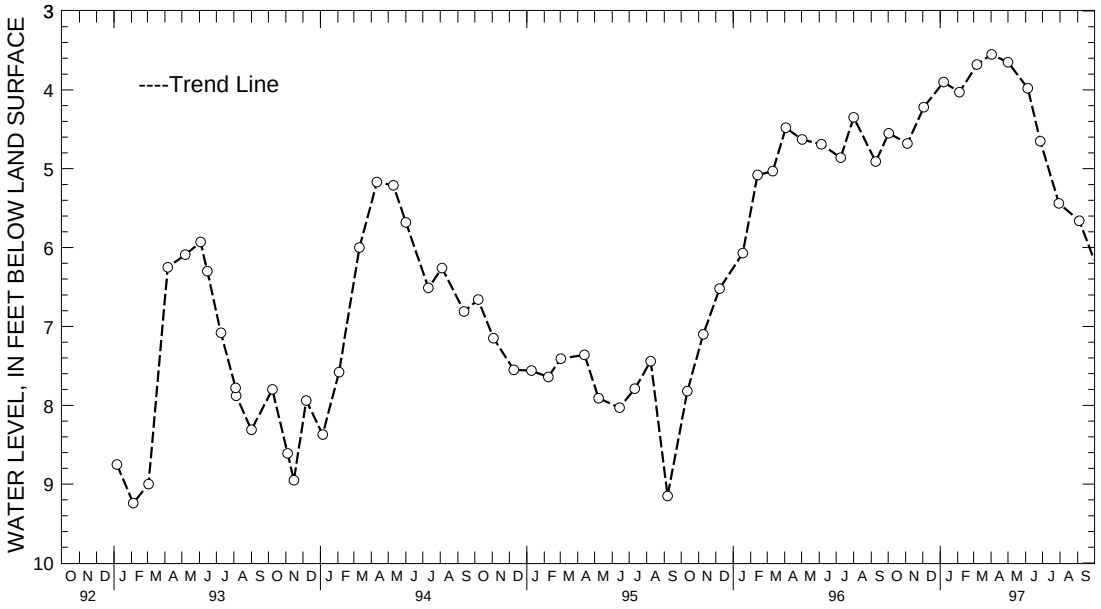
ANNE ARUNDEL COUNTY--Continued

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 Aviation Blvd.
0.5 mi of Dorsey Rd. interestion.
Owner: U.S. Geological Survey.
AQUIFER.--Lower Patapsco aquifer in the Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSCL.
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 electric tape by U.S. Geological Survey personnel.
DATUM.--Altitude of land surface is 80 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of casing, 5.03 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, 3.55 ft below land surface, April 2, 1997; lowest measured, 9.89 ft below land surface, December 3, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1996	4.55	JAN 07, 1997	3.90	APR 02, 1997	3.55	JUN 27, 1997	4.65
NOV 04	4.68	FEB 04	4.03	MAY 01	3.65	JUL 30	5.44
DEC 03	4.22	MAR 07	3.68	JUN 05	3.98	SEP 04	5.66

WATER YEAR 1997 HIGHEST 3.55 APR 02, 1997 LOWEST 5.66 SEP 04, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

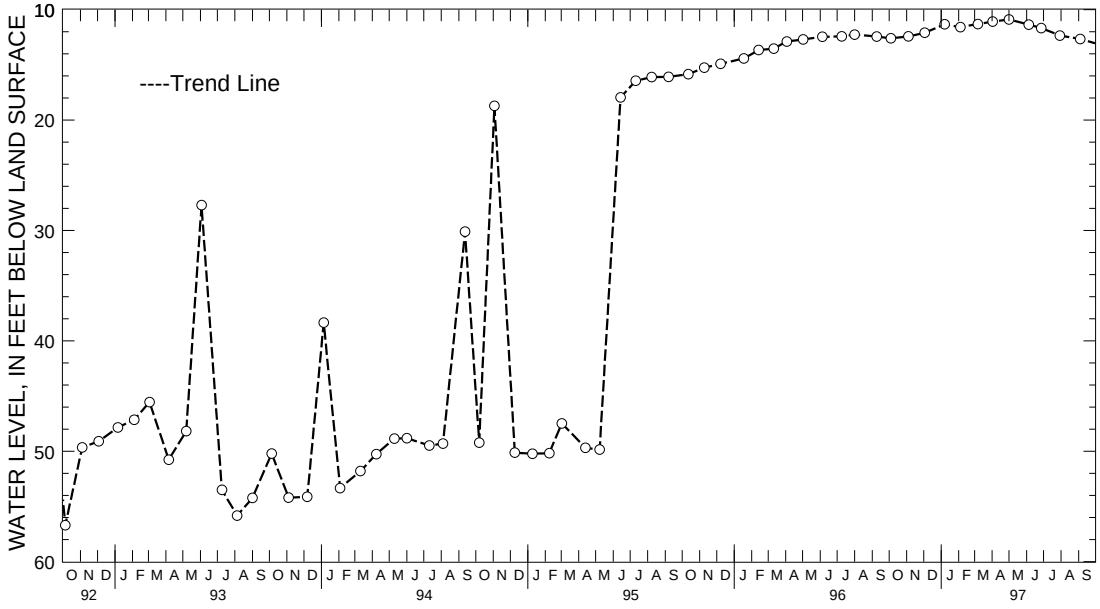
ANNE ARUNDEL COUNTY--Continued

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 County Department of Public Works.
AQUIFER.--Lower Patapsco aquifer in the Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSCL.
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 electric tape by U.S. Geological Survey personnel.
Equipped with digital recorder April 1981 to March 1986.
DATUM.--Altitude of land surface is 82.63 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. Water levels were affected by nearby pumping up to May 1995; when the nearby pumping station discontinued ground-water withdrawal from the Patapsco aquifer.
PERIOD OF RECORD.--March 1977 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.88 ft below land surface, May 1, 1997; lowest measured, 75.20 ft below land surface, Sept. 1, 1982.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 04, 1996	12.60	JAN 07, 1997	11.33	APR 02, 1997	11.08	JUN 27, 1997	11.67
NOV 04	12.42	FEB 04	11.59	MAY 01	10.88	JUL 30	12.34
DEC 03	12.09	MAR 07	11.30	JUN 05	11.36	SEP 04	12.66

WATER YEAR 1997 HIGHEST 10.88 MAY 01, 1997 LOWEST 12.66 SEP 04, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 southeast of the intersection of Oakwood Rd. and Funke Rd., at Woodside Elementary School.
Owner: U.S. Geological Survey.
AQUIFER.--Lower Patapsco aquifer in the Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSCL.
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 electric 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.--Altitude of land surface is 53.29 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. Water levels before Feb. 23, 1986 are not currently available. Water levels are affected by nearby pumping.
PERIOD OF RECORD.--March 1985 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 25.98 ft above sea level, April 14, 1994; lowest measured, 19.88 ft above sea level, Aug. 21, 1987.

WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	22.60	22.18	23.00	22.74	---	---	22.98	22.63	23.22	22.92	23.38	22.86
2	22.84	22.40	23.10	22.76	---	---	23.13	22.91	22.92	22.77	23.60	23.19
3	22.60	22.27	22.76	22.51	---	---	23.24	22.96	22.94	22.64	23.35	23.13
4	22.36	22.17	22.52	22.45	22.81	22.56	23.24	22.94	22.72	22.50	23.34	23.08
5	22.43	22.16	22.75	22.46	22.88	22.55	23.31	23.01	22.88	22.72	23.36	23.06
6	22.61	22.25	22.75	22.58	23.07	22.75	23.08	22.71	22.86	22.75	23.55	23.22
7	22.56	22.43	22.85	22.61	22.84	22.73	22.85	22.63	22.77	22.70	23.27	23.04
8	22.97	22.43	23.18	22.79	23.11	22.80	22.91	22.62	22.94	22.69	23.40	23.04
9	23.14	22.82	23.28	22.90	22.87	22.49	23.05	22.75	22.82	22.76	23.17	22.98
10	23.05	22.49	22.96	22.75	22.80	22.47	23.37	23.05	22.82	22.75	23.60	23.10
11	22.64	22.33	22.78	22.54	22.91	22.67	23.28	22.85	23.06	22.76	23.87	23.60
12	22.57	22.32	22.70	22.47	22.81	22.61	22.92	22.67	23.03	22.81	23.67	23.58
13	22.61	22.36	22.47	22.44	23.09	22.59	22.67	22.48	22.81	22.65	23.70	23.55
14	22.59	22.37	22.47	22.34	23.07	22.70	22.83	22.48	23.09	22.66	24.19	23.67
15	22.37	22.29	22.71	22.32	22.91	22.63	22.89	22.61	23.18	22.87	24.17	23.86
16	22.61	22.29	22.75	22.55	22.75	22.64	23.41	22.88	22.87	22.78	24.01	23.80
17	22.61	22.44	22.86	22.74	23.11	22.72	23.04	22.83	22.82	22.62	23.99	23.78
18	22.64	22.54	23.15	22.81	23.08	22.83	23.09	22.76	22.87	22.62	24.12	23.91
19	23.13	22.64	22.95	22.74	23.17	22.82	22.90	22.72	23.09	22.87	24.15	23.91
20	22.97	22.69	22.85	22.64	22.96	22.57	22.94	22.73	22.91	22.78	24.41	24.12
21	22.69	22.41	---	---	22.71	22.53	22.73	22.50	23.09	22.78	24.45	24.32
22	22.55	22.40	---	---	22.65	22.50	23.13	22.58	23.35	22.87	24.61	24.16
23	22.98	22.42	---	---	22.67	22.56	23.12	22.88	22.92	22.76	24.30	24.02
24	22.70	22.42	---	---	22.96	22.64	22.90	22.72	22.93	22.75	24.02	23.89
25	22.68	22.37	---	---	22.93	22.64	23.13	22.83	22.95	22.76	24.20	23.86
26	22.68	22.36	---	---	22.96	22.62	22.83	22.46	23.02	22.83	24.54	24.20
27	22.73	22.37	---	---	22.88	22.69	22.57	22.41	23.26	23.02	24.45	24.23
28	22.72	22.49	---	---	23.08	22.66	22.84	22.57	23.16	22.88	24.47	24.22
29	22.74	22.46	---	---	23.17	22.84	22.71	22.55	---	---	24.71	24.34
30	23.07	22.64	---	---	22.94	22.73	22.81	22.54	---	---	24.56	24.35
31	22.93	22.76	---	---	23.05	22.70	23.10	22.80	---	---	24.72	24.41
MONTH	23.14	22.16	23.28	22.32	23.17	22.47	23.41	22.41	23.35	22.50	24.72	22.86

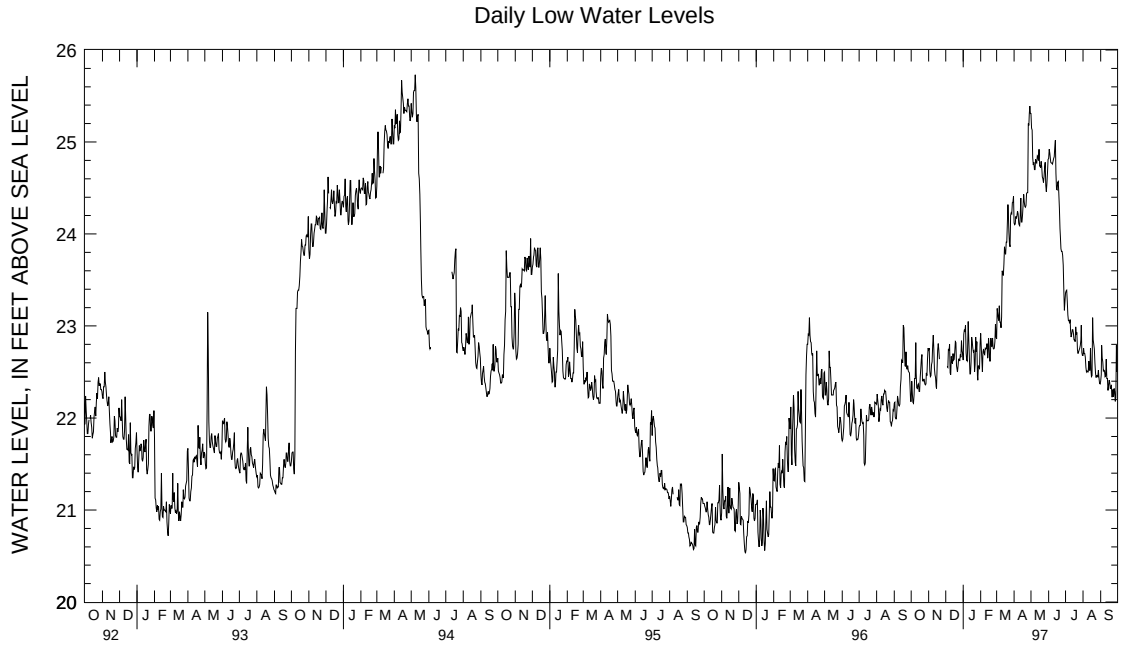
GROUND-WATER LEVELS

MARYLAND--Continued

ANNE ARUNDEL COUNTY--Continued

AA Bd 152--Continued

DAY	APRIL MAX	APRIL MIN	MAY MAX	MAY MIN	JUNE MAX	JUNE MIN	JULY MAX	JULY MIN	AUGUST MAX	AUGUST MIN	SEPTEMBER MAX	SEPTEMBER MIN
1	24.53	24.12	25.47	25.31	24.95	24.82	23.40	23.36	22.85	22.68	22.47	22.40
2	24.28	24.10	25.31	25.15	24.99	24.92	23.42	23.38	22.81	22.76	23.40	22.47
3	24.35	24.11	25.21	25.13	24.96	24.88	23.43	23.39	22.78	22.70	23.24	22.79
4	24.41	24.19	25.13	24.83	24.91	24.84	23.39	23.27	22.78	22.70	22.81	22.65
5	24.31	24.17	24.85	24.75	24.84	24.78	23.27	23.12	22.79	22.66	22.75	22.61
6	24.56	24.20	24.93	24.78	24.81	24.77	23.12	23.06	22.66	22.55	22.61	22.51
7	24.58	24.25	24.78	24.70	24.81	24.77	23.09	23.06	22.56	22.50	22.60	22.52
8	24.32	24.22	24.81	24.70	24.82	24.76	23.07	23.03	22.55	22.51	22.63	22.51
9	24.34	24.12	24.95	24.81	24.88	24.79	23.12	23.07	22.53	22.50	22.51	22.45
10	24.24	24.10	24.93	24.78	24.88	24.82	23.10	22.95	22.72	22.50	22.73	22.46
11	24.26	24.09	24.85	24.77	24.94	24.84	22.95	22.88	22.74	22.62	22.83	22.64
12	24.54	24.20	24.94	24.85	25.08	24.94	22.97	22.91	22.63	22.52	22.64	22.43
13	24.78	24.39	24.92	24.84	25.29	25.02	23.00	22.96	22.86	22.52	22.49	22.43
14	24.39	24.13	25.06	24.80	25.06	24.66	23.21	22.96	22.97	22.76	22.44	22.30
15	24.36	24.13	25.06	24.92	24.66	24.49	23.05	22.92	22.76	22.50	22.54	22.35
16	24.32	24.21	24.92	24.74	24.56	24.48	22.92	22.85	22.55	22.45	22.51	22.41
17	24.47	24.32	24.82	24.74	24.68	24.56	22.99	22.85	23.09	22.46	22.43	22.39
18	24.55	24.43	24.80	24.72	24.67	24.57	23.04	22.83	23.92	23.09	22.40	22.32
19	24.53	24.35	24.87	24.79	24.59	24.44	23.23	22.99	23.75	22.85	22.36	22.32
20	24.44	24.30	24.87	24.73	24.44	24.28	22.99	22.91	23.04	22.80	22.58	22.36
21	24.37	24.29	24.73	24.62	24.28	24.06	23.18	22.93	22.98	22.75	22.40	22.23
22	24.45	24.31	24.65	24.60	24.14	23.98	22.94	22.74	22.75	22.60	22.32	22.23
23	24.54	24.44	24.63	24.56	23.98	23.84	22.74	22.70	22.60	22.49	22.35	22.31
24	24.61	24.45	24.72	24.62	23.84	23.81	22.78	22.72	22.49	22.44	22.32	22.23
25	25.51	24.45	25.05	24.72	23.84	23.81	22.78	22.74	22.53	22.46	22.46	22.32
26	25.73	25.20	25.05	24.78	23.83	23.77	22.84	22.76	22.50	22.46	22.45	22.29
27	25.33	25.18	24.78	24.53	23.82	23.66	22.85	22.79	22.52	22.45	22.29	22.18
28	25.68	25.30	24.55	24.46	23.66	23.39	23.10	22.85	22.59	22.52	23.07	22.22
29	25.67	25.39	24.67	24.55	23.39	23.17	23.33	23.01	22.59	22.44	23.15	22.79
30	25.64	25.31	24.88	24.67	23.41	23.27	23.01	22.71	22.46	22.38	22.80	22.50
31	---	---	24.88	24.81	---	---	22.72	22.68	22.45	22.37	---	---
MONTH	25.73	24.09	25.47	24.46	25.29	23.17	23.43	22.68	23.92	22.37	23.40	22.18
YEAR	25.73	22.16										



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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,off Stewart Avenue nr bike trail.
Owner: U.S. Geological Survey.
AQUIFER.--Lower Patapsco aquifer in the Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSCL.
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 electric 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.--Altitude of land surface is 57.50 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of recorder platform, 2.5 ft above land surface.
REMARKS.--Maryland Water-Level Network observation well. Water levels are affected by nearby pumping.
Missing data due to recorder malfunction.
PERIOD OF RECORD.--October 1984 to current year
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 49.30 ft above sea level, April 12, and 13, 1997;
lowest measured, 34.54 ft above sea level, Oct. 10, 1986.

WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	48.16	48.12	48.29	48.23	48.51	48.22	48.93	48.72	48.96	48.70	48.89	48.62
2	48.29	48.16	48.30	48.18	48.52	48.27	48.99	48.93	48.70	48.64	48.95	48.74
3	48.30	48.11	48.18	48.10	48.41	48.26	49.00	48.88	48.68	48.55	48.90	48.70
4	48.11	48.04	48.15	48.07	48.41	48.29	48.90	48.83	48.81	48.55	48.92	48.85
5	48.10	48.05	48.21	48.14	48.60	48.29	49.05	48.90	48.91	48.79	49.11	48.85
6	48.20	48.09	48.20	48.15	48.67	48.46	48.94	48.77	48.79	48.71	49.14	48.84
7	48.25	48.20	48.31	48.20	48.57	48.47	48.80	48.73	48.73	48.69	48.84	48.73
8	48.52	48.24	48.49	48.31	48.58	48.51	48.78	48.73	48.78	48.70	49.00	48.79
9	48.44	48.30	48.50	48.26	48.51	48.34	49.06	48.75	48.72	48.68	48.94	48.71
10	48.32	48.14	48.28	48.22	48.49	48.34	49.06	48.87	48.76	48.70	49.09	48.94
11	48.14	48.09	48.23	48.12	48.51	48.46	48.88	48.65	48.76	48.72	49.03	48.88
12	48.17	48.09	48.13	48.08	48.46	48.43	48.66	48.62	48.80	48.69	48.89	48.82
13	48.25	48.15	48.15	48.08	48.65	48.44	48.65	48.61	48.69	48.54	48.89	48.79
14	48.28	48.17	48.18	48.10	48.67	48.59	48.69	48.64	48.89	48.66	49.21	48.89
15	48.17	48.11	48.10	48.06	48.64	48.58	48.89	48.67	48.89	48.72	49.17	48.88
16	48.25	48.17	48.18	48.08	48.76	48.64	49.07	48.81	48.80	48.66	48.88	48.83
17	48.22	48.20	48.29	48.17	48.83	48.76	48.81	48.66	48.80	48.61	49.03	48.87
18	48.38	48.20	48.38	48.29	48.77	48.72	48.77	48.63	48.83	48.67	49.02	48.96
19	48.50	48.38	48.38	48.30	48.85	48.72	48.74	48.63	48.91	48.79	49.11	48.97
20	48.45	48.28	48.30	48.23	48.72	48.57	48.81	48.69	48.79	48.65	49.19	49.11
21	48.28	48.24	48.27	48.22	48.66	48.57	48.69	48.52	48.99	48.72	49.24	49.09
22	48.27	48.24	48.23	48.12	48.77	48.66	48.85	48.59	48.98	48.64	49.28	48.95
23	48.41	48.27	48.21	48.12	48.84	48.76	48.85	48.56	48.66	48.58	48.98	48.92
24	48.38	48.24	48.18	48.11	48.96	48.82	48.88	48.55	48.73	48.63	48.92	48.81
25	48.25	48.17	48.23	48.14	48.82	48.67	48.96	48.74	48.76	48.65	49.18	48.87
26	48.18	48.14	48.39	48.10	48.81	48.66	48.74	48.56	48.88	48.75	49.26	49.06
27	48.29	48.16	48.10	48.01	48.85	48.80	48.79	48.57	48.94	48.77	49.15	49.06
28	48.39	48.28	48.16	48.01	48.88	48.80	48.90	48.68	48.77	48.62	49.18	49.08
29	48.30	48.23	48.14	48.10	48.93	48.84	48.68	48.60	---	---	49.26	49.12
30	48.48	48.29	48.22	48.13	48.84	48.76	48.83	48.66	---	---	49.17	49.07
31	48.30	48.21	---	---	48.90	48.72	48.96	48.83	---	---	49.22	49.17
MONTH	48.52	48.04	48.50	48.01	48.96	48.22	49.07	48.52	48.99	48.54	49.28	48.62

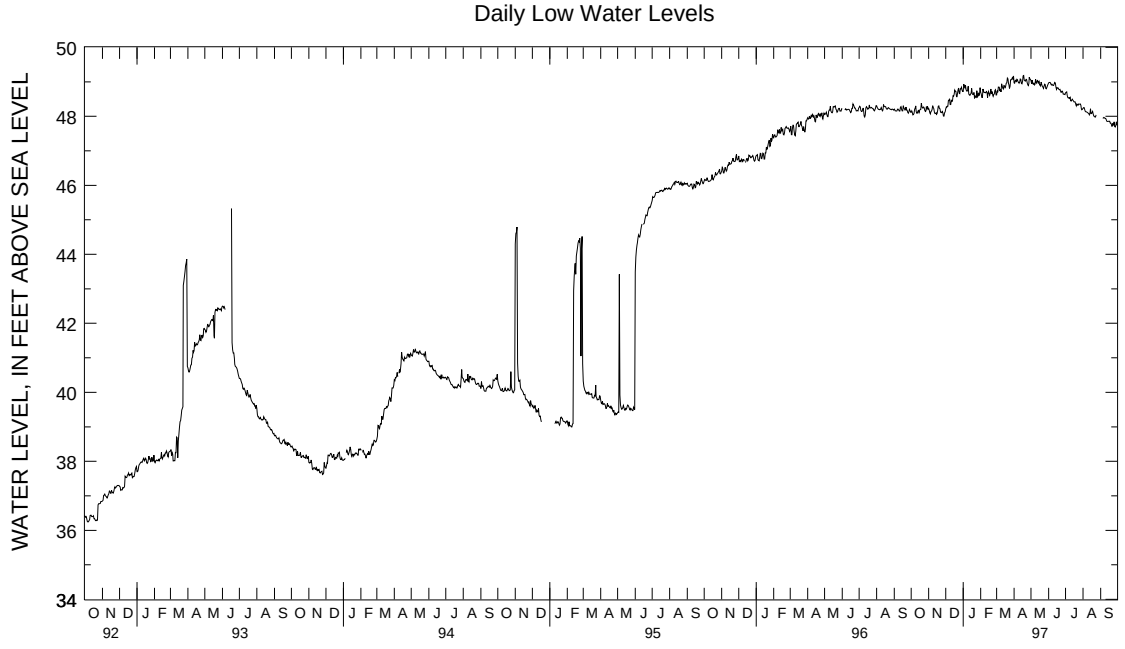
GROUND-WATER LEVELS

MARYLAND--Continued

ANNE ARUNDEL COUNTY--Continued

AA Bd 155--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	49.17	48.97	49.27	49.04	49.01	48.97	48.73	48.68	48.29	48.23	---	---
2	49.06	48.96	49.05	48.95	49.01	48.98	48.73	48.70	48.29	48.25	---	---
3	49.14	49.04	49.29	49.05	49.03	48.98	48.77	48.71	48.29	48.25	---	---
4	49.13	49.05	49.15	48.95	49.04	48.98	48.71	48.60	48.27	48.19	---	---
5	49.07	48.99	49.08	48.93	49.00	48.94	48.60	48.54	48.19	48.14	47.99	47.94
6	49.22	49.07	49.12	48.96	48.95	48.91	48.57	48.53	48.17	48.13	47.99	47.95
7	49.22	49.05	49.01	48.91	48.95	48.93	48.57	48.54	48.17	48.13	48.02	47.97
8	49.11	49.00	49.07	48.93	48.95	48.91	48.58	48.52	48.15	48.12	47.99	47.95
9	49.07	48.98	49.17	49.07	48.94	48.89	48.61	48.55	48.14	48.11	47.95	47.94
10	49.03	48.96	49.10	48.98	48.96	48.90	48.55	48.46	48.18	48.09	47.98	47.94
11	49.09	48.99	49.05	48.96	48.99	48.94	48.49	48.44	48.14	48.08	47.97	47.90
12	49.30	49.08	49.10	49.04	49.02	48.98	48.53	48.47	48.09	48.04	47.90	47.86
13	49.30	49.07	49.06	49.02	49.02	48.96	48.53	48.50	48.37	48.08	47.89	47.85
14	49.07	48.96	49.03	48.97	48.96	48.85	48.51	48.47	48.33	48.22	47.89	47.85
15	49.02	48.94	49.07	49.01	48.85	48.78	48.48	48.45	48.22	48.08	47.90	47.86
16	49.17	49.01	49.01	48.91	48.89	48.83	48.46	48.42	48.11	48.08	47.91	47.86
17	49.22	49.17	49.01	48.91	48.88	48.82	48.49	48.42	48.15	48.10	47.91	47.86
18	49.23	49.18	48.99	48.88	48.90	48.82	48.49	48.42	48.17	48.14	47.86	47.80
19	49.18	49.05	49.06	48.99	48.87	48.78	48.44	48.35	48.15	48.07	47.87	47.80
20	49.09	49.03	49.03	48.92	48.81	48.77	48.38	48.30	48.07	48.01	47.93	47.76
21	49.07	49.02	48.93	48.87	48.83	48.78	48.42	48.36	48.04	48.00	47.76	47.71
22	49.11	49.07	48.91	48.85	48.81	48.75	48.41	48.33	48.02	47.98	47.82	47.72
23	49.12	49.07	48.89	48.81	48.75	48.70	48.36	48.32	48.07	47.98	47.87	47.80
24	49.13	48.98	48.94	48.87	48.75	48.70	48.38	48.36	48.10	48.04	47.84	47.74
25	48.98	48.92	49.10	48.93	48.78	48.73	48.37	48.35	---	---	47.95	47.84
26	48.96	48.89	49.09	48.92	48.76	48.71	48.38	48.35	---	---	47.88	47.70
27	49.17	48.95	48.92	48.81	48.71	48.64	48.39	48.36	---	---	47.75	47.69
28	49.29	49.14	48.86	48.80	48.68	48.64	48.37	48.32	---	---	48.01	47.74
29	49.14	49.09	48.90	48.84	48.67	48.64	48.33	48.23	---	---	48.02	47.84
30	49.15	49.07	48.94	48.89	48.68	48.63	48.24	48.19	---	---	47.88	47.74
31	---	---	49.00	48.93	---	---	48.25	48.21	---	---	---	---
MONTH	49.30	48.89	49.29	48.80	49.04	48.63	48.77	48.19	48.37	47.98	48.02	47.69
YEAR	49.30	47.69										



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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, next to the Baltimore and Annapolis bike trail.
Owner: U.S. Geological Survey.
AQUIFER.--Lower Patapsco aquifer in the Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSCL.
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 173 ft; casing diameter 6 in., to 160 ft;
casing diameter 4 in. from 170 to 173 ft; screen diameter 4 in. from 160 to 170 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
Equipped with digital water-level recorder--30-minute recorder interval from October 1984 to current year.
DATUM.--Altitude of land surface is 68.99 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of recorder platform, 2.26 ft above land surface.
REMARKS.--Maryland Water-Level Network observation well. Water levels are affected by nearby pumping.
Missing data due to recorder malfunction.
PERIOD OF RECORD.--October 1984 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 29.04 ft above sea level, May 8, 1994;
lowest measured, 13.47 ft above sea level, Feb. 10, 1988.

WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	23.19	21.93	22.83	22.21	22.85	22.33	---	---	23.39	22.67	23.38	22.52
2	22.90	22.19	22.95	22.17	22.72	22.10	---	---	22.99	22.58	23.79	22.87
3	22.74	22.04	22.46	21.97	---	---	---	---	22.99	22.39	23.22	22.82
4	22.49	21.99	22.07	21.94	---	---	---	---	22.47	22.22	23.33	22.67
5	22.59	21.99	22.48	21.94	---	---	---	---	22.62	22.47	23.37	22.67
6	22.85	22.04	22.44	22.04	---	---	---	---	22.86	22.49	23.74	22.96
7	22.68	22.22	22.51	22.08	---	---	---	---	22.67	22.45	23.39	22.81
8	23.02	22.28	22.88	22.27	---	---	23.00	22.33	22.93	22.45	23.59	22.78
9	23.97	22.52	23.02	22.19	---	---	22.88	22.56	22.72	22.52	23.28	22.74
10	23.26	22.20	22.51	22.09	---	---	23.65	22.79	22.72	22.50	23.58	22.88
11	22.79	21.99	22.31	21.91	---	---	23.49	22.46	23.15	22.59	23.88	23.44
12	22.72	21.98	22.30	21.86	---	---	22.93	22.37	23.00	22.55	23.98	23.83
13	22.75	22.06	21.90	21.85	---	---	22.38	22.26	22.69	22.34	24.06	23.85
14	22.65	22.08	21.93	21.80	---	---	22.94	22.25	23.01	22.34	24.52	23.93
15	22.23	22.00	21.80	21.72	---	---	22.96	22.39	23.13	22.51	24.57	24.05
16	22.74	22.05	22.40	21.75	---	---	23.57	22.71	22.69	22.41	24.30	24.03
17	22.88	22.53	22.32	21.99	---	---	23.04	22.58	22.67	22.33	24.29	24.03
18	22.89	22.44	22.33	22.17	---	---	23.17	22.47	22.67	22.33	24.58	24.24
19	23.29	22.44	22.96	22.33	---	---	22.88	22.42	22.94	22.59	24.54	24.24
20	22.92	22.25	22.89	22.27	---	---	22.89	22.55	22.85	22.49	25.04	24.44
21	22.42	22.07	22.55	22.22	---	---	22.80	22.29	22.87	22.49	25.11	24.89
22	22.56	22.05	22.86	22.10	---	---	23.50	22.80	23.53	22.55	25.18	24.43
23	23.18	22.11	22.67	22.06	---	---	23.67	22.74	22.90	22.46	24.70	24.31
24	22.71	22.10	22.63	22.08	---	---	22.74	22.51	22.91	22.43	24.44	24.18
25	23.13	22.05	22.62	22.09	---	---	23.12	22.64	22.95	22.48	24.67	24.18
26	23.13	22.02	23.04	22.12	---	---	22.64	22.22	22.97	22.60	25.11	24.61
27	23.18	22.06	22.67	21.90	---	---	22.36	22.15	23.28	22.79	24.91	24.61
28	22.77	22.26	22.84	21.90	---	---	22.83	22.36	23.13	22.54	24.93	24.63
29	22.83	22.19	22.91	22.12	---	---	22.75	22.36	---	---	25.19	24.78
30	22.86	22.19	23.07	22.14	---	---	22.80	22.36	---	---	25.02	24.77
31	22.74	22.22	---	---	---	---	23.15	22.64	---	---	25.18	24.81
MONTH	23.97	21.93	23.07	21.72	22.85	22.10	23.67	22.15	23.53	22.22	25.19	22.52

GROUND-WATER LEVELS

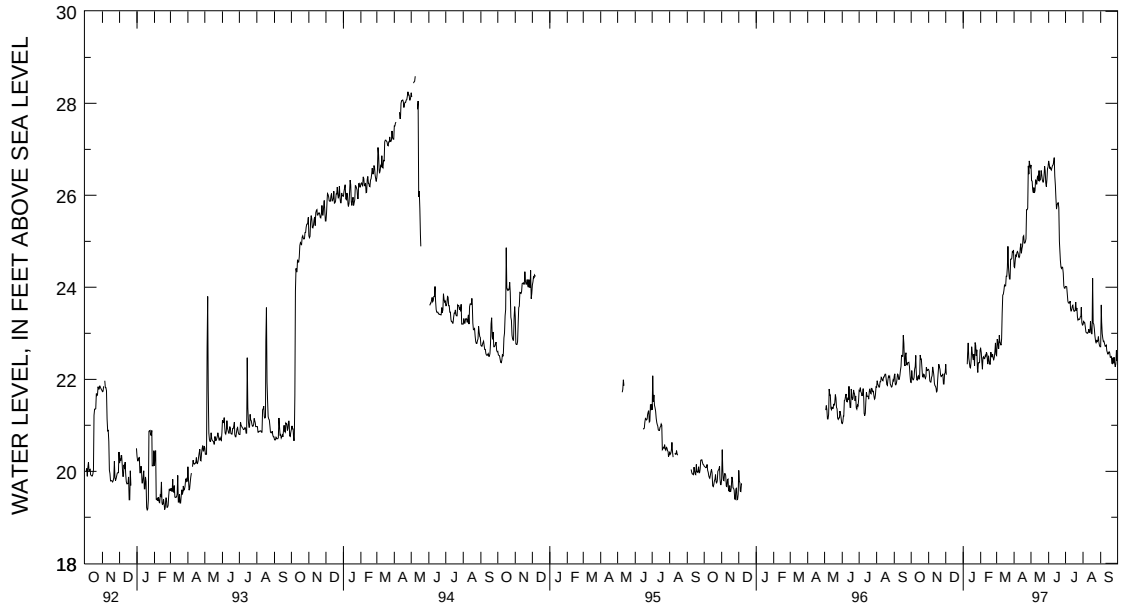
MARYLAND--Continued

ANNE ARUNDEL COUNTY--Continued

AA Bd 156--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	25.04	24.45	27.22	26.66	26.86	26.75	24.06	24.02	23.41	23.19	23.62	22.71
2	24.72	24.43	26.70	26.32	26.86	26.68	24.12	24.02	23.34	23.27	25.38	23.62
3	24.96	24.59	26.58	26.31	26.73	26.58	24.08	24.01	23.28	23.23	23.83	23.25
4	25.08	24.70	26.43	26.12	26.73	26.62	24.01	23.86	23.45	23.23	23.53	22.99
5	24.93	24.68	26.25	26.06	26.68	26.57	23.86	23.70	23.39	23.14	23.00	22.89
6	25.21	24.76	26.42	26.17	26.67	26.55	23.71	23.66	23.14	23.03	22.89	22.82
7	25.26	24.78	26.20	26.05	26.72	26.60	23.76	23.66	23.10	23.01	22.91	22.83
8	24.97	24.74	26.34	26.10	26.77	26.65	23.70	23.66	23.07	23.01	22.94	22.78
9	25.00	24.66	26.50	26.34	26.84	26.66	23.77	23.70	23.04	23.00	22.78	22.72
10	24.91	24.65	26.47	26.30	26.86	26.72	23.71	23.53	23.26	23.02	23.70	22.72
11	24.97	24.68	26.43	26.24	26.96	26.82	23.54	23.49	23.25	23.09	23.03	22.74
12	25.23	24.85	26.59	26.39	26.96	26.42	23.60	23.52	23.09	23.02	22.74	22.62
13	25.52	24.95	26.53	26.42	26.42	26.22	23.63	23.59	23.90	23.02	22.63	22.58
14	25.04	24.74	26.86	26.31	26.22	25.93	24.08	23.61	24.03	23.26	22.61	22.55
15	25.18	24.84	26.70	26.54	25.93	25.70	23.66	23.52	23.26	23.09	23.08	22.58
16	25.10	24.90	26.57	26.32	25.94	25.79	23.53	23.48	23.09	22.99	22.77	22.60
17	25.39	25.10	26.57	26.33	26.64	25.83	23.67	23.48	24.20	22.99	22.64	22.58
18	25.37	25.12	26.57	26.35	26.14	25.84	24.15	23.50	25.92	24.20	22.60	22.48
19	25.31	24.96	26.65	26.54	25.89	25.73	24.16	23.68	24.62	23.22	22.57	22.48
20	25.20	24.96	26.66	26.45	25.75	25.00	23.87	23.49	23.29	23.20	22.69	22.49
21	25.17	24.99	26.45	26.34	25.00	24.75	24.11	23.55	23.27	23.10	22.49	22.35
22	25.70	25.06	26.42	26.29	24.85	24.59	23.58	23.35	23.10	22.94	22.47	22.34
23	25.90	25.69	26.50	26.29	24.68	24.44	23.35	23.29	22.94	22.84	22.54	22.47
24	25.97	25.69	26.63	26.43	24.47	24.41	23.35	23.31	22.85	22.80	22.48	22.35
25	27.53	25.72	26.84	26.63	24.53	24.44	23.32	23.30	22.92	22.84	22.69	22.48
26	27.71	26.64	26.77	26.53	24.51	24.43	23.38	23.31	22.85	22.82	22.63	22.34
27	26.75	26.46	26.53	26.27	24.97	24.31	23.40	23.36	22.93	22.84	22.34	22.27
28	26.91	26.75	26.39	26.19	24.41	24.03	25.06	23.37	22.99	22.93	22.82	22.34
29	27.02	26.66	26.63	26.34	24.08	23.98	25.56	23.57	22.98	22.80	22.85	22.63
30	26.72	26.59	26.75	26.58	24.22	23.98	23.57	23.23	22.80	22.73	22.67	22.40
31	---	---	26.83	26.62	---	---	23.23	23.18	22.75	22.71	---	---
MONTH	27.71	24.43	27.22	26.05	26.96	23.98	25.56	23.18	25.92	22.71	25.38	22.27
YEAR	27.71	21.72										

Daily Low Water Levels



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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., at Rippling Woods Elementary School.
Owner: U.S. Geological Survey.
AQUIFER.--Lower Patapsco aquifer in the Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSCL.
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 electric tape by U.S. Geological Survey personnel.
Equipped with digital water-level recorder--60-minute recorder interval from March 1985 to current year.
DATUM.--Altitude of land surface is 75.75 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of recorder platform, 2.5 ft above land surface.
REMARKS.--Maryland Water-Level Network observation well. 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, 38.10 ft above sea level, April 29, 1997; lowest measured, 32.95 ft above sea level, Oct. 2, 1992.

WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	35.89	35.57	36.27	35.97	36.33	36.07	36.68	36.42	36.73	36.37	36.82	36.43
2	36.04	35.66	36.35	35.95	36.31	36.00	36.71	36.37	36.40	36.30	37.03	36.66
3	35.96	35.63	36.10	35.82	36.20	35.99	36.73	36.42	36.40	36.18	36.77	36.55
4	35.81	35.57	35.87	35.78	36.26	35.98	36.73	36.39	36.33	36.12	36.87	36.64
5	35.84	35.57	36.06	35.78	36.29	36.12	---	---	36.40	36.31	36.86	36.56
6	35.95	35.60	36.07	35.84	36.34	36.08	---	---	36.44	36.27	37.04	36.74
7	35.92	35.74	36.10	35.87	36.44	36.10	---	---	36.31	36.24	---	---
8	36.15	35.76	36.32	35.99	36.36	36.04	36.50	36.19	36.42	36.24	---	---
9	36.25	35.97	36.51	36.08	36.23	35.94	36.51	36.29	36.37	36.28	---	---
10	36.22	35.82	36.24	36.00	36.34	36.06	36.82	36.45	36.32	36.27	---	---
11	36.06	35.74	36.12	35.86	36.26	36.05	36.78	36.28	36.55	36.29	---	---
12	36.05	35.73	36.08	35.81	36.37	36.04	36.48	36.18	36.50	36.28	---	---
13	36.06	35.77	35.85	35.80	36.53	36.20	36.21	36.10	36.33	36.21	---	---
14	36.02	35.77	35.82	35.72	36.40	36.11	36.43	36.10	36.57	36.24	---	---
15	35.83	35.75	35.72	35.68	36.25	36.13	36.44	36.19	36.66	36.32	---	---
16	36.05	35.75	36.06	35.69	36.53	36.18	36.84	36.37	36.39	36.30	---	---
17	35.93	35.80	36.03	35.82	36.50	36.24	36.57	36.33	36.35	36.20	---	---
18	35.97	35.79	36.02	35.93	36.58	36.23	36.62	36.24	36.62	36.21	---	---
19	36.42	35.97	36.34	36.02	36.45	36.17	36.42	36.23	36.77	36.44	---	---
20	36.32	36.02	36.26	36.04	36.28	36.05	36.44	36.23	36.49	36.34	---	---
21	36.04	35.87	36.40	36.10	36.18	36.05	36.23	36.08	36.64	36.37	---	---
22	36.06	35.87	36.31	35.94	36.20	36.09	36.33	36.08	36.85	36.42	---	---
23	36.22	35.90	36.17	35.94	36.39	36.14	36.48	36.13	36.51	36.32	---	---
24	36.05	35.84	36.14	35.89	36.42	36.12	36.35	36.12	36.52	36.30	---	---
25	35.98	35.77	36.11	35.89	36.46	36.09	36.58	36.26	36.52	36.32	37.18	36.89
26	35.96	35.75	36.41	35.92	36.37	36.17	36.26	36.06	36.54	36.37	37.56	37.12
27	35.96	35.75	36.15	35.81	36.57	36.17	36.19	36.05	36.73	36.48	37.46	37.12
28	36.02	35.86	36.22	35.81	36.61	36.26	36.43	36.18	36.81	36.58	37.51	37.17
29	36.22	35.88	36.25	35.92	36.55	36.22	36.33	36.16	---	---	37.68	37.22
30	36.29	35.96	36.36	35.94	36.53	36.15	36.39	36.16	---	---	37.56	37.21
31	36.18	35.96	---	---	36.58	36.35	36.59	36.34	---	---	37.67	37.26
MONTH	36.42	35.57	36.51	35.68	36.61	35.94	36.84	36.05	36.85	36.12	37.68	36.43

GROUND-WATER LEVELS

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	37.53	37.04	37.81	37.51	---	---	36.03	35.98	35.67	35.43	35.56	35.44
2	37.34	37.04	37.74	37.51	---	---	36.13	36.03	35.59	35.46	35.64	35.49
3	37.35	37.06	37.61	37.52	---	---	36.21	36.11	35.46	35.34	35.72	35.64
4	37.41	37.08	37.52	37.30	---	---	36.19	36.01	35.53	35.34	35.65	35.62
5	37.35	37.07	37.30	37.24	---	---	36.03	35.92	35.57	35.44	35.81	35.51
6	37.58	37.11	37.33	37.23	36.81	36.77	35.92	35.81	35.50	35.35	35.57	35.50
7	37.56	37.15	37.23	37.17	36.82	36.78	35.81	35.77	35.45	35.37	35.69	35.57
8	37.35	37.14	37.21	37.16	36.84	36.82	35.80	35.76	35.48	35.38	35.76	35.58
9	37.37	37.05	37.25	37.21	36.83	36.78	35.80	35.77	35.47	35.29	35.60	35.58
10	37.27	37.03	37.23	37.18	36.80	36.73	35.82	35.75	35.53	35.28	35.65	35.59
11	37.30	37.04	37.18	37.16	36.76	36.72	35.75	35.66	35.54	35.31	35.90	35.65
12	37.54	37.13	37.20	37.16	36.77	36.72	35.67	35.66	35.31	35.21	35.73	35.63
13	37.70	37.21	37.17	37.15	37.20	36.77	35.66	35.64	35.34	35.21	35.71	35.63
14	37.34	37.06	37.21	37.13	---	---	35.77	35.64	35.35	35.25	35.64	35.61
15	37.31	37.07	37.19	37.11	---	---	35.65	35.59	35.25	35.17	35.61	35.59
16	37.16	37.11	37.11	37.06	---	---	35.59	35.51	35.31	35.18	35.59	35.38
17	37.25	37.16	---	---	---	---	35.60	35.51	35.90	35.28	35.51	35.38
18	37.37	37.22	---	---	---	---	35.75	35.49	36.04	35.75	35.51	35.45
19	37.39	37.14	---	---	---	---	35.92	35.57	35.75	35.62	35.47	35.37
20	37.33	37.11	---	---	---	---	35.60	35.48	35.90	35.62	35.65	35.37
21	37.26	37.11	---	---	---	---	35.71	35.49	35.86	35.77	35.38	35.37
22	37.22	37.09	---	---	---	---	35.49	35.42	35.77	35.69	35.51	35.37
23	37.16	37.09	---	---	---	---	35.64	35.48	35.69	35.59	35.52	35.47
24	37.20	37.00	---	---	---	---	35.73	35.64	35.62	35.59	35.51	35.43
25	37.83	37.00	---	---	---	---	35.76	35.73	35.70	35.62	35.57	35.39
26	37.91	37.41	---	---	---	---	35.76	35.74	35.65	35.53	35.39	35.27
27	37.78	37.44	---	---	---	---	35.78	35.74	35.63	35.53	35.41	35.36
28	38.06	37.64	---	---	36.15	36.09	35.94	35.71	35.68	35.63	36.19	35.41
29	38.10	37.70	---	---	36.09	36.00	35.74	35.50	35.68	35.43	36.24	36.09
30	38.03	37.54	---	---	36.04	35.98	35.50	35.39	35.43	35.31	36.13	35.80
31	---	---	---	---	---	---	35.51	35.40	35.47	35.30	---	---
MONTH	38.10	37.00	37.81	37.06	37.20	35.98	36.21	35.39	36.04	35.17	36.24	35.27
YEAR	38.10	35.17										

Daily Low Water Levels

5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

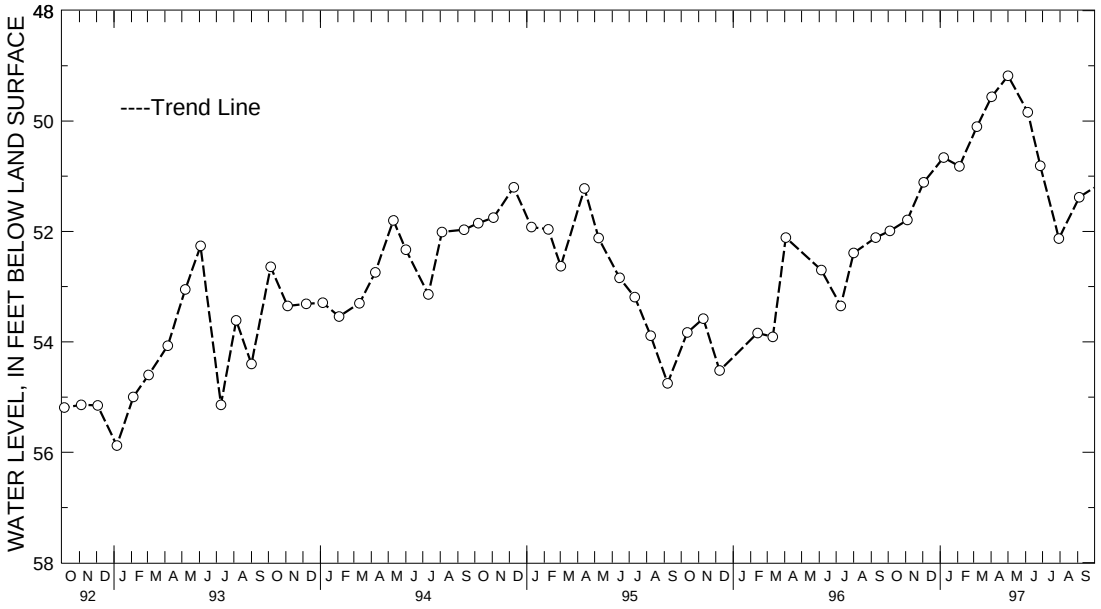
ANNE ARUNDEL COUNTY--Continued

WELL NUMBER.--AA Bd 158. SITE ID.--390744076390001. PERMIT NUMBER.--AA-81-3459.
LOCATION.--Lat 39°07´44˝, long 76°39´00˝, Hydrologic Unit 02060003, 0.05 mi off Stevenson Rd., 0.45 mi west of New Cut Rd., at Center for Applied Technology-North.
Owner: U.S. Geological Survey.
AQUIFER.--Lower Patapsco aquifer in the Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSCL.
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 187 ft; casing diameter 6 in., to 174 ft; screen diameter 4 in. from 174 to 184 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Servey personnel.
Equipped with digital water-level recorder--60-minute recorder interval from January 1985 to current year.
DATUM.--Altitude of land surface is 108.25 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of recorder platform, 2.6 ft above land surface.
REMARKS.--Maryland Water-Level Network observation well. Water levels affected by nearby pumping.
PERIOD OF RECORD.--January 1985 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 49.18 ft below land surface, May 1, 1997; lowest measured, 55.90 ft below land surface, Sept. 14, 1987 and Jan. 15, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 04, 1996	51.99	JAN 07, 1997	50.66	APR 02, 1997	49.56	JUN 27, 1997	50.81
NOV 04	51.79	FEB 04	50.82	MAY 01	49.18	JUL 30	52.13
DEC 03	51.11	MAR 07	50.10	JUN 05	49.84	SEP 04	51.38

WATER YEAR 1997 HIGHEST 49.18 MAY 01, 1997 LOWEST 52.13 JUL 30, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

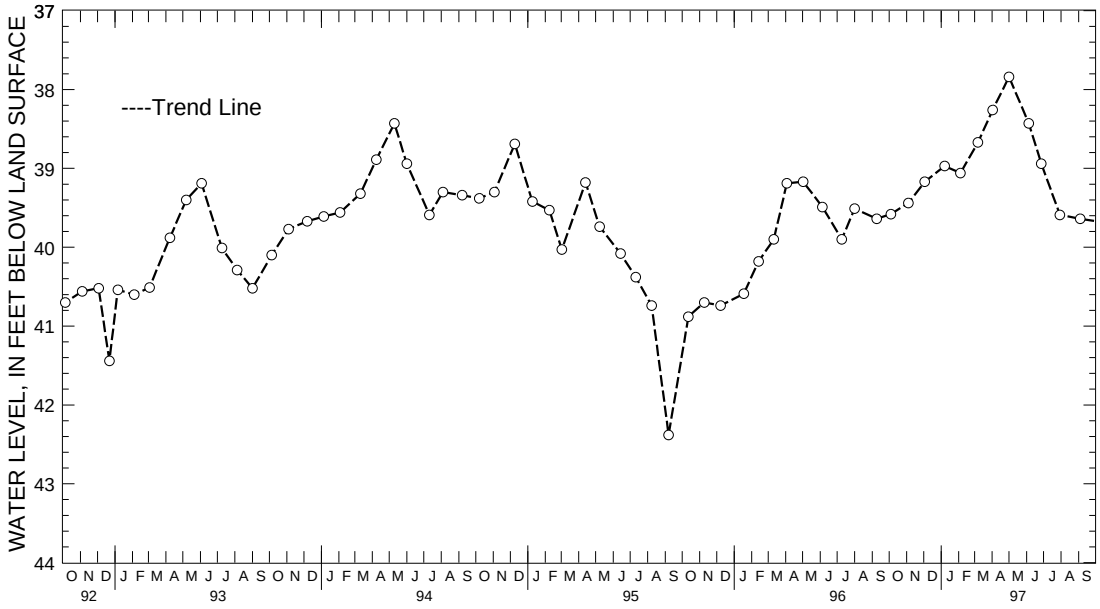
ANNE ARUNDEL COUNTY--Continued

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., at Rippling Woods Elementary School.
Owner: U.S. Geological Survey.
AQUIFER.--Upper Patapsco aquifer in the Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSCU.
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 electric 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.--Altitude of land surface is 75.48 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of casing, 2.5 ft above land surface.
REMARKS.--Maryland Water-Level Network observation well. Water levels are affected by nearby pumping.
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, 42.38 ft below land surface, Sept. 7, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 04, 1996	39.58	JAN 07, 1997	38.97	APR 02, 1997	38.26	JUN 27, 1997	38.94
NOV 04	39.44	FEB 04	39.06	MAY 01	37.84	JUL 30	39.59
DEC 03	39.17	MAR 07	38.67	JUN 05	38.43	SEP 04	39.64

WATER 1997 HIGHEST 37.84 MAY 01, 1997 LOWEST 39.64 SEP 04, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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., at Queenstown Park.
Owner: U.S. Geological Survey.
AQUIFER.--Lower Patapsco aquifer in the Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSCL.
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 electric tape by U.S. Geological Survey personnel.
Equipped with digital water-level recorder--60-minute recorder interval from April 1985 to current year.
DATUM.--Altitude of land surface is 88 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of recorder platform, 2.5 ft above land surface.
REMARKS.--Maryland Water-Level Network observation well. Water levels are affected by nearby pumping.
Missing data due to recorder malfunction.
PERIOD OF RECORD.--April 1985 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 76.17 ft above sea level, April 13, 1997; lowest measured, 68.57 ft above sea level, Oct. 7, 1986.

WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	73.45	73.42	74.15	73.96	74.95	74.09	75.92	75.78	75.59	75.08	75.09	74.93
2	73.59	73.45	74.29	73.96	75.01	74.87	76.04	75.92	75.08	74.88	75.18	75.06
3	73.76	73.51	74.06	73.83	74.94	74.87	76.06	75.99	74.89	74.80	75.25	75.03
4	73.74	73.49	73.83	73.75	74.95	74.89	75.99	75.95	75.44	74.79	75.46	75.20
5	73.89	73.53	74.07	73.77	75.12	74.89	76.13	75.97	75.80	75.26	75.41	75.19
6	73.69	73.53	74.06	73.86	75.19	75.10	76.07	75.91	75.28	74.99	75.78	75.29
7	73.64	73.60	74.08	73.90	75.18	75.10	75.91	75.84	75.19	74.95	75.57	75.21
8	74.03	73.63	74.25	74.00	75.19	75.15	75.84	75.17	75.33	74.94	75.77	75.21
9	74.07	73.83	74.24	74.00	75.15	75.00	75.44	75.16	75.25	74.97	75.53	75.26
10	74.03	73.70	74.18	73.99	75.12	75.00	75.53	75.25	75.15	74.95	75.60	75.34
11	73.80	73.60	73.99	73.85	75.17	75.12	75.46	75.05	75.36	74.97	75.63	75.37
12	73.86	73.58	73.99	73.84	75.15	75.13	75.13	74.89	75.51	75.08	75.59	75.32
13	73.98	73.66	73.86	73.83	75.40	75.14	74.89	74.83	75.24	74.96	75.32	75.24
14	73.76	73.68	73.90	73.85	75.39	75.34	75.08	74.83	75.41	74.96	75.59	75.24
15	73.68	73.63	73.85	73.80	75.36	75.33	75.04	74.84	75.50	75.08	75.79	75.42
16	73.86	73.64	74.22	73.80	75.47	75.36	75.38	74.98	75.26	74.99	75.42	75.30
17	73.74	73.70	74.11	73.94	75.61	75.47	75.09	74.89	75.19	74.94	75.39	75.30
18	73.89	73.69	74.09	74.03	75.60	75.58	75.15	74.81	75.07	74.93	75.50	75.39
19	74.41	73.89	74.44	74.09	75.70	75.59	75.01	74.80	75.35	75.06	75.50	75.42
20	74.19	73.90	74.22	74.05	75.64	75.49	75.01	74.86	75.22	75.01	75.90	75.50
21	73.97	73.83	74.05	74.00	75.52	75.48	74.86	74.69	75.32	75.01	75.79	75.62
22	74.04	73.86	74.24	73.96	75.63	75.52	74.92	74.69	75.46	75.06	76.15	75.55
23	74.53	73.86	74.35	73.95	75.72	75.63	74.95	74.74	75.31	75.00	75.85	75.47
24	74.62	73.99	74.18	73.95	75.87	75.72	75.07	74.73	75.22	74.98	75.60	75.33
25	74.08	73.83	74.10	73.94	75.80	75.64	75.55	75.03	75.35	74.98	75.67	75.32
26	74.15	73.82	74.33	73.96	75.74	75.63	75.21	74.86	75.42	75.09	76.01	75.59
27	74.11	73.83	74.02	73.82	75.79	75.74	75.11	74.82	75.42	75.17	75.92	75.58
28	73.99	73.91	74.22	73.81	75.86	75.78	75.39	74.97	75.17	74.93	75.96	75.60
29	74.14	73.89	74.28	73.93	75.93	75.86	75.16	74.90	---	---	76.12	75.67
30	74.06	73.95	74.40	73.96	75.88	75.81	75.26	74.89	---	---	75.97	75.64
31	74.01	73.94	---	---	75.91	75.79	75.36	75.07	---	---	76.12	75.70
MONTH	74.62	73.42	74.44	73.75	75.93	74.09	76.13	74.69	75.80	74.79	76.15	74.93

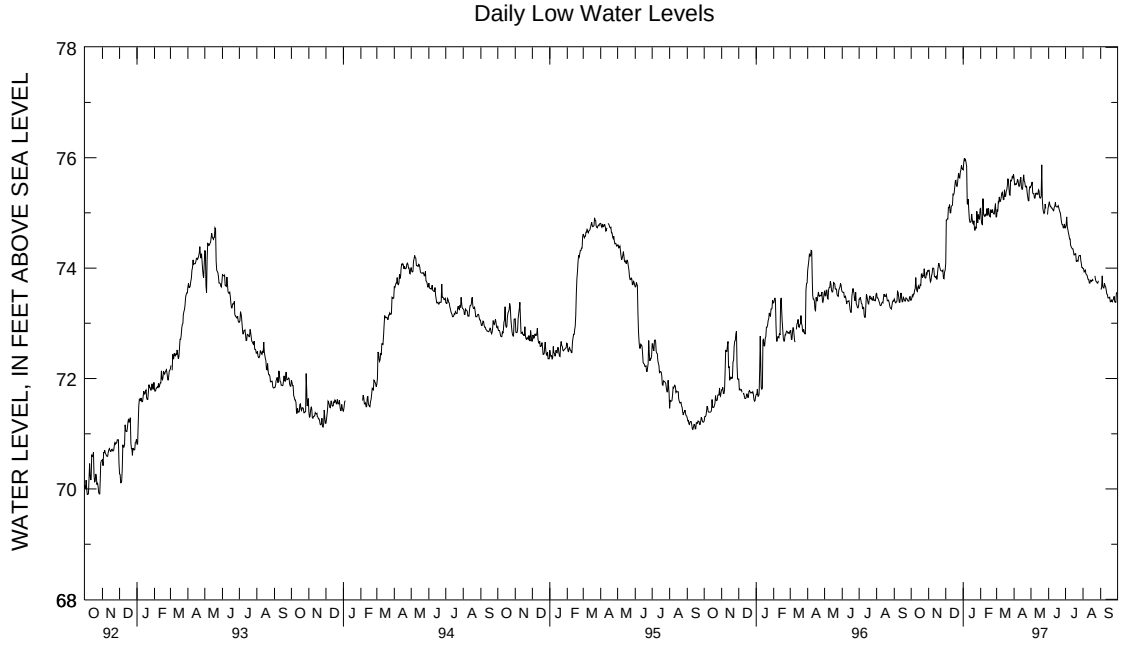
GROUND-WATER LEVELS

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	75.98	75.62	76.00	75.49	75.35	75.14	74.78	74.73	74.02	73.99	73.67	73.62
2	75.79	75.51	75.84	75.51	75.39	75.19	75.14	74.78	74.00	73.99	73.66	73.62
3	75.81	75.51	75.95	75.56	75.20	75.16	75.40	74.93	74.03	73.93	74.21	73.66
4	75.85	75.53	75.69	75.36	75.17	75.12	75.14	74.75	74.04	73.94	74.37	73.86
5	75.79	75.52	75.47	75.35	75.56	75.12	74.96	74.70	74.04	73.96	73.86	73.67
6	75.96	75.55	75.73	75.35	75.27	75.09	74.93	74.64	73.97	73.90	73.68	73.64
7	75.90	75.61	75.35	75.27	75.43	75.09	74.85	74.59	73.90	73.88	74.07	73.64
8	75.64	75.58	75.35	75.27	75.15	75.07	74.59	74.53	73.88	73.87	74.11	73.72
9	75.76	75.50	75.53	75.35	75.07	75.05	74.59	74.53	73.87	73.83	73.95	73.68
10	75.72	75.48	75.72	75.36	75.34	75.04	74.57	74.42	73.85	73.79	73.68	73.66
11	75.74	75.50	75.46	75.34	75.41	75.10	74.44	74.39	73.84	73.79	73.66	73.60
12	76.00	75.60	75.41	75.35	75.40	75.12	74.42	74.37	73.81	73.73	73.60	73.53
13	76.17	75.65	75.60	75.34	75.52	75.19	74.39	74.35	73.82	73.73	73.53	73.52
14	75.74	75.47	75.53	75.42	75.42	75.12	74.41	74.35	73.82	73.78	73.52	73.46
15	75.49	75.43	75.60	75.40	75.52	75.11	74.44	74.31	73.81	73.78	73.50	73.46
16	75.69	75.43	75.40	75.28	75.41	75.11	74.44	74.24	74.05	73.76	73.81	73.46
17	75.86	75.59	75.30	75.27	75.34	75.11	74.33	74.24	74.05	73.77	73.53	73.47
18	76.02	75.69	75.44	75.27	75.41	75.13	74.28	74.26	73.99	73.79	73.48	73.39
19	75.83	75.58	75.87	75.31	75.59	75.09	74.42	74.26	73.80	73.77	73.42	73.39
20	75.99	75.55	75.97	75.87	75.39	75.05	74.42	74.12	---	---	73.80	73.42
21	75.55	75.47	75.94	75.26	75.44	75.01	74.19	74.12	---	---	73.75	73.40
22	75.49	75.47	75.26	75.08	75.40	75.00	74.22	74.14	73.96	73.86	73.67	73.39
23	75.49	75.48	75.08	75.02	75.30	74.91	74.20	74.13	73.86	73.79	73.80	73.43
24	75.49	75.37	75.03	74.99	74.91	74.83	74.24	74.20	73.79	73.76	73.79	73.44
25	75.37	75.29	75.25	75.01	74.84	74.79	74.33	74.23	73.77	73.75	73.75	73.49
26	75.29	75.22	75.47	75.16	74.80	74.79	74.36	74.23	73.76	73.73	73.68	73.39
27	75.42	75.22	75.19	75.08	74.80	74.73	74.33	74.23	73.77	73.73	73.66	73.38
28	75.57	75.42	---	---	75.18	74.73	74.33	74.13	73.81	73.77	73.68	73.38
29	75.72	75.47	---	---	75.18	74.80	74.31	74.09	---	---	73.91	73.55
30	75.58	75.46	75.16	74.97	74.82	74.73	74.09	74.01	---	---	73.93	73.54
31	---	---	75.41	75.08	---	---	74.08	74.01	---	---	---	---
MONTH	76.17	75.22	76.00	74.97	75.59	74.73	75.40	74.01	74.05	73.73	74.37	73.38
YEAR	76.17	73.38										



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

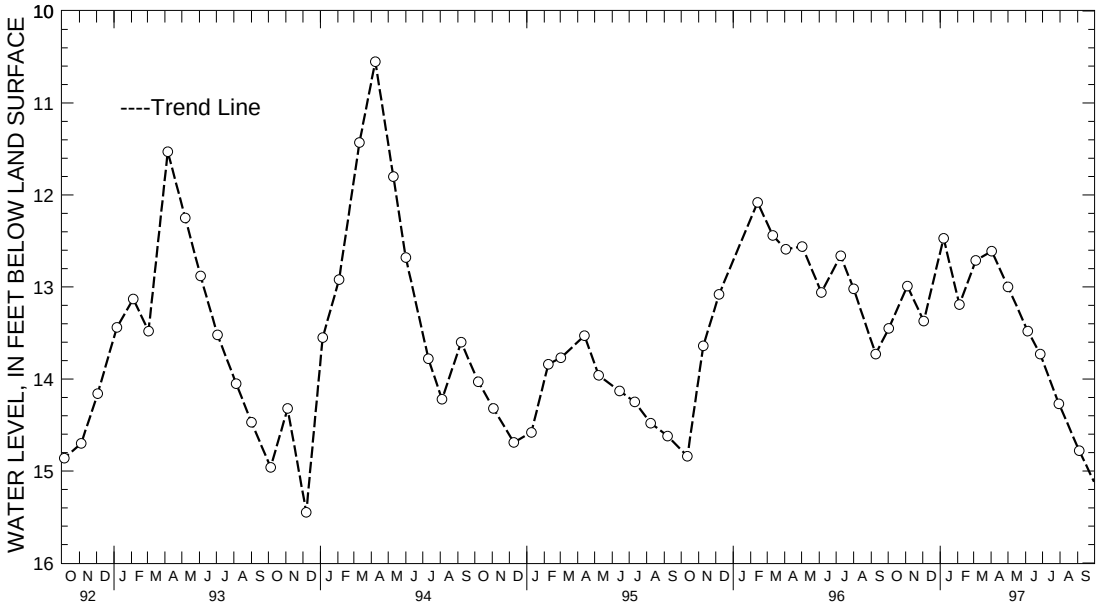
ANNE ARUNDEL COUNTY--Continued

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.--Upper Patapsco aquifer in the Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSCU.
WELL CHARACTERISTICS.--Dug, brick-lined, unused, water-table well, diameter 48 in., depth 22.8 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
DATUM.--Altitude of land surface is 20.38 ft above National Geodetic Vertical Datum of 1929.
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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1996	13.45	JAN 07, 1997	12.47	APR 02, 1997	12.61	JUN 27, 1997	13.73
NOV 04	12.99	FEB 04	13.19	MAY 01	13.00	JUL 30	14.27
DEC 03	13.37	MAR 05	12.71	JUN 05	13.48	SEP 04	14.78

WATER YEAR 1997 HIGHEST 12.47 JAN 07, 1997 LOWEST 14.78 SEP 04, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 electric tape by USGS personnel. Equipped with digital water-level recorder--60-minute recorder interval from July 2, 1984 to current year.
DATUM.--Elevation of land surface is 129.10 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top lip of 3 in. extension pipe, 3.35 ft above land surface.
REMARKS.--Maryland Water-Level Network observation well. Water levels are affected by nearby pumping. Missing data due to recorder malfunction.
PERIOD OF RECORD.--March 1962 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 85.40 ft above sea level, May 1, 1962; lowest measured, 33.16 ft above sea level, Aug. 10, 1987.

WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	47.54	47.45	46.46	46.40	---	---	---	---	49.60	49.48	51.78	51.41
2	47.82	47.54	46.46	46.26	---	---	---	---	49.55	49.48	51.92	51.78
3	47.84	47.73	46.36	46.24	---	---	49.62	49.49	49.66	49.55	51.89	51.75
4	47.73	47.66	46.25	46.20	---	---	49.82	49.62	49.97	49.60	51.88	51.66
5	47.78	47.69	46.24	46.12	---	---	50.09	49.82	50.19	49.97	51.72	51.61
6	47.99	47.78	46.12	45.90	---	---	50.13	50.05	50.26	50.16	51.75	51.40
7	48.20	47.99	45.90	45.84	---	---	50.21	50.08	50.28	50.21	51.40	51.27
8	48.62	48.20	45.87	45.84	---	---	50.31	50.15	50.49	50.24	51.49	51.28
9	48.60	48.40	45.87	45.68	---	---	50.80	50.31	50.55	50.49	51.52	51.28
10	48.62	48.40	45.68	45.51	---	---	50.88	50.80	50.55	50.53	51.79	51.52
11	48.40	48.19	45.51	45.30	---	---	50.84	50.71	50.55	50.44	51.92	51.79
12	48.19	48.08	45.30	45.14	---	---	50.71	50.54	50.44	50.25	51.94	51.86
13	48.08	48.00	---	---	---	---	50.54	50.36	50.25	50.04	52.13	51.94
14	48.06	47.89	---	---	---	---	50.36	50.18	50.24	50.05	52.57	52.13
15	47.89	47.60	---	---	---	---	50.19	50.09	50.27	50.10	52.57	52.37
16	47.72	47.62	---	---	---	---	50.36	50.19	50.11	50.04	52.37	52.33
17	47.62	47.40	---	---	---	---	50.20	50.20	50.08	49.84	52.53	52.34
18	47.52	43.51	---	---	---	---	50.20	50.20	49.96	49.84	52.61	52.53
19	47.58	43.40	---	---	---	---	50.20	49.32	50.16	49.95	52.76	52.61
20	47.52	43.40	---	---	---	---	49.32	49.32	50.09	50.01	52.83	52.73
21	47.24	42.00	---	---	---	---	49.32	49.14	50.51	50.09	52.78	52.68
22	47.00	42.00	---	---	---	---	49.35	49.14	50.56	50.42	52.83	52.54
23	46.98	46.80	---	---	---	---	49.39	49.21	50.52	50.41	52.54	52.46
24	46.90	46.66	---	---	---	---	49.51	49.20	50.71	50.51	52.46	52.35
25	46.66	42.40	---	---	---	---	49.65	49.50	50.93	50.71	52.75	52.41
26	46.46	42.40	---	---	---	---	49.50	49.28	51.22	50.93	52.85	52.75
27	46.47	46.32	---	---	---	---	49.41	49.25	51.50	51.22	52.88	52.79
28	46.56	46.44	---	---	---	---	49.53	49.39	51.44	51.38	52.91	52.84
29	46.48	42.40	---	---	---	---	49.39	49.30	---	---	53.00	52.91
30	46.62	42.40	---	---	---	---	49.40	49.30	---	---	53.04	52.93
31	46.49	46.40	---	---	---	---	49.59	49.40	---	---	53.14	53.04
MONTH	48.62	42.00	46.46	45.14	---	---	50.88	49.14	51.50	49.48	53.14	51.27

GROUND-WATER LEVELS

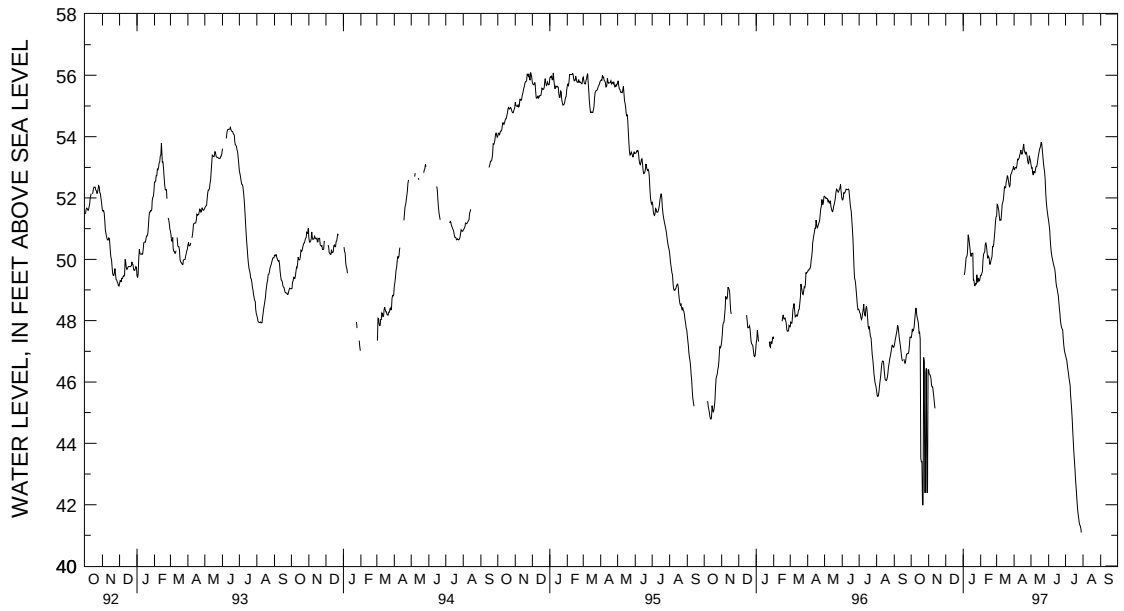
MARYLAND--Continued

ANNE ARRUNDEL COUNTY--Continued

AA Cb 1--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	53.15	52.95	53.31	53.10	51.37	51.25	46.94	46.87	---	---	---	---
2	53.01	52.93	53.10	52.98	51.28	51.10	46.87	46.78	---	---	---	---
3	53.09	52.99	53.16	52.99	51.10	50.91	46.78	46.72	---	---	---	---
4	53.06	53.00	53.03	52.80	50.91	50.67	46.72	46.57	---	---	---	---
5	53.07	52.98	52.95	52.75	50.67	50.41	46.57	46.41	---	---	---	---
6	53.29	53.07	52.99	52.87	50.41	50.21	46.41	46.30	---	---	---	---
7	53.35	53.26	52.90	52.82	50.21	50.09	46.30	46.13	---	---	---	---
8	53.36	53.24	52.96	52.82	50.09	49.99	46.13	46.01	---	---	---	---
9	53.31	53.28	53.10	52.96	49.99	49.91	46.01	45.88	---	---	---	---
10	53.42	53.30	53.08	53.03	49.91	49.82	45.88	45.60	---	---	---	---
11	53.45	53.39	53.13	53.02	49.82	49.75	45.60	45.36	---	---	---	---
12	53.68	53.45	53.27	53.13	49.75	49.68	45.36	45.08	---	---	---	---
13	53.70	53.57	53.40	53.27	49.68	49.51	45.08	44.75	---	---	---	---
14	53.57	53.46	53.50	53.39	49.51	49.27	44.75	44.34	---	---	---	---
15	53.48	53.43	53.62	53.50	49.27	49.11	44.34	43.97	---	---	---	---
16	53.65	53.48	53.63	53.60	49.11	49.05	43.97	43.64	---	---	---	---
17	53.76	53.65	53.77	53.63	49.07	48.93	43.64	43.36	---	---	---	---
18	53.83	53.76	53.82	53.69	48.93	48.83	43.36	43.06	---	---	---	---
19	53.77	53.56	53.94	53.82	48.86	48.62	43.06	42.72	---	---	---	---
20	53.56	53.49	53.92	53.77	48.62	48.39	42.72	42.47	---	---	---	---
21	53.51	53.44	53.77	53.57	48.39	48.21	42.47	42.18	---	---	---	---
22	53.53	53.49	53.57	53.35	48.21	48.03	42.18	41.91	---	---	---	---
23	53.53	53.46	53.35	53.14	48.03	47.88	41.91	41.72	---	---	---	---
24	53.51	53.35	53.14	52.97	47.88	47.79	41.72	41.58	---	---	---	---
25	53.35	53.20	52.97	52.85	47.79	47.73	41.58	41.43	---	---	---	---
26	53.20	53.12	52.93	52.59	47.73	47.71	41.43	41.34	---	---	---	---
27	53.38	53.15	52.59	52.14	47.72	47.42	41.34	41.30	---	---	---	---
28	53.50	53.38	52.14	51.86	47.42	47.19	41.30	41.22	---	---	---	---
29	53.42	53.29	51.86	51.66	47.19	47.04	41.22	41.09	---	---	---	---
30	53.29	53.22	51.66	51.51	47.04	46.94	---	---	---	---	---	---
31	---	---	51.51	51.37	---	---	---	---	---	---	---	---
MONTH	53.83	52.93	53.94	51.37	51.37	46.94	46.94	41.09	---	---	---	---
YEAR	53.94	41.09										

Daily Low Water Levels



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

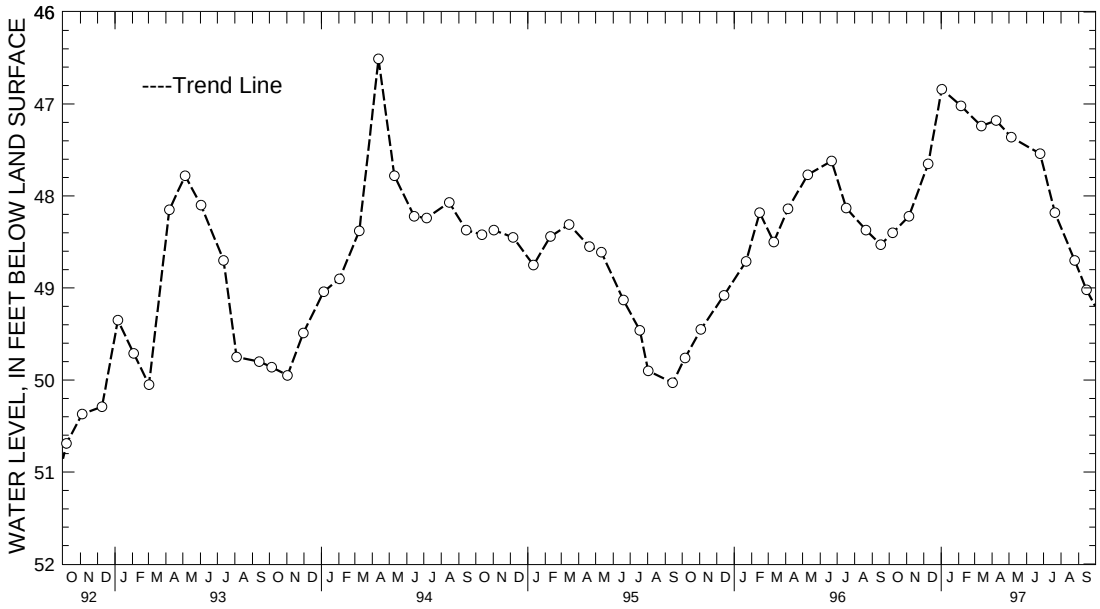
ANNE ARUNDEL COUNTY--Continued

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.--Lower Patapsco aquifer in the Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSCL.
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 electric 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.--Altitude of land surface is 136.92 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Top of casing, 2.60 ft above land surface.
REMARKS.--Maryland Water-Level Network observation well. Water levels are affected by nearby pumping.
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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 07, 1996	48.40	JAN 02, 1997	46.84	APR 08, 1997	47.18	JUL 21, 1997	48.18
NOV 05	48.22	FEB 05	47.02	MAY 05	47.36	AUG 25	48.70
DEC 09	47.65	MAR 13	47.24	JUN 25	47.54	SEP 15	49.02

WATER YEAR 1997 HIGHEST 46.84 JAN 02, 1997 LOWEST 49.02 SEP 15, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--AA Ce 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 Works.
AQUIFER.--Patuxent Formation of Lower Cretaceous age. Aquifer code: 217PTXN.
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 922 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 electric tape by U.S. Geological Survey personnel.
Equipped with digital water-level recorder--30-minute recorder interval from Aug. 18, 1977 to April 1980 and August 1983 to current year.
DATUM.--Altitude of land surface is 86.0 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of recorder platform, 0.5 ft above land surface.
REMARKS.--Anne Arundel Co. observation well network. Water levels are 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, 1.52 ft above sea level, Aug. 29, 1997.

WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	5.12	4.59	6.24	5.86	7.01	6.37	7.54	6.95	---	---	8.95	8.27
2	5.32	4.63	6.27	5.86	7.07	6.72	7.60	7.44	---	---	9.18	8.64
3	5.32	4.86	6.15	5.67	6.81	6.68	7.67	7.58	---	---	9.05	8.54
4	5.02	4.59	5.97	5.53	6.83	6.46	7.66	7.27	---	---	9.11	8.67
5	5.17	4.71	6.02	5.56	7.07	6.68	7.89	7.66	---	---	9.31	8.76
6	5.20	5.15	6.08	5.54	7.15	6.77	7.81	7.65	---	---	9.48	8.99
7	5.41	4.91	6.24	5.71	7.20	6.86	7.67	7.35	---	---	9.09	8.70
8	5.74	5.11	6.42	5.96	7.27	6.84	7.53	7.25	---	---	9.17	8.62
9	5.79	5.32	6.73	6.14	7.22	6.93	7.92	7.47	---	---	9.12	8.55
10	5.78	5.39	6.33	5.90	7.11	6.93	8.07	7.74	---	---	9.33	9.01
11	5.50	5.17	6.17	6.05	7.23	6.81	8.04	7.70	---	---	9.44	8.93
12	5.51	5.12	6.05	5.65	7.17	6.79	7.76	7.42	---	---	9.24	8.89
13	5.70	5.22	5.95	5.50	7.28	6.90	7.67	7.60	---	---	9.22	9.06
14	5.78	5.38	6.00	5.56	7.22	6.79	---	---	---	---	9.59	9.18
15	5.71	5.52	5.95	5.47	7.14	6.99	---	---	---	---	9.59	9.24
16	5.82	5.62	5.96	5.65	7.31	7.14	---	---	---	---	9.26	8.88
17	5.87	5.43	6.15	5.59	7.44	7.31	---	---	---	---	9.39	8.87
18	6.14	5.47	6.40	5.88	7.43	7.11	---	---	---	---	9.41	9.05
19	6.27	5.86	6.48	6.07	7.53	7.34	---	---	---	---	9.57	9.02
20	6.28	5.87	6.47	6.10	7.34	6.91	---	---	---	---	9.77	9.30
21	6.23	5.85	6.41	6.06	7.04	6.66	---	---	---	---	9.86	9.46
22	6.18	5.77	6.40	5.93	7.12	6.99	---	---	---	---	9.97	9.60
23	6.32	5.77	6.35	5.87	7.20	7.10	---	---	---	---	9.62	9.23
24	6.27	5.90	6.32	5.92	7.47	7.20	---	---	---	---	9.52	9.15
25	6.13	5.76	6.42	6.06	7.34	7.08	---	---	---	---	9.70	9.14
26	6.01	5.63	6.62	6.28	7.16	6.80	---	---	---	---	9.86	9.45
27	6.08	5.57	6.36	5.93	7.26	7.16	---	---	---	---	9.72	9.27
28	6.19	5.79	6.36	5.86	7.37	6.93	---	---	8.85	8.31	9.78	9.31
29	6.15	5.69	6.40	5.98	7.40	7.14	---	---	---	---	9.97	9.46
30	6.40	5.79	6.60	6.10	7.38	7.10	---	---	---	---	9.91	9.46
31	6.35	5.87	---	---	7.37	7.24	---	---	---	---	9.98	9.58
MONTH	6.40	4.59	6.73	5.47	7.53	6.37	8.07	6.95	8.85	8.31	9.98	8.27

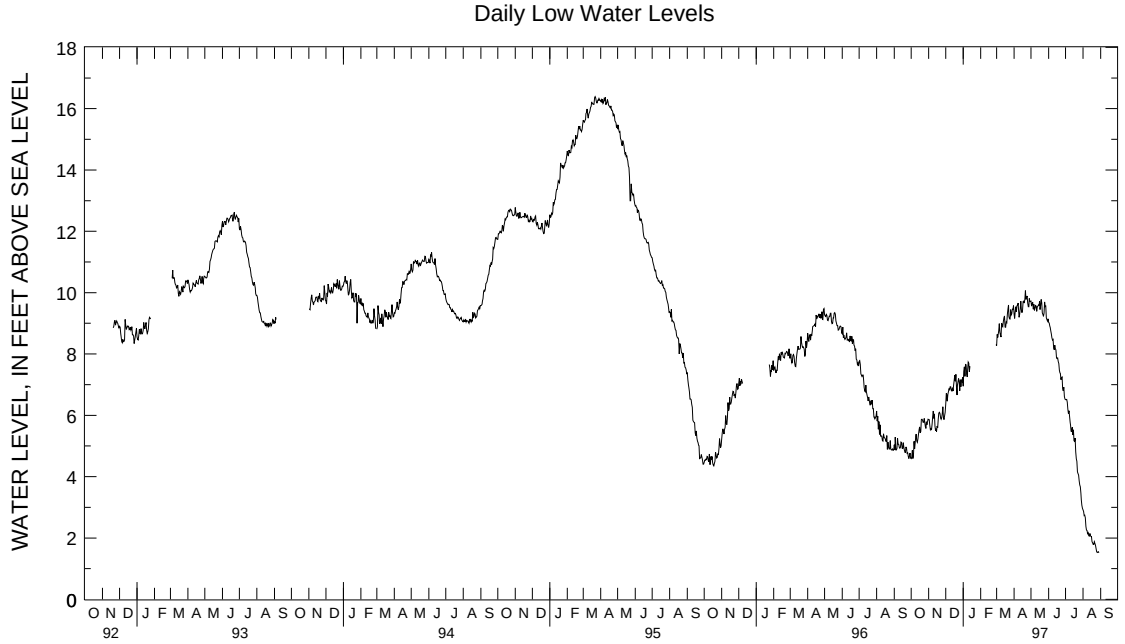
GROUND-WATER LEVELS

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	9.78	9.29	10.28	9.72	9.39	9.03	6.96	6.51	3.31	2.92	---	---
2	9.71	9.16	10.07	9.56	9.37	9.01	6.95	6.51	3.29	2.87	---	---
3	9.90	9.40	10.25	9.65	9.26	8.91	6.97	6.52	3.21	2.73	---	---
4	9.91	9.54	10.10	9.69	9.25	8.87	6.81	6.43	3.20	2.74	---	---
5	9.80	9.37	9.91	9.46	9.15	8.76	6.59	6.20	3.17	2.66	---	---
6	9.99	9.57	10.06	9.62	9.00	8.65	6.47	6.06	3.04	2.38	---	---
7	10.00	9.59	9.80	9.42	8.91	8.53	6.38	6.15	2.94	2.26	---	---
8	9.81	9.66	9.81	9.50	8.85	8.46	6.26	5.96	2.60	2.24	---	---
9	9.77	9.37	9.98	9.58	8.76	8.48	6.23	5.77	2.25	2.14	---	---
10	9.60	9.20	9.94	9.56	8.64	8.20	6.20	5.68	2.18	2.17	---	---
11	9.76	9.29	9.86	9.39	8.55	8.14	5.95	5.48	2.17	2.07	---	---
12	10.07	9.48	10.00	9.54	8.53	8.29	5.91	5.47	2.16	2.06	---	---
13	10.11	9.72	9.96	9.56	8.57	8.17	5.86	5.61	2.17	2.15	---	---
14	9.93	9.45	9.93	9.60	8.49	8.13	5.78	5.36	2.17	2.07	---	---
15	9.79	9.35	10.01	9.59	8.32	7.87	5.69	5.53	2.16	2.05	---	---
16	9.99	9.43	9.93	9.72	8.23	7.85	5.53	5.17	2.16	2.05	---	---
17	10.12	9.71	9.91	9.45	8.21	7.87	5.44	5.15	2.12	1.88	---	---
18	10.07	9.72	9.83	9.57	8.13	7.75	5.38	5.26	2.01	1.84	---	---
19	10.03	9.66	9.94	9.78	8.02	7.69	5.27	4.81	2.00	1.79	---	---
20	10.11	9.78	9.90	9.67	7.88	7.46	5.09	4.58	2.02	1.79	---	---
21	10.14	10.07	9.78	9.34	7.81	7.38	4.88	4.50	2.16	1.88	---	---
22	10.19	9.78	9.72	9.29	7.77	7.37	4.79	4.16	2.01	1.82	---	---
23	10.20	9.85	9.69	9.23	7.60	7.16	4.51	4.10	2.00	1.76	---	---
24	10.20	9.89	9.81	9.33	7.48	7.23	4.51	4.05	1.87	1.66	---	---
25	10.11	9.66	9.95	9.70	7.39	7.25	4.40	3.86	1.84	1.55	---	---
26	9.99	9.54	9.95	9.55	7.36	6.87	4.31	3.73	1.82	1.53	---	---
27	10.12	9.54	9.75	9.56	7.28	6.80	4.17	3.67	1.81	1.54	---	---
28	10.29	9.81	9.56	9.18	7.16	6.92	3.98	3.46	1.83	1.55	---	---
29	10.18	9.73	9.50	9.12	7.04	6.61	3.80	3.25	1.84	1.52	---	---
30	10.12	9.71	9.47	9.07	6.99	6.53	3.53	3.07	---	---	---	---
31	---	---	9.39	9.15	---	---	3.39	2.97	---	---	---	---
MONTH	10.29	9.16	10.28	9.07	9.39	6.53	6.97	2.97	3.31	1.52	---	---
YEAR	10.29	1.52										



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

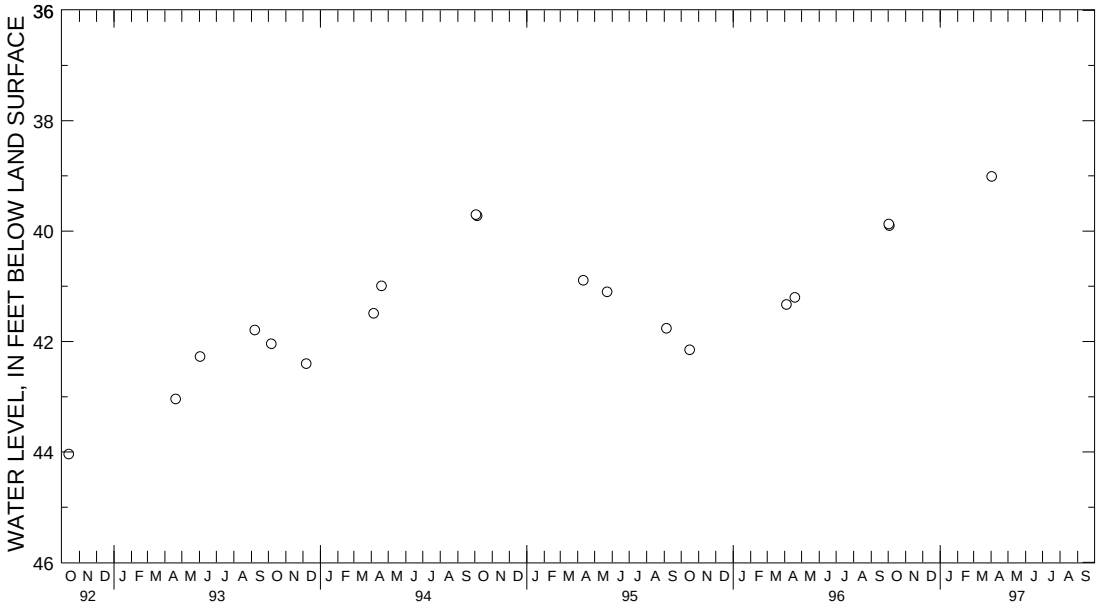
ANNE ARUNDEL COUNTY--Continued

WELL NUMBER.--AA Cf 98. SITE ID.--390150076283003. PERMIT NUMBER.--AA-70-0199.
LOCATION.--Lat 39°01´50˝, long 76°28´30˝, Hydrologic Unit 02060004, 3.1 mi northeast of Annapolis, nr Anne Arundel Co. Traffic Engineering Building, Broad Neck.
Owner: Anne Arundel Co. Dept. of Recreation and Parks.
AQUIFER.--Severn Formation of Upper Cretaceous age. Aquifer code: 211SVRN.
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 electric tape by U.S. Geological Survey personnel.
DATUM.--Altitude of land surface is 93.42 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of casing, 3.51 ft above land surface.
REMARKS.--Maryland Water-Level Network observation well,
PERIOD OF RECORD.--September 1969 to Septenber 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1996	39.87	OCT 03, 1996	39.90	APR 02, 1997	39.01

WATER YEAR 1997 HIGHEST 39.01 APR 02, 1997 LOWEST 39.90 OCT 03, 1996



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

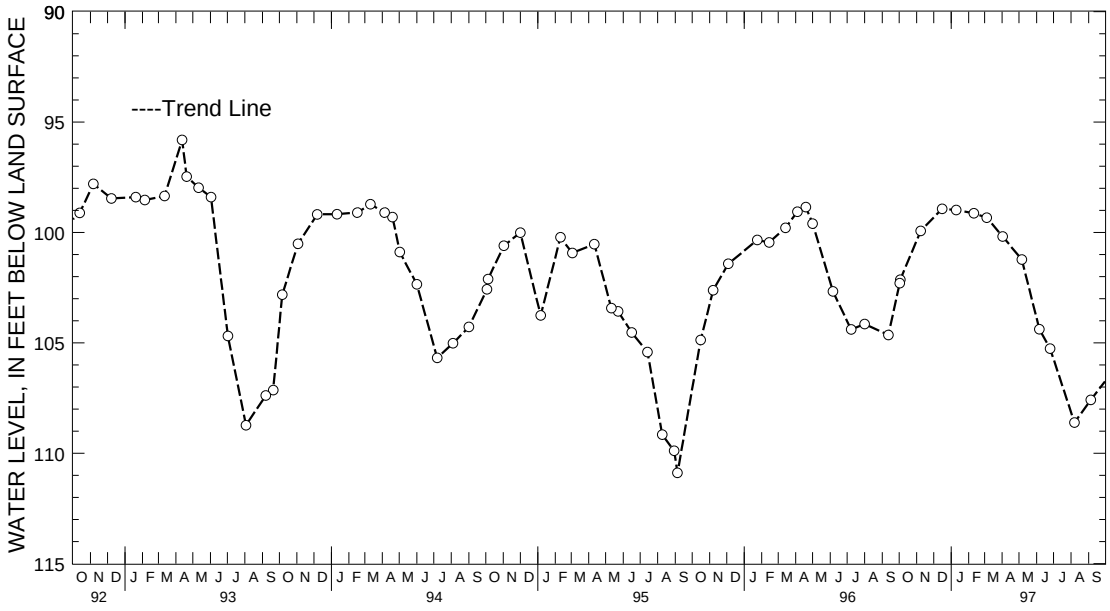
ANNE ARUNDEL COUNTY--Continued

WELL NUMBER.--AA Cf 99. SITE ID.--390150076283002. PERMIT NUMBER.--AA-70-0199.
LOCATION.--Lat 39°01´50˝, long 76°28´30˝, Hydrologic Unit 02060004, 3.1 mi northeast of Annapolis, nr Anne Arundel Co. Traffic Engineering Building, Broad Neck.
Owner: Anne Arundel Co. Dept. of Recreation and Parks.
AQUIFER.--Magothy Formation of Upper Cretaceous age. Aquifer code: 211MGTY.
WELL CHARACTERISTICS.--Drilled, artesian, observation well, depth 220 ft; casing diameter 2 in., to 210 ft; screen diameter 2 in. from 210 to 220 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
Equipped with graphic water-level recorder from Sept. 28, 1969 to July 13, 1971.
DATUM.--Altitude of land surface is 93.70 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of casing, 3.60 ft above land surface.
REMARKS.--Maryland Water-Level Network observation well. Water levels affected by nearby pumping.
PERIOD OF RECORD.--January 1971 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 89.29 ft below land surface, April 13, 1976; lowest measured, 115.65 ft below land surface, July 11, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1996	102.30	JAN 10, 1997	98.98	MAY 06, 1997	101.23	SEP 05, 1997	107.58
03	102.14	FEB 10	99.13	JUN 06	104.38		
NOV 08	99.93	MAR 05	99.33	25	105.26		
DEC 16	98.93	APR 02	100.18	AUG 07	108.61		

WATER YEAR 1997 HIGHEST 98.93 DEC 16, 1996 LOWEST 108.61 AUG 07, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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., at Sandy Point State Park.
Owner: U.S. Geological Survey
AQUIFER.--Lower Patapsco aquifer in the Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSCL.
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 986 ft; casing diameter 10 in., to 163 ft; casing diameter 4 in., to 968 ft and 978 to 986 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.--Altitude 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. Water levels are affected by nearby pumping.
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, 15.66 ft below sea level, Aug. 19, 1997.

WATER LEVEL, IN FEET BELOW SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	-13.40	-13.67	-13.71	-14.16	-14.14	-14.47	-13.99	-14.53	-13.69	-13.97	-13.79	-14.30
2	-13.46	-13.58	-13.96	-14.16	-13.56	-14.18	-13.89	-14.01	-13.97	-14.16	-13.49	-13.84
3	-13.33	-13.86	---	---	-13.54	-14.25	-13.86	-14.04	-13.96	-14.26	-13.84	-14.13
4	-13.86	-14.12	-14.19	-14.52	-14.09	-14.35	-13.93	-14.18	-13.91	-14.37	-13.68	-13.96
5	-13.75	-14.01	-14.35	-14.51	-14.05	-14.46	-13.81	-14.02	-13.73	-14.00	-13.43	-13.75
6	-13.71	-13.84	-14.34	-14.51	-13.83	-14.51	-13.77	-13.98	-13.92	-14.21	-13.31	-14.09
7	-13.60	-13.80	-14.43	-14.62	-13.82	-14.31	-13.98	-14.28	-14.05	-14.26	-14.08	-14.47
8	-13.28	-13.63	-14.06	-14.50	-13.75	-14.11	-14.19	-14.68	-14.04	-14.27	-13.96	-14.47
9	-13.25	-13.62	-13.55	-14.11	-13.74	-14.12	-14.11	-14.69	-13.91	-14.29	-14.00	-14.53
10	-13.20	-13.58	-13.56	-14.02	-14.01	-14.47	-13.76	-14.11	-13.87	-14.03	-13.62	-14.00
11	-13.54	-14.12	-13.99	-14.26	-13.97	-14.16	-13.75	-14.47	-14.00	-14.20	-13.58	-13.87
12	-14.02	-14.15	-14.26	-14.47	-14.00	-14.23	-14.47	-14.67	-13.90	-14.17	-13.87	-14.05
13	-13.90	-14.15	-14.34	-14.72	-13.99	-14.17	-14.59	-14.89	-14.02	-14.42	-13.94	-14.09
14	-13.83	-14.02	-14.58	-14.80	-13.97	-14.63	-14.61	-14.90	-13.83	-14.21	-13.28	-13.96
15	-13.86	-14.18	-14.59	-14.71	-14.35	-14.65	-13.97	-14.66	-13.80	-14.04	-13.31	-14.04
16	-14.00	-14.30	-14.65	-14.94	-13.95	-14.35	-13.74	-14.19	-14.04	-14.28	-14.03	-14.19
17	-13.95	-14.18	-14.44	-14.68	-13.77	-14.01	-14.19	-14.61	-14.07	-14.59	-13.84	-14.18
18	-14.10	-14.25	-14.32	-14.50	-13.78	-13.99	-14.41	-14.81	-13.88	-14.45	-13.82	-14.13
19	-13.67	-14.20	-13.90	-14.32	-13.85	-14.04	-14.31	-14.92	-13.99	-14.39	-13.72	-14.09
20	-13.71	-13.99	-13.80	-13.97	-14.04	-14.57	-14.00	-14.31	-14.37	-14.59	-13.41	-13.72
21	-13.58	-13.78	-13.82	-14.06	-14.57	-14.83	-14.30	-14.65	-13.80	-14.42	-13.45	-13.71
22	-13.57	-13.95	-13.94	-14.16	-14.40	-14.77	-14.02	-14.61	-13.62	-14.28	-13.19	-13.90
23	-13.78	-14.01	-14.05	-14.50	-14.25	-14.52	-14.02	-14.51	-14.28	-14.48	-13.81	-14.09
24	-13.67	-13.99	-14.21	-14.57	-13.83	-14.35	-14.06	-14.61	-14.24	-14.40	-13.77	-14.05
25	-13.75	-14.08	-14.24	-14.47	-13.82	-14.59	-13.72	-14.06	-14.23	-14.48	-13.71	-14.04
26	-14.01	-14.21	-14.16	-14.43	-14.39	-14.59	-13.98	-14.55	-13.91	-14.24	-13.47	-14.03
27	-14.14	-14.37	-13.99	-14.49	-14.35	-14.50	-14.29	-14.61	---	---	-13.79	-14.05
28	-14.14	-14.39	-14.49	-15.00	-13.99	-14.42	-14.04	-14.36	-13.95	-14.37	-13.77	-13.95
29	-14.07	-14.22	-14.53	-15.01	-13.97	-14.10	-14.36	-14.58	---	---	-13.48	-13.79
30	-14.03	-14.39	-14.42	-14.67	-13.98	-14.34	-14.22	-14.57	---	---	-13.60	-13.75
31	-13.78	-14.31	---	---	-14.14	-14.30	-13.69	-14.24	---	---	-13.60	-14.16
MONTH	-13.20	-14.39	-13.55	-15.01	-13.54	-14.83	-13.69	-14.92	-13.62	-14.59	-13.19	-14.53

GROUND-WATER LEVELS

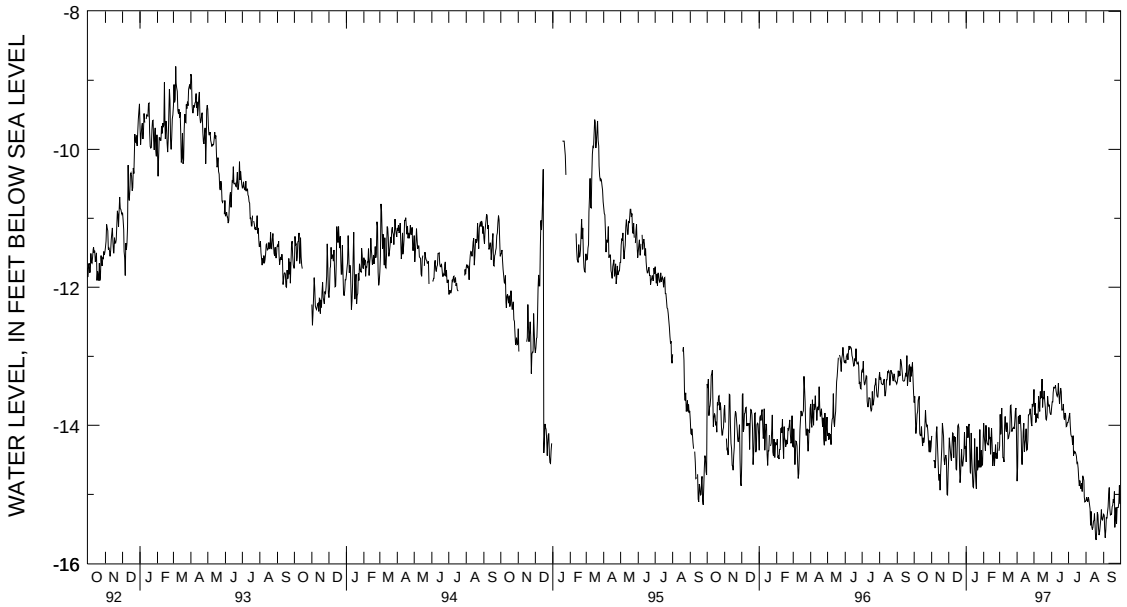
MARYLAND--Continued

ANNE ARUNDEL COUNTY--Continued

AA Cg 23--Continued

DAY	APRIL MAX	APRIL MIN	MAY MAX	MAY MIN	JUNE MAX	JUNE MIN	JULY MAX	JULY MIN	AUGUST MAX	AUGUST MIN	SEPTEMBER MAX	SEPTEMBER MIN
1	-14.16	-14.81	-13.16	-13.48	-13.51	-13.74	-13.71	-13.92	-14.87	-15.09	-15.06	-15.29
2	-13.88	-14.60	-13.48	-13.85	-13.41	-13.66	-13.69	-13.87	-14.83	-15.04	-15.12	-15.31
3	-13.62	-13.88	-13.17	-13.68	-13.39	-13.66	-13.58	-13.82	-14.87	-15.09	-15.05	-15.50
4	-13.57	-13.87	-13.37	-13.96	-13.29	-13.53	-13.65	-14.00	-14.87	-15.11	-15.43	-15.63
5	-13.74	-13.98	-13.61	-13.94	-13.18	-13.45	-13.92	-14.13	-14.87	-15.04	-15.21	-15.52
6	-13.50	-13.85	-13.28	-13.83	-13.23	-13.46	-13.97	-14.16	-14.92	-15.08	-15.21	-15.33
7	-13.46	-13.95	-13.72	-13.88	-13.24	-13.45	-14.01	-14.17	-14.97	-15.14	-15.20	-15.35
8	-13.88	-14.10	-13.57	-13.89	-13.24	-13.42	-14.11	-14.28	-15.06	-15.21	-15.12	-15.26
9	-14.01	-14.49	-13.36	-13.58	-13.33	-13.50	-13.96	-14.15	-15.13	-15.45	-14.94	-15.18
10	-14.32	-14.57	-13.50	-13.72	-13.40	-13.55	-13.96	-14.44	-15.12	-15.25	-14.81	-15.00
11	-14.07	-14.35	-13.51	-13.80	-13.44	-13.58	-14.22	-14.37	-15.10	-15.47	-14.71	-14.90
12	-13.72	-14.09	-13.25	-13.51	-13.34	-13.55	-14.23	-14.40	-15.18	-15.51	-14.81	-15.20
13	-13.67	-13.97	-13.37	-13.60	-13.25	-13.39	-14.25	-14.39	-15.04	-15.48	-15.02	-15.30
14	-13.97	-14.38	-13.18	-13.59	-13.30	-13.56	-14.23	-14.41	-14.99	-15.39	-15.11	-15.29
15	-14.13	-14.27	-13.12	-13.33	-13.45	-13.69	-14.25	-14.45	-15.06	-15.37	-15.03	-15.29
16	-13.86	-14.20	-13.31	-13.74	-13.36	-13.56	-14.25	-14.55	-14.97	-15.28	-14.97	-15.18
17	-13.75	-14.05	-13.37	-13.60	-13.23	-13.46	-14.34	-14.54	-15.07	-15.44	-14.90	-15.16
18	-14.03	-14.36	-13.41	-13.61	-13.29	-13.51	-14.31	-14.62	-15.20	-15.64	-14.84	-15.07
19	-14.20	-14.35	-13.24	-13.50	-13.33	-13.78	-14.39	-14.77	-15.30	-15.66	-14.85	-15.12
20	-13.73	-14.22	-13.25	-13.65	-13.58	-13.78	-14.62	-14.88	-14.92	-15.52	-14.77	-14.96
21	-13.63	-13.85	-13.52	-13.74	-13.46	-13.76	-14.47	-14.80	-14.96	-15.26	-14.92	-15.48
22	-13.68	-13.85	-13.64	-13.91	-13.38	-13.69	-14.58	-14.89	-15.14	-15.30	-15.04	-15.31
23	-13.63	-13.83	-13.75	-13.92	-13.69	-13.89	-14.67	-14.92	-15.17	-15.49	-14.98	-15.19
24	-13.58	-13.76	-13.53	-13.84	-13.70	-13.92	-14.65	-14.84	-15.35	-15.59	-15.16	-15.43
25	-13.50	-13.85	-13.23	-13.58	-13.62	-13.82	-14.62	-14.96	-15.38	-15.54	-14.89	-15.19
26	-13.78	-13.97	-13.23	-13.68	-13.63	-13.85	-14.59	-14.73	-15.32	-15.45	-14.79	-15.19
27	-13.69	-14.01	-13.53	-13.72	-13.71	-14.02	-14.60	-14.76	-15.19	-15.36	-15.05	-15.19
28	-13.29	-13.69	-13.56	-13.71	-13.84	-14.01	-14.56	-14.80	-15.03	-15.22	-14.70	-15.12
29	-13.54	-13.73	-13.64	-13.81	-13.81	-13.96	-14.61	-15.04	-15.02	-15.36	-14.52	-14.87
30	-13.38	-13.68	-13.67	-13.84	-13.74	-13.96	-14.90	-15.11	-15.19	-15.37	-14.66	-15.14
31	---	---	-13.68	-13.84	---	---	-14.89	-15.10	-15.10	-15.33	---	---
MONTH	-13.29	-14.81	-13.12	-13.96	-13.18	-14.02	-13.58	-15.11	-14.83	-15.66	-14.52	-15.63
YEAR	-13.12	-15.66										

Daily Low Water Levels



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

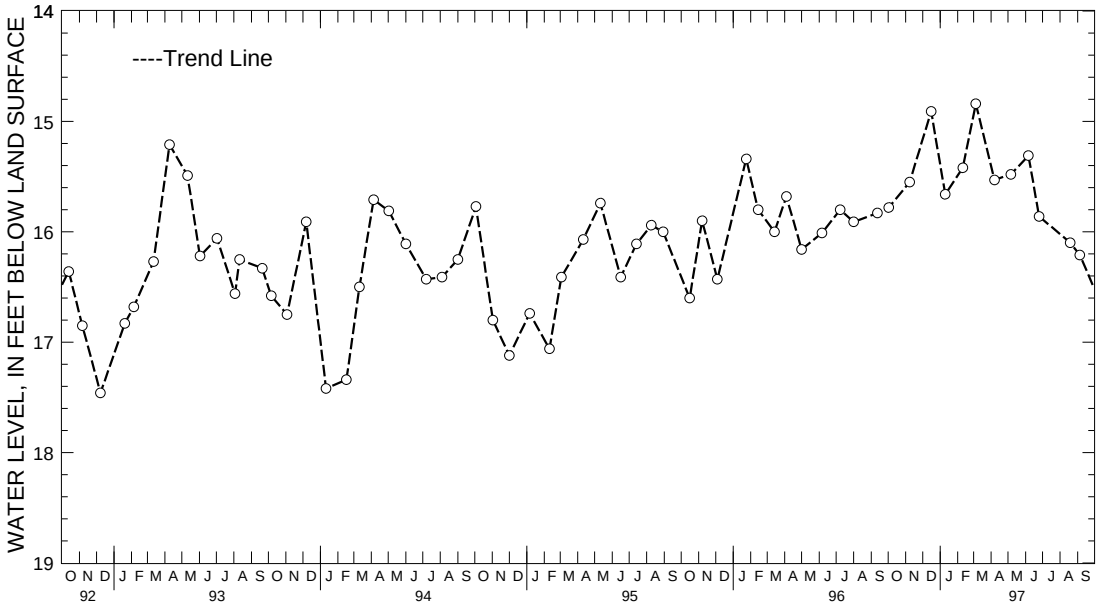
ANNE ARUNDEL COUNTY--Continued

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, near 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 electric tape by U.S. Geological Survey personnel.
DATUM.--Altitude of land surface is 17.33 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of casing, 2.43 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, 14.74 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1996	15.78	JAN 10, 1997	15.66	APR 07, 1997	15.53	JUN 25, 1997	15.86
NOV 08	15.55	FEB 10	15.42	MAY 06	15.48	AUG 19	16.10
DEC 16	14.91	MAR 05	14.84	JUN 06	15.31	SEP 05	16.21

WATER YEAR 1997 HIGHEST 14.84 MAR 05, 1997 LOWEST 16.21 SEP 05, 1997



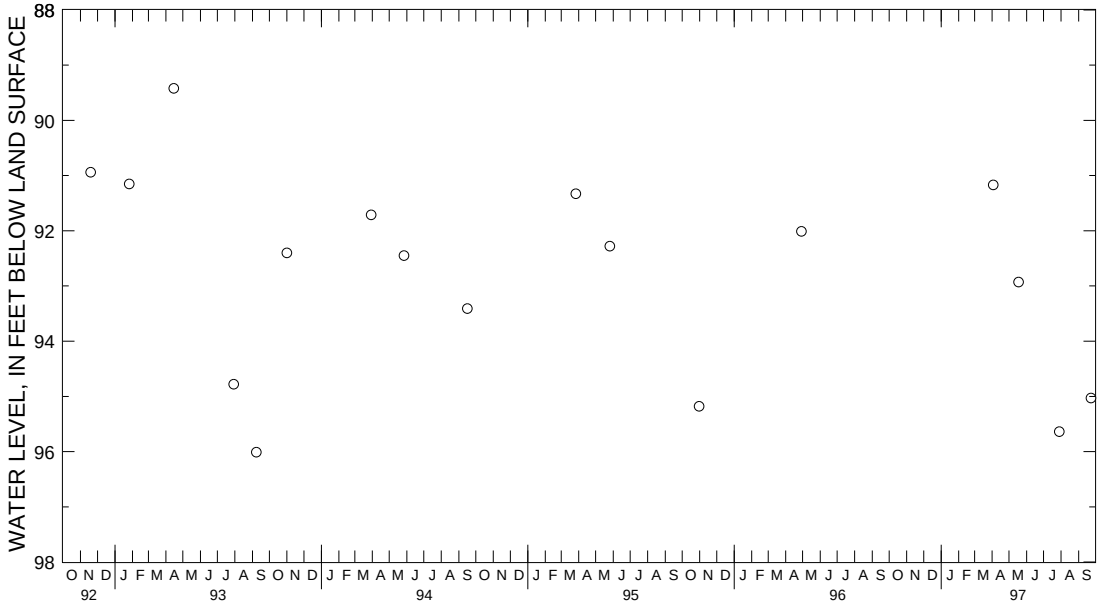
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 electric 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.--Altitude of land surface is 105.48 ft above National Geodetic Vertical Datum of 1929. Measuring Point: Top of recorder platform, 1.0 ft above land surface.
REMARKS.--Anne Arundel Co. observation well network. Water levels affected by nearby pumping.
PERIOD OF RECORD.--October 1970 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 80.25 ft below land surface May 4, 1973. lowest measured, 96.01 ft below land surface, Sept. 8, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR 03, 1997	91.17	MAY 18, 1997	92.93	JUL 29, 1997	95.64

WATER YEAR 1997 HIGHEST 91.17 APR 03, 1997 LOWEST 95.64 JUL 29, 1997



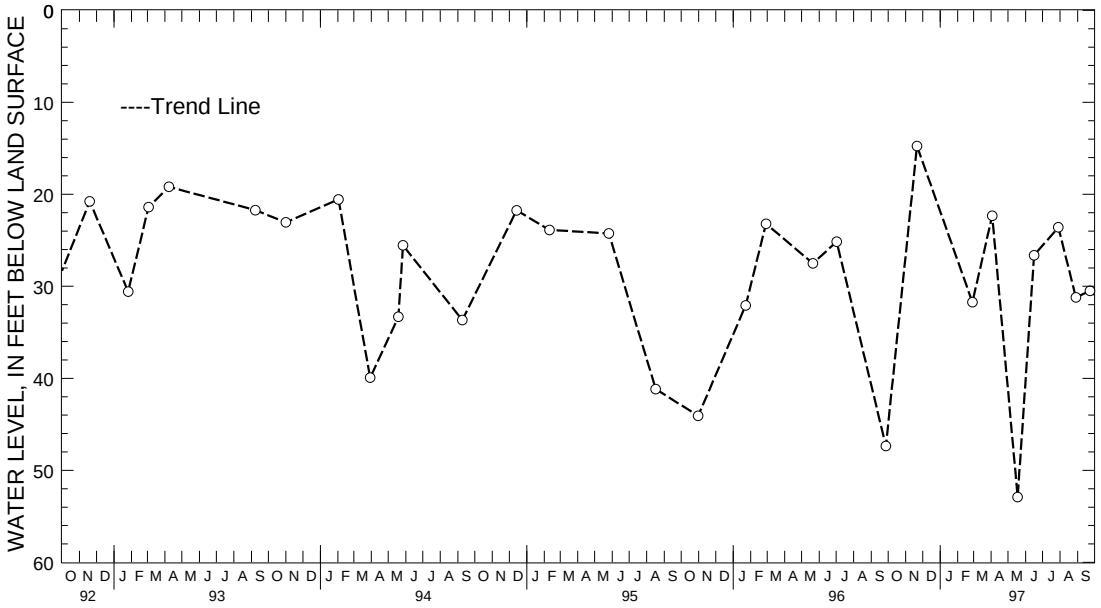
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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: City of Annapolis.
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 electric 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 September 1996.
DATUM.--Altitude of land surface is 13.72 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. Water levels are affected by nearby pumping.
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, 52.90 ft below sea level, May 18, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 21, 1996	14.75	APR 03, 1997	22.33	JUN 16, 1997	26.64	AUG 29, 1997	31.21
FEB 27, 1997	31.73	MAY 18	52.90	JUL 29	23.58	SEP 23	30.50

WATER YEAR 1997 HIGHEST 14.75 NOV 21, 1996 LOWEST 52.90 MAY 18, 1997



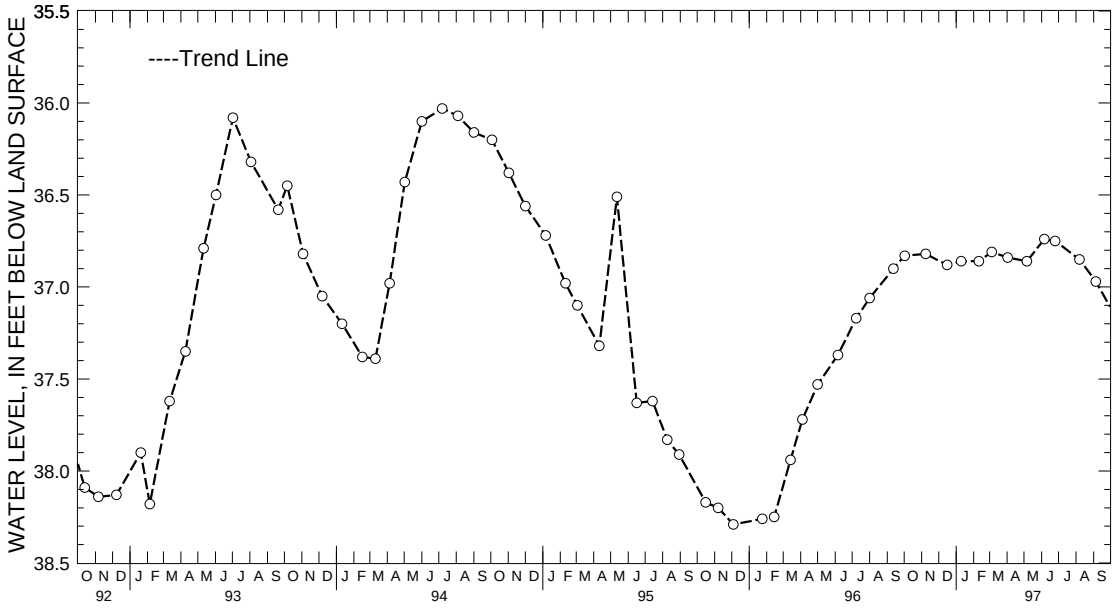
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 Plaza.
   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 electric tape by U.S. Geological Survey personnel.
DATUM.--Atitude 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1996	36.83	JAN 10, 1997	36.86	APR 02, 1997	36.84	JUN 25, 1997	36.75
NOV 08	36.82	FEB 10	36.86	MAY 06	36.86	AUG 07	36.85
DEC 16	36.88	MAR 05	36.81	JUN 06	36.74	SEP 05	36.97

WATER YEAR 1997 HIGHEST 36.74 JUN 06, 1997 LOWEST 36.97 SEP 05, 1997



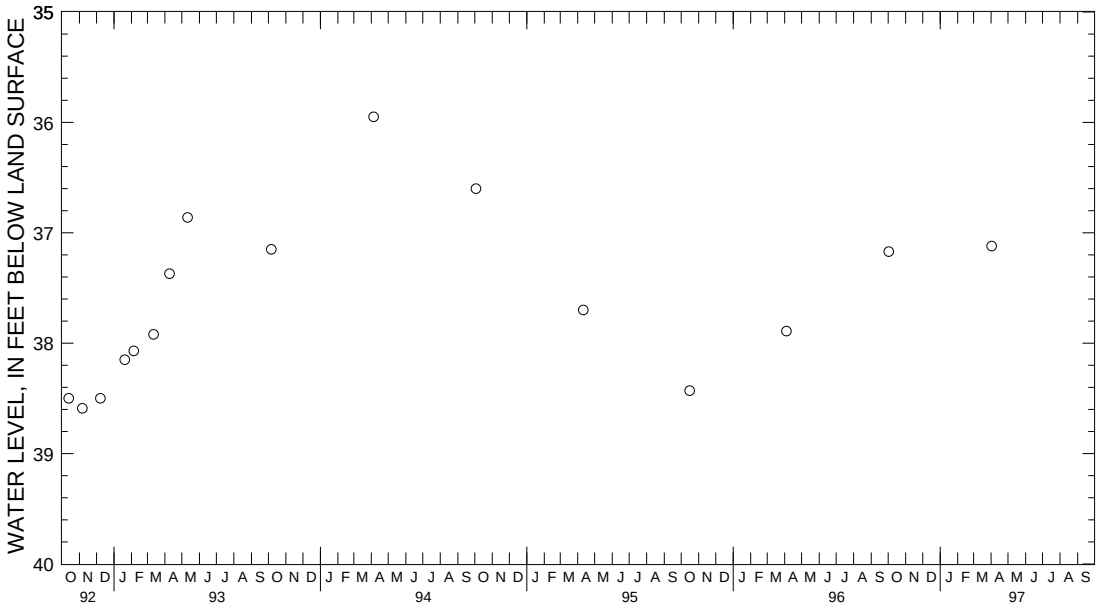
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 Plaza.
   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 electric tape by U.S. Geological Survey personnel.
DATUM.--Altitude 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, 35.95 ft below land surface, April 5, 1994;
   lowest measured, 38.59 ft below land surface, Nov. 6, 1992.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1996	37.17	APR 02, 1997	37.12

WATER YEAR 1997 HIGHEST 37.12 APR 02, 1997 LOWEST 37.17 OCT 02, 1996



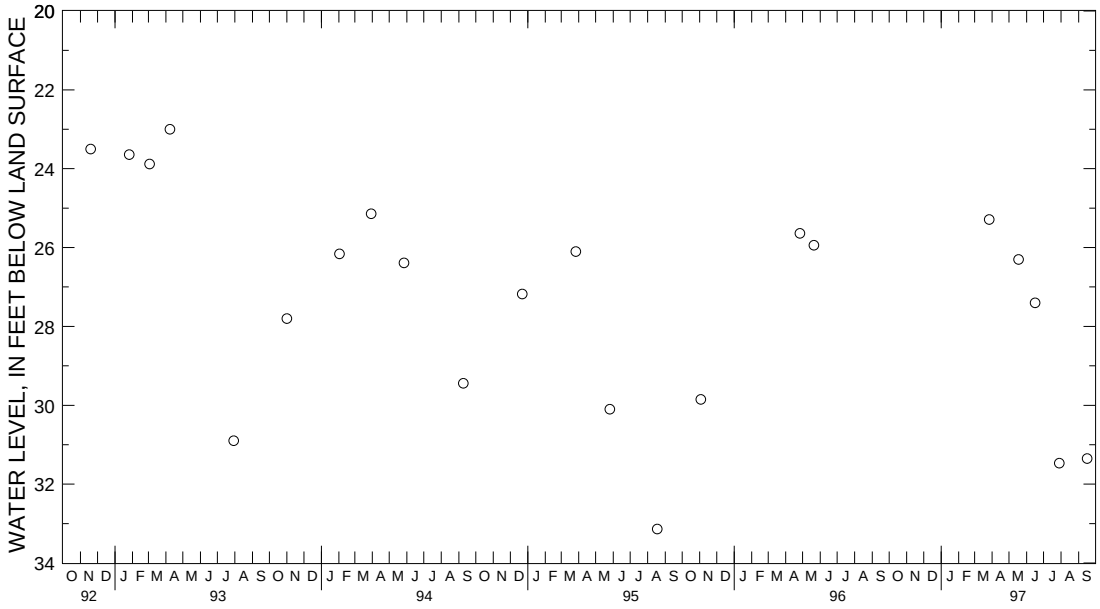
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--AA Df 19. SITE ID.--385921076270701.
LOCATION.--Lat 38°59´22˝, long 76°27´04˝, Hydrologic Unit 02060004, 200 ft east of intersection with McLean and Hooper Rd.
Owner: U.S. Navy.
AQUIFER.--Upper Patapsco aquifer in the Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSCU.
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 590 ft; casing diameter 10 in., to 565 ft; screen diameter 10 in. from 565 to 590 ft.
INSTRUMENTATION.--Periodic measurements with electric tape by U.S. Geological Survey personnel.
Equipped with graphic water-level recorder from November 1979 to April 1980.
DATUM.--Altitude of land surface is 13 ft above National Geodetic Vertical Datum of 1929, from topographic map.
Measuring Point: Top of recorder platform, 3.0 ft above land surface.
REMARKS.--Southern Maryland Observation Well Network.
PERIOD OF RECORD.--March 1977 to current year
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 16.34 ft below land surface, March 9, 1977; lowest measured, 33.14 ft below land surface, August 18, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAR 27, 1997	25.29	JUN 16, 1997	27.40	SEP 16, 1997	31.35
MAY 18	26.30	JUL 29	31.47		

WATER YEAR 1997 HIGHEST 25.29 MAR 27, 1997 LOWEST 31.47 JUL 29, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 150 ft; casing diameter 8 in. from 135 to 233 ft; screen diameter 8 in. from 233 to 253 ft.
INSTRUMENTATION.--Monthly measurements with electric 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.--Altitude 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. Water levels are affected by nearby pumping. 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, 16.42 ft below sea level, Sept. 19, and 21, 1995.

WATER LEVEL, IN FEET BELOW SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	-11.43	-11.51	-10.43	-10.46	-9.09	-9.69	-9.21	-9.35	-9.22	-9.37	---	---
2	-11.51	-11.51	-10.46	-10.49	-9.00	-9.15	-9.13	-9.21	-9.22	-9.31	---	---
3	-11.50	-11.57	-10.49	-10.65	-9.15	-9.27	-9.13	-9.14	-9.31	-9.35	---	---
4	-11.57	-11.72	-10.65	-10.69	-9.27	-9.38	-9.13	-9.16	-9.35	-9.45	---	---
5	-11.63	-11.72	-10.69	-10.72	-9.38	-9.46	-8.81	-9.14	-9.29	-9.43	---	---
6	-11.58	-11.63	-10.72	-10.77	-9.24	-9.42	-8.81	-8.89	-9.29	-9.35	---	---
7	-11.46	-11.58	-10.55	-10.77	-9.12	-9.31	-8.89	-9.13	-9.35	-9.42	---	---
8	-11.19	-11.46	-10.05	-10.55	-9.09	-9.16	-9.13	-9.55	-9.42	-9.46	---	---
9	-11.13	-11.19	-10.03	-10.10	-9.07	-9.24	-9.55	-9.68	-9.40	-9.50	---	---
10	-10.90	-11.13	-10.10	-10.26	-9.24	-9.39	-9.12	-9.57	-9.34	-9.40	---	---
11	-10.97	-11.22	-10.26	-10.38	-9.29	-9.33	-9.12	-9.29	-9.34	-9.40	---	---
12	-11.22	-11.27	-10.38	-10.52	-9.28	-9.30	-9.29	-9.61	-9.38	-9.43	---	---
13	-11.24	-11.27	-10.52	-10.62	-9.26	-9.28	-9.61	-9.92	-9.38	-9.51	---	---
14	-11.24	-11.24	-10.61	-10.62	-9.26	-9.55	-9.92	-10.03	-9.43	-9.52	---	---
15	-11.24	-11.26	-10.61	-10.65	-9.49	-9.62	-9.57	-10.02	-9.38	-9.43	---	---
16	-11.24	-11.26	-10.53	-10.65	-9.22	-9.49	-9.29	-9.57	-9.38	-9.51	---	---
17	-11.24	-11.24	-10.35	-10.53	-9.16	-9.22	-9.30	-9.74	-9.51	-9.75	---	---
18	-11.23	-11.24	-10.01	-10.35	-9.15	-9.17	-9.74	-9.90	-9.52	-9.76	---	---
19	-11.21	-11.23	-9.78	-10.01	-9.17	-9.22	-9.90	-10.07	-9.52	-9.61	---	---
20	-11.21	-11.21	-9.73	-9.78	-9.22	-9.55	-9.57	-10.04	-9.61	-9.82	---	---
21	-11.20	-11.21	-9.73	-9.75	-9.55	-9.82	-9.57	-9.72	-9.52	-9.82	---	---
22	-11.20	-11.20	-9.75	-9.92	-9.82	-9.86	-9.62	-9.73	-9.31	-9.52	---	---
23	-10.54	-11.20	-9.92	-10.02	-9.73	-9.84	-9.59	-9.62	-9.33	-9.66	---	---
24	-10.53	-10.54	-9.99	-10.00	-9.29	-9.73	-9.60	-9.73	-9.66	-9.74	---	---
25	-10.54	-10.62	-9.95	-9.99	-9.29	-9.49	-9.18	-9.71	-9.74	-9.84	---	---
26	-10.62	-10.72	-9.84	-9.95	-9.49	-9.56	-9.18	-9.48	-9.62	-9.83	---	---
27	-10.72	-10.79	-9.85	-10.23	-9.56	-9.59	-9.48	-9.72	---	---	---	---
28	-10.79	-10.79	-10.12	-10.28	-9.28	-9.57	-9.67	-9.73	---	---	---	---
29	-10.79	-10.81	-9.95	-10.12	-9.21	-9.28	-9.67	-9.77	---	---	---	---
30	-10.42	-10.81	-9.69	-9.95	-9.21	-9.26	-9.77	-9.81	---	---	---	---
31	-10.40	-10.44	---	---	-9.26	-9.29	-9.37	-9.80	---	---	---	---
MONTH	-10.40	-11.72	-9.69	-10.77	-9.00	-9.86	-8.81	-10.07	-9.22	-9.84	---	---

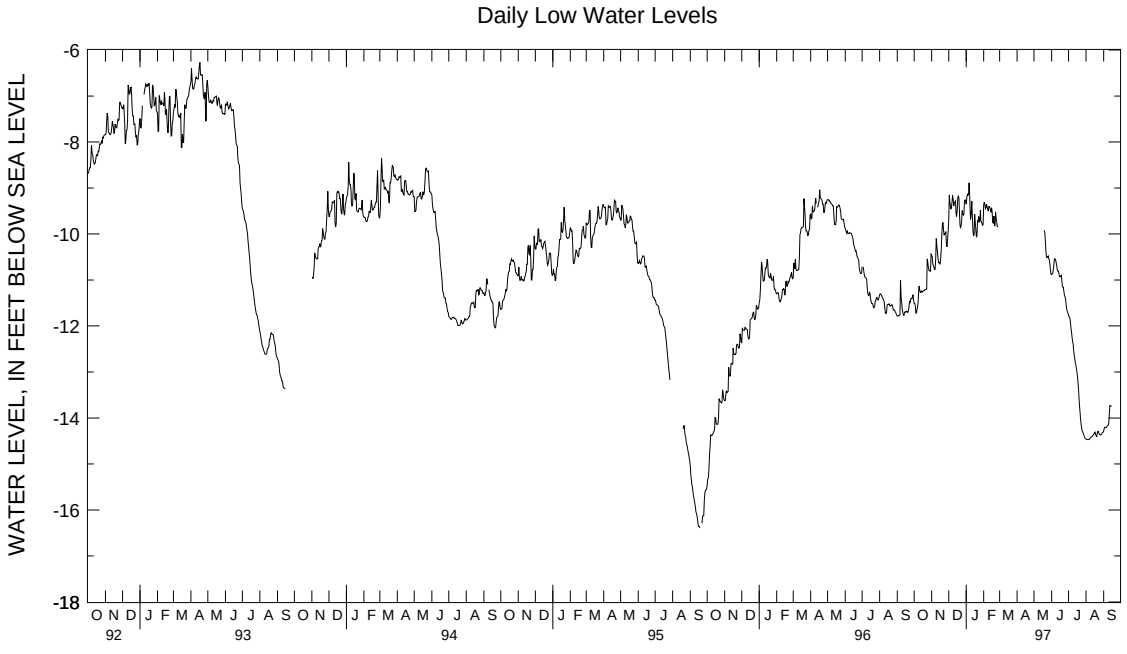
GROUND-WATER LEVELS

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	---	---	---	---	-10.87	-10.88	-11.72	-11.77	-14.45	-14.46	-14.22	-14.28
2	---	---	---	---	-10.85	-10.87	-11.77	-11.80	-14.46	-14.46	-14.20	-14.22
3	---	---	---	---	-10.79	-10.85	-11.80	-11.81	-14.46	-14.47	-14.18	-14.20
4	---	---	---	---	-10.69	-10.79	-11.81	-11.88	-14.47	-14.47	-14.18	-14.21
5	---	---	---	---	-10.54	-10.69	-11.88	-12.02	-14.47	-14.47	-14.20	-14.21
6	---	---	---	---	-10.53	-10.54	-12.02	-12.11	-14.46	-14.47	-14.18	-14.20
7	---	---	---	---	-10.54	-10.54	-12.11	-12.23	-14.44	-14.46	-14.17	-14.18
8	---	---	---	---	-10.54	-10.56	-12.23	-12.34	-14.43	-14.44	-14.16	-14.17
9	---	---	---	---	-10.56	-10.61	-12.34	-12.39	-14.42	-14.43	-14.13	-14.16
10	---	---	---	---	-10.61	-10.68	-12.39	-12.51	-14.41	-14.42	-13.94	-14.13
11	---	---	---	---	-10.68	-10.77	-12.51	-12.61	-14.39	-14.41	-13.73	-13.94
12	---	---	---	---	-10.77	-10.81	-12.61	-12.70	-14.38	-14.39	-13.72	-13.73
13	---	---	---	---	-10.80	-10.81	-12.70	-12.79	-14.36	-14.38	-13.72	-13.73
14	---	---	---	---	-10.80	-10.85	-12.79	-12.85	-14.33	-14.36	-13.73	-13.74
15	---	---	---	---	-10.85	-10.93	-12.85	-12.92	-14.33	-14.34	-13.74	-13.75
16	---	---	---	---	-10.92	-10.93	-12.92	-13.01	-14.30	-14.33	---	---
17	---	---	---	---	-10.88	-10.92	-13.01	-13.12	-14.30	-14.31	---	---
18	---	---	---	---	-10.88	-10.90	-13.12	-13.26	-14.31	-14.36	---	---
19	---	---	-9.90	-9.92	-10.90	-11.01	-13.26	-13.44	-14.36	-14.39	---	---
20	---	---	-9.90	-9.96	-11.01	-11.14	-13.44	-13.67	-14.32	-14.40	---	---
21	---	---	-9.96	-10.13	-11.14	-11.16	-13.67	-13.82	-14.28	-14.32	---	---
22	---	---	-10.13	-10.36	-11.15	-11.16	-13.82	-14.00	-14.28	-14.29	---	---
23	---	---	-10.36	-10.49	-11.16	-11.26	-14.00	-14.12	-14.29	-14.30	---	---
24	---	---	-10.49	-10.51	-11.26	-11.34	-14.12	-14.21	-14.30	-14.34	---	---
25	---	---	-10.42	-10.50	-11.34	-11.37	-14.21	-14.28	-14.34	-14.36	---	---
26	---	---	-10.41	-10.48	-11.37	-11.43	-14.28	-14.30	-14.36	-14.37	---	---
27	---	---	-10.48	-10.54	-11.43	-11.56	-14.30	-14.34	-14.36	-14.37	---	---
28	---	---	-10.54	-10.56	-11.56	-11.65	-14.34	-14.37	-14.33	-14.36	---	---
29	---	---	-10.56	-10.67	-11.65	-11.69	-14.37	-14.40	-14.32	-14.33	---	---
30	---	---	-10.67	-10.79	-11.69	-11.72	-14.40	-14.43	-14.31	-14.32	---	---
31	---	---	-10.79	-10.88	---	---	-14.43	-14.45	-14.28	-14.31	---	---
MONTH	---	---	-9.90	-10.88	-10.53	-11.72	-11.72	-14.45	-14.28	-14.47	-13.72	-14.28
YEAR	-8.81	-14.47										



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 Dorsy Creek Rd., 500 ft north of MD Rt. 450.
Owner: U.S. Navy.
AQUIFER.--Magothy Formation of Upper Cretaceous age and Upper Patapsco aquifer of the Patapsco Formation of Lower Cretaceous age. Aquifer code: 211MGTY and 217PPSC.
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 705 ft; casing diameter 6 in., to 300 ft; 320 to 572 ft and 592 to 675 ft; screen diameter 6 in. from 300 to 320 ft, 572 to 592 ft and 675 to 695 ft.
INSTRUMENTATION.--Monthly measurements with electric 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.--Altitude of land surface is 5.17 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of recorder platform, 2.8 ft above land surface.
REMARKS.--Anne Arundel Co. observation well network.
Water levels are affected by nearby pumping.
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, 17.16 ft below sea level, Sept. 15, 1995.

WATER LEVEL, IN FEET BELOW SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	-11.36	-11.68	-9.21	-9.51	-7.02	-7.71	-7.86	-8.54	-7.62	-8.04	-8.61	-9.17
2	-11.21	-11.53	-9.21	-9.51	-7.21	-7.62	-7.88	-8.17	-7.79	-8.12	-8.49	-8.90
3	-11.22	-11.50	-9.25	-9.49	-7.41	-7.79	-7.91	-8.27	-7.79	-8.05	-8.72	-9.06
4	-11.06	-11.57	-9.22	-9.41	-7.42	-7.81	-7.94	-8.31	-7.74	-8.26	-8.39	-8.88
5	-10.86	-11.06	-9.20	-9.38	-7.48	-8.03	-7.56	-8.13	-7.47	-7.98	-8.22	-8.71
6	-10.65	-10.95	-9.24	-9.46	-7.31	-7.77	-7.83	-8.30	-7.74	-8.07	-8.30	-8.92
7	-10.39	-10.67	-8.94	-9.44	-7.18	-7.79	-8.23	-8.63	-7.93	-8.18	-8.92	-9.14
8	-10.19	-10.45	-8.64	-8.95	-7.03	-7.70	-8.63	-8.92	-7.90	-8.24	-8.70	-9.14
9	-9.92	-10.41	-8.73	-9.07	-7.15	-7.86	-8.26	-8.83	-7.89	-8.21	-8.79	-9.24
10	-9.84	-10.48	-8.73	-9.12	-7.33	-7.91	-8.00	-8.34	-7.80	-8.16	-8.54	-8.87
11	-10.34	-10.53	-8.70	-8.96	-7.37	-7.75	-8.15	-8.68	-8.07	-8.46	-8.70	-8.99
12	-10.07	-10.42	-8.71	-9.09	-7.54	-7.85	-8.42	-8.89	-8.09	-8.33	-8.99	-9.15
13	-9.85	-10.24	-8.66	-9.03	-7.81	-8.14	-8.62	-8.83	-8.24	-8.69	-9.05	-9.20
14	-9.82	-10.05	-8.63	-8.83	-8.14	-8.54	-8.51	-8.82	-8.22	-8.71	-8.63	-9.11
15	-9.77	-10.09	-8.63	-8.97	-7.92	-8.68	-8.08	-8.61	-8.13	-8.59	-8.68	-9.16
16	-9.71	-9.87	-8.44	-8.71	-7.69	-8.06	-7.92	-8.25	-8.39	-8.72	-9.09	-9.16
17	-9.75	-9.96	-8.19	-8.65	-7.57	-7.96	-8.23	-8.65	-8.41	-8.97	-8.83	-9.11
18	-9.36	-9.87	-7.93	-8.28	-7.56	-7.93	-8.43	-8.85	-8.30	-8.87	-8.83	-9.01
19	-9.36	-9.71	-7.93	-8.14	-7.56	-7.91	-8.23	-8.81	-8.51	-9.00	-8.57	-8.98
20	-9.14	-9.43	-7.98	-8.18	-7.80	-8.27	-7.91	-8.31	-8.81	-9.13	-8.35	-8.57
21	-9.14	-9.45	-7.97	-8.33	-8.04	-8.50	-8.20	-8.52	-8.45	-8.93	-8.35	-8.58
22	-9.17	-9.58	-7.99	-8.45	-7.91	-8.37	-8.04	-8.53	-8.36	-8.96	-8.15	-8.68
23	-9.38	-9.71	-7.93	-8.50	-7.94	-8.23	-8.08	-8.51	-8.79	-9.15	-8.37	-8.81
24	-9.59	-10.06	-7.91	-8.33	-7.67	-8.10	-8.20	-8.63	-8.79	-9.01	-8.28	-8.50
25	-9.70	-10.06	-7.85	-8.14	-7.95	-8.41	-7.72	-8.20	-8.92	-9.11	-8.24	-8.50
26	-9.75	-10.04	-7.69	-8.19	-8.04	-8.47	-8.01	-8.48	-8.69	-8.98	-8.12	-8.56
27	-9.51	-10.04	-8.19	-8.55	-8.07	-8.47	-8.18	-8.69	-8.66	-8.91	-8.39	-8.68
28	-9.39	-9.80	-7.90	-8.53	-7.82	-8.38	-7.98	-8.26	-8.91	-9.22	-8.45	-8.69
29	-9.31	-9.90	-7.73	-8.16	-7.86	-8.19	-8.21	-8.59	---	---	-8.21	-8.53
30	-8.98	-9.42	-7.67	-7.92	-8.00	-8.35	-8.10	-8.36	---	---	-8.21	-8.60
31	-9.22	-9.48	---	---	-7.95	-8.45	-7.71	-8.15	---	---	-8.22	-8.76
MONTH	-8.98	-11.68	-7.67	-9.51	-7.02	-8.68	-7.56	-8.92	-7.47	-9.22	-8.12	-9.24

GROUND-WATER LEVELS

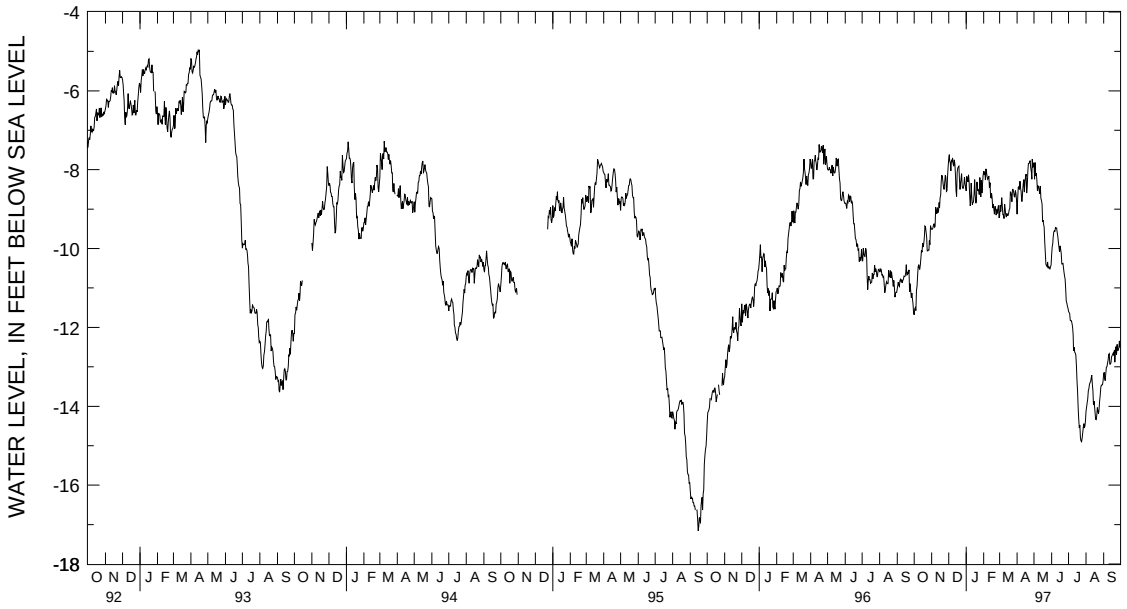
MARYLAND--Continued

ANNE ARUNDEL COUNTY--Continued

AA Df 79--Continued

DAY	APRIL MAX	APRIL MIN	MAY MAX	MAY MIN	JUNE MAX	JUNE MIN	JULY MAX	JULY MIN	AUGUST MAX	AUGUST MIN	SEPTEMBER MAX	SEPTEMBER MIN
1	-8.74	-9.13	-7.53	-7.83	-9.90	-10.15	-11.29	-11.59	-13.89	-14.13	-12.98	-13.17
2	-8.18	-8.74	-7.80	-8.24	-9.73	-9.95	-11.35	-11.62	-13.76	-14.02	-12.95	-13.14
3	-8.07	-8.45	-7.50	-7.82	-9.60	-9.87	-11.32	-11.65	-13.66	-13.91	-12.87	-13.30
4	-8.04	-8.43	-7.69	-8.15	-9.40	-9.71	-11.50	-11.82	-13.44	-13.81	-13.09	-13.35
5	-8.23	-8.50	-7.84	-8.09	-9.29	-9.58	-11.64	-11.83	-13.37	-13.61	-12.89	-13.17
6	-8.04	-8.29	-7.61	-8.26	-9.28	-9.55	-11.60	-11.83	-13.30	-13.55	-12.86	-13.01
7	-8.01	-8.46	-8.10	-8.53	-9.29	-9.56	-11.66	-11.90	-13.25	-13.44	-12.81	-13.00
8	-8.29	-8.56	-8.17	-8.41	-9.24	-9.47	-11.67	-11.99	-13.22	-13.40	-12.73	-12.91
9	-8.35	-8.80	-8.08	-8.42	-9.24	-9.48	-11.91	-12.18	-13.22	-13.38	-12.61	-12.83
10	-8.46	-8.80	-8.25	-8.53	-9.32	-9.48	-12.16	-12.59	-13.06	-13.28	-12.52	-12.69
11	-8.26	-8.55	-8.33	-8.61	-9.40	-9.60	-12.26	-12.50	-13.06	-13.21	-12.50	-12.67
12	-8.04	-8.36	-8.16	-8.41	-9.52	-9.69	-12.43	-12.63	-13.11	-13.44	-12.56	-12.93
13	-7.97	-8.25	-8.41	-8.73	-9.56	-9.84	-12.48	-12.65	-13.38	-13.61	-12.72	-12.93
14	-8.25	-8.57	-8.49	-8.78	-9.76	-9.96	-12.47	-12.70	-13.47	-13.97	-12.68	-12.89
15	-8.13	-8.30	-8.49	-8.87	-9.84	-10.08	-12.58	-12.97	-13.68	-13.87	-12.51	-12.75
16	-7.83	-8.18	-8.85	-9.32	-9.79	-9.93	-12.82	-13.34	-13.57	-13.98	-12.42	-12.71
17	-7.77	-8.11	-9.09	-9.28	-9.70	-10.02	-13.18	-13.62	-13.77	-14.15	-12.44	-12.68
18	-8.09	-8.59	-9.18	-9.38	-9.84	-10.13	-13.43	-14.02	-13.90	-14.33	-12.39	-12.65
19	-8.03	-8.42	-9.14	-9.46	-9.91	-10.39	-13.80	-14.33	-14.02	-14.34	-12.42	-12.71
20	-7.53	-8.04	-9.29	-9.84	-10.12	-10.39	-14.12	-14.55	-13.61	-14.23	-12.28	-12.57
21	-7.49	-7.84	-9.69	-10.10	-10.09	-10.38	-14.03	-14.48	-13.69	-14.03	-12.50	-12.88
22	-7.62	-7.84	-9.98	-10.40	-10.05	-10.46	-14.37	-14.81	-13.95	-14.12	-12.30	-12.62
23	-7.56	-7.81	-10.17	-10.43	-10.33	-10.59	-14.60	-14.88	-13.95	-14.19	-12.30	-12.49
24	-7.53	-7.77	-10.17	-10.45	-10.45	-10.69	-14.56	-14.90	-13.79	-14.07	-12.43	-12.69
25	-7.47	-7.95	-10.07	-10.34	-10.52	-10.77	-14.57	-14.80	-13.62	-13.86	-12.23	-12.43
26	-7.69	-8.05	-10.20	-10.50	-10.66	-11.01	-14.34	-14.67	-13.47	-13.72	-12.19	-12.58
27	-7.71	-8.24	-10.22	-10.46	-10.89	-11.33	-14.15	-14.52	-13.35	-13.52	-12.44	-12.58
28	-7.39	-7.73	-10.23	-10.47	-11.15	-11.38	-14.14	-14.44	-13.26	-13.46	-12.13	-12.51
29	-7.68	-7.94	-10.31	-10.51	-11.16	-11.46	-14.13	-14.55	-13.25	-13.46	-11.97	-12.34
30	-7.64	-7.83	-10.28	-10.46	-11.24	-11.51	-14.18	-14.51	-13.25	-13.45	-12.14	-12.51
31	---	---	-10.15	-10.42	---	---	-13.98	-14.38	-13.05	-13.35	---	---
MONTH	-7.39	-9.13	-7.50	-10.51	-9.24	-11.51	-11.29	-14.90	-13.05	-14.34	-11.97	-13.35
YEAR	-7.02	-14.90										

Daily Low Water Levels



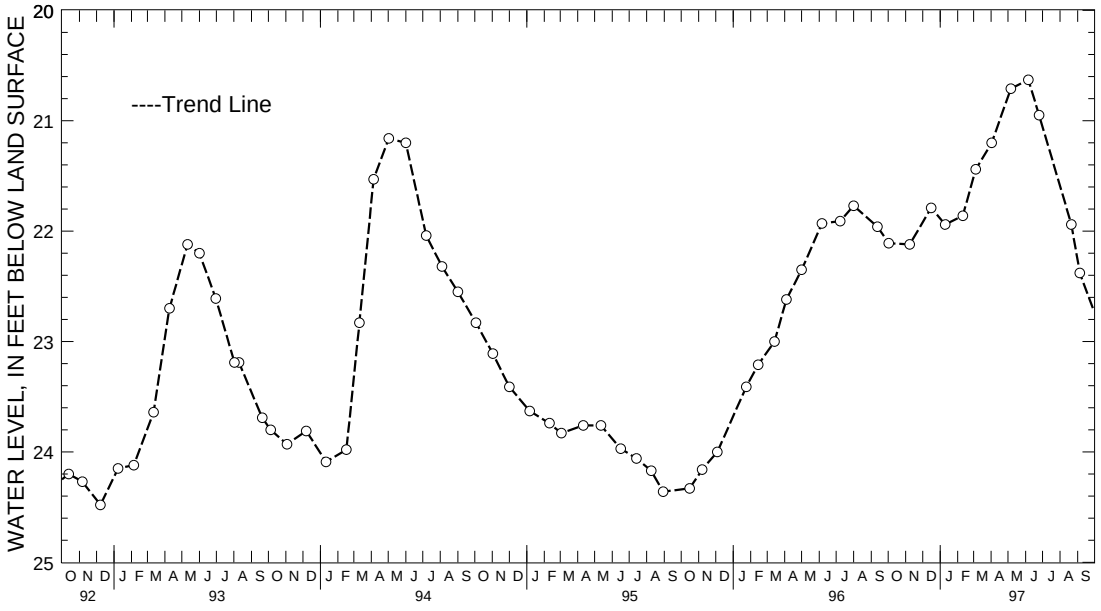
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 electric tape by U.S. Geological Survey personnel.
DATUM.--Altitude of land surface is 26.51 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, 20.63 ft below land surface, June 6, 1997; lowest measured, 25.39 ft below land surface, April 9, 1990.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1996	22.11	JAN 10, 1997	21.94	APR 02, 1997	21.20	JUN 25, 1997	20.95
NOV 08	22.12	FEB 10	21.86	MAY 06	20.71	AUG 21	21.94
DEC 16	21.79	MAR 05	21.44	JUN 06	20.63	SEP 05	22.38

WATER YEAR 1997 HIGHEST 20.63 JUN 06, 1997 LOWEST 22.38 SEP 05, 1997



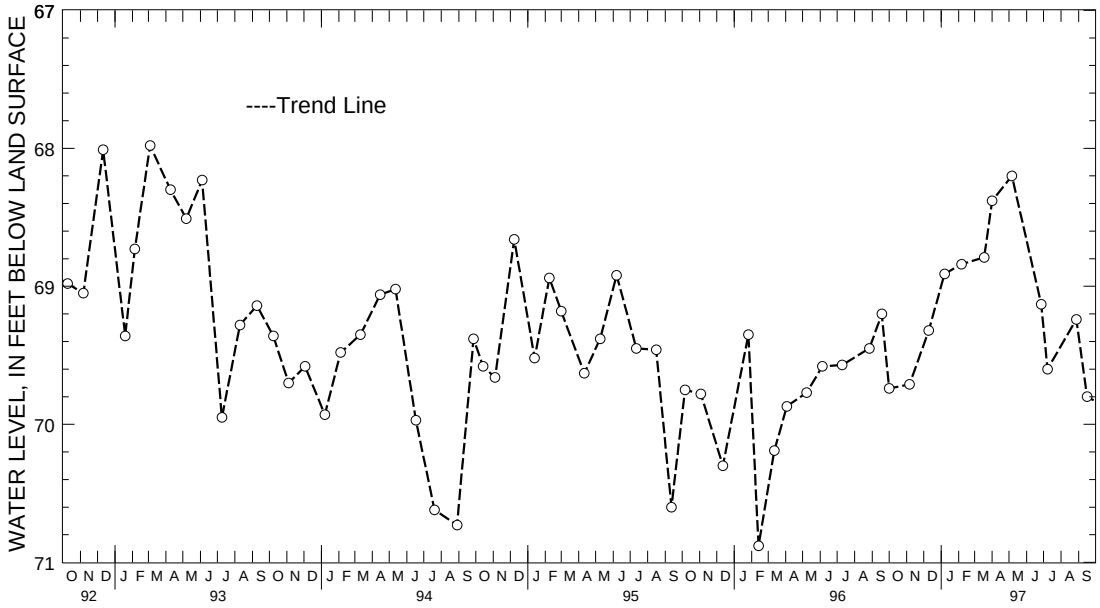
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--AA Ed 45. SITE ID.--385406076383901. PERMIT NUMBER.--AA-74-1005.
LOCATION.--Lat 38°54´06˝, long 76°38´39˝, Hydrologic Unit 02060006, at Anne Arundel County Police Academy, near Davidsonville.
Owner: U.S. Geological Survey.
AQUIFER.--Aquia Formation of Upper Paleocene age. Aquifer code: 125AQUI.
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 157 ft; casing diameter 4 in., to 147 ft; screen diameter 2 in. from 147 to 157 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
DATUM.--Altitude of land surface is 100 ft above National Geodetic Vertical Datum of 1929, from topographic map.
Measuring point: Top of coupling, 0.87 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, 63.51 ft below land surface, May 6, 1980; lowest measured, 70.88 ft below land surface, Feb. 13, 1996.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1996	69.74	JAN 07, 1997	68.91	APR 01, 1997	68.38	JUL 08, 1997	69.60
NOV 06	69.71	FEB 06	68.84	MAY 06	68.20	AUG 28	69.24
DEC 10	69.32	MAR 18	68.79	JUN 27	69.13	SEP 16	69.80

WATER YEAR 1997 HIGHEST 68.20 MAY 06, 1997 LOWEST 69.80 SEP 16, 1997



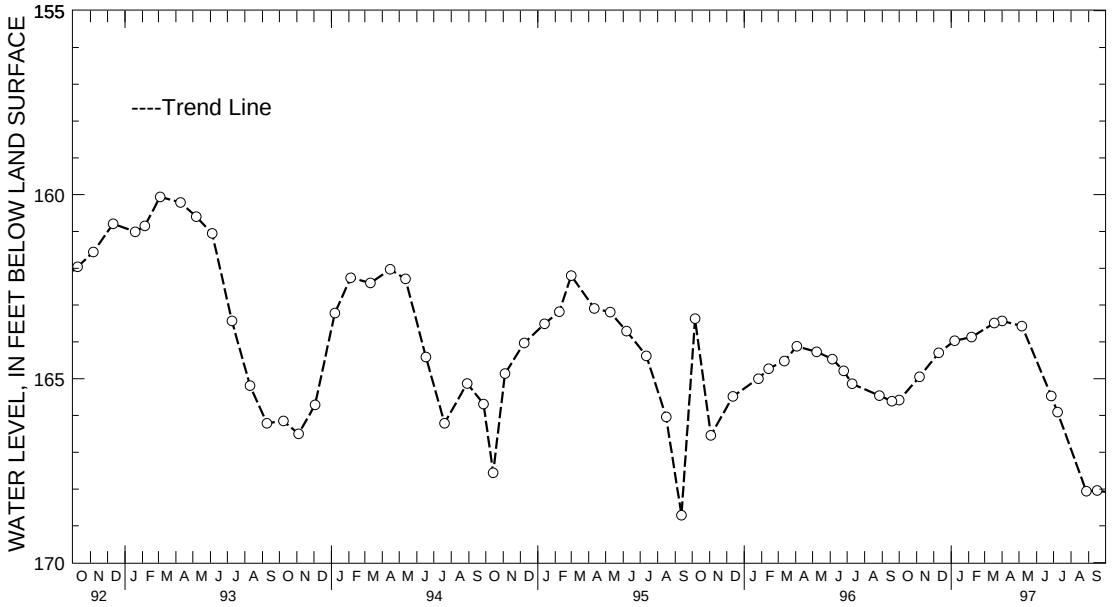
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 electric tape by U.S. Geological Survey personnel.
DATUM.--Altitude 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, 168.71 ft below land surface, Sept. 12, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1996	165.58	JAN 07, 1997	163.97	APR 01, 1997	163.43	JUL 08, 1997	165.91
NOV 06	164.95	FEB 06	163.87	MAY 06	163.57	AUG 28	168.06
DEC 10	164.30	MAR 18	163.49	JUN 27	165.47	SEP 16	168.04

WATER YEAR 1997 HIGHEST 163.43 APR 01, 1997 LOWEST 168.06 AUG 28, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

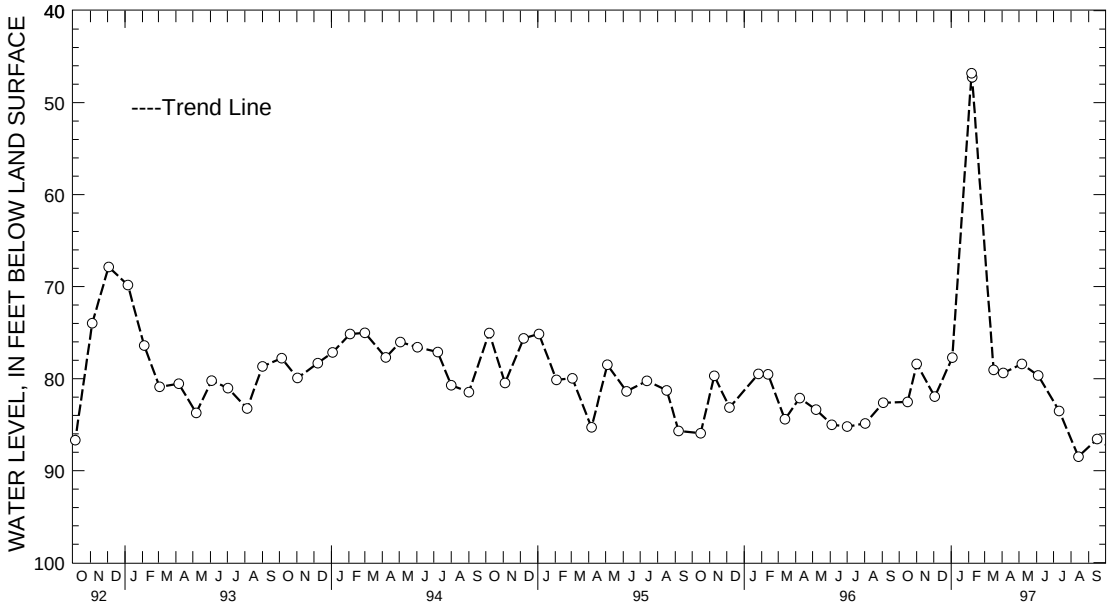
BALTIMORE CITY

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 electric 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 extension, 2.35 ft above land surface.
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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 16, 1996	82.53	FEB 06, 1997	46.80	MAY 06, 1997	78.40	SEP 16, 1997	86.57
NOV 01	78.41	07	47.25	JUN 04	79.66		
DEC 03	81.95	MAR 17	79.05	JUL 11	83.51		
JAN 03, 1997	77.71	APR 03	79.39	AUG 14	88.47		

WATER YEAR 1997 HIGHEST 46.80 FEB 06, 1997 LOWEST 88.47 AUG 14, 1997



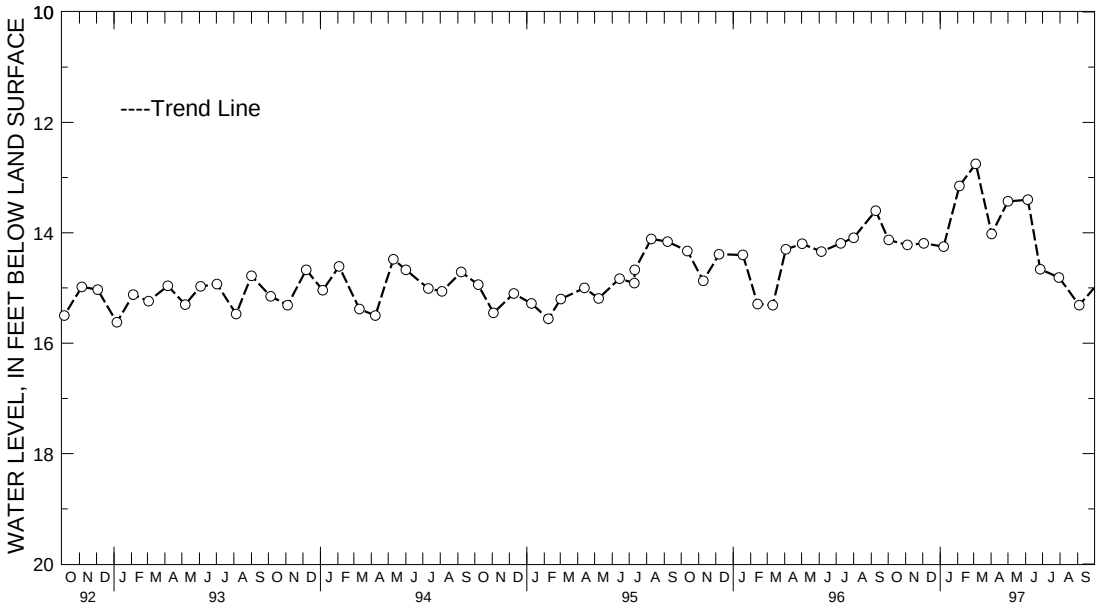
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 electric tape by U.S. Geological Survey personnel.
DATUM.--Altitude 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, 12.75 ft below land surface, March 5, 1997;
lowest measured, 17.71 ft below land surface, Dec. 30, 1983.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1996	14.13	JAN 07, 1997	14.25	APR 02, 1997	14.02	JUN 27, 1997	14.66
NOV 04	14.22	FEB 04	13.15	MAY 01	13.43	JUL 30	14.81
DEC 03	14.19	MAR 05	12.75	JUN 05	13.40	SEP 04	15.31

WATER YEAR 1997 HIGHEST 12.75 MAR 05, 1997 LOWEST 17.71 DEC 30,1983



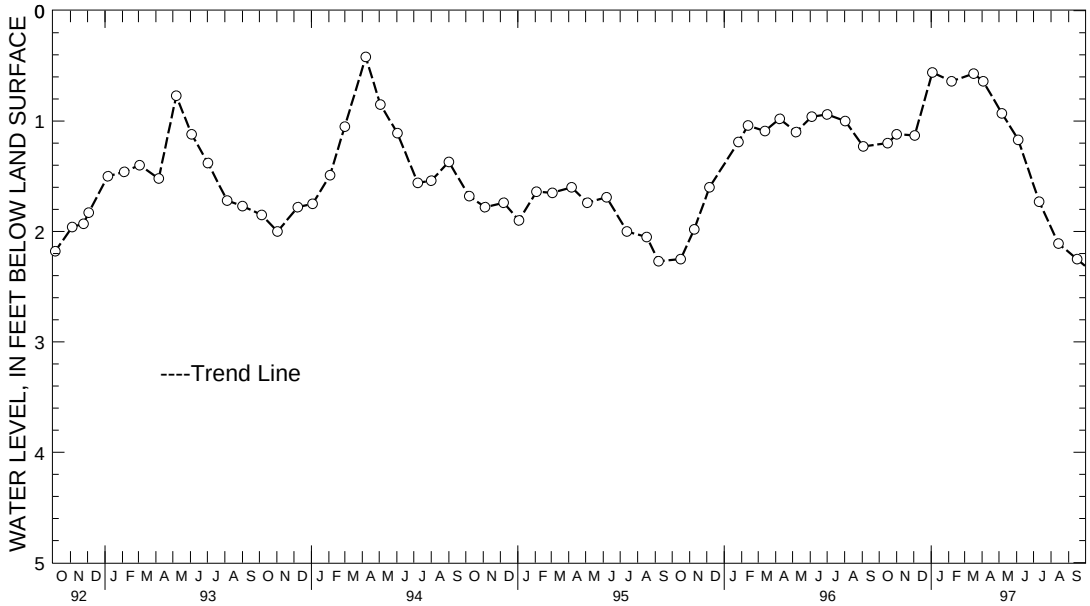
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--3S5E- 46. SITE ID.--391556076315301. PERMIT NUMBER.--BC-81-0088.
LOCATION.--Lat 39°15´56˝, long 76°31´53˝, Hydrologic Unit 02060003, at Holabird Industrial Park, near Colgate Creek.
Owner: U.S. Geological Survey.
AQUIFER.-- Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSC.
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 73 ft; casing diameter 4 in., to 63 ft; screen diameter 3 in. from 63 to 73 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
DATUM.--Altitude of land surface is 10 ft above National Geodetic Vertical Datum of 1929, from topographic map.
Measuring point: Top of casing, 2.07 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, 0.22 ft above land surface, May 5, 1983; lowest measured, 3.07 ft below land surface, July 8, 1986.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 16, 1996	1.20	JAN 03, 1997	.56	APR 03, 1997	.64	JUL 11, 1997	1.73
NOV 01	1.12	FEB 06	.64	MAY 06	.93	AUG 14	2.11
DEC 03	1.13	MAR 17	.57	JUN 04	1.17	SEP 16	2.25

WATER YEAR 1997 HIGHEST .56 JAN 03, 1997 LOWEST 2.25 SEP 16, 1997



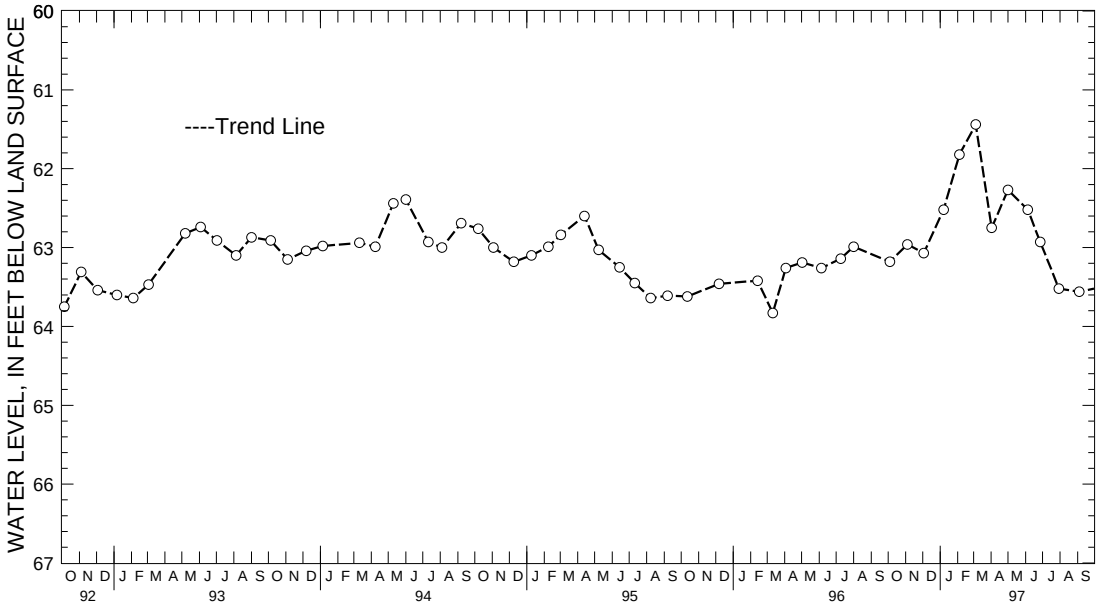
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 electric tape by U.S. Geological Survey personnel.
DATUM.--Altitude 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, 61.44 ft below land surface, March. 5, 1997; lowest measured, 66.36 ft below land surface, May 5, 1983.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 04, 1996	63.18	JAN 07, 1997	62.52	APR 02, 1997	62.75	JUN 27, 1997	62.93
NOV 04	62.96	FEB 04	61.82	MAY 01	62.27	JUL 30	63.52
DEC 03	63.07	MAR 05	61.44	JUN 05	62.52	SEP 04	63.56

WATER YEAR 1997 HIGHEST 61.44 MAR 05, 1997 LOWEST 63.56 SEP 04, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

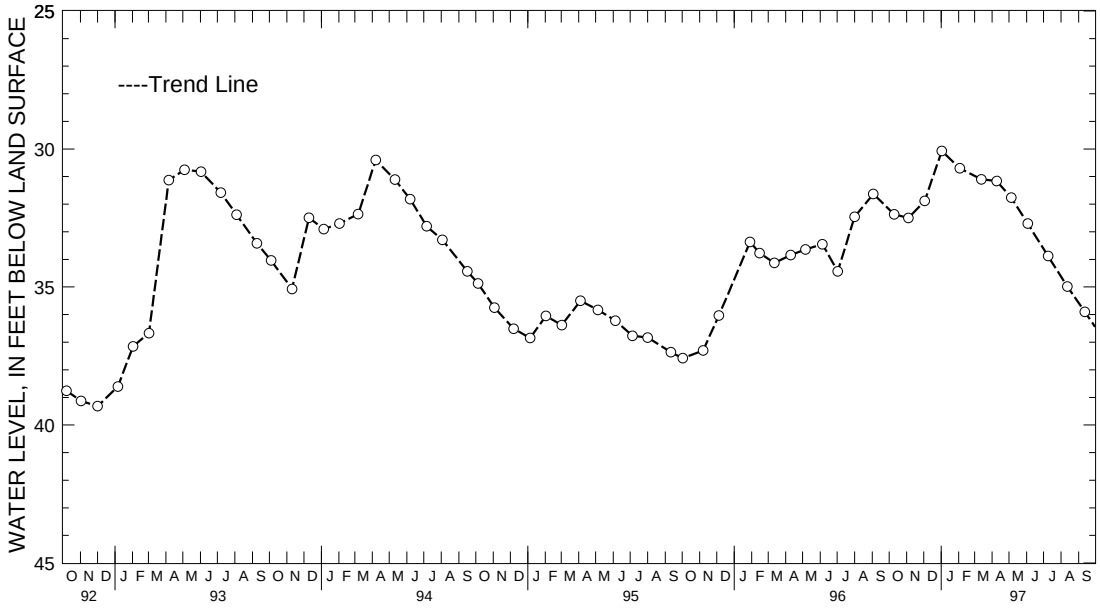
BALTIMORE COUNTY

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, near York Rd.
Owner: Diecraft Division, Leica 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 electric tape by U.S. Geological Survey personnel.
DATUM.--Altitude 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 10, 1996	32.37	JAN 02, 1997	30.07	APR 09, 1997	31.16	JUL 09, 1997	33.88
NOV 04	32.50	FEB 03	30.70	MAY 05	31.76	AUG 12	34.98
DEC 03	31.88	MAR 13	31.10	JUN 03	32.70	SEP 12	35.90

WATER YEAR 1997 HIGHEST 30.07 JAN 02, 1997 LOWEST 35.90 SEP 12, 1997



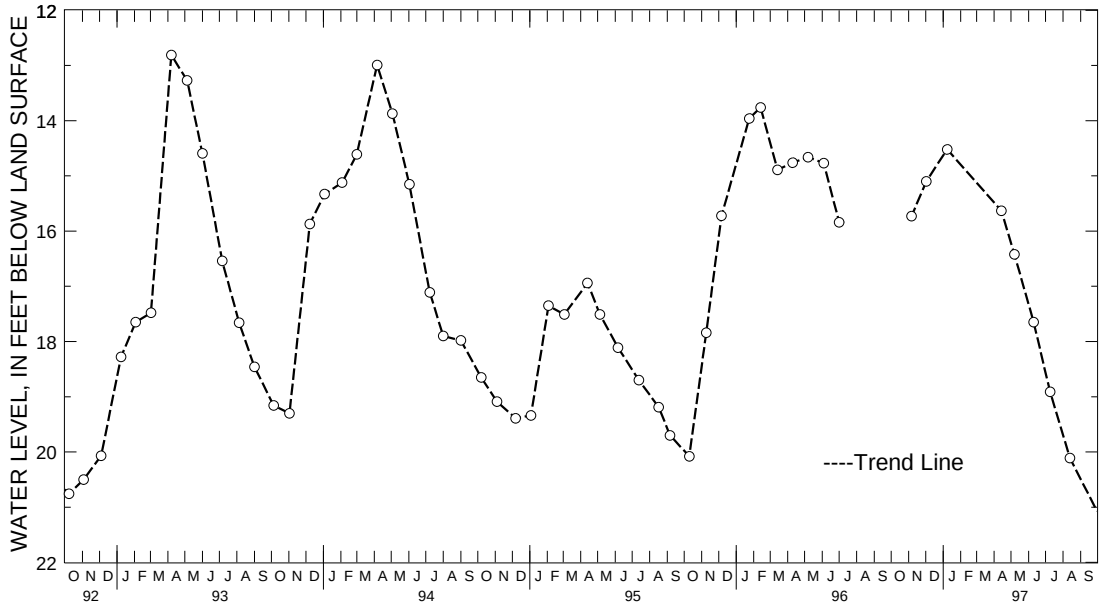
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--BA Ce 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 electric tape by U.S. Geological Survey personnel.
DATUM.--Altitude 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 through July 1996, November 1996 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 06, 1996	15.73	JAN 08, 1997	14.52	MAY 07, 1997	16.42	JUL 09, 1997	18.91
DEC 02	15.10	APR 14	15.63	JUN 10	17.65	AUG 13	20.11

WATER YEAR 1997 HIGHEST 14.52 JAN 08, 1997 LOWEST 20.11 AUG 13, 1997



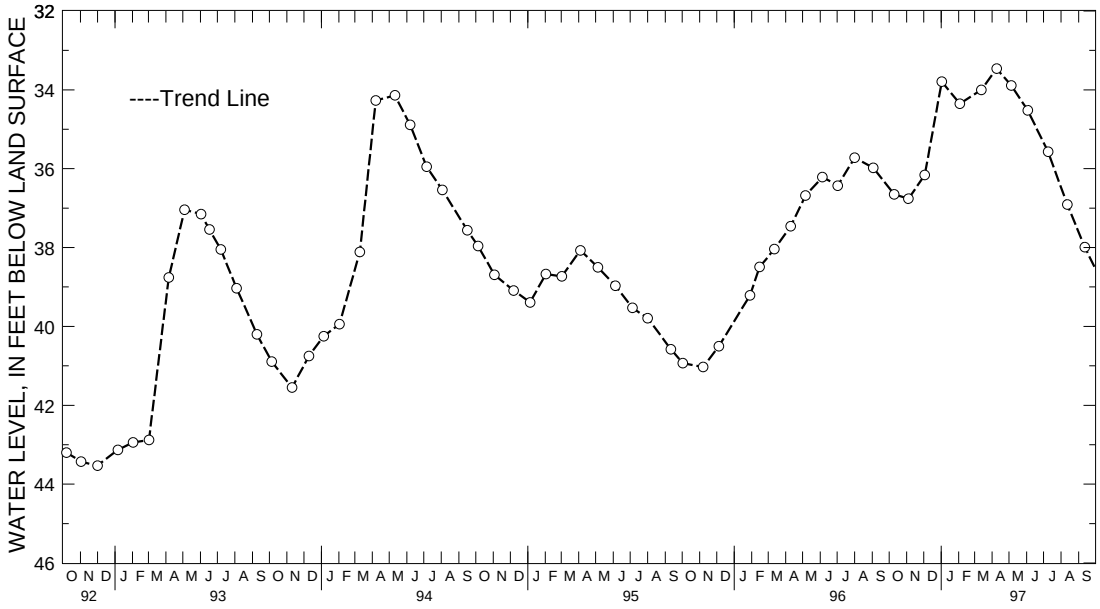
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 electric tape by U.S. Geological Survey personnel.
DATUM.--Altitude 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, 33.46 ft below land surface, April 9, 1997;
   lowest measured, 45.07 ft below land surface, Jan. 17, 1989.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 10, 1996	36.65	JAN 02, 1997	33.79	APR 09, 1997	33.46	JUL 09, 1997	35.57
NOV 04	36.76	FEB 03	34.35	MAY 05	33.89	AUG 12	36.91
DEC 03	36.16	MAR 13	34.00	JUN 03	34.52	SEP 12	37.99

WATER YEAR 1997 HIGHEST 33.46 APR 09, 1997 LOWEST 37.99 SEP 12, 1997



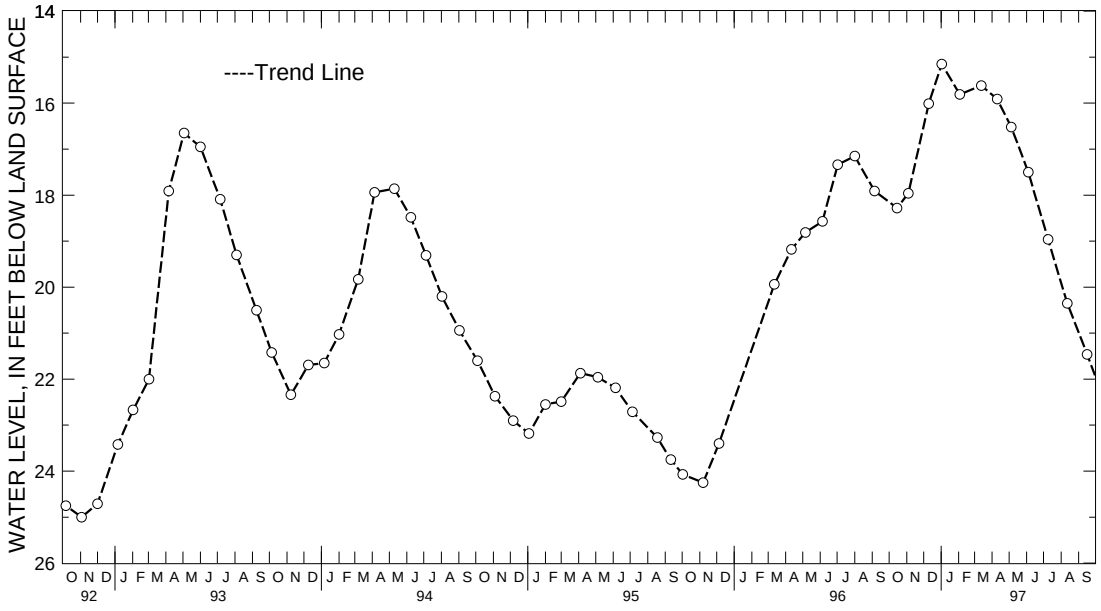
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 electric tape by U.S. Geological Survey personnel.
DATUM.--Altitude 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	18.28	JAN 02, 1997	15.15	APR 10, 1997	15.91	JUL 09, 1997	18.96
NOV 04	17.96	FEB 03	15.81	MAY 05	16.52	AUG 12	20.35
DEC 10	16.01	MAR 13	15.62	JUN 04	17.50	SEP 16	21.46

WATER YEAR 1997 HIGHEST 15.15 JAN 02, 1997 LOWEST 21.46 SEP 16, 1997



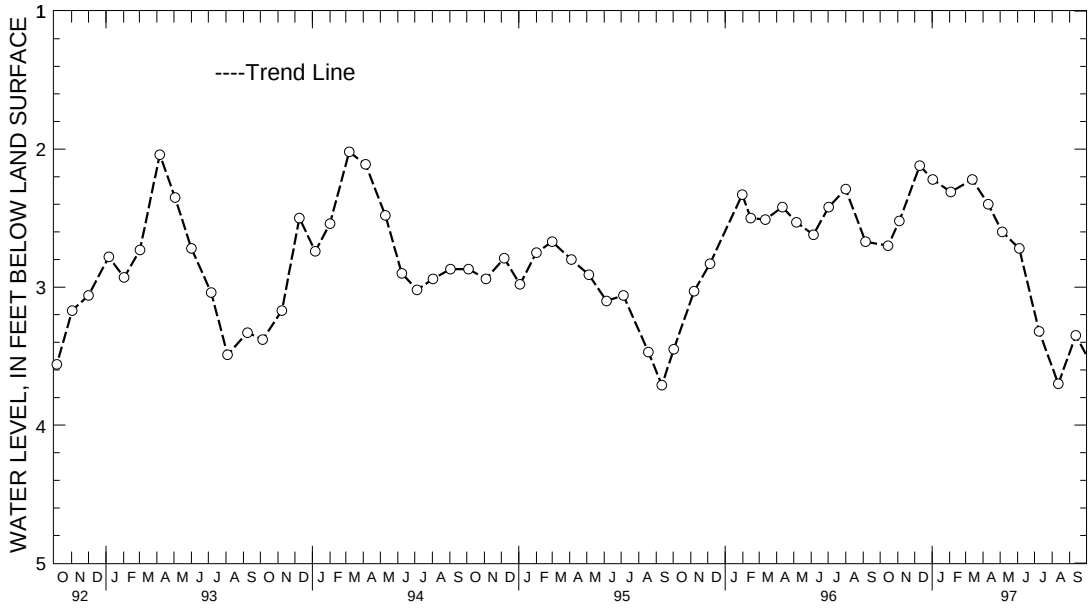
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--BA Ec 43. SITE ID.--392305076432001.
LOCATION.--Lat 39°23´05˝, long 76°43´20˝, Hydrologic Unit 02060003, nr Pikesville, at Druid Ridge Cemetery.
Owner: Druid Ridge Cemetery.
AQUIFER.--Baltimore Gneiss of Precambrian age. Aquifer code: 400BLMR.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
WELL CHARACTERISTICS.--Drilled, unused, water-table well, depth 111 ft; casing diameter 6 in., to 40 ft; open hole.
DATUM.--Altitude of land surface is 500 ft above National Geodetic Vertical Datum of 1929, from topographic map.
Measuring point: Top of casing, 1.0 ft above land surface.
REMARKS.--Maryland Water-Level Network observation well.
PERIOD OF RECORD.--March 1956 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.27 ft below land surface, June 24, 1972; lowest measured, 4.69 ft below land surface, Nov. 11, 1964.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	2.70	JAN 02, 1997	2.22	APR 10, 1997	2.40	JUL 09, 1997	3.32
NOV 04	2.52	FEB 03	2.31	MAY 05	2.60	AUG 12	3.70
DEC 10	2.12	MAR 13	2.22	JUN 04	2.72	SEP 12	3.35

WATER YEAR 1997 HIGHEST 2.12 DEC 10, 1996 LOWEST 3.70 AUG 12, 1997



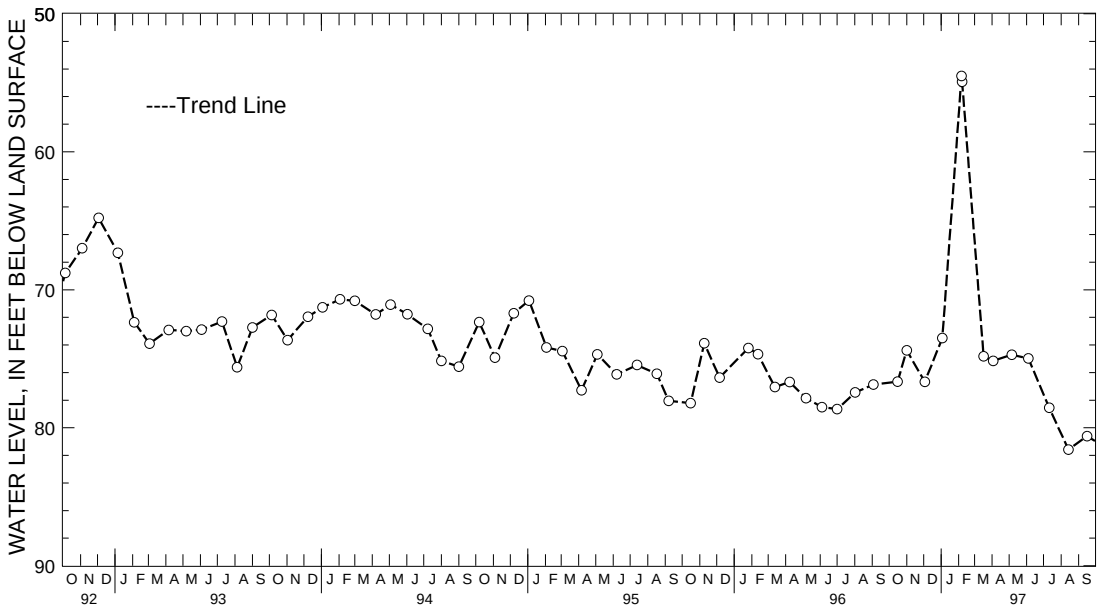
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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: Montebello Brands.
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 electric tape by U.S. Geological Survey personnel.
DATUM.--Altitude 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, 54.50 ft below land surface, Feb. 6, 1997; lowest measured, 95.88 ft below land surface, Oct. 6, 1952.

WATER LEVEL, IN FEET BELOW LAND SURFACE WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 16, 1996	76.65	FEB 06, 1997	54.50	MAY 06, 1997	74.70	SEP 16, 1997	80.60
NOV 01	74.38	07	54.92	JUN 04	74.97		
DEC 03	76.67	MAR 17	74.82	JUL 11	78.54		
JAN 03, 1997	73.50	APR 03	75.15	AUG 14	81.58		

WATER YEAR 1997 HIGHEST 54.50 FEB 06, 1997 LOWEST 81.58 AUG 14, 1997



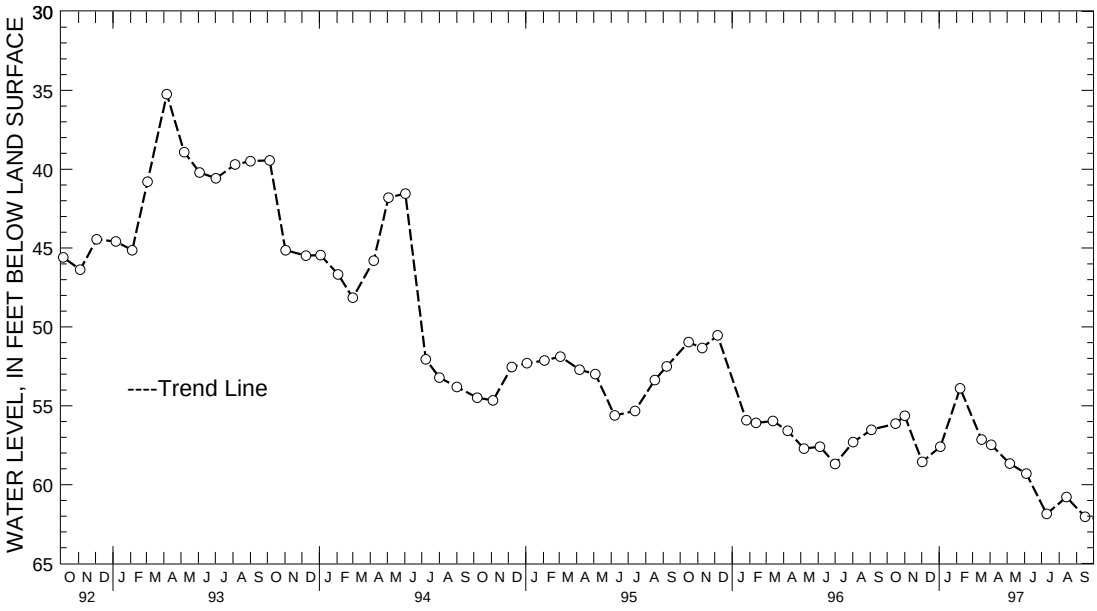
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 electric tape by U.S. Geological Survey personnel.
DATUM.--Altitude of land surface is 13.6 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Top of casing 2.58 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, 62.04 ft below land surface, Sept. 16, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 16, 1996	56.14	JAN 03, 1997	57.60	APR 03, 1997	57.48	JUL 10, 1997	61.86
NOV 01	55.64	FEB 07	53.89	MAY 06	58.67	AUG 14	60.79
DEC 02	58.56	MAR 17	57.14	JUN 04	59.30	SEP 16	62.04

WATER YEAR 1997 HIGHEST 53.89 FEB 07, 1997 LOWEST 62.04 SEP 16, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

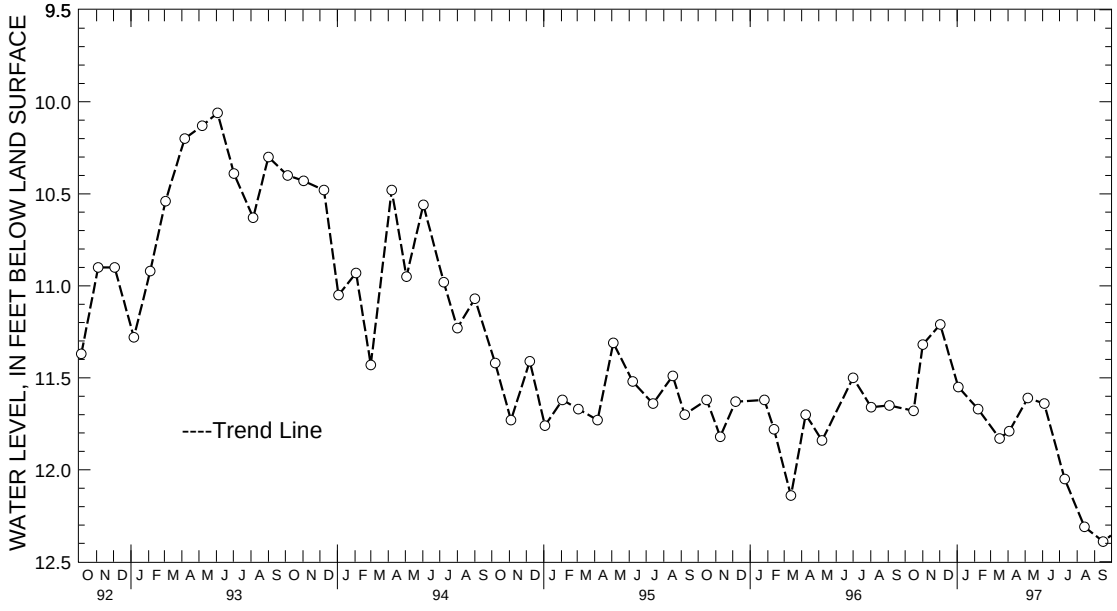
BALTIMORE COUNTY--Continued

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 electric tape by U.S. Geological Survey personnel.
DATUM.--Altitude of land surface is 10 ft above National Geodetic Vertical Datum of 1929, from topographic map.
Measuring point: Top of casing, 1.57 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 16, 1996	11.68	JAN 03, 1997	11.55	APR 03, 1997	11.79	JUL 10, 1997	12.05
NOV 01	11.32	FEB 07	11.67	MAY 06	11.61	AUG 14	12.31
DEC 02	11.21	MAR 17	11.83	JUN 04	11.64	SEP 16	12.39

WATER YEAR 1997 HIGHEST 11.21 DEC 02, 1996 LOWEST 12.39 SEP 16, 1997



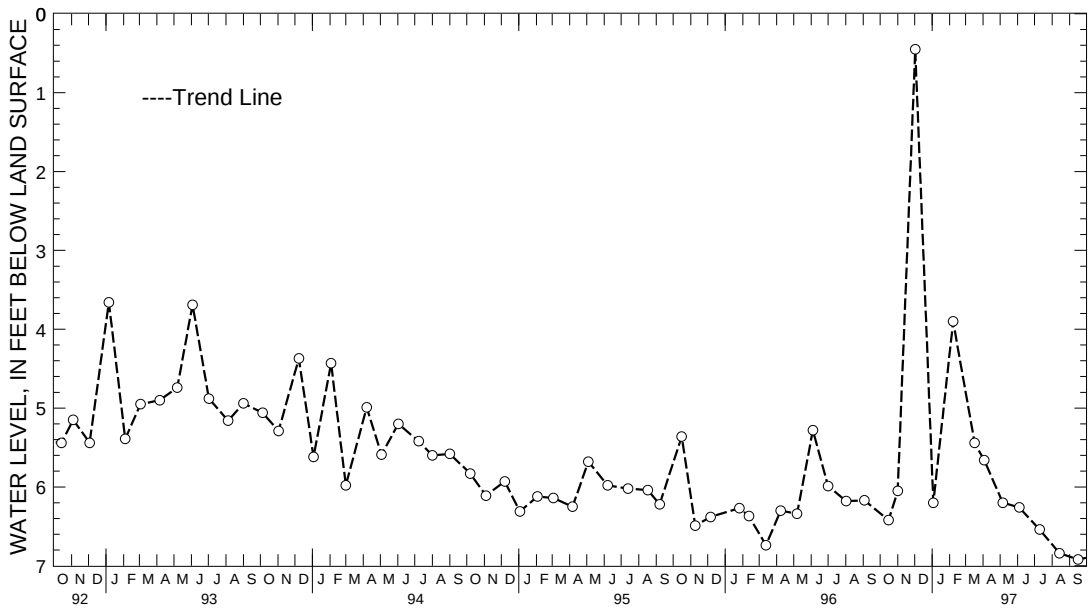
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 electric tape by U.S. Geological Survey personnel.
DATUM.--Altitude 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 16, 1996	6.42	JAN 03, 1997	6.20	APR 03, 1997	5.66	JUL 10, 1997	6.54
NOV 01	6.05	FEB 07	3.90	MAY 06	6.20	AUG 14	6.84
DEC 02	.45	MAR 17	5.44	JUN 04	6.26	SEP 16	6.92

WATER YEAR 1997 HIGHEST .45 DEC 02, 1996 LOWEST 6.92 SEP 16, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

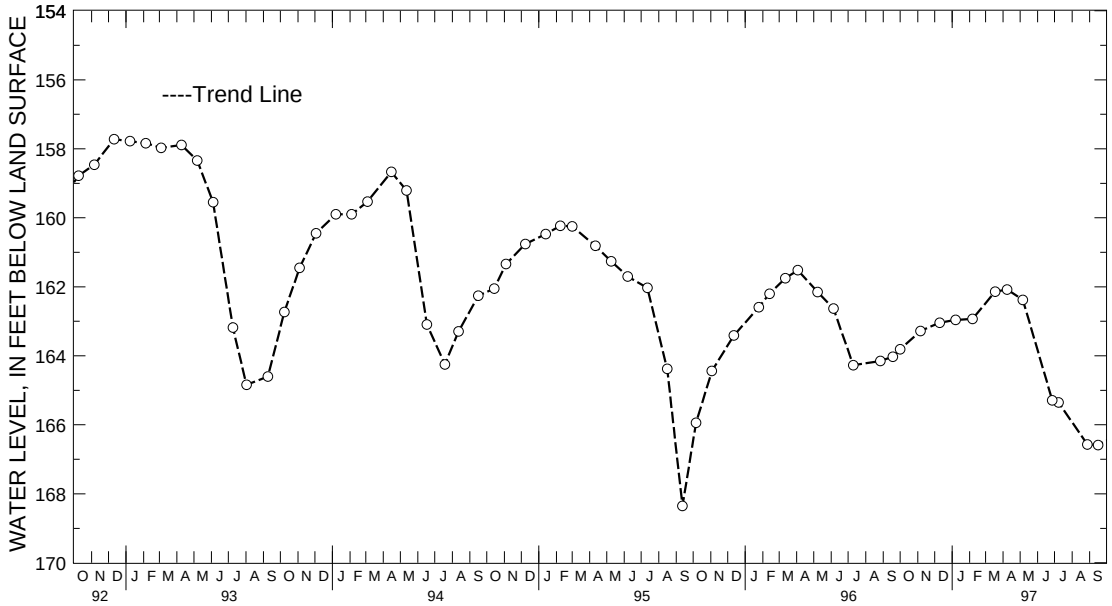
CALVERT COUNTY

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 electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 137.87 ft above National Geodetic Vertical Datum of 1929.
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, 168.35 ft below land surface, Sept. 12, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1996	163.81	JAN 07, 1997	162.96	APR 08, 1997	162.08	JUL 08, 1997	165.35
NOV 06	163.28	FEB 06	162.93	MAY 06	162.38	AUG 28	166.57
DEC 10	163.04	MAR 18	162.14	JUN 27	165.29	SEP 16	166.59

WATER YEAR 1997 HIGHEST 162.08 APR 08, 1997 LOWEST 166.59 SEP 16, 1997



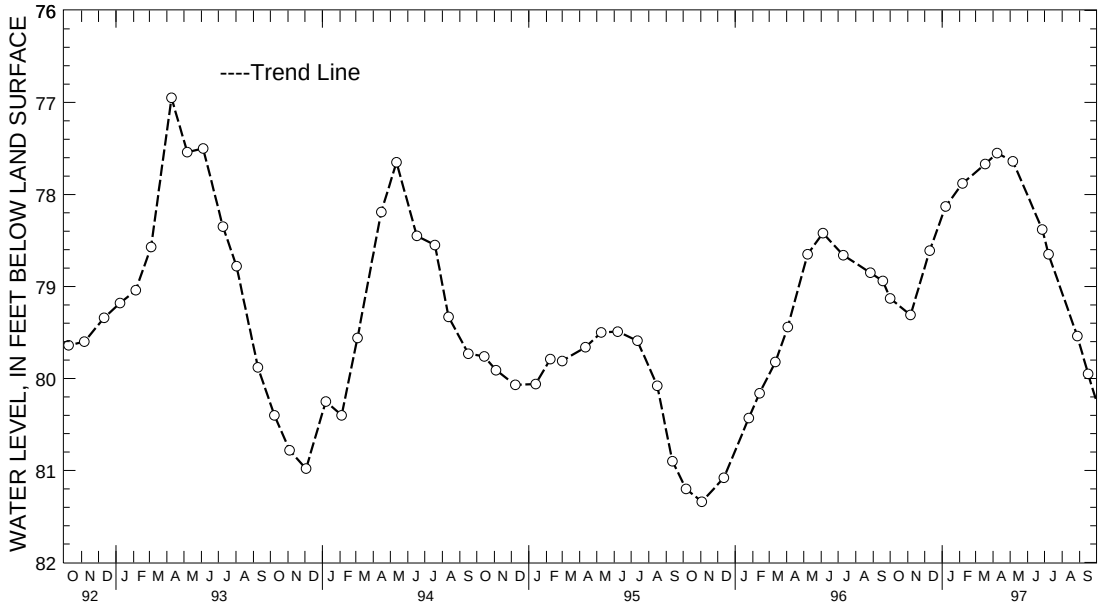
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 138.67 ft above National Geodetic Vertical Datum of 1929.
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, 81.34 ft below land surface, Nov. 3, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1996	79.13	JAN 07, 1997	78.13	APR 08, 1997	77.55	JUL 08, 1997	78.65
NOV 06	79.31	FEB 06	77.88	MAY 06	77.64	AUG 28	79.54
DEC 10	78.61	MAR 18	77.67	JUN 27	78.38	SEP 16	79.95

WATER YEAR 1997 HIGHEST 77.55 APR 08, 1997 LOWEST 79.95 SEP 16, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

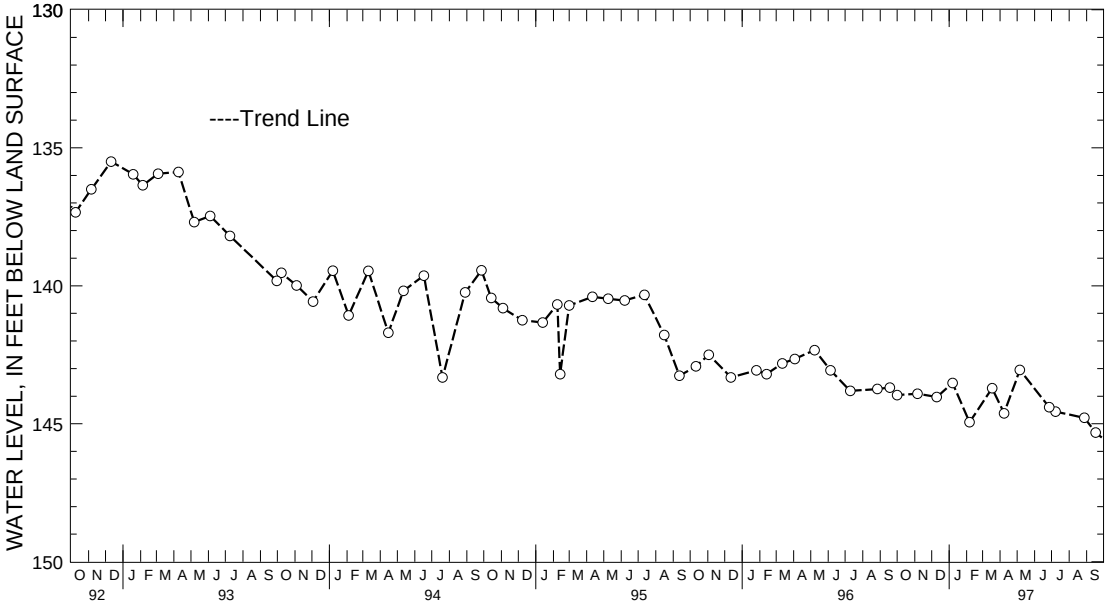
CALVERT COUNTY--Continued

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 electric 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. Water levels affected by nearby pumping.
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, 145.32 ft below land surface, Sept. 17, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1996	143.96	JAN 07, 1997	143.52	APR 08, 1997	144.62	JUL 08, 1997	144.56
NOV 06	143.91	FEB 06	144.94	MAY 06	143.05	AUG 28	144.78
DEC 10	144.03	MAR 18	143.71	JUN 27	144.40	SEP 17	145.32

WATER YEAR 1997 HIGHEST 143.05 MAY 06, 1997 LOWEST 145.32 SEP 17, 1997



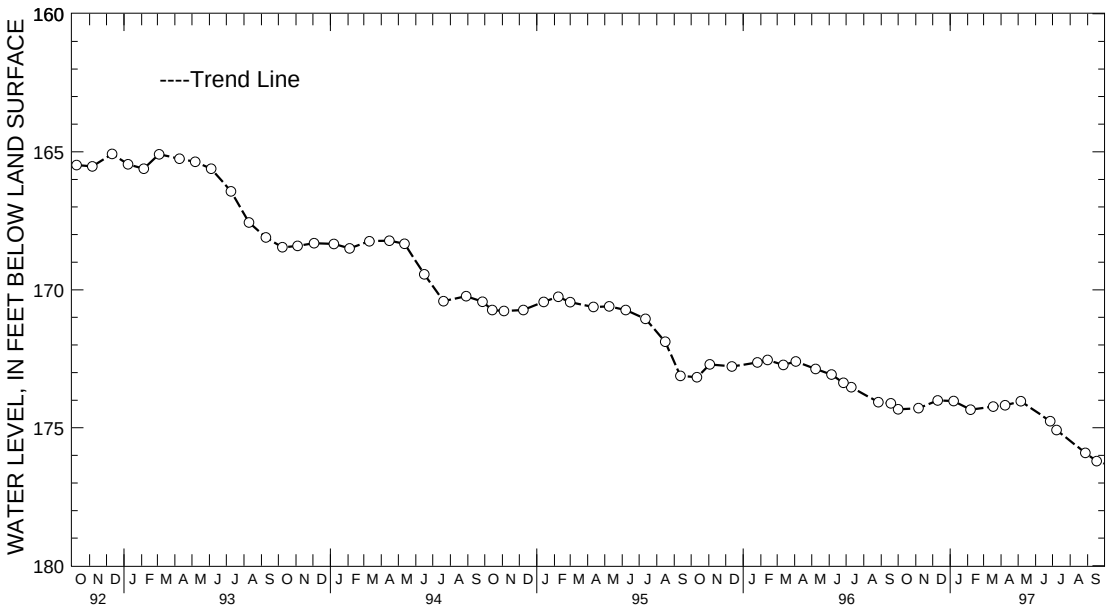
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--CA Cc 57. SITE ID.--383605076344601. PERMIT NUMBER.--CA-73-2893.
LOCATION.--Lat 38°36´05˝, long 76°34´46˝, Hydrologic Unit 02060006, Cox Rd. near 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 electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 138.6 ft above National Geodetic Vertical Datum of 1929.
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, 176.21 ft below land surface, Sept. 17, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1996	174.33	JAN 07, 1997	174.03	APR 08, 1997	174.18	JUL 08, 1997	175.08
NOV 06	174.29	FEB 06	174.34	MAY 06	174.04	AUG 28	175.91
DEC 10	174.01	MAR 18	174.23	JUN 27	174.76	SEP 17	176.21

WATER YEAR 1997 HIGHEST 174.01 DEC 10, 1996 LOWEST 176.21 SEP 17, 1997



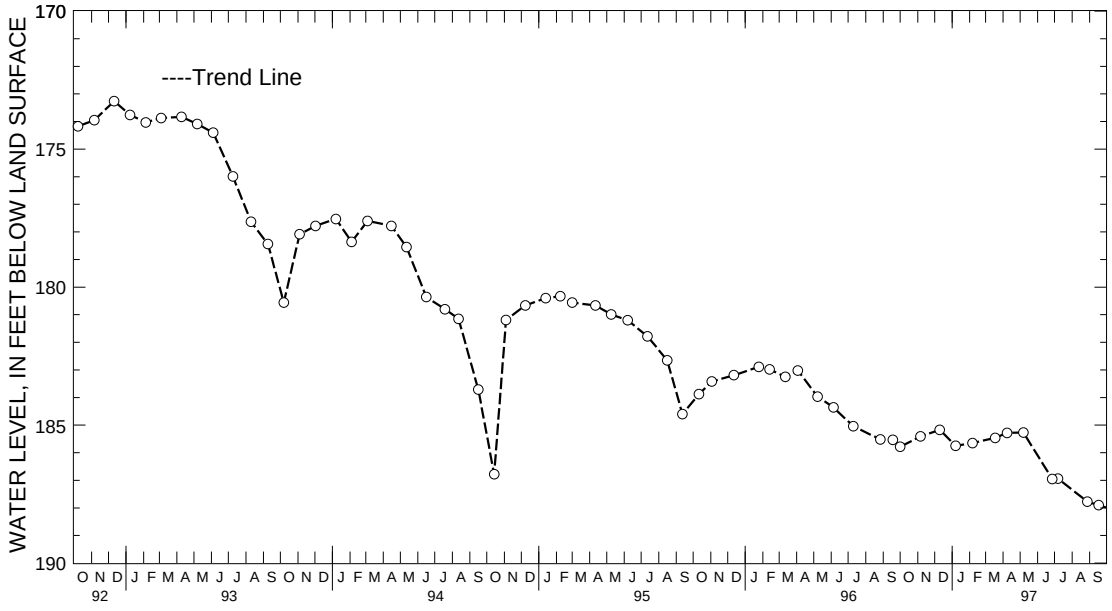
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 electric 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, 187.90 ft below land surface, Sept 17, 1997.
.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1996	185.78	JAN 07, 1997	185.75	APR 08, 1997	185.28	JUL 07, 1997	186.94
NOV 06	185.41	FEB 06	185.65	MAY 07	185.27	AUG 28	187.77
DEC 10	185.17	MAR 18	185.46	JUN 27	186.95	SEP 17	187.90

WATER YEAR 1997 HIGHEST 185.17 DEC 10, 1996 LOWEST 187.90 SEP 17, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

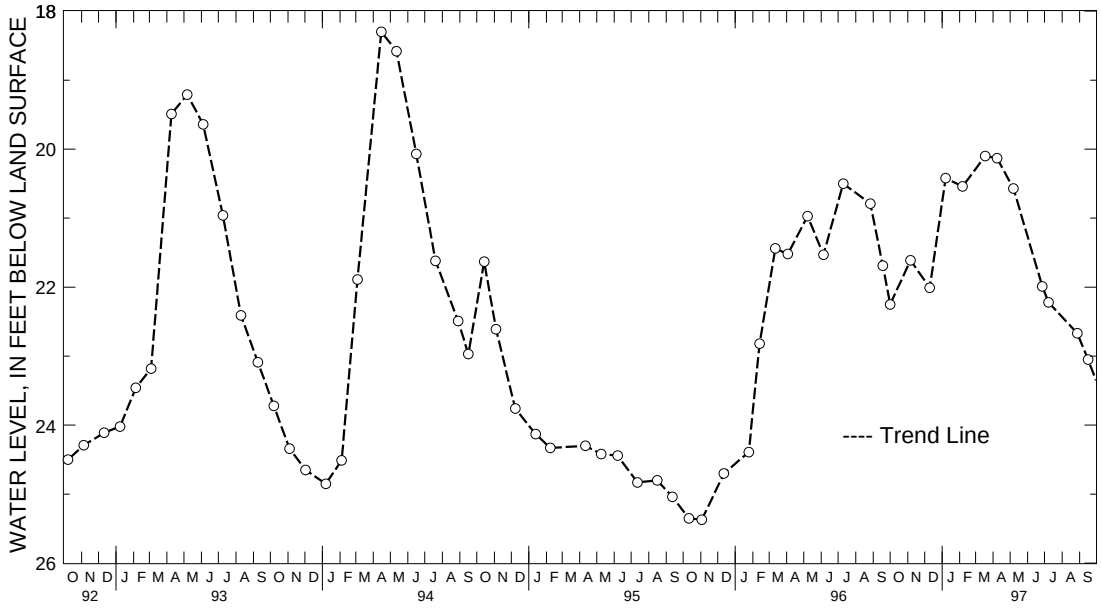
CALVERT COUNTY--Continued

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 Epicopal Church parking lot, Prince Frederick.
Owner: U.S. Geological Survey.
AQUIFER.--Upland Deposit of Pleistocene 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 electric 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1996	22.25	JAN 07, 1997	20.42	APR 08, 1997	20.13	JUL 08, 1997	22.22
NOV 06	21.61	FEB 06	20.54	MAY 07	20.57	AUG 28	22.67
DEC 10	22.01	MAR 18	20.10	JUN 27	21.99	SEP 16	23.05

WATER YEAR 1997 HIGHEST 20.10 MAR 18, 1997 LOWEST 23.05 SEP 16, 1997



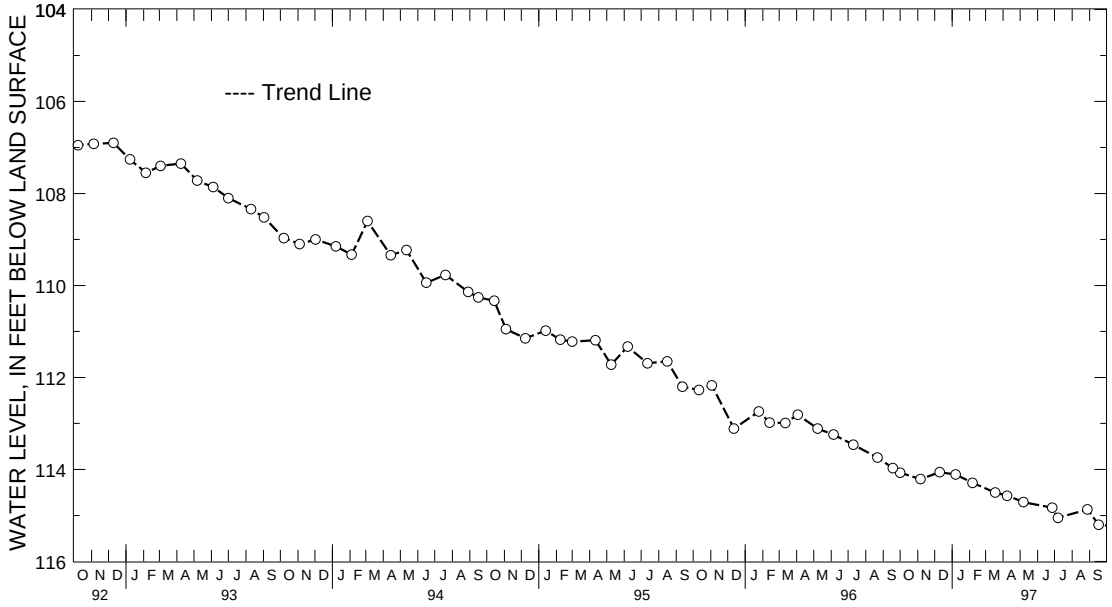
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 electric tape by U.S. Geological Survey personnel from November 1991 to current year. Equipped with water-level recorder from February 1976 to January 1980.
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, 115.20 ft below land surface, Sept. 17, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1996	114.07	JAN 07, 1997	114.11	APR 08, 1997	114.57	JUL 07, 1997	115.05
NOV 06	114.21	FEB 06	114.29	MAY 07	114.71	AUG 28	114.87
DEC 10	114.06	MAR 18	114.50	JUN 27	114.83	SEP 17	115.20

WATER YEAR 1997 HIGHEST 114.06 DEC 10, 1996 LOWEST 115.20 SEP 17, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--CA Ed 52. SITE ID.--382549076260101. PERMIT NUMBER.--CA-92-0081.
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 590 ft; casing diameter 4.5 in., to 460 ft; casing diameter 2 in. from 455 to 565 ft, and 580 to 590 ft; screen diameter 2 in. from 565 to 580 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
Equipped with digital water-level recorder--30-minute recorder interval from April 27, 1995 to curent year.
DATUM.--Altitude of land surface is 10 ft above National Geodetic Vertical Datum of 1929, from topographic map.
Measuring Point: Top of recorder platform, 1.4 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.--April 1995 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 70.66 ft below sea level, May 21, 1995; lowest measured, 96.96 ft below sea level, Sept. 30, 1997.

WATER LEVEL, IN FEET BELOW SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	-94.38	-95.99	-94.20	-95.60	---	---	-88.44	-89.81	-83.30	-85.56	-86.05	-87.63
2	-86.08	-94.38	-94.30	-96.06	---	---	-88.48	-90.27	-82.87	-84.01	-86.09	-86.97
3	-89.05	-93.16	---	---	---	---	-88.73	-90.29	-82.88	-84.66	-86.37	-87.73
4	-92.48	-94.06	---	---	---	---	-88.37	-89.54	-82.89	-84.60	-86.76	-87.79
5	-92.57	-95.92	---	---	-90.19	-92.10	-87.92	-89.50	-80.06	-86.28	-86.82	-88.10
6	-92.68	-94.48	---	---	-89.93	-91.25	-87.92	-90.00	-78.73	-82.09	-86.96	-88.57
7	-91.53	-93.92	---	---	-88.76	-90.49	-87.92	-89.92	-82.09	-84.38	-87.59	-89.24
8	-90.22	-93.76	---	---	-89.22	-90.27	-86.67	-87.92	-82.33	-83.47	-87.62	-88.17
9	-90.71	-92.78	---	---	-89.34	-91.09	-84.80	-86.67	-81.98	-83.11	-87.28	-88.20
10	-85.52	-93.00	---	---	-89.93	-91.42	-84.14	-85.98	-82.51	-83.73	-86.64	-88.43
11	-87.10	-91.51	---	---	-89.78	-90.98	-85.55	-88.03	-82.93	-84.03	-87.00	-88.78
12	-91.44	-93.36	---	---	-89.88	-91.09	-86.64	-88.03	-82.81	-83.88	-87.65	-89.16
13	-91.97	-93.50	---	---	-89.65	-90.84	-84.91	-86.83	-83.07	-84.42	-87.67	-89.01
14	-90.83	-92.90	---	---	-89.89	-91.01	-84.38	-87.36	-83.88	-84.71	-85.55	-88.08
15	-89.52	-92.10	---	---	-89.31	-90.55	-83.16	-85.32	-83.54	-84.51	-83.33	-85.55
16	-91.22	-93.57	---	---	-89.31	-90.33	-81.92	-85.26	-84.10	-85.99	-85.30	-87.44
17	-92.68	-93.90	---	---	-88.66	-90.19	-85.17	-87.71	-85.13	-86.39	-86.39	-87.99
18	-92.01	-93.71	---	---	-88.30	-89.74	-86.46	-88.64	-84.91	-85.56	-86.37	-87.19
19	-91.75	-93.71	---	---	-88.65	-89.88	-87.30	-88.29	-85.05	-86.87	-86.36	-87.37
20	-89.85	-91.75	---	---	-89.44	-90.88	-87.03	-88.58	-86.02	-87.65	-86.68	-87.86
21	-90.11	-91.97	---	---	-89.29	-90.93	-87.65	-89.36	-85.42	-86.81	-84.76	-86.91
22	-90.72	-92.03	---	---	-89.50	-90.44	-86.09	-87.69	-85.35	-86.80	-83.61	-85.15
23	-89.67	-90.83	---	---	-88.57	-90.18	-86.32	-88.51	-85.97	-86.50	-82.97	-83.88
24	-88.95	-89.87	---	---	-88.33	-89.08	-87.43	-88.42	-85.64	-87.61	-80.87	-83.04
25	-89.00	-92.30	---	---	-88.74	-90.27	-86.66	-88.22	-86.45	-87.91	-81.62	-82.71
26	-92.30	-93.85	---	---	-89.02	-90.41	-87.75	-88.43	-86.32	-88.16	-81.52	-82.40
27	-90.26	-94.65	---	---	-89.38	-90.36	-87.41	-88.61	-86.62	-87.63	-81.54	-82.35
28	-90.10	-92.75	---	---	-88.87	-90.22	-87.24	-88.52	-86.52	-88.59	-81.51	-82.37
29	-92.75	-94.69	---	---	-88.56	-89.70	-87.83	-89.17	---	---	-80.70	-81.54
30	-92.08	-93.99	---	---	-88.94	-90.51	-87.71	-89.37	---	---	-80.90	-81.65
31	-93.53	-94.47	---	---	-88.37	-90.35	-85.56	-88.50	---	---	-80.82	-82.09
MONTH	-85.52	-95.99	-94.20	-95.60	-88.30	-92.10	-81.92	-90.29	-78.73	-88.59	-80.70	-89.24

GROUND-WATER LEVELS

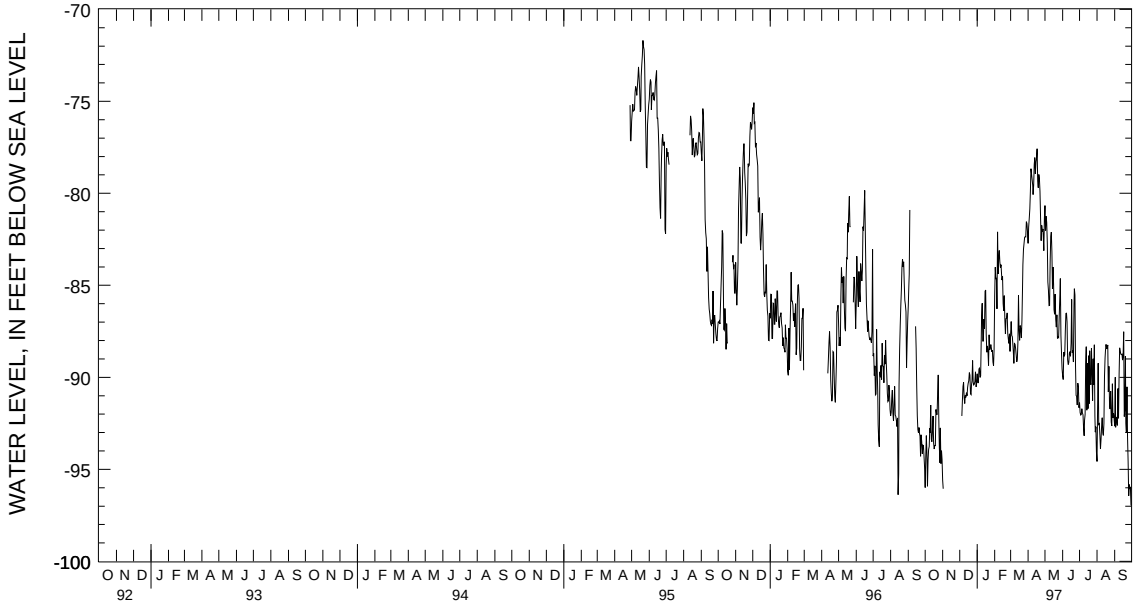
MARYLAND--Continued

CALVERT COUNTY--Continued

CA Ed 52--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	-81.83	-82.72	-79.14	-80.66	-88.15	-89.92	-87.58	-91.38	-90.10	-94.57	-88.67	-92.65
2	-80.77	-81.83	-80.45	-82.02	-87.91	-90.12	-87.58	-91.91	-89.23	-91.65	-89.28	-89.99
3	-77.38	-81.37	-80.46	-81.25	-87.43	-88.63	-88.16	-92.05	-88.53	-89.23	-88.79	-92.72
4	-76.44	-80.84	-80.41	-81.58	-87.33	-88.86	-88.51	-92.02	-88.05	-92.56	-89.50	-92.32
5	-78.53	-79.89	-80.91	-82.66	-87.22	-88.77	-88.33	-91.70	-88.60	-92.52	-89.50	-92.15
6	-77.89	-78.66	-81.88	-84.82	-86.09	-87.45	-88.19	-91.93	-89.22	-93.18	-88.88	-92.61
7	-77.60	-78.94	-83.88	-85.27	-85.86	-86.53	-88.24	-92.04	-89.50	-93.90	-89.11	-90.61
8	-78.18	-79.25	-84.72	-86.10	-85.77	-86.52	-88.83	-92.76	-89.30	-93.35	-89.02	-92.23
9	-77.92	-79.56	-83.69	-86.09	-85.64	-86.99	-88.84	-93.18	-89.50	-92.66	-88.40	-89.83
10	-78.99	-80.07	-82.04	-83.69	-86.99	-89.04	-89.26	-92.33	-89.42	-92.19	-87.01	-88.40
11	-78.43	-79.56	-81.30	-82.37	-87.77	-89.30	-88.85	-92.03	-90.11	-93.01	-87.01	-88.59
12	-77.51	-78.43	-80.78	-82.10	-88.28	-89.20	-87.94	-89.32	-89.50	-93.15	-87.44	-88.74
13	-77.15	-78.06	-81.52	-83.18	-85.37	-88.69	-87.39	-88.33	-89.40	-92.51	-88.02	-88.76
14	-77.82	-78.94	-82.97	-85.18	-85.38	-88.61	-87.39	-91.79	-88.75	-89.96	-88.03	-88.74
15	-77.41	-78.29	-82.71	-84.00	-85.64	-88.86	-87.85	-89.23	-87.24	-88.93	-88.02	-89.06
16	-76.98	-78.10	-82.71	-84.98	-85.17	-88.15	-87.74	-91.70	-87.14	-88.56	-87.52	-88.77
17	-76.98	-77.58	-84.38	-86.32	-84.89	-85.77	-88.03	-88.82	-87.65	-88.21	-86.35	-87.52
18	-77.09	-79.34	-84.81	-86.57	-84.66	-88.67	-87.73	-91.43	-87.11	-88.43	-86.99	-92.13
19	-78.72	-79.69	-84.33	-85.47	-83.83	-88.54	-85.44	-88.55	-87.54	-88.41	-88.55	-91.71
20	-78.34	-78.97	-84.72	-86.86	-85.85	-89.17	-86.16	-90.23	-87.46	-88.24	-88.18	-88.84
21	-77.40	-79.21	-85.54	-87.27	-84.89	-86.08	-87.16	-90.40	-87.40	-90.80	-88.74	-92.50
22	-78.77	-79.89	-85.77	-86.60	-84.18	-85.18	-87.53	-88.42	-87.87	-89.40	-88.75	-93.02
23	-78.51	-81.33	-86.60	-87.88	-84.43	-85.53	-87.36	-89.78	-88.47	-91.39	-88.45	-90.52
24	-81.33	-82.57	-86.40	-87.81	-84.76	-89.34	-87.32	-91.27	-88.29	-91.73	-89.43	-93.25
25	-79.77	-81.74	-86.42	-87.84	-85.85	-90.98	-87.52	-88.99	-88.60	-90.74	-93.09	-94.57
26	-80.97	-82.08	-85.76	-86.74	-87.05	-91.03	-87.52	-90.41	-88.40	-92.43	-94.04	-96.44
27	-81.18	-81.94	-84.08	-85.76	-87.37	-91.51	-87.24	-88.23	-88.80	-92.64	-93.89	-95.83
28	-80.65	-82.32	-83.18	-84.63	-87.13	-90.32	-87.23	-92.11	-88.67	-90.35	-91.02	-96.02
29	-81.32	-83.12	-84.58	-87.72	-86.88	-90.54	-88.69	-92.98	-88.45	-92.19	-93.18	-95.99
30	-79.56	-81.32	-86.90	-88.67	-86.93	-91.65	-89.29	-92.69	-88.89	-91.95	-94.60	-96.96
31	---	---	-88.11	-89.54	---	---	-88.68	-94.06	-89.20	-92.25	---	---
MONTH	-76.44	-83.12	-79.14	-89.54	-83.83	-91.65	-85.44	-94.06	-87.11	-94.57	-86.35	-96.96
YEAR	-76.44	-96.96										

Daily Low Water Levels



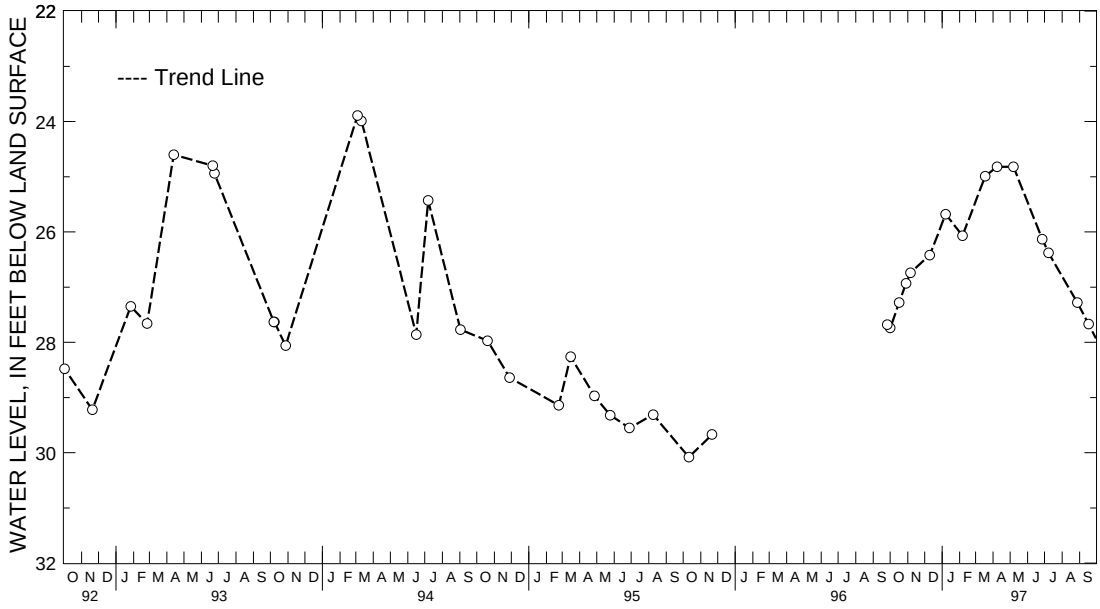
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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: 122CSPK.
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 electric tape by U.S. Geological Survey personnel.
Equipped with digital water-level recorder--60-minute recorder interval from Oct. 2, 1986 to April 16, 1996.
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 November 1995, September 1996 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 22.59 ft below land surface, April 3, 1994; lowest measured, 30.69 ft below land surface, Feb. 27, and 28, 1989.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1996	27.74	DEC 10, 1996	26.42	APR 08, 1997	24.82	AUG 28, 1997	27.28
17	27.28	JAN 07, 1997	25.68	MAY 07	24.82	SEP 17	27.67
29	26.93	FEB 06	26.07	JUN 27	26.13		
NOV 06	26.74	MAR 18	24.99	JUL 08	26.38		

WATER YEAR 1997 HIGHEST 24.82 APR 08, 1997 MAY 07, 1997 LOWEST 27.74 OCT 01, 1996



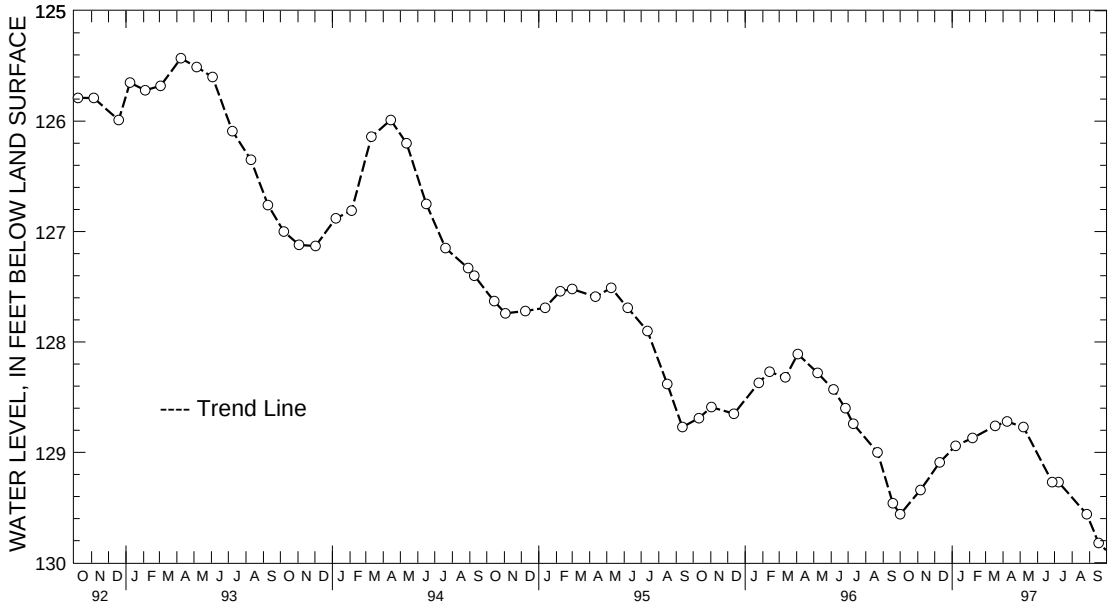
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 129.4 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Top of protective casing, 3.63 ft above land surface.
REMARKS.--Maryland Water-Level Network observation well.
PERIOD OF RECORD.--February l977 to current year.
EXTREMES FOR PERIODOF RECORD.--Highest water level measured, 116.36 ft below land surface, Jan. 8, 1980; lowest measured, 129.82 ft below land surface, Sept. 17, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1996	129.56	JAN 07, 1997	128.94	APR 08, 1997	128.72	JUL 08, 1997	129.27
NOV 06	129.34	FEB 06	128.87	MAY 07	128.77	AUG 27	129.56
DEC 10	129.09	MAR 18	128.76	JUN 27	129.27	SEP 17	129.82

WATER YEAR 1997 HIGHEST 128.72 APR 08, 1997 LOWEST 129.82 SEP 17, 1997



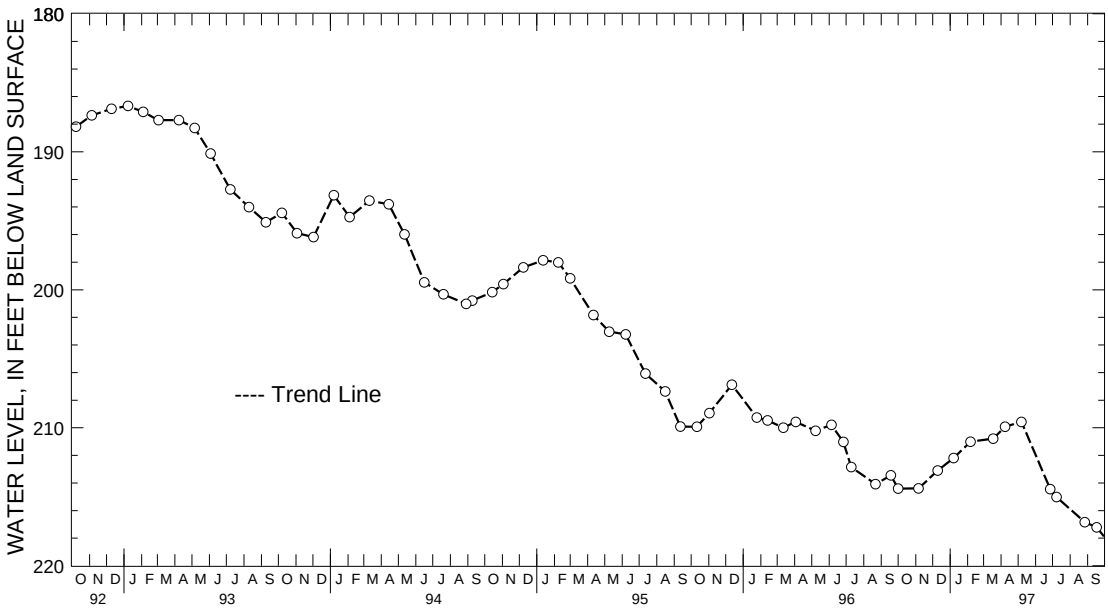
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--CA Fd 54. SITE ID.--382407076260301. PERMIT NUMBER.--CA-73-2892.
LOCATION.--Lat 38°24´07˝, long 76°26´03˝, Hydrologic Unit 02060004, 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 electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 129.4 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Top of casing, 1.92 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, 142.69 ft below land surface, April 21, 1980; lowest measured, 217.21 ft below land surface, Sept. 17, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1996	214.41	JAN 07, 1997	212.19	APR 08, 1997	209.92	JUL 08, 1997	215.02
NOV 06	214.39	FEB 06	211.01	MAY 07	209.57	AUG 27	216.84
DEC 10	213.10	MAR 18	210.79	JUN 27	214.45	SEP 17	217.21

WATER YEAR 1997 HIGHEST 209.57 MAY 07, 1997 LOWEST 217.21 SEP 17, 1997



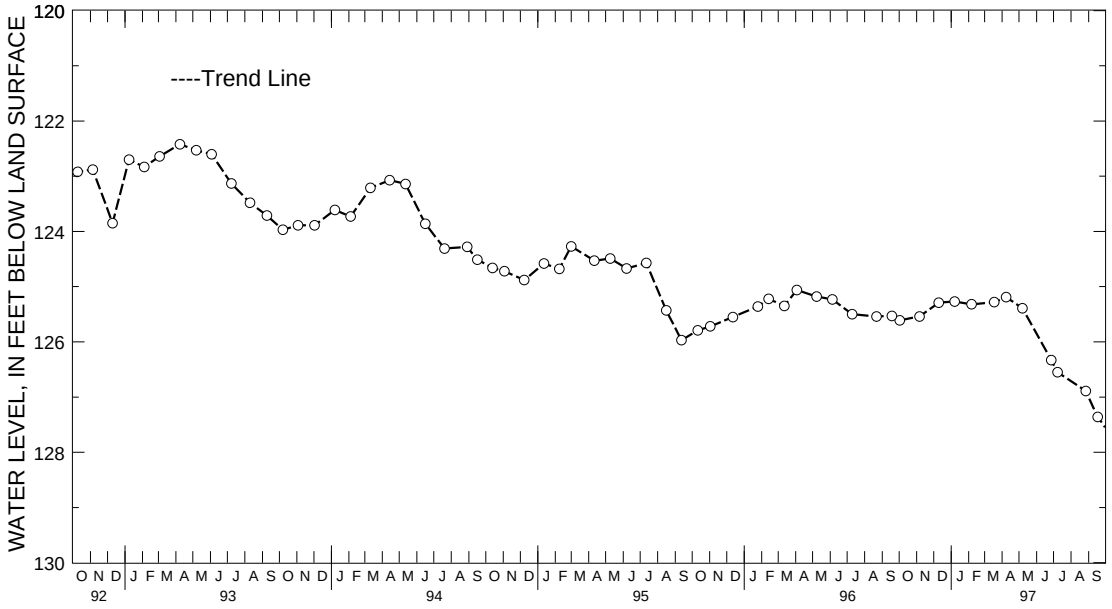
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 113.9 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.--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, 127.36 ft below land surface, Sept. 17, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1996	125.61	JAN 07, 1997	125.27	APR 08, 1997	125.19	JUL 08, 1997	126.55
NOV 06	125.54	FEB 06	125.32	MAY 07	125.39	AUG 27	126.89
DEC 10	125.29	MAR 18	125.28	JUN 27	126.33	SEP 17	127.36

WATER YEAR 1997 HIGHEST 125.19 APR 08, 1997 LOWEST 127.36 SEP 17, 1997



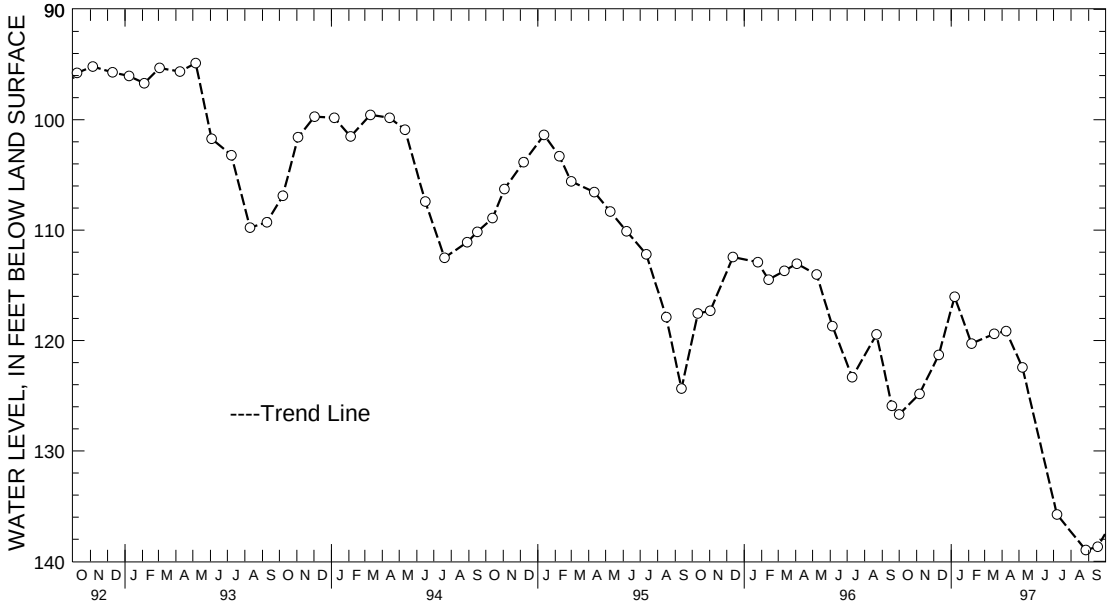
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 a graphic water-level recorder from Oct. 19, 1949 to Feb. 25, 1960.
DATUM.--Elevation of land surface is 12.73 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. On July 18, 1991 the water-level measured, 119.93 ft below land surface during an extended pumping period. Water levels are affected by pumping.
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, 138.98 ft below land surface, August 27, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1996	126.70	JAN 07, 1997	116.04	APR 08, 1997	119.15	AUG 27, 1997	138.98
NOV 06	124.83	FEB 06	120.28	MAY 07	122.44	SEP 17	138.67
DEC 10	121.30	MAR 18	119.40	JUL 07	135.76		

WATER YEAR 1997 HIGHEST 116.04 JAN 07, 1997 LOWEST 138.98 AUG 27, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

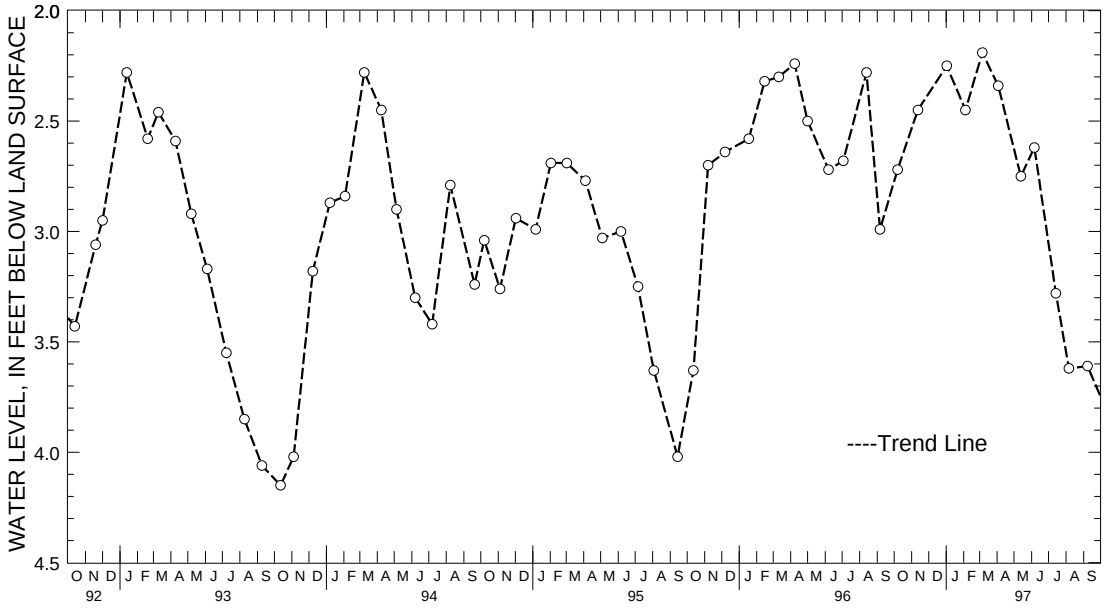
CAROLINE COUNTY

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 electric 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 07, 1996	2.72	FEB 04, 1997	2.45	MAY 13, 1997	2.75	AUG 06, 1997	3.62
NOV 12	2.45	MAR 06	2.19	JUN 06	2.62	SEP 08	3.61
JAN 02, 1997	2.25	APR 03	2.34	JUL 14	3.28		

WATER YEAR 1997 HIGHEST 2.19 MAR 06, 1997 LOWEST 3.62 AUG 06, 1997



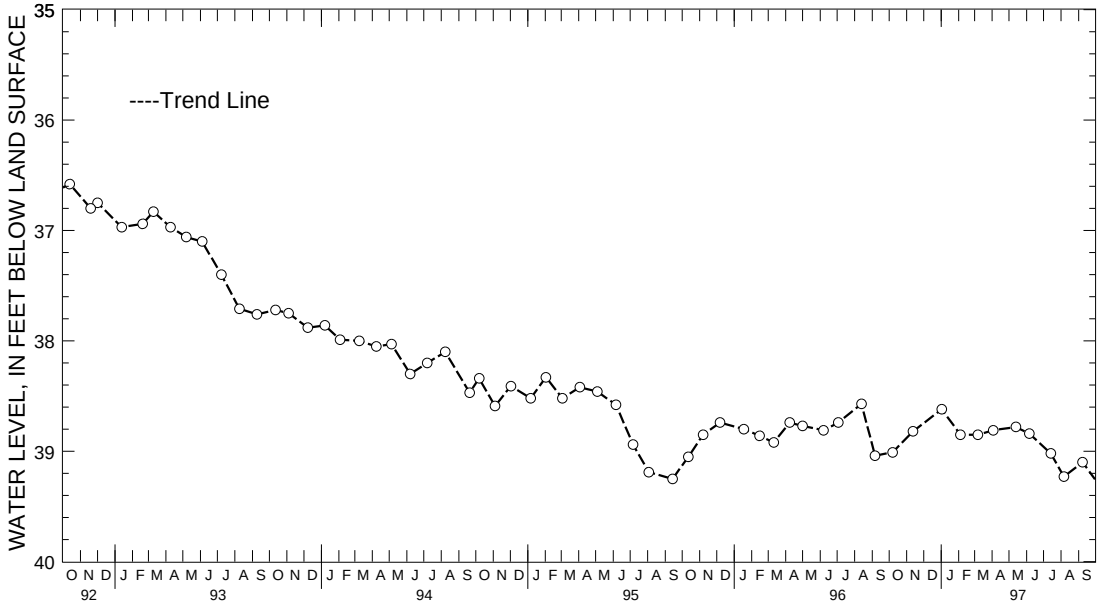
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 electric 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, 39.25 ft below land surface, Sept. 14, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 07, 1996	39.01	FEB 04, 1997	38.85	MAY 13, 1997	38.78	AUG 06, 1997	39.23
NOV 12	38.82	MAR 07	38.85	JUN 06	38.84	SEP 08	39.10
JAN 02, 1997	38.62	APR 03	38.81	JUL 14	39.02		

WATER YEAR 1997 HIGHEST 38.62 JAN 02, 1997 LOWEST 39.23 AUG 06, 1997



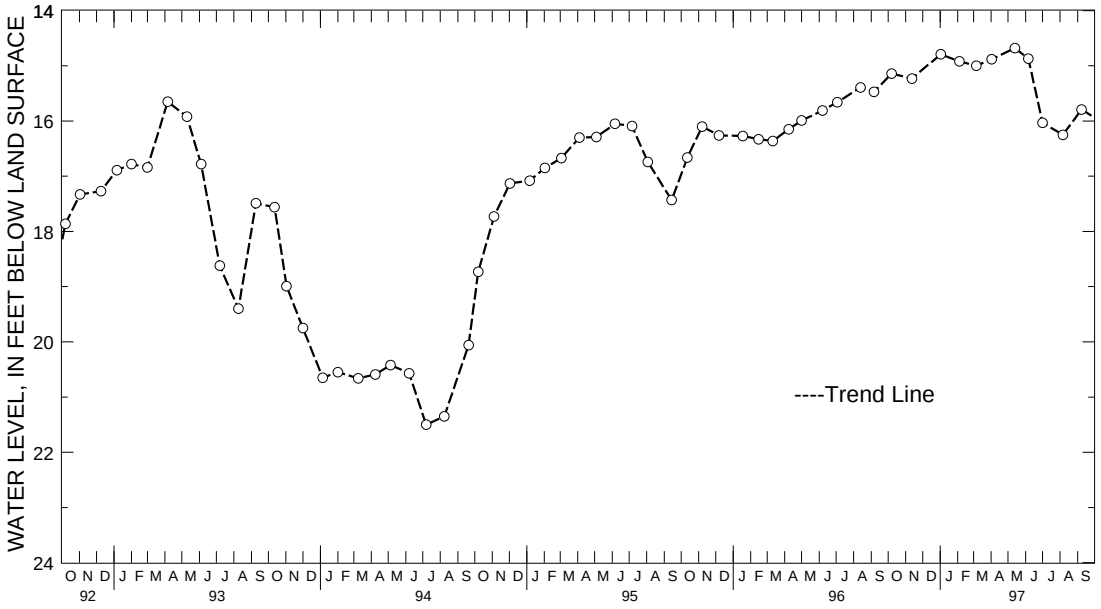
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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.
AQUIFER.--Choptank Formation of Middle 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 electric 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 07, 1996	15.14	FEB 04, 1997	14.92	MAY 13, 1997	14.68	AUG 06, 1997	16.25
NOV 12	15.23	MAR 06	15.00	JUN 06	14.87	SEP 08	15.79
JAN 02, 1997	14.79	APR 02	14.88	JUL 01	16.03		

WATER YEAR 1997 HIGHEST 14.68 MAY 13, 1997 LOWEST 16.25 AUG 06, 1997



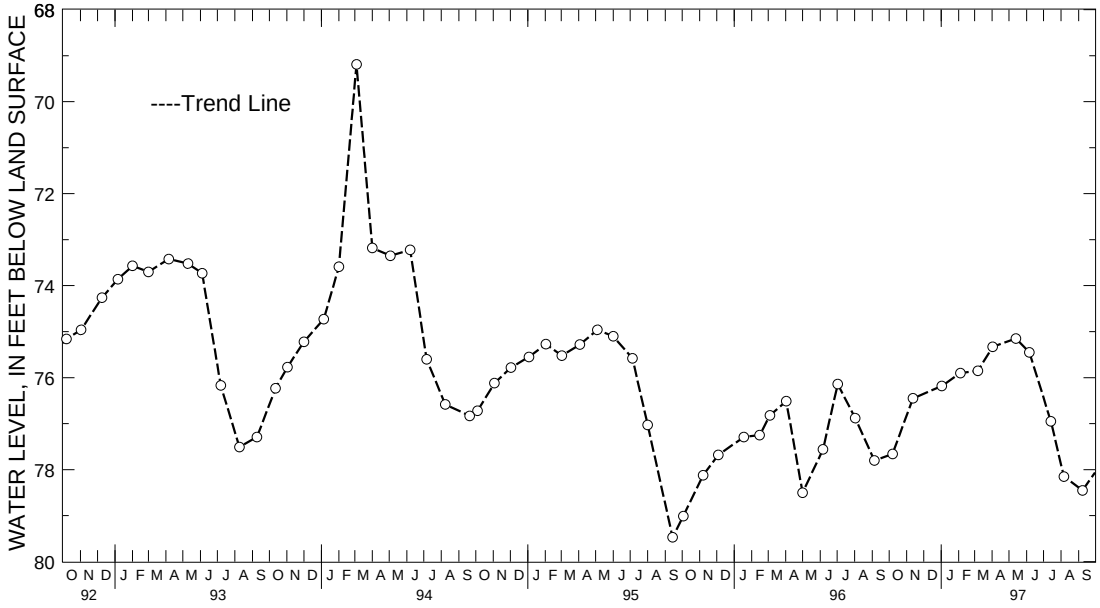
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 electric 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, 79.47 Ft below land surface, Sept. 14, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 07, 1996	77.66	FEB 04, 1997	75.90	MAY 13, 1997	75.15	AUG 06, 1997	78.15
NOV 12	76.45	MAR 07	75.85	JUN 06	75.45	SEP 08	78.45
JAN 02, 1997	76.18	APR 02	75.33	JUL 14	76.95		

WATER YEAR 1997 HIGHEST 75.15 MAY 13, 1997 LOWEST 78.45 SEP 08, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

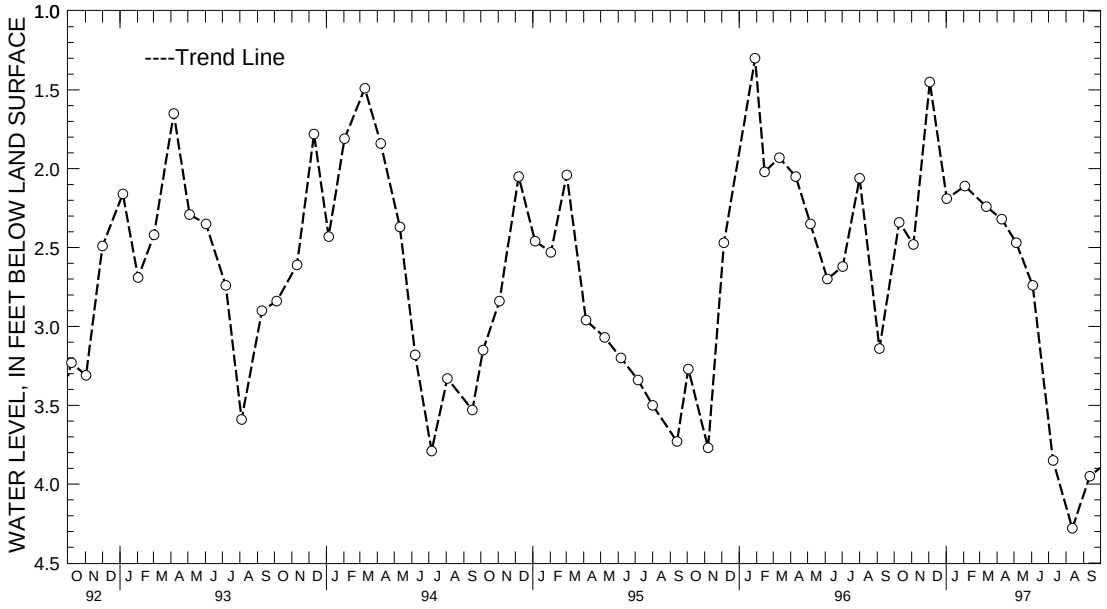
CARROLL COUNTY

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 electric 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, 1.30 ft below land surface, Jan. 29, 1996; lowest measured, 4.28 ft below land surface, August 12, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 10, 1996	2.34	JAN 02, 1997	2.19	APR 09, 1997	2.32	JUL 09, 1997	3.85
NOV 04	2.48	FEB 03	2.11	MAY 05	2.47	AUG 12	4.28
DEC 03	1.45	MAR 13	2.24	JUN 03	2.74	SEP 12	3.95

WATER YEAR 1997 HIGHEST 1.45 DEC 03, 1996 LOWEST 4.28 AUG 12, 1997



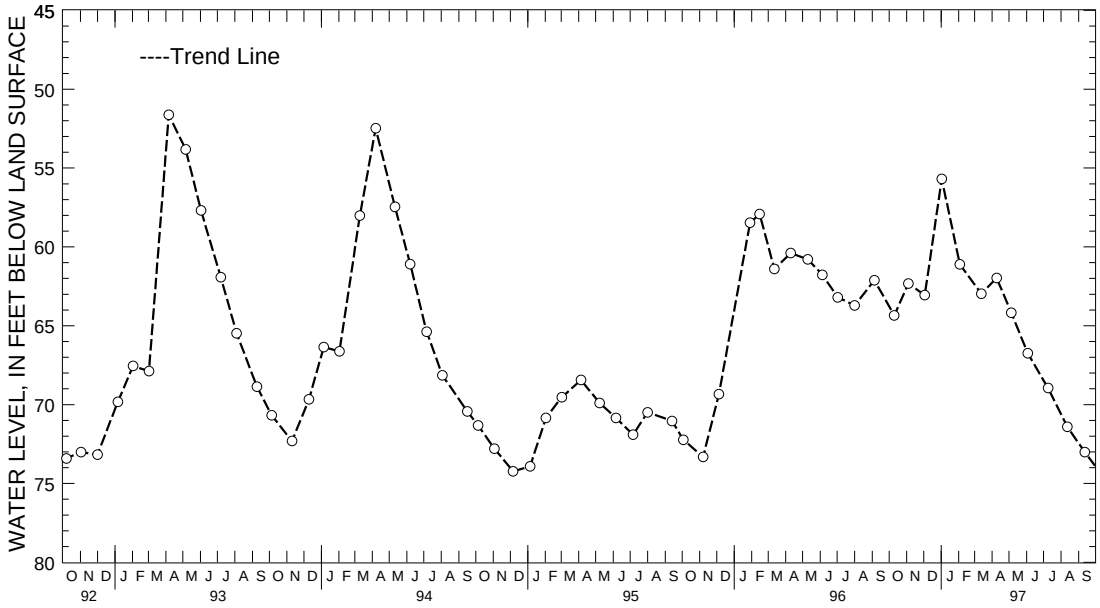
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 electric 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 10, 1996	64.34	JAN 02, 1997	55.69	APR 09, 1997	61.97	JUL 09, 1997	68.95
NOV 04	62.32	FEB 03	61.11	MAY 05	64.17	AUG 12	71.40
DEC 03	63.06	MAR 13	62.97	JUN 03	66.74	SEP 12	73.01

WATER YEAR 1997 HIGHEST 55.69 JAN 02, 1997 LOWEST 73.01 SEP 12, 1997



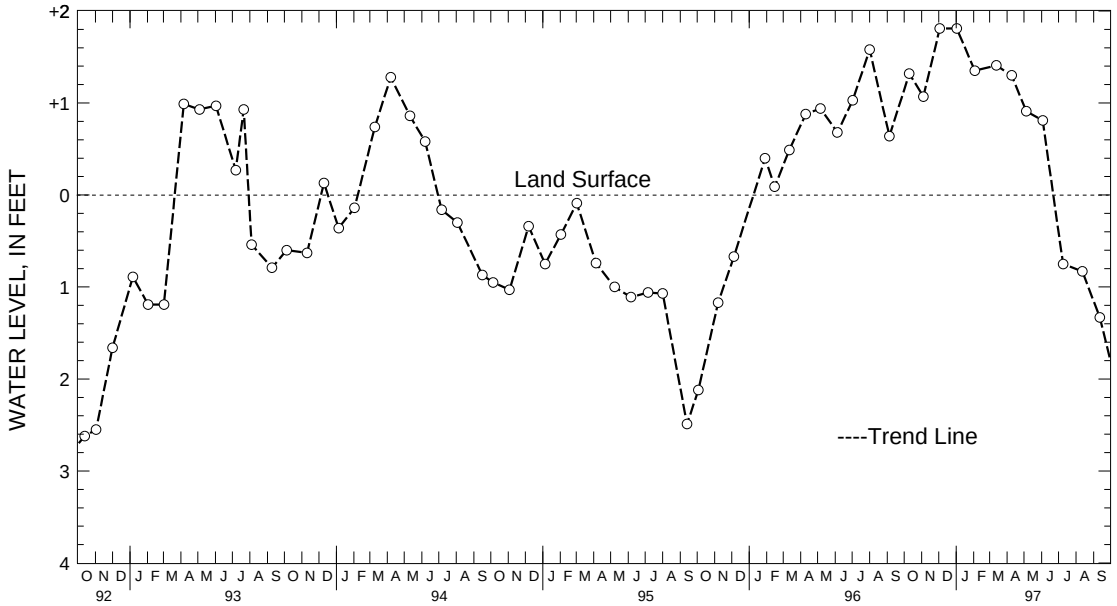
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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: 300PRTB.
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 340 ft; casing diameter 6 in., to 50 ft; open hole.
INSTRUMENTATION.--Monthly measurements with electric 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, 1.81 ft above land surface, Dec. 3, 1996, and Jan. 2, 1997; lowest measured, 3.24 ft below land surface, Oct. 3, 1986.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
(READINGS ABOVE LAND SURFACE INDICATED BY "+")

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 10, 1996	+1.32	JAN 02, 1997	+1.81	APR 09, 1997	+1.30	JUL 09, 1997	.75
NOV 04	+1.07	FEB 03	+1.35	MAY 05	+.91	AUG 12	.83
DEC 03	+1.81	MAR 13	+1.41	JUN 03	+.81	SEP 12	1.33

WATER YEAR 1997 HIGHEST +1.81 DEC 03, 1996 LOWEST 1.33 SEP 12, 1997



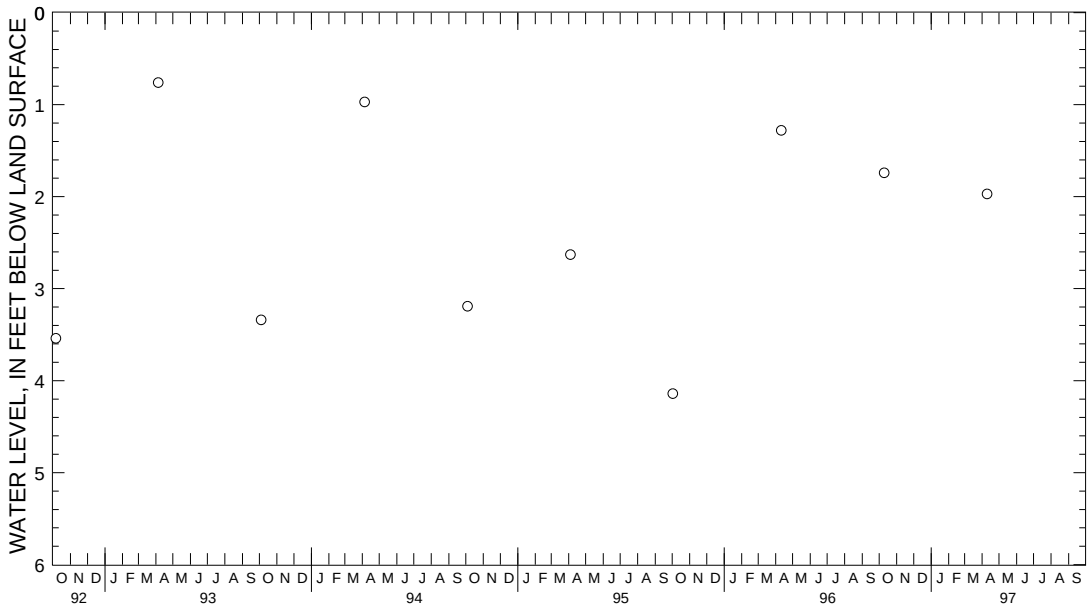
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 electric 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.--March 1980 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.76 ft below land surface, April 5, 1993; lowest measured, 5.23 ft below land surface, Aug. 7, 1985.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 10, 1996	1.74	APR 10, 1997	1.97

WATER YEAR 1997 HIGHEST 1.74 OCT 10, 1996 LOWEST 1.97 APR 10, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

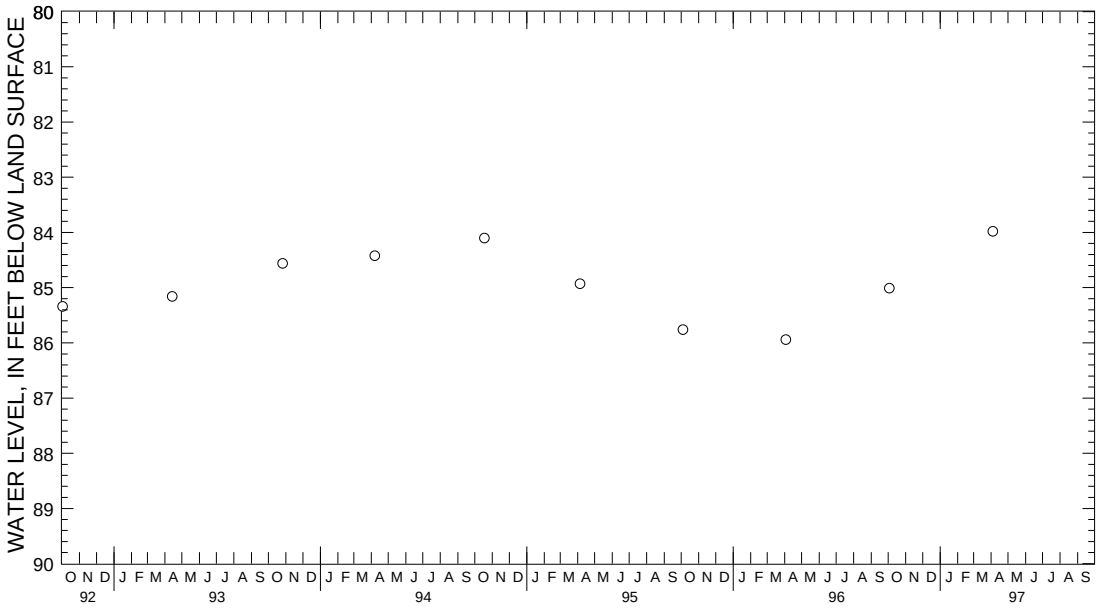
CECIL COUNTY

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 near 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 electric 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 03, 1996	85.01	APR 04, 1997	83.98

WATER YEAR 1997 HIGHEST 83.98 APR 04, 1997 LOWEST 85.01 OCT 03, 1996



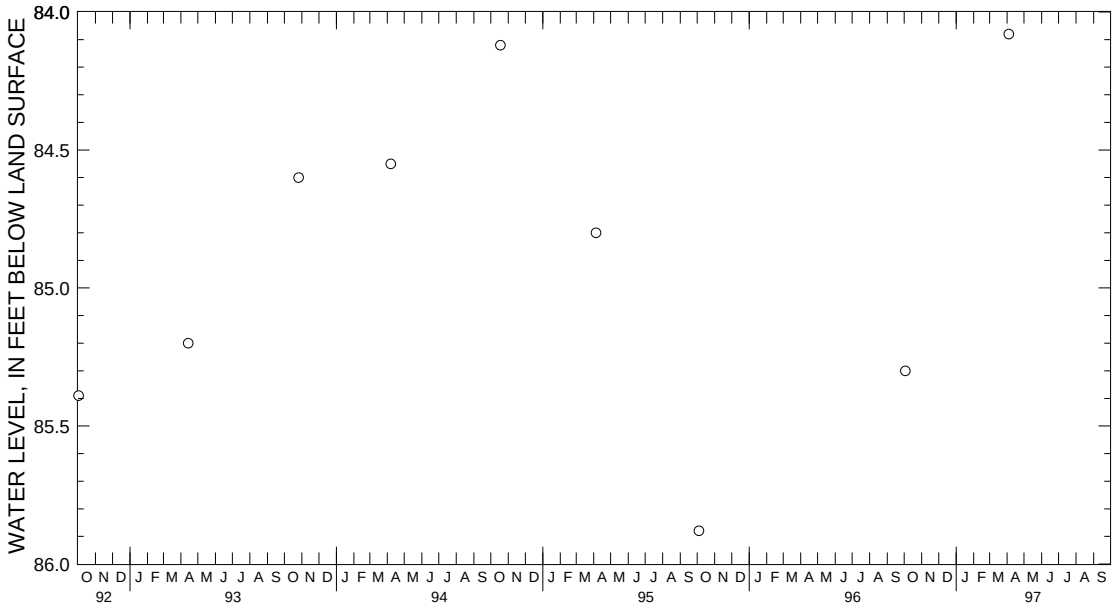
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 near 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 electric 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 03, 1996	85.30	APR 04, 1997	84.08

WATER YEAR 1997 HIGHEST 84.08 APR 04, 1997 LOWEST 85.30 OCT 03, 1996



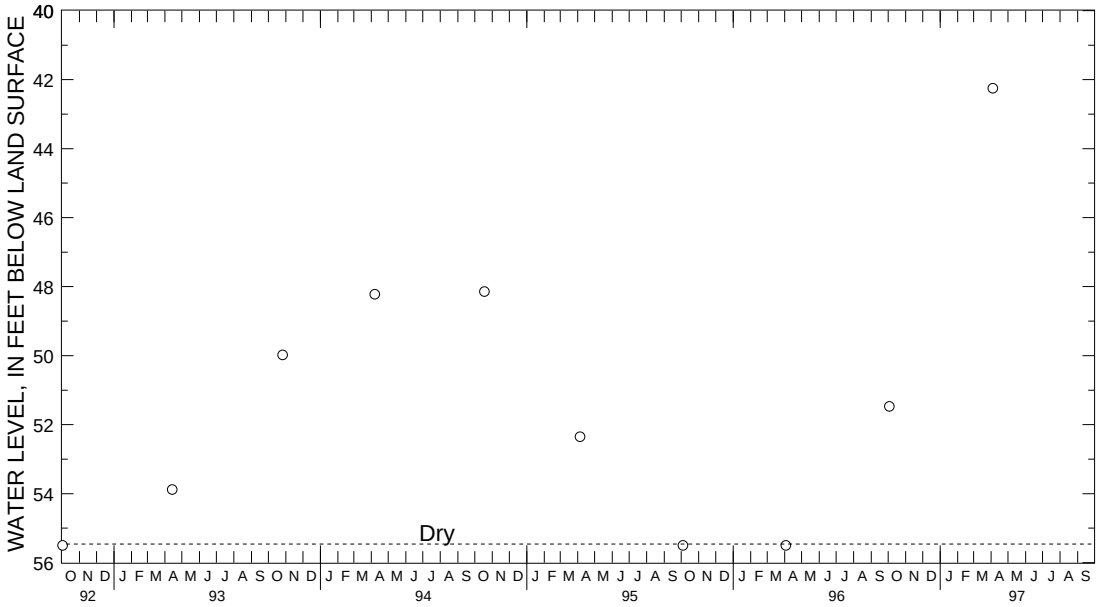
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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, April 8, 1986, May 12, 1986, May 10, 1988, June 21, 1988, Oct. 6, 1988, Oct. 2, 1992, Oct. 4, 1995, and April 3, 1996.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 03, 1996	51.47	APR 04, 1997	42.25

WATER YEAR 1997 HIGHEST 42.25 APR 04, 1997 LOWEST 51.47 OCT 03, 1996



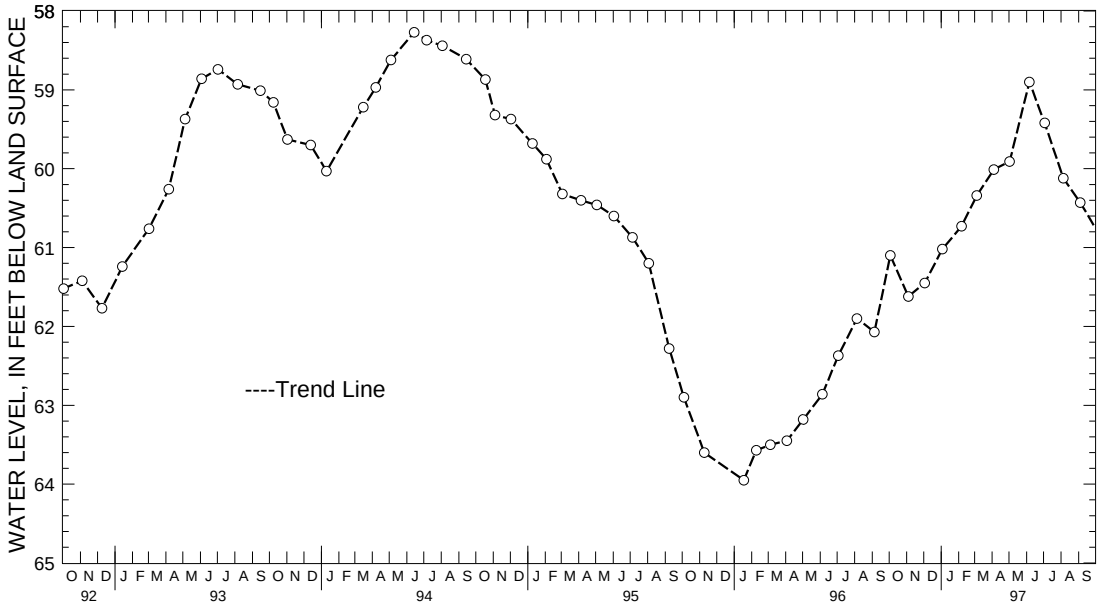
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 electric 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, 63.95 ft below land surface, Jan. 18, 1996.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 03, 1996	61.10	JAN 03, 1997	61.02	APR 04, 1997	60.01	JUL 03, 1997	59.42
NOV 04	61.62	FEB 06	60.73	MAY 02	59.91	AUG 05	60.12
DEC 03	61.45	MAR 05	60.34	JUN 06	58.90	SEP 04	60.43

WATER YEAR 1997 HIGHEST 58.90 JUN 06, 1997 LOWEST 61.62 NOV 04, 1996



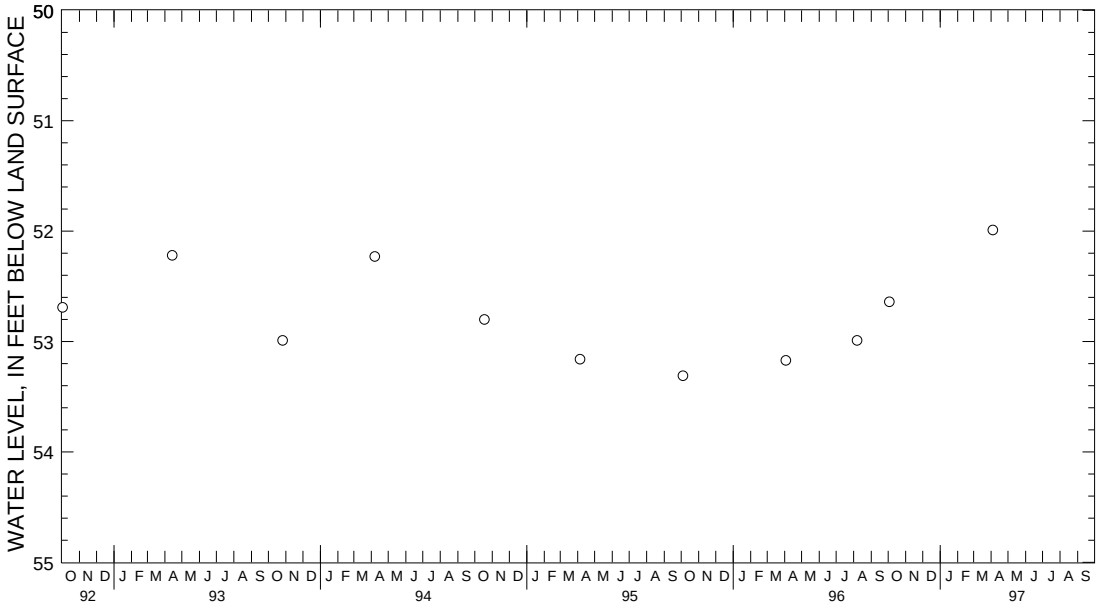
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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, near 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 electric 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, 53.31 ft below land surface, Oct. 4, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 03, 1996	52.64	APR 04, 1997	51.99

WATER YEAR 1997 HIGHEST 51.99 APR 04, 1997 LOWEST 52.64 OCT 03, 1996



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

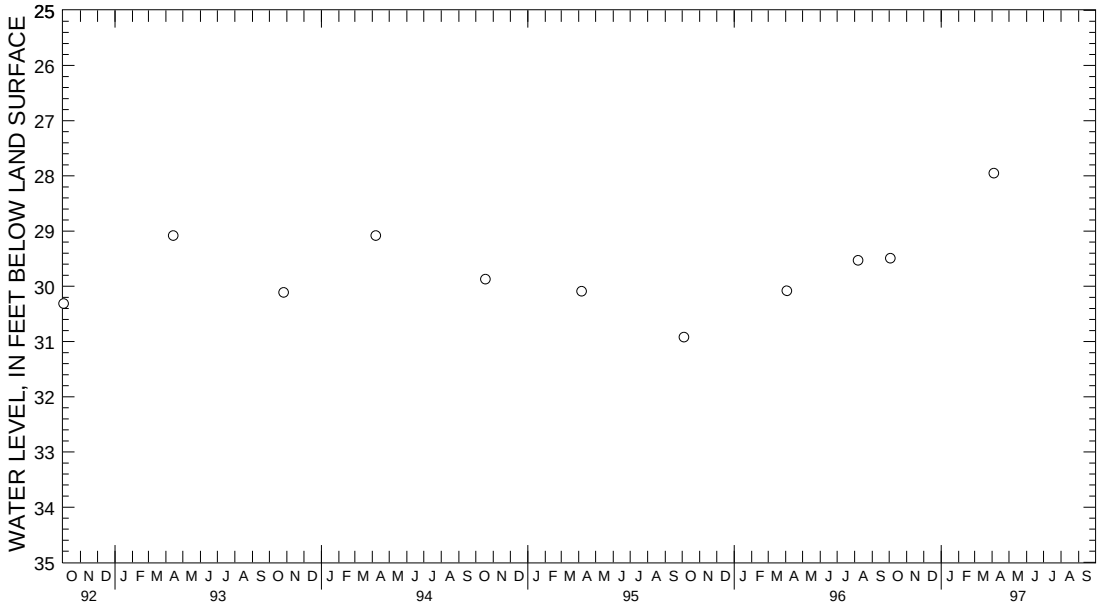
CECIL COUNTY--Continued

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, near 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 electric 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 currrent year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 27.75 ft below land surface, July 5, 1983; lowest measured, 30.92 ft below land surface, Oct. 4, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 03, 1996	29.49	APR 04, 1997	27.95

WATER YEAR 1997 HIGHEST 27.95 APR 04, 1997 LOWEST 29.49 OCT 03, 1996



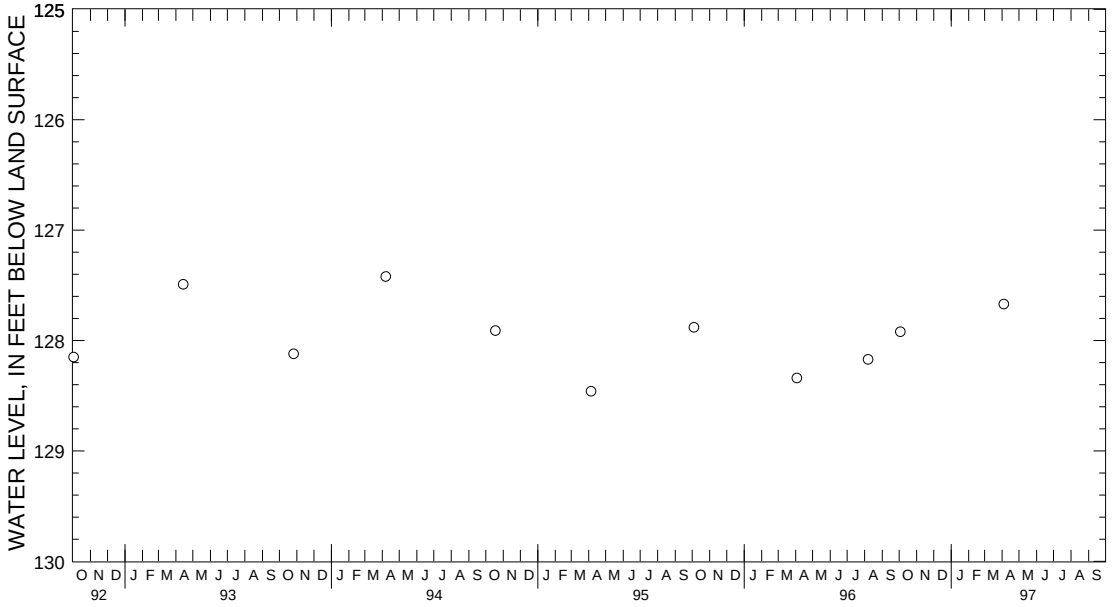
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 electric 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, 128.46 ft below land surface, April 5, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 03, 1996	127.92	APR 04, 1997	127.67

WATER YEAR 1997 HIGHEST 127.67 APR 04, 1997 LOWEST 127.92 OCT 03, 1996



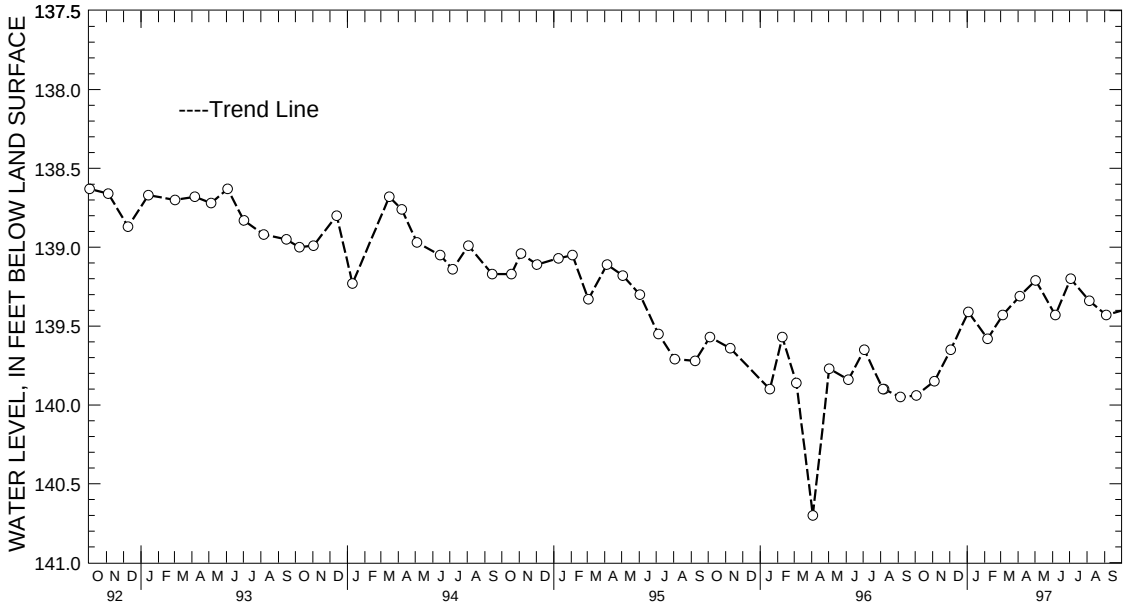
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--CE Ce 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 electric 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, 140.70 ft below land surface, April 3, 1996.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 03, 1996	139.94	JAN 03, 1997	139.41	APR 04, 1997	139.31	JUL 03, 1997	139.20
NOV 04	139.85	FEB 06	139.58	MAY 02	139.21	AUG 05	139.34
DEC 03	139.65	MAR 05	139.43	JUN 06	139.43	SEP 04	139.43

WATER YEAR 1997 HIGHEST 139.20 JUL 03, 1997 LOWEST 139.94 OCT 03, 1996



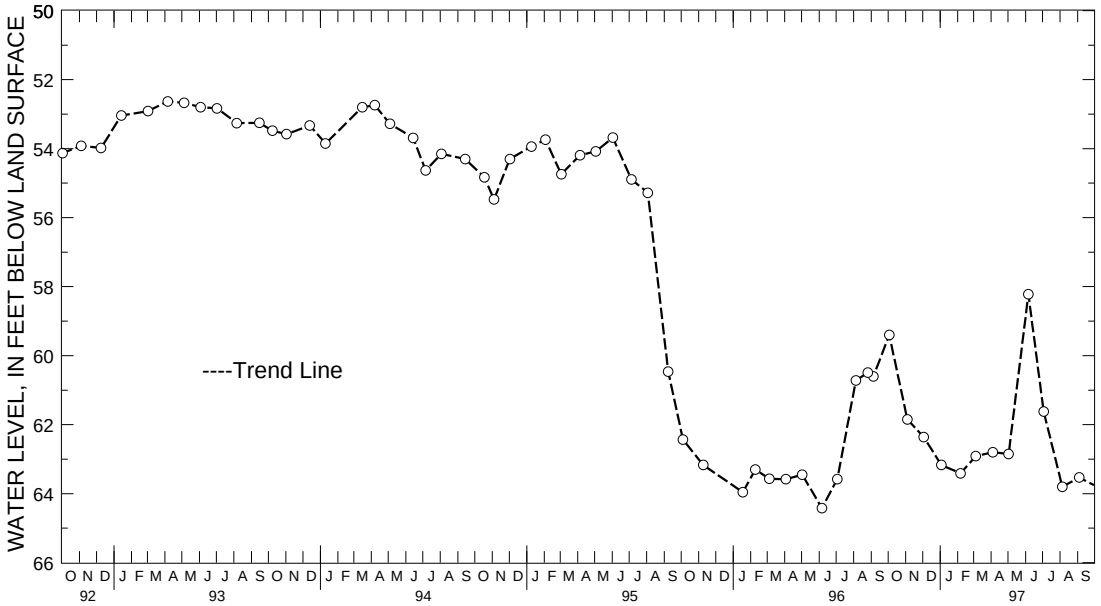
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--CE Ce 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 electric 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. During August 1995, a new well field located 3 miles northwest of this site began pumping groundwater at approximately 2.4 million gallons per day.
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, 64.42 ft below land surface, June 6, 1996.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 03, 1996	59.40	JAN 03, 1997	63.17	APR 04, 1997	62.80	JUL 03, 1997	61.62
NOV 04	61.85	FEB 06	63.41	MAY 02	62.85	AUG 05	63.80
DEC 03	62.36	MAR 05	62.91	JUN 06	58.22	SEP 04	63.53

WATER YEAR 1997 HIGHEST 58.22 JUN 06, 1997 LOWEST 63.80 AUG 05, 1997



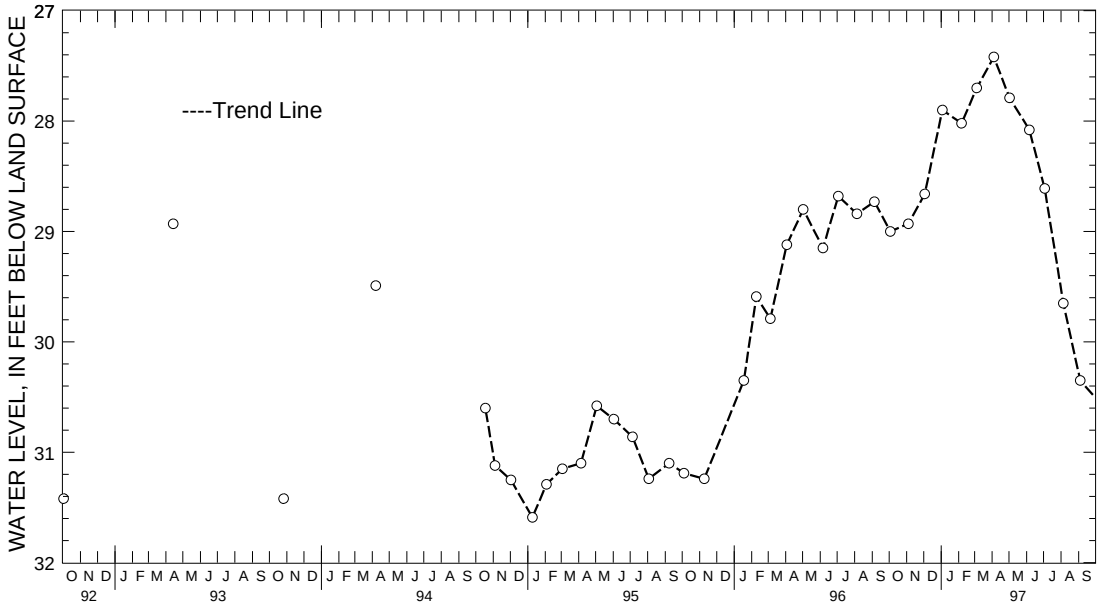
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
Measured twice yearly from April 1988 to April 1994.
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.
PERIOD OF RECORD.--April 1983 to September 1984, April 1988 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 27.42 ft below land surface, April 4, 1997; lowest measured, 34.48 ft below land surface, Nov. 19, 1983.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 03, 1996	29.00	JAN 03, 1997	27.90	APR 04, 1997	27.42	JUL 03, 1997	28.61
NOV 04	28.93	FEB 06	28.02	MAY 02	27.79	AUG 05	29.65
DEC 03	28.66	MAR 05	27.70	JUN 06	28.08	SEP 04	30.35

WATER YEAR 1997 HIGHEST 27.42 APR 04, 1997 LOWEST 30.35 SEP 04, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

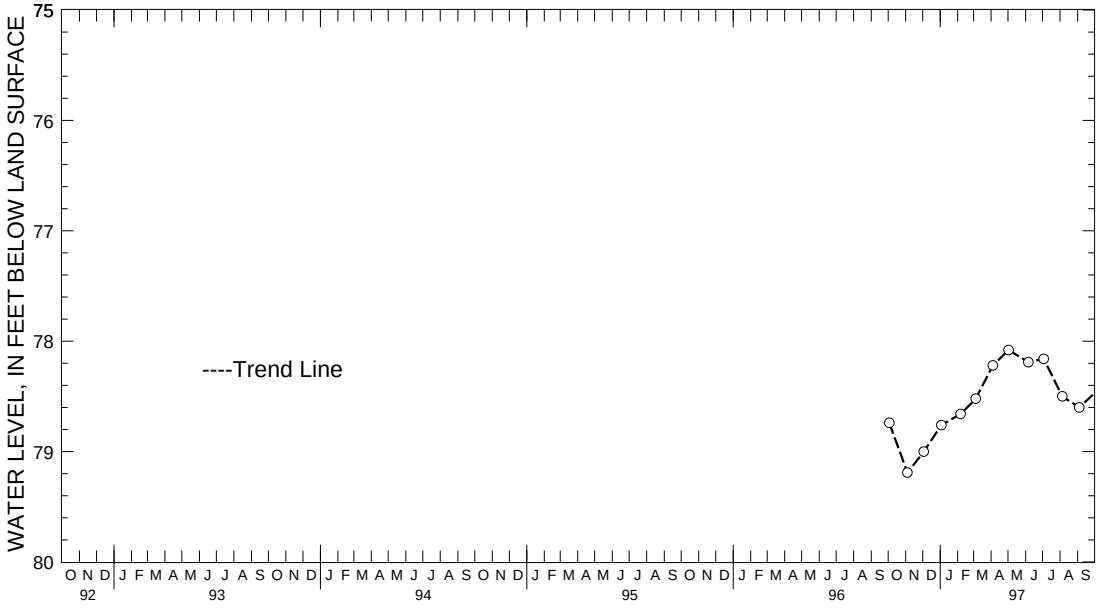
CECIL COUNTY--Continued

WELL NUMBER.--CE Ce 82. SITE ID.--393209075541301. PERMIT NUMBER.--CE-94-1417.
LOCATION.--Lat 39°32´09˝, long 75°54´3113˝, Hydrologic Unit 02060002, 4.0 mi southeast of North East, at Village of Elk Neck, 0.1 mi north of Racine-School Rd.
Owner: Stuart Associates.
AQUIFER.--Potomac Group of Lower Cretaceous age. Aquifer code: 217PTMC.
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 210 ft; casing diameter 4 in., to 205 ft; screen diameter 4 in. from 205 to 210 ft.
INSTRUMENTATION.--Monthly measurements with electric 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, 1.0 ft above land surface.
REMARKS.--Maryland Water-Level Network observation well.
PERIOD OF RECORD.--August 1996 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 78.08 ft below land surface, May 2, 1997; lowest measured, 79.71 ft below land surface, Aug. 26, 1996.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 03, 1996	78.74	JAN 03, 1997	78.76	APR 04, 1997	78.22	JUL 03, 1997	78.16
NOV 04	79.19	FEB 06	78.66	MAY 02	78.08	AUG 05	78.50
DEC 03	79.00	MAR 05	78.52	JUN 06	78.19	SEP 04	78.60

WATER YEAR 1997 HIGHEST 78.08 MAY 02, 1997 LOWEST 79.19 NOV 04, 1996



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

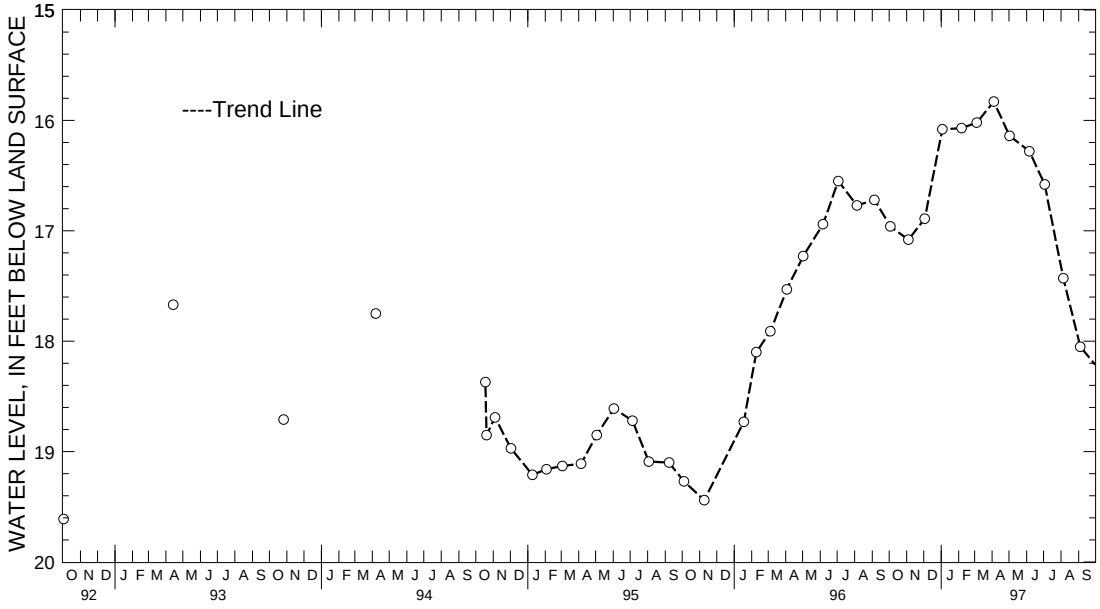
CECIL COUNTY--Continued

WELL NUMBER.--CE Dd 81. SITE ID.--392536075593201. PERMIT NUMBER.--CE-81-0469.
LOCATION.--Lat 39°25′36″, long 75°59′32″, Hydrologic Unit 02060002, at dredge spoil site, off Pond Neck Road, near West View Shores.
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 4 in., to 110 ft; screen diameter 2 in. from 110 to 115 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel. Measured twice yearly from April 1988 to April 1994.
DATUM.--Elevation of land surface is 24 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring Point: Top of casing, 1.8 ft above land surface.
REMARKS.--Maryland Water-Level Network observation well.
PERIOD OF RECORD.--March 1983 to October 1983, April 1988 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 13.25 ft below land surface, July 1, 1983; lowest measured, 19.61 ft below land surface, Oct. 2, 1992.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 03, 1996	16.96	JAN 03, 1997	16.08	APR 04, 1997	15.83	JUL 03, 1997	16.58
NOV 04	17.08	FEB 06	16.07	MAY 02	16.14	AUG 05	17.43
DEC 03	16.89	MAR 05	16.02	JUN 06	16.28	SEP 04	18.05

WATER YEAR 1997 HIGHEST 15.83 APR 04, 1997 LOWEST 18.05 SEP 04, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

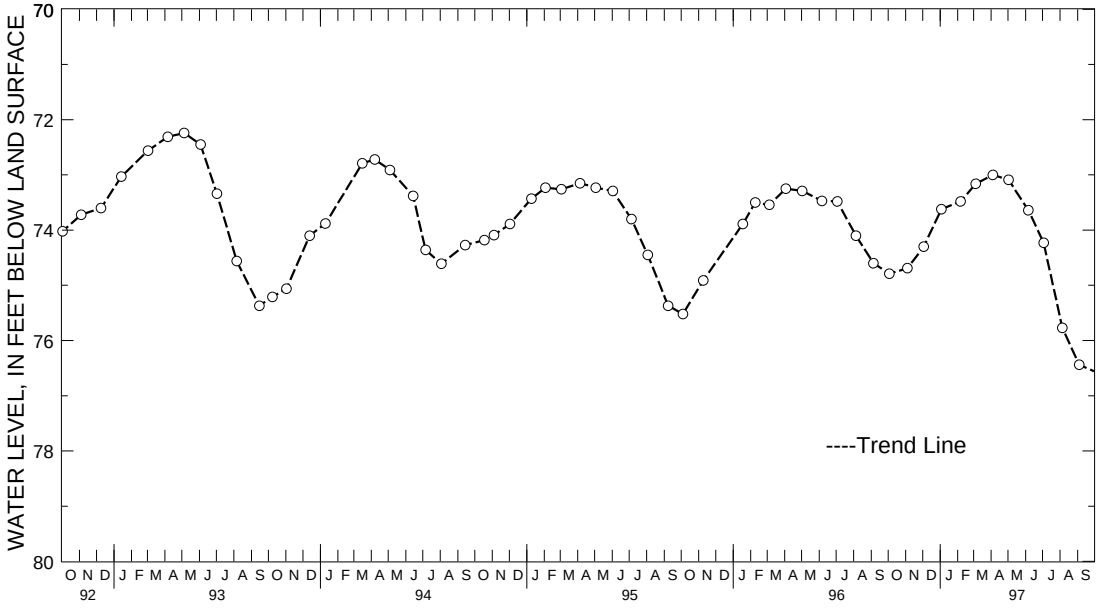
CECIL COUNTY--Continued

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: 217PTMC.
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 electric 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, 76.44 ft below land surface, Sept. 4, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 03, 1996	74.79	JAN 03, 1997	73.62	APR 04, 1997	73.00	JUL 03, 1997	74.23
NOV 04	74.69	FEB 06	73.48	MAY 02	73.09	AUG 05	75.77
DEC 03	74.30	MAR 05	73.16	JUN 06	73.64	SEP 04	76.44

WATER YEAR 1997 HIGHEST 73.00 APR 04, 1997 LOWEST 76.44 SEP 04, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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, Indian Head.
Owner: U.S. Navy.
AQUIFER.--Lower Patapsco aquifer of the Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSC.
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.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
Equipped with digital water-level recorder--60-minute recorder interval, May 29, 1988 to current year.
DATUM.--Altitude 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. Water levels are 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, 107.22 ft below land surface, April 22, 1997;
lowest measured, 121.22 ft below land surface, Dec. 22, 1989.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	113.32	112.79	110.46	110.06	110.38	109.55	109.08	108.64	109.75	109.37	110.19	109.49
2	113.24	112.77	110.65	110.08	110.44	109.47	109.09	108.68	109.82	109.36	109.75	109.21
3	113.12	112.65	111.09	110.54	110.85	110.36	109.09	108.62	109.66	109.04	109.76	109.37
4	113.10	112.69	111.02	110.60	110.96	110.46	109.06	108.52	110.02	109.49	109.58	109.01
5	112.71	112.42	111.00	110.56	110.98	110.33	108.72	107.99	110.28	109.63	109.31	108.84
6	112.66	112.23	111.06	110.65	110.74	109.89	108.82	108.19	110.61	110.01	110.29	108.95
7	---	---	111.06	110.43	110.74	109.83	109.17	108.43	110.52	109.82	110.52	109.93
8	111.90	110.98	110.79	109.85	110.61	109.87	109.68	109.11	110.24	109.38	110.60	110.03
9	111.94	111.19	111.20	110.12	110.88	109.91	109.63	108.70	109.84	109.16	110.59	109.88
10	112.00	111.06	111.47	110.88	111.04	110.22	109.24	108.68	109.56	108.99	110.20	109.66
11	112.13	111.57	111.50	111.03	110.69	110.05	110.28	109.14	109.70	109.16	110.32	109.76
12	111.93	111.19	111.96	111.32	110.51	109.86	110.90	110.24	109.70	109.04	110.67	110.10
13	111.63	110.96	112.02	111.60	110.32	109.61	111.63	110.64	109.76	109.04	110.49	109.91
14	111.66	111.10	112.43	111.66	110.52	109.68	111.66	110.87	109.67	109.12	110.11	109.43
15	111.78	111.09	112.62	111.85	110.29	109.22	111.21	110.60	109.50	108.97	110.46	109.56
16	111.47	110.97	112.16	111.39	109.49	108.80	110.91	110.24	109.81	109.29	110.37	109.96
17	111.75	110.97	111.80	111.30	109.23	108.71	111.63	110.91	110.18	109.59	110.15	109.60
18	111.64	110.80	111.64	111.06	109.30	108.72	111.45	110.87	110.16	109.27	110.07	109.53
19	111.78	110.78	111.48	110.89	109.44	108.74	111.45	110.68	110.17	109.44	110.02	109.36
20	111.37	110.77	111.44	110.86	110.08	109.44	110.83	110.03	110.31	109.88	109.60	109.06
21	111.08	110.64	111.48	110.98	110.08	109.60	111.07	110.41	110.12	109.33	109.53	109.07
22	111.47	110.69	111.84	111.12	110.08	109.23	111.09	110.27	109.64	109.13	109.81	109.00
23	111.47	110.80	111.90	110.98	109.55	109.10	110.90	110.38	109.96	109.52	109.94	109.38
24	111.30	110.83	111.40	110.71	109.67	109.17	111.10	110.42	109.88	109.42	109.62	109.20
25	111.35	110.78	111.12	110.58	110.18	109.48	110.62	109.82	109.96	109.57	109.51	109.04
26	111.32	110.79	110.99	110.46	110.00	109.38	110.69	110.01	109.86	109.31	109.31	108.80
27	111.26	110.63	111.94	110.99	109.83	109.22	110.70	110.14	109.90	109.37	109.47	108.97
28	111.10	110.59	111.63	110.72	109.52	108.75	110.45	109.89	110.28	109.78	109.30	108.81
29	111.08	110.30	111.02	110.44	109.13	108.69	110.63	110.07	---	---	109.11	108.58
30	110.66	110.19	110.70	110.05	109.23	108.79	110.51	110.07	---	---	109.24	108.72
31	110.71	110.18	---	---	109.12	108.73	110.25	109.51	---	---	110.31	108.69
MONTH	113.32	110.18	112.62	109.85	111.04	108.69	111.66	107.99	110.61	108.97	110.67	108.58

GROUND-WATER LEVELS

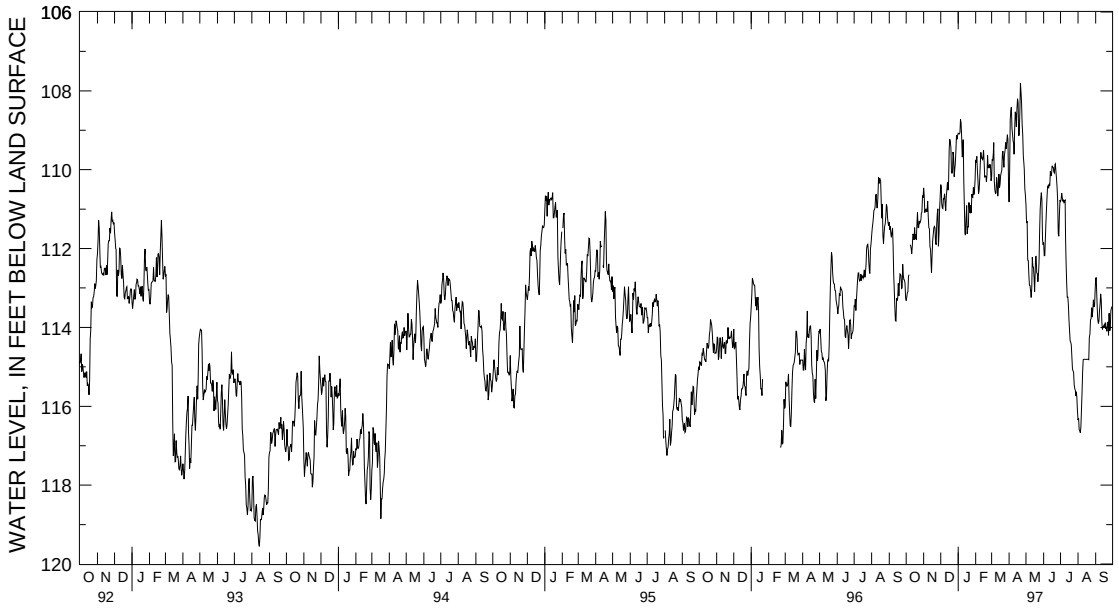
MARYLAND--Continued

CHARLES COUNTY--Continued

CH Bb 17--Continued

DAY	APRIL MAX	APRIL MIN	MAY MAX	MAY MIN	JUNE MAX	JUNE MIN	JULY MAX	JULY MIN	AUGUST MAX	AUGUST MIN	SEPTEMBER MAX	SEPTEMBER MIN
1	110.82	110.02	110.89	110.19	111.85	111.29	110.80	110.21	116.35	115.74	112.75	112.34
2	110.02	108.73	111.35	110.70	112.18	111.39	110.76	110.15	116.30	115.80	112.74	112.28
3	108.73	108.09	111.31	110.70	112.18	111.56	110.59	110.04	116.59	116.00	113.07	112.51
4	108.49	107.99	112.29	111.04	111.89	111.23	110.71	110.13	116.62	116.10	113.50	113.01
5	108.41	107.86	112.30	111.70	111.46	110.81	110.79	110.44	116.67	116.17	113.80	113.25
6	108.95	108.08	112.67	111.68	111.08	110.41	110.77	110.29	116.52	115.75	113.90	113.36
7	109.10	108.48	112.93	112.49	110.76	110.06	110.83	110.32	116.09	115.35	113.84	113.25
8	109.28	108.75	112.94	112.42	110.46	110.00	110.79	110.28	115.64	114.87	113.57	113.13
9	109.32	108.72	113.07	112.61	110.41	109.92	110.77	110.26	115.14	114.81	113.40	112.82
10	109.61	108.74	113.24	112.75	110.47	110.01	111.72	110.57	114.82	114.81	113.15	112.77
11	108.98	108.21	113.02	112.01	110.36	109.91	112.38	111.61	114.81	114.81	113.30	112.65
12	108.53	108.04	112.22	111.67	110.40	109.82	112.90	112.00	114.81	114.81	113.85	113.09
13	108.58	108.04	112.46	111.86	110.03	109.60	113.23	112.71	114.81	114.81	114.05	113.33
14	108.91	108.39	112.47	112.03	110.16	109.71	113.23	112.86	114.81	114.81	113.99	113.42
15	108.45	108.00	112.73	111.99	110.12	109.72	113.45	112.88	114.81	114.81	113.98	113.20
16	108.20	107.77	113.10	112.66	109.90	109.38	113.82	113.02	114.81	114.81	113.94	113.29
17	108.30	107.58	112.79	112.00	109.93	109.45	114.08	113.42	114.81	114.81	113.99	113.29
18	109.14	108.30	112.21	111.54	109.94	109.47	114.34	113.69	114.81	114.81	113.88	113.21
19	109.11	108.54	112.20	111.37	110.05	109.35	114.37	113.85	114.81	114.81	114.04	113.36
20	108.54	107.61	112.62	111.78	110.08	109.45	114.45	113.90	114.82	113.83	113.99	113.29
21	107.80	107.22	112.63	112.04	109.87	109.36	114.74	114.00	114.25	113.67	114.10	113.44
22	108.02	107.43	112.84	112.40	109.85	109.24	115.05	114.54	114.17	113.39	113.88	113.28
23	108.31	107.83	112.67	112.01	110.05	109.53	115.10	114.58	113.81	113.21	113.87	113.25
24	108.84	108.10	112.34	111.17	110.22	109.68	115.14	114.59	113.78	113.20	114.20	113.52
25	109.10	108.52	111.56	110.68	110.45	109.83	115.45	114.82	113.50	113.11	113.64	113.09
26	109.65	108.98	111.00	110.41	110.78	110.05	115.55	114.95	113.74	113.09	114.09	113.08
27	109.83	109.31	110.74	110.02	111.62	110.54	115.60	115.08	113.57	113.10	114.04	113.26
28	109.99	109.32	110.58	110.02	111.69	111.16	115.74	115.16	113.30	112.83	113.58	112.71
29	110.48	109.81	110.78	110.20	111.16	110.57	115.63	115.16	113.47	112.79	113.51	112.90
30	110.65	110.10	111.76	110.45	110.77	110.28	115.77	115.01	113.47	112.82	113.47	113.01
31	---	---	111.90	111.39	---	---	116.11	115.34	113.09	112.43	---	---
MONTH	110.82	107.22	113.24	110.02	112.18	109.24	116.11	110.04	116.67	112.43	114.20	112.28
YEAR	116.67	107.22										

Daily Low Water Levels



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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, Indian Head.
Owner: U.S. Navy.
AQUIFER.--Lower Patapsco aquifer of the Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSC.
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 430 ft; casing diameter 8 in. to unknown depth; screen diameter 8 in, depth unknown.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
Equipped with digital water-level recorder--60-minute recorder interval, April 28, 1988 to current year.
DATUM.--Altitude 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. Water levels are affected by nearby pumping.
PERIOD OF RECORD.--April 1988 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 105.47 ft below land surface, Oct. 20, 1996; lowest measured, 126.78 ft below land surface, Jan. 11, 1989.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	107.19	106.69	110.00	109.52	112.19	111.55	111.92	111.27	112.92	112.29	113.01	112.49
2	107.07	106.57	110.19	109.68	111.99	111.48	111.70	111.27	113.11	112.71	112.88	112.33
3	107.07	106.56	110.39	109.92	111.66	110.63	111.77	111.34	113.14	112.65	113.00	112.57
4	107.06	106.71	110.73	109.86	110.81	110.45	111.87	111.41	113.01	111.68	112.92	112.43
5	106.89	106.56	111.24	110.56	110.58	110.01	111.77	111.20	111.81	110.63	112.85	112.34
6	106.89	106.54	111.40	110.81	110.49	109.82	112.05	111.51	111.15	110.65	113.19	112.37
7	106.75	106.38	111.13	110.29	110.44	109.56	112.21	111.72	111.55	110.96	113.24	112.84
8	106.60	106.02	110.70	109.83	110.05	109.25	112.36	112.01	111.81	111.38	113.19	112.65
9	106.66	105.95	110.97	110.30	110.21	109.43	112.27	111.48	112.02	111.56	113.14	112.51
10	106.70	105.95	110.69	109.59	110.31	109.78	111.90	111.33	112.19	111.58	112.91	112.33
11	106.72	106.27	109.89	109.11	110.76	110.14	111.46	110.71	112.41	111.78	112.98	112.45
12	106.63	106.12	109.38	109.03	111.27	110.74	110.79	109.88	112.39	111.88	113.13	112.67
13	106.54	106.00	109.50	109.11	111.43	110.96	110.08	109.32	112.64	111.99	113.09	112.64
14	106.48	106.08	109.44	108.96	111.91	111.15	109.41	108.95	112.47	112.02	112.95	112.28
15	106.52	105.97	110.01	109.19	111.92	111.38	109.64	108.99	112.55	111.97	113.20	112.53
16	106.39	105.96	110.57	109.75	111.87	111.37	110.45	109.37	112.66	112.28	113.18	112.83
17	106.42	105.95	111.00	110.25	111.92	111.44	110.97	110.45	112.78	112.40	113.06	112.69
18	106.32	105.54	111.17	110.62	111.93	111.48	111.42	110.83	112.70	112.09	113.08	112.67
19	106.17	105.54	111.32	110.62	111.96	111.37	111.50	111.20	112.86	112.36	112.87	112.10
20	105.92	105.47	111.14	110.49	112.16	111.83	111.72	111.17	112.88	112.57	112.64	112.09
21	106.10	105.50	111.44	110.74	112.15	111.75	112.02	111.62	112.85	112.22	112.70	112.26
22	106.10	105.60	111.84	111.15	112.05	111.55	112.09	111.55	112.87	112.24	112.92	112.11
23	106.72	105.56	111.87	111.35	111.91	111.44	112.22	111.74	112.99	112.70	112.95	112.40
24	107.33	106.39	111.98	111.56	111.87	111.33	112.41	111.88	112.98	112.64	112.78	112.42
25	108.22	107.10	112.10	111.65	112.01	111.66	112.14	111.66	113.06	112.68	112.87	112.45
26	108.65	108.02	112.24	111.61	111.98	111.60	112.70	112.01	112.93	112.52	112.86	112.36
27	108.83	108.27	112.56	112.24	111.97	111.61	112.73	112.26	112.96	112.53	112.92	112.45
28	109.05	108.47	112.48	111.99	112.01	111.52	112.60	112.14	113.13	112.79	112.77	112.38
29	109.31	108.90	112.41	111.99	111.87	111.44	112.88	112.37	---	---	112.64	112.08
30	109.49	108.94	112.32	111.87	111.95	111.56	112.89	112.55	---	---	112.66	112.23
31	110.07	109.21	---	---	111.92	111.55	112.79	112.36	---	---	112.81	112.23
MONTH	110.07	105.47	112.56	108.96	112.19	109.25	112.89	108.95	113.14	110.63	113.24	112.08

GROUND-WATER LEVELS

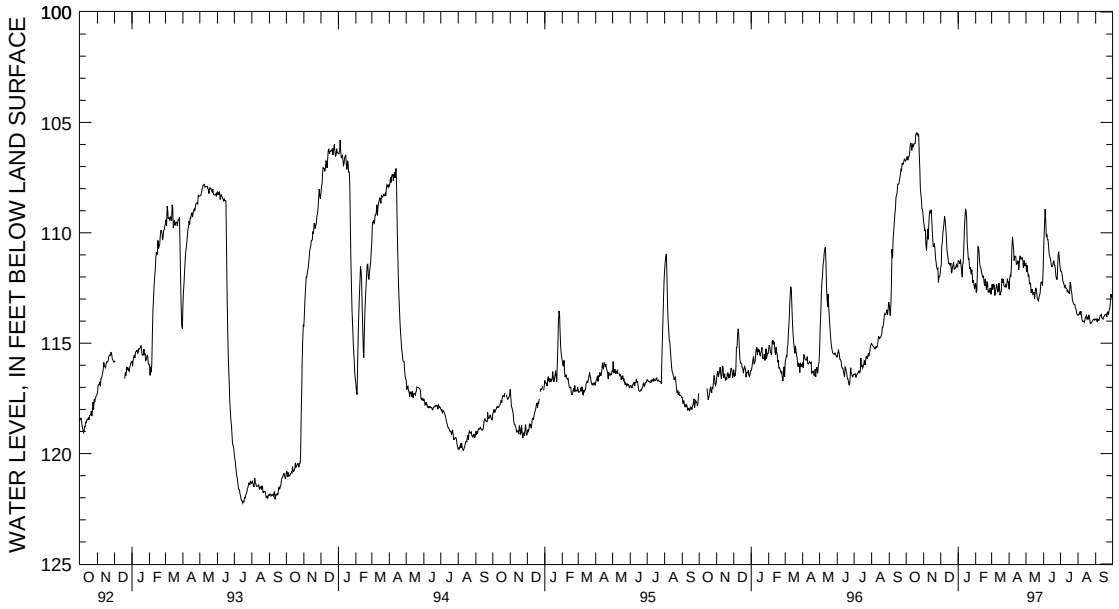
MARYLAND--Continued

CHARLES COUNTY--Continued

CH Bc 5--Continued

DAY	APRIL MAX	APRIL MIN	MAY MAX	MAY MIN	JUNE MAX	JUNE MIN	JULY MAX	JULY MIN	AUGUST MAX	AUGUST MIN	SEPTEMBER MAX	SEPTEMBER MIN
1	112.84	112.56	111.97	111.39	111.77	110.80	112.26	111.73	114.18	113.73	114.37	113.93
2	112.56	112.09	112.15	111.76	110.85	109.99	112.30	111.74	114.13	113.73	114.39	113.96
3	112.48	111.93	112.11	111.48	110.17	109.28	112.36	111.79	114.06	113.66	114.37	113.92
4	112.58	112.00	112.46	111.78	109.76	108.92	112.54	111.95	114.05	113.60	114.44	114.04
5	112.57	111.51	112.47	111.99	110.43	109.49	112.68	112.18	114.06	113.70	114.31	113.91
6	111.86	110.59	112.58	111.90	110.75	110.17	112.70	112.25	114.11	113.55	114.34	113.96
7	110.90	110.18	112.71	112.30	110.74	110.07	112.80	112.35	114.19	113.75	114.33	113.97
8	111.04	110.52	112.77	112.26	110.95	110.31	112.87	112.46	114.35	113.94	114.29	113.89
9	111.47	110.83	112.80	112.32	110.87	110.31	112.78	112.39	114.37	114.01	114.26	113.76
10	111.55	111.26	113.00	112.72	111.23	110.66	112.92	112.45	114.37	114.01	114.19	113.75
11	111.59	111.08	113.06	112.61	111.37	110.99	112.86	112.52	114.42	114.00	114.18	113.70
12	111.56	111.06	112.97	112.55	111.50	111.09	112.96	112.52	114.42	114.05	114.33	113.85
13	111.62	111.09	113.23	112.79	111.65	111.19	112.96	112.66	114.30	113.94	114.34	113.88
14	111.84	111.43	113.16	112.76	111.79	111.33	113.05	112.61	114.34	113.82	114.32	113.91
15	111.79	111.40	113.19	112.69	111.97	111.53	113.15	112.70	114.27	113.79	114.32	113.82
16	111.71	111.35	113.33	112.99	112.00	111.53	113.18	112.71	114.33	113.75	114.30	113.80
17	111.79	111.27	113.13	112.77	111.91	111.48	113.19	112.77	114.36	113.90	114.30	113.72
18	111.79	111.68	112.99	112.51	111.77	111.34	112.84	112.23	114.43	113.84	114.25	113.72
19	111.73	111.47	113.08	112.52	111.92	111.26	112.99	112.35	114.44	113.92	114.30	113.69
20	111.50	111.06	113.36	112.74	111.96	111.46	113.18	112.63	114.44	113.71	114.16	113.69
21	111.62	111.06	113.40	112.97	112.01	111.49	113.39	112.76	114.38	113.80	114.22	113.81
22	111.66	111.20	113.49	113.04	112.26	111.69	113.60	113.08	114.48	113.99	114.15	113.59
23	111.62	111.16	113.55	113.08	112.51	111.98	113.67	113.12	114.56	114.11	114.03	113.59
24	111.69	111.12	113.52	112.91	112.55	112.07	113.72	113.23	114.53	114.09	114.15	113.72
25	111.82	111.20	113.34	112.82	112.60	112.12	113.78	113.24	114.46	114.06	113.92	113.51
26	112.01	111.58	113.29	112.72	112.61	111.53	113.84	113.24	114.48	114.03	113.84	113.42
27	112.01	111.47	112.99	112.27	111.62	110.93	113.89	113.40	114.40	113.95	113.70	113.23
28	111.77	111.25	112.78	112.23	111.59	110.89	113.96	113.44	114.36	113.93	113.45	112.77
29	111.92	111.51	112.78	112.27	111.90	111.20	114.05	113.51	114.39	113.91	113.31	112.88
30	111.91	111.42	112.94	112.38	112.15	111.50	114.13	113.67	114.38	113.96	113.50	112.95
31	---	---	112.70	111.77	---	---	114.14	113.70	114.37	113.90	---	---
MONTH	112.84	110.18	113.55	111.39	112.61	108.92	114.14	111.73	114.56	113.55	114.44	112.77
YEAR	114.56	105.47										

Daily Low Water Levels



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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.--Lower Patapsco aquifer of the Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSC.
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.--Monthly measurements with electric 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 are 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, 185.48 ft below land surface, September 15, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	180.04	179.56	178.82	178.49	177.95	177.33	177.68	177.27	177.46	177.09	178.15	177.54
2	179.95	179.51	178.76	178.40	177.93	177.25	177.56	177.20	177.62	177.19	177.74	177.27
3	180.05	179.48	179.03	178.65	178.08	177.66	177.60	177.24	177.43	177.02	177.91	177.27
4	180.09	179.71	178.93	178.59	178.14	177.65	177.64	177.17	177.45	176.87	177.75	177.35
5	179.76	179.47	178.91	178.58	178.12	177.63	177.48	176.92	177.11	176.52	177.62	177.25
6	179.80	179.45	178.90	178.50	177.87	177.25	177.57	177.15	177.03	176.57	177.89	177.15
7	179.71	179.39	178.73	178.15	177.87	177.14	177.73	177.32	177.02	176.57	178.34	177.82
8	179.61	179.05	178.47	177.80	177.67	177.09	178.16	177.71	177.01	176.48	178.34	177.88
9	179.71	179.06	178.52	177.99	177.91	177.26	178.09	177.20	176.94	176.46	178.22	177.79
10	179.71	179.00	178.60	178.13	178.05	177.22	177.49	177.09	176.90	176.46	177.90	177.46
11	179.86	179.43	178.56	178.23	177.60	177.20	177.82	177.21	177.12	176.57	177.98	177.49
12	179.77	179.19	178.79	178.44	177.66	177.14	177.93	177.59	177.16	176.70	178.26	177.67
13	179.56	179.03	---	---	177.57	177.06	178.13	177.60	177.34	176.73	178.22	177.86
14	179.45	179.09	178.65	178.27	177.80	177.06	178.09	177.71	177.24	176.82	178.16	177.56
15	179.55	179.06	178.73	178.22	177.75	177.13	177.89	177.28	177.27	176.80	178.49	177.72
16	179.43	179.07	178.52	178.08	177.43	176.95	177.28	176.73	177.50	177.13	178.55	178.21
17	179.58	179.08	178.40	178.01	177.33	176.92	177.71	177.09	177.80	177.34	178.56	178.07
18	179.52	178.82	178.23	177.77	177.43	176.99	178.25	177.57	177.79	177.13	178.51	178.07
19	179.32	178.76	178.10	177.68	177.46	176.98	178.29	177.81	177.74	177.35	178.52	177.92
20	179.02	178.54	178.14	177.68	177.86	177.46	178.07	177.55	177.97	177.55	178.17	177.76
21	179.02	178.47	178.23	177.82	177.94	177.55	178.46	177.97	177.90	177.50	178.18	177.81
22	179.12	178.68	178.45	177.93	177.96	177.43	178.49	177.92	177.68	177.16	178.37	177.69
23	179.12	178.65	178.55	177.82	177.79	177.33	178.43	178.07	177.90	177.19	178.49	178.06
24	179.22	178.77	178.27	177.85	177.70	177.09	178.69	178.15	178.02	177.64	178.34	178.03
25	179.34	178.91	178.30	177.79	177.92	177.26	178.32	177.82	178.03	177.64	178.37	178.01
26	179.42	178.92	178.15	177.71	177.80	177.34	178.70	177.97	178.03	177.54	178.37	177.94
27	179.39	178.80	178.73	178.05	177.72	177.27	178.78	178.36	177.83	177.50	178.50	178.07
28	179.23	178.79	178.51	177.87	177.61	177.09	178.49	178.05	178.08	177.51	178.38	177.96
29	179.21	178.68	178.20	177.82	177.45	177.08	178.50	178.11	---	---	178.17	177.66
30	178.99	178.46	178.11	177.69	177.66	177.18	178.34	177.91	---	---	178.08	177.75
31	178.92	178.47	---	---	177.65	177.31	177.96	177.43	---	---	178.82	177.74
MONTH	180.09	178.46	179.03	177.68	178.14	176.92	178.78	176.73	178.08	176.46	178.82	177.15

GROUND-WATER LEVELS

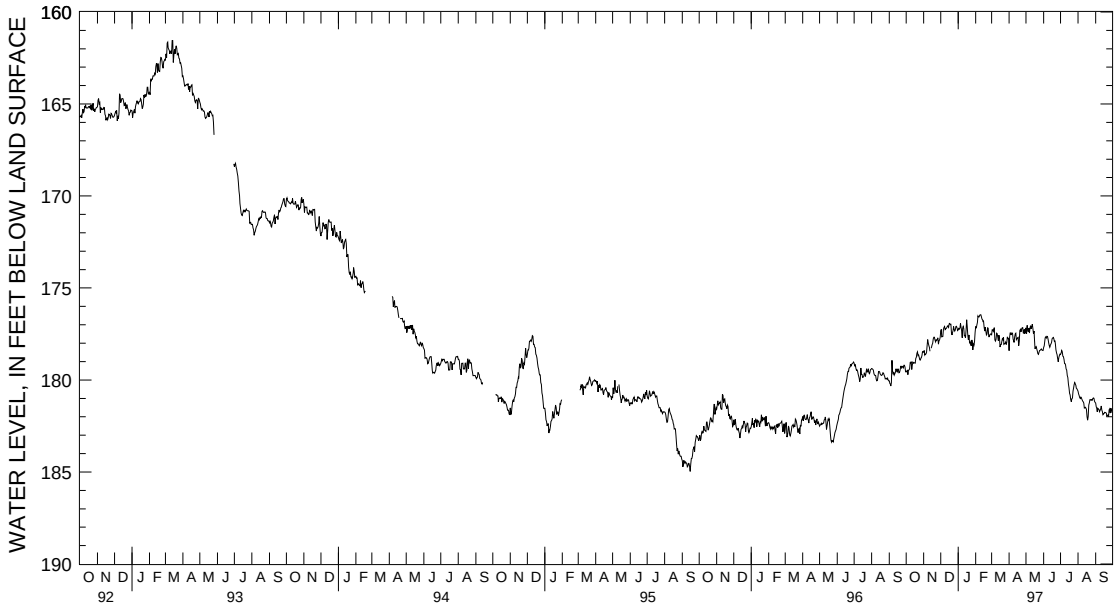
MARYLAND--Continued

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	179.07	178.41	177.67	177.17	178.68	178.23	179.05	178.62	181.07	180.61	181.68	181.26
2	178.41	177.66	177.88	177.49	178.61	178.15	179.00	178.53	181.15	180.75	181.88	181.46
3	177.87	177.43	177.71	177.03	178.50	177.88	178.88	178.40	181.30	180.85	181.97	181.51
4	178.04	177.52	177.97	177.27	178.18	177.71	178.98	178.47	181.37	180.96	182.15	181.73
5	178.07	177.53	177.97	177.38	178.12	177.66	179.11	178.71	181.37	181.00	181.98	181.54
6	177.93	177.44	177.71	177.18	178.12	177.72	179.12	178.73	181.40	180.93	181.96	181.58
7	177.95	177.47	177.87	177.45	178.05	177.62	179.32	178.88	181.40	180.98	182.04	181.60
8	178.20	177.78	177.77	177.16	178.06	177.63	179.51	179.11	181.51	181.07	182.13	181.73
9	178.39	177.88	177.47	177.05	178.22	177.78	179.49	179.12	181.52	181.14	182.09	181.65
10	178.61	177.96	177.63	177.22	178.40	177.97	179.70	179.18	181.59	181.18	181.90	181.57
11	178.17	177.66	177.70	177.09	178.56	178.13	179.74	179.40	181.82	181.26	181.92	181.41
12	177.93	177.50	177.33	176.97	178.55	178.22	180.01	179.46	181.93	181.53	182.15	181.63
13	177.94	177.46	177.92	177.21	178.39	178.10	180.13	179.75	181.86	181.52	182.29	181.73
14	178.30	177.81	177.88	177.48	178.37	178.04	180.49	179.87	182.04	181.48	182.34	181.88
15	178.12	177.76	177.96	177.34	178.28	177.97	180.76	180.22	182.00	181.55	182.34	181.83
16	178.06	177.72	178.72	177.93	178.12	177.76	181.00	180.42	182.29	181.60	182.30	181.82
17	178.18	177.69	178.66	178.30	178.09	177.72	181.17	180.72	182.56	182.00	182.33	181.76
18	178.45	178.14	178.64	178.23	178.16	177.69	181.44	180.82	182.78	182.18	182.25	181.77
19	178.42	177.93	178.62	178.19	178.28	177.75	181.59	181.07	182.76	181.99	182.33	181.78
20	177.95	177.31	178.79	178.31	178.35	177.91	181.69	181.18	182.42	181.36	182.27	181.82
21	177.66	177.25	178.86	178.43	178.35	177.88	181.55	181.02	181.77	181.25	182.56	181.96
22	177.77	177.38	179.04	178.57	178.55	178.03	181.51	180.98	181.68	181.07	182.42	181.94
23	177.74	177.23	179.05	178.61	178.87	178.37	181.36	180.61	181.54	181.07	182.30	181.90
24	177.62	177.16	179.00	178.49	178.97	178.52	180.96	180.43	181.51	181.10	182.44	181.99
25	177.65	177.15	178.87	178.40	179.17	178.63	180.83	180.23	181.52	181.07	182.04	181.62
26	177.89	177.45	178.87	178.39	179.35	178.83	180.61	180.14	181.54	181.10	182.13	181.57
27	177.96	177.46	178.82	178.34	179.42	179.01	180.67	180.22	181.40	181.01	182.16	181.80
28	177.70	177.25	178.75	178.31	179.21	178.78	180.84	180.30	181.36	180.97	182.15	181.53
29	177.88	177.48	178.82	178.38	179.07	178.67	180.88	180.44	181.53	180.99	182.08	181.63
30	177.85	177.39	178.85	178.39	179.05	178.59	180.97	180.47	181.58	181.16	182.23	181.79
31	---	---	178.84	178.40	---	---	180.97	180.54	181.62	181.21	---	---
MONTH	179.07	177.15	179.05	176.97	179.42	177.62	181.69	178.40	182.78	180.61	182.56	181.26
YEAR	182.78	176.46										

Daily Low Water Levels



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--CH Bc 77. SITE ID.--383644077055501. PERMIT NUMBER.--CH-88-1028.
LOCATION.--Lat 38°36´44˝, long 77°05´55˝, Hydrologic Unit 02070011, 2.75 mi southwest of intersection with MD Rts 210 and 227, 0.25 mi south of MD 210.
Owner: The Arden Group.
AQUIFER.--Patuxent Formation of Lower Cretaceous age. Aquifer code: 217PTXN.
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 955 ft; casing diameter 16 in., to 60 ft; casing diameter 8 in. from 0 to 845 ft; and casing diameter 6 in., from 845 to 925 ft; screen diameter 6 in. from 925 to 955 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
Equipped with digital water-level recorder--60-minute recorder interval, August 28, 1995 to current year.
DATUM.--Elevation of land surface is 96.64 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of recorder shelf, 3.38 ft above land surface.
REMARKS.--Bryans Road Project observation well. Water levels are affected by nearby pumping.
Missing data due to recorder malfunction. A 48-hour pump test occured in a nearby well on Nov. 22, and 23, 1996. The lowest water measured during this period was 15.54 ft below sea level
PERIOD OF RECORD.--August 1995 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.76 ft above sea level, August 29, 1995; lowest measured, 15.54 ft below sea level, Nov. 23, and 24, 1996.

WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
(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	.76	.74	.87	.85	-4.17	-4.88	-.88	-1.03	-.29	-.35	-.20	-.28
2	.82	.75	.87	.81	-3.95	-4.17	-.74	-.88	-.35	-.38	-.13	-.20
3	.83	.74	.81	.71	-3.56	-3.95	-.66	-.74	-.36	-.50	-.14	-.20
4	.74	.67	.71	.67	-3.36	-3.56	-.66	-.72	-.35	-.51	-.16	-.20
5	.67	.64	.71	.69	-2.85	-3.36	-.56	-.66	-.27	-.35	.02	-.20
6	.73	.67	.70	.69	-2.75	-2.85	-.57	-.66	-.31	-.34	.05	-.09
7	.79	.73	---	---	-2.41	-2.75	-.62	-.75	-.33	-.35	-.09	-.24
8	1.05	.79	---	---	-2.18	-2.41	-.75	-.78	-.29	-.34	-.13	-.25
9	1.02	.95	---	---	-2.14	-2.19	-.54	-.79	-.31	-.32	-.22	-.27
10	.96	.83	---	---	-2.10	-2.29	-.52	-.54	-.29	-.32	-.09	-.22
11	.83	.74	---	---	-2.09	-2.25	-.54	-.59	-.29	-.30	-.06	-.11
12	.75	.72	---	---	-2.03	-2.10	-.59	-.71	-.24	-.30	-.11	-.24
13	.79	.74	---	---	-1.85	-2.03	-.71	-.76	-.27	-.35	-.24	-.27
14	.81	.78	---	---	-1.85	-1.87	-.76	-.78	-.20	-.30	-.11	-.27
15	.78	.74	---	---	-1.79	-1.88	-.56	-.77	-.16	-.24	-.11	-.28
16	.79	.76	---	---	-1.58	-1.79	-.38	-.56	-.23	-.26	-.28	-.34
17	.79	.78	---	---	-1.43	-1.58	-.54	-.57	-.24	-.34	-.28	-.34
18	.92	.78	---	---	-1.39	-1.43	-.56	-.63	-.25	-.34	-.28	-.29
19	.97	.92	-3.09	-6.53	-1.32	-1.39	-.59	-.63	-.20	-.25	-.28	-.29
20	.96	.93	-6.53	-10.16	-1.36	-1.48	-.55	-.59	-.24	-.30	-.28	-.33
21	.93	.90	-10.16	-12.87	-1.46	-1.50	-.57	-.66	-.15	-.29	-.33	-.39
22	.91	.88	-12.87	-14.70	-1.38	-1.46	-.53	-.62	-.14	-.25	-.33	-.67
23	.98	.90	-14.70	-15.54	-1.32	-1.38	-.51	-.57	-.25	-.30	-.67	-.95
24	.95	.87	-14.40	-15.54	-1.15	-1.32	-.49	-.57	-.27	-.31	-.95	-1.24
25	.87	.79	-9.79	-14.40	-1.17	-1.26	-.36	-.49	-.28	-.31	-1.22	-1.28
26	.79	.75	-8.05	-9.79	-1.23	-1.27	-.43	-.56	-.21	-.28	-1.16	-1.23
27	.80	.75	-7.24	-8.05	-1.18	-1.23	-.53	-.57	-.16	-.21	-1.23	-1.25
28	.86	.80	-6.34	-7.24	-1.05	-1.18	-.37	-.53	-.20	-.28	-1.25	-1.29
29	.84	.81	-5.60	-6.34	-.97	-1.05	-.53	-.55	---	---	-1.22	-1.27
30	.96	.83	-4.88	-5.60	-.98	-1.02	-.39	-.55	---	---	-1.22	-1.27
31	.92	.87	---	---	-.96	-1.02	-.30	-.39	---	---	-1.18	-1.22
MONTH	1.05	.64	.87	-15.54	-.96	-4.88	-.30	-1.03	-.14	-.51	.05	-1.29

GROUND-WATER LEVELS

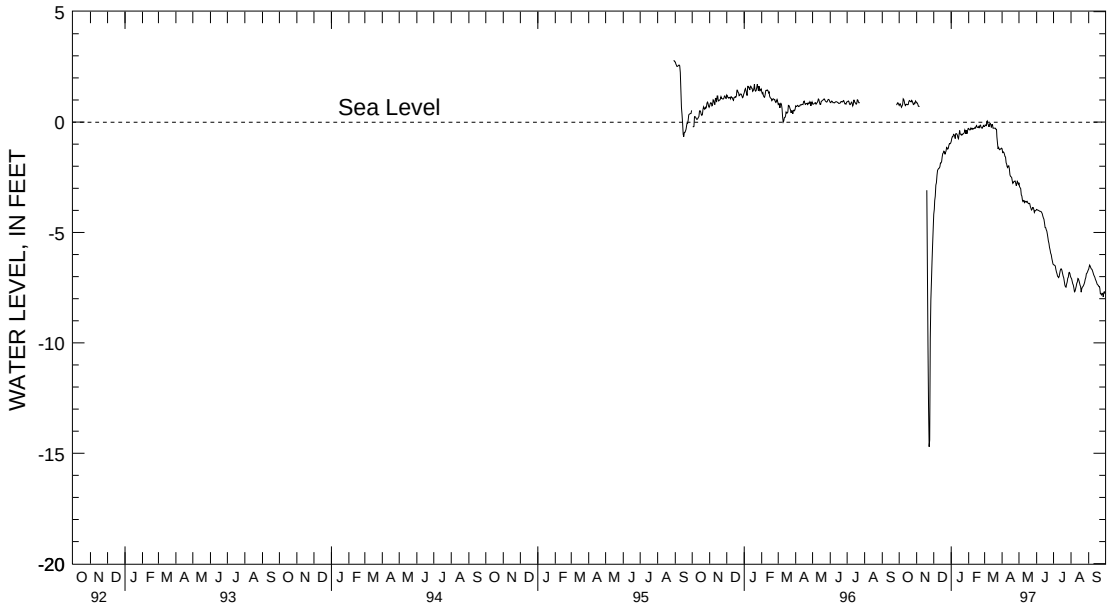
MARYLAND--Continued

CHARLES COUNTY--Continued

CH Bc 77--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	-1.21	-1.39	-2.75	-2.93	-3.96	-3.99	-6.46	-6.51	-7.05	-7.10	-6.66	-6.72
2	-1.37	-1.41	-2.93	-3.04	-3.97	-4.03	-6.47	-6.54	-7.10	-7.21	-6.54	-6.66
3	-1.35	-1.37	-2.97	-3.04	-3.99	-4.03	-6.50	-6.54	-7.21	-7.32	-6.48	-6.54
4	-1.37	-1.44	-3.02	-3.30	-3.99	-4.01	-6.51	-6.67	-7.32	-7.38	-6.53	-6.60
5	-1.44	-1.59	-3.30	-3.39	-4.01	-4.04	-6.67	-6.78	-7.38	-7.52	-6.60	-6.66
6	-1.56	-1.61	-3.35	-3.54	-4.03	-4.05	-6.78	-6.88	-7.52	-7.69	-6.65	-6.67
7	-1.58	-1.84	-3.54	-3.65	-4.04	-4.05	-6.87	-6.98	-7.69	-7.75	-6.67	-6.74
8	-1.84	-1.93	-3.60	-3.68	-4.04	-4.05	-6.98	-7.02	-7.66	-7.74	-6.74	-6.83
9	-1.91	-2.02	-3.55	-3.60	-4.05	-4.10	-7.01	-7.04	-7.55	-7.66	-6.83	-6.91
10	-2.02	-2.06	-3.56	-3.64	-4.10	-4.15	-7.04	-7.07	-7.44	-7.55	-6.91	-6.97
11	-2.06	-2.09	-3.64	-3.68	-4.15	-4.25	-7.01	-7.07	-7.30	-7.44	-6.97	-7.03
12	-1.98	-2.07	-3.59	-3.64	-4.25	-4.34	-6.86	-7.01	-7.24	-7.30	-7.03	-7.12
13	-1.98	-2.12	-3.59	-3.63	-4.34	-4.40	-6.72	-6.86	-7.09	-7.24	-7.12	-7.18
14	-2.12	-2.39	-3.63	-3.67	-4.40	-4.57	-6.65	-6.72	-7.11	-7.20	-7.18	-7.25
15	-2.39	-2.46	-3.59	-3.64	-4.57	-4.77	-6.65	-6.73	-7.20	-7.27	-7.25	-7.34
16	-2.46	-2.49	-3.64	-3.74	-4.77	-4.79	-6.73	-6.86	-7.27	-7.38	-7.34	-7.37
17	-2.48	-2.52	-3.67	-3.74	-4.78	-4.88	-6.86	-6.97	-7.38	-7.45	-7.37	-7.39
18	-2.51	-2.66	-3.70	-3.76	-4.88	-4.94	-6.97	-7.05	-7.45	-7.70	-7.39	-7.47
19	-2.66	-2.77	-3.68	-3.72	-4.94	-5.09	-7.05	-7.22	-7.70	-7.79	-7.45	-7.50
20	-2.77	-2.81	-3.70	-3.82	-5.09	-5.26	-7.22	-7.38	-7.55	-7.80	-7.45	-7.53
21	-2.73	-2.80	-3.82	-3.90	-5.26	-5.38	-7.38	-7.46	-7.48	-7.55	-7.53	-7.77
22	-2.69	-2.73	-3.90	-3.98	-5.38	-5.50	-7.46	-7.57	-7.45	-7.49	-7.77	-7.80
23	-2.68	-2.70	-3.98	-4.03	-5.50	-5.68	-7.48	-7.56	-7.40	-7.45	-7.78	-7.83
24	-2.67	-2.77	-3.96	-4.01	-5.68	-5.79	-7.34	-7.48	-7.34	-7.40	-7.83	-7.90
25	-2.77	-2.89	-3.87	-3.96	-5.79	-5.94	-7.24	-7.34	-7.25	-7.34	-7.76	-7.88
26	-2.89	-2.95	-3.87	-3.95	-5.94	-6.03	-7.07	-7.24	-7.12	-7.25	-7.78	-7.92
27	-2.78	-2.95	-3.95	-4.09	-6.01	-6.17	-7.03	-7.07	-7.04	-7.12	-7.92	-7.96
28	-2.69	-2.78	-4.09	-4.13	-6.17	-6.30	-6.83	-7.03	-6.87	-7.04	-7.70	-7.95
29	-2.74	-2.85	-4.02	-4.13	-6.30	-6.43	-6.81	-6.85	-6.84	-6.87	-7.69	-7.78
30	-2.82	-2.88	-4.02	-4.03	-6.43	-6.49	-6.85	-6.98	-6.78	-6.84	-7.77	-7.91
31	---	---	-3.99	-4.03	---	---	-6.98	-7.05	-6.71	-6.78	---	---
MONTH	-1.21	-2.95	-2.75	-4.13	-3.96	-6.49	-6.46	-7.57	-6.71	-7.80	-6.48	-7.96
YEAR	1.05	-15.54										

Daily Low Water Levels



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--CH Bc 80. SITE ID.--383645077062402. PERMIT NUMBER.--CH-94-0898.
LOCATION.--Lat 38°36´45˝, long 77°06´24˝, Hydrologic Unit 02070011, 2.0 southwest of intersection with MD Rts. 210 and 227, 100 ft south of MD Rt. 210.
Owner: Maryland Geological Survey.
AQUIFER.--Patuxent Formation of Lower Cretaceous age. Aquifer code: 217PTXN.
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 1,120 ft; casing diameter 4 in., to 1,085 ft, and 1,095 to 1,105 ft; screen diameter 4 in. from 1,085 to 1,095 ft and 1,105 to 1,115 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey and Maryland Geological Survey personnel.
Equipped with digital water-level recorder--60-minute recorder interval, Oct. 22, 1996 to current year.
DATUM.--Elevation of land surface is 123.06 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of recorder shelf, 3.50 ft above land surface.
REMARKS.--Bryans Road Project observation well. Water levels are affected by nearby pumping.
Missing data due to recorder malfunction.
PERIOD OF RECORD.--October 1996 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.93 ft above sea level, Oct. 30, 1996; lowest measured, 4.01 ft below sea level, Sept. 27, and 28, 1997.

WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
(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	---	---	1.81	1.78	1.32	1.12	.76	.64	.94	.78	.90	.75
2	---	---	1.82	1.73	1.32	1.10	.86	.76	.78	.73	1.00	.88
3	---	---	1.73	1.62	1.10	1.07	.89	.83	.76	.64	.97	.85
4	---	---	1.62	1.57	1.10	.95	.84	.81	.78	.64	.93	.86
5	---	---	1.63	1.60	1.17	.95	.98	.84	.90	.78	1.09	.86
6	---	---	1.60	1.60	1.20	1.07	.90	.78	.83	.78	1.14	.93
7	---	---	1.60	1.60	1.15	1.07	.80	.69	.81	.77	.93	.81
8	---	---	1.60	1.60	1.13	1.08	.70	.68	.86	.78	.92	.78
9	---	---	1.60	1.60	1.08	.87	1.02	.67	.81	.80	.81	.71
10	---	---	1.60	1.60	.97	.87	1.01	.94	.85	.80	.96	.81
11	---	---	1.60	1.60	.97	.91	.94	.73	.85	.83	.98	.89
12	---	---	1.60	1.60	.91	.88	.73	.64	.86	.80	.89	.82
13	---	---	1.60	1.60	.99	.88	.64	.61	.80	.69	.82	.77
14	---	---	1.60	1.60	.95	.82	.61	.59	.95	.75	1.09	.80
15	---	---	1.60	1.60	.82	.79	.75	.59	.98	.82	1.09	.84
16	---	---	1.60	1.60	.88	.79	.94	.75	.85	.79	.84	.77
17	---	---	1.60	1.60	.99	.88	.78	.68	.84	.70	.85	.77
18	---	---	1.86	1.60	.96	.89	.74	.61	.82	.70	.85	.82
19	---	---	1.91	1.79	1.02	.88	.66	.61	.92	.81	.95	.83
20	---	---	1.90	1.80	.88	.69	.75	.65	.83	.74	1.07	.95
21	---	---	1.88	1.80	.69	.64	.65	.54	1.01	.76	1.13	1.02
22	---	---	1.83	1.69	.70	.64	.74	.55	1.01	.78	1.20	.97
23	1.92	1.80	1.72	1.66	.73	.68	.77	.59	.78	.71	.97	.86
24	1.88	1.78	1.66	1.54	.89	.73	.78	.58	.76	.71	.86	.73
25	1.78	1.69	1.54	1.52	.78	.64	.87	.74	.75	.72	1.02	.74
26	1.69	1.64	1.66	1.37	.66	.62	.74	.59	.88	.75	1.09	.98
27	1.72	1.64	1.37	1.18	.70	.66	.71	.57	.96	.88	.99	.97
28	1.82	1.72	1.18	1.15	.75	.68	.80	.67	.89	.75	1.02	.97
29	1.77	1.74	1.15	1.09	.78	.73	.67	.61	---	---	1.09	1.01
30	1.93	1.77	1.12	1.07	.75	.70	.75	.61	---	---	1.03	.96
31	1.85	1.79	---	---	.77	.66	.92	.75	---	---	1.05	.98
MONTH	1.93	1.64	1.91	1.07	1.32	.62	1.02	.54	1.01	.64	1.20	.71

GROUND-WATER LEVELS

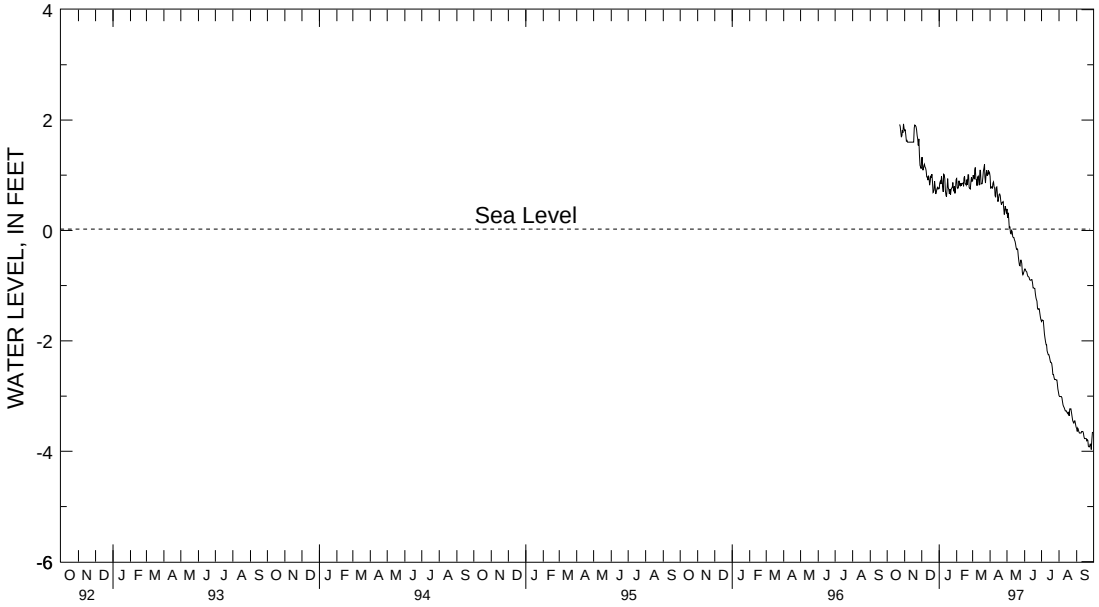
MARYLAND--Continued

CHARLES COUNTY--Continued

CH Bc 80--Continued

DAY	APRIL MAX	APRIL MIN	MAY MAX	MAY MIN	JUNE MAX	JUNE MIN	JULY MAX	JULY MIN	AUGUST MAX	AUGUST MIN	SEPTEMBER MAX	SEPTEMBER MIN
1	.98	.76	.39	.23	-.70	-.74	-1.65	-1.67	-2.99	-3.02	-3.59	-3.64
2	.76	.70	.23	.12	-.70	-.74	-1.62	-1.65	-3.01	-3.01	-3.64	-3.64
3	.79	.72	.32	.14	-.73	-.75	-1.63	-1.63	-3.01	-3.01	-3.58	-3.64
4	.79	.74	.22	.03	-.74	-.75	-1.63	-1.75	-3.01	-3.01	-3.60	-3.64
5	.76	.71	.04	-.02	-.75	-.80	-1.75	-1.87	-3.01	-3.03	-3.64	-3.67
6	.86	.76	.07	-.04	-.80	-.83	-1.87	-1.95	-3.03	-3.10	-3.67	-3.67
7	.88	.77	-.04	-.09	-.83	-.84	-1.95	-2.02	-3.10	-3.16	-3.67	-3.67
8	.79	.72	-.06	-.12	-.84	-.85	-2.02	-2.07	-3.16	-3.19	-3.67	-3.67
9	.76	.63	.00	-.06	-.85	-.89	-2.07	-2.07	-3.19	-3.21	-3.67	-3.67
10	.63	.58	-.02	-.11	-.89	-.90	-2.07	-2.18	-3.21	-3.24	-3.64	-3.67
11	.60	.57	-.11	-.16	-.90	-.90	-2.18	-2.22	-3.24	-3.27	-3.64	-3.64
12	.78	.60	-.13	-.15	-.90	-.90	-2.22	-2.25	-3.27	-3.29	-3.64	-3.67
13	.79	.66	-.13	-.17	-.89	-.90	-2.25	-2.25	-3.27	-3.29	-3.67	-3.74
14	.66	.52	-.17	-.23	-.89	-.95	-2.25	-2.29	-3.27	-3.30	-3.74	-3.77
15	.52	.48	-.20	-.25	-.95	-1.04	-2.29	-2.34	-3.30	-3.31	-3.77	-3.77
16	.58	.49	-.25	-.33	-1.04	-1.05	-2.34	-2.39	-3.30	-3.33	-3.77	-3.77
17	.65	.58	-.30	-.34	-1.04	-1.05	-2.39	-2.42	-3.32	-3.33	-3.77	-3.77
18	.66	.63	-.34	-.39	-1.05	-1.08	-2.39	-2.44	-3.30	-3.36	-3.77	-3.81
19	.63	.52	-.33	-.36	-1.05	-1.15	-2.41	-2.49	-3.36	-3.45	-3.81	-3.83
20	.52	.43	-.35	-.47	-1.15	-1.22	-2.49	-2.61	-3.23	-3.43	-3.79	-3.83
21	.47	.41	-.47	-.56	-1.22	-1.25	-2.61	-2.61	-3.23	-3.23	-3.80	-3.91
22	.50	.47	-.56	-.63	-1.25	-1.28	-2.61	-2.66	-3.23	-3.30	-3.91	-3.94
23	.51	.48	-.63	-.72	-1.28	-1.41	-2.66	-2.71	-3.30	-3.37	-3.92	-3.94
24	.52	.40	-.64	-.69	-1.41	-1.43	-2.70	-2.71	-3.37	-3.44	-3.92	-3.94
25	.40	.29	-.54	-.64	-1.43	-1.45	-2.70	-2.70	-3.44	-3.47	-3.87	-3.94
26	.29	.21	-.54	-.60	-1.42	-1.48	-2.70	-2.71	-3.47	-3.51	-3.87	-3.97
27	.38	.21	-.60	-.76	-1.42	-1.50	-2.71	-2.71	-3.49	-3.51	-3.97	-4.01
28	.44	.38	-.76	-.80	-1.50	-1.57	-2.71	-2.77	-3.45	-3.49	-3.79	-4.01
29	.39	.31	-.80	-.80	-1.57	-1.62	-2.77	-2.87	-3.45	-3.51	-3.66	-3.80
30	.31	.28	-.77	-.80	-1.62	-1.67	-2.87	-2.93	-3.51	-3.56	-3.66	-3.71
31	---	---	-.74	-.77	---	---	-2.93	-2.99	-3.56	-3.59	---	---
MONTH	.98	.21	.39	-.80	-.70	-1.67	-1.62	-2.99	-2.99	-3.59	-3.58	-4.01
YEAR	1.93	-4.01										

Daily Low Water Levels



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--CH Bc 81. SITE ID.--383709077061002. PERMIT NUMBER.--CH-88-0482.
LOCATION.--Lat 38°37´09˝, long 77°06´10˝, Hydrologic Unit 02070010, 1.7 mi southwest of intersection with MD Rts. 210 and 227, on northwest side of Chapmans Landing Rd.
Owner: Montrose Farms.
AQUIFER.--Lower Patapsco aquifer of the Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSC.
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 656 ft; casing diameter 6 in., to 541 ft, casing diameter 4 in. from 531 to 556 ft, 588 to 642 ft, 646 to 656 ft ; screen diameter 4 in. from 556 to 588 ft, 642 to 646 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey and Maryland Geological Survey personnel.
Equipped with digital water-level recorder--60-minute recorder interval, Aug. 28, 1996 to current year.
DATUM.--Elevation of land surface is 150 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of recorder shelf, 2.07 ft above land surface.
REMARKS.--Bryans Road Project observation well. Water levels are affected by nearby pumping.
PERIOD OF RECORD.--August 1996 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 97.97 ft below sea level, July 3, and 4, 1997; lowest measured, 104.83 ft below sea level, Oct. 1, 1996.

WATER LEVEL, IN FEET BELOW SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	-104.81	-104.83	-103.68	-103.71	-102.99	-103.31	-103.09	-103.21	-102.91	-102.97	-102.81	-102.95
2	-104.67	-104.81	-103.64	-103.70	-102.98	-103.09	-102.96	-103.09	-102.92	-103.01	-102.69	-102.81
3	-104.65	-104.71	-103.70	-103.91	-103.09	-103.25	-102.96	-102.96	-103.01	-103.07	-102.72	-102.76
4	-104.71	-104.76	-103.91	-103.93	-103.25	-103.58	-102.96	-102.98	-102.97	-103.08	-102.69	-102.72
5	-104.63	-104.76	-103.92	-103.93	-103.47	-103.68	-102.89	-102.98	-102.81	-102.97	-102.44	-102.69
6	-104.50	-104.63	-103.92	-103.93	-103.37	-103.47	-102.91	-103.01	-102.81	-102.86	-102.38	-102.60
7	-104.39	-104.50	-103.81	-103.93	-103.21	-103.37	-103.01	-103.11	-102.86	-102.88	-102.60	-102.83
8	-104.00	-104.39	-103.41	-103.81	-103.14	-103.21	-103.11	-103.24	-102.79	-102.86	-102.81	-102.86
9	-104.01	-104.08	-103.40	-103.54	-103.14	-103.32	-103.07	-103.26	-102.79	-102.79	-102.85	-102.90
10	-104.03	-104.15	-103.54	-103.67	-103.32	-103.35	-102.96	-103.07	-102.76	-102.79	-102.72	-102.88
11	-104.15	-104.76	-103.67	-103.76	-103.19	-103.32	-102.96	-103.05	-102.74	-102.76	-102.70	-102.74
12	-104.74	-104.77	-103.76	-103.82	-103.18	-103.19	-103.05	-103.21	-102.58	-102.76	-102.74	-102.82
13	-104.62	-104.74	-103.82	-103.85	-102.99	-103.18	-103.21	-103.35	-102.58	-102.92	-102.68	-102.82
14	-104.52	-104.62	-103.77	-103.83	-102.99	-103.13	-103.35	-103.36	-102.82	-102.92	-102.22	-102.68
15	-104.56	-104.61	-103.77	-103.77	-103.13	-103.19	-103.13	-103.36	-102.79	-102.89	-102.21	-102.50
16	-104.46	-104.61	-103.66	-103.77	-102.98	-103.16	-102.87	-103.13	-102.89	-102.98	-102.50	-102.73
17	-104.44	-104.46	-103.54	-103.66	-102.87	-102.98	-102.91	-103.09	-102.98	-103.13	-102.70	-102.78
18	-104.15	-104.44	-103.46	-103.54	-102.87	-102.89	-103.09	-103.23	-102.98	-103.13	-102.68	-102.78
19	-104.01	-104.15	-103.39	-103.47	-102.81	-102.89	-103.23	-103.28	-103.03	-103.10	-102.32	-102.68
20	-103.96	-104.01	-103.32	-103.39	-102.87	-103.13	-103.11	-103.28	-103.10	-103.22	-101.89	-102.32
21	-103.92	-103.96	-103.26	-103.32	-103.13	-103.23	-103.12	-103.26	-102.96	-103.22	-101.51	-101.89
22	-103.90	-103.92	-103.26	-103.39	-103.23	-103.24	-103.09	-103.27	-102.89	-102.97	-101.36	-101.51
23	-103.74	-103.90	-103.39	-103.42	-103.24	-103.24	-103.08	-103.16	-102.97	-103.09	-101.30	-101.36
24	-103.74	-103.77	-103.42	-103.42	-103.04	-103.24	-103.03	-103.17	-103.09	-103.11	-101.10	-101.30
25	-103.77	-103.83	-103.42	-103.44	-103.04	-103.26	-102.90	-103.03	-103.07	-103.11	-100.76	-101.10
26	-103.83	-103.94	-103.29	-103.43	-103.25	-103.29	-102.90	-103.14	-102.90	-103.07	-100.73	-100.92
27	-103.93	-103.94	-103.40	-103.70	-103.25	-103.25	-103.14	-103.21	-102.78	-102.90	-100.92	-100.93
28	-103.87	-103.93	-103.67	-103.71	-103.20	-103.25	-103.17	-103.21	-102.81	-102.95	-100.78	-100.93
29	-103.87	-103.92	-103.50	-103.67	-103.11	-103.20	-103.19	-103.24	---	---	-100.78	-101.09
30	-103.71	-103.91	-103.31	-103.50	-103.11	-103.15	-103.20	-103.26	---	---	-101.07	-101.15
31	-103.71	-103.71	---	---	-103.15	-103.19	-102.97	-103.20	---	---	-101.07	-101.46
MONTH	-103.71	-104.83	-103.26	-103.93	-102.81	-103.68	-102.87	-103.36	-102.58	-103.22	-100.73	-102.95

GROUND-WATER LEVELS

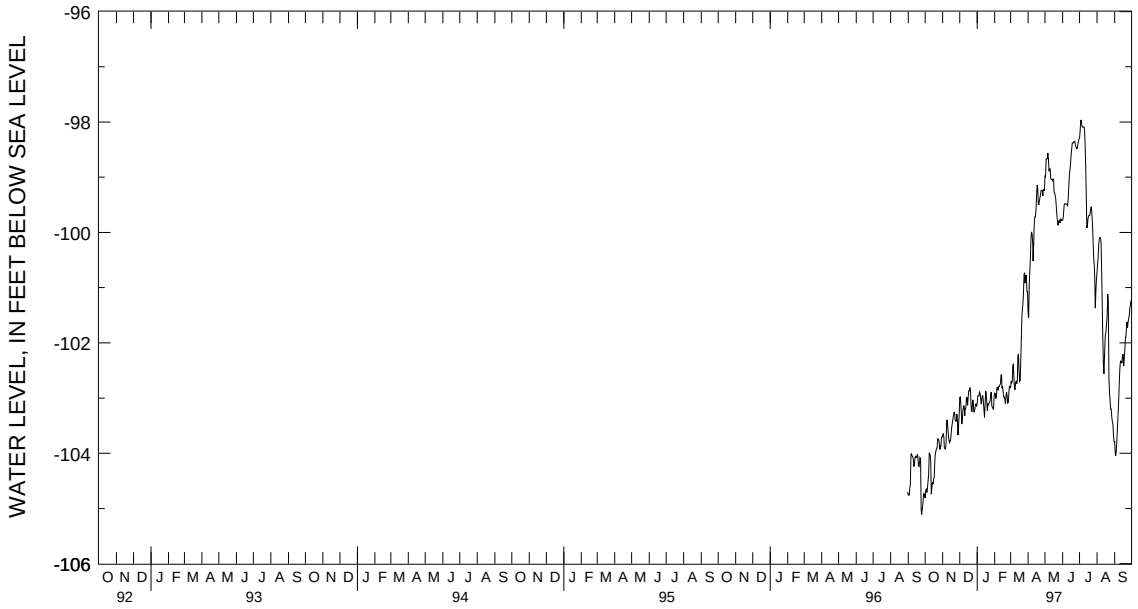
MARYLAND--Continued

CHARLES COUNTY--Continued

CH Bc 81--Continued

DAY	APRIL MAX	APRIL MIN	MAY MAX	MAY MIN	JUNE MAX	JUNE MIN	JULY MAX	JULY MIN	AUGUST MAX	AUGUST MIN	SEPTEMBER MAX	SEPTEMBER MIN
1	-101.46	-102.02	-98.98	-99.25	-99.78	-99.78	-98.29	-98.31	-100.72	-100.85	-103.79	-104.00
2	-101.54	-102.02	-98.99	-99.01	-99.73	-99.78	-98.17	-98.29	-100.57	-100.72	-104.00	-104.10
3	-100.95	-101.54	-98.67	-98.99	-99.59	-99.73	-97.97	-98.17	-100.45	-100.57	-104.05	-104.11
4	-100.70	-100.95	-98.67	-98.76	-99.50	-99.59	-97.97	-98.06	-100.22	-100.45	-103.97	-104.05
5	-100.48	-100.70	-98.66	-98.77	-99.48	-99.50	-98.06	-98.09	-100.12	-100.22	-103.79	-103.97
6	-100.10	-100.48	-98.56	-98.67	-99.48	-99.53	-98.09	-98.09	-100.09	-100.12	-103.56	-103.79
7	-99.99	-100.10	-98.67	-98.89	-99.49	-99.51	-98.09	-98.09	-100.09	-100.18	-103.35	-103.56
8	-100.03	-100.18	-98.89	-98.91	-99.49	-99.49	-98.09	-98.09	-100.18	-100.65	-103.11	-103.35
9	-100.18	-100.52	-98.85	-98.91	-99.49	-99.56	-98.09	-98.15	-100.65	-101.27	-102.83	-103.11
10	-100.52	-100.66	-98.85	-99.03	-99.51	-99.56	-98.15	-98.40	-101.27	-101.89	-102.54	-102.83
11	-100.23	-100.64	-99.03	-99.11	-99.38	-99.51	-98.40	-98.79	-101.89	-102.37	-102.36	-102.54
12	-99.86	-100.23	-99.04	-99.11	-99.18	-99.38	-98.79	-99.31	-102.37	-102.68	-102.33	-102.36
13	-99.72	-99.86	-99.04	-99.06	-98.96	-99.18	-99.31	-99.92	-102.56	-102.70	-102.35	-102.42
14	-99.72	-99.75	-99.06	-99.17	-98.87	-98.96	-99.92	-99.98	-102.25	-102.56	-102.36	-102.42
15	-99.60	-99.75	-99.03	-99.11	-98.77	-98.87	-99.88	-99.97	-101.95	-102.25	-102.21	-102.36
16	-99.34	-99.60	-99.04	-99.27	-98.60	-98.77	-99.75	-99.88	-101.84	-101.95	-102.21	-102.45
17	-99.14	-99.34	-99.27	-99.28	-98.49	-98.60	-99.70	-99.75	-101.79	-101.84	-102.42	-102.46
18	-99.18	-99.47	-99.28	-99.33	-98.38	-98.49	-99.69	-99.70	-101.64	-101.79	-102.27	-102.42
19	-99.47	-99.65	-99.33	-99.39	-98.38	-98.38	-99.69	-99.69	-101.49	-101.64	-102.12	-102.27
20	-99.50	-99.66	-99.39	-99.54	-98.38	-98.39	-99.63	-99.69	-101.12	-101.49	-101.90	-102.12
21	-99.42	-99.50	-99.54	-99.69	-98.35	-98.39	-99.54	-99.63	-101.27	-102.63	-101.90	-101.91
22	-99.37	-99.42	-99.69	-99.79	-98.35	-98.35	-99.54	-99.71	-102.63	-102.91	-101.75	-101.91
23	-99.30	-99.37	-99.79	-99.87	-98.35	-98.43	-99.71	-99.90	-102.91	-103.03	-101.62	-101.75
24	-99.24	-99.30	-99.87	-99.88	-98.43	-98.45	-99.90	-100.22	-103.03	-103.23	-101.73	-101.89
25	-99.24	-99.25	-99.81	-99.88	-98.45	-98.49	-100.22	-100.49	-103.20	-103.24	-101.62	-101.89
26	-99.25	-99.36	-99.78	-99.82	-98.48	-98.52	-100.49	-100.59	-103.20	-103.40	-101.56	-101.62
27	-99.34	-99.40	-99.82	-99.85	-98.48	-98.48	-100.59	-100.95	-103.35	-103.54	-101.50	-101.56
28	-99.22	-99.34	-99.82	-99.85	-98.41	-98.48	-100.95	-101.38	-103.43	-103.54	-101.37	-101.52
29	-99.22	-99.32	-99.76	-99.82	-98.35	-98.41	-101.37	-101.40	-103.48	-103.72	-101.31	-101.37
30	-99.25	-99.33	-99.78	-99.78	-98.31	-98.35	-101.07	-101.37	-103.69	-103.83	-101.23	-101.37
31	---	---	-99.78	-99.78	---	---	-100.85	-101.07	-103.79	-103.85	---	---
MONTH	-99.14	-102.02	-98.56	-99.88	-98.31	-99.78	-97.97	-101.40	-100.09	-103.85	-101.23	-104.11
YEAR	-97.97	-104.83										

Daily Low Water Levels



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--CH Be 43. SITE ID.--383819076555501. PERMIT NUMBER.--CH-71-0066.
LOCATION.--Lat 38°38´19˝, long 76°55´55˝, Hydrologic Unit 02070011, at northeast end of Joy Lane, 0.2 mi east of Sun Valley Drive, 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 electric 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.--Altitude 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, 61.53 ft below sea level, July 1, 1997.

WATER LEVEL, IN FEET BELOW SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	-55.30	-55.38	-53.27	-54.44	-54.29	-54.48	-53.24	-53.29	-52.86	-52.90	-53.32	-53.64
2	-54.67	-55.39	-53.32	-53.81	-54.28	-54.40	-53.18	-53.24	-52.90	-53.04	-53.14	-53.32
3	-53.90	-54.67	-53.81	-54.25	-54.40	-54.46	-53.13	-53.18	-53.04	-53.28	-53.00	-53.16
4	-54.09	-54.53	-54.25	-54.50	-54.42	-54.46	-53.14	-53.20	-53.25	-53.32	-52.91	-53.00
5	-54.53	-54.88	-54.50	-54.54	-54.23	-54.46	-53.19	-53.27	-53.17	-53.25	-52.66	-52.91
6	-54.88	-55.05	-54.54	-54.55	-54.20	-54.26	-53.27	-53.46	-53.12	-53.18	-52.63	-52.75
7	-54.65	-55.12	-54.48	-54.55	-54.10	-54.26	-53.46	-53.51	-53.00	-53.12	-52.75	-52.82
8	-53.45	-54.65	-54.20	-54.48	-54.05	-54.10	-53.51	-53.52	-52.83	-53.00	-52.65	-52.81
9	-53.62	-54.24	-54.20	-54.31	-54.06	-54.26	-53.15	-53.51	-52.73	-52.83	-52.64	-52.75
10	-54.24	-54.61	-54.31	-54.44	-54.17	-54.26	-53.10	-53.15	-52.56	-52.73	-52.46	-52.64
11	-54.61	-55.00	-54.44	-54.60	-54.08	-54.17	-53.11	-53.29	-52.46	-52.56	-52.38	-52.46
12	-55.00	-55.27	-54.60	-54.73	-54.06	-54.08	-53.29	-53.48	-52.36	-52.46	-52.45	-52.59
13	-55.27	-55.37	-54.72	-54.74	-53.92	-54.06	-53.48	-53.59	-52.37	-52.45	-52.59	-52.75
14	-55.37	-55.48	-53.99	-54.72	-53.92	-54.02	-53.59	-53.60	-52.21	-52.38	-52.74	-52.81
15	-55.48	-55.58	-53.13	-53.99	-54.02	-54.04	-53.40	-53.60	-52.19	-52.39	-52.81	-53.26
16	-55.55	-55.58	-53.25	-53.60	-54.02	-54.04	-53.19	-53.40	-52.39	-52.55	-53.26	-53.44
17	-55.53	-55.55	-53.60	-53.82	-53.89	-54.02	-53.25	-53.33	-52.55	-52.82	-53.44	-53.52
18	-55.28	-55.53	-53.82	-53.85	-53.84	-53.89	-53.31	-53.40	-52.82	-52.88	-53.52	-53.55
19	-55.20	-55.28	-53.85	-53.88	-53.76	-53.84	-53.40	-53.41	-52.88	-53.03	-53.45	-53.55
20	-55.20	-55.25	-53.88	-53.89	-53.83	-53.99	-53.38	-53.46	-53.03	-53.33	-53.36	-53.45
21	-55.25	-55.29	-53.88	-53.89	-53.15	-53.99	-53.46	-53.60	-53.33	-53.45	-53.30	-53.38
22	-55.29	-55.30	-53.89	-54.05	-51.68	-53.15	-53.49	-53.60	-53.45	-53.72	-53.26	-53.44
23	-55.13	-55.30	-54.05	-54.13	-51.19	-51.68	-53.47	-53.58	-53.72	-53.77	-53.44	-53.61
24	-55.08	-55.13	-54.13	-54.23	-51.49	-52.04	-53.43	-53.59	-53.69	-53.77	-53.61	-53.82
25	-55.09	-55.12	-54.22	-54.24	-52.04	-52.47	-53.33	-53.43	-53.62	-53.69	-53.70	-53.84
26	-55.11	-55.13	-54.05	-54.22	-52.47	-52.69	-53.40	-53.59	-53.62	-53.64	-53.61	-53.70
27	-55.06	-55.11	-54.14	-54.24	-52.69	-52.83	-53.53	-53.60	-53.64	-53.64	-53.58	-53.62
28	-55.00	-55.06	-54.24	-54.37	-52.83	-52.96	-53.43	-53.53	-53.64	-53.69	-53.51	-53.58
29	-55.03	-55.08	-54.37	-54.49	-52.96	-53.05	-53.45	-53.49	---	---	-53.37	-53.51
30	-54.86	-55.08	-54.48	-54.50	-53.05	-53.16	-53.18	-53.45	---	---	-53.35	-53.39
31	-54.44	-54.87	---	---	-53.15	-53.26	-52.90	-53.18	---	---	-53.24	-53.35
MONTH	-53.45	-55.58	-53.13	-54.74	-51.19	-54.48	-52.90	-53.60	-52.19	-53.77	-52.38	-53.84

GROUND-WATER LEVELS

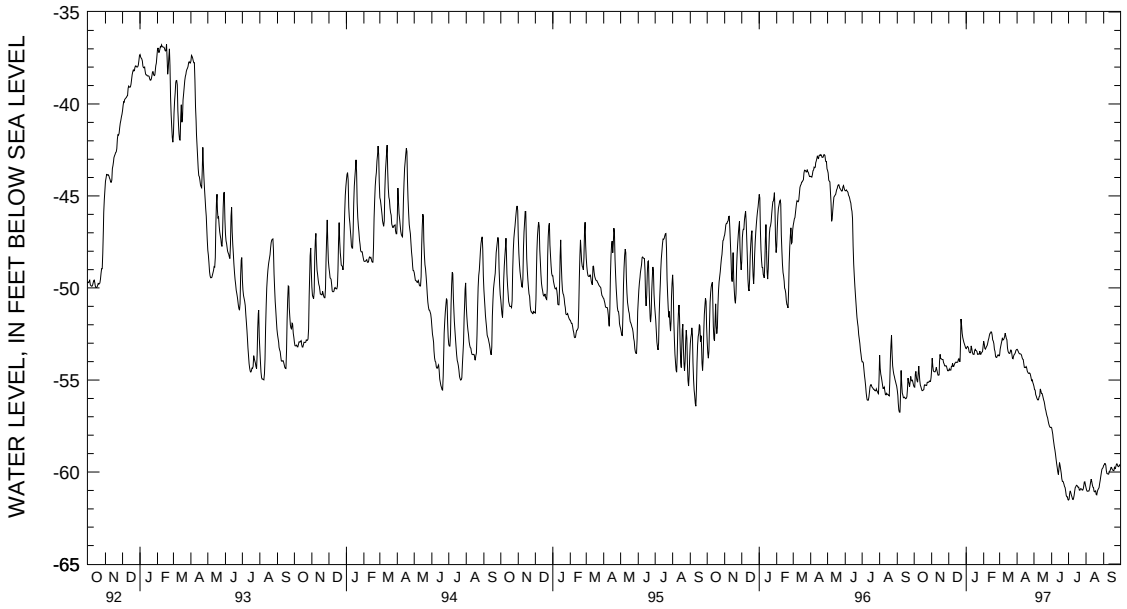
MARYLAND--Continued

CHARLES COUNTY--Continued

CH Be 43--Continued

DAY	APRIL MAX	APRIL MIN	MAY MAX	MAY MIN	JUNE MAX	JUNE MIN	JULY MAX	JULY MIN	AUGUST MAX	AUGUST MIN	SEPTEMBER MAX	SEPTEMBER MIN
1	-53.24	-53.33	-55.23	-55.35	-57.54	-57.60	-61.47	-61.53	-60.71	-60.86	-59.60	-59.64
2	-53.33	-53.38	-55.35	-55.53	-57.60	-57.77	-61.15	-61.47	-60.86	-60.98	-59.54	-59.60
3	-53.38	-53.45	-55.48	-55.55	-57.77	-57.96	-61.02	-61.15	-60.98	-61.04	-59.51	-59.54
4	-53.45	-53.52	-55.55	-55.80	-57.96	-58.17	-61.02	-61.02	-61.03	-61.05	-59.47	-59.54
5	-53.52	-53.57	-55.80	-55.88	-58.17	-58.39	-61.02	-61.14	-61.03	-61.03	-59.47	-59.63
6	-53.51	-53.57	-55.86	-55.98	-58.39	-58.63	-61.14	-61.26	-60.94	-61.03	-59.63	-59.94
7	-53.50	-53.58	-55.98	-56.06	-58.63	-58.80	-61.26	-61.36	-60.74	-60.94	-59.94	-60.09
8	-53.58	-53.61	-56.05	-56.09	-58.80	-59.03	-61.36	-61.48	-60.55	-60.74	-60.09	-60.10
9	-53.58	-53.69	-55.90	-56.05	-59.03	-59.29	-61.43	-61.49	-60.39	-60.55	-60.10	-60.12
10	-53.69	-53.78	-55.87	-55.90	-59.29	-59.54	-61.28	-61.43	-60.36	-60.39	-60.00	-60.12
11	-53.78	-53.87	-55.48	-55.87	-59.54	-59.76	-61.03	-61.28	-60.38	-60.52	-59.95	-60.00
12	-53.87	-53.89	-55.46	-55.48	-59.76	-59.99	-60.85	-61.03	-60.52	-60.70	-59.88	-59.95
13	-53.88	-54.12	-55.46	-55.60	-59.81	-60.14	-60.79	-60.85	-60.70	-60.83	-59.75	-59.88
14	-54.12	-54.31	-55.60	-55.73	-59.03	-59.81	-60.72	-60.79	-60.72	-60.85	-59.73	-59.75
15	-54.31	-54.33	-55.71	-55.73	-59.14	-59.49	-60.57	-60.72	-60.81	-61.06	-59.74	-59.75
16	-54.27	-54.33	-55.72	-55.84	-59.49	-59.66	-60.59	-60.73	-61.05	-61.08	-59.75	-59.85
17	-54.24	-54.27	-55.84	-55.93	-59.66	-59.86	-60.73	-60.78	-60.93	-61.05	-59.85	-59.90
18	-54.25	-54.35	-55.93	-56.07	-59.86	-60.07	-60.78	-60.84	-60.89	-61.02	-59.89	-59.92
19	-54.35	-54.51	-56.07	-56.17	-60.07	-60.37	-60.67	-60.83	-61.02	-61.22	-59.70	-59.93
20	-54.51	-54.59	-56.17	-56.35	-60.37	-60.51	-60.82	-60.98	-61.07	-61.24	-59.70	-59.76
21	-54.59	-54.64	-56.35	-56.56	-60.45	-60.51	-60.91	-60.99	-60.96	-61.07	-59.76	-59.81
22	-54.62	-54.64	-56.56	-56.67	-60.48	-60.55	-60.91	-60.91	-60.91	-60.96	-59.68	-59.81
23	-54.60	-54.62	-56.67	-56.84	-60.55	-60.66	-60.91	-60.91	-60.85	-60.91	-59.54	-59.68
24	-54.60	-54.66	-56.84	-56.97	-60.66	-60.78	-60.91	-60.93	-60.63	-60.85	-59.54	-59.56
25	-54.66	-54.78	-56.97	-57.06	-60.78	-60.85	-60.93	-60.98	-60.45	-60.63	-59.54	-59.56
26	-54.78	-54.95	-57.06	-57.24	-60.85	-61.03	-60.90	-60.98	-60.23	-60.45	-59.54	-59.67
27	-54.95	-55.03	-57.24	-57.38	-60.98	-61.28	-60.71	-60.90	-60.02	-60.23	-59.67	-59.71
28	-54.92	-55.00	-57.38	-57.49	-61.28	-61.35	-60.54	-60.71	-59.85	-60.02	-59.61	-59.71
29	-55.00	-55.14	-57.49	-57.56	-61.35	-61.35	-60.49	-60.54	-59.80	-59.85	-59.51	-59.62
30	-55.14	-55.23	-57.56	-57.58	-61.35	-61.50	-60.52	-60.53	-59.75	-59.80	-59.51	-59.65
31	---	---	-57.54	-57.57	---	---	-60.53	-60.71	-59.64	-59.75	---	---
MONTH	-53.24	-55.23	-55.23	-57.58	-57.54	-61.50	-60.49	-61.53	-59.64	-61.24	-59.47	-60.12
YEAR	-51.19	-61.53										

Daily Low Water Levels



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

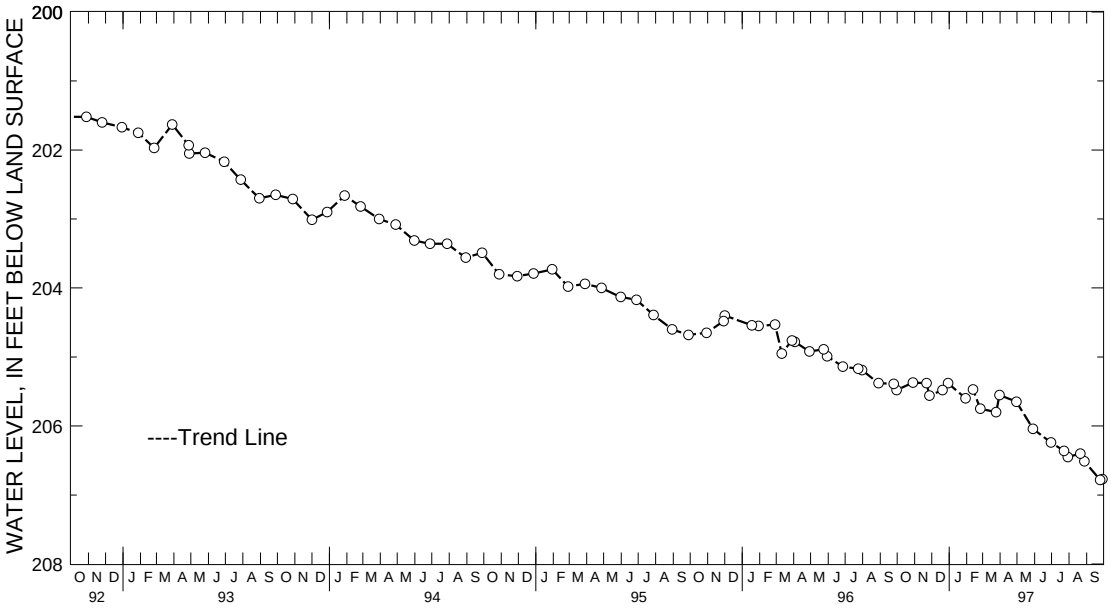
CHARLES COUNTY--Continued

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 Lower 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 electric tape by U.S. Geological Survey personnel from April 1992 to current year.
DATUM.--Elevation of land surface is 213.0 ft above National Geodetic Vertical Datum of 1929.
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, 206.78 ft below land surface, Sept. 25, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29, 1996	205.37	JAN 30, 1997	205.60	APR 30, 1997	205.65	AUG 21, 1997	206.40
NOV 22	205.38	FEB 12	205.47	MAY 29	206.04	28	206.51
27	205.56	25	205.75	JUN 30	206.24	SEP 25	206.78
DEC 20	205.48	MAR 25	205.80	JUL 23	206.36	29	206.77
30	205.38	31	205.55	30	206.45		

WATER YEAR 1997 HIGHEST 205.37 OCT 29, 1996 LOWEST 206.78 SEP 25, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

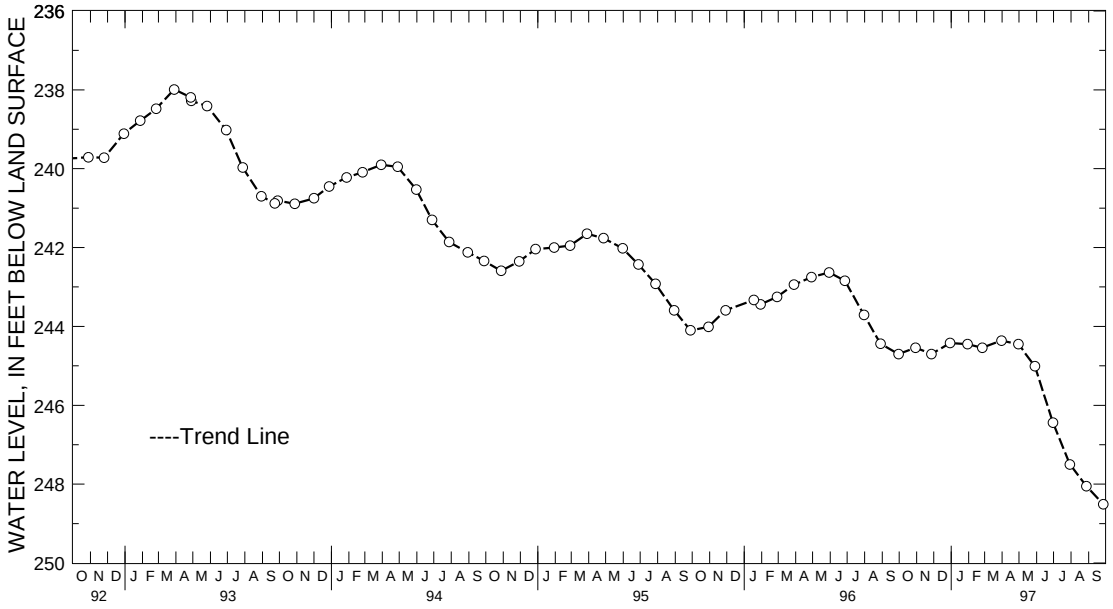
CHARLES COUNTY--Continued

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.--White Plains aquifer of the Patapsco Formation of Lower 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 electric tape by U.S. Geological Survey personnel from April 1992 to current year.
DATUM.--Elevation of land surface is 212.8 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, 248.51 ft below land surface, Sept. 27, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30, 1996	244.54	JAN 30, 1997	244.45	APR 30, 1997	244.45	JUL 30, 1997	247.50
NOV 27	244.70	FEB 25	244.54	MAY 29	245.01	AUG 28	248.05
DEC 30	244.42	MAR 31	244.36	JUN 30	246.44	SEP 27	248.51

WATER YEAR 1997 HIGHEST 244.36 MAR 31, 1997 LOWEST 248.51 SEP 27, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 Sam's Club, 1.7 mi. northwest of Waldorf.
Owner: Sam's Club.
AQUIFER.--Magothy Formation of Upper Cretaceous age. Aquifer code: 211MGTY.
WELL CHARACTERISTICS.--Drilled, artesian well, depth 475 ft; casing diameter 6 in., to 423 ft, and 438 to 449 ft; screen diameter 6 in. from 423 to 438 ft, and 449 to 475 ft.
INSTRUMENTATION.--Monthly measurements with electric 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.--Altitude 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, 54.47 ft below sea level, Sept. 10, 1995.

WATER LEVEL, IN FEET BELOW SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	-44.29	-44.86	-42.24	-43.13	-43.24	-43.46	-42.05	-42.28	-41.89	-43.49	-40.93	-41.66
2	-44.09	-44.83	-43.13	-44.10	-43.23	-43.82	-41.74	-42.29	-43.49	-44.67	-40.49	-40.93
3	-44.83	-46.28	-43.81	-44.01	-43.82	-44.53	-41.89	-42.56	-43.93	-44.77	-40.25	-40.76
4	-46.28	-47.27	-43.81	-43.89	-44.35	-44.86	-41.38	-41.89	-42.96	-43.93	-40.76	-42.46
5	-47.27	-47.82	-43.89	-43.99	-43.75	-44.35	-41.27	-41.38	-42.03	-42.96	-41.40	-42.54
6	-47.82	-48.22	-43.94	-43.99	-43.41	-43.75	-41.34	-41.48	-41.57	-42.09	-40.89	-41.40
7	-48.22	-48.41	-43.79	-44.30	-43.03	-43.41	-41.48	-41.68	-42.09	-43.07	-40.37	-41.03
8	-48.15	-48.66	-44.30	-45.80	-42.97	-43.03	-41.68	-41.75	-41.33	-42.83	-40.07	-40.37
9	-47.26	-48.15	-44.75	-45.79	-43.01	-43.22	-41.37	-41.74	-40.57	-41.33	-39.74	-40.07
10	-46.92	-47.26	-43.98	-44.75	-43.02	-43.22	-41.35	-41.39	-40.05	-40.57	-39.46	-39.74
11	-47.08	-47.41	-43.67	-43.98	-42.76	-43.02	-41.39	-41.53	-39.73	-40.16	-39.54	-40.06
12	-46.53	-47.08	-43.65	-43.70	-42.47	-42.76	-41.52	-41.54	-40.16	-40.66	-40.06	-41.37
13	-46.32	-46.53	-43.32	-43.66	-41.73	-42.47	-41.53	-41.66	-39.55	-40.16	-41.37	-42.73
14	-46.17	-46.32	-43.02	-43.32	-41.36	-41.73	-41.66	-41.78	-39.40	-39.55	-42.73	-43.11
15	-46.19	-46.27	-43.02	-43.05	-41.36	-41.53	-41.78	-42.78	-39.44	-39.92	-43.11	-43.49
16	-46.15	-46.28	-43.05	-43.18	-41.53	-42.36	-42.78	-44.52	-39.92	-40.28	-42.88	-43.11
17	-45.83	-46.37	-43.14	-43.22	-42.36	-42.81	-44.52	-45.61	-40.28	-41.54	-42.83	-42.89
18	-45.61	-46.67	-43.13	-43.15	-41.87	-42.57	-44.81	-45.78	-41.54	-42.43	-42.89	-43.77
19	-44.69	-45.61	-42.64	-43.14	-41.16	-41.87	-44.16	-44.81	-42.43	-44.19	-43.53	-44.12
20	-44.20	-44.69	-42.28	-42.91	-40.92	-41.16	-44.63	-45.15	-44.19	-44.99	-43.02	-43.53
21	-43.96	-44.20	-42.62	-43.28	-40.63	-40.92	-44.19	-44.74	-43.50	-44.73	-42.63	-43.02
22	-43.81	-44.18	-41.94	-42.62	-40.60	-40.87	-43.56	-44.19	-43.23	-43.50	-42.47	-42.63
23	-43.54	-44.43	-41.29	-41.94	-40.87	-41.26	-43.47	-43.57	-42.93	-43.23	-42.45	-43.41
24	-44.35	-44.96	-41.10	-41.29	-41.18	-41.99	-42.84	-43.57	-42.80	-42.93	-43.41	-44.26
25	-43.57	-44.35	-40.97	-41.10	-41.99	-42.53	-42.25	-42.84	-42.63	-42.81	-44.26	-44.97
26	-43.29	-43.68	-40.97	-43.08	-41.59	-42.03	-41.92	-42.25	-42.45	-43.05	-43.43	-44.44
27	-43.63	-44.26	-43.08	-43.89	-41.57	-42.45	-41.46	-41.92	-42.50	-43.28	-43.06	-43.93
28	-42.98	-43.63	-43.89	-44.50	-42.45	-43.08	-41.25	-41.46	-41.66	-42.50	-42.34	-43.06
29	-42.62	-42.98	-43.63	-44.14	-42.55	-42.77	-40.96	-41.25	---	---	-42.25	-42.34
30	-42.34	-42.62	-43.46	-43.63	-42.39	-42.56	-40.77	-41.50	---	---	-42.26	-42.33
31	-42.24	-42.39	---	---	-42.25	-42.39	-41.50	-41.98	---	---	-42.24	-42.46
MONTH	-42.24	-48.66	-40.97	-45.80	-40.60	-44.86	-40.77	-45.78	-39.40	-44.99	-39.46	-44.97

GROUND-WATER LEVELS

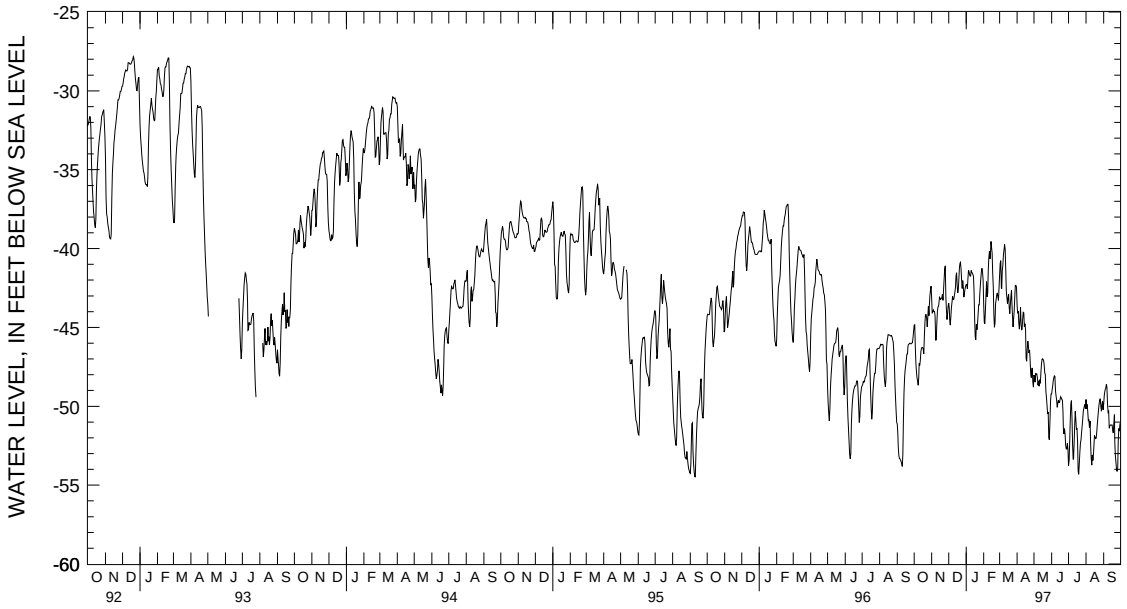
MARYLAND--Continued

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	-42.46	-43.58	-47.36	-48.02	-48.92	-49.21	-52.76	-53.77	-48.99	-49.57	-49.32	-49.86
2	-43.58	-44.10	-47.32	-48.15	-48.65	-48.92	-52.20	-53.43	-49.57	-50.16	-49.13	-49.32
3	-43.44	-43.97	-47.92	-48.47	-48.41	-48.65	-50.87	-52.20	-49.62	-49.88	-48.93	-49.13
4	-43.97	-44.76	-47.69	-47.92	-48.20	-48.41	-49.84	-50.87	-49.63	-50.32	-48.85	-48.93
5	-44.52	-45.11	-47.63	-47.95	-48.04	-48.20	-49.60	-49.84	-50.32	-50.91	-48.59	-48.85
6	-43.74	-44.52	-47.68	-47.95	-48.03	-48.07	-49.60	-49.64	-50.34	-50.87	-48.58	-48.61
7	-43.64	-43.74	-47.61	-48.23	-48.03	-48.10	-49.61	-50.74	-50.87	-51.37	-48.61	-48.79
8	-43.73	-44.85	-48.10	-48.67	-48.08	-49.02	-50.74	-52.41	-50.42	-50.93	-48.79	-49.87
9	-44.85	-45.14	-47.80	-48.38	-49.02	-49.34	-52.41	-53.35	-50.93	-52.35	-49.87	-50.38
10	-44.46	-45.11	-48.09	-48.73	-49.00	-49.61	-52.25	-53.35	-52.35	-53.30	-49.86	-50.32
11	-44.04	-44.46	-47.77	-48.31	-49.61	-50.06	-51.20	-52.37	-53.09	-53.73	-50.32	-51.39
12	-43.46	-44.04	-47.87	-48.55	-49.59	-49.81	-50.32	-51.20	-52.41	-53.09	-51.19	-51.25
13	-43.32	-44.08	-47.34	-47.87	-49.56	-49.62	-50.11	-50.32	-53.01	-53.44	-51.19	-51.19
14	-44.08	-44.96	-47.01	-47.34	-49.62	-49.76	-50.11	-50.84	-52.30	-53.01	-51.19	-51.19
15	-44.61	-44.77	-46.80	-47.01	-49.56	-49.76	-50.84	-51.48	-51.85	-52.30	-51.19	-51.19
16	-44.48	-45.13	-46.81	-46.98	-49.35	-49.56	-51.24	-51.39	-51.43	-51.85	-51.19	-51.19
17	-45.13	-46.97	-46.97	-47.02	-49.34	-49.40	-51.26	-52.24	-51.40	-51.95	-51.19	-51.52
18	-46.37	-47.15	-47.02	-47.08	-49.40	-49.47	-52.24	-54.11	-51.95	-52.05	-51.04	-51.70
19	-45.86	-46.37	-47.07	-47.35	-49.45	-49.57	-53.61	-54.31	-51.61	-52.02	-50.20	-51.04
20	-45.66	-45.86	-47.35	-47.89	-49.56	-49.60	-52.92	-53.61	-51.11	-51.61	-50.06	-50.53
21	-45.61	-46.21	-47.89	-47.98	-49.57	-50.33	-52.33	-52.92	-50.68	-51.11	-50.53	-52.32
22	-46.21	-46.62	-47.98	-49.06	-50.33	-51.42	-52.12	-52.33	-50.21	-50.68	-52.32	-53.15
23	-46.22	-46.42	-49.06	-49.45	-51.42	-51.76	-51.64	-52.12	-49.87	-50.21	-53.15	-53.58
24	-46.13	-47.08	-49.24	-49.95	-51.21	-51.42	-51.22	-51.64	-49.63	-49.87	-53.58	-54.01
25	-47.08	-47.96	-49.95	-50.48	-51.22	-51.77	-50.81	-51.22	-49.52	-49.63	-53.91	-54.13
26	-47.62	-48.18	-50.02	-50.36	-51.77	-52.47	-50.30	-50.81	-49.40	-49.52	-52.15	-53.91
27	-47.03	-47.62	-50.36	-51.96	-52.47	-52.71	-50.11	-50.30	-49.35	-49.96	-51.26	-52.15
28	-46.77	-47.57	-51.03	-52.12	-52.34	-52.71	-50.01	-50.11	-49.90	-50.31	-50.92	-51.41
29	-47.57	-48.48	-49.72	-51.03	-52.09	-52.34	-49.52	-50.01	-49.48	-49.90	-51.08	-51.57
30	-48.02	-48.79	-49.22	-49.72	-52.03	-52.76	-49.22	-49.88	-49.26	-49.66	-50.55	-51.08
31	---	---	-48.80	-49.22	---	---	-49.33	-50.15	-49.66	-50.22	---	---
MONTH	-42.46	-48.79	-46.80	-52.12	-48.03	-52.76	-49.22	-54.31	-48.99	-53.73	-48.58	-54.13
YEAR	-39.40	-54.31										

Daily Low Water Levels



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

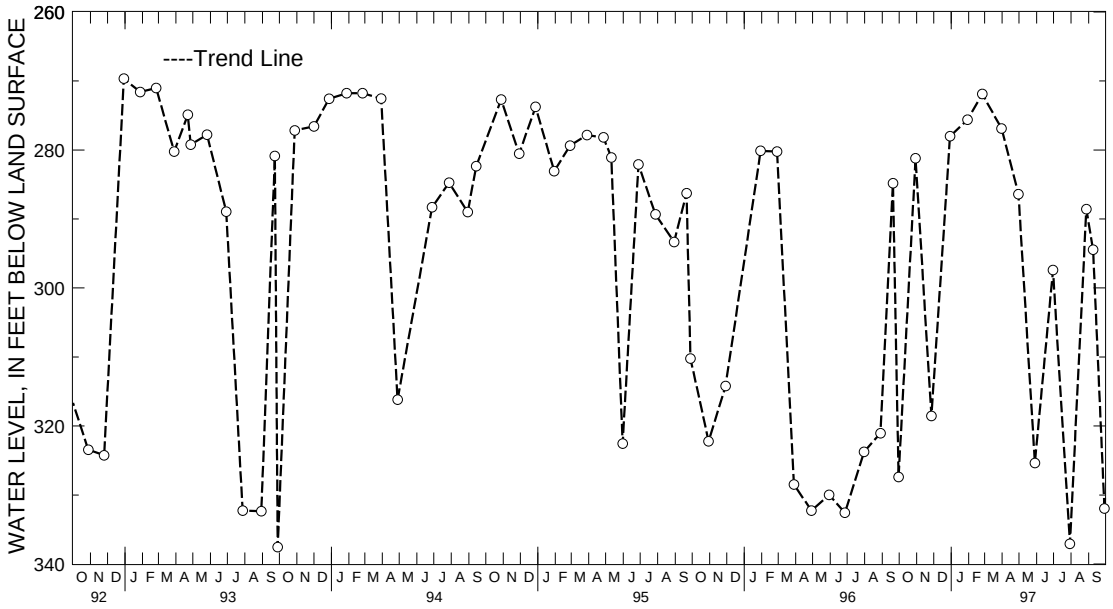
CHARLES COUNTY--Continued

WELL NUMBER.--CH Bf 133. SITE ID.--383640076545901. PERMIT NUMBER.--CH-70-0069.
LOCATION.--Lat 38°36´40˝, long 76°54´59˝, Hydrologic Unit 02070011, at St. Charles, Copely Rd. pumping station.
Owner: Charles County Department of Public Works.
AQUIFER.--Magothy Formation of Upper Cretaceous age. Aquifer code: 211MGTY.
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 510 ft; casing diameter 10 in., to 77 ft; casing diameter 6 in. from -2 to 420 ft, casing diameter 4 in. from 420 to 436 ft and 506 to 510 ft; screen diameter 4 in. from 436 to 506 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel from April 1992 to current year. Twice yearly measurements from April 1974 to April 1992.
DATUM.--Elevation of land surface is 223.50 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of casing, 0.82 ft above land surface.
REMARKS.--Maryland Water-Level Network observation well. Water levels are affected by nearby pumping.
PERIOD OF RECORD.--April 1974 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 211.68 ft below land surface, April 26, 1974; lowest measured, 337.54 ft below land surface, Sept. 28, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30, 1996	281.20	FEB 25, 1997	271.89	JUN 30, 1997	297.40	SEP 29, 1997	331.97
NOV 27	318.55	MAR 31	276.88	JUL 30	337.08		
DEC 30	278.00	APR 30	286.40	AUG 28	288.58		
JAN 30, 1997	275.62	MAY 29	325.35	SEP 09	294.46		

WATER YEAR 1997 HIGHEST 271.89 FEB 25, 1997 LOWEST 337.08 JUL 30, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

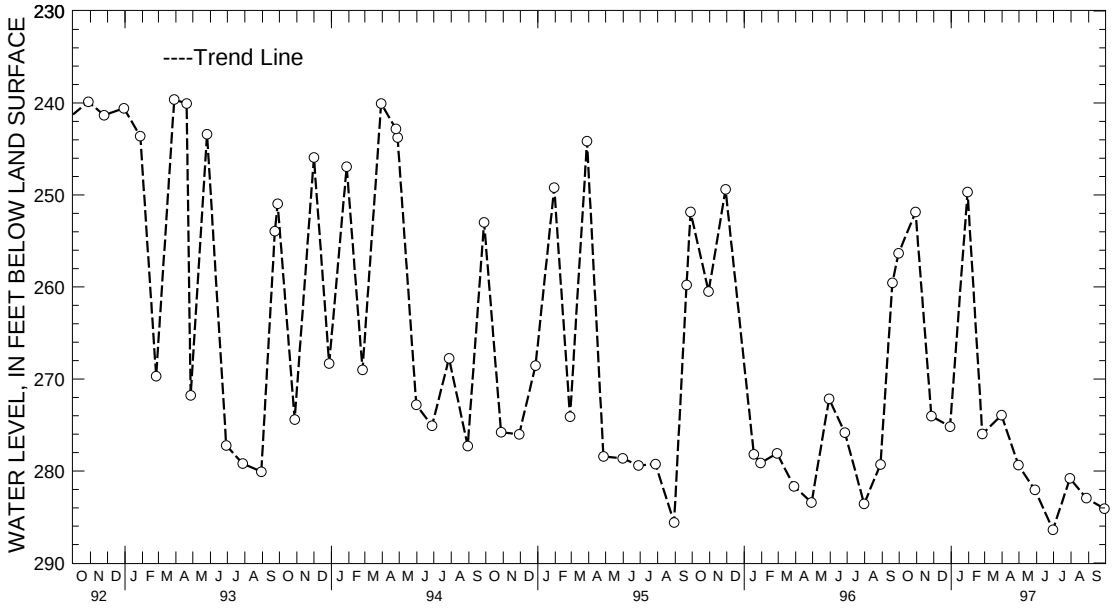
CHARLES COUNTY--ContinuedCHARLES COUNTY--Continued

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 electric 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. Water levels are affected by nearby pumping.
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, 286.38 ft below land surface, June 30, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30, 1996	251.86	JAN 30, 1997	249.68	APR 30, 1997	279.36	JUL 30, 1997	280.80
NOV 27	274.03	FEB 25	275.98	MAY 29	282.05	AUG 28	282.95
DEC 30	275.18	MAR 31	273.93	JUN 30	286.38	SEP 29	284.09

WATER YEAR 1997 HIGHEST 249.68 JAN 30, 1997 LOWEST 286.38 JUN 30, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

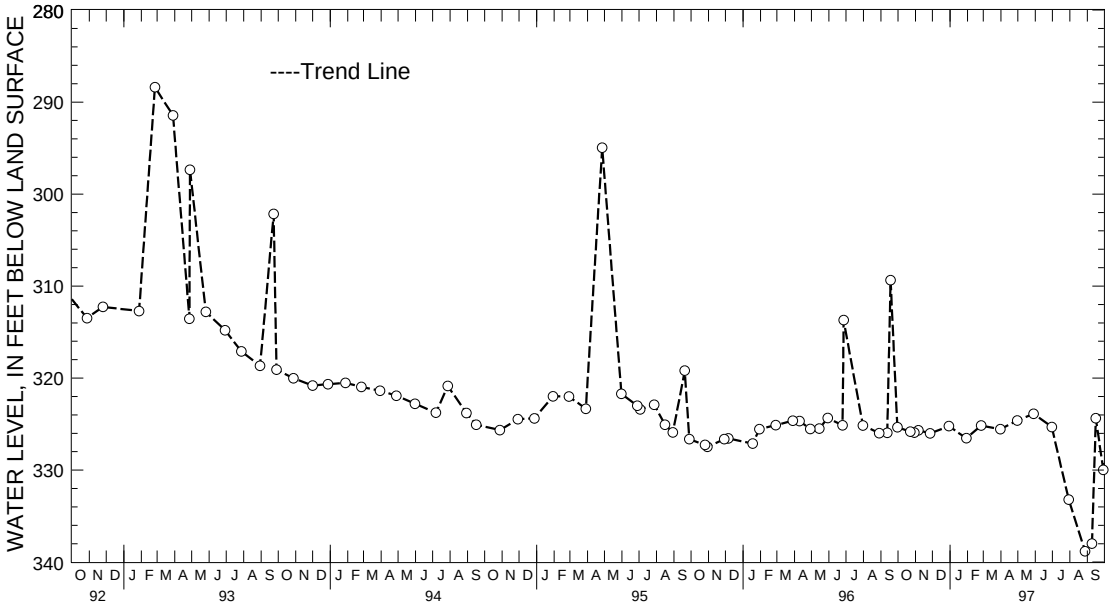
CHARLES COUNTY--Continued

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 the intersection of St. Pauls Dr. and Piney Church Rd., St. Charles.
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 1,073 ft, 1,083 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, 1,073 to 1,083 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 electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 192.8 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.--April 1984 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 195.70 ft below land surface, April 4, 1985; lowest measured, 338.82 ft below land surface, August 28, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23, 1996	325.83	DEC 30, 1996	325.22	APR 30, 1997	324.62	AUG 28, 1997	338.82
30	325.93	JAN 30, 1997	326.54	MAY 29	323.87	SEP 09	337.99
NOV 06	325.68	FEB 25	325.16	JUN 30	325.31	16	324.37
27	326.01	MAR 31	325.55	JUL 30	333.20	29	329.98

WATER YEAR 1997 HIGHEST 323.87 MAY 29, 1997 LOWEST 338.82 AUG 28, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 the intersection of St. Pauls Dr. and Piney Church Rd., St. Charles.
Owner: U.S. Geological Survey.
AQUIFER.--St. Charles aquifer of the Upper 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 electric 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.--Altitude of land surface is 192.8 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. Water levels are affected by nearby pumping.
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, 57.79 ft below sea level, Sept. 11, 1995.

WATER LEVEL, IN FEET BELOW SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	-51.01	-51.08	-48.97	-49.10	-47.67	-47.93	-46.76	-46.91	-45.81	-45.86	-45.71	-45.98
2	-50.87	-51.01	-48.87	-48.97	-47.67	-47.81	-46.67	-46.76	-45.80	-45.84	-45.55	-45.71
3	-50.87	-51.01	-48.90	-48.93	-47.77	-47.85	-46.69	-46.87	-45.74	-45.82	-45.65	-45.86
4	-51.01	-51.05	-48.86	-48.92	-47.82	-47.84	-46.79	-46.82	-45.62	-45.82	-45.65	-45.86
5	-50.98	-51.03	-48.77	-48.86	-47.55	-47.84	-46.68	-46.80	-45.48	-45.62	-45.50	-45.66
6	-50.81	-50.98	-48.74	-48.78	-47.51	-47.55	-46.73	-46.80	-45.58	-45.71	-45.46	-45.61
7	-50.68	-50.81	-48.54	-48.74	-47.37	-47.55	-46.77	-46.83	-45.70	-45.72	-45.61	-45.68
8	-50.30	-50.68	-48.26	-49.40	-47.27	-47.38	-46.82	-46.84	-45.60	-45.72	-45.50	-45.65
9	-50.31	-50.36	-48.24	-48.30	-47.30	-47.40	-46.49	-46.83	-45.58	-45.63	-45.54	-45.66
10	-50.26	-50.31	-48.26	-48.32	-47.26	-47.40	-46.43	-46.49	-45.47	-45.58	-45.43	-45.54
11	-50.24	-50.30	-48.32	-48.42	-47.19	-47.27	-46.42	-46.50	-45.41	-45.47	-45.42	-45.66
12	-50.15	-50.24	-48.42	-48.48	-47.17	-47.22	-46.50	-46.54	-45.28	-45.41	-45.53	-45.74
13	-50.03	-50.15	-48.45	-48.49	-47.02	-47.17	-46.54	-46.56	-45.30	-45.51	-45.53	-45.73
14	-49.95	-50.03	-48.41	-49.41	-47.03	-47.10	-46.49	-46.55	-45.15	-45.46	-45.26	-45.73
15	-49.96	-49.99	-48.43	-48.46	-47.08	-47.12	-46.32	-46.49	-45.08	-45.16	-45.26	-45.50
16	-49.85	-49.96	-48.32	-49.35	-46.96	-47.08	-46.10	-46.32	-45.11	-45.17	-45.50	-45.60
17	-49.86	-49.88	-48.17	-48.32	-46.85	-46.96	-46.18	-46.24	-45.13	-45.34	-45.57	-45.61
18	-49.68	-49.86	-48.00	-48.17	-46.84	-46.87	-46.13	-46.23	-45.34	-45.46	-45.57	-45.67
19	-49.55	-49.68	-48.00	-48.04	-46.74	-46.84	-46.15	-46.23	-45.46	-45.58	-45.59	-45.67
20	-49.54	-49.59	-48.00	-48.04	-46.83	-47.01	-46.06	-46.15	-45.58	-45.80	-45.48	-45.59
21	-49.59	-49.61	-47.96	-48.04	-47.01	-47.10	-46.14	-46.25	-45.54	-45.81	-45.43	-45.50
22	-49.57	-49.61	-47.97	-48.06	-47.01	-47.10	-46.04	-46.24	-45.54	-45.89	-45.37	-45.52
23	-49.43	-49.57	-48.00	-48.06	-46.93	-47.01	-45.97	-46.04	-45.89	-46.03	-45.52	-45.64
24	-49.40	-49.45	-48.03	-48.06	-46.90	-47.04	-45.84	-46.05	-46.01	-46.05	-45.64	-45.80
25	-49.41	-49.46	-47.96	-48.07	-47.04	-47.32	-45.74	-45.86	-46.00	-46.06	-45.70	-45.81
26	-49.46	-49.53	-47.79	-47.97	-47.23	-47.34	-45.86	-46.07	-45.85	-46.00	-45.63	-45.78
27	-49.41	-49.53	-47.97	-48.09	-47.13	-47.23	-46.05	-46.09	-45.80	-45.86	-45.78	-45.89
28	-49.28	-49.41	-47.98	-48.09	-46.98	-47.13	-45.97	-46.11	-45.86	-45.98	-45.89	-45.94
29	-49.29	-49.33	-48.00	-48.04	-46.89	-46.98	-46.11	-46.18	---	---	-45.92	-45.98
30	-49.09	-49.29	-47.93	-48.04	-46.90	-46.94	-46.05	-46.18	---	---	-45.91	-46.00
31	-49.10	-49.16	---	---	-46.81	-46.90	-45.86	-46.05	---	---	-45.83	-45.91
MONTH	-49.09	-51.08	-47.79	-49.41	-46.74	-47.93	-45.74	-46.91	-45.08	-46.06	-45.26	-46.00

GROUND-WATER LEVELS

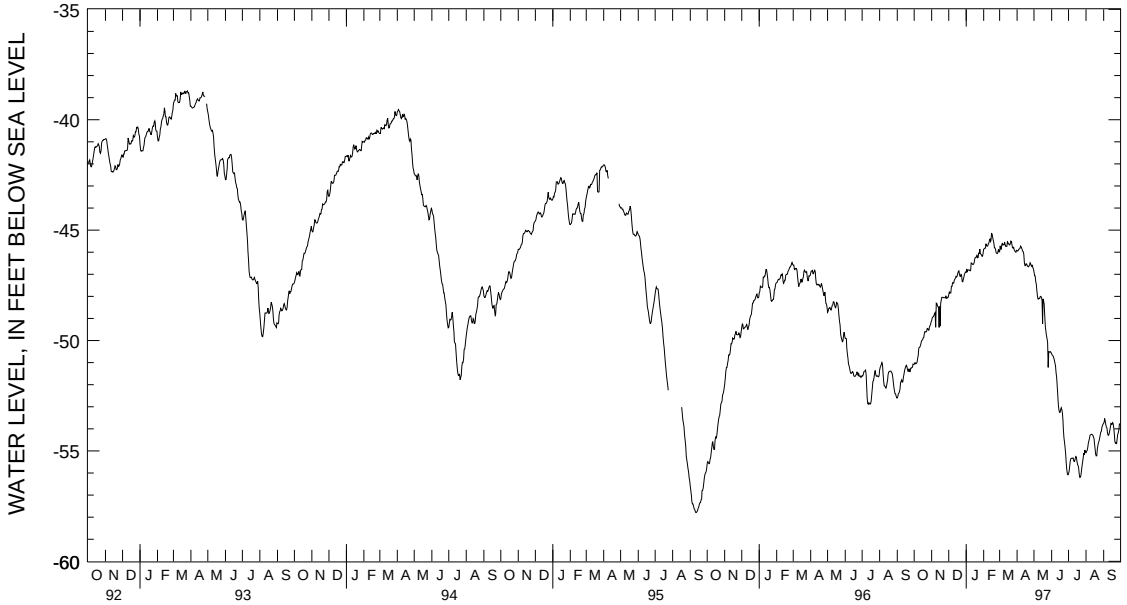
MARYLAND--Continued

CHARLES COUNTY--Continued

CH Bf 151--Continued

DAY	APRIL MAX	APRIL MIN	MAY MAX	MAY MIN	JUNE MAX	JUNE MIN	JULY MAX	JULY MIN	AUGUST MAX	AUGUST MIN	SEPTEMBER MAX	SEPTEMBER MIN
1	-45.83	-45.93	-46.74	-46.88	-50.55	-50.60	-55.92	-56.03	-55.03	-55.08	-53.67	-53.75
2	-45.92	-45.95	-46.88	-47.06	-50.60	-50.66	-55.68	-55.92	-54.97	-55.03	-53.53	-53.67
3	-45.86	-45.92	-46.96	-47.07	-50.66	-50.69	-55.45	-55.68	-54.85	-54.97	-53.46	-53.53
4	-45.82	-45.86	-47.07	-47.32	-50.67	-50.70	-55.34	-55.45	-54.65	-54.85	-53.50	-53.64
5	-45.83	-45.85	-47.32	-47.44	-50.70	-50.79	-55.34	-55.35	-54.54	-54.65	-53.64	-53.81
6	-45.67	-45.83	-47.44	-47.73	-50.79	-50.89	-55.32	-55.34	-54.43	-54.54	-53.81	-53.91
7	-45.64	-45.72	-47.73	-47.99	-50.89	-51.02	-55.30	-55.32	-54.29	-54.43	-53.91	-53.96
8	-45.70	-45.76	-47.99	-48.12	-51.02	-51.14	-55.30	-55.33	-54.27	-54.29	-53.96	-54.20
9	-45.71	-45.82	-48.06	-48.12	-51.14	-51.45	-55.29	-55.32	-54.24	-54.27	-54.20	-54.29
10	-45.82	-45.87	-48.06	-48.09	-51.45	-51.66	-55.29	-55.42	-54.23	-54.25	-54.19	-54.29
11	-45.87	-45.96	-48.00	-48.09	-51.65	-52.07	-55.42	-55.48	-54.22	-54.24	-54.07	-54.19
12	-45.90	-45.97	-47.91	-48.00	-52.07	-52.49	-55.34	-55.46	-54.22	-54.27	-53.92	-54.07
13	-45.89	-46.10	-47.92	-48.01	-52.49	-52.93	-55.25	-55.34	-54.25	-54.29	-53.76	-53.92
14	-46.10	-46.47	-48.01	-48.04	-52.93	-53.14	-55.19	-55.25	-54.29	-54.38	-53.68	-53.76
15	-46.47	-46.61	-47.98	-48.18	-53.14	-53.25	-55.19	-55.29	-54.38	-54.45	-53.62	-53.79
16	-46.52	-46.61	-48.05	-49.24	-53.13	-53.25	-55.23	-55.48	-54.45	-54.64	-53.51	-53.79
17	-46.50	-46.52	-48.04	-48.11	-53.04	-53.13	-55.48	-55.62	-54.64	-54.88	-53.54	-53.72
18	-46.51	-46.54	-48.11	-48.19	-52.96	-53.04	-55.62	-55.66	-54.88	-55.15	-53.59	-53.78
19	-46.54	-46.61	-48.19	-48.36	-52.97	-53.12	-55.64	-55.81	-55.15	-55.23	-53.78	-54.01
20	-46.61	-46.65	-48.36	-48.87	-53.12	-53.28	-55.81	-56.08	-54.91	-55.22	-54.01	-54.28
21	-46.62	-46.66	-48.87	-49.35	-53.28	-53.62	-56.08	-56.20	-54.74	-54.91	-54.28	-54.56
22	-46.58	-46.62	-49.35	-49.57	-53.62	-54.03	-56.08	-56.18	-54.63	-54.74	-54.56	-54.64
23	-46.48	-46.58	-49.57	-49.77	-54.03	-54.40	-55.85	-56.08	-54.55	-54.63	-54.59	-54.63
24	-46.43	-46.48	-49.77	-49.90	-54.40	-54.60	-55.63	-55.85	-54.43	-54.55	-54.47	-54.69
25	-46.44	-46.53	-49.90	-50.10	-54.60	-54.85	-55.46	-55.63	-54.28	-54.43	-54.25	-54.47
26	-46.53	-46.62	-50.10	-51.22	-54.85	-55.13	-55.25	-55.46	-54.15	-54.28	-54.18	-54.25
27	-46.56	-46.64	-50.35	-50.50	-55.13	-55.56	-55.04	-55.25	-54.08	-54.15	-54.05	-54.18
28	-46.48	-46.57	-50.50	-50.51	-55.56	-55.86	-54.94	-55.10	-53.92	-54.10	-53.77	-54.05
29	-46.57	-46.70	-50.45	-50.52	-55.86	-56.04	-54.91	-55.17	-53.83	-53.92	-53.73	-53.78
30	-46.70	-46.76	-50.47	-50.50	-56.03	-56.08	-54.89	-54.96	-53.74	-53.84	-53.72	-53.81
31	---	---	-50.50	-50.55	---	---	-54.93	-55.05	-53.74	-53.78	---	---
MONTH	-45.64	-46.76	-46.74	-51.22	-50.55	-56.08	-54.89	-56.20	-53.74	-55.23	-53.46	-54.69
YEAR	-45.08	-56.20										

Daily Low Water Levels



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

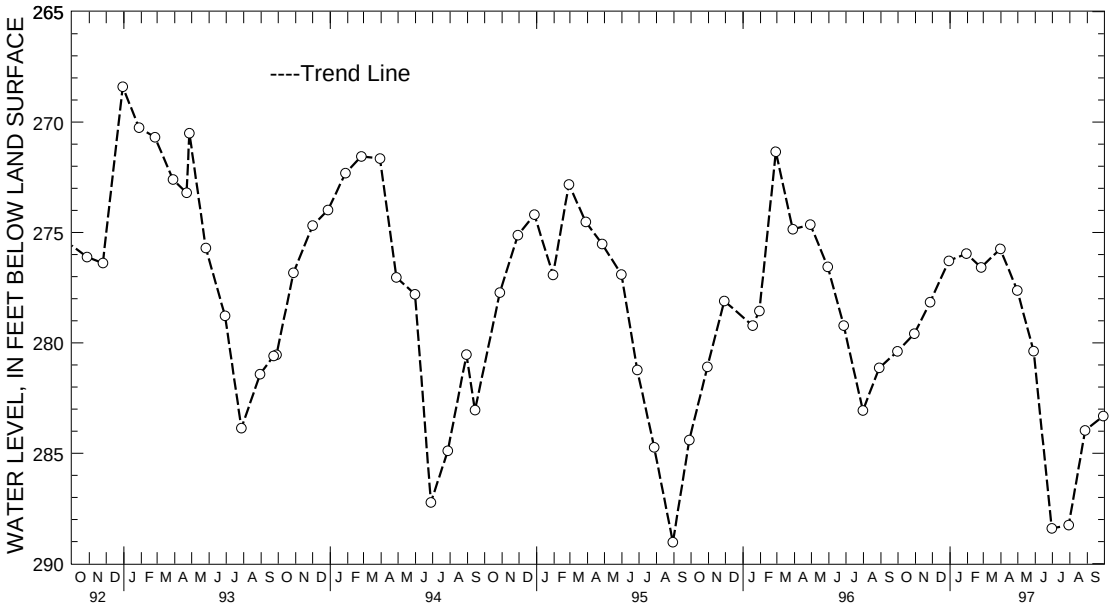
CHARLES COUNTY--Continued

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.--St. Charles aquifer of the 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 electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 225.0 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, 289.02 ft below land surface, Aug. 30, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30, 1996	279.58	JAN 30, 1997	275.95	APR 30, 1997	277.62	JUL 30, 1997	288.25
NOV 27	278.15	FEB 25	276.58	MAY 29	280.37	AUG 28	283.96
DEC 30	276.28	MAR 31	275.74	JUN 30	288.40	SEP 29	283.31

WATER YEAR 1997 HIGHEST 275.74 MAR 31, 1997 LOWEST 288.40 JUN 30, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

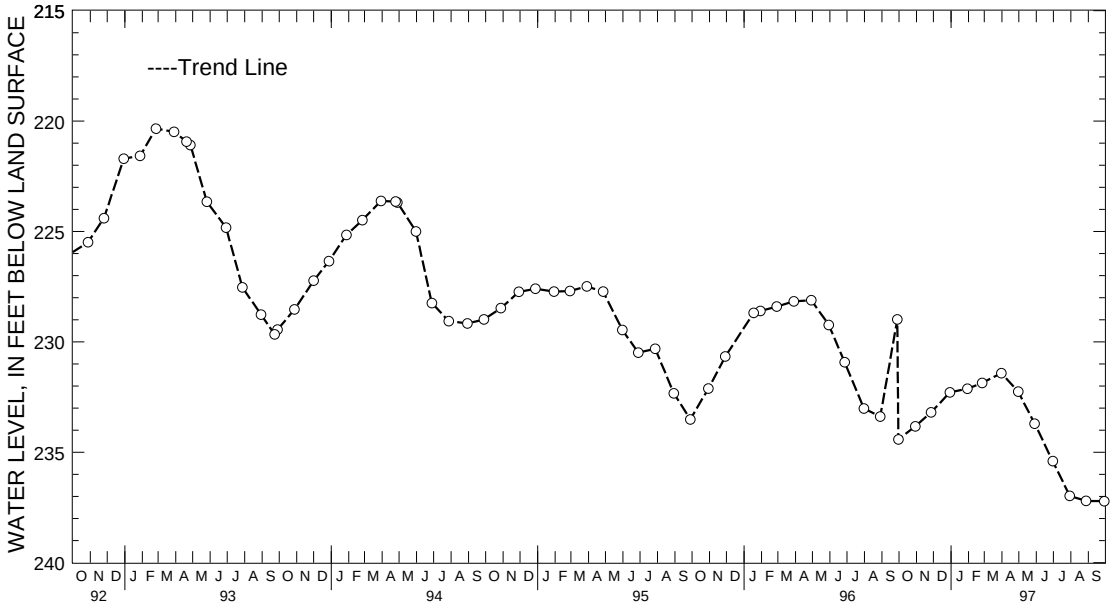
CHARLES COUNTY--Continued

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.--St. Charles aquifer of the 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 electric 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.--April 1986 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 216.70 ft below land surface, April 10, 1987; lowest measured, 237.21 ft below land surface, Sept. 29, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30, 1996	233.82	JAN 30, 1997	232.12	APR 30, 1997	232.25	JUL 30, 1997	236.97
NOV 27	233.19	FEB 25	231.86	MAY 29	233.70	AUG 28	237.20
DEC 30	232.28	MAR 31	231.41	JUN 30	235.40	SEP 29	237.21

WATER YEAR 1997 HIGHEST 231.41 MAR 31, 1997 LOWEST 237.21 SEP 29, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

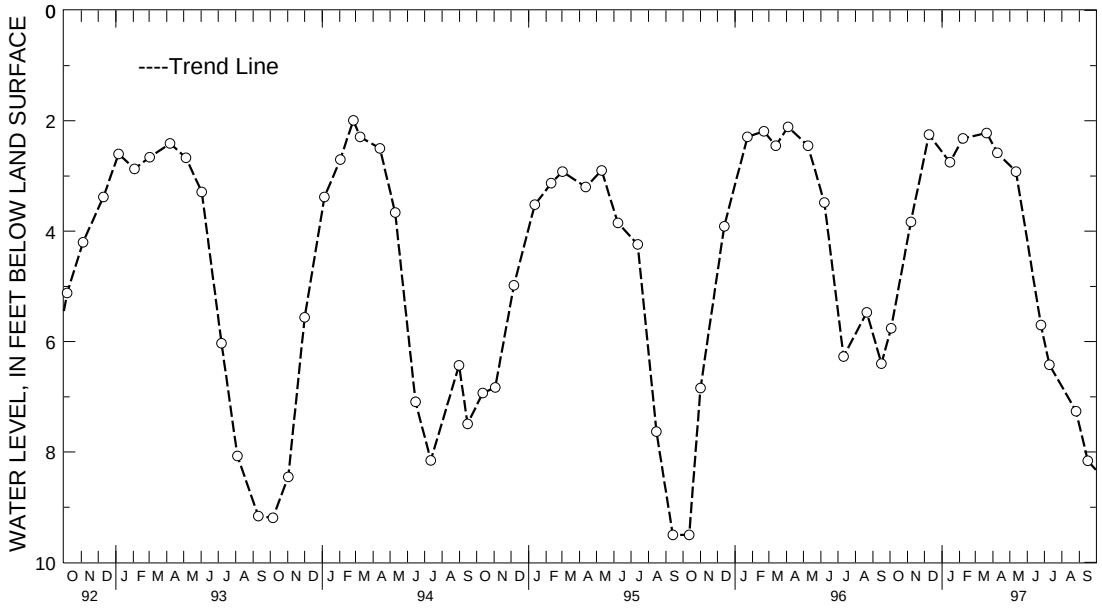
CHARLES COUNTY--Continued

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 Lower middle Miocene age. Aquifer code: 122CLVR.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 24.5 ft; casing diameter 4 in., to 13.5 ft; perforated casing diameter 2 in. from 13.5 to 18.5 ft.
INSTRUMENTATION.--Monthly measurements with electric 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, and Feb. 25, 1994; lowest measured, 10.26 ft below land surface, Oct. 2, 1991.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 03, 1996	5.76	JAN 15, 1997	2.75	APR 09, 1997	2.58	JUL 10, 1997	6.42
NOV 07	3.83	FEB 07	2.32	MAY 12	2.92	AUG 26	7.26
DEC 09	2.25	MAR 21	2.22	JUN 25	5.70	SEP 16	8.16

WATER YEAR 1997 HIGHEST 2.22 MAR 21, 1997 LOWEST 8.16 SEP 16, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

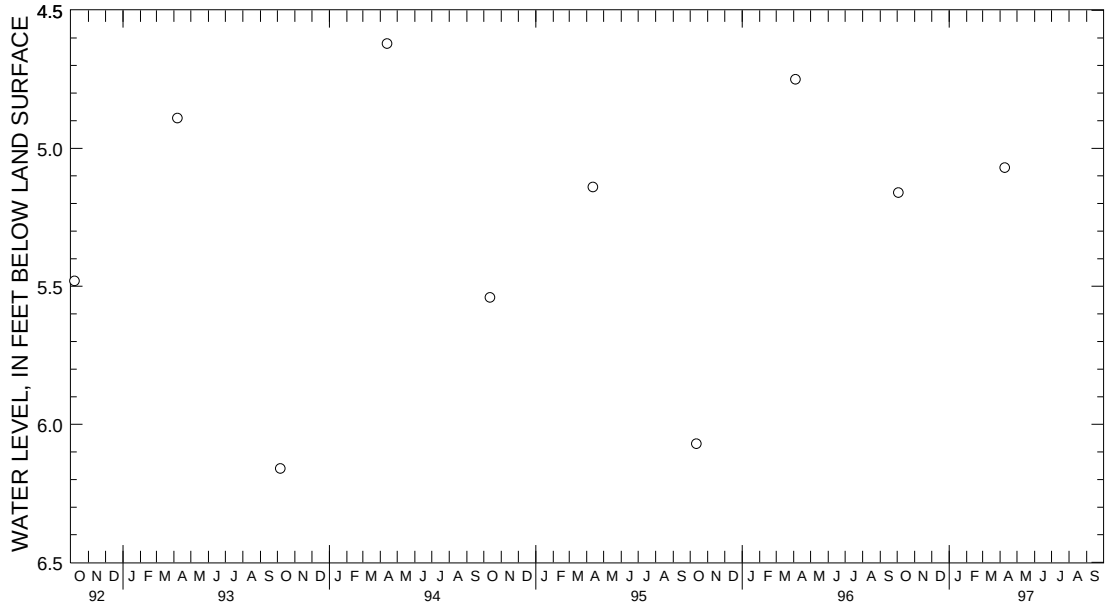
CHARLES COUNTY--Continued

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 Lower middle 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 electric 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 03, 1996	5.16	APR 09, 1997	5.07

WATER YEAR 1997 HIGHEST 5.07 APR 09, 1997 LOWEST 5.16 OCT 03, 1996



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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.--La Plata aquifer of the Lower Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSC.
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 167 ft; casing diameter 8 in., to 154 ft; screen diameter 6 in. from 154 to 167 ft.
INSTRUMENTATION.--Monthly measurements with electric 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.--Altitude 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 and Indian Head Project observation well.
Water levels are 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 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	77.25	77.07	77.20	77.11	77.53	77.23	---	---	76.63	76.51	76.75	76.45
2	77.25	77.17	---	---	77.41	77.17	---	---	76.69	76.59	76.45	76.29
3	77.37	77.15	77.58	77.27	77.55	77.41	---	---	76.62	76.51	76.45	76.31
4	77.43	77.34	77.62	77.48	77.55	77.38	---	---	76.67	76.48	76.35	76.17
5	77.34	77.15	77.64	77.51	77.57	77.31	---	---	76.51	76.38	76.21	76.02
6	77.18	77.10	77.69	77.59	77.42	77.17	---	---	76.65	76.47	76.51	75.96
7	77.17	77.03	77.66	77.41	77.43	77.15	---	---	76.69	76.58	76.76	76.51
8	77.05	76.62	77.46	77.05	77.31	77.17	---	---	76.64	76.41	76.78	76.65
9	76.96	76.68	77.27	77.07	77.50	77.15	76.85	76.49	76.53	76.36	76.81	76.59
10	77.03	76.70	77.39	77.27	77.60	77.36	76.49	76.32	76.42	76.27	76.60	76.43
11	77.18	77.03	77.42	77.32	77.41	77.29	76.60	76.33	76.47	76.27	76.56	76.42
12	77.15	77.01	77.67	77.39	---	---	76.77	76.60	76.49	76.34	76.78	76.52
13	77.06	76.96	77.83	77.63	---	---	76.97	76.72	76.55	76.33	76.74	76.58
14	77.16	76.96	77.80	77.69	---	---	76.98	76.87	76.48	76.33	76.58	76.31
15	77.27	77.12	77.86	77.69	---	---	76.89	76.58	76.41	76.25	76.71	76.31
16	77.18	77.06	77.81	77.65	---	---	76.61	76.35	76.53	76.34	76.79	76.68
17	77.22	77.05	77.70	77.61	---	---	76.97	76.61	76.80	76.53	76.75	76.55
18	77.18	77.00	77.61	77.43	---	---	77.17	76.93	76.80	76.47	76.62	76.51
19	77.07	76.84	77.43	77.31	---	---	77.27	77.09	76.74	76.50	76.60	76.34
20	77.06	76.85	77.40	77.25	---	---	77.09	76.81	76.86	76.74	76.34	76.13
21	76.87	76.78	77.41	77.29	---	---	77.06	76.88	76.82	76.51	76.22	76.10
22	76.87	76.80	77.70	77.37	---	---	77.07	76.86	76.56	76.41	76.31	76.03
23	76.88	76.81	77.77	77.56	---	---	77.01	76.85	76.76	76.56	76.43	76.31
24	77.05	76.87	77.65	77.53	---	---	77.07	76.90	76.75	76.64	76.35	76.22
25	77.17	77.04	77.64	77.49	---	---	76.90	76.64	76.75	76.64	76.28	76.12
26	77.28	77.16	77.57	77.40	---	---	76.97	76.66	76.69	76.44	76.18	76.05
27	77.33	77.21	78.10	77.57	---	---	77.06	76.94	76.55	76.42	76.22	76.12
28	77.29	77.21	78.09	77.80	---	---	76.94	76.83	76.78	76.55	76.19	76.04
29	77.37	77.24	77.85	77.68	---	---	77.01	76.83	---	---	76.05	75.85
30	77.26	77.10	77.74	77.53	---	---	77.04	76.88	---	---	76.01	75.88
31	77.27	77.11	---	---	---	---	76.89	76.63	---	---	76.45	75.87
MONTH	77.43	76.62	78.10	77.05	77.60	77.15	77.27	76.32	76.86	76.25	76.81	75.85

GROUND-WATER LEVELS

MARYLAND--Continued

CHARLES COUNTY--Continued

CH Cb 7--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	76.84	76.45	75.30	75.10	76.36	76.23	76.33	76.22	77.16	77.04	77.29	77.21
2	76.72	76.14	75.53	75.30	76.30	76.19	76.33	76.16	77.20	77.08	77.32	77.22
3	76.14	75.79	75.50	75.26	76.26	76.03	76.22	76.10	77.27	77.15	77.28	77.19
4	75.83	75.68	75.86	75.40	76.08	75.99	76.36	76.17	77.29	77.21	77.47	77.28
5	75.75	75.52	75.86	75.76	76.04	75.89	76.46	76.34	77.30	77.22	77.44	77.33
6	75.53	75.35	75.89	75.65	76.03	75.91	76.49	76.39	77.27	77.18	77.43	77.33
7	75.41	75.32	76.04	75.89	76.03	75.91	76.55	76.44	77.24	77.18	77.51	77.37
8	75.51	75.39	76.06	75.86	76.05	75.92	76.62	76.49	77.32	77.18	77.45	77.34
9	75.74	75.45	75.90	75.80	76.16	76.03	76.52	76.43	77.37	77.24	77.34	77.14
10	75.84	75.70	76.16	75.88	76.29	76.10	76.60	76.44	77.35	77.28	77.14	77.07
11	75.71	75.41	76.24	76.07	76.34	76.25	76.62	76.54	77.39	77.25	77.07	76.95
12	75.43	75.18	---	---	76.36	76.28	76.66	76.51	77.44	77.32	77.28	77.02
13	75.32	75.17	76.18	76.02	76.29	76.10	76.74	76.61	77.37	77.27	77.41	77.21
14	75.58	75.32	76.20	76.07	76.29	76.11	76.74	76.62	77.46	77.25	77.49	77.33
15	75.52	75.34	76.12	75.97	76.29	76.19	76.77	76.64	77.46	77.29	77.50	77.35
16	75.36	75.19	76.47	76.12	76.25	76.03	76.84	76.67	77.38	77.26	77.49	77.35
17	75.19	75.04	76.47	76.22	76.09	76.01	76.86	76.78	77.47	77.33	77.47	77.35
18	75.65	75.17	76.29	76.14	76.14	76.02	76.86	76.80	77.51	77.35	77.44	77.31
19	75.69	75.56	76.20	76.10	76.25	76.06	76.90	76.80	77.54	77.37	77.49	77.33
20	75.56	75.08	76.30	76.15	76.30	76.20	76.95	76.84	77.44	77.12	77.55	77.33
21	75.08	74.85	76.40	76.30	76.27	76.15	76.92	76.80	77.18	77.08	77.73	77.55
22	74.94	74.84	76.54	76.38	76.23	76.10	76.97	76.85	77.23	77.11	77.69	77.52
23	74.94	74.79	76.57	76.46	76.39	76.22	76.97	76.84	77.27	77.15	77.64	77.52
24	74.90	74.75	76.53	76.26	76.42	76.31	76.86	76.78	77.36	77.20	77.78	77.57
25	74.92	74.78	76.29	76.11	76.44	76.32	76.91	76.81	77.34	77.25	77.61	77.40
26	75.05	74.87	76.16	76.04	76.42	76.26	76.85	76.77	77.43	77.25	77.58	77.40
27	75.13	74.98	76.13	76.02	76.42	76.28	76.91	76.81	77.42	77.31	77.56	77.41
28	75.05	74.93	76.03	75.98	76.43	76.33	76.95	76.83	77.37	77.26	77.41	77.15
29	75.24	75.04	76.19	75.97	76.40	76.28	77.04	76.86	77.41	77.24	77.32	77.14
30	75.26	75.16	76.30	76.10	76.33	76.21	77.06	76.97	77.44	77.33	77.51	77.27
31	---	---	76.36	76.23	---	---	77.10	76.99	77.40	77.22	---	---
MONTH	76.84	74.75	76.57	75.10	76.44	75.89	77.10	76.10	77.54	77.04	77.78	76.95
YEAR	78.10	74.75										

Daily Low Water Levels

5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--CH Cc 34. SITE ID.--383441077063901. PERMIT NUMBER.--CH-94-0897.
LOCATION.--Lat 38°34´41˝, long 77°06´39˝, Hydrologic Unit 02070011, at Mattawoman Water Treatment Plant.
Owner: Maryland Geological Survey.
AQUIFER.--Patuxent Formation of Lower Cretaceous age. Aquifer code: 217PTXN.
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 975 ft; casing diameter 4 in., to 874 ft, 884 to 945 ft, and 965 to 975 ft; screen diameter 4 in. from 874 to 884 ft, and 945 to 955 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey and Maryland Geological Survey personnel.
Equipped with digital water-level recorder--60-minute recorder interval, Aug. 28, 1996 to current year.
DATUM.--Elevation of land surface is 41.82 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of recorder shelf, 3.0 ft above land surface.
REMARKS.--Bryans Road Project observation well. Water levels are affected by nearby pumping.
Missing data due to recorder malfunction.
PERIOD OF RECORD.--August 1996 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.80 ft below sea level, Oct. 8, 1996; lowest measured, 7.53 ft below sea level, Sept. 27, 1997

WATER LEVEL, IN FEET BELOW SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	-3.14	-3.14	-3.03	-3.04	-3.17	-3.34	-4.05	-4.14	---	---	-4.02	-4.11
2	-3.05	-3.14	-3.02	-3.08	-3.17	-3.34	-3.97	-4.05	---	---	-3.96	-4.02
3	-3.05	-3.15	-3.08	-3.16	-3.34	-3.37	-3.95	-3.99	---	---	-3.98	-4.02
4	-3.15	-3.19	-3.16	-3.19	-3.36	-3.47	-3.99	-4.02	---	---	-3.98	-4.02
5	-3.19	-3.21	-3.15	-3.18	-3.34	-3.49	-3.88	-3.99	---	---	-3.89	-4.02
6	-3.12	-3.20	-3.16	-3.18	-3.33	-3.41	---	---	---	---	-3.86	-4.00
7	-3.04	-3.12	-3.08	-3.16	-3.37	-3.41	---	---	---	---	-4.00	-4.08
8	-2.80	-3.04	-2.87	-3.08	-3.39	-3.42	---	---	---	---	-4.04	-4.09
9	-2.84	-2.91	-2.87	-3.01	-3.42	-3.63	---	---	---	---	-4.09	-4.15
10	-2.90	-3.03	-3.00	-3.04	-3.60	-3.64	---	---	---	---	-4.01	-4.10
11	-3.03	-3.11	-3.04	-3.15	-3.60	-3.66	---	---	---	---	-3.99	-4.01
12	-3.10	-3.12	-3.15	-3.22	-3.66	-3.71	---	---	-4.06	-4.11	-4.01	-4.08
13	-3.06	-3.11	-3.20	-3.22	-3.58	-3.71	---	---	-4.11	-4.20	-4.08	-4.12
14	-3.04	-3.08	-3.19	-3.23	-3.58	-3.69	---	---	-3.99	-4.15	-3.89	-4.12
15	-3.08	-3.10	-3.23	-3.27	-3.69	-3.78	---	---	-3.97	-4.06	-3.89	-4.05
16	-3.05	-3.09	-3.23	-3.27	-3.77	-3.80	---	---	-4.04	-4.10	-4.05	-4.10
17	-3.06	-3.06	-3.14	-3.23	---	---	---	---	-4.05	-4.18	-4.09	-4.10
18	-2.89	-3.06	-3.08	-3.14	---	---	---	---	-4.08	-4.18	-4.08	-4.09
19	-2.83	-2.89	-3.06	-3.08	-3.74	-3.84	---	---	-4.03	-4.08	-3.99	-4.08
20	-2.85	-2.91	-3.07	-3.11	-3.84	-4.01	---	---	-4.06	-4.13	-3.90	-3.99
21	-2.91	-2.99	-3.07	-3.11	-4.01	-4.06	---	---	-3.94	-4.13	-3.86	-3.90
22	-2.99	-3.01	-3.09	-3.17	-4.01	-4.06	---	---	-3.94	-4.08	-3.79	-3.92
23	-2.92	-3.00	-3.14	-3.18	-3.99	-4.01	---	---	-4.08	-4.14	-3.92	-4.01
24	-2.97	-3.03	-3.16	-3.20	-3.84	-3.99	---	---	-4.14	-4.16	-4.01	-4.10
25	-3.03	-3.10	-3.15	-3.20	-3.94	-4.07	---	---	-4.15	-4.18	---	---
26	-3.10	-3.14	-3.06	-3.21	-4.06	-4.10	---	---	-4.04	-4.16	---	---
27	-3.08	-3.14	-3.21	-3.34	-4.04	-4.06	---	---	-3.98	-4.04	-3.90	-3.93
28	-3.01	-3.08	-3.33	-3.35	-4.01	-4.06	---	---	-4.00	-4.11	-3.88	-3.92
29	-3.05	-3.06	-3.34	-3.37	-3.98	-4.02	---	---	---	---	-3.80	-3.88
30	-2.94	-3.05	-3.34	-3.38	-4.02	-4.07	---	---	---	---	-3.84	-3.90
31	-3.00	-3.03	---	---	-4.03	-4.12	---	---	---	---	-3.80	-3.84
MONTH	-2.80	-3.21	-2.87	-3.38	-3.17	-4.12	-3.88	-4.14	-3.94	-4.20	-3.79	-4.15

GROUND-WATER LEVELS

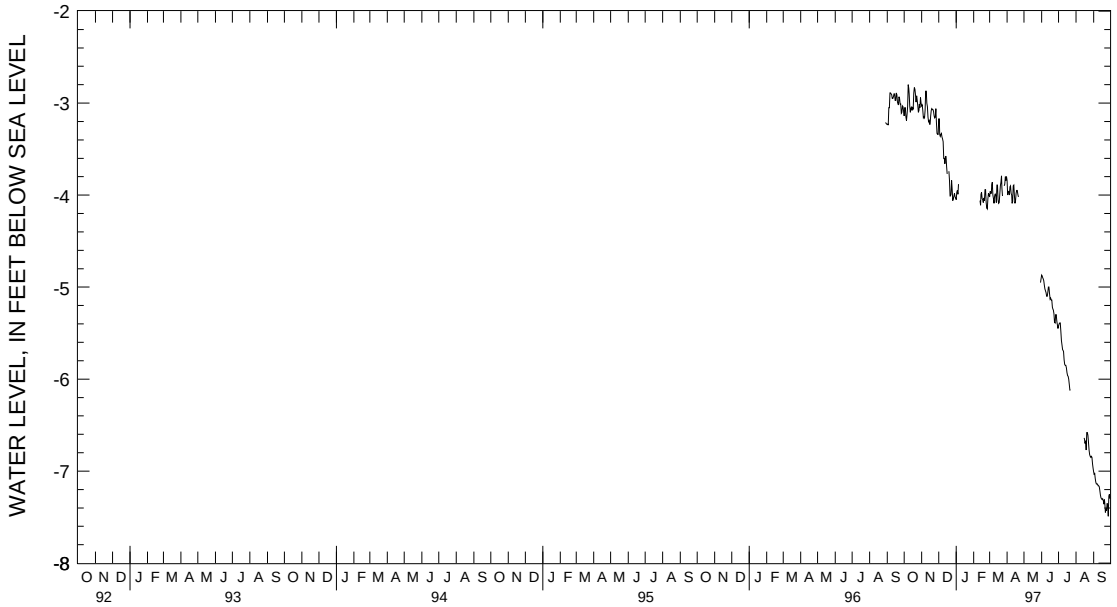
MARYLAND--Continued

CHARLES COUNTY--Continued

CH Cc 34--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	-3.84	-4.00	---	---	-4.87	-4.91	-5.42	-5.46	---	---	-7.01	-7.07
2	-4.00	-4.03	---	---	-4.88	-4.92	-5.40	-5.42	---	---	-7.04	-7.07
3	-3.96	-4.01	---	---	-4.90	-4.94	-5.39	-5.40	---	---	-7.02	-7.08
4	-3.96	-4.01	---	---	-4.91	-4.93	-5.39	-5.48	---	---	-7.08	-7.12
5	-4.00	-4.04	---	---	-4.93	-4.99	-5.48	-5.58	---	---	-7.12	-7.15
6	-3.91	-4.01	---	---	-4.98	-5.03	-5.58	-5.64	---	---	-7.14	-7.16
7	-3.90	-4.00	---	---	-5.02	-5.04	-5.63	-5.68	---	---	-7.14	-7.15
8	-3.98	-4.03	---	---	-5.04	-5.06	-5.68	-5.72	---	---	-7.14	-7.16
9	-4.00	-4.09	---	---	-5.06	-5.10	-5.69	-5.71	---	---	-7.16	-7.18
10	-4.09	-4.12	---	---	-5.10	-5.11	-5.70	-5.79	---	---	-7.16	-7.18
11	-4.07	-4.11	---	---	-5.10	-5.11	-5.79	-5.84	---	---	-7.17	-7.21
12	-3.90	-4.07	---	---	-5.06	-5.10	-5.84	-5.86	---	---	-7.21	-7.26
13	-3.89	-4.00	---	---	-5.00	-5.06	-5.85	-5.86	---	---	-7.26	-7.30
14	-4.00	-4.09	---	---	-5.00	-5.07	-5.85	-5.89	---	---	-7.29	-7.32
15	-4.09	-4.13	---	---	-5.07	-5.14	-5.88	-5.93	-6.64	-6.68	-7.30	-7.33
16	-4.06	-4.13	---	---	-5.13	-5.15	-5.93	-5.97	-6.65	-6.72	-7.31	-7.34
17	-3.98	-4.06	---	---	-5.12	-5.15	-5.96	-5.99	-6.70	-6.74	-7.30	-7.32
18	-3.95	-3.98	---	---	-5.14	-5.16	-5.97	-6.01	-6.67	-6.77	-7.32	-7.37
19	-3.95	-3.99	---	---	-5.14	-5.22	-6.00	-6.06	-6.77	-6.82	-7.36	-7.38
20	-3.99	-4.02	---	---	-5.22	-5.26	-6.06	-6.13	-6.58	-6.80	-7.31	-7.36
21	-4.02	-4.03	---	---	-5.24	-5.27	-6.12	-6.14	-6.58	-6.61	-7.35	-7.45
22	---	---	---	---	-5.25	-5.29	-6.12	-6.18	-6.61	-6.69	-7.45	-7.48
23	---	---	---	---	-5.29	-5.38	---	---	-6.69	-6.77	-7.41	-7.45
24	---	---	---	---	-5.38	-5.40	---	---	-6.77	-6.82	-7.43	-7.49
25	---	---	---	---	-5.39	-5.40	---	---	-6.82	-6.84	-7.35	-7.45
26	---	---	---	---	-5.30	-5.40	---	---	-6.84	-6.88	-7.37	-7.49
27	---	---	---	---	-5.30	-5.37	---	---	-6.85	-6.88	-7.49	-7.53
28	---	---	---	---	-5.37	-5.41	---	---	-6.84	-6.85	-7.27	-7.51
29	---	---	---	---	-5.41	-5.45	---	---	-6.85	-6.92	-7.25	-7.32
30	---	---	-4.95	-4.98	-5.45	-5.48	---	---	-6.92	-6.97	-7.30	-7.40
31	---	---	-4.91	-4.95	---	---	---	---	-6.97	-7.01	---	---
MONTH	-3.84	-4.13	-4.91	-4.98	-4.87	-5.48	-5.39	-6.18	-6.58	-7.01	-7.01	-7.53
YEAR	-2.80	-7.53										

Daily Low Water Levels



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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: U.S. Geological Survey.
AQUIFER.--La Plata aquiifer of the 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 electric 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.--Altitude of land surface is 184.95 ft above National Geodetic Vertical Datum of 1929. Measuring Point: Top of casing, 3.62 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.--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, 132.45 ft below sea level, Sept. 21, 1997.

WATER LEVEL, IN FEET BELOW SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	-92.34	-106.97	-92.35	-106.82	---	---	---	---	-96.94	-112.89	---	---
2	-92.34	-107.08	-91.97	-104.73	---	---	---	---	-97.39	-113.19	---	---
3	-92.33	-106.95	-91.74	-105.59	---	---	---	---	-98.50	-113.06	---	---
4	-92.50	-106.44	-91.79	-105.59	-90.82	-105.61	---	---	-98.14	-112.36	---	---
5	-92.06	-104.88	-91.73	-105.83	-91.12	-105.39	---	---	-95.83	-109.09	---	---
6	-91.94	-105.56	-92.24	-99.66	-90.93	-105.59	---	---	-95.55	-107.94	-95.45	-97.09
7	-91.92	-106.34	-92.50	-94.12	-90.74	-102.02	---	---	-94.37	-107.25	-94.79	-95.45
8	-91.90	-106.14	-92.25	-93.67	-90.11	-90.74	---	---	-93.17	-94.38	-94.30	-94.79
9	-91.74	-106.35	-91.27	-92.76	-89.99	-104.01	---	---	-92.83	-106.41	-93.98	-105.60
10	-91.92	-106.91	---	---	-90.52	-105.17	---	---	-92.64	-93.90	-94.33	-109.85
11	-92.24	-106.51	---	---	-90.73	-105.58	---	---	-92.32	-92.64	-97.17	-111.55
12	-91.96	-103.35	---	---	-90.96	-105.51	---	---	-92.12	-92.32	-98.67	-112.24
13	-91.54	-102.90	---	---	-90.92	-105.09	---	---	-92.02	-92.12	-99.19	-113.39
14	-91.27	-104.90	---	---	-90.50	-91.52	---	---	-91.83	-107.57	-99.59	-112.84
15	---	---	---	---	-90.08	-90.50	---	---	-92.34	-93.53	-99.93	-113.76
16	---	---	---	---	-89.92	-104.28	---	---	-91.85	-92.34	-100.08	-113.99
17	---	---	---	---	-90.32	-105.39	---	---	-91.78	-105.54	-100.60	-113.53
18	---	---	---	---	-90.76	-106.16	---	---	-91.89	-101.40	-97.92	-112.70
19	---	---	---	---	-91.12	-105.66	---	---	-91.69	-108.53	-95.79	-97.92
20	---	---	---	---	-91.11	-105.40	---	---	-92.42	-97.72	-94.76	-101.86
21	---	---	---	---	-91.10	-106.77	---	---	-92.00	-106.89	-94.18	-108.65
22	---	---	---	---	-91.78	-94.51	---	---	-92.16	-106.24	-94.24	-100.31
23	---	---	---	---	---	---	---	---	-91.99	-93.00	-93.87	-107.58
24	---	---	---	---	---	---	-97.79	-112.87	-91.63	-91.99	-94.36	-112.35
25	-91.79	-106.69	---	---	---	---	-96.89	-112.89	-91.57	-107.37	-96.57	-111.23
26	-91.78	-103.33	---	---	---	---	-97.38	-113.09	-94.49	-108.90	-97.61	-111.49
27	-91.38	-103.02	---	---	---	---	-98.36	-112.65	-95.71	-109.50	-98.18	-112.76
28	-90.99	-108.30	---	---	---	---	-97.66	-112.35	---	---	-98.81	-112.61
29	-93.58	-108.86	---	---	---	---	-97.69	-112.51	---	---	-98.78	-114.97
30	-92.72	-107.32	---	---	---	---	-97.70	-112.26	---	---	-99.65	-117.79
31	-92.51	-107.60	---	---	---	---	-97.40	-112.03	---	---	-96.51	-110.54
MONTH	-90.99	-108.86	-91.27	-106.82	-89.92	-106.77	-96.89	-113.09	-91.57	-113.19	-93.87	-117.79

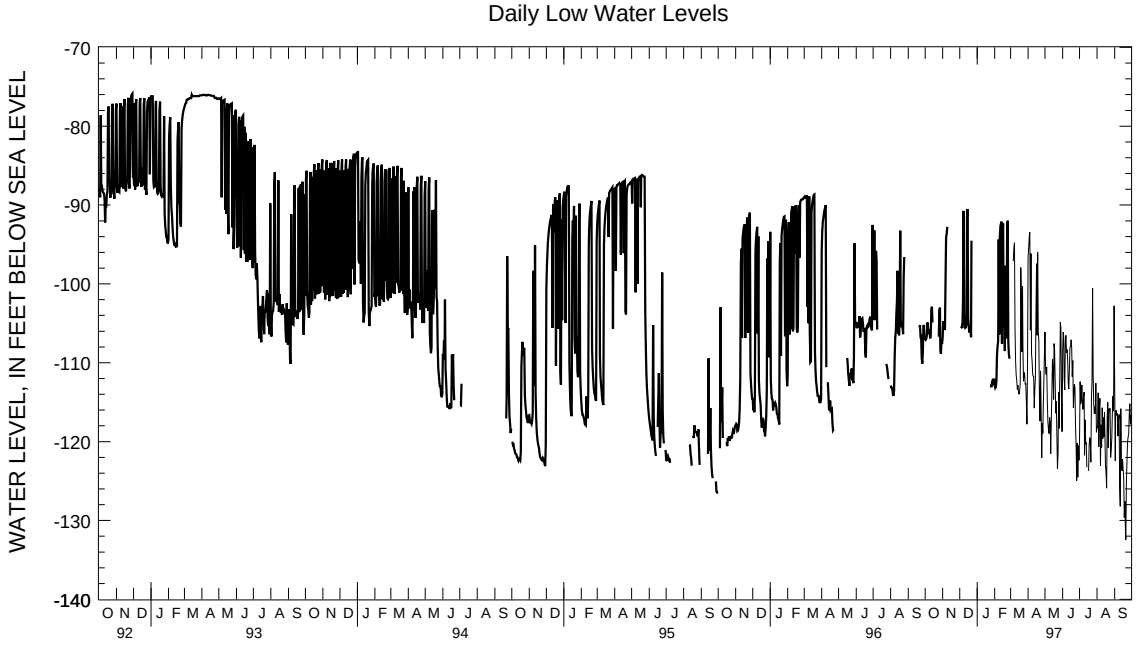
GROUND-WATER LEVELS

MARYLAND--Continued

CHARLES COUNTY--Continued

CH Ce 37--Continued

DAY	APRIL MAX	APRIL MIN	MAY MAX	MAY MIN	JUNE MAX	JUNE MIN	JULY MAX	JULY MIN	AUGUST MAX	AUGUST MIN	SEPTEMBER MAX	SEPTEMBER MIN
1	-94.93	-96.51	-93.93	-106.11	-94.50	-108.56	-100.83	-119.77	-100.48	-118.16	-100.71	-112.50
2	-94.04	-95.48	-93.55	-110.74	-93.49	-106.11	-98.44	-112.38	-99.62	-118.22	-100.57	-122.44
3	-93.44	-94.04	-93.32	-111.49	-93.24	-106.92	-97.78	-115.23	-99.56	-113.79	-102.98	-116.38
4	-93.09	-93.44	-93.67	-110.54	-93.26	-112.01	-97.81	-114.68	-99.62	-120.66	-102.12	-116.03
5	-92.86	-105.86	-93.46	-114.71	-94.07	-113.45	-98.41	-112.81	-99.39	-116.15	-102.06	-116.58
6	-92.78	-96.14	-97.46	-117.41	-93.61	-107.47	-97.09	-115.06	-99.70	-114.51	-102.03	-116.41
7	-92.57	-108.85	-98.58	-118.42	-93.78	-106.52	-97.17	-115.92	-99.73	-123.08	-102.03	-119.31
8	-95.91	-109.82	-98.78	-118.99	-93.32	-108.73	-97.84	-114.22	-100.42	-117.87	-103.41	-117.33
9	-96.83	-111.52	-98.53	-116.92	-93.41	-108.33	-98.15	-113.71	-99.91	-120.75	-103.04	-116.55
10	-98.06	-111.69	-99.04	-117.50	-93.24	-109.59	-97.75	-121.73	-100.02	-115.69	-102.23	-125.78
11	-98.27	-111.72	-98.96	-121.53	-94.30	-112.50	-97.52	-117.24	-100.28	-119.63	-102.55	-128.22
12	-98.44	-115.75	-97.29	-117.16	-94.61	-113.33	-99.04	-120.26	-101.37	-116.95	-101.92	-115.83
13	-99.36	-113.36	-95.65	-113.62	-95.10	-111.00	-99.76	-120.17	-101.95	-119.43	-101.95	-122.56
14	-96.71	-112.01	-94.53	-109.54	-94.47	-108.07	-101.05	-123.25	-101.89	-116.32	-103.18	-123.68
15	-94.82	-103.81	-93.98	-111.20	-94.10	-107.98	---	---	-102.41	-120.23	-103.73	-122.21
16	-93.58	-97.43	-93.78	-114.65	-93.90	-107.09	---	---	-103.79	-123.02	-104.99	-123.60
17	-93.01	-106.52	-93.72	-107.58	-93.61	-108.01	-100.77	-123.71	-103.87	-123.91	-104.30	-124.40
18	-92.86	-96.00	-93.41	-108.24	-93.84	-111.78	-101.86	-120.49	-103.79	-125.90	-108.07	-129.63
19	-92.60	-106.00	-93.64	-112.30	-93.93	-109.74	-101.60	-119.51	-103.47	-116.87	-107.04	-127.56
20	-92.60	-107.15	-94.30	-116.41	-93.90	-115.72	-100.65	-119.91	-101.57	-115.03	-107.64	-131.16
21	-93.32	-114.48	-100.48	-114.88	-94.36	-113.88	-100.48	-122.62	-101.86	-120.81	-111.23	-132.45
22	-96.94	-117.41	-100.19	-119.37	-93.95	-112.73	-100.57	-114.57	-101.46	-115.83	-109.08	-125.12
23	-97.84	-111.03	-101.57	-123.45	-94.15	-113.13	-99.70	-112.38	-102.98	-116.03	-106.52	-122.59
24	-98.47	-115.98	-103.10	-121.61	-95.10	-118.10	-98.78	-100.54	-102.06	-115.80	-104.07	-120.06
25	-98.38	-122.07	-101.20	-113.73	-111.66	-120.40	-98.29	-111.78	-102.52	-122.01	-103.59	-119.43
26	-99.07	-117.73	-100.42	-118.30	-105.14	-124.95	-98.53	-115.29	-102.52	-121.04	-102.64	-119.02
27	-99.65	-118.94	-97.23	-111.81	-100.74	-120.20	-98.76	-116.46	-102.52	-119.57	-101.92	-116.49
28	-99.67	-115.60	-95.02	-104.85	-100.74	-124.51	-98.99	-115.60	-102.15	-116.29	-101.63	-115.20
29	-96.60	-112.44	-94.10	-105.66	-103.27	-120.52	-98.90	-116.46	-101.74	-114.25	-101.17	-117.79
30	-95.59	-109.02	-93.75	-114.60	-107.12	-122.36	-98.90	-112.58	-101.37	-116.15	-100.48	-116.61
31	---	---	-94.53	-118.74	---	---	-98.87	-118.82	-101.20	-102.78	---	---
MONTH	-92.57	-122.07	-93.32	-123.45	-93.24	-124.95	-97.09	-123.71	-99.39	-125.90	-100.48	-132.45
YEAR	-92.57	-132.45										



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--CH Ce 57. SITE ID.--383250076584001. PERMIT NUMBER.--CH-94-1112.
LOCATION.--Lat 38°32´50˝, long 76°58´40˝, Hydrologic Unit 02070011, La Plata.
Owner: Town of La Plata.
AQUIFER.--Patuxent Formation of Lower Cretaceous age. Aquifer code: 217PTXN.
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 1,703 ft; casing diameter 6 in., to 400 ft; casing diameter 4 in. from 400 to 1,406 ft, 1,421 to 1,500 ft, 1,515 to 1,668 ft and 1,698 to 1,703 ft; screen diameter 4 in. from 1,406 to 1,421 ft, 1,500 to 1,515 ft, and 1,668 to 1,698 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey and Maryland Geological Survey personnel.
Equipped with digital water-level recorder--60-minute recorder interval, March 18, 1997 to current year.
DATUM.--Elevation of land surface is 193.47 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of recorder shelf, 5.0 ft above land surface.
REMARKS.--Southern Maryland Water-Level Monitoring Network. Water levels are affected by nearby pumping.
Missing data due to recorder malfunction.
PERIOD OF RECORD.--March 1997 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.13 ft above sea level, May 1, 1997; lowest measured, 0.22 ft above sea level, Sept. 22, 1997.

WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	.63	.41
20	---	---	---	---	---	---	---	---	---	---	.78	.63
21	---	---	---	---	---	---	---	---	---	---	.85	.74
22	---	---	---	---	---	---	---	---	---	---	.96	.69
23	---	---	---	---	---	---	---	---	---	---	.69	.60
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	.96	.41

GROUND-WATER LEVELS

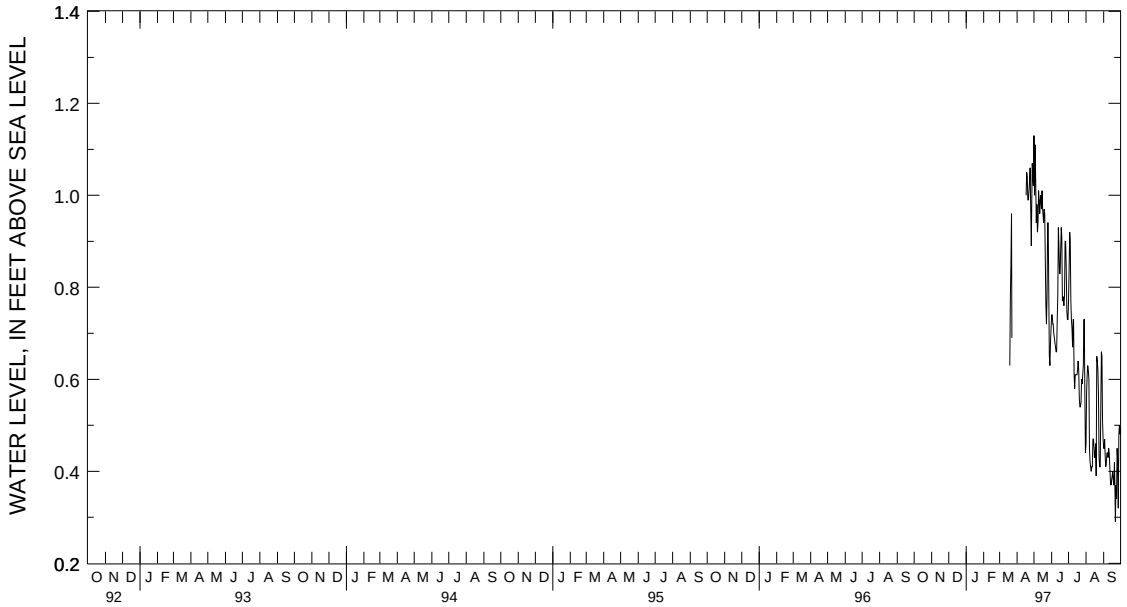
MARYLAND--Continued

CHARLES COUNTY--Continued

CH Ce 57--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	1.13	1.00	.74	.71	.77	.73	.46	.40	.45	.41
2	---	---	1.00	.93	.74	.71	.84	.76	.57	.45	.45	.41
3	---	---	1.11	.96	.72	.69	.92	.82	.61	.54	.47	.43
4	---	---	1.03	.91	.72	.70	.90	.77	.63	.59	.43	.41
5	---	---	.94	.84	.70	.67	.77	.73	.62	.60	.41	.39
6	---	---	.98	.92	.69	.67	.73	.67	.60	.45	.42	.40
7	---	---	.92	.84	.68	.66	.71	.65	.45	.41	.44	.42
8	---	---	.94	.78	.67	.66	.67	.59	.42	.40	.44	.43
9	---	---	1.01	.94	.66	.60	.73	.67	.41	.40	.43	.41
10	---	---	.99	.94	.66	.62	.73	.61	.40	.39	.45	.42
11	---	---	.96	.91	.73	.66	.61	.57	.41	.39	.44	.41
12	---	---	.99	.96	.78	.72	.58	.54	.41	.39	.41	.36
13	---	---	1.00	.97	.93	.78	.61	.58	.47	.40	.38	.33
14	---	---	.97	.94	.89	.83	.61	.57	.47	.41	.37	.31
15	---	---	1.01	.97	.83	.70	.61	.56	.45	.40	.38	.32
16	---	---	.97	.90	.83	.70	.61	.57	.43	.39	.39	.33
17	1.00	.89	.96	.90	.88	.81	.62	.57	.43	.40	.40	.35
18	1.05	.99	.94	.85	.93	.77	.64	.58	.46	.39	.38	.32
19	1.04	.99	.97	.92	.91	.77	.62	.56	.39	.35	.37	.31
20	.99	.95	.96	.86	.77	.75	.56	.40	.65	.37	.42	.36
21	.99	.94	.86	.75	.78	.75	.54	.42	.64	.62	.38	.26
22	1.01	.98	.76	.70	.77	.76	.54	.42	.62	.56	.29	.22
23	1.03	.99	.72	.67	.76	.69	.55	.42	.56	.43	.37	.29
24	1.06	.97	.78	.71	.78	.71	.60	.55	.43	.40	.34	.26
25	.97	.89	.94	.78	.90	.78	.59	.57	.41	.40	.45	.34
26	.89	.77	.94	.79	.90	.82	.61	.58	.41	.39	.42	.32
27	1.00	.79	.79	.65	.84	.75	.63	.61	.54	.40	.32	.26
28	1.07	1.00	.65	.61	.75	.73	.73	.60	.66	.54	.48	.30
29	1.04	.99	.63	.61	.73	.70	.73	.57	.65	.51	.50	.45
30	1.02	.98	.68	.62	.73	.68	.57	.43	.51	.46	.48	.40
31	---	---	.71	.68	---	---	.44	.41	.47	.45	---	---
MONTH	1.07	.77	1.13	.61	.93	.60	.92	.40	.66	.35	.50	.22
YEAR	1.13	.22										

Daily Low Water Levels



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

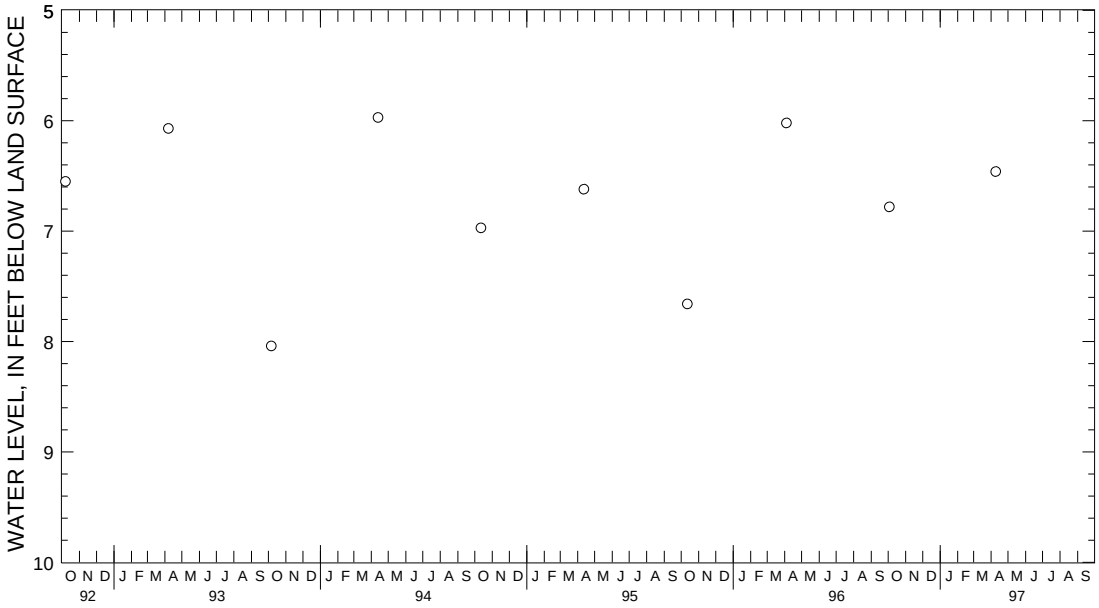
CHARLES COUNTY--Continued

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 age. 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 electric 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 03, 1996	6.78	APR 09, 1997	6.46

WATER YEAR 1997 HIGHEST 6.46 APR 09, 1997 LOWEST 6.78 OCT 03, 1996



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--CH Da 18. SITE ID.--382654077152501. PERMIT NUMBER.--CH-73-0586.
LOCATION.--Lat 38°26´54˝, long 77°15´25˝, Hydrologic Unit 02070011, nr Douglas Point.
Owner: Potomac Edison Power Company.
AQUIFER.--Patuxent Formation of Lower Cretaceous age. Aquifer code: 217PTXN.
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 740 ft; casing diameter 8 in., to 684 ft, and 694 to 730 ft; screen diameter 8 in. from 684 to 694 ft, and 730 to 740 ft.
INSTRUMENTATION.--Twice yearly measurements from September 1976 to April 1996. Monthly measurements with electric tape by U.S. Geological Survey and Maryland Geological Survey personnel.
Equipped with digital water-level recorder--60-minute recorder interval, April 3, 1996 to current year.
DATUM.--Elevation of land surface is 90 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of recorder shelf, 3.10 ft above land surface.
REMARKS.--Bryans Road Project observation well. Water levels are affected by nearby pumping.
PERIOD OF RECORD.--September 1976 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.89 ft above sea level, Sept. 21, 1976; lowest measured, 1.65 ft below sea level, Sept. 22, 1997.

WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
(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	-.67	-.72	-.48	-.50	-.34	-.66	-.60	-.77	-.61	-.68	-.83	-1.04
2	-.60	-.72	-.48	-.55	-.34	-.51	-.50	-.60	-.68	-.79	-.68	-.83
3	-.59	-.73	-.55	-.78	-.51	-.58	-.50	-.55	-.76	-.86	-.72	-.79
4	-.73	-.84	-.78	-.82	-.53	-.66	-.54	-.60	-.75	-.89	-.74	-.78
5	-.76	-.84	-.78	-.81	-.43	-.69	-.39	-.54	-.61	-.75	-.48	-.75
6	-.66	-.76	-.81	-.85	-.41	-.50	-.42	-.56	-.68	-.79	-.41	-.77
7	-.56	-.66	-.63	-.82	-.39	-.50	-.56	-.73	-.78	-.81	-.77	-1.02
8	-.16	-.56	-.28	-.63	-.38	-.40	-.73	-.93	-.72	-.82	-.95	-1.03
9	-.21	-.36	-.30	-.53	-.39	-.64	-.62	-.93	-.75	-.80	-.95	-1.09
10	-.31	-.51	-.53	-.65	-.61	-.69	-.55	-.63	-.69	-.78	-.73	-.95
11	-.51	-.72	-.65	-.80	-.51	-.61	-.56	-.81	-.69	-.76	-.68	-.75
12	-.68	-.73	-.80	-.93	-.53	-.55	-.81	-.95	-.76	-.79	-.75	-.88
13	-.60	-.68	-.93	-.95	-.45	-.55	-.95	-1.06	-.77	-.90	-.88	-.93
14	-.58	-.63	-.90	-.93	-.48	-.70	-1.06	-1.09	-.70	-.90	-.56	-.89
15	-.63	-.70	-.92	-.97	-.67	-.74	-.80	-1.09	-.65	-.76	-.55	-.87
16	-.61	-.68	-.85	-.97	-.46	-.67	-.57	-.80	-.76	-.83	-.87	-1.02
17	-.61	-.65	-.69	-.85	-.37	-.46	-.69	-.96	-.82	-1.05	-.93	-1.02
18	-.47	-.66	-.48	-.69	-.39	-.46	-.95	-1.10	-.89	-1.05	-.90	-.93
19	-.41	-.47	-.43	-.48	-.40	-.52	-1.07	-1.14	-.82	-.91	-.80	-.92
20	-.42	-.45	-.41	-.46	-.52	-.86	-.85	-1.07	-.91	-1.05	-.62	-.80
21	-.39	-.42	-.45	-.48	-.86	-.96	-.90	-1.04	-.76	-1.05	-.57	-.65
22	-.40	-.43	-.48	-.72	-.91	-.96	-.84	-1.04	-.70	-.87	-.49	-.72
23	-.32	-.41	-.71	-.77	-.81	-.91	-.79	-.95	-.87	-1.04	-.72	-.90
24	-.34	-.47	-.70	-.72	-.59	-.81	-.82	-.97	-1.01	-1.06	-.90	-.97
25	-.47	-.57	-.62	-.72	-.66	-.88	-.66	-.82	-1.01	-1.05	-.79	-.94
26	-.57	-.65	-.49	-.70	-.84	-.90	-.69	-.95	-.84	-1.01	-.68	-.80
27	-.60	-.66	-.70	-1.04	-.82	-.84	-.91	-.99	-.78	-.84	-.80	-.84
28	-.52	-.60	-.94	-1.04	-.70	-.82	-.81	-.91	-.84	-1.03	-.79	-.84
29	-.54	-.61	-.83	-.94	-.60	-.70	-.89	-1.00	---	---	-.67	-.79
30	-.40	-.59	-.66	-.83	-.62	-.71	-.88	-1.00	---	---	-.67	-.74
31	-.43	-.48	---	---	-.66	-.74	-.64	-.88	---	---	-.64	-.89
MONTH	-.16	-.84	-.28	-1.04	-.34	-.96	-.39	-1.14	-.61	-1.06	-.41	-1.09

GROUND-WATER LEVELS

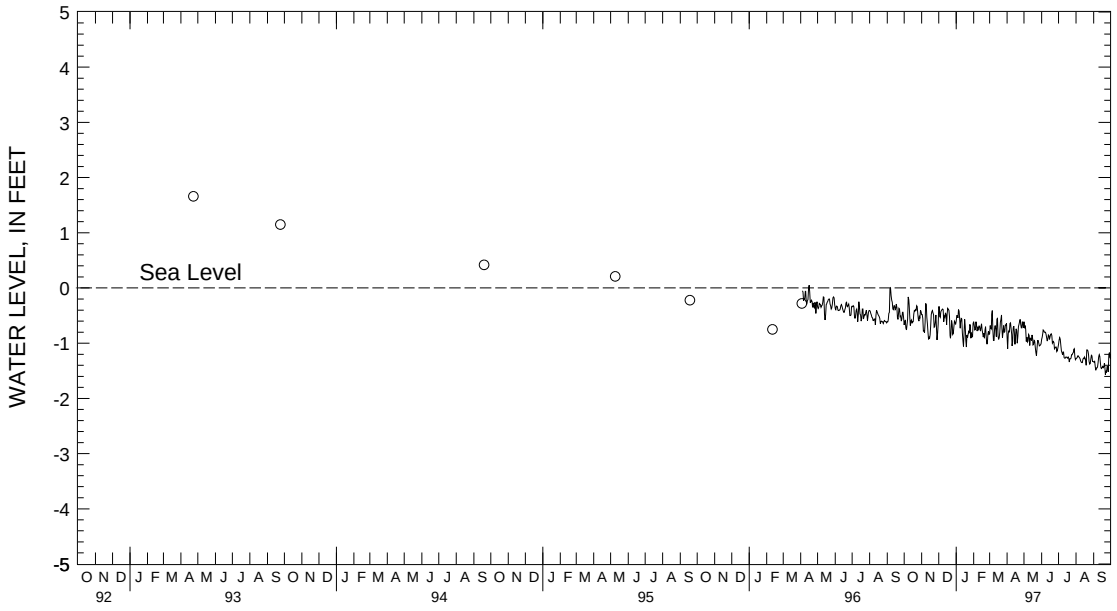
MARYLAND--Continued

CHARLES COUNTY--Continued

CH Da 18--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	-.89	-1.36	-.61	-.73	-.93	-1.02	-1.02	-1.09	-1.28	-1.33	-1.34	-1.37
2	-1.10	-1.36	-.73	-.89	-.89	-.94	-.94	-1.03	-1.27	-1.31	-1.34	-1.38
3	-.83	-1.10	-.68	-.88	-.82	-.92	-.90	-.96	-1.26	-1.30	-1.32	-1.42
4	-.78	-.84	-.75	-1.01	-.76	-.82	-.93	-1.04	-1.23	-1.30	-1.42	-1.51
5	-.80	-.86	-.97	-1.06	-.77	-.81	-1.04	-1.14	-1.23	-1.26	-1.49	-1.53
6	-.64	-.80	-.89	-.98	-.80	-.84	-1.14	-1.20	-1.25	-1.29	-1.45	-1.49
7	-.63	-.74	-.98	-1.05	-.80	-.82	-1.17	-1.21	-1.26	-1.29	-1.45	-1.45
8	-.74	-.86	-.96	-1.07	-.80	-.84	-1.21	-1.25	-1.28	-1.32	-1.43	-1.46
9	-.84	-1.05	-.84	-.96	-.84	-.90	-1.16	-1.22	-1.32	-1.34	-1.35	-1.43
10	-1.05	-1.17	-.86	-1.04	-.90	-.96	-1.16	-1.26	-1.34	-1.36	-1.25	-1.35
11	-.97	-1.15	-1.04	-1.09	-.96	-.99	-1.26	-1.30	-1.35	-1.36	-1.21	-1.25
12	-.72	-.97	-.91	-1.04	-.93	-.98	-1.27	-1.27	-1.35	-1.39	-1.24	-1.36
13	-.69	-.80	-.91	-.98	-.85	-.93	-1.27	-1.28	-1.29	-1.38	-1.36	-1.46
14	-.80	-1.04	-.95	-1.03	-.86	-.93	-1.25	-1.28	-1.27	-1.34	-1.45	-1.50
15	-1.02	-1.06	-.85	-.95	-.93	-1.00	-1.25	-1.28	-1.28	-1.35	-1.46	-1.51
16	-.86	-1.02	-.91	-1.11	-.88	-.98	-1.26	-1.30	-1.25	-1.31	-1.44	-1.50
17	-.74	-.86	-1.03	-1.11	-.84	-.89	-1.27	-1.32	-1.27	-1.33	-1.42	-1.48
18	-.77	-1.00	-1.02	-1.09	-.83	-.88	-1.25	-1.31	-1.30	-1.42	-1.44	-1.47
19	-1.00	-1.08	-.95	-1.02	-.86	-1.00	-1.27	-1.34	-1.40	-1.47	-1.42	-1.47
20	-.88	-1.08	-.97	-1.08	-1.00	-1.05	-1.34	-1.40	-1.12	-1.41	-1.36	-1.43
21	-.70	-.88	-1.08	-1.17	-.98	-1.04	-1.28	-1.36	-1.12	-1.14	-1.42	-1.61
22	-.66	-.71	-1.17	-1.25	-.97	-1.01	-1.28	-1.34	-1.14	-1.20	-1.57	-1.65
23	-.61	-.69	-1.23	-1.29	-.99	-1.12	-1.27	-1.34	-1.20	-1.33	-1.50	-1.57
24	-.57	-.66	-1.09	-1.23	-1.11	-1.15	-1.21	-1.27	-1.33	-1.38	-1.53	-1.62
25	-.66	-.72	-.95	-1.09	-1.08	-1.14	-1.21	-1.25	-1.38	-1.39	-1.42	-1.60
26	-.72	-.83	-.95	-1.00	-1.07	-1.10	-1.18	-1.24	-1.37	-1.40	-1.42	-1.52
27	-.72	-.86	-1.00	-1.08	-1.07	-1.16	-1.17	-1.20	-1.29	-1.37	-1.52	-1.56
28	-.61	-.72	-1.05	-1.09	-1.15	-1.18	-1.11	-1.23	-1.22	-1.29	-1.20	-1.52
29	-.63	-.74	-1.04	-1.06	-1.13	-1.16	-1.10	-1.24	-1.23	-1.33	-1.17	-1.30
30	-.72	-.77	-1.03	-1.06	-1.08	-1.13	-1.24	-1.32	-1.33	-1.37	-1.27	-1.45
31	---	---	-1.01	-1.06	---	---	-1.30	-1.33	-1.33	-1.36	---	---
MONTH	-.57	-1.36	-.61	-1.29	-.76	-1.18	-.90	-1.40	-1.12	-1.47	-1.17	-1.65
YEAR	-.16	-1.65										

Daily Low Water Levels



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

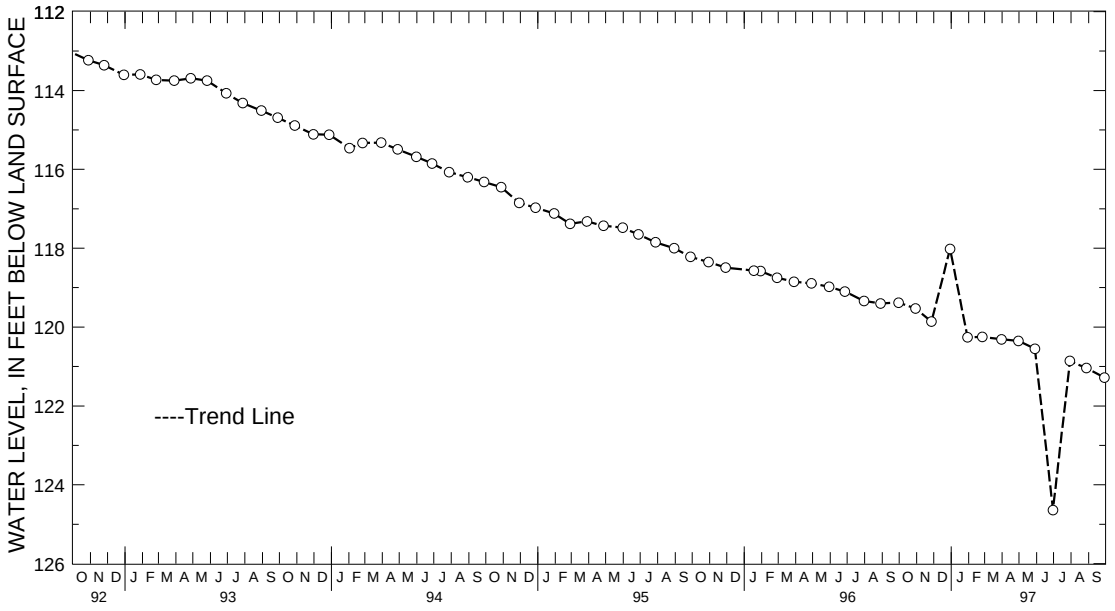
CHARLES COUNTY--Continued

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.--White Plains aquifer of the 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. The June 30, 1997 water-level resulted from an extended period of 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, 124.64 ft below land surface, June 30, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30, 1996	119.53	JAN 30, 1997	120.26	APR 30, 1997	120.35	JUL 30, 1997	120.86
NOV 27	119.86	FEB 25	120.25	MAY 29	120.55	AUG 28	121.04
DEC 30	118.02	MAR 31	120.31	JUN 30	124.64	SEP 29	121.28

WATER YEAR 1997 HIGHEST 118.02 DEC 30, 1996 LOWEST 124.64 JUN 30, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

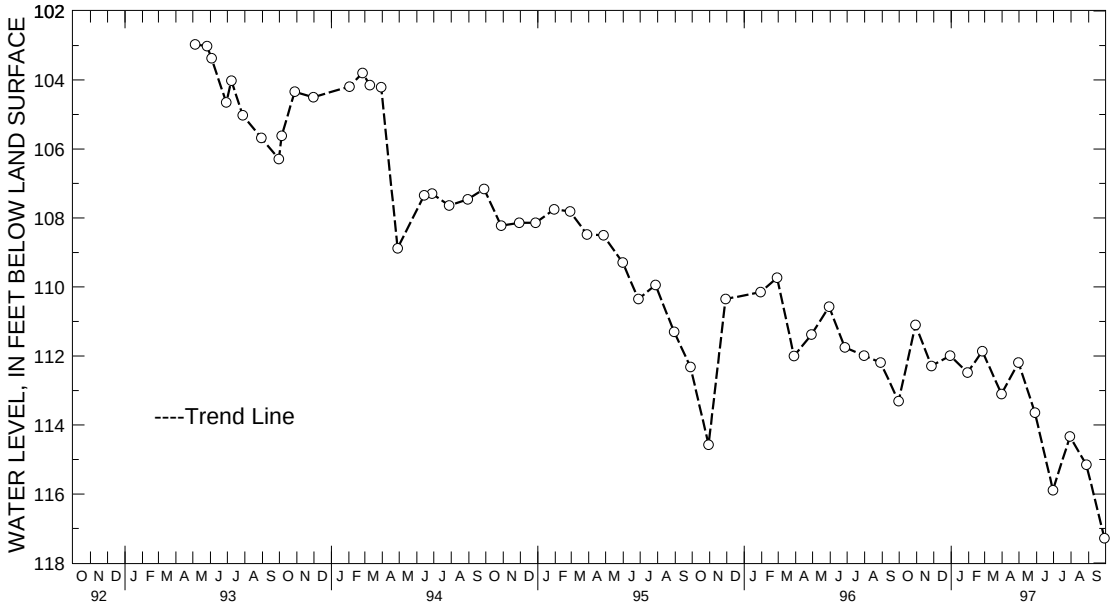
CHARLES COUNTY--Continued

WELL NUMBER.--CH Dd 38. SITE ID.--382925077010101. PERMIT NUMBER.--CH-81-0358.
LOCATION.--Lat 38°29´25˝, long 77°01´01˝, Hydrologic Unit 02070011, 0.8 mi south of Port Tobacco.
Owner: A. Bridgett.
AQUIFER.--Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSC.
WELL CHARACTERISTICS.--Drilled, domestic, artesian well, depth 597 ft; casing diameter 4 in., to 297 ft;
casing diameter 2 in. from 297 to 429 ft, 434 to 575 ft, 580 to 585 ft, and 590 to 597 ft;
screen diameter 2 in. from 429 to 434 ft, 575 to 580 ft, and 585 to 590 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.
Measuring Point: Top of casing, 1.0 ft above land surface.
REMARKS.--Maryland Water-Level Network observation well.
PERIOD OF RECORD.--April 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 102.97 ft below land surface, May 5, 1993;
lowest measured, 117.28 ft below land surface, Sept. 29, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30, 1996	111.10	JAN 30, 1997	112.48	APR 30, 1997	112.19	JUL 30, 1997	114.33
NOV 27	112.29	FEB 25	111.86	MAY 29	113.64	AUG 28	115.15
DEC 30	111.99	MAR 31	113.10	JUN 30	115.89	SEP 29	117.28

WATER YEAR 1997 HIGHEST 111.10 OCT 30, 1996 LOWEST 117.28 SEP 29, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

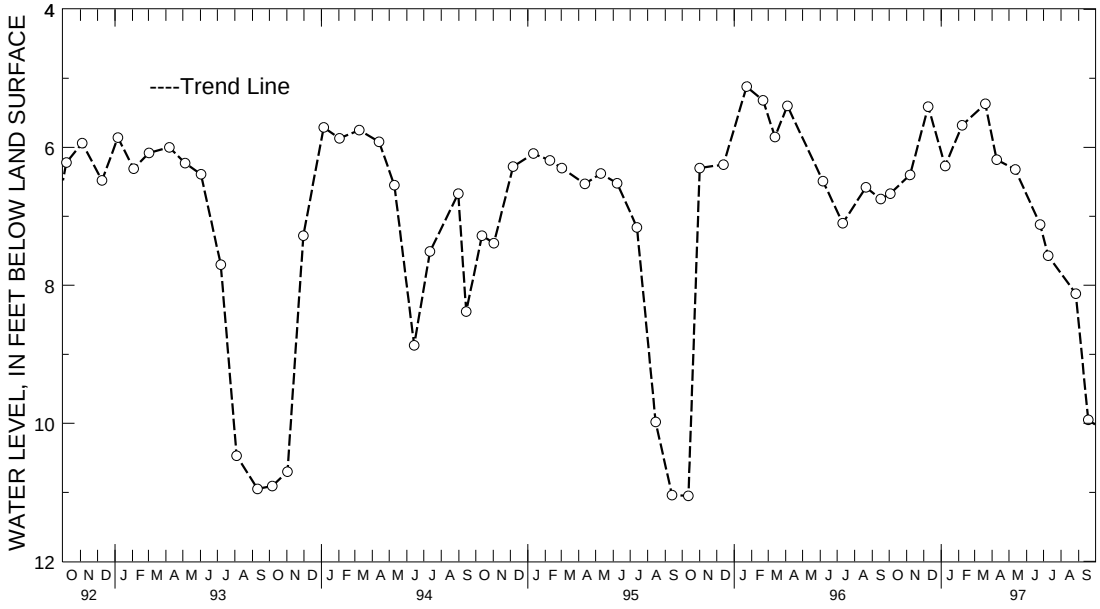
CHARLES COUNTY--Continued

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 Lower 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 electric 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, 11.05 ft below land surface, Oct. 12, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 03, 1996	6.67	JAN 08, 1997	6.27	APR 09, 1997	6.18	JUL 09, 1997	7.57
NOV 07	6.40	FEB 07	5.68	MAY 12	6.32	AUG 27	8.12
DEC 09	5.41	MAR 20	5.37	JUN 25	7.12	SEP 18	9.95

WATER YEAR 1997 HIGHEST 5.37 MAR 20, 1997 LOWEST 9.95 SEP 18, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

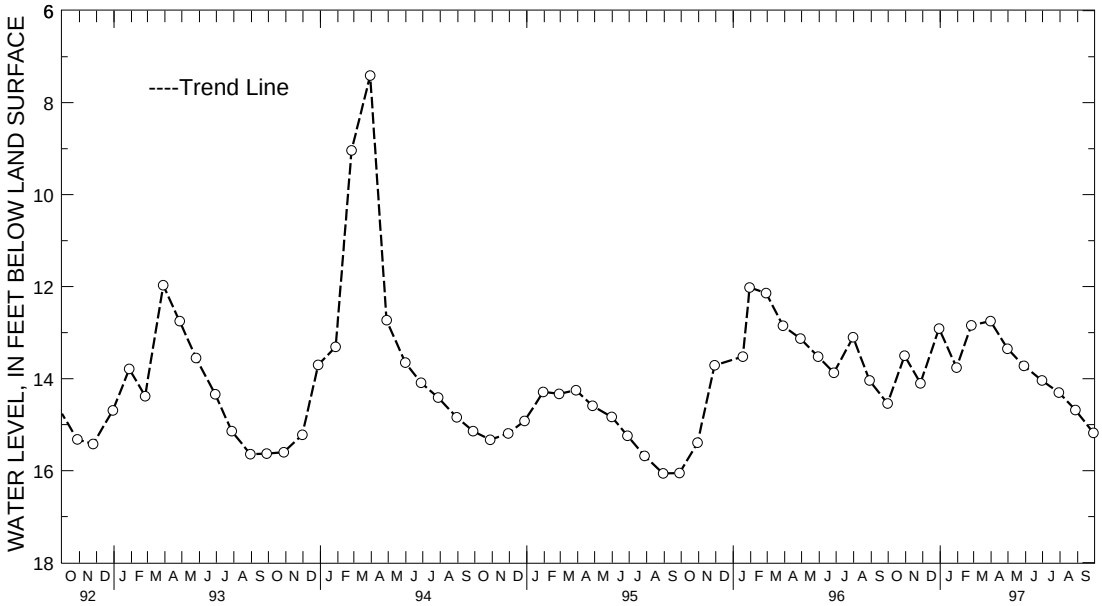
CHARLES COUNTY--Continued

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 electric 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, January 1947 to November 1947, March 1949 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 7.41 ft below land surface, March 30, 1994;
lowest measured, 20.65 ft below land surface, Dec. 20, 1949.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30, 1996	13.50	JAN 30, 1997	13.76	APR 30, 1997	13.35	JUL 30, 1997	14.30
NOV 27	14.10	FEB 25	12.84	MAY 29	13.72	AUG 28	14.68
DEC 30	12.91	MAR 31	12.75	JUN 30	14.04	SEP 29	15.18

WATER YEAR 1997 HIGHEST 12.75 MAR 31, 1997 LOWEST 15.18 SEP 29, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

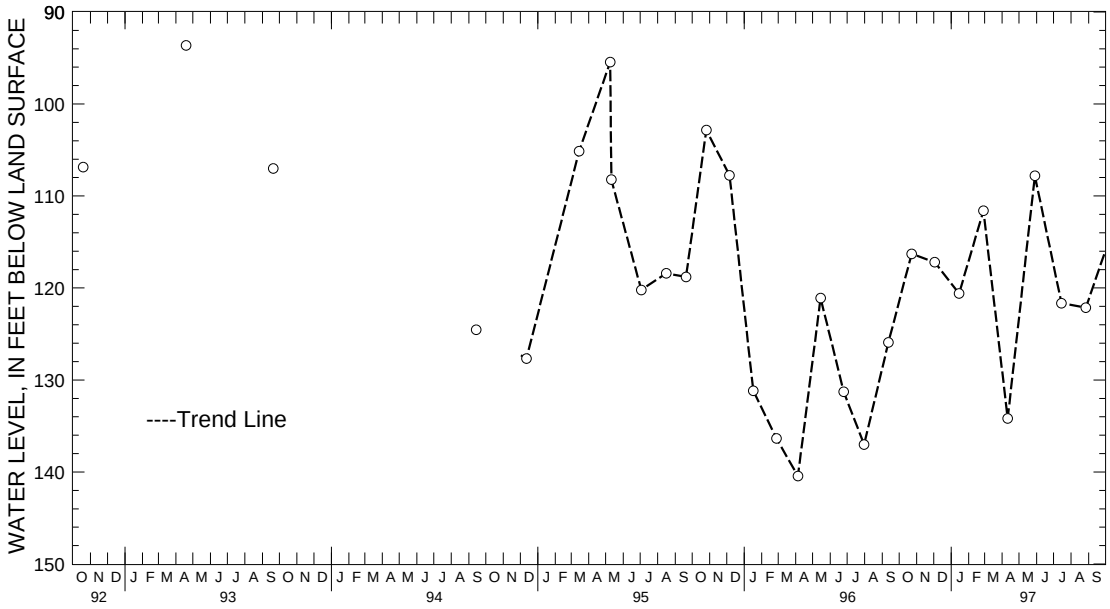
CHARLES COUNTY--Continued

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.--Lower 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 electric 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 October 1992.
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, 140.44 ft below sea level, April 5, 1996.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23, 1996	116.29	JAN 15, 1997	120.60	APR 11, 1997	134.19	JUL 15, 1997	121.66
DEC 03	117.19	FEB 27	111.59	MAY 29	107.80	AUG 27	122.13

WATER YEAR 1997 HIGHEST 107.80 MAY 29, 1997 LOWEST 134.19 APR 11, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--CH Ee 78. SITE ID.--382240076582801. PERMIT NUMBER.--CH-73-1965.
LOCATION.--Lat 38°22´40˝, long 76°58´28˝, Hydrologic Unit 02070011, located at Clifton on the Potomac, on the east side of Ingleside Road, 0.3 mi north of Clifton Drive.
Owner: Clifton on the Potomac Development.
AQUIFER.--Lower Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSC.
WELL CHARACTERISTICS.--Drilled, used, artesian well, depth 1,220 ft; casing diameter 6.6 in., to 1,220 ft, and 1,168 to 1,189 ft, and 1,199 to 1,220 ft; screen diameter 7 in. from 1,148 to 1,168 ft, and 1,189 to 1,199 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
Equipped with digital water-level recorder--30-minute recorder interval from August 5, 1993 to current year.
DATUM.--Altitude of land surface is 75 ft above National Geodetic Vertical Datum of 1929, from topographic map.
Measuring Point: Top of recorder platform, 2.3 ft above land surface.
REMARKS.--Southern Maryland Observation Well Network. Water levels affected by nearby pumping.
Missing data due to recorder malfunction.
PERIOD OF RECORD.--August 5, 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 43.87 ft below sea level, April 3, 1986; lowest measured, 84.75 ft below sea level, Sept. 26, 1997.

WATER LEVEL, IN FEET BELOW SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	-74.07	-74.59	-75.05	-75.23	-73.82	-74.52	-73.42	-74.11	-71.57	-71.79
2	---	---	-74.40	-74.84	-74.86	-75.50	-73.82	-74.05	-73.00	-73.91	-71.27	-71.69
3	---	---	-74.13	-74.65	-74.74	-75.52	-73.81	-74.76	-73.00	-73.36	-71.01	-71.43
4	---	---	-74.65	-75.17	-74.78	-75.16	-74.70	-75.05	-73.02	-73.61	-71.43	-72.42
5	---	---	-75.10	-75.34	-75.05	-75.43	-74.40	-74.76	-72.66	-73.02	-72.34	-72.75
6	---	---	-74.74	-75.45	-75.04	-75.27	-74.13	-74.53	-72.99	-73.59	-72.34	-72.80
7	---	---	-73.76	-74.74	-75.13	-75.43	-74.35	-74.60	-73.24	-73.56	-72.59	-72.92
8	---	---	-73.26	-74.13	-74.32	-75.13	-74.44	-74.91	-73.01	-73.49	-72.92	-73.34
9	---	---	-73.59	-73.92	-74.45	-75.15	-73.73	-74.62	-73.00	-73.34	-72.52	-73.01
10	---	---	-73.48	-73.94	-74.92	-75.21	-73.94	-74.43	-72.53	-73.13	-72.04	-72.76
11	---	---	-73.22	-73.86	-74.71	-75.16	-74.43	-74.83	-72.85	-73.37	-72.29	-72.77
12	---	---	-73.37	-74.07	-75.13	-75.49	-74.31	-75.02	-73.17	-73.64	-72.41	-72.65
13	---	---	-73.57	-74.11	-73.98	-75.17	-75.02	-75.52	-73.50	-73.73	-72.56	-73.17
14	---	---	-73.85	-74.19	-74.03	-74.52	-75.44	-75.64	-73.52	-74.12	-71.93	-73.17
15	---	---	-73.30	-74.02	-73.41	-74.19	-74.22	-75.44	-73.45	-73.94	-72.04	-73.41
16	---	---	-73.72	-74.47	-72.77	-73.51	-73.80	-74.22	-73.55	-74.05	-73.11	-73.51
17	---	---	-74.23	-74.84	-72.76	-73.04	-74.03	-74.64	-73.03	-73.55	-72.76	-73.25
18	---	---	-74.55	-74.77	-72.63	-72.91	-74.39	-74.90	-72.59	-73.19	-73.25	-74.36
19	---	---	-74.65	-75.61	-72.70	-73.02	-74.45	-75.30	-72.79	-73.42	-73.77	-74.23
20	---	---	-75.23	-75.60	-73.02	-74.08	-73.78	-74.45	-72.72	-73.39	-73.56	-73.96
21	---	---	-75.37	-76.27	-73.56	-74.08	-74.11	-74.91	-71.82	-72.93	-73.27	-73.77
22	---	---	-76.27	-76.61	-73.51	-74.62	-73.76	-74.83	-71.86	-72.51	-72.52	-73.27
23	---	---	-76.32	-76.61	-74.36	-74.94	-73.99	-74.28	-71.90	-72.51	-72.36	-72.86
24	-76.40	-76.87	-76.59	-76.81	-74.22	-74.94	-74.07	-74.58	-71.74	-72.25	-72.36	-73.29
25	-76.62	-76.81	-75.84	-76.76	-74.23	-74.69	-73.35	-74.31	-71.73	-72.25	-72.53	-73.29
26	-76.24	-76.69	-75.83	-76.25	-74.55	-74.87	-73.66	-74.12	-71.75	-72.15	-72.65	-73.17
27	-75.22	-76.24	-76.25	-76.64	-74.30	-74.87	-73.44	-73.87	-71.81	-72.17	-72.41	-73.13
28	-75.23	-75.69	-75.71	-76.36	-74.00	-74.53	-73.76	-74.65	-71.41	-71.81	-72.51	-72.94
29	-75.20	-75.87	-75.81	-76.13	-73.75	-74.56	-74.15	-74.63	---	---	-71.38	-72.51
30	-74.26	-75.20	-74.97	-75.89	-74.22	-74.75	-74.31	-74.58	---	---	-71.38	-71.97
31	-74.57	-74.84	---	---	-74.23	-74.82	-73.41	-74.37	---	---	-71.36	-72.19
MONTH	-74.26	-76.87	-73.22	-76.81	-72.63	-75.52	-73.35	-75.64	-71.41	-74.12	-71.01	-74.36

GROUND-WATER LEVELS

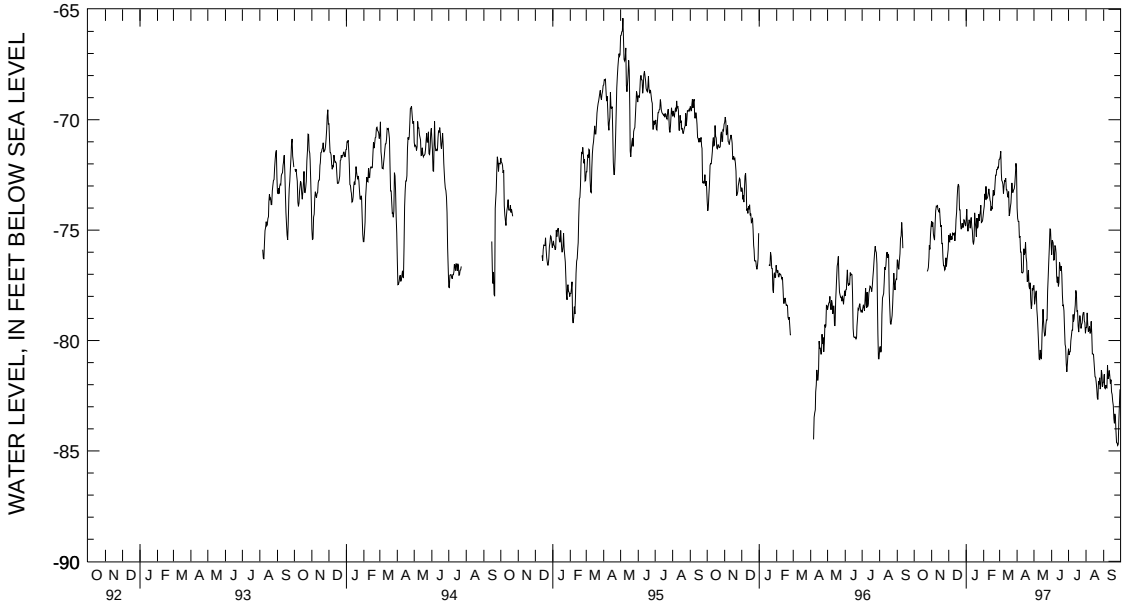
MARYLAND--Continued

CHARLES COUNTY--Continued

CH Ee 78--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	-72.19	-74.00	-77.00	-77.51	-75.46	-76.11	-80.12	-80.37	-79.10	-79.42	-81.25	-81.87
2	-74.00	-74.47	-77.51	-78.36	-74.44	-75.46	-80.29	-80.65	-78.58	-79.41	-80.90	-81.53
3	-74.28	-74.61	-77.33	-78.15	-74.80	-75.52	-79.76	-80.51	-78.34	-78.75	-81.53	-82.13
4	-74.18	-74.61	-77.51	-77.84	-74.85	-75.58	-80.01	-80.50	-78.75	-79.24	-81.36	-82.17
5	-74.61	-75.35	-77.20	-77.75	-75.58	-76.36	-79.78	-80.01	-79.14	-79.60	-81.52	-82.02
6	-74.74	-75.27	-77.40	-78.59	-75.61	-76.34	-79.05	-79.78	-78.78	-79.53	-81.92	-82.13
7	-74.75	-75.99	-78.59	-78.97	-74.90	-75.70	-78.99	-79.53	-78.81	-79.36	-81.07	-82.15
8	-75.79	-75.99	-78.97	-79.56	-74.71	-75.76	-78.58	-79.53	-79.30	-79.68	-80.93	-81.12
9	-75.93	-76.92	-79.56	-80.16	-75.76	-76.03	-78.57	-78.82	-79.13	-79.62	-81.12	-81.73
10	-76.26	-76.92	-80.16	-80.84	-76.03	-77.09	-78.82	-79.13	-78.61	-79.13	-80.84	-81.62
11	-76.47	-76.94	-80.24	-80.86	-76.94	-77.37	-78.41	-79.02	-79.00	-79.70	-80.84	-81.36
12	-75.49	-76.88	-80.19	-80.43	-76.87	-77.11	-78.39	-78.70	-79.70	-80.61	-81.33	-81.61
13	-75.21	-75.84	-80.43	-80.80	-77.11	-77.55	-77.23	-78.39	-79.86	-80.61	-81.57	-81.96
14	-75.70	-76.12	-79.70	-80.82	-76.44	-77.38	-77.13	-77.73	-79.95	-80.63	-81.13	-81.77
15	-75.56	-76.02	-79.12	-79.70	-76.14	-76.44	-77.66	-77.88	-80.63	-81.01	-81.40	-82.33
16	-75.36	-75.56	-78.36	-79.12	-76.40	-76.63	-77.88	-78.68	-80.93	-81.26	-82.06	-82.44
17	-75.36	-76.23	-78.36	-78.58	-76.59	-76.84	-78.20	-78.66	-80.97	-81.64	-82.06	-82.75
18	-75.97	-76.45	-78.58	-79.13	-76.18	-76.63	-78.36	-79.34	-81.45	-81.66	-82.61	-82.94
19	-76.45	-77.34	-79.13	-79.60	-76.59	-77.01	-79.16	-79.62	-81.65	-81.89	-82.94	-83.54
20	-76.77	-77.27	-79.60	-79.78	-77.01	-77.94	-78.70	-79.16	-81.86	-82.19	-83.32	-83.75
21	-76.48	-76.82	-79.02	-79.75	-77.94	-78.44	-78.26	-78.87	-82.17	-82.60	-82.66	-83.32
22	-76.58	-77.53	-78.96	-79.29	-77.92	-78.38	-78.86	-79.05	-81.84	-82.67	-82.79	-83.48
23	-77.38	-77.67	-78.87	-79.07	-78.24	-78.65	-78.93	-79.45	-81.47	-81.84	-83.48	-84.10
24	-76.90	-77.38	-77.73	-79.07	-78.65	-79.43	-78.72	-79.28	-81.44	-81.98	-84.10	-84.62
25	-77.24	-78.15	-77.13	-77.76	-79.43	-80.17	-78.85	-79.20	-81.22	-81.69	-84.47	-84.64
26	-78.15	-78.56	-76.23	-77.13	-80.03	-80.30	-78.15	-78.85	-81.69	-82.20	-84.46	-84.75
27	-77.63	-78.37	-75.79	-76.42	-80.26	-81.04	-78.16	-78.73	-81.34	-82.06	-83.63	-84.69
28	-77.26	-77.64	-74.88	-75.79	-81.04	-81.42	-78.26	-78.73	-80.79	-81.34	-82.90	-83.63
29	-77.46	-77.72	-74.31	-74.95	-80.36	-81.05	-78.42	-79.10	-80.94	-81.52	-82.01	-82.91
30	-77.00	-77.52	-74.42	-74.96	-80.33	-80.63	-78.72	-79.19	-81.52	-82.10	-81.82	-82.21
31	---	---	-74.70	-75.60	---	---	-79.19	-79.67	-81.44	-81.92	---	---
MONTH	-72.19	-78.56	-74.31	-80.86	-74.44	-81.42	-77.13	-80.65	-78.34	-82.67	-80.84	-84.75
YEAR	-71.01	-84.75										

Daily Low Water Levels



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

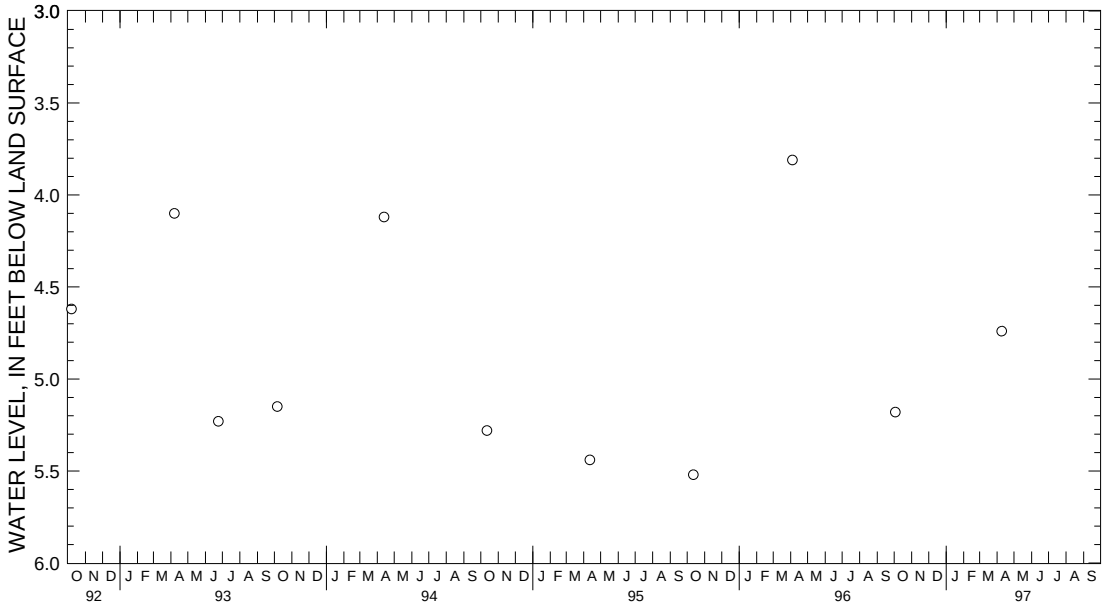
CHARLES COUNTY--Continued

WELL NUMBER.--CH Ee 90. SITE ID.--382456076562201. PERMIT NUMBER.--CH-81-0606.
LOCATION.--Lat 38°24´56˝, long 76°56´22˝, Hydrologic Unit 02070011, at Allens Fresh.
Owner: U.S. Geological Survey.
AQUIFER.--Alluvium deposit of Quaternary age. Aquifer code: 110ALVM.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 21 ft; casing diameter 4 in., to 11 ft; casing diameter 2 in from 16 to 21 ft; screen diameter 2 in. from 11 to 16 ft.
INSTRUMENTATION.--Measure twice yearly with electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 6.81 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Top of casing, 2.44 ft above land surface.
REMARKS.--Maryland Water-Level Network observation well.
PERIOD OF RECORD.--August 1983 to January 1985, April 1988 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.29 ft below land surface, May 30, 1990; lowest measured, 7.58 ft below land surface, April 23, 1986.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 03, 1996	5.18	APR 09, 1997	4.74

WATER YEAR 1997 HIGHEST 4.74 APR 09, 1997 LOWEST 5.18 OCT 03, 1996



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

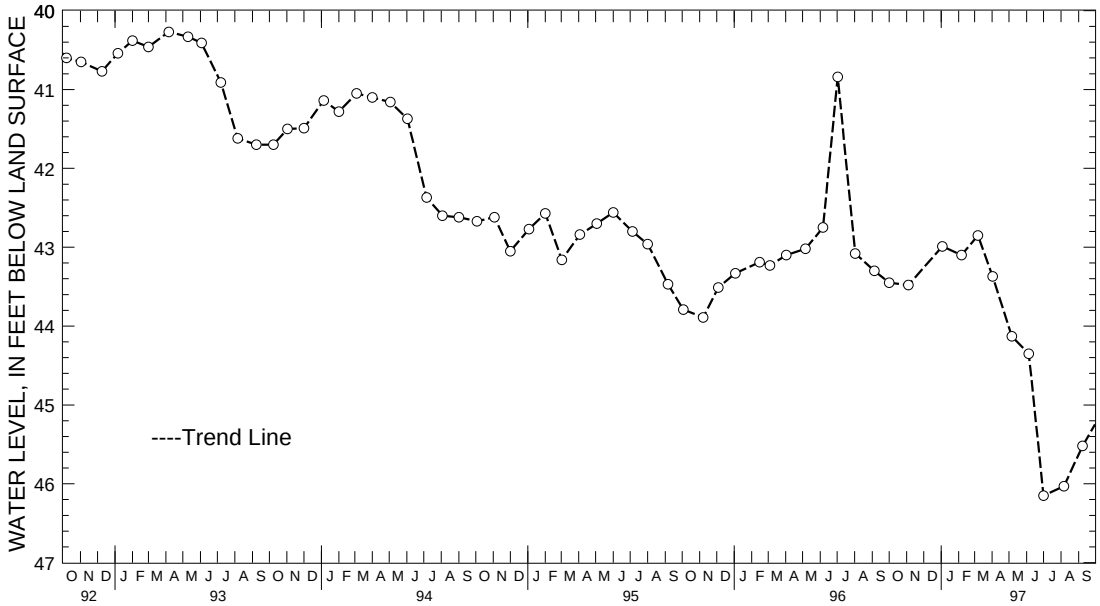
DORCHESTER COUNTY

WELL NUMBER.--DO Bg 59. SITE ID.--383708075503801. PERMIT NUMBER.--DO-73-0612.
LOCATION.--Lat 38°37´08˝ long 75°50´38˝, Hydrologic Unit 02060008, at Hurlock Sewage Treatment Plant.
Owner: U.S. Geological Survey.
AQUIFER.--Piney Point Formation of Middle Eocene age. Aquifer code: 124PNPN
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 537 ft; casing diameter 6 in., to 65 ft; casing diameter 2 in. from 65 to 527 ft; screen diameter 2 in. from 527 to 537 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 25 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.--October 1976 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 31.79 ft below land surface, Aug. 2, 1978; lowest measured, 46.15 ft below land surface, July 1, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1996	43.45	FEB 06, 1997	43.10	MAY 06, 1997	44.13	AUG 06, 1997	46.03
NOV 04	43.48	MAR 07	42.85	JUN 05	44.35	SEP 08	45.52
JAN 03, 1997	42.99	APR 02	43.37	JUL 01	46.15		

WATER YEAR 1997 HIGHEST 42.85 MAR 07, 1997 LOWEST 46.15 JUL 01, 1997



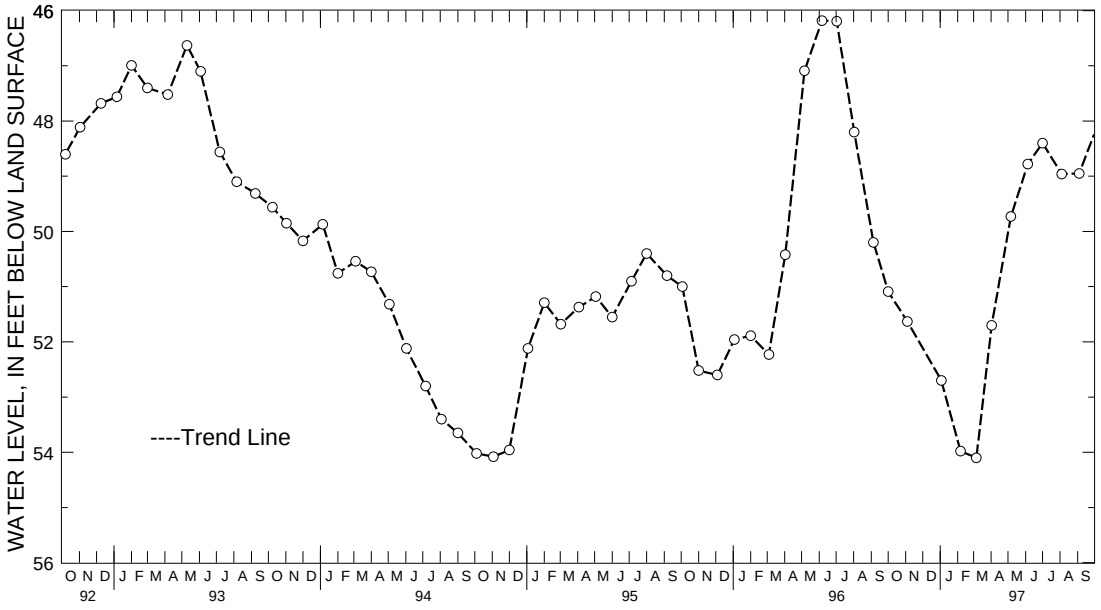
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 electric 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1996	51.09	FEB 06, 1997	53.98	MAY 06, 1997	49.73	AUG 04, 1997	48.96
NOV 04	51.63	MAR 06	54.10	JUN 05	48.78	SEP 04	48.95
JAN 03, 1997	52.70	APR 02	51.70	JUL 01	48.40		

WATER YEAR 1997 HIGHEST 48.40 JUL 01, 1997 LOWEST 54.10 MAR 06, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

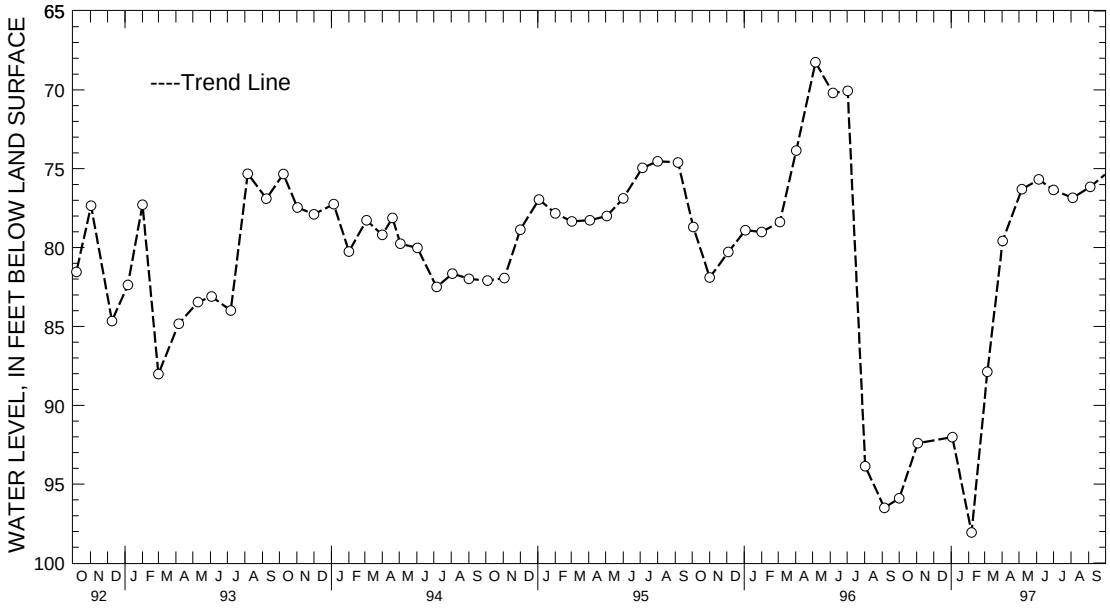
DORCHESTER COUNTY--Continued

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 electric 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1996	95.90	FEB 06, 1997	98.06	MAY 06, 1997	76.30	AUG 04, 1997	76.85
NOV 03	92.40	MAR 06	87.88	JUN 05	75.68	SEP 04	76.15
JAN 03, 1997	92.02	APR 02	79.58	JUL 01	76.35		

WATER YEAR 1997 HIGHEST 75.68 JUN 05, 1997 LOWEST 98.06 FEB 06, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

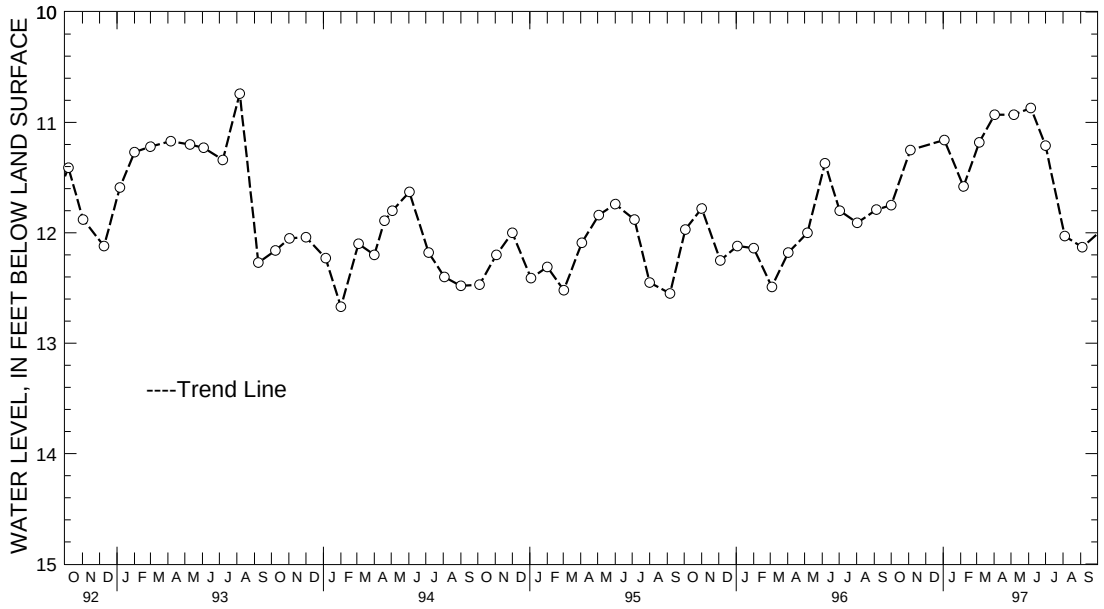
DORCHESTER COUNTY--Continued

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 & 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 electric 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1996	11.75	FEB 06, 1997	11.58	MAY 06, 1997	10.93	AUG 04, 1997	12.03
NOV 04	11.25	MAR 06	11.18	JUN 05	10.87	SEP 04	12.13
JAN 03, 1997	11.16	APR 02	10.93	JUL 01	11.21		

WATER YEAR 1997 HIGHEST 10.87 JUN 05, 1997 LOWEST 12.13 SEP 04, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

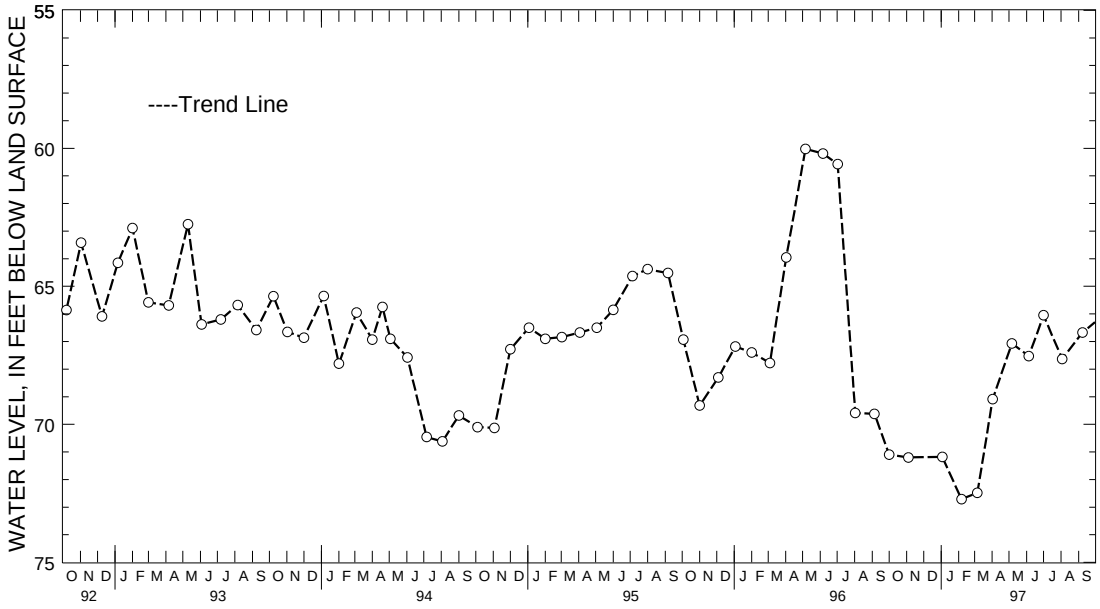
DORCHESTER COUNTY--Continued

WELL NUMBER.--DO Ce 21. SITE ID.--383346076030301.
LOCATION.--Lat 38°33´46˝, long 76°03´03˝, Hydrologic Unit 02060005, on Shoal Creek about 1.5 mi southeast of Cambridge.
Owner: Eastern Shore State Hospital.
AQUIFER.--Piney Point Formation of Middle Eocene age. Aquifer code: 124PNPN.
WELL CHARACTERISTICS.--Drilled, unused, artesian well, reported depth 370 ft; casing diameter 8 in., to 239 ft; casing diameter 4.5 in., 239 to 368.5 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
Equipped with graphic water-level recorder Aug. 23, 1956 to Nov. 6, 1958, and Sept. 11, 1965 to Oct. 13, 1966.
DATUM.--Elevation of land surface is 11.7 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Top of casing at land surface.
REMARKS.--Maryland Water-Level Network observation well. Water level measured 73.77 ft below land surface, Feb. 14, 1952. Water levels may be affected by nearby pumping. Access to well blocked by construction equipment, from January 1988 through September 1988.
PERIOD OF RECORD.--August 1956 to current year.
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.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1996	71.10	FEB 06, 1997	72.71	MAY 06, 1997	67.07	AUG 03, 1997	67.63
NOV 04	71.20	MAR 06	72.48	JUN 05	67.53	SEP 08	66.67
JAN 03, 1997	71.18	APR 02	69.09	JUL 01	66.05		

WATER YEAR 1997 HIGHEST 66.05 JUL 01, 1997 LOWEST 72.71 FEB 06, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

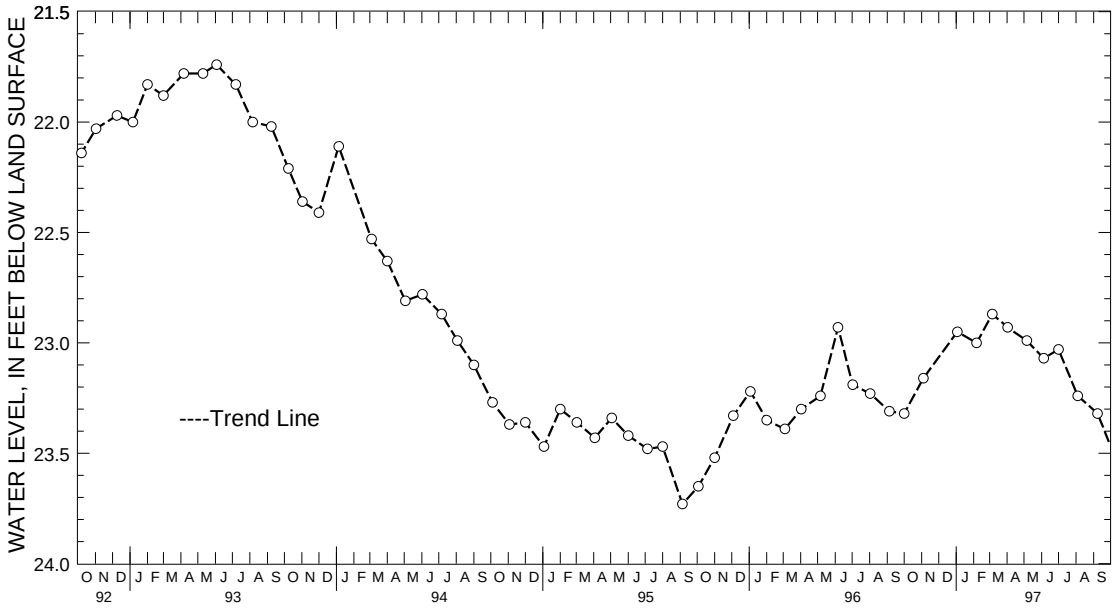
DORCHESTER COUNTY--Continued

WELL NUMBER.--DO Ce 85. SITE ID.--383256076035301. PERMIT NUMBER.--DO-73-0281.
LOCATION.--Lat 38°32´56˝, long 76°03´53˝, Hydrologic Unit 02060005, at Woods Rd. water tower, Cambridge.
Owner: U.S. Geological Survey.
AQUIFER.--Cheswold aquifer of the Calvert Formation of Miocene age. Aquifer code: 122CSLD.
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 230 ft; casing diameter 4 in., to 220 ft; screen diameter 4 in. from 220 to 230 ft.
INSTRUMENTATION.--Monthly measurements with electric 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. Reported as DO Ce 78 in previous reports.
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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1996	23.32	FEB 06, 1997	23.00	MAY 06, 1997	22.99	AUG 04, 1997	23.24
NOV 04	23.16	MAR 06	22.87	JUN 05	23.07	SEP 08	23.32
JAN 03, 1997	22.95	APR 02	22.93	JUL 01	23.03		

WATER YEAR 1997 HIGHEST 22.87 MAR 06, 1997 LOWEST 23.32 OCT 01, 1996 SEP 08, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

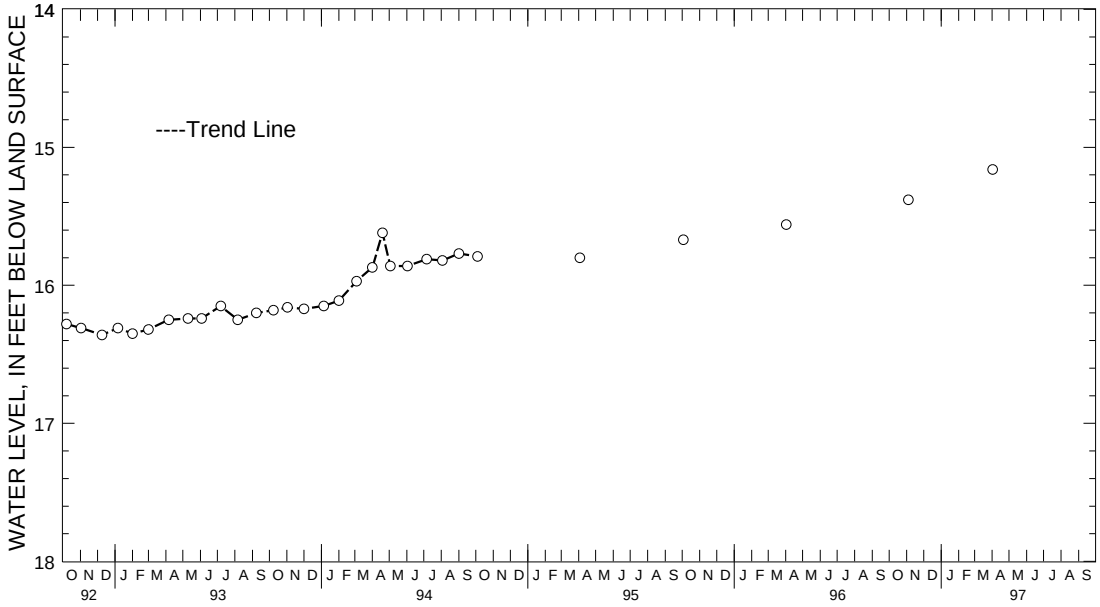
DORCHESTER COUNTY--Continued

WELL NUMBER.--DO Ce 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.--Twice yearly measurements with electric 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 04, 1996	15.38	APR 02, 1997	15.16

WATER YEAR 1997 HIGHEST 15.16 APR 02, 1997 LOWEST 15.38 NOV 04, 1996



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

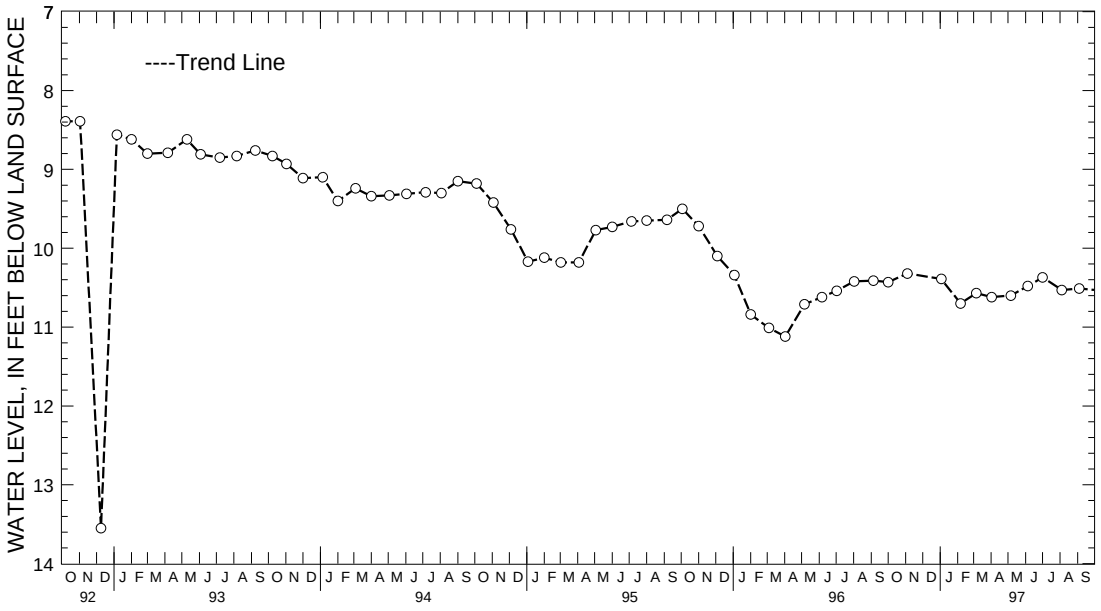
DORCHESTER COUNTY--Continued

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 electric 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. On Dec. 5, 1990 a northeaster storm caused the rise in water-levels when low lying areas were flooded. 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1996	10.43	FEB 06, 1997	10.70	MAY 06, 1997	10.60	AUG 04, 1997	10.53
NOV 04	10.32	MAR 06	10.57	JUN 05	10.48	SEP 04	10.51
JAN 03, 1997	10.39	APR 02	10.62	JUL 01	10.37		

WATER YEAR 1997 HIGHEST 10.32 NOV 04, 1996 LOWEST 10.70 FEB 06, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

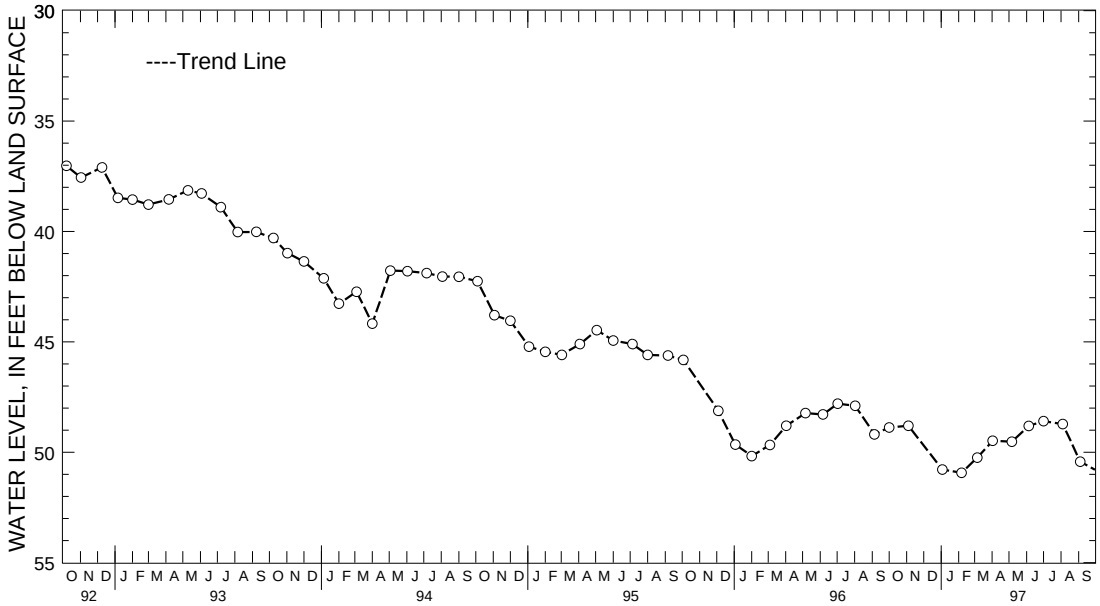
DORCHESTER COUNTY--Continued

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 electric 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, 50.93 ft below land surface, Feb. 6, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1996	48.88	FEB 06, 1997	50.93	MAY 06, 1997	49.52	AUG 04, 1997	48.72
NOV 04	48.80	MAR 06	50.24	JUN 05	48.81	SEP 04	50.43
JAN 03, 1997	50.78	APR 02	49.48	JUL 01	48.59		

WATER YEAR 1997 HIGHEST 48.59 JUL 01, 1997 LOWEST 50.93 FEB 06, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

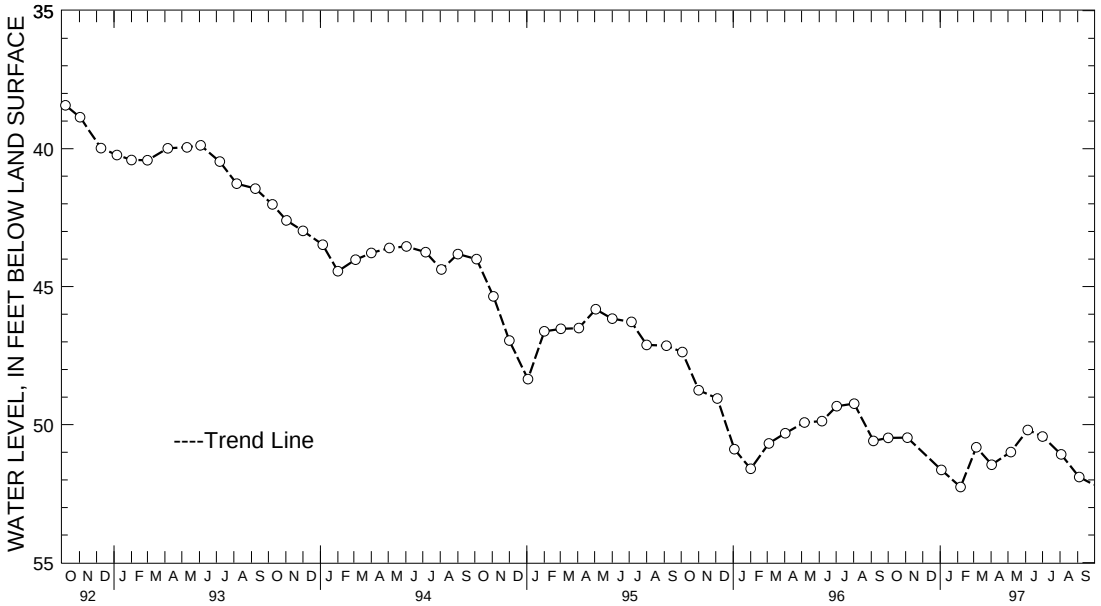
DORCHESTER COUNTY--Continued

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 electric 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, 52.26 ft below land surface, Feb. 6, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1996	50.48	FEB 06, 1997	52.26	MAY 06, 1997	50.99	AUG 03, 1997	51.08
NOV 04	50.47	MAR 06	50.82	JUN 05	50.19	SEP 04	51.90
JAN 03, 1997	51.64	APR 02	51.45	JUL 01	50.43		

WATER YEAR 1997 HIGHEST 50.19 JUN 05, 1997 LOWEST 52.26 FEB 06, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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: 121BVDM.
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 electric tape by U.S. Geological Survey personnel.
Equipped with digital water-level recorder--30-minute recorder interval from May 1990 to current year.
DATUM.--Altitude 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 are affected by nearby pumping at powerplant. Missing data due to recorder malfunction. The April 1, 1997 record low water level is due to an extended period of pumping to fill the storage tank, which was drained for maintenance.
PERIOD OF RECORD.--April 1990 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.79 ft above sea level, Oct. 21, 1996; lowest measured, 11.11 ft below sea level, April 1, 1997.

WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
(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	2.70	2.05	3.26	-6.11	3.54	2.78	3.34	2.48	3.31	2.86	3.05	2.21
2	2.94	2.25	2.91	2.06	3.54	-4.85	3.34	2.50	3.18	2.72	3.35	2.78
3	2.91	-1.97	2.91	2.40	2.54	-4.98	3.23	2.78	3.21	-2.70	3.05	1.87
4	2.68	1.82	2.89	-5.39	2.87	.89	3.28	2.82	2.84	-5.04	3.28	2.26
5	2.82	2.45	2.30	-5.19	3.02	2.44	3.69	3.16	2.83	-4.66	3.46	-1.97
6	2.85	2.43	2.50	1.95	3.48	-3.04	3.63	2.61	2.92	-3.78	3.52	-3.15
7	2.89	-3.74	2.99	2.41	3.43	2.71	3.02	2.23	2.98	-3.64	2.91	-3.64
8	3.05	2.64	3.18	-3.79	3.63	3.03	2.60	1.68	3.09	2.46	2.91	1.94
9	3.22	2.73	3.33	2.62	3.68	-4.87	2.22	1.54	3.33	2.57	2.91	2.06
10	3.56	-3.88	3.04	2.49	2.72	-5.19	2.93	1.91	3.42	-5.04	3.24	-2.03
11	2.85	-3.88	2.85	-3.10	3.09	-3.44	3.17	2.29	2.89	-4.53	3.31	2.76
12	3.05	2.31	2.62	-4.62	3.17	-3.12	2.55	2.03	2.96	-4.28	3.17	2.63
13	3.24	2.62	2.25	-5.97	3.51	2.81	2.36	1.25	2.85	.03	3.14	2.62
14	3.16	2.66	2.20	-5.16	3.28	2.57	1.71	-.09	2.82	1.83	3.32	-3.15
15	2.88	-4.17	2.09	-5.56	3.39	2.47	2.47	1.23	3.22	2.63	3.31	2.69
16	3.02	2.45	2.81	1.90	3.40	-4.04	2.57	2.03	3.14	2.61	2.92	2.46
17	2.85	-3.56	3.02	2.42	3.66	3.18	2.56	-4.29	3.10	1.97	3.13	2.44
18	2.97	-4.51	3.04	-4.34	3.65	-3.34	2.31	-5.14	2.34	1.61	3.15	2.49
19	3.36	2.86	3.29	2.87	3.30	-3.33	2.01	-5.36	2.70	1.90	2.94	-2.36
20	3.75	3.20	3.37	-2.37	3.16	-4.65	2.42	-4.78	2.34	1.44	3.26	-1.29
21	3.79	-3.88	3.21	-3.49	2.57	-5.30	2.50	-4.74	2.74	1.62	3.31	-2.90
22	3.50	3.06	3.06	-3.15	2.26	-.56	2.35	-5.10	3.16	2.69	3.45	2.68
23	3.63	3.13	2.91	2.23	2.56	1.84	2.45	-4.27	2.76	2.28	3.00	2.43
24	3.65	3.00	2.95	2.43	3.02	2.01	2.43	-4.09	2.75	2.16	3.24	2.71
25	3.42	.96	2.83	-4.31	2.98	2.21	3.37	2.31	2.57	1.98	3.17	2.71
26	3.25	2.74	3.09	2.34	2.72	2.00	3.12	-4.61	2.99	2.26	3.63	2.64
27	3.27	2.70	2.69	-4.93	2.69	2.06	2.33	-5.37	3.04	2.27	3.01	-2.15
28	3.22	-5.28	2.59	1.63	3.21	2.30	2.63	-4.06	2.52	2.13	3.05	2.56
29	2.79	-4.66	2.86	2.26	3.37	2.98	2.68	2.25	---	---	3.40	2.71
30	3.45	2.51	3.06	2.49	3.21	2.83	2.59	-5.22	---	---	3.34	2.89
31	3.34	-1.45	---	---	3.17	2.72	2.89	-4.60	---	---	3.31	-2.98
MONTH	3.79	-5.28	3.37	-6.11	3.68	-5.30	3.69	-5.37	3.42	-5.04	3.63	-3.64

GROUND-WATER LEVELS

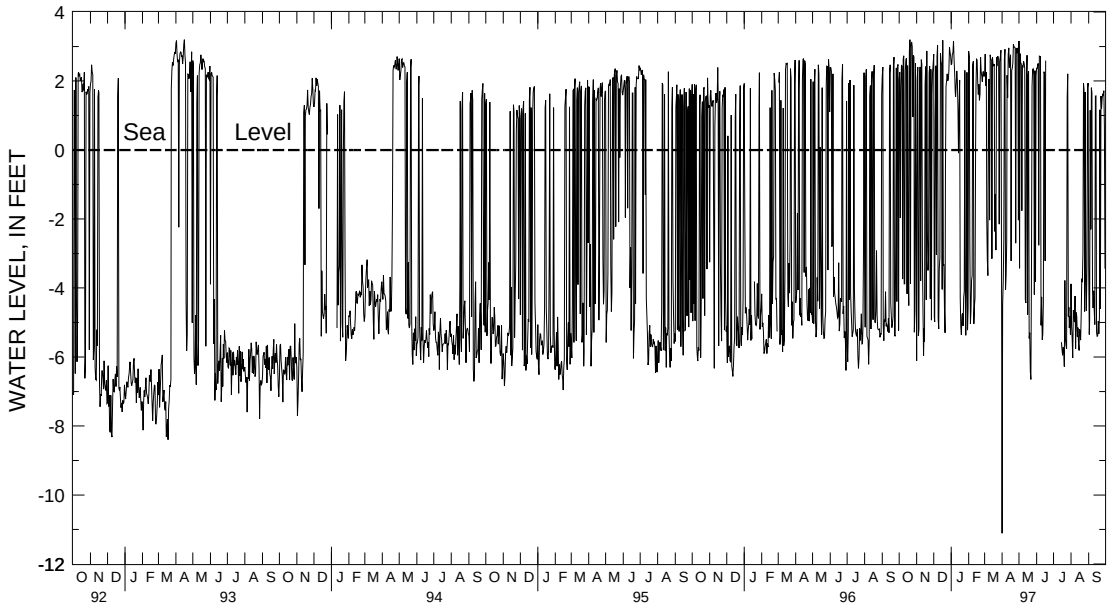
MARYLAND--Continued

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	2.55	-11.11	3.62	3.16	2.81	2.37	---	---	2.23	-3.88	2.49	-3.28
2	2.57	-4.48	3.48	-3.43	2.91	2.37	---	---	2.29	-5.11	2.39	-5.35
3	2.75	-3.81	3.45	2.79	2.95	2.48	---	---	2.17	-5.47	2.18	-4.96
4	3.05	-2.58	3.46	2.52	3.04	2.51	---	---	2.11	-6.03	1.81	1.15
5	3.15	2.63	3.08	2.50	3.25	-2.76	---	---	2.03	-4.64	2.18	-2.30
6	3.45	2.92	3.40	-1.76	3.16	2.72	---	---	2.30	-4.73	2.22	1.81
7	3.49	-4.05	3.02	2.43	3.13	2.71	---	---	2.34	-4.99	2.14	1.65
8	3.06	-3.63	2.97	2.41	3.15	2.71	---	---	2.09	-4.23	2.09	-4.09
9	3.08	-2.69	3.11	2.57	3.05	-5.08	---	---	2.19	-5.76	2.05	-4.58
10	2.78	2.17	3.06	2.51	2.46	-4.26	---	---	1.96	-4.71	2.36	-4.08
11	3.08	1.51	2.92	2.37	2.45	-5.50	---	---	1.97	-4.83	2.44	-4.68
12	3.40	2.77	2.88	-4.35	2.14	-5.35	---	---	1.94	-5.41	2.19	-5.06
13	3.43	2.96	2.52	-4.43	2.49	-4.42	---	---	2.05	-5.15	2.00	1.56
14	3.21	2.39	2.95	2.11	2.62	2.27	---	---	2.22	-5.61	2.10	1.57
15	3.03	2.58	3.12	2.75	2.67	2.23	2.12	-5.57	1.87	-5.81	2.15	-5.28
16	3.19	2.76	2.99	-4.77	2.78	-3.21	2.04	-5.78	2.15	-5.20	2.00	-5.40
17	3.41	-3.21	2.67	2.15	2.97	2.59	1.90	-5.95	2.22	-5.24	1.95	-5.39
18	2.79	2.30	2.77	2.28	---	---	2.05	-5.73	2.04	-5.51	2.10	-4.96
19	2.76	2.37	2.93	-5.46	---	---	2.04	-5.75	1.87	-4.81	2.01	-5.33
20	3.35	2.52	2.55	-5.30	---	---	1.99	-6.28	2.49	-3.73	2.15	-4.84
21	3.58	3.07	2.29	-6.41	---	---	2.07	-3.78	2.74	-3.83	1.83	1.17
22	3.43	2.98	2.12	-6.65	---	---	2.31	-5.50	2.49	-3.00	1.83	-4.60
23	3.47	2.98	2.11	-3.64	---	---	1.96	-5.67	2.44	1.93	2.02	1.56
24	3.46	2.96	2.65	1.84	---	---	2.12	-5.76	2.37	1.74	1.92	1.20
25	3.62	-2.70	3.02	2.33	---	---	2.50	1.51	2.28	-4.68	2.05	1.49
26	3.45	2.95	3.00	2.35	---	---	2.65	2.21	2.20	1.68	2.22	1.61
27	3.29	2.81	2.89	2.18	---	---	2.63	-4.82	2.31	-3.77	2.02	1.59
28	3.62	2.96	2.96	-4.19	---	---	2.32	-4.56	2.34	-4.66	2.21	1.72
29	3.42	2.91	2.75	2.30	---	---	2.31	-5.16	2.29	-3.40	2.54	.68
30	3.33	-2.03	2.75	-3.82	---	---	2.10	-4.82	2.27	1.80	2.41	-3.44
31	---	---	2.63	2.16	---	---	2.20	-5.35	2.45	1.94	---	---
MONTH	3.62	-11.11	3.62	-6.65	3.25	-5.50	2.65	-6.28	2.74	-6.03	2.54	-5.40
YEAR	3.79	-11.11										

Daily Low Water Levels



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

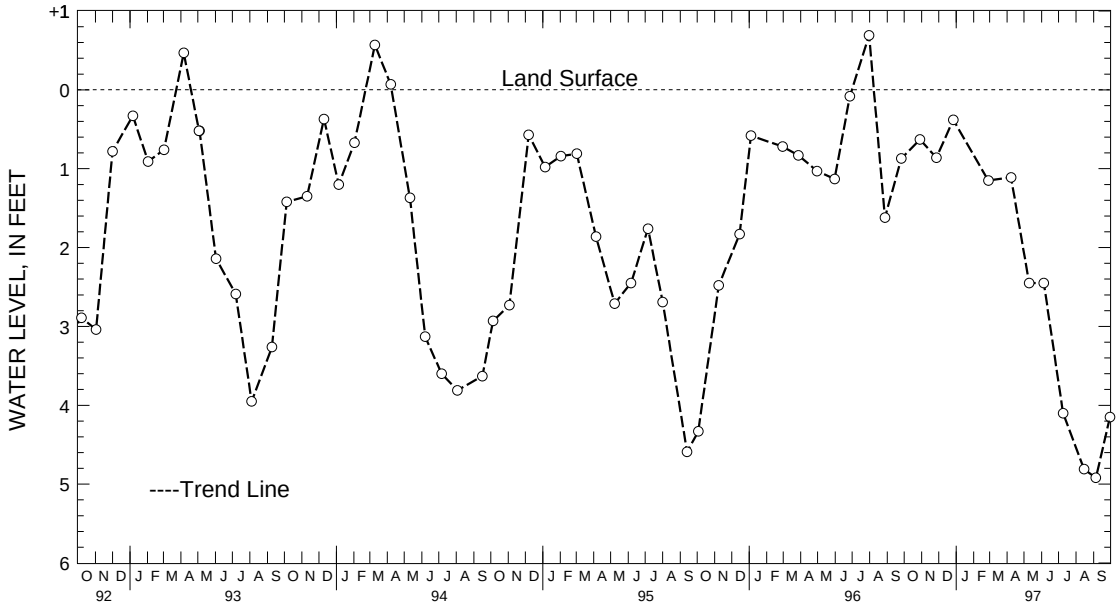
FREDERICK COUNTY

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, 0.69 ft above land surface, July 31, 1996; lowest measured, 5.43 ft below land surface, June 2, 1987.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29, 1996	.63	FEB 27, 1997	1.15	JUN 05, 1997	2.45	SEP 05, 1997	4.92
NOV 27	.86	APR 08	1.11	JUL 09	4.10	30	4.15
DEC 27	.38	MAY 10	2.45	AUG 15	4.81		

WATER YEAR 1997 HIGHEST .38 DEC 27, 1996 LOWEST 4.92 SEP 05, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

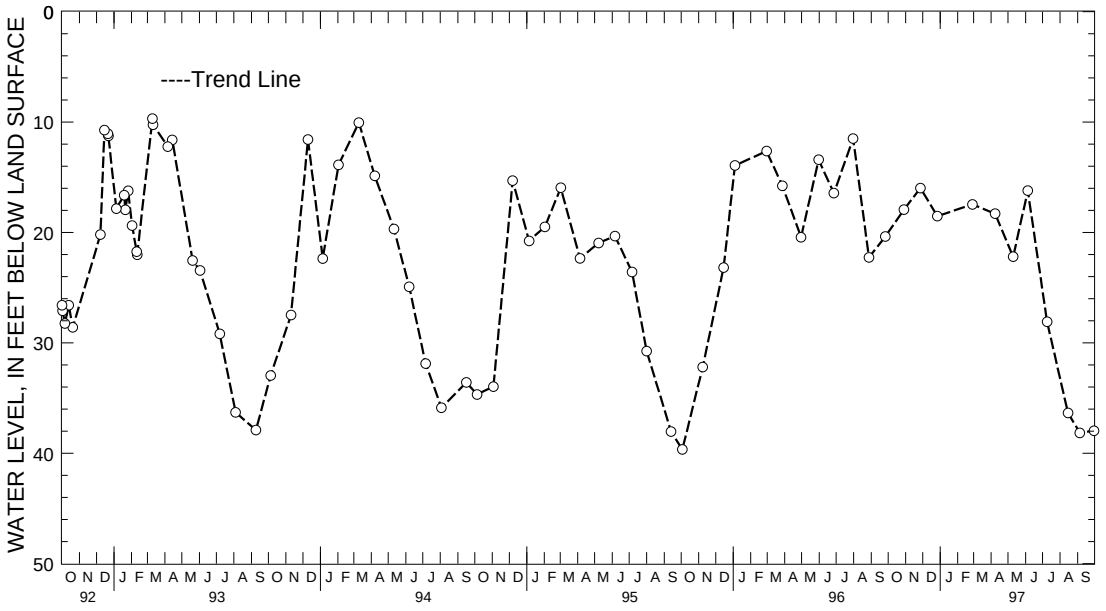
FREDERICK COUNTY--Continued

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.--Catoctin 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29, 1996	17.93	FEB 27, 1997	17.46	JUN 05, 1997	16.21	SEP 05, 1997	38.15
NOV 27	15.98	APR 08	18.30	JUL 09	28.09	30	37.97
DEC 27	18.52	MAY 10	22.19	AUG 15	36.34		

WATER YEAR 1997 HIGHEST 15.98 NOV 27, 1996 LOWEST 38.15 SEP 05, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

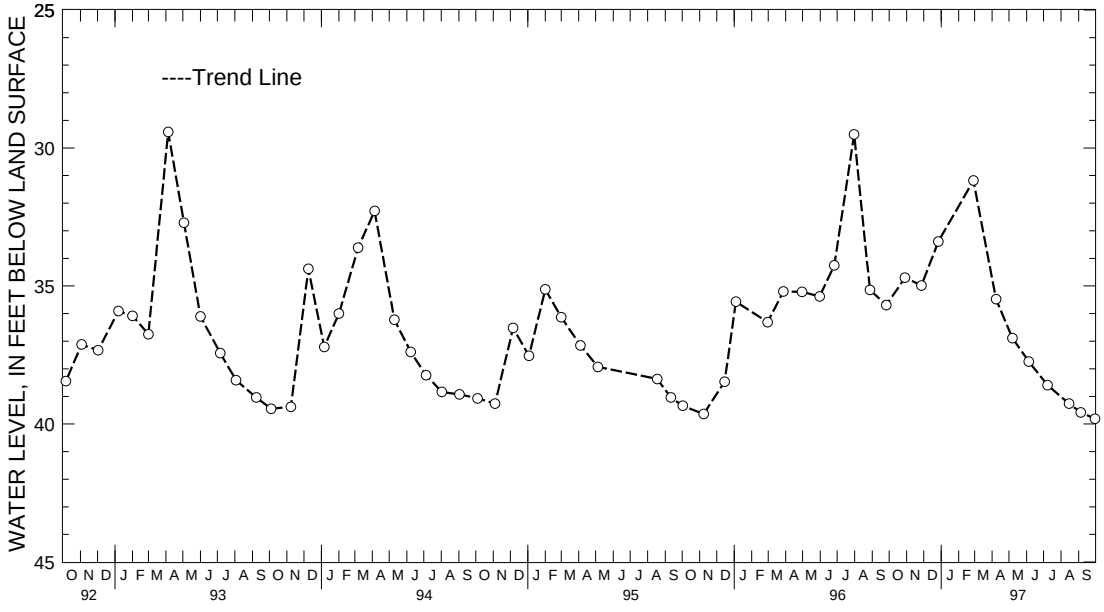
FREDERICK COUNTY--Continued

WELL NUMBER.--FR Cg 1. SITE ID.--393156077135701.
LOCATION.--Lat 39°31´56˝, long 77°13´57˝, Hydrologic Unit 02070009, at Johnsville.
Owner: Evan B. Evans, Jr.
AQUIFER.--Ijamsville Formation of Paleozoic age. Aquifer code: 300IJMV.
WELL CHARACTERISTICS.--Dug, stone-lined, domestic, water-table well, depth 43 ft; diameter 36 in.
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 600 ft above National Geodetic Vertical Datum of 1929, from topographic map.
Measuring point: Top of wooden well cover, 0.60 ft above land surface.
REMARKS.--Maryland Water-Level Network observation well. Residents use well as their primary water source.
PERIOD OF RECORD.--July 1946 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 28.63 ft below land surface, Sept. 29, 1975; lowest measured, 42.02 ft below land surface, Oct. 5, 1982.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29, 1996	34.70	FEB 27, 1997	31.18	JUN 05, 1997	37.74	SEP 05, 1997	39.58
NOV 27	34.98	APR 08	35.48	JUL 08	38.59	30	39.81
DEC 27	33.39	MAY 07	36.89	AUG 15	39.26		

WATER YEAR 1997 HIGHEST 31.18 FEB 27, 1997 LOWEST 39.81 SEP 30, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

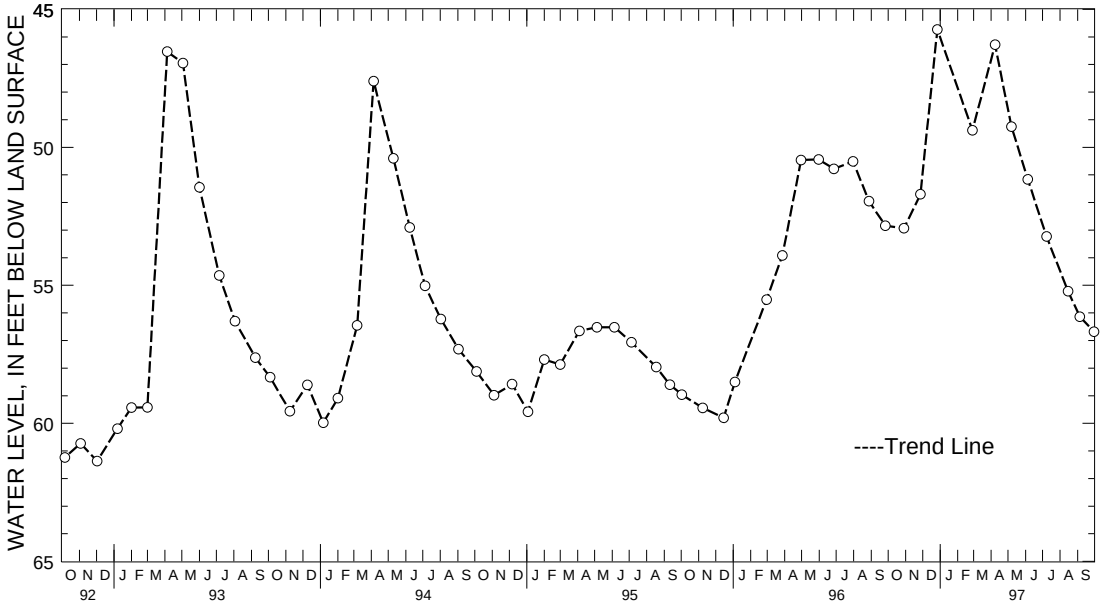
FREDERICK COUNTY--Continued

WELL NUMBER.--FR Df 35. SITE ID.--392517077190401. PERMIT NUMBER.--FR-73-0852.
LOCATION.--Lat 39°25´17˝, long 77°19´04˝, Hydrologic Unit 02070009, north of Eaglehead Drive, near Lake Linganore.
Owner: Lake Linganore Association.
AQUIFER.--Sams Creek Metabasalt of Paleozoic age. Aquifer code: 300SMCK.
WELL CHARACTERISTICS.--Drilled, unused, water-table well, depth 302 ft, casing diameter 6 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 570 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.--May 1982 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 44.20 ft below land surface, April 2, 1984; lowest measured, 62.27 ft below land surface, Feb. 9, 1989.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29, 1996	52.93	FEB 27, 1997	49.38	JUN 05, 1997	51.16	SEP 05, 1997	56.14
NOV 27	51.70	APR 08	46.28	JUL 08	53.23	30	56.68
DEC 27	45.73	MAY 07	49.25	AUG 15	55.21		

WATER YEAR 1997 HIGHEST 45.73 DEC 27, 1996 LOWEST 56.68 SEP 30, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

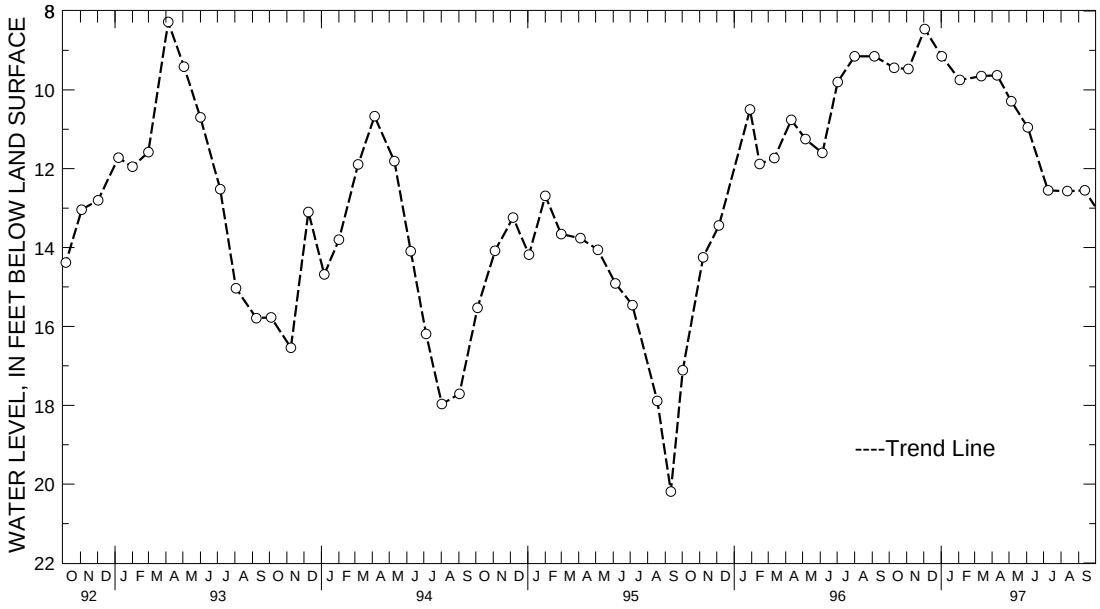
FREDERICK COUNTY--Continued

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, 20.19 ft below land surface, Sept. 11, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 10, 1996	9.44	JAN 02, 1997	9.15	APR 10, 1997	9.63	JUL 09, 1997	12.55
NOV 04	9.47	FEB 03	9.75	MAY 05	10.29	AUG 12	12.57
DEC 03	8.46	MAR 13	9.65	JUN 03	10.95	SEP 12	12.55

WATER YEAR 1997 HIGHEST 8.46 DEC 03, 1996 LOWEST 12.57 AUG 12, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

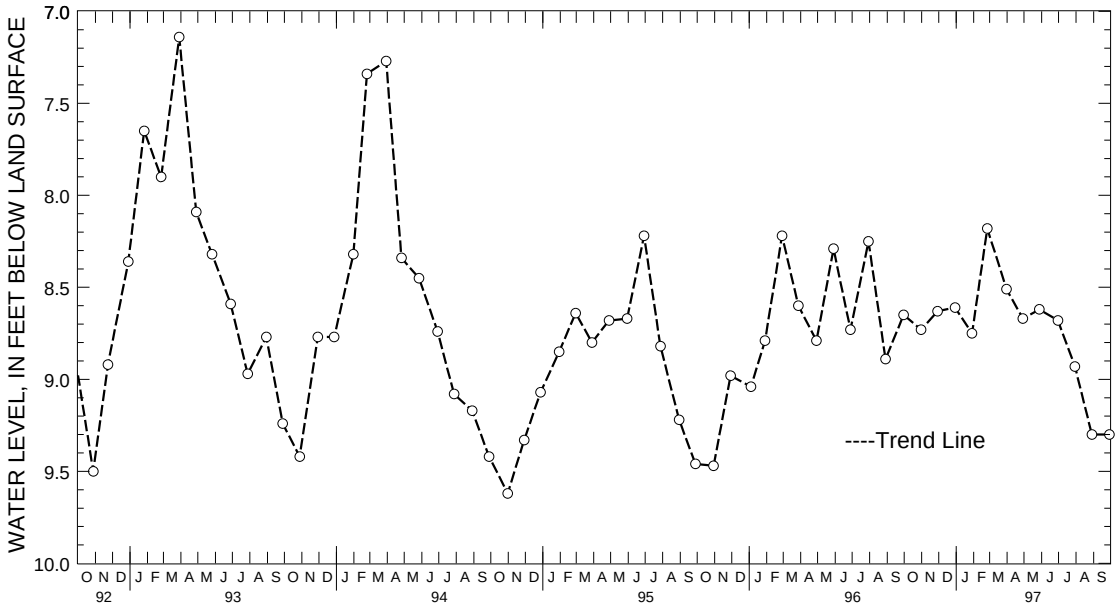
GARRETT COUNTY

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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 31, 1996	8.73	JAN 29, 1997	8.75	APR 29, 1997	8.67	JUL 30, 1997	8.93
NOV 29	8.63	FEB 25	8.18	MAY 28	8.62	AUG 29	9.30
DEC 30	8.61	MAR 31	8.51	JUN 30	8.68	SEP 29	9.30

WATER YEAR 1997 HIGHEST 8.18 FEB 25, 1997 LOWEST 9.30 AUG 29 and SEP 29, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

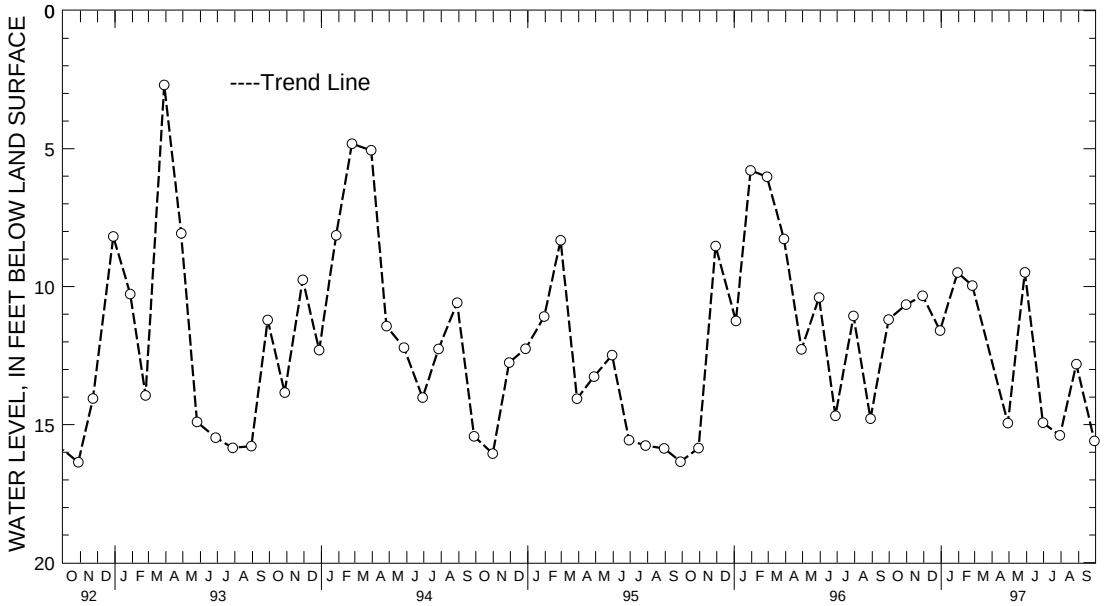
GARRETT COUNTY--Continued

WELL NUMBER.--GA Bc 1. SITE ID.--393749079190301.
LOCATION.--Lat 39°37´49˝, long 79°19´03˝, Hydrologic Unit 05020006, at Accident.
Owner: Mabel A. Georg.
AQUIFER.--Hampshire Formation of Upper Devonian age. Aquifer code: 341HMPR.
WELL CHARACTERISTICS.--Dug, stone-lined, domestic, water-table well, depth 20 ft; diameter 36 in.
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 2,415 ft above National Geodetic Vertical Datum of 1929, from topographic map.
Measuring point: Top of 1 in. board cover, 2.30 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, 2.25 ft below land surface, March 6, 1979; lowest measured, 19.65 ft below land surface, Dec. 9, 1953.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 31, 1996	10.65	JAN 30, 1997	9.49	MAY 29, 1997	9.48	AUG 28, 1997	12.81
NOV 29	10.33	FEB 25	9.96	JUN 30	14.93	SEP 29	15.59
DEC 30	11.59	APR 29	14.94	JUL 30	15.39		

WATER YEAR 1997 HIGHEST 9.48 MAY 29, 1997 LOWEST 15.59 SEP 29, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

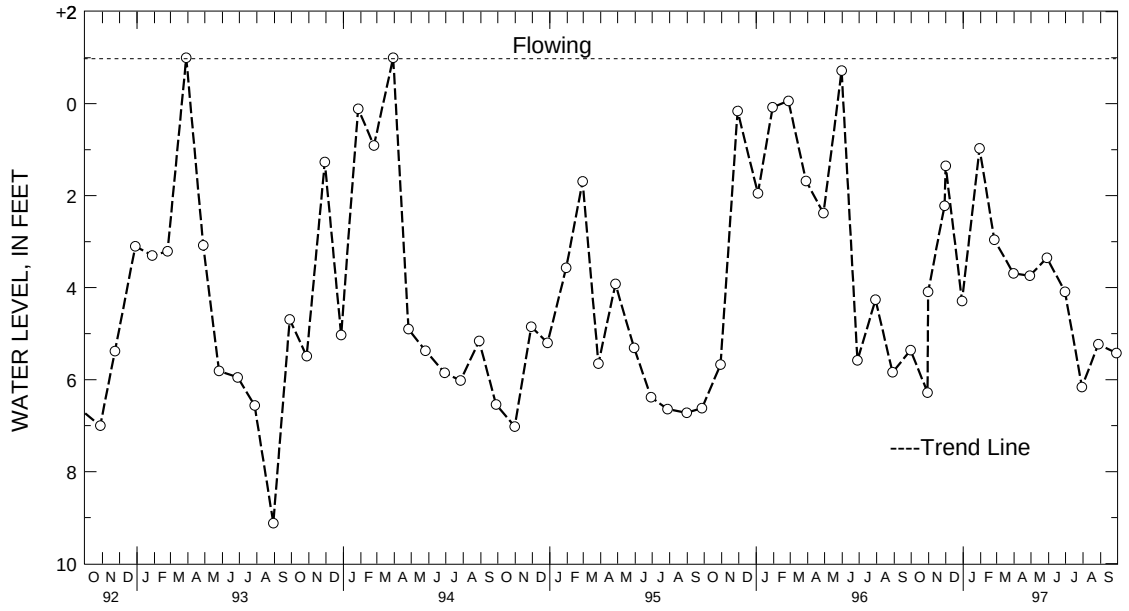
GARRETT COUNTY--Continued

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, near 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, artesian 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, from topographic map.
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 and March 30, 1994.; lowest measured, 9.12 ft below land surface, Aug. 30, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30, 1996	6.28	DEC 30, 1996	4.29	APR 29, 1997	3.74	AUG 28, 1997	5.23
31	4.09	JAN 30, 1997	.97	MAY 29	3.35	SEP 29	5.42
NOV 29	2.22	FEB 25	2.96	JUN 30	4.09		
DEC 01	1.35	MAR 31	3.69	JUL 30	6.16		

WATER YEAR 1997 HIGHEST .97 JAN 30, 1997 LOWEST 6.28 OCT 30, 1996



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

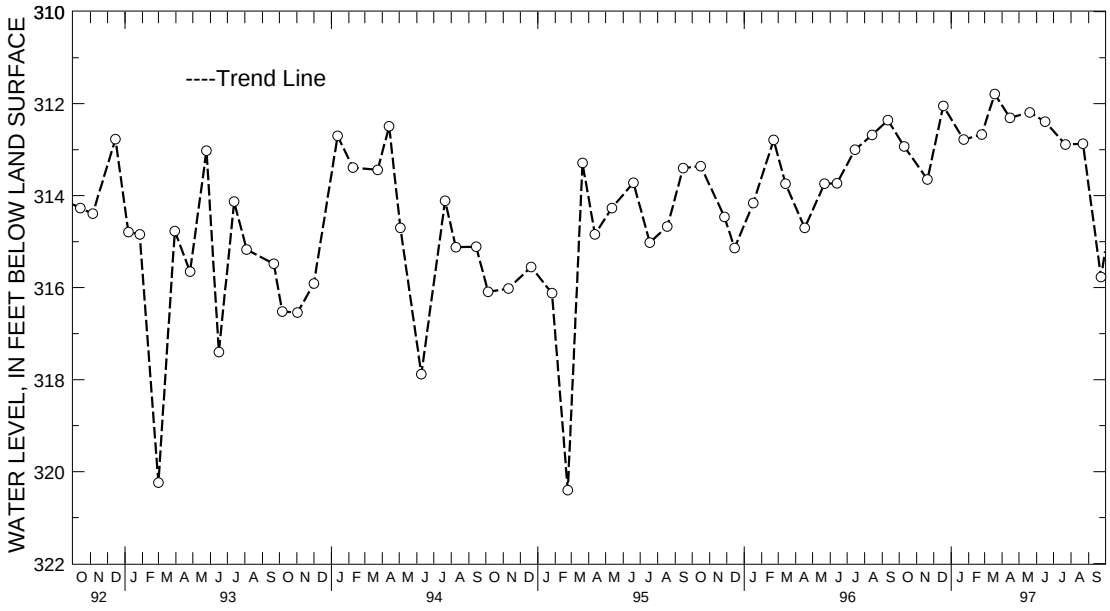
GARRETT COUNTY--Continued

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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 10, 1996	312.93	JAN 23, 1997	312.78	APR 15, 1997	312.31	JUL 22, 1997	312.89
NOV 20	313.65	FEB 24	312.67	MAY 20	312.19	AUG 22	312.87
DEC 18	312.05	MAR 19	311.79	JUN 16	312.39	SEP 23	315.77

WATER YEAR 1997 HIGHEST 311.79 MAR 19, 1997 LOWEST 315.77 SEP 23, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

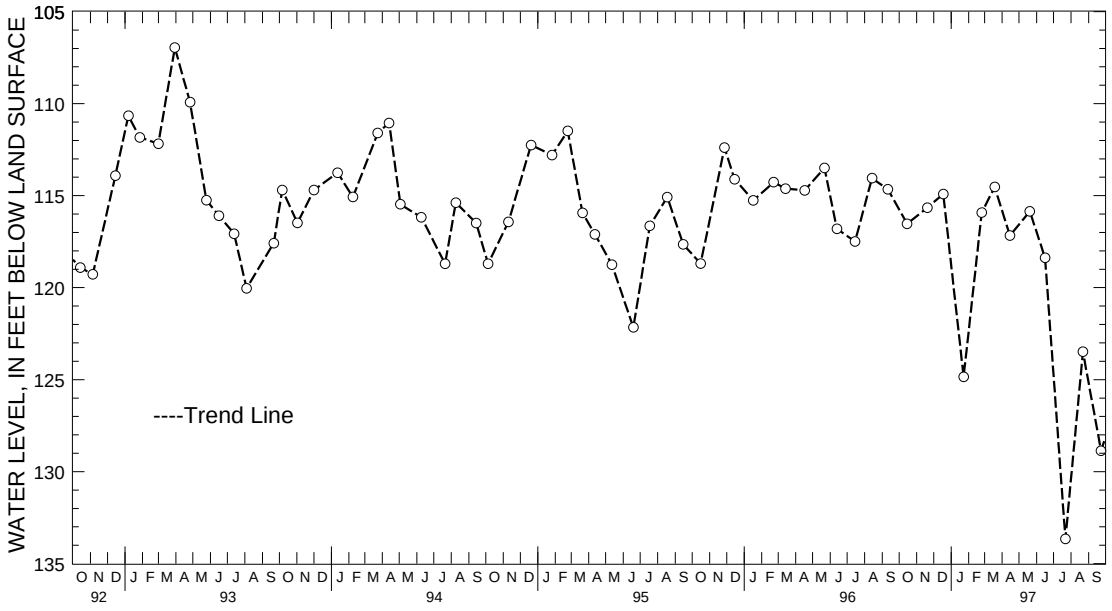
GARRETT COUNTY--Continued

WELL NUMBER.--GA Fa 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	116.53	JAN 23, 1997	124.85	APR 15, 1997	117.17	JUL 22, 1997	133.65
NOV 20	115.65	FEB 24	115.92	MAY 20	115.85	AUG 22	123.48
DEC 18	114.91	MAR 19	114.53	JUN 16	118.38	SEP 23	128.86

WATER YEAR 1997 HIGHEST 114.53 MAR 19, 1997 LOWEST 133.65 JUL 22, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

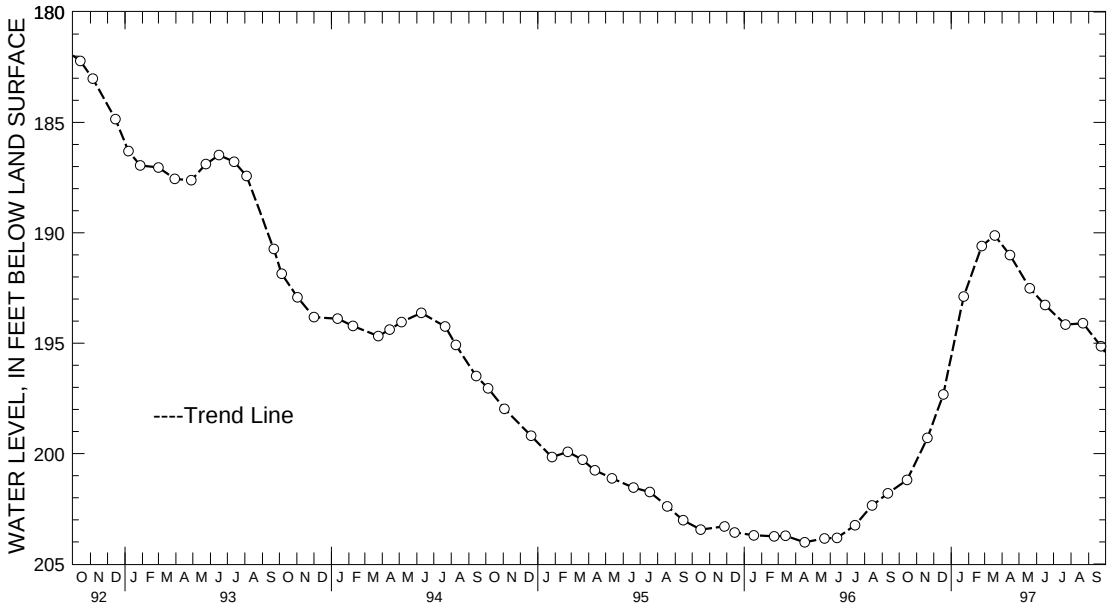
GARRETT COUNTY--Continued

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.--April 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, 204.02 ft below land surface, April 17, 1996.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	201.19	JAN 23, 1997	192.89	APR 15, 1997	191.01	JUL 22, 1997	194.16
NOV 20	199.29	FEB 24	190.60	MAY 20	192.51	AUG 22	194.10
DEC 18	197.32	MAR 19	190.12	JUN 16	193.27	SEP 23	195.14

WATER YEAR 1997 HIGHEST 190.12 MAR 19, 1997 LOWEST 201.19 OCT 15, 1996



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

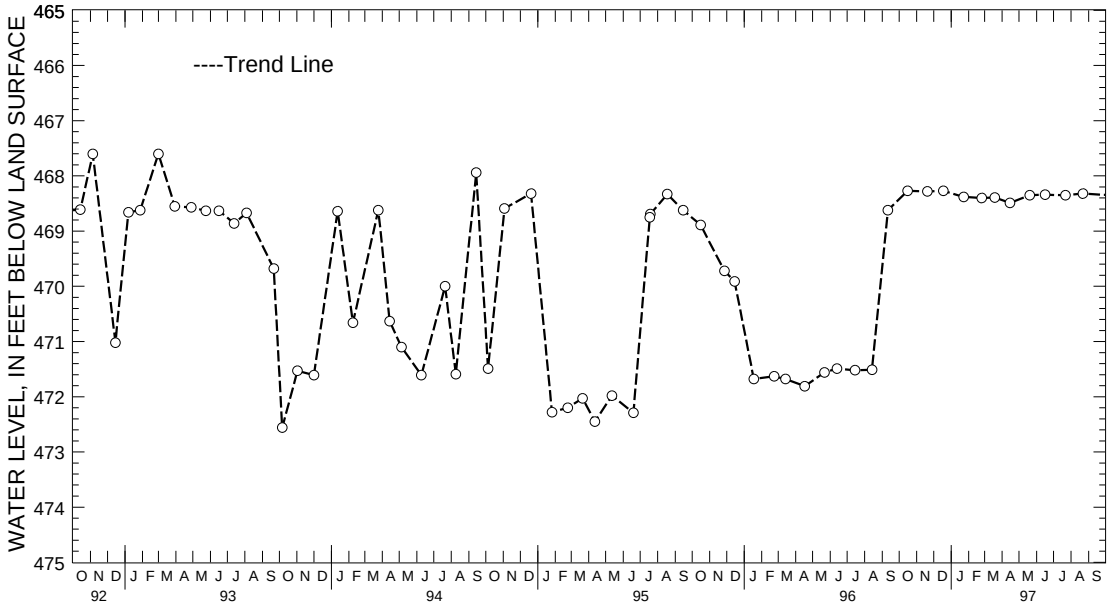
GARRETT COUNTY--Continued

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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 16, 1996	468.27	JAN 23, 1997	468.38	APR 15, 1997	468.49	JUL 22, 1997	468.35
NOV 20	468.28	FEB 24	468.40	MAY 20	468.35	AUG 22	468.32
DEC 18	468.27	MAR 19	468.39	JUN 16	468.34		

WATER YEAR 1997 HIGHEST 468.27 OCT 16 and DEC 18, 1996 LOWEST 468.49 APR 15, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

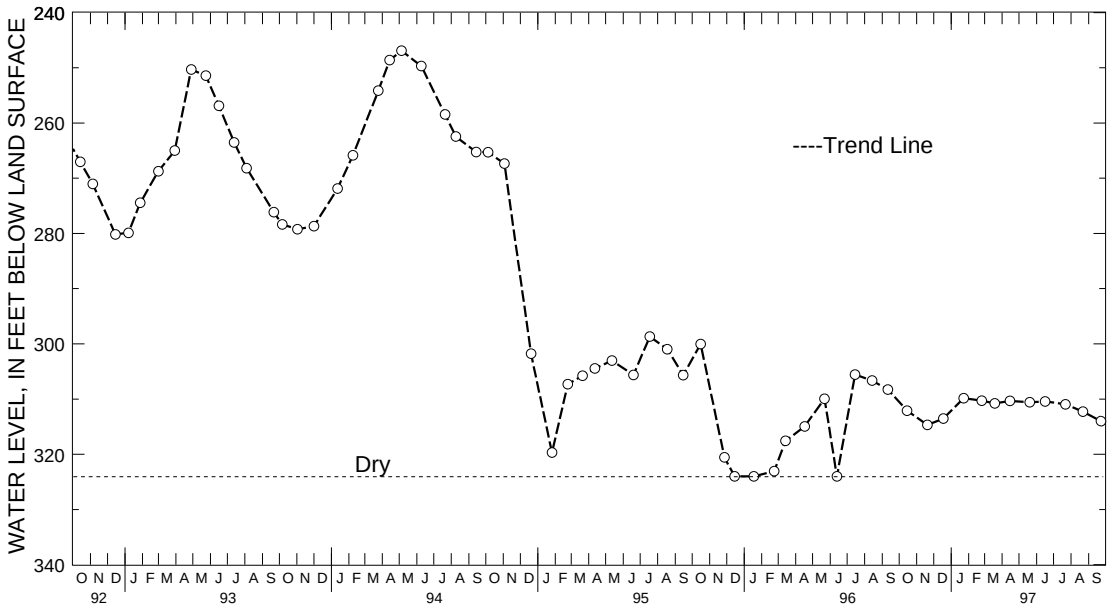
GARRETT COUNTY--Continued

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; measured depth of 324 ft on Dec. 15, 1995, (see REMARKS); 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. Prior to Dec. 15, 1995 the well was undermined and collapsed, the depth of the well is now 324 ft.
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, dry at 324 ft below land surface on Dec, 15, 1995, Jan 18, 1996, and June 13, 1996.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	312.10	JAN 23, 1997	309.85	APR 15, 1997	310.34	JUL 22, 1997	310.94
NOV 20	314.68	FEB 24	310.30	MAY 20	310.58	AUG 22	312.29
DEC 18	313.54	MAR 19	310.77	JUN 16	310.43	SEP 23	314.00

WATER YEAR 1997 HIGHEST 309.85 JAN 23, 1997 LOWEST 314.68 NOV 20, 1996



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

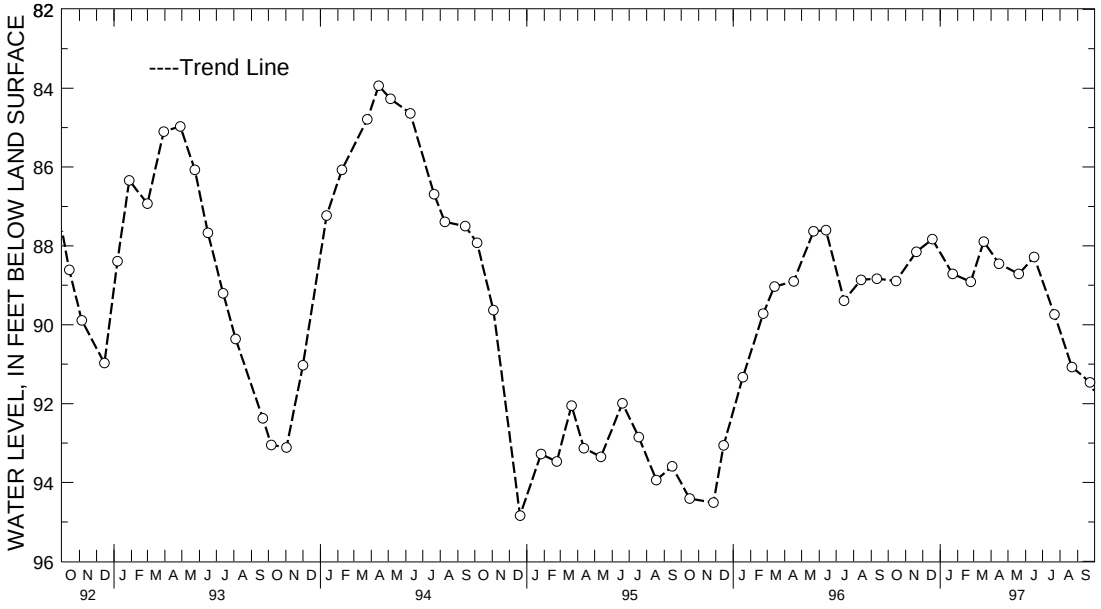
GARRETT COUNTY--Continued

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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	88.89	JAN 23, 1997	88.71	APR 15, 1997	88.45	JUL 22, 1997	89.74
NOV 20	88.15	FEB 24	88.91	MAY 20	88.71	AUG 22	91.07
DEC 18	87.83	MAR 19	87.89	JUN 16	88.28	SEP 23	91.46

WATER YEAR 1997 HIGHEST 87.83 DEC 18, 1996 LOWEST 91.46 SEP 23, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

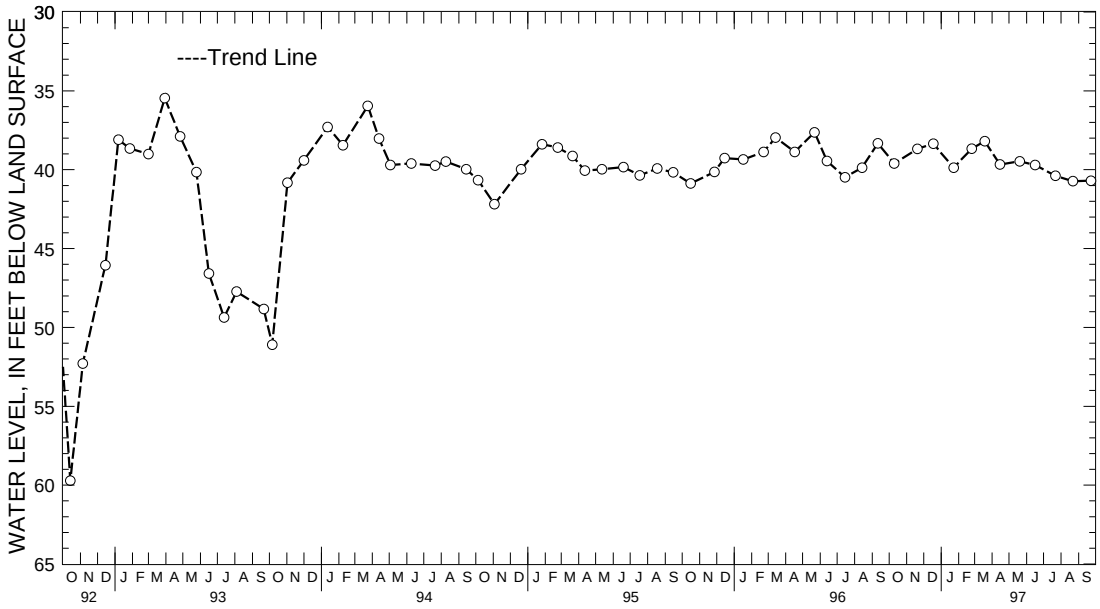
GARRETT COUNTY--Continued

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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 10, 1996	39.61	JAN 23, 1997	39.87	APR 15, 1997	39.67	JUL 22, 1997	40.39
NOV 20	38.68	FEB 24	38.67	MAY 20	39.47	AUG 22	40.73
DEC 18	38.35	MAR 19	38.19	JUN 16	39.70	SEP 23	40.70

WATER YEAR 1997 HIGHEST 38.19 MAR 19, 1997 LOWEST 40.73 AUG 22, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

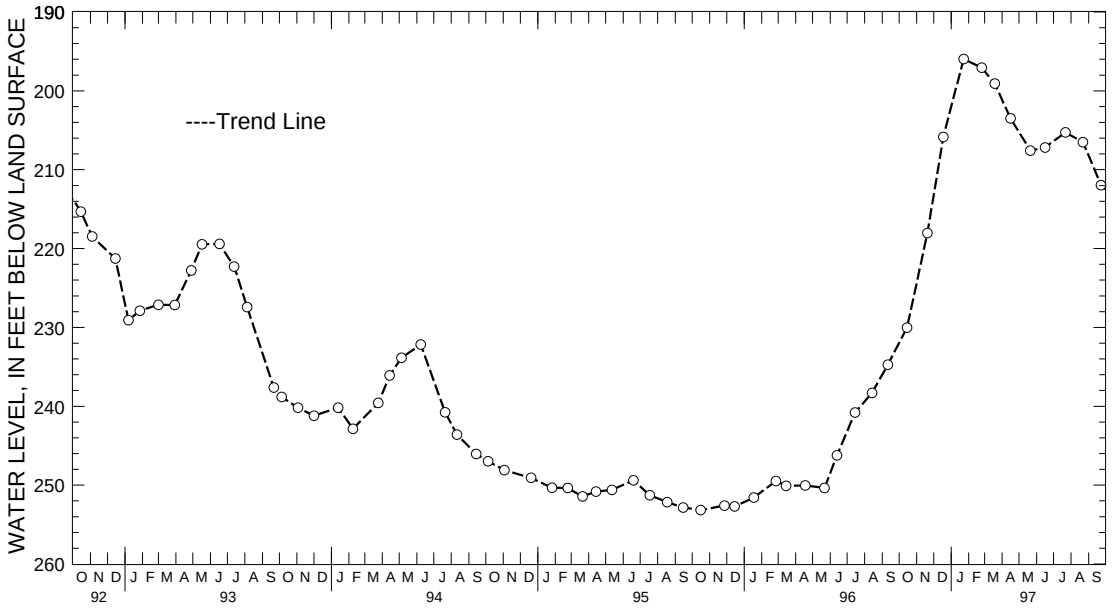
GARRETT COUNTY--Continued

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.--April 1980 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 63.59 ft below land surface, April 8, 1980; lowest measured, 253.17 ft below land surface, Oct. 16. 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	230.02	JAN 23, 1997	195.97	APR 16, 1997	203.50	JUL 22, 1997	205.27
NOV 20	218.02	FEB 24	197.05	MAY 21	207.57	AUG 22	206.51
DEC 18	205.85	MAR 19	199.09	JUN 16	207.18	SEP 23	211.95

WATER YEAR 1997 HIGHEST 195.97 JAN 23, 1997 LOWEST 230.02 OCT 15, 1996



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

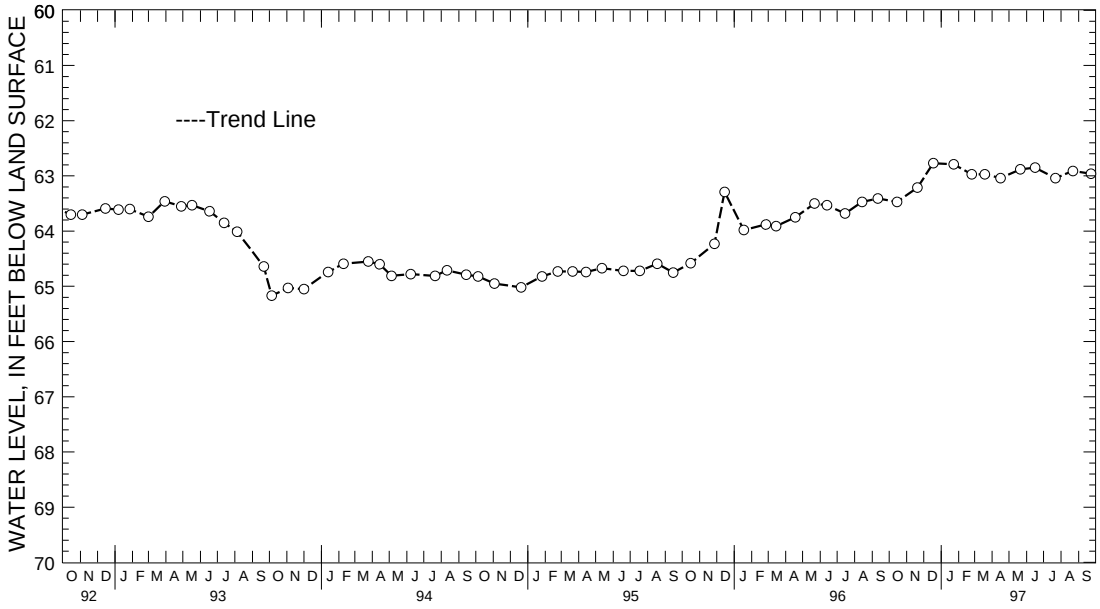
GARRETT COUNTY--Continued

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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	63.47	JAN 23, 1997	62.79	APR 16, 1997	63.04	JUL 22, 1997	63.04
NOV 20	63.21	FEB 24	62.97	MAY 21	62.88	AUG 22	62.91
DEC 18	62.77	MAR 19	62.97	JUN 16	62.85	SEP 23	62.96

WATER YEAR 1997 HIGHEST 62.77 DEC 18, 1996 LOWEST 63.47 OCT 15, 1996



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

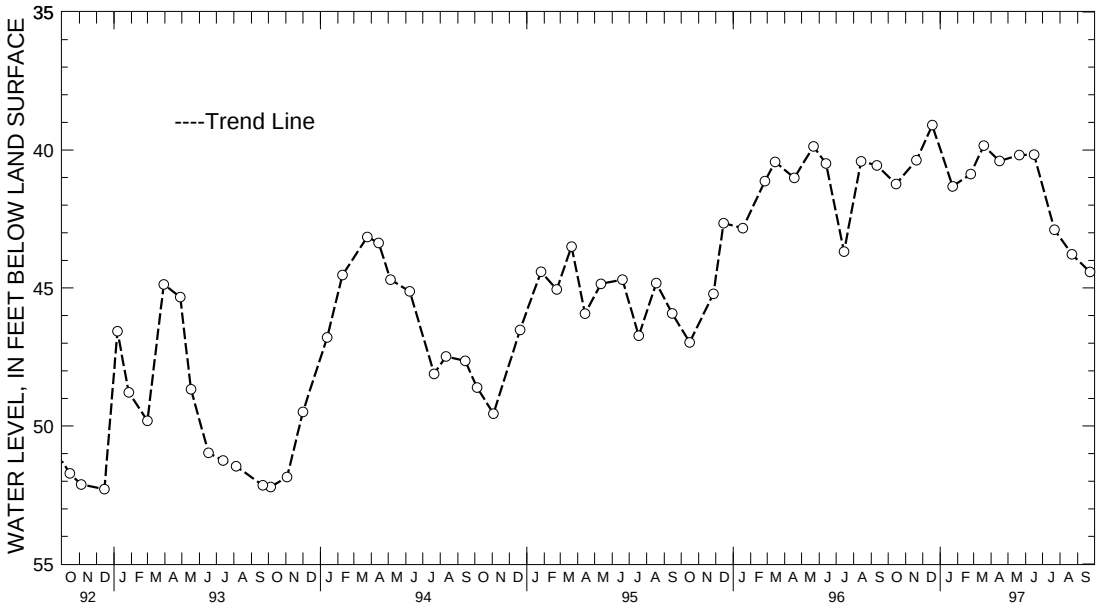
GARRETT COUNTY--Continued

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. 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, 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	41.23	JAN 23, 1997	41.32	APR 16, 1997	40.40	JUL 22, 1997	42.89
NOV 20	40.37	FEB 24	40.87	MAY 21	40.18	AUG 22	43.78
DEC 18	39.10	MAR 19	39.84	JUN 16	40.17	SEP 23	44.42

WATER YEAR 1997 HIGHEST 39.10 DEC 18, 1996 LOWEST 44.42 SEP 23, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

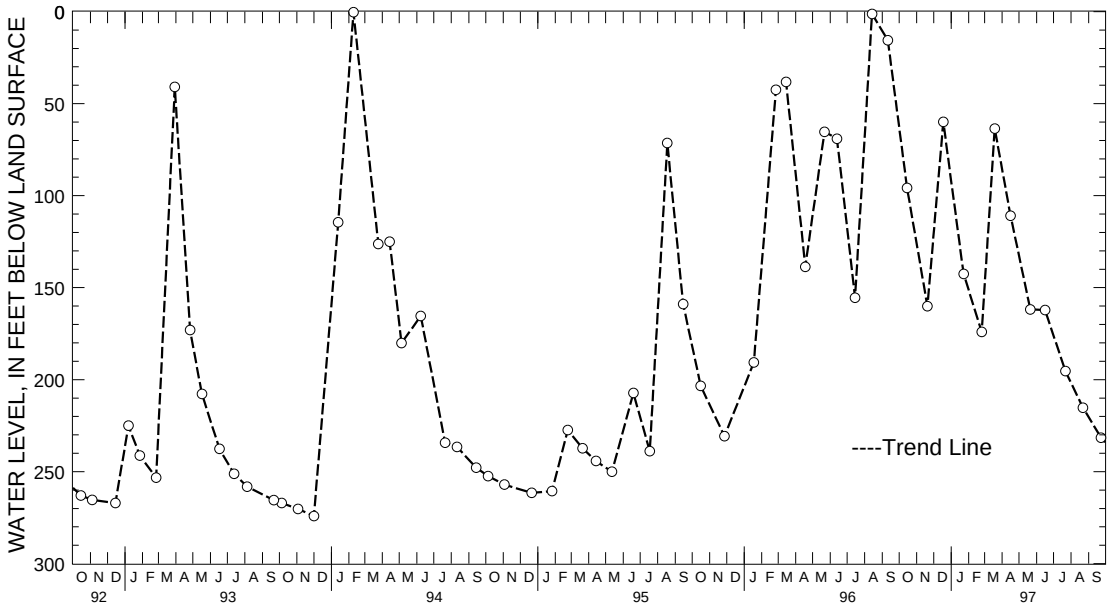
GARRETT COUNTY--Continued

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, 0.27 ft below land surface, Feb. 9, 1994; lowest measured, 274.12 ft below land surface, Dec. 1, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	95.81	JAN 23, 1997	142.56	APR 16, 1997	110.94	JUL 22, 1997	195.37
NOV 20	160.11	FEB 24	174.03	MAY 21	161.81	AUG 22	215.24
DEC 18	59.87	MAR 19	63.54	JUN 16	162.20	SEP 23	231.53

WATER YEAR 1997 HIGHEST 59.87 DEC 18, 1996 LOWEST 231.53 SEP 23, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

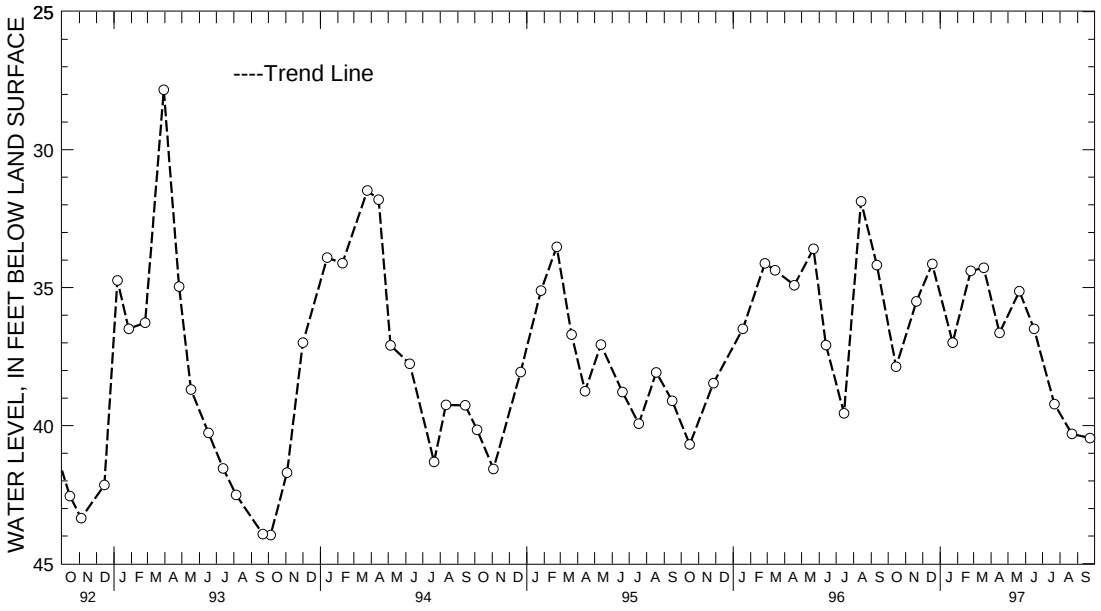
GARRETT COUNTY--Continued

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 from June 4, 1980 to Oct. 19, 1980.
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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	37.86	JAN 23, 1997	36.99	APR 16, 1997	36.64	JUL 22, 1997	39.22
NOV 20	35.50	FEB 24	34.39	MAY 21	35.13	AUG 22	40.30
DEC 18	34.14	MAR 19	34.28	JUN 16	36.49	SEP 23	40.45

WATER YEAR 1997 HIGHEST 34.14 DEC 18, 1996 LOWEST 40.45 SEP 23, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

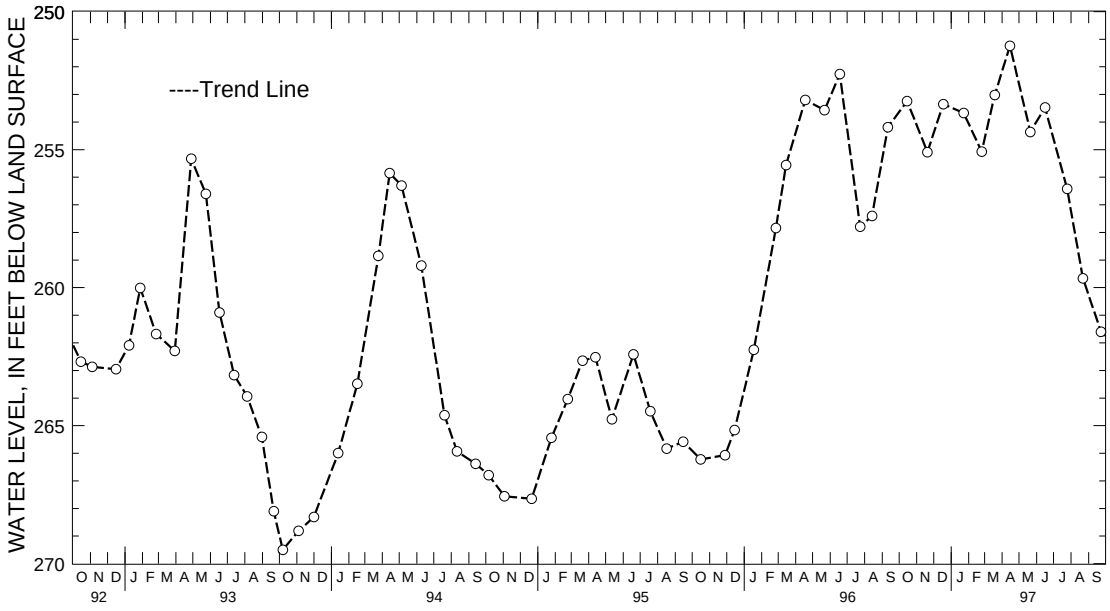
GARRETT COUNTY--Continued

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, 215.24 ft below land surface, April 15, 1997; lowest measured, 269.50 ft below land surface, Oct. 7, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	253.24	JAN 23, 1997	253.67	APR 15, 1997	251.24	JUL 25, 1997	256.42
NOV 20	255.09	FEB 24	255.07	MAY 21	254.36	AUG 22	259.66
DEC 18	253.35	MAR 19	253.02	JUN 16	253.47	SEP 23	261.60

WATER YEAR 1997 HIGHEST 251.24 APR 15, 1997 LOWEST 261.60 SEP 23, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

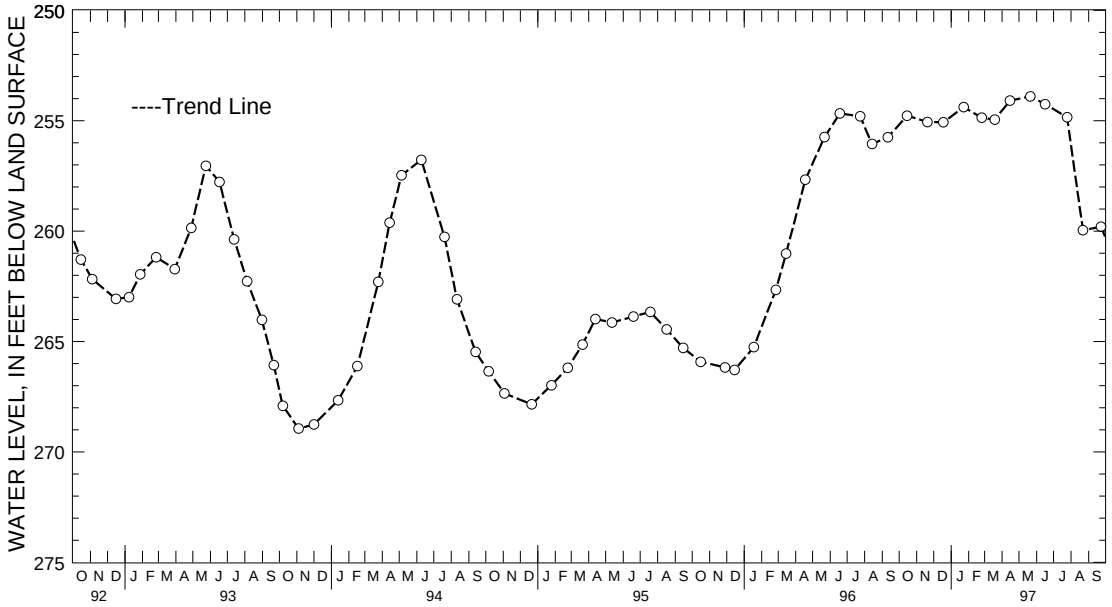
GARRETT COUNTY--Continued

WELL NUMBER.--GA Fb 32. SITE ID.--391602079240302. PERMIT NUMBER.--GA-81-1333.
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 736 ft; casing diameter 6 in., to 736 ft; perforated casing from 720 to 736 ft.
INSTRUMENTATION.--Monthly measurements with chalked steel tape by USGS personnel. Equipped with digital water-level recorder--60-minute recorder interval.
DATUM.--Elevation of land surface is 2,677.21 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, 206.71 ft below land surface, March 25, 1988; lowest measured, 268.94 ft below land surface, Nov. 4, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	254.77	JAN 23, 1997	254.38	APR 15, 1997	254.09	JUL 25, 1997	254.84
NOV 20	255.06	FEB 24	254.86	MAY 21	253.90	AUG 22	259.96
DEC 18	255.07	MAR 19	254.95	JUN 16	254.25	SEP 23	259.80

WATER YEAR 1997 HIGHEST 253.90 MAY 21, 1997 LOWEST 259.96 AUG 22, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

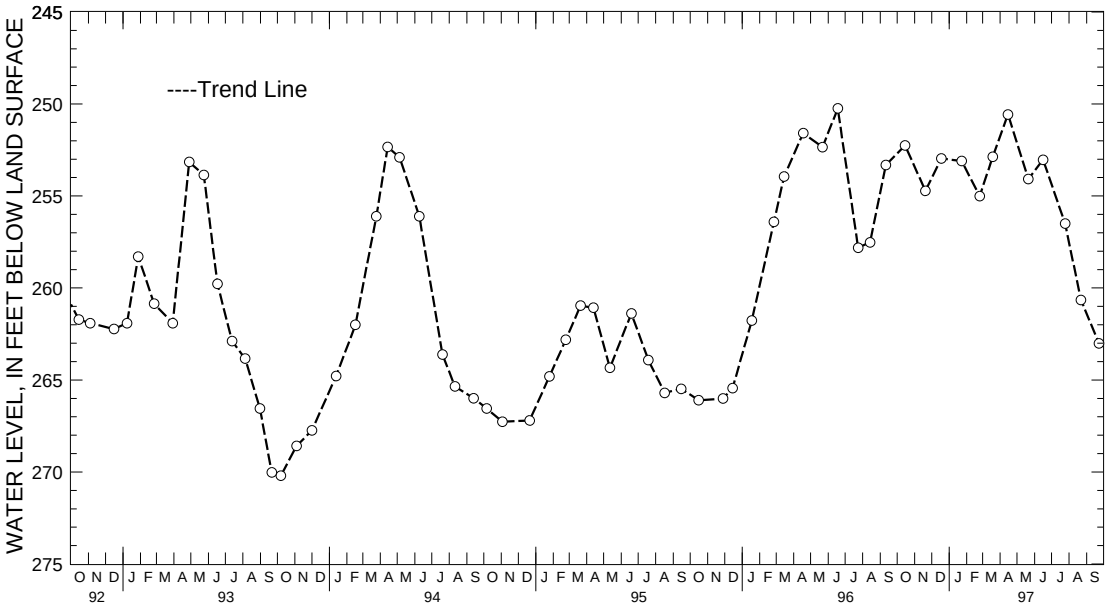
GARRETT COUNTY--Continued

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, 270.20 ft below land surface, Oct. 7, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	252.25	JAN 23, 1997	253.10	APR 15, 1997	250.57	JUL 25, 1997	256.50
NOV 20	254.72	FEB 24	255.01	MAY 21	254.08	AUG 22	260.65
DEC 18	252.96	MAR 19	252.87	JUN 16	253.03	SEP 23	263.01

WATER YEAR 1997 HIGHEST 250.57 APR 15, 1997 LOWEST 263.01 SEP 23, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

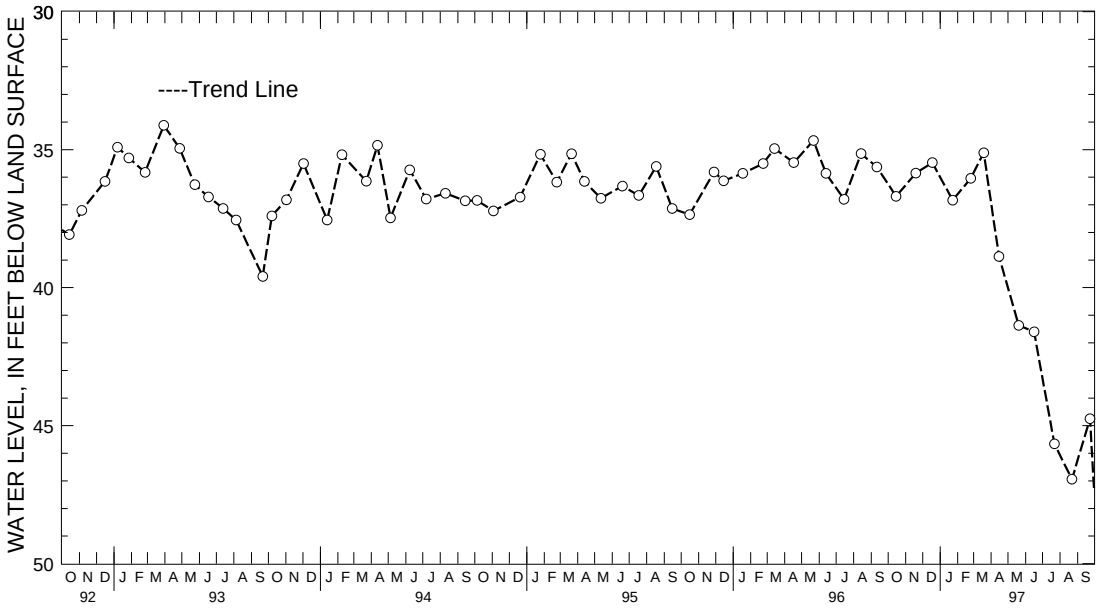
GARRETT COUNTY--Continued

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, 46.94 ft below land surface, August 22, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	36.69	JAN 23, 1997	36.83	APR 15, 1997	38.87	JUL 22, 1997	45.66
NOV 19	35.85	FEB 24	36.04	MAY 20	41.37	AUG 22	46.94
DEC 18	35.47	MAR 19	35.11	JUN 16	41.60	SEP 23	44.75

WATER YEAR 1997 HIGHEST 35.11 MAR 19, 1997 LOWEST 46.94 AUG 22, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

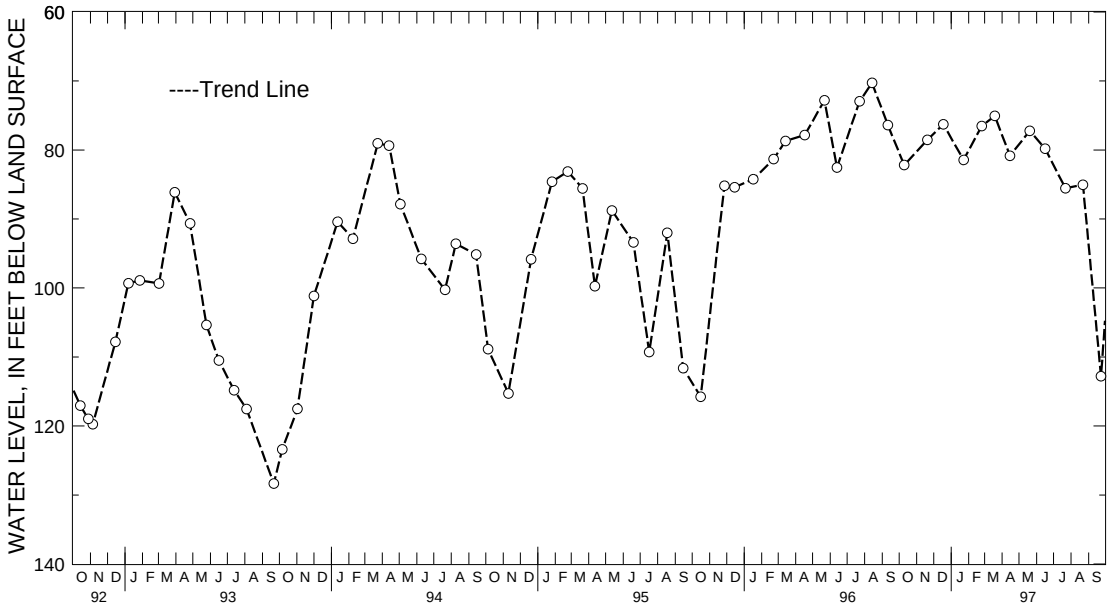
GARRETT COUNTY--Continued

WELL NUMBER.--GA Ga 16. SITE ID.--391420079264901. PERMIT NUMBER.--GA-81-0953.
LOCATION.--Lat 39°14´20˝, long 79°26´49˝, Hydrologic Unit 02070002, east of Kempton Rd., 100 ft north of Laurel Run, 2.8 mi southwest of Wilson.
Owner: Mettiki Coal Co.
AQUIFER.--Conemaugh Formation of Upper Pennsylvanian age. Aquifer code: 321CNMG.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 147 ft; casing diameter 6 in., to 110 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 2,690 ft above National Geodetic Vertical Datum of 1929, from topographic map.
Measuring point: Top of shelter floor, 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.--November 1986 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 70.28 ft below land surface, Aug. 14, 1996; lowest measured, 145.05 ft below land surface, Sept. 22, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 10, 1996	82.19	JAN 23, 1997	81.44	APR 15, 1997	80.83	JUL 22, 1997	85.54
NOV 20	78.53	FEB 24	76.52	MAY 20	77.22	AUG 22	85.05
DEC 18	76.27	MAR 19	75.06	JUN 16	79.80	SEP 23	112.78

WATER YEAR 1997 HIGHEST 75.06 MAR 19, 1997 LOWEST 112.78 SEP 23, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

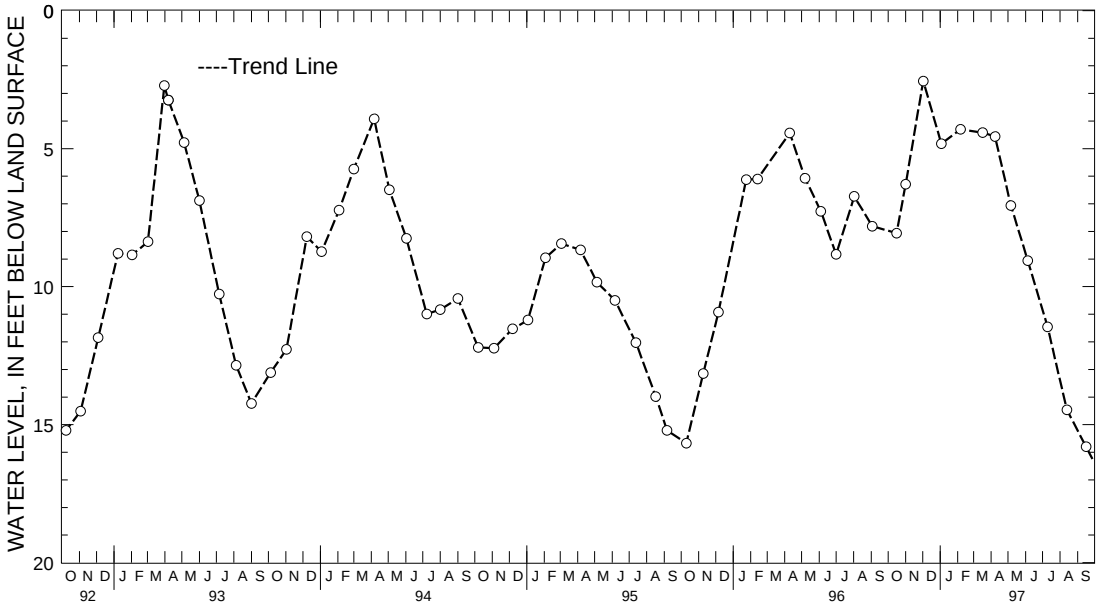
HARFORD COUNTY

WELL NUMBER.--HA Bd 31. SITE ID.--393902076160001.
LOCATION.--Lat 39°39´02˝, long 76°16´00˝, Hydrologic Unit 02050306, at Dublin.
Owner: Walter Lee Moody, Sr.
AQUIFER.--Baltimore Gabbro Complex of Paleozoic age. Aquifer code: 300BLMR.
WELL CHARACTERISTICS.--Dug, stone-lined, water-table well, measured depth 25.9 ft; approximate diameter 36 in.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
Equipped with water-level recorder from July 9, 1954 to Aug. 5, 1958.
DATUM.--Elevation of land surface is 460 ft above National Geodetic Vertical Datum of 1929, from topographic map.
Measuring point: Top of wood floor, 0.10 ft above land surface.
REMARKS.--Maryland Water-Level Network observation well.
PERIOD OF RECORD.--May 1954 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.00 ft below land surface, March 8, 1979; lowest measured, 19.59 ft below land surface, Feb. 7, 1966.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 16, 1996	8.06	JAN 03, 1997	4.82	APR 08, 1997	4.56	JUL 10, 1997	11.46
NOV 01	6.29	FEB 06	4.30	MAY 06	7.06	AUG 13	14.46
DEC 02	2.55	MAR 17	4.42	JUN 05	9.06	SEP 16	15.80

WATER YEAR 1997 HIGHEST 2.55 DEC 02, 1996 LOWEST 15.80 SEP 16, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

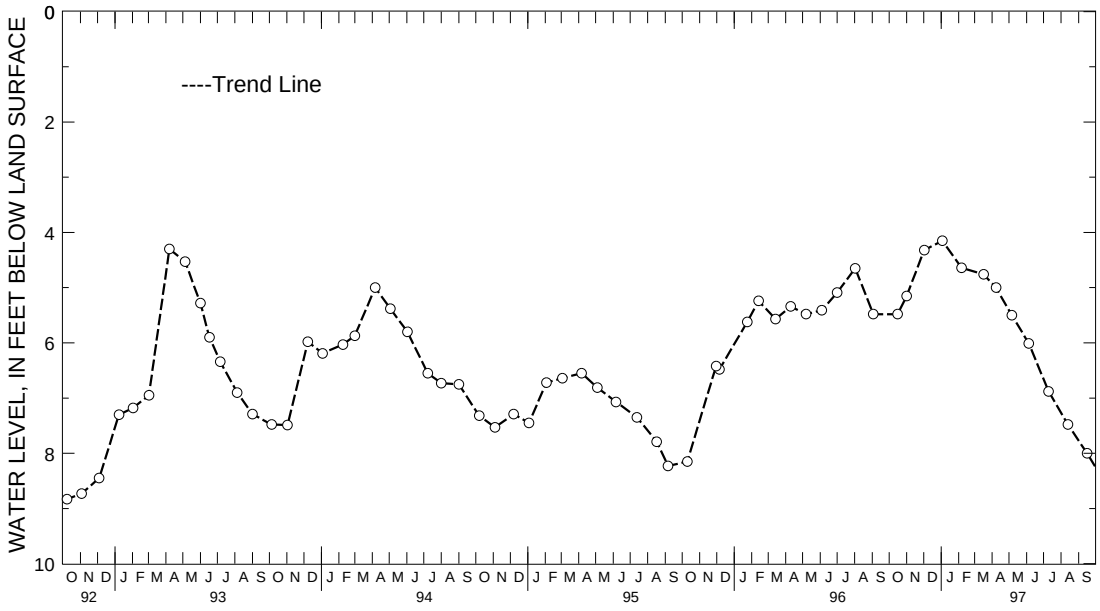
HARFORD COUNTY--Continued

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 electric 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 16, 1996	5.48	JAN 03, 1997	4.15	APR 08, 1997	5.00	JUL 10, 1997	6.88
NOV 01	5.15	FEB 06	4.64	MAY 06	5.50	AUG 13	7.48
DEC 02	4.32	MAR 17	4.76	JUN 05	6.01	SEP 16	8.00

WATER YEAR 1997 HIGHEST 4.15 JAN 03, 1997 LOWEST 8.00 SEP 16, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

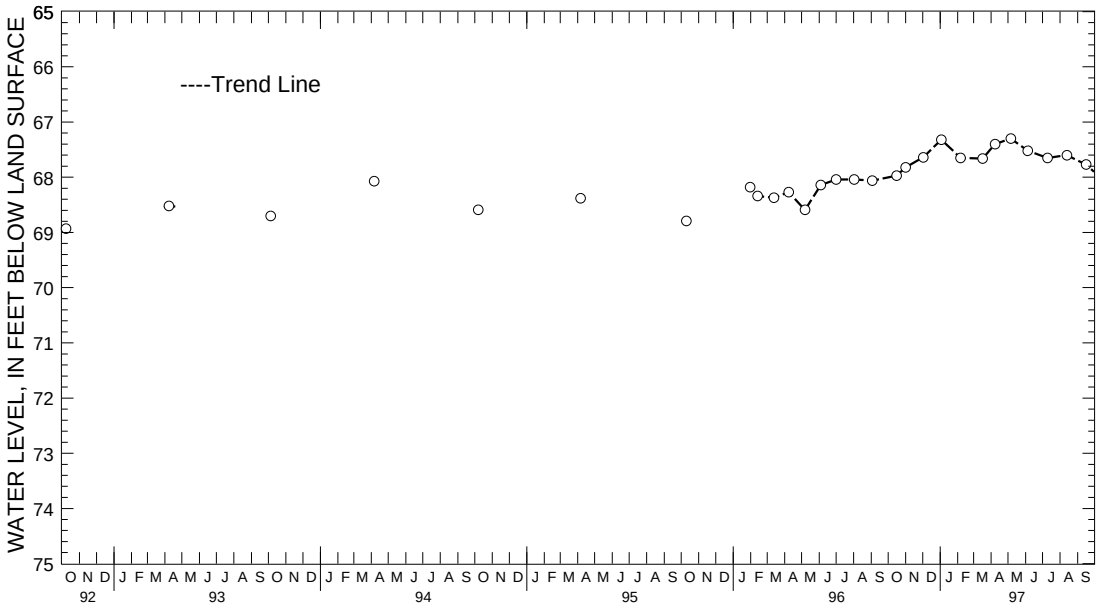
HARFORD COUNTY--Continued

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.--Monthly measurements with electric tape by U.S. Geological personnel. Twice yearly measurements with chalked steel tape from October 1990 to January 1996 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, 67.30 ft below land surface, May 6, 1997; lowest measured, 69.58 ft below land surface, Feb. 3, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 16, 1996	67.97	JAN 03, 1997	67.32	APR 08, 1997	67.40	JUL 10, 1997	67.65
NOV 01	67.82	FEB 06	67.65	MAY 06	67.30	AUG 13	67.60
DEC 02	67.64	MAR 17	67.66	JUN 05	67.52	SEP 16	67.77

WATER YEAR 1997 HIGHEST 67.30 MAY 06, 1997 LOWEST 67.97 OCT 16, 1996



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

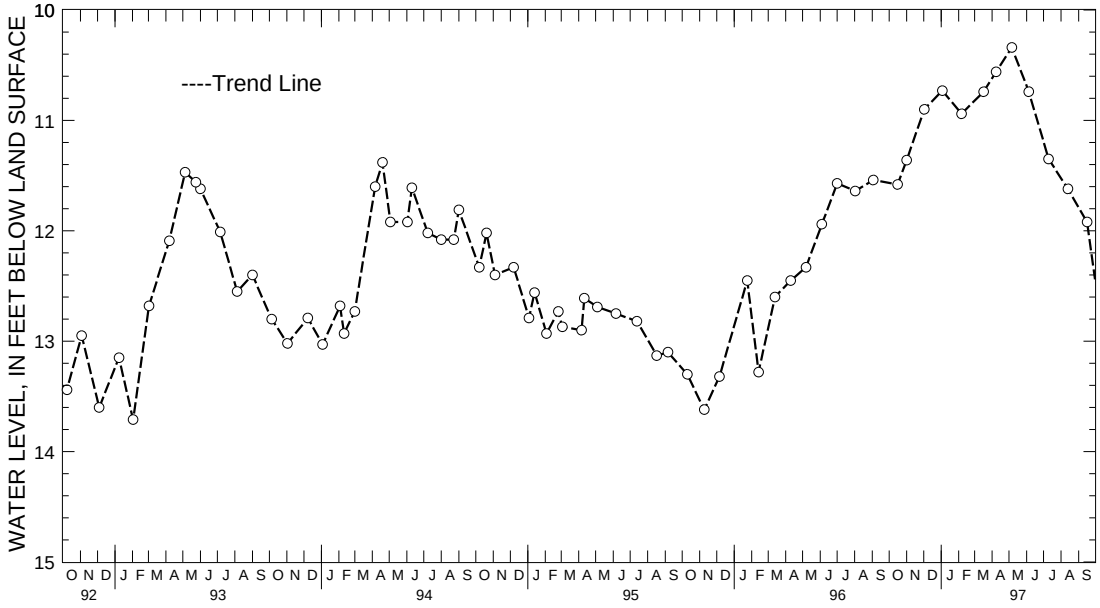
HARFORD COUNTY--Continued

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 electric 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, 10.34 ft below land surface, May 6, 1997; lowest measured, 13.71 ft below land surface, Feb. 2, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 16, 1996	11.58	JAN 03, 1997	10.73	APR 08, 1997	10.56	JUL 10, 1997	11.35
NOV 01	11.36	FEB 06	10.94	MAY 06	10.34	AUG 13	11.62
DEC 02	10.90	MAR 17	10.74	JUN 05	10.74	SEP 16	11.92

WATER YEAR 1997 HIGHEST 10.34 MAY 06, 1997 LOWEST 11.92 SEP 16, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

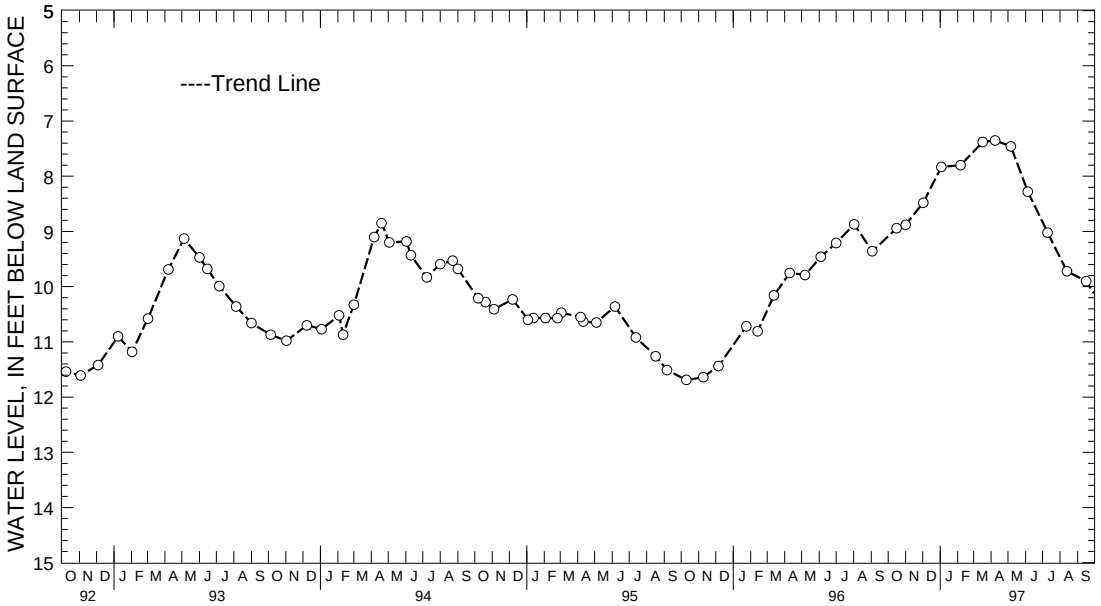
HARFORD COUNTY--Continued

WELL NUMBER.--HA Dd 92. SITE ID.--392721076150302. PERMIT NUMBER.--HA-81-4137.
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 28 ft; casing diameter 4 in., to 18 ft; screen diameter 4 in. from 18 to 28 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 20.06 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Top of casing, 2.12 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, 7.35 ft below land surface, April 8, 1997. lowest measured, 12.31 ft below land surface, Jan. 17, 1989.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 16, 1996	8.94	JAN 03, 1997	7.83	APR 08, 1997	7.35	JUL 10, 1997	9.02
NOV 01	8.88	FEB 06	7.80	MAY 06	7.46	AUG 13	9.72
DEC 02	8.48	MAR 17	7.38	JUN 05	8.28	SEP 16	9.90

WATER YEAR 1997 HIGHEST 7.35 APR 08, 1997 LOWEST 9.90 SEP 16, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

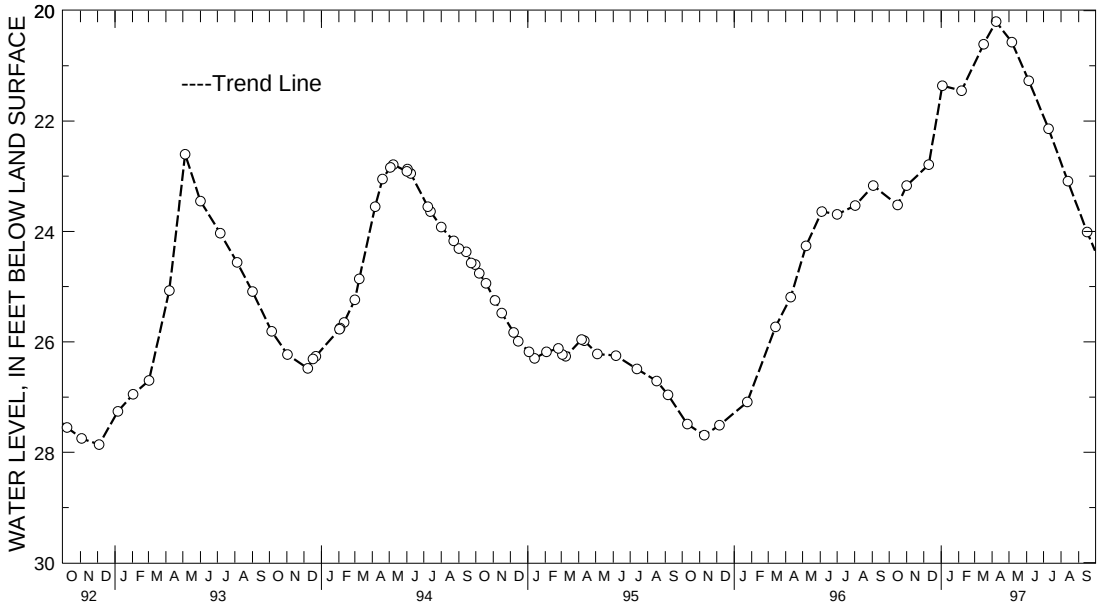
HARFORD COUNTY--Continued

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 electric 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 68.79 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Top of casing, 1.65 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, 29.04 ft below land surface, Jan. 21, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 16, 1996	23.52	JAN 03, 1997	21.36	APR 08, 1997	20.20	JUL 10, 1997	22.14
NOV 01	23.17	FEB 06	21.45	MAY 06	20.57	AUG 13	23.09
DEC 10	22.79	MAR 17	20.61	JUN 05	21.27	SEP 16	24.01

WATER YEAR 1997 HIGHEST 20.20 APR 08, 1997 LOWEST 24.01 SEP 16, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

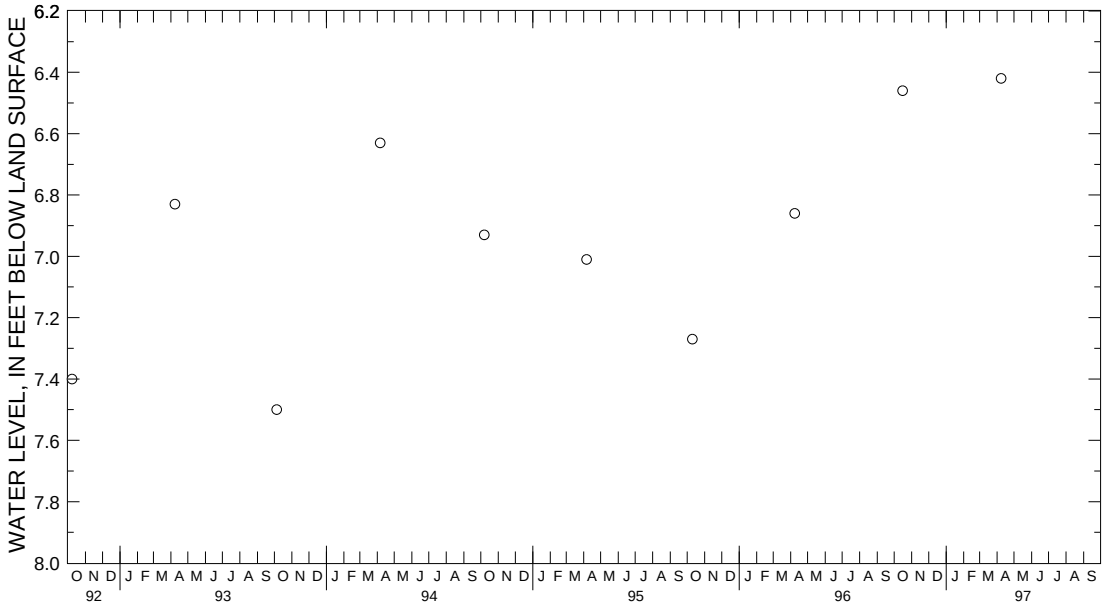
HARFORD COUNTY--Continued

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 electric 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, 6.42 ft below land surface, April 8, 1997; lowest measured, 7.93 ft below land surface, Dec. 22, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER LEVEL YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 16, 1996	6.46	APR 08, 1997	6.42

WATER YEAR 1997 HIGHEST 6.42 APR 08, 1997 LOWEST 6.46 OCT 16, 1996



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND WATER LEVELS

MARYLAND--Continued

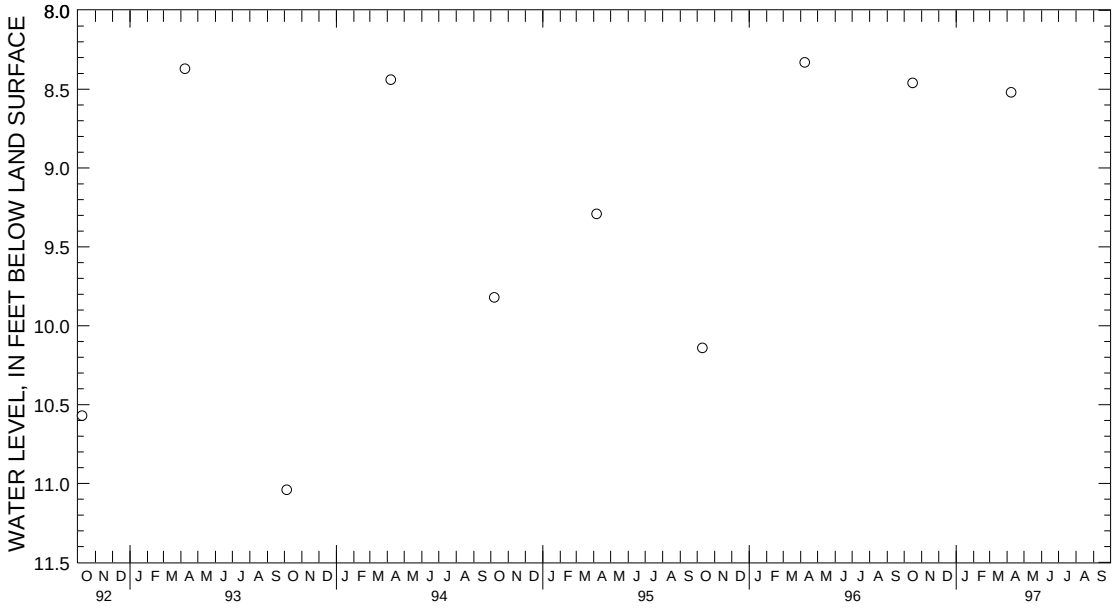
HARFORD COUNTY--Continued

WELL NUMBER.--HA De 182. SITE ID.--392606076145802. PERMIT NUMBER.--HA-81-4135.
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.--Talbot Formation of Pleistocene age. Aquifer code: 112TLBT.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 50 ft; casing diameter 4 in., to 30 ft, and 40 to 50 ft; screen diameter 4 in. from 30 to 40 ft.
INSTRUMENTATION.--Twice yearly measurements with electric tape by U.S. Geological Survey personnel.
Equipped with digital water-level recorder--15-minute recorder interval from July 21, 1988 to July 11, 1989.
DATUM.--Elevation of land surface is 12.29 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Top of casing, 2.52 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, 8.12 ft below land surface, June 7, 1989; lowest measured, 11.04 ft below land surface, Oct. 5, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 16, 1996	8.46	APR 08, 1997	8.52

WATER YEAR 1997 HIGHEST 8.46 OCT 16, 1996 LOWEST 8.52 APR 08, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

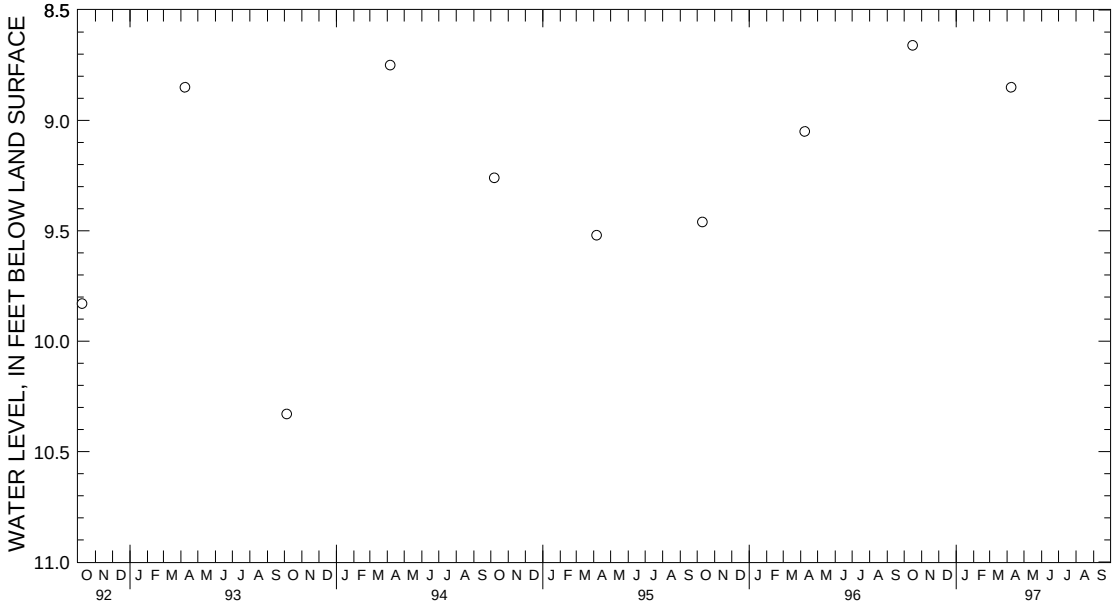
HARFORD COUNTY--Continued

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 electric 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, 8.66 ft below land surface, Oct. 16, 1996; lowest measured, 10.43 ft below land surface, Nov. 3, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 16, 1996	8.66	APR 08, 1997	8.85

WATER YEAR 1997 HIGHEST 8.66 OCT 16, 1996 LOWEST 8.85 APR 08, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND WATER LEVELS

MARYLAND--Continued

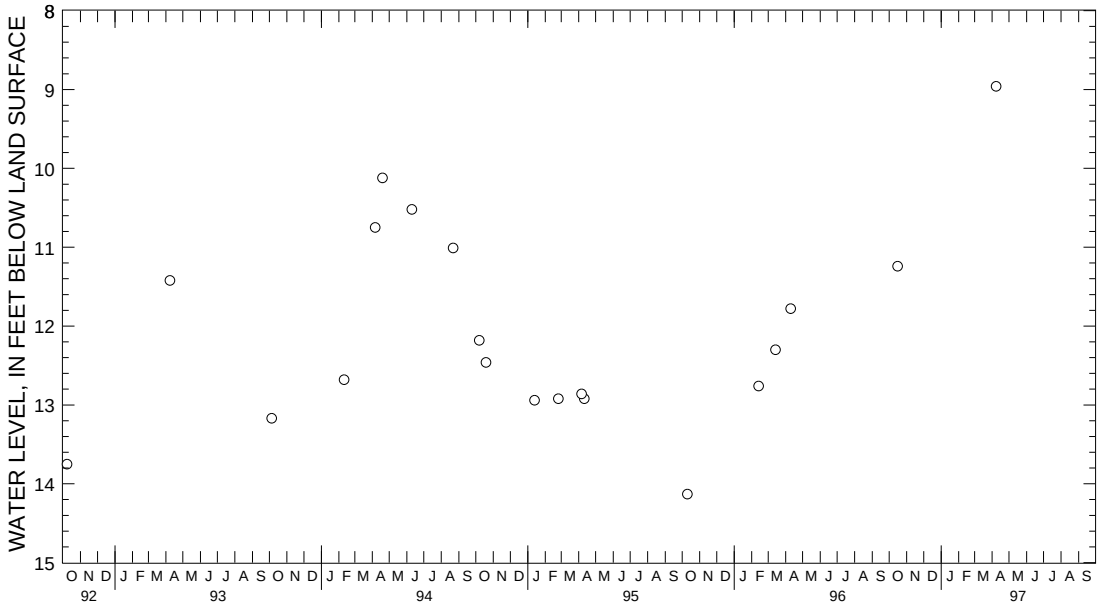
HARFORD COUNTY--Continued

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 electric 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, 8.96 ft below land surface, April 8, 1997; lowest measured, 14.13 ft below land surface, Oct. 10, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 16, 1996	11.24	APR 08, 1997	8.96

WATER YEAR 1997 HIGHEST 8.96 APR 08, 1997 LOWEST 11.24 OCT 16, 1996



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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: Kelly and George Hallgren. (formerly 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 electric 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.--Altitude 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, 15.09 ft above sea level, Mar. 6, 1997; lowest measured, 8.82 ft above sea level, Nov. 2, and 3, 1992.

WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	13.16	13.09	13.26	13.18	14.26	13.48	14.00	13.75	14.18	13.78	14.09	13.54
2	13.25	13.08	13.25	13.10	14.26	14.11	14.04	13.96	13.79	13.74	14.23	13.90
3	13.27	13.03	13.10	13.03	14.21	14.12	13.98	13.77	13.80	13.62	14.70	13.87
4	13.03	12.98	13.07	13.00	14.18	13.90	13.78	13.69	14.13	13.62	14.80	14.70
5	12.99	12.94	13.08	13.03	14.12	13.89	13.94	13.78	14.65	14.13	15.02	14.73
6	13.01	12.95	13.03	12.99	14.40	14.12	13.78	13.58	14.60	14.45	15.09	14.55
7	13.01	12.96	13.11	13.02	14.56	14.32	13.63	13.52	14.45	14.28	14.55	14.34
8	13.63	12.96	14.09	13.10	14.59	14.46	13.58	13.52	14.28	14.16	14.54	14.15
9	13.57	13.49	14.10	14.03	14.46	14.13	13.90	13.55	14.16	14.09	14.32	14.04
10	13.62	13.44	14.09	13.98	14.25	14.10	13.87	13.58	14.16	14.11	14.67	14.32
11	13.44	13.33	13.98	13.76	14.21	14.09	13.61	13.40	14.13	14.01	14.65	14.33
12	13.35	13.28	13.76	13.65	14.15	14.10	13.45	13.38	14.07	13.91	14.33	14.18
13	13.33	13.28	13.67	13.63	15.03	14.15	13.44	13.39	13.94	13.74	14.18	14.05
14	13.31	13.13	13.65	13.49	15.06	14.92	13.44	13.39	14.63	13.94	15.06	14.14
15	13.14	13.06	13.49	13.42	14.92	14.82	13.59	13.39	14.84	14.63	15.06	14.79
16	13.15	13.09	13.49	13.41	14.82	14.73	13.86	13.59	14.78	14.64	14.79	14.62
17	13.09	13.03	13.52	13.46	14.76	14.57	13.83	13.70	14.73	14.36	14.73	14.58
18	13.25	13.03	13.57	13.52	14.57	14.37	13.79	13.51	14.53	14.41	14.62	14.36
19	13.89	13.25	13.54	13.37	14.69	14.39	13.58	13.51	14.47	14.22	14.87	14.38
20	13.91	13.83	13.37	13.27	14.50	14.21	13.58	13.42	14.22	13.99	14.94	14.76
21	13.92	13.82	13.32	13.25	14.21	14.15	13.42	13.23	14.35	14.07	14.82	14.68
22	13.86	13.78	13.25	13.12	14.23	14.18	13.54	13.33	14.35	13.79	14.84	14.25
23	13.85	13.75	13.19	13.10	14.18	14.10	13.54	13.24	13.81	13.72	14.25	14.13
24	13.75	13.52	13.14	13.06	14.28	14.16	13.91	13.22	13.87	13.75	14.13	13.97
25	13.52	13.42	13.16	13.07	14.18	14.11	13.96	13.82	13.82	13.72	14.37	14.04
26	13.42	13.36	13.62	13.16	14.24	14.07	13.88	13.73	13.89	13.79	14.43	14.31
27	13.47	13.37	13.53	13.48	14.26	14.09	13.98	13.77	13.93	13.68	14.47	14.34
28	13.54	13.38	13.57	13.49	14.12	14.06	14.18	13.98	13.68	13.54	14.36	14.27
29	13.38	13.30	13.50	13.43	14.12	13.98	14.17	14.07	---	---	14.42	14.16
30	13.56	13.29	13.48	13.43	13.98	13.86	14.19	14.13	---	---	14.17	14.07
31	13.29	13.20	---	---	14.02	13.75	14.17	14.12	---	---	14.66	14.17
MONTH	13.92	12.94	14.10	12.99	15.06	13.48	14.19	13.22	14.84	13.54	15.09	13.54

GROUND-WATER LEVELS

MARYLAND--Continued

HARFORD COUNTY--Continued

HA De 198--Continued

DAY	APRIL MAX	APRIL MIN	MAY MAX	MAY MIN	JUNE MAX	JUNE MIN	JULY MAX	JULY MIN	AUGUST MAX	AUGUST MIN	SEPTEMBER MAX	SEPTEMBER MIN
1	14.80	14.64	14.01	13.69	12.94	12.89	12.40	12.38	11.70	11.69	11.24	11.23
2	14.88	14.77	13.69	13.59	12.95	12.87	12.39	12.37	11.70	11.68	11.28	11.23
3	14.78	14.68	13.92	13.67	12.89	12.85	12.40	12.35	11.68	11.66	11.29	11.21
4	14.68	14.43	13.73	13.54	12.90	12.83	12.35	12.28	11.66	11.65	11.21	11.19
5	14.43	14.29	13.68	13.53	12.84	12.80	12.28	12.24	11.65	11.59	11.20	11.18
6	14.46	14.37	13.73	13.53	12.80	12.78	12.25	12.23	11.59	11.57	11.19	11.18
7	14.44	14.14	13.59	13.49	12.80	12.77	12.24	12.21	11.57	11.55	11.19	11.17
8	14.21	14.08	13.61	13.49	12.79	12.74	12.23	12.20	11.55	11.54	11.17	11.15
9	14.12	13.97	13.67	13.58	12.77	12.74	12.24	12.19	11.54	11.52	11.15	11.13
10	14.01	13.92	13.58	13.42	12.77	12.72	12.19	12.10	11.52	11.50	11.15	11.14
11	14.01	13.90	13.49	13.39	12.76	12.73	12.11	12.09	11.50	11.49	11.28	11.14
12	14.18	13.98	13.52	13.43	12.77	12.73	12.12	12.09	11.49	11.46	11.22	11.15
13	14.21	13.90	13.44	13.37	12.82	12.73	12.10	12.08	11.49	11.45	11.15	11.13
14	13.90	13.79	13.38	13.32	12.78	12.66	12.08	12.05	11.45	11.42	11.13	11.11
15	13.87	13.76	13.41	13.33	12.67	12.61	12.05	12.02	11.44	11.41	11.12	11.10
16	13.98	13.84	13.33	13.23	12.70	12.65	12.02	12.01	11.41	11.38	11.10	11.05
17	13.99	13.93	13.33	13.22	12.69	12.62	12.02	12.00	11.39	11.37	11.06	11.05
18	13.97	13.87	13.26	13.16	12.69	12.62	12.01	11.97	11.38	11.33	11.05	11.02
19	13.87	13.68	13.29	13.22	12.64	12.57	11.97	11.91	11.33	11.32	11.04	11.02
20	13.72	13.65	13.22	13.10	12.59	12.56	11.92	11.89	11.46	11.32	11.04	10.98
21	13.69	13.64	13.11	13.06	12.60	12.56	11.92	11.90	11.46	11.39	10.98	10.96
22	13.71	13.65	13.10	13.03	12.57	12.51	11.92	11.87	11.39	11.34	10.98	10.95
23	13.68	13.63	13.08	13.01	12.51	12.48	11.87	11.86	11.34	11.31	10.99	10.95
24	13.67	13.50	13.10	13.03	12.53	12.48	11.87	11.85	11.32	11.30	10.96	10.93
25	13.50	13.43	13.14	13.08	12.53	12.49	11.85	11.84	11.30	11.29	10.99	10.95
26	13.46	13.40	13.08	12.94	12.50	12.45	11.85	11.83	11.29	11.28	10.95	10.90
27	13.59	13.43	12.94	12.87	12.45	12.40	11.83	11.81	11.30	11.28	10.91	10.89
28	14.20	13.59	12.93	12.87	12.42	12.38	11.81	11.78	11.36	11.29	10.98	10.90
29	14.12	13.96	12.94	12.89	12.40	12.38	11.78	11.72	11.38	11.28	10.98	10.90
30	13.96	13.89	12.95	12.91	12.40	12.37	11.72	11.70	11.28	11.26	10.91	10.86
31	---	---	12.96	12.91	---	---	11.70	11.70	11.26	11.24	---	---
MONTH	14.88	13.40	14.01	12.87	12.95	12.37	12.40	11.70	11.70	11.24	11.29	10.86
YEAR	15.09	10.86										

Daily Low Water Levels

5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

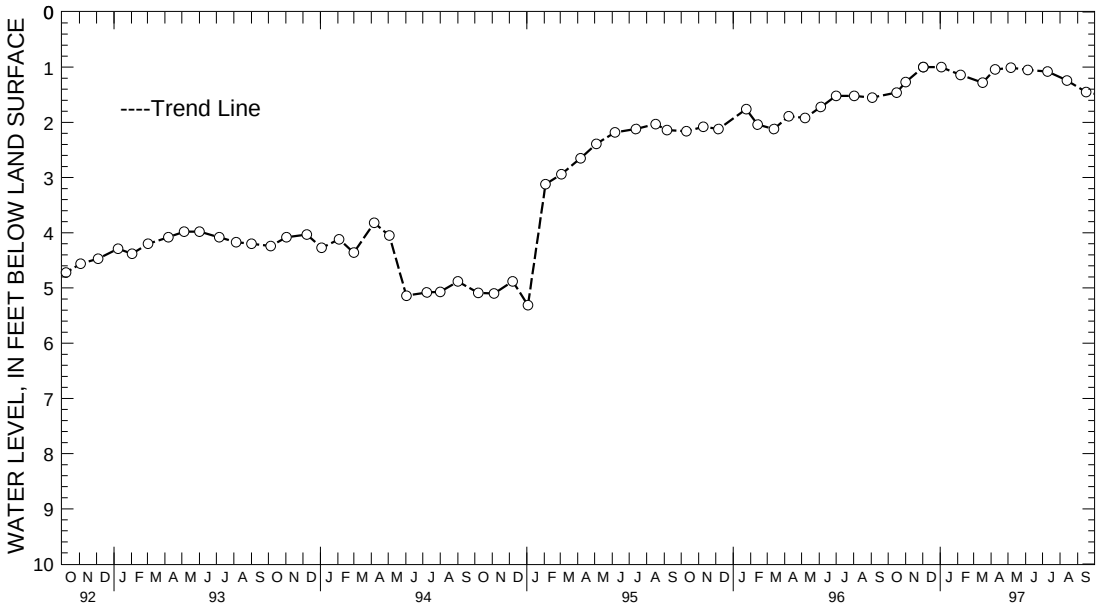
HARFORD COUNTY--Continued

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 electric 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, 00.0 ft 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 16, 1996	1.46	JAN 03, 1997	1.00	APR 08, 1997	1.04	JUL 10, 1997	1.08
NOV 01	1.27	FEB 06	1.14	MAY 06	1.01	AUG 13	1.24
DEC 02	1.00	MAR 17	1.28	JUN 05	1.05	SEP 16	1.45

WATER YEAR 1997 HIGHEST 1.00 DEC 02, 1996 JAN 03, 1997 LOWEST 1.46 OCT 16, 1996



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

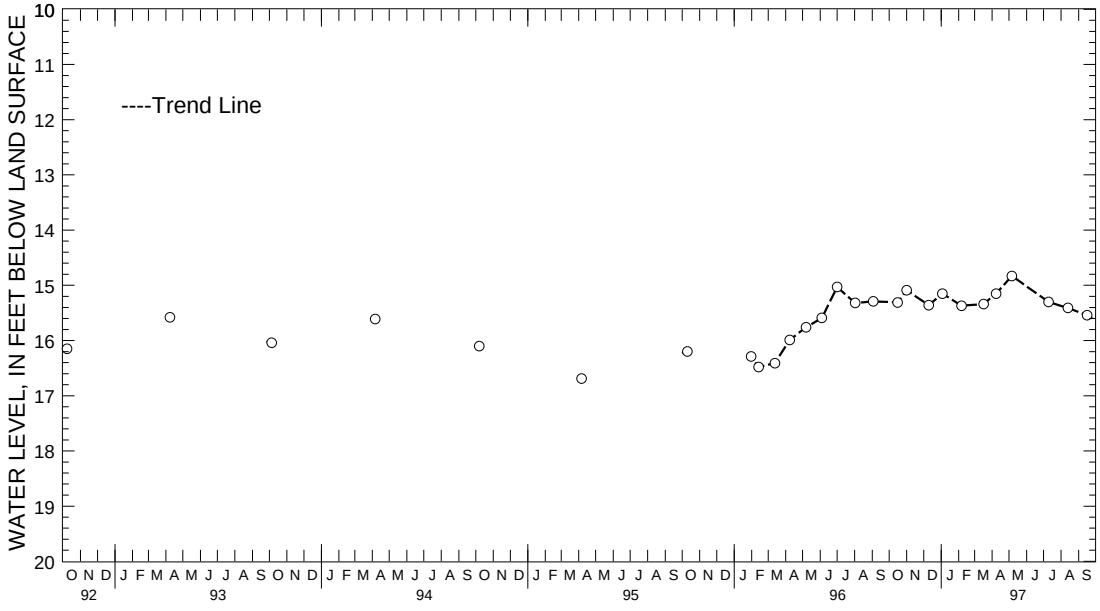
HARFORD COUNTY--Continued

WELL NUMBER.--HA Ec 46. SITE ID.--392408076210101. PERMIT NUMBER.--HA-81-4124.
LOCATION.--Lat 39°24´08˝, long 76°21´01˝, Hydrologic Unit 02060003, at end of Kearney Dr. in boat launch park, near Joppatowne.
Owner: U.S. Geological Survey.
AQUIFER.--Potomac Group of Lower Cretaceous age. Aquifer code: 217PTMC.
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 85 ft; diameter of casing 4 in., to 65 ft, and 75 to 85 ft; screen diameter 4 in. from 65 to 75 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel. Twice yearly measurements from October 1989 to October 1995.
DATUM.--Elevation of land surface is 23.16 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Top of casing, 2.17 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, 14.83 ft below land surface, May 6, 1997; lowest measured, 16.76 ft below land surface, Feb. 23, 1989.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 16, 1996	15.31	JAN 03, 1997	15.15	APR 08, 1997	15.15	AUG 13, 1997	15.41
NOV 01	15.09	FEB 06	15.37	MAY 06	14.83	SEP 16	15.54
DEC 10	15.36	MAR 17	15.34	JUL 10	15.30		

WATER YEAR 1997 HIGHEST 14.83 MAY 06, 1997 LOWEST 15.54 SEP 16, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

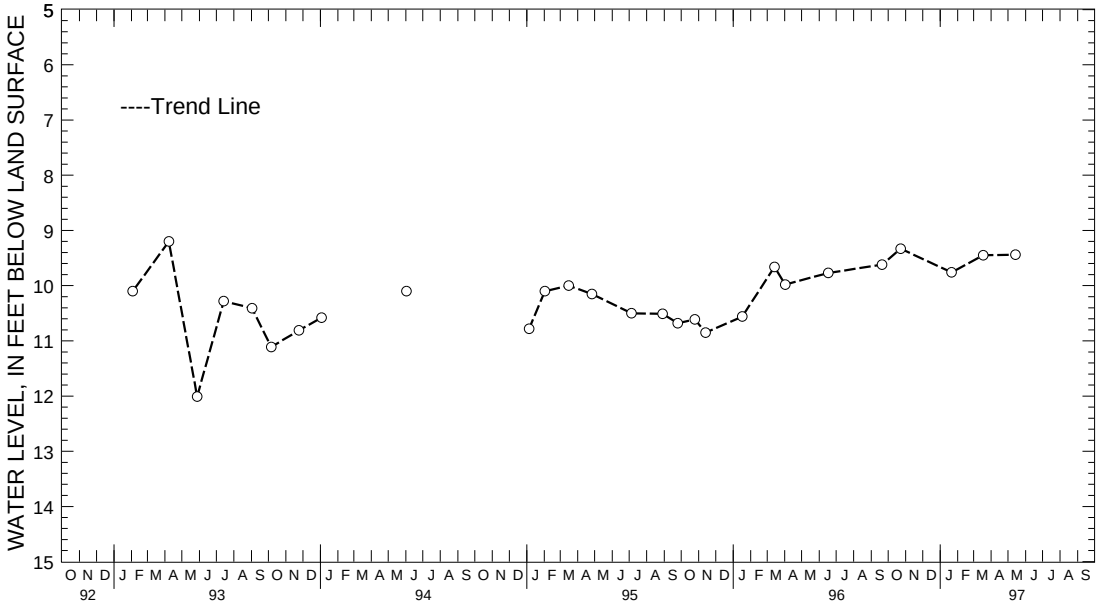
HARFORD COUNTY--Continued

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 (well 23M).
AQUIFER.--Canal Creek aquifer in the Patapsco Formation of Lower Cretaceous age. Aquifer code: 217CLCK.
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 electric 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, 1.44 ft above land surface.
REMARKS.--Maryland Water-Level Network observation well. Water level measured, 8.24 ft below land surface, April 13, l944.
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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23, 1996	9.33	JAN 21, 1997	9.76	MAR 18, 1997	9.45	MAY 14, 1997	9.44

WATER YEAR 1997 HIGHEST 9.33 OCT 23, 1996 LOWEST 9.76 JAN 21, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

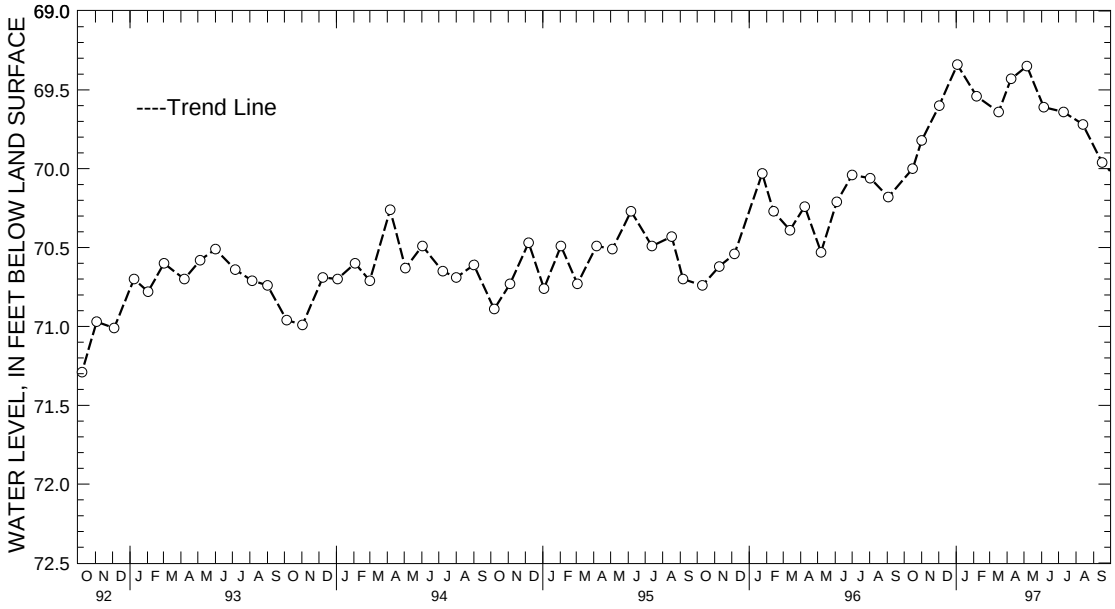
HARFORD COUNTY--Continued

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 Cretacious 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 electric 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, 69.34 ft below land surface, Jan. 3, 1997; lowest measured, 72.02 ft below land surface, Nov. 9, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 16, 1996	70.00	JAN 03, 1997	69.34	APR 08, 1997	69.43	JUL 10, 1997	69.64
NOV 01	69.82	FEB 06	69.54	MAY 06	69.35	AUG 13	69.72
DEC 02	69.60	MAR 17	69.64	JUN 05	69.61	SEP 16	69.96

WATER YEAR 1997 HIGHEST 69.34 JAN 03, 1997 LOWEST 70.00 OCT 16, 1996



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

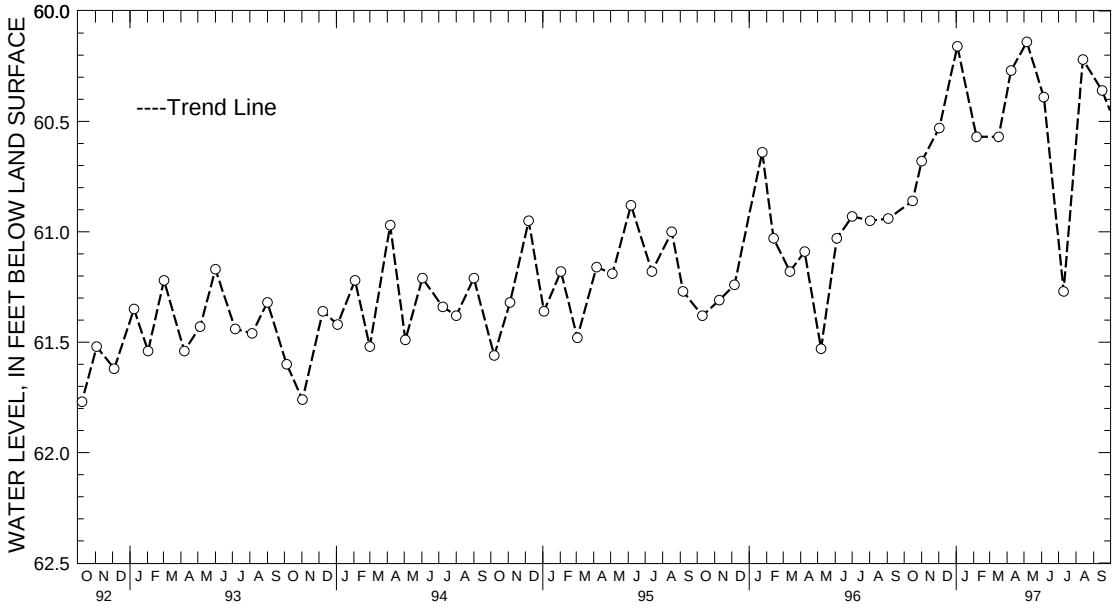
HARFORD COUNTY--Continued

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 Cretacious 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 electric 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, 60.14 ft below land surface, May 6, 1997; lowest measured, 63.00 ft below land surface, May 12, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 16, 1996	60.86	JAN 03, 1997	60.16	APR 08, 1997	60.27	JUL 10, 1997	61.27
NOV 01	60.68	FEB 06	60.57	MAY 06	60.14	AUG 13	60.22
DEC 02	60.53	MAR 17	60.57	JUN 05	60.39	SEP 16	60.36

WATER YEAR 1997 HIGHEST 60.14 MAY 06, 1997 LOWEST 61.27 JUL 10, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

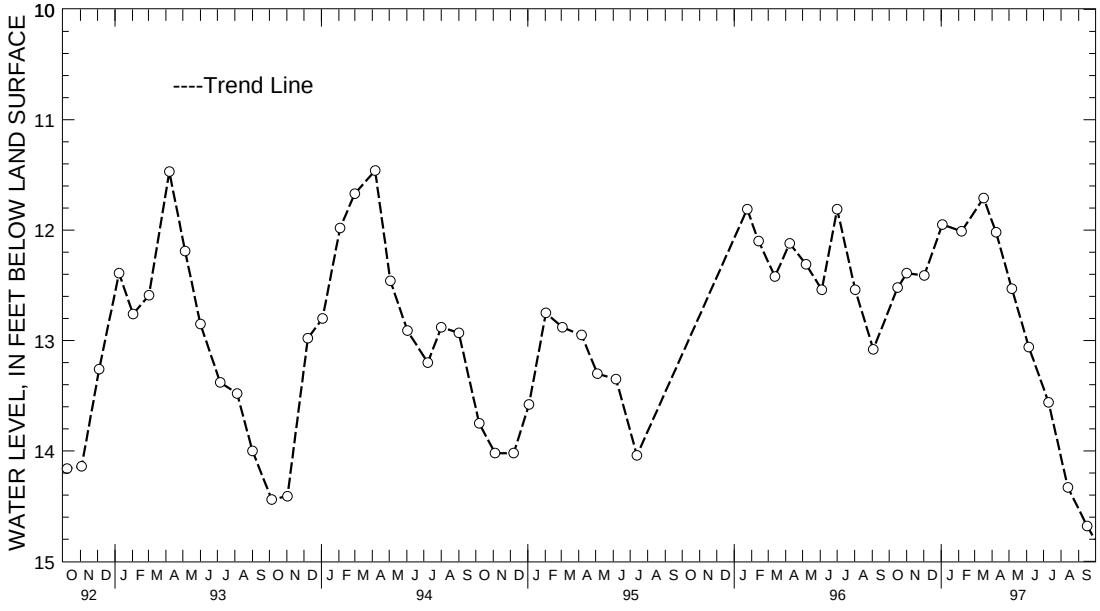
HARFORD COUNTY--Continued

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 electric 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 July 1995, January 1996 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 11.46 ft below land surface, April 6, 1994; lowest measured, 14.68 ft below land surface, Sept. 16, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 16, 1996	12.52	JAN 03, 1997	11.95	APR 08, 1997	12.02	JUL 10, 1997	13.56
NOV 01	12.39	FEB 06	12.01	MAY 06	12.53	AUG 13	14.33
DEC 02	12.41	MAR 17	11.71	JUN 05	13.06	SEP 16	14.68

WATER YEAR 1997 HIGHEST 11.71 MAR 17, 1997 LOWEST 14.68 SEP 16, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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; sreen diameter 4 in. from 6 to 21 ft.
INSTRUMENTATION.--Periodic measurements with electric 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.--Altitude 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, 2.22 ft below sea level, July 21 to 25, 1992.

WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	4.07	4.06	5.17	5.09	7.77	5.41	6.55	6.42	7.54	6.95	7.67	6.20
2	4.09	4.06	5.10	4.95	8.57	7.77	6.57	6.46	6.95	6.76	7.85	7.45
3	4.09	3.99	4.95	4.84	8.46	8.25	6.46	6.23	6.76	6.46	9.24	7.33
4	3.99	3.94	4.84	4.79	8.25	7.74	6.23	6.12	7.44	6.41	9.24	9.01
5	3.94	3.91	4.79	4.72	7.82	7.60	6.25	6.09	8.94	7.44	9.23	8.96
6	3.91	3.90	4.72	4.66	8.84	7.82	6.09	5.87	8.87	8.57	9.24	8.67
7	3.90	3.88	4.68	4.65	9.09	8.70	5.87	5.73	8.57	8.29	8.67	8.32
8	5.17	3.88	6.24	4.67	9.06	8.77	5.73	5.65	8.29	8.04	8.33	7.88
9	5.35	5.17	7.27	6.24	8.77	8.31	5.88	5.65	8.04	7.87	7.88	7.67
10	5.31	5.21	7.15	6.80	8.31	8.19	5.84	5.68	7.89	7.74	8.78	7.80
11	5.21	5.12	6.80	6.33	8.19	7.98	5.74	5.55	7.74	7.51	8.67	8.12
12	5.12	5.07	6.33	6.03	8.10	7.87	5.55	5.48	7.54	7.44	8.12	7.68
13	5.07	5.03	6.03	5.90	9.35	7.95	5.48	5.44	7.44	7.20	7.68	7.42
14	5.04	4.88	5.90	5.68	9.34	9.02	5.44	5.38	9.07	7.35	9.17	7.42
15	4.88	4.81	5.68	5.52	9.02	8.82	5.49	5.37	9.23	9.01	9.17	8.73
16	4.81	4.74	5.52	5.47	8.82	8.67	5.84	5.49	9.01	8.87	8.73	8.38
17	4.74	4.65	5.47	5.43	8.68	8.46	5.87	5.82	8.87	8.49	8.38	8.18
18	4.79	4.63	5.45	5.43	8.46	8.18	5.88	5.82	8.49	8.40	8.24	7.86
19	8.03	4.79	5.43	5.28	8.81	8.20	5.82	5.65	8.40	8.00	9.20	8.24
20	8.03	7.76	5.28	5.17	8.55	8.03	5.66	5.48	8.00	7.60	9.15	8.84
21	7.76	7.23	5.17	5.10	8.03	7.78	5.48	5.31	7.74	7.61	8.84	8.70
22	7.23	6.78	5.10	4.97	7.78	7.58	5.44	5.32	7.74	7.01	8.73	8.02
23	6.78	6.51	4.98	4.93	7.58	7.43	5.44	5.21	7.01	6.85	8.02	7.57
24	6.51	6.09	4.93	4.85	7.49	7.43	5.73	5.20	6.85	6.73	7.57	7.24
25	6.09	5.83	4.87	4.83	7.52	7.40	7.33	5.73	6.73	6.62	7.42	7.19
26	5.83	5.65	5.38	4.87	7.40	7.28	7.33	6.95	6.63	6.57	8.30	7.42
27	5.65	5.60	5.43	5.38	7.37	7.13	7.03	6.87	6.66	6.40	8.15	7.84
28	5.63	5.48	5.49	5.43	7.13	7.03	7.98	7.03	6.40	6.20	7.84	7.65
29	5.48	5.38	5.47	5.41	7.03	6.84	7.94	7.65	---	---	7.65	7.39
30	5.49	5.28	5.41	5.39	6.84	6.67	7.65	7.59	---	---	7.39	7.31
31	5.28	5.17	---	---	6.75	6.44	7.59	7.49	---	---	9.05	7.33
MONTH	8.03	3.88	7.27	4.65	9.35	5.41	7.98	5.20	9.23	6.20	9.24	6.20

GROUND-WATER LEVELS

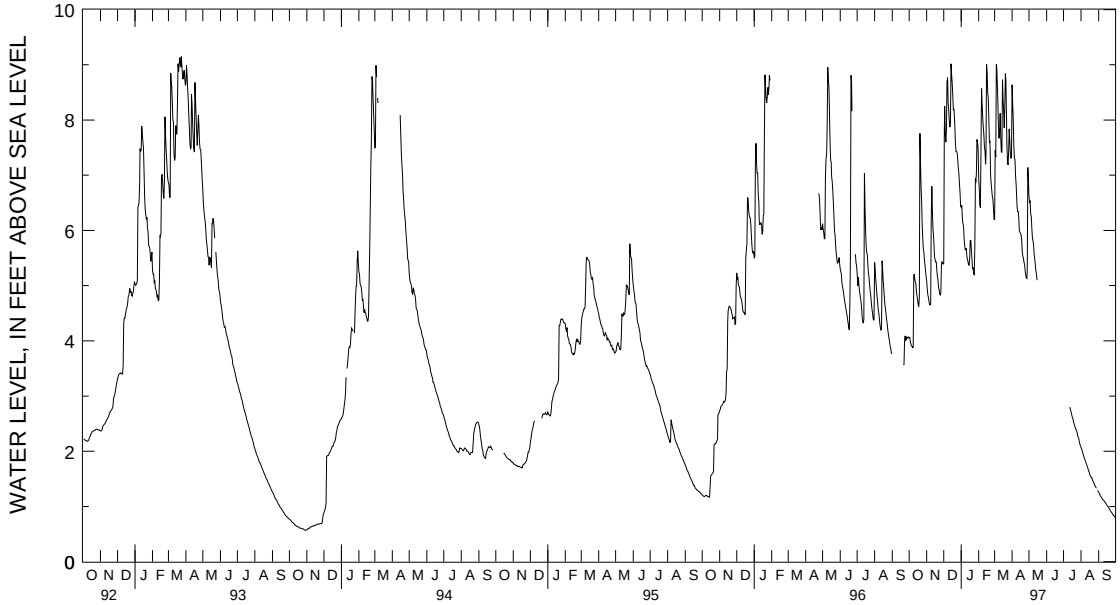
MARYLAND--Continued

HARFORD COUNTY--Continued

HA Fd 6--Continued

DAY	APRIL MAX	APRIL MIN	MAY MAX	MAY MIN	JUNE MAX	JUNE MIN	JULY MAX	JULY MIN	AUGUST MAX	AUGUST MIN	SEPTEMBER MAX	SEPTEMBER MIN
1	9.02	8.64	6.95	6.62	---	---	---	---	2.10	2.07	1.27	1.26
2	8.64	8.31	6.62	6.51	---	---	---	---	2.07	2.04	1.26	1.24
3	8.31	8.01	6.75	6.53	---	---	---	---	2.04	2.01	1.24	1.22
4	8.01	7.54	6.56	6.30	---	---	---	---	2.01	1.97	1.22	1.20
5	7.54	7.31	6.30	6.25	---	---	---	---	1.97	1.94	1.20	1.18
6	7.37	7.29	6.31	6.03	---	---	---	---	1.94	1.90	1.18	1.17
7	7.33	6.99	6.03	5.86	---	---	---	---	1.90	1.87	1.17	1.15
8	6.99	6.84	5.86	5.81	---	---	---	---	1.87	1.84	1.15	1.13
9	6.84	6.59	5.85	5.74	---	---	---	---	1.84	1.81	1.13	1.12
10	6.59	6.43	5.74	5.56	---	---	---	---	1.81	1.78	1.12	1.11
11	6.43	6.34	5.56	5.49	---	---	---	---	1.78	1.75	1.11	1.10
12	6.46	6.34	5.49	5.38	---	---	2.83	2.80	1.75	1.72	1.10	1.08
13	6.49	6.22	5.38	5.27	---	---	2.80	2.77	1.72	1.69	1.08	1.07
14	6.22	5.99	5.27	5.20	---	---	2.77	2.73	1.69	1.65	1.07	1.05
15	6.04	5.97	5.22	5.10	---	---	2.73	2.69	1.65	1.63	1.05	1.03
16	6.01	5.94	---	---	---	---	2.69	2.64	1.63	1.60	1.03	1.02
17	6.00	5.92	---	---	---	---	2.64	2.61	1.60	1.56	1.02	1.00
18	5.93	5.82	---	---	---	---	2.61	2.57	1.57	1.55	1.00	.99
19	5.82	5.62	---	---	---	---	2.57	2.52	1.55	1.52	.99	.97
20	5.62	5.53	---	---	---	---	2.52	2.48	1.52	1.52	.97	.96
21	5.53	5.50	---	---	---	---	2.48	2.45	1.52	1.49	.96	.94
22	5.51	5.42	---	---	---	---	2.45	2.42	1.49	1.46	.94	.92
23	5.44	5.39	---	---	---	---	2.42	2.39	1.46	1.44	.92	.91
24	5.39	5.27	---	---	---	---	2.39	2.37	1.44	1.41	.91	.89
25	5.27	5.19	---	---	---	---	2.37	2.33	1.41	1.39	.89	.88
26	5.19	5.14	---	---	---	---	2.33	2.28	1.39	1.37	.88	.86
27	5.27	5.13	---	---	---	---	2.28	2.25	1.37	1.35	.86	.84
28	7.68	5.27	---	---	---	---	2.25	2.22	1.35	1.33	.84	.84
29	7.56	7.14	---	---	---	---	2.22	2.17	---	---	.84	.82
30	7.14	6.92	---	---	---	---	2.17	2.13	1.31	1.29	.82	.80
31	---	---	---	---	---	---	2.13	2.10	1.29	1.27	---	---
MONTH	9.02	5.13	6.95	5.10	---	---	2.83	2.10	2.10	1.27	1.27	.80
YEAR	9.35	.80										

Daily Low Water Levels



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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.--Periodic measurements with electric tape by U.S. Geological Survey personnel.
Equipped with digital water-level recorder--15-minute recorder interval from Nov. 16, 1987 to June 26, 1996.
DATUM.--Altitude 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 June 1996.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.39 ft above sea level, Jan. 19, 1996; lowest measured, 0.29 ft above sea level, Sept. 21, 1997.

WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	---	---	3.84	2.00	2.51	1.34	2.76	1.88	2.06	1.20
2	---	---	---	---	3.94	2.25	2.58	1.82	2.12	1.59	2.87	2.03
3	---	---	---	---	2.77	2.12	2.24	1.71	2.16	1.57	2.65	1.47
4	---	---	---	---	2.77	1.83	2.27	1.53	2.34	1.42	3.40	2.57
5	---	---	1.86	1.22	2.52	1.70	3.06	1.92	3.22	2.20	3.46	2.72
6	---	---	1.58	1.16	3.18	2.13	2.39	1.72	2.63	2.00	3.32	2.17
7	---	---	2.24	1.36	3.58	2.13	1.91	1.37	2.31	1.79	2.17	1.51
8	---	---	2.84	1.94	3.58	2.52	1.52	1.15	2.09	1.68	2.13	1.47
9	---	---	2.74	1.92	3.21	1.90	1.85	1.10	2.71	1.59	2.15	1.36
10	---	---	2.27	1.72	3.09	1.77	2.47	1.69	2.66	1.89	2.96	1.85
11	---	---	2.17	1.58	2.89	2.00	2.26	1.25	2.36	1.54	2.77	2.04
12	---	---	1.98	1.37	2.71	1.96	1.34	1.05	2.47	1.69	2.29	1.65
13	---	---	1.92	1.32	3.22	2.12	1.26	.95	2.36	1.51	2.20	1.65
14	---	---	1.89	1.35	3.16	2.37	1.25	.90	3.03	1.74	3.29	1.62
15	---	---	2.00	1.19	3.19	2.20	2.03	.98	3.24	2.46	3.46	2.09
16	---	---	2.15	1.53	3.31	2.65	2.21	1.38	2.46	2.03	2.09	1.67
17	---	---	2.22	1.60	3.23	2.51	1.38	1.06	2.35	1.63	2.50	1.61
18	---	---	2.46	1.90	2.99	2.16	1.23	.97	2.81	1.63	2.51	1.61
19	---	---	2.69	1.96	2.78	2.13	1.39	.92	2.26	1.57	2.66	1.54
20	---	---	2.53	1.76	2.20	1.66	1.95	1.39	1.57	1.42	2.99	2.61
21	---	---	2.25	1.61	1.91	1.56	1.47	1.01	2.46	1.45	3.02	2.05
22	---	---	1.85	1.18	2.23	1.60	1.94	1.05	2.59	1.65	2.99	2.15
23	---	---	2.18	1.16	2.20	1.64	1.81	1.25	1.65	1.29	2.26	1.39
24	---	---	1.89	1.33	2.78	1.79	1.90	1.03	1.64	1.30	2.18	1.40
25	---	---	2.06	1.41	2.43	1.46	2.68	1.90	1.62	1.19	2.35	1.60
26	---	---	2.16	1.62	1.96	1.54	2.55	1.43	2.21	1.62	2.74	1.90
27	---	---	1.69	1.13	2.08	1.51	1.84	1.36	2.16	1.58	2.29	1.50
28	---	---	2.04	1.11	2.65	1.66	2.35	1.71	1.81	1.17	2.07	1.57
29	---	---	2.19	1.41	2.65	1.97	2.05	1.60	---	---	2.58	1.55
30	---	---	2.35	1.80	2.33	1.54	1.85	1.51	---	---	2.58	1.68
31	---	---	---	---	1.98	1.54	2.62	1.72	---	---	2.36	1.73
MONTH	---	---	2.84	1.11	3.94	1.46	3.06	.90	3.24	1.17	3.46	1.20

GROUND-WATER LEVELS

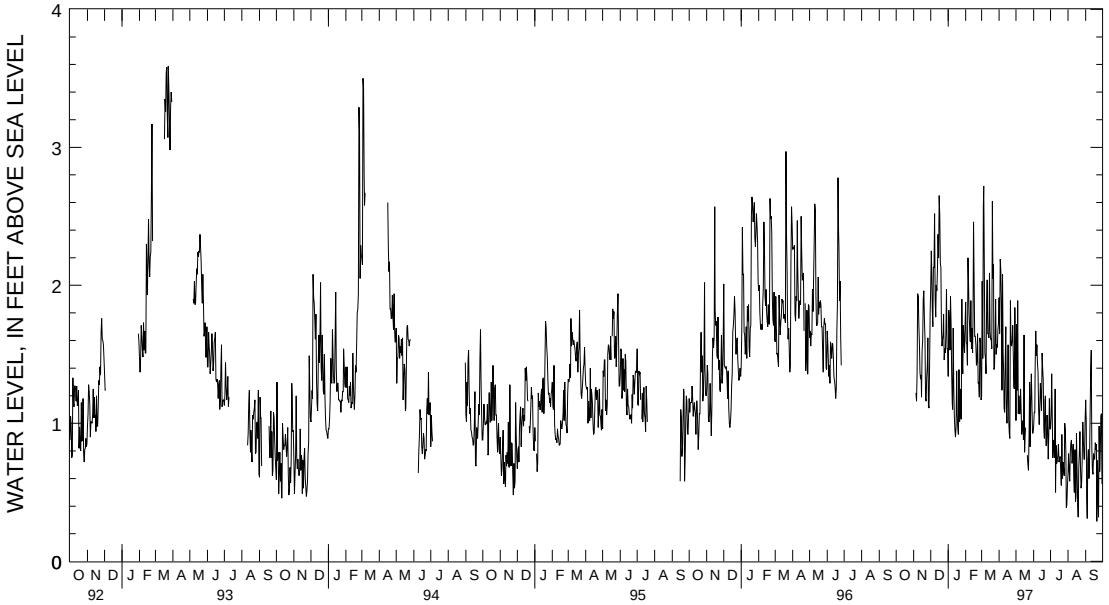
MARYLAND--Continued

HARFORD COUNTY--Continued

HA Fd 8--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	2.35	1.91	2.60	1.02	1.76	.98	2.01	.96	1.53	.63	1.91	1.17
2	2.19	1.65	2.69	1.72	1.83	1.08	2.03	1.05	1.56	.78	1.68	1.01
3	2.79	2.19	2.10	1.24	1.82	1.08	2.32	1.36	1.40	.66	1.58	.47
4	2.96	2.11	2.75	1.89	2.06	1.42	1.89	1.05	1.31	.58	.91	.31
5	2.51	1.87	2.01	1.07	2.60	1.67	1.40	.75	1.30	.79	1.58	.74
6	2.70	1.24	2.01	1.20	2.49	1.49	1.57	.88	1.54	.86	1.57	.81
7	2.69	2.08	2.70	1.07	2.19	1.57	1.53	.84	1.56	.88	1.28	.60
8	2.47	1.51	1.80	1.07	2.18	1.43	1.42	.75	1.34	.71	1.42	.72
9	1.86	1.36	2.03	1.25	2.05	1.37	1.80	1.25	1.35	.75	1.79	1.06
10	1.61	1.11	1.58	1.09	1.72	1.09	1.55	.50	1.46	.85	2.33	1.38
11	1.92	1.08	1.30	.92	1.56	.99	1.39	.84	1.54	.59	2.35	1.53
12	2.11	1.44	2.20	.99	1.58	1.12	1.37	.71	1.22	.50	1.93	.82
13	2.39	1.70	1.99	1.02	1.88	1.29	1.23	.73	1.39	.81	1.60	.66
14	2.17	1.11	1.86	.88	1.76	1.20	1.47	.77	1.57	.43	1.33	.63
15	1.57	1.00	2.17	1.64	1.63	1.09	1.48	.85	1.53	.48	1.40	.78
16	1.76	1.23	1.92	.79	2.26	1.51	1.60	.72	1.96	.93	1.49	.74
17	2.22	1.57	1.58	.90	2.36	1.40	1.49	.74	1.58	.68	1.61	.74
18	2.10	1.03	1.45	.97	2.09	1.31	1.67	.76	1.38	.44	1.71	.86
19	1.03	.93	---	---	1.98	.96	1.49	.66	1.53	.32	1.78	.81
20	1.89	.89	---	---	1.72	.89	1.22	.55	2.13	.68	1.70	.85
21	2.53	1.89	1.26	.77	2.12	1.16	1.93	.92	2.08	.78	1.23	.29
22	2.58	1.58	1.18	.70	2.15	1.20	1.46	.60	1.71	.94	1.65	.73
23	2.13	1.56	1.22	.66	1.50	.84	1.58	.72	1.71	.67	1.65	.54
24	2.29	1.60	1.73	.90	1.56	.84	1.47	.68	1.34	.53	1.23	.32
25	2.17	1.71	2.18	1.30	1.81	1.06	1.76	.62	1.36	.57	1.59	.98
26	2.77	1.49	1.70	.83	1.65	.96	1.87	1.00	1.45	.74	1.78	.65
27	2.11	1.27	1.80	1.17	1.34	.74	1.67	.95	1.68	1.01	1.18	.79
28	1.97	1.25	2.12	1.36	1.51	.94	1.68	.78	1.82	.88	1.53	1.05
29	3.12	1.84	1.81	1.15	1.84	1.18	1.53	.39	1.61	.74	2.08	1.07
30	2.16	1.57	1.65	.93	2.06	.96	1.08	.41	1.41	.74	1.86	.56
31	---	---	1.43	.93	---	---	1.44	.55	1.81	1.02	---	---
MONTH	3.12	.89	2.70	.66	2.60	.74	2.32	.39	2.13	.32	2.35	.29
YEAR	3.94	.29										

Daily Low Water Levels



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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: 112TLBT.
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.--Periodic measurements with electric 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.--Altitude 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. Missing data due to recorder malfunction.
PERIOD OF RECORD.--January 1990 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.59 ft above sea level, Sept. 7, 1996; lowest measured, 1.50 ft below sea level, April 1, 1997.

WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
(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	1.47	.69	1.86	.94	2.82	1.23	1.72	.27	1.76	.85	1.30	.28
2	1.63	.88	1.53	.89	2.82	.85	1.74	1.01	1.19	.50	1.83	.84
3	1.63	.07	1.16	.60	1.67	.86	1.55	.96	1.27	.46	.89	.09
4	1.39	-.03	1.28	.69	1.69	.78	1.58	.76	1.44	.35	1.71	.72
5	1.49	.99	1.19	.44	1.54	.65	2.38	1.28	1.59	.84	2.01	1.20
6	1.42	.89	.98	.36	1.84	.66	1.73	.92	1.16	.38	1.81	.21
7	1.51	1.13	1.65	.77	2.13	.71	1.20	.48	1.16	.35	.39	-.35
8	1.87	.66	2.25	1.32	2.21	1.07	.55	-.18	.95	.20	.97	-.13
9	1.86	.75	1.69	.74	1.77	.52	1.23	-.07	1.58	.15	1.26	-.13
10	2.15	.56	1.34	.70	1.97	.39	1.81	.97	1.40	.70	1.67	.80
11	1.00	.38	1.26	.52	1.62	.90	1.38	.35	1.15	.21	1.59	.74
12	1.39	.62	.92	.21	1.73	.88	.52	-.15	1.43	.54	1.12	.43
13	1.58	.92	1.07	.24	1.56	1.03	-.02	-.48	1.24	.13	1.05	.47
14	1.27	.63	.94	.33	1.08	-.03	-.08	-.46	1.38	.47	1.92	.79
15	1.44	.43	1.18	.01	1.71	.17	1.45	-.09	1.40	.66	1.81	.28
16	1.36	.76	1.44	.64	1.90	1.14	1.50	.44	.78	.17	.72	.21
17	1.17	.42	1.53	.79	1.94	1.21	.44	-.13	.91	-.14	1.31	.36
18	1.84	.68	1.94	1.16	1.86	1.03	.41	-.47	1.50	.15	1.04	.20
19	1.88	.84	2.04	1.28	1.59	.85	.23	-.70	.85	-.10	1.18	.22
20	2.18	1.60	1.93	1.09	.95	.29	1.17	.23	.41	-.21	1.66	.99
21	2.34	1.31	1.69	.96	.68	-.17	.42	-.14	1.39	.16	1.47	.80
22	1.98	1.16	1.26	.29	1.11	.11	1.23	.10	1.56	.33	1.87	.29
23	2.20	1.24	1.53	.29	1.20	.46	.95	.34	.63	-.12	1.11	.12
24	1.90	1.04	1.28	.55	1.82	.71	1.10	-.02	.64	.09	1.12	.46
25	1.64	.95	1.50	.74	1.09	.02	1.73	1.05	.76	-.10	1.34	.72
26	1.52	.82	1.54	.50	.98	.34	1.40	.12	1.23	.65	1.73	.44
27	1.74	.83	.50	-.54	1.12	.35	.86	.02	1.28	.63	1.07	.20
28	1.56	.88	1.20	-.20	1.72	.62	1.17	.55	.85	.03	1.10	.47
29	1.73	.64	1.40	.51	1.63	1.04	.71	.08	---	---	1.64	.87
30	2.09	1.40	1.65	.94	1.43	.63	.79	.06	---	---	1.28	.71
31	1.87	1.02	---	---	1.16	.63	1.72	.52	---	---	1.18	-.56
MONTH	2.34	-.03	2.25	-.54	2.82	-.17	2.38	-.70	1.76	-.21	2.01	-.56

GROUND-WATER LEVELS

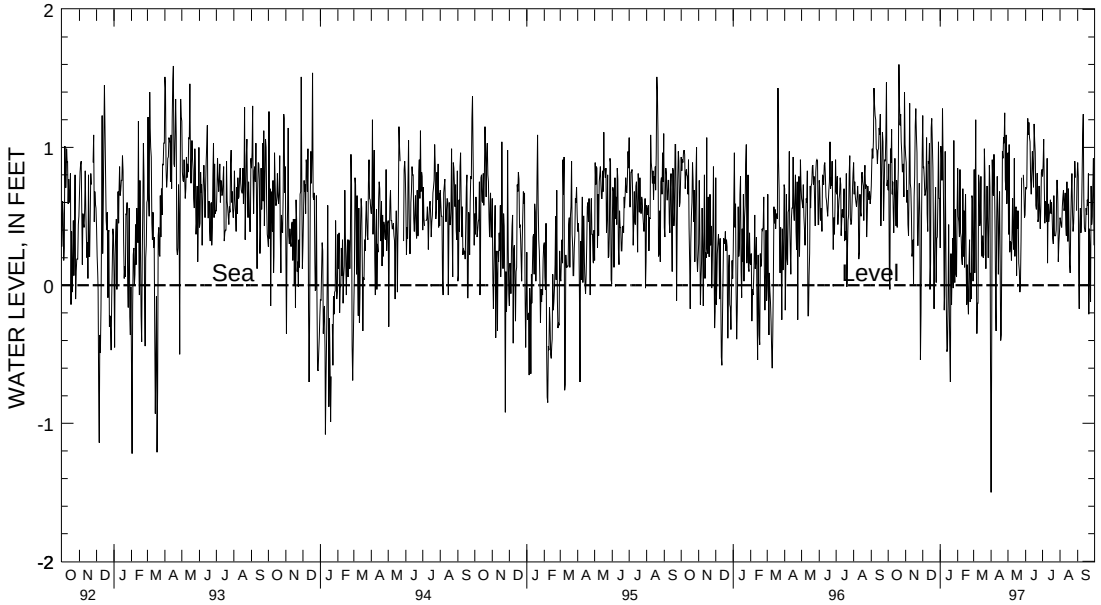
MARYLAND--Continued

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	-.54	-1.50	1.95	.96	1.35	.71	1.66	.79	1.21	.49	1.56	.89
2	1.06	-.54	1.13	.37	1.44	.70	1.69	.87	1.27	.47	1.35	.79
3	1.69	.91	2.02	1.02	1.40	.71	1.96	1.06	1.14	.43	1.31	.10
4	1.61	.73	1.31	.24	1.62	1.01	1.60	.73	1.09	.42	.66	-.17
5	1.41	.65	1.21	.32	2.11	1.21	1.11	.45	1.09	.57	1.22	.44
6	1.78	.95	1.95	.31	2.02	1.09	1.20	.61	1.24	.64	1.13	.56
7	1.76	.75	.91	.18	1.77	1.18	1.20	.58	1.25	.69	.99	.38
8	1.03	.36	1.19	.37	1.78	1.07	1.10	.46	1.09	.54	1.13	.49
9	.78	-.16	1.42	.63	1.65	1.04	1.42	.92	1.17	.57	1.43	.79
10	.74	-.33	.98	.33	1.37	.76	1.22	.16	1.25	.67	1.74	1.09
11	1.21	.47	1.10	.26	1.23	.66	1.06	.59	1.26	.44	2.04	1.24
12	1.61	.79	1.57	.92	1.34	.81	1.06	.46	1.04	.36	1.65	.62
13	1.45	.53	.99	.21	1.54	.97	1.05	.50	1.18	.75	1.32	.42
14	.77	.08	1.37	.53	1.42	.84	1.16	.56	1.35	.32	1.07	.39
15	1.00	.42	1.60	.57	1.33	.71	1.18	.62	1.28	.32	1.13	.39
16	1.36	.68	.87	.07	1.79	1.17	1.29	.52	1.68	.70	1.22	.56
17	1.53	.22	1.03	.54	1.93	1.05	1.20	.60	1.36	.40	1.32	.51
18	.34	-.40	.95	.41	1.73	.96	1.35	.50	1.21	.15	1.41	.62
19	.30	-.36	1.23	.54	1.63	.58	1.20	.34	1.26	.09	1.47	.58
20	1.66	.30	1.18	.16	1.36	.55	.90	.30	1.89	.47	1.43	.81
21	1.86	.97	.78	.11	1.73	.81	1.52	.65	1.63	.67	.92	-.21
22	1.53	.92	.66	-.05	1.77	.81	1.18	.36	1.48	.81	1.26	.41
23	1.72	1.07	.66	.01	1.15	.46	.36	.36	1.33	.53	1.31	.25
24	1.63	1.03	1.15	.32	1.19	.48	.40	.36	1.14	.39	.85	-.12
25	2.15	1.25	1.64	.78	1.40	.72	1.55	.40	1.17	.45	1.16	.72
26	1.55	.76	---	---	1.29	.56	1.55	.76	1.24	.62	1.47	.44
27	1.43	.69	---	---	1.01	.41	1.40	.76	1.43	.90	.95	.50
28	2.09	1.09	1.55	.80	1.14	.56	1.43	.59	1.60	.78	1.29	.72
29	1.31	.59	1.29	.69	1.42	.82	1.28	.17	---	---	1.81	.92
30	1.58	.87	1.22	.49	1.66	.84	.83	.30	1.12	.54	1.61	.29
31	---	---	1.08	.51	---	---	1.12	.38	1.46	.78	---	---
MONTH	2.15	-1.50	2.02	-.05	2.11	.41	1.96	.16	1.89	.09	2.04	-.21
YEAR	2.82	-1.50										

Daily Low Water Levels



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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.--Periodic measurements with electric 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.--Altitude 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, 1.18 ft above sea level, Oct. 10, and 11, 1993.

WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	3.63	3.44	4.11	3.91	6.16	4.23	4.88	4.60	5.46	5.07	5.66	4.38
2	3.61	3.48	3.99	3.80	6.32	6.02	4.97	4.80	5.07	4.89	5.77	5.43
3	3.63	3.21	3.81	3.63	6.02	5.84	4.81	4.68	4.96	4.68	6.47	5.15
4	3.35	3.14	3.74	3.61	5.86	5.34	4.68	4.52	5.55	4.59	6.72	6.47
5	3.41	3.30	3.68	3.51	5.49	5.21	4.91	4.62	6.51	5.55	6.75	6.56
6	3.38	3.25	3.54	3.45	6.42	5.49	4.86	4.53	6.40	6.04	6.76	6.07
7	3.36	3.28	3.71	3.51	6.68	6.18	4.57	4.29	6.04	5.78	6.07	5.57
8	4.72	3.32	5.24	3.68	6.63	6.48	4.35	4.05	5.78	5.54	5.66	5.42
9	4.74	4.64	5.45	5.17	6.60	5.89	4.29	4.01	5.63	5.41	5.48	5.18
10	4.88	4.29	5.17	4.94	5.90	5.67	4.51	4.29	5.63	5.48	6.32	5.48
11	4.29	4.06	4.94	4.65	5.90	5.67	4.52	4.18	5.54	5.20	6.22	5.83
12	4.08	4.00	4.65	4.35	5.83	5.60	4.18	3.97	5.43	5.23	5.83	5.48
13	4.07	3.99	4.37	4.19	6.72	5.73	4.02	3.84	5.43	5.11	5.51	5.23
14	4.06	3.83	4.30	4.10	6.73	6.50	3.87	3.80	6.52	5.18	6.71	5.30
15	3.83	3.65	4.15	3.90	6.54	6.42	4.15	3.83	6.70	6.51	6.71	6.08
16	3.81	3.68	4.12	3.99	6.55	6.40	4.55	4.15	6.51	6.25	6.08	5.67
17	3.74	3.51	4.13	4.02	6.47	6.27	4.39	4.14	6.25	5.74	5.78	5.59
18	4.43	3.55	4.24	4.10	6.29	5.95	4.16	3.94	5.99	5.74	5.68	5.42
19	5.77	4.43	4.29	4.10	6.45	5.92	3.95	3.85	5.86	5.43	6.54	5.66
20	5.80	5.59	4.20	3.99	6.32	5.81	4.09	3.95	5.43	5.18	6.61	6.37
21	5.64	5.18	4.04	3.92	5.81	5.42	3.96	3.76	5.48	5.19	6.37	6.16
22	5.25	4.95	3.92	3.65	5.48	5.36	4.01	3.75	5.48	5.02	6.24	5.93
23	5.08	4.93	3.84	3.64	5.47	5.27	4.01	3.81	5.02	4.78	5.93	5.33
24	4.93	4.57	3.79	3.64	5.69	5.32	4.31	3.71	4.83	4.70	5.42	5.17
25	4.59	4.40	3.78	3.64	5.70	5.29	5.29	4.31	4.70	4.55	5.23	5.14
26	4.40	4.24	4.75	3.74	5.33	5.17	5.27	4.83	4.76	4.67	6.08	5.21
27	4.34	4.19	4.41	4.00	5.25	5.06	4.89	4.75	4.86	4.70	5.99	5.63
28	4.32	4.17	4.20	3.97	5.21	5.06	5.79	4.89	4.70	4.36	5.65	5.39
29	4.22	3.98	4.20	4.02	5.24	5.12	5.70	5.31	---	---	5.49	5.34
30	4.37	4.18	4.25	4.11	5.13	4.84	5.31	5.18	---	---	5.47	5.27
31	4.28	3.99	---	---	4.91	4.72	5.44	5.18	---	---	6.32	5.23
MONTH	5.80	3.14	5.45	3.45	6.73	4.23	5.79	3.71	6.70	4.36	6.76	4.38

GROUND-WATER LEVELS

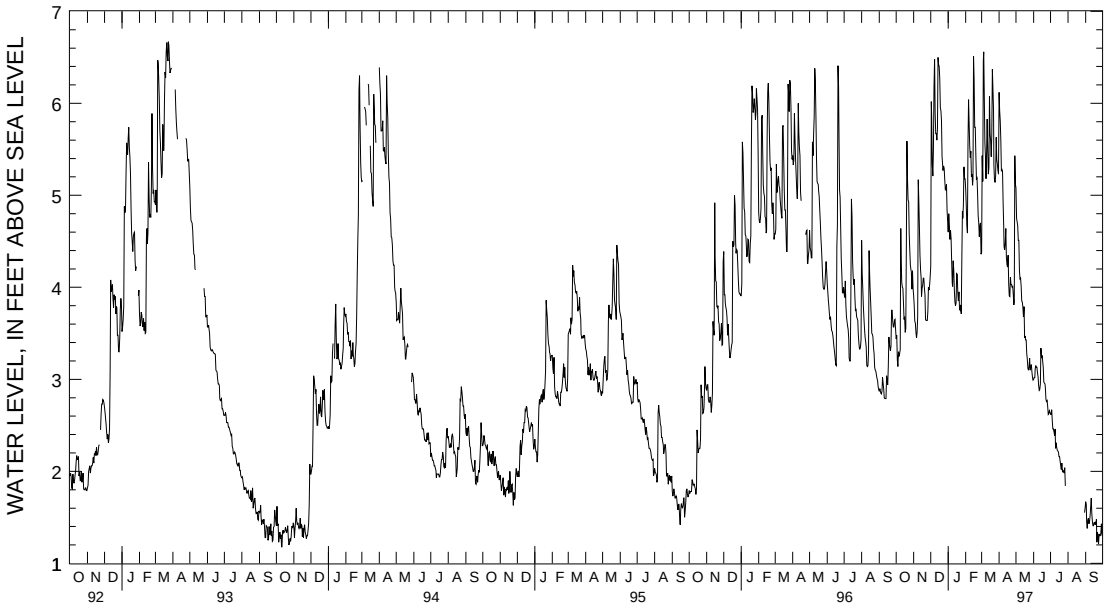
MARYLAND--Continued

HARFORD COUNTY--Continued

HA Fd 23--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	6.30	6.12	5.20	5.08	3.13	3.00	2.78	2.62	---	---	1.78	1.67
2	6.12	5.92	5.19	4.75	3.14	3.02	2.78	2.62	---	---	1.74	1.64
3	6.01	5.81	5.07	4.71	3.15	3.02	2.83	2.67	---	---	1.72	1.45
4	5.90	5.60	5.14	4.67	3.22	3.11	2.73	2.55	---	---	1.49	1.38
5	5.62	5.27	4.67	4.51	3.32	3.15	2.58	2.46	---	---	1.62	1.47
6	5.41	5.28	4.75	4.51	3.30	3.13	2.57	2.46	---	---	1.62	1.49
7	5.53	5.26	4.55	4.18	3.22	3.13	2.55	2.43	---	---	1.57	1.43
8	5.26	4.92	4.19	4.09	3.20	3.07	2.47	2.39	---	---	1.54	1.45
9	4.95	4.66	4.25	4.10	3.13	3.03	2.55	2.46	---	---	1.62	1.52
10	4.66	4.44	4.18	4.01	3.06	2.93	2.50	2.25	---	---	1.71	1.61
11	4.59	4.41	4.01	3.85	2.98	2.88	2.40	2.31	---	---	1.81	1.71
12	4.67	4.48	4.06	3.84	2.96	2.89	2.39	2.26	---	---	1.77	1.54
13	4.81	4.64	4.05	3.78	3.66	2.95	2.33	2.23	---	---	1.66	1.45
14	4.79	4.33	3.82	3.68	3.54	3.34	2.35	2.22	---	---	1.55	1.41
15	4.36	4.25	3.90	3.79	3.38	3.23	2.33	2.21	---	---	1.54	1.41
16	4.39	4.22	3.84	3.45	3.40	3.26	2.33	2.16	---	---	1.56	1.44
17	4.45	4.35	3.61	3.47	3.39	3.20	2.28	2.16	---	---	1.56	1.43
18	4.35	4.04	3.54	3.43	3.29	3.13	2.29	2.11	---	---	1.60	1.45
19	4.04	3.91	3.57	3.43	3.22	2.97	2.22	2.06	---	---	1.59	1.42
20	4.11	3.90	3.51	3.28	3.07	2.96	2.14	2.02	---	---	1.60	1.48
21	4.23	4.11	3.35	3.22	3.10	2.95	2.26	2.09	---	---	1.50	1.23
22	4.14	4.03	3.26	3.12	3.08	2.91	2.16	2.00	---	---	1.47	1.34
23	4.12	4.03	3.20	3.10	2.91	2.78	2.15	2.01	---	---	1.51	1.30
24	4.08	4.00	3.28	3.13	2.86	2.76	2.14	2.00	---	---	1.34	1.21
25	4.19	4.01	3.39	3.23	2.89	2.77	2.16	1.98	---	---	1.43	1.32
26	4.10	3.92	3.32	3.10	2.84	2.71	2.18	2.04	---	---	1.53	1.30
27	3.94	3.81	3.24	3.13	2.76	2.62	2.14	1.84	---	---	1.38	1.30
28	6.01	3.85	3.29	3.16	2.74	2.63	---	---	---	---	1.47	1.33
29	5.98	5.43	3.22	3.08	2.78	2.66	---	---	---	---	1.61	1.43
30	5.43	5.12	3.17	3.02	2.80	2.64	---	---	1.66	1.55	1.55	1.30
31	---	---	3.10	2.99	---	---	---	---	1.73	1.60	---	---
MONTH	6.30	3.81	5.20	2.99	3.66	2.62	2.83	1.84	1.73	1.55	1.81	1.21
YEAR	6.76	1.21										

Daily Low Water Levels



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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.--Periodic measurements with electric 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.--Altitude 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, 3.67 ft above sea level, Sept. 7, 1996; lowest measured, 1.18 ft below sea level, April 1, 1997.

WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
(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	1.55	.88	1.96	1.14	2.83	1.44	1.80	.55	1.88	1.09	1.47	.56
2	1.69	1.08	1.64	1.09	2.87	1.10	1.87	1.26	1.34	.78	1.97	1.05
3	1.71	.32	1.27	.81	1.74	1.09	1.68	1.18	1.41	.74	1.06	.41
4	1.40	.20	1.40	.92	1.80	.99	1.70	.99	1.58	.63	1.87	.97
5	1.59	1.16	1.32	.69	1.67	.88	2.51	1.41	1.71	1.10	2.15	1.44
6	1.53	1.07	1.09	.61	1.91	.90	1.86	1.25	1.30	.71	1.91	.52
7	1.60	1.26	1.75	.90	2.24	.90	1.33	.81	1.29	.66	.60	-.01
8	1.96	.86	2.43	1.51	2.34	1.28	.88	.13	1.11	.53	1.12	.19
9	1.98	.88	1.91	1.05	2.01	.86	1.30	.21	1.71	.46	1.45	.16
10	2.27	.79	1.45	.89	2.07	.67	1.91	1.18	1.55	.98	1.80	1.10
11	1.10	.62	1.36	.77	1.90	1.14	1.71	.63	1.35	.53	1.71	1.03
12	1.47	.84	1.17	.47	1.82	1.12	.78	.13	1.58	.82	1.27	.72
13	1.66	1.13	1.15	.50	1.76	1.26	.66	-.22	1.41	.44	1.25	.74
14	1.52	.87	1.12	.58	1.37	.24	.64	-.21	1.54	.76	2.06	1.06
15	1.52	.67	1.25	.27	1.78	.44	1.55	.30	1.55	.93	1.95	.59
16	1.52	.97	1.47	.85	2.02	1.37	1.59	.66	.98	.48	.89	.52
17	1.34	.64	1.53	1.00	2.04	1.46	.66	-.10	1.05	.19	---	---
18	1.89	.88	1.89	1.35	1.96	1.29	.57	-.24	1.65	.38	1.22	.50
19	1.97	1.04	2.14	1.49	1.68	1.10	.76	-.46	1.07	.25	1.35	.50
20	2.20	1.65	2.02	1.32	1.11	.46	1.26	.62	.58	.10	1.79	1.26
21	2.45	1.52	1.78	1.18	.78	.12	.62	.12	1.54	.43	1.62	1.06
22	2.08	1.39	1.40	.57	1.21	.39	1.36	.38	1.71	.61	2.01	.71
23	2.30	1.41	1.62	.55	1.30	.69	1.11	.60	.79	.20	1.26	.42
24	2.00	1.31	1.39	.79	1.92	.93	1.26	.24	.80	.39	1.29	.75
25	1.72	1.23	1.60	.97	1.52	.29	1.85	1.25	.92	.20	1.49	.96
26	1.62	1.05	1.63	.94	1.08	.61	1.60	.40	1.39	.88	1.85	.70
27	1.82	1.08	.94	-.25	1.24	.63	.99	.31	1.47	.89	1.22	.49
28	1.65	1.11	1.31	.05	1.82	.86	1.31	.80	1.05	.30	1.25	.74
29	1.82	.83	1.50	.73	1.82	1.28	.89	.36	---	---	1.79	1.11
30	2.20	1.57	1.75	1.14	1.61	.86	.93	.33	---	---	1.45	.98
31	2.08	1.26	---	---	1.30	.87	1.84	.77	---	---	1.35	-.20
MONTH	2.45	.20	2.43	-.25	2.87	.12	2.51	-.46	1.88	.10	2.15	-.20

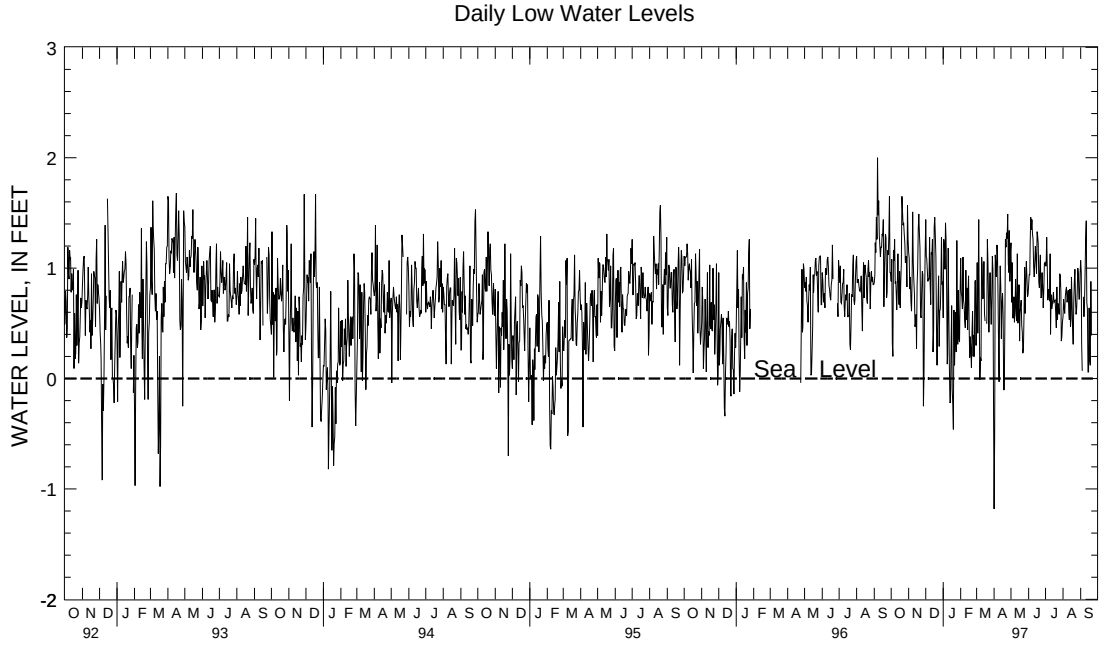
GROUND WATER LEVELS

MARYLAND--Continued

HARFORD COUNTY--Continued

HA Fd 26--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	-.20	-1.18	2.07	1.23	1.46	.85	1.75	1.02	1.26	.56	1.63	1.07
2	1.20	-.54	1.31	.69	1.55	.94	1.79	1.02	1.32	.72	1.42	.96
3	1.79	1.12	2.15	1.05	1.54	.94	2.06	1.28	1.20	.64	1.37	.32
4	1.72	1.03	1.49	.55	1.74	1.23	1.70	1.01	1.14	.59	.76	.07
5	1.54	.92	1.38	.55	2.24	1.46	1.24	.71	1.13	.74	---	---
6	1.89	1.21	2.07	.74	2.14	1.35	1.33	.81	1.31	.80	1.25	.74
7	1.87	1.11	1.04	.51	1.89	1.44	1.32	.79	1.32	.83	1.10	.56
8	1.17	.68	1.34	.63	1.90	1.31	1.22	.70	1.17	.69	1.21	.69
9	1.08	.18	1.55	.90	1.78	1.26	1.53	1.13	1.17	.72	1.53	.97
10	.86	-.03	1.12	.58	1.51	1.01	1.37	.40	1.24	.80	1.83	1.27
11	1.35	.73	1.18	.52	1.38	.92	1.14	.76	1.33	.60	2.09	1.43
12	1.72	1.02	1.71	1.13	1.40	1.05	1.15	.63	1.10	.53	1.72	.69
13	1.58	.83	1.17	.50	1.69	1.20	1.05	.66	1.26	.81	1.20	.63
14	.94	.36	1.43	.65	1.57	1.08	1.24	.72	1.41	.47	1.49	.06
15	1.15	.69	1.71	.85	1.40	.95	1.26	.78	1.36	.54	1.00	.06
16	1.50	.77	1.02	.34	1.92	1.33	1.35	.69	1.73	.92	1.38	.64
17	1.67	.57	1.16	.58	2.05	1.29	1.26	.70	1.41	.71	1.13	.17
18	.57	-.10	1.09	.65	1.84	1.22	1.41	.71	1.25	.46	1.18	.12
19	.47	-.10	1.37	.71	1.74	.87	1.26	.59	1.32	.31	1.57	.88
20	1.79	.47	1.32	.48	1.47	.82	1.00	.46	1.96	.69	1.36	.39
21	1.97	1.26	.92	.42	1.81	1.05	1.60	.83	1.93	.88	---	---
22	1.66	1.19	.81	.23	1.86	1.12	1.23	.53	1.53	.99	---	---
23	1.84	1.32	.80	.28	1.27	.73	1.32	.68	1.53	.71	---	---
24	1.76	1.27	1.28	.59	1.31	.74	1.26	.64	1.21	.58	---	---
25	2.29	1.49	1.76	1.01	1.52	.96	1.51	.58	1.22	.63	---	---
26	1.68	1.04	1.37	.59	1.41	.84	1.60	.95	1.29	.78	---	---
27	1.55	.96	1.39	.90	1.15	.64	1.45	.93	1.50	1.00	---	---
28	2.22	1.34	1.68	1.06	1.26	.81	1.50	.78	1.65	.95	---	---
29	1.40	.88	1.43	.92	1.54	1.04	1.34	.34	1.49	.72	---	---
30	1.67	1.13	1.36	.74	1.75	1.05	.89	.38	1.20	.72	---	---
31	---	---	1.19	.76	---	---	1.18	.51	1.53	.95	---	---
MONTH	2.29	-1.18	2.15	.23	2.24	.64	2.06	.34	1.96	.31	2.09	.06
YEAR	2.87	-1.18										



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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.--Periodic measurements with electric 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.--Altitude 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. Missing data due to recorder malfunction.
PERIOD OF RECORD.--January 1990 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.46 ft above sea level, March 6, 1997; lowest measured, 0.52 ft below sea level, Oct. 11, 1993.

WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
(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	2.86	2.81	4.45	4.38	5.65	5.10	5.52	5.37	6.03	5.86	5.56	5.23
2	2.93	2.81	4.38	4.25	5.78	5.64	5.64	5.52	5.86	5.65	5.99	5.56
3	2.99	2.80	4.25	3.96	5.72	5.63	5.63	5.56	5.65	5.55	5.97	5.80
4	2.80	2.65	3.96	3.90	5.75	5.61	5.56	5.41	5.61	5.44	6.17	5.95
5	2.74	2.67	3.91	3.90	5.72	5.57	5.64	5.43	6.05	5.61	6.37	6.17
6	2.76	2.74	3.90	3.82	5.93	5.72	5.64	5.37	6.06	5.99	6.46	6.21
7	2.82	2.76	4.02	3.83	6.10	5.88	5.37	5.15	5.99	5.92	6.21	5.81
8	3.14	2.82	4.44	4.02	6.15	6.10	5.15	4.96	5.92	5.89	5.87	5.79
9	3.58	3.14	4.79	4.44	6.15	5.83	5.19	4.95	5.89	5.82	5.85	5.60
10	3.77	3.58	5.00	4.79	5.84	5.71	5.42	5.19	5.92	5.86	6.10	5.66
11	3.72	3.60	5.01	4.99	5.86	5.83	5.45	5.27	5.94	5.84	6.18	6.10
12	3.64	3.60	4.99	4.83	5.84	5.80	5.27	5.08	5.90	5.84	6.11	5.85
13	3.72	3.64	4.83	4.78	6.03	5.81	5.08	4.93	5.90	5.71	5.85	5.70
14	3.76	3.69	4.81	4.77	6.05	5.93	4.93	4.88	6.12	5.71	6.22	5.70
15	3.69	3.49	4.77	4.60	6.01	5.92	5.07	4.88	6.21	6.12	6.28	6.04
16	3.55	3.49	4.68	4.60	6.15	6.01	5.47	5.07	6.17	6.02	6.04	5.88
17	3.55	3.42	4.77	4.68	6.21	6.15	5.45	5.22	6.06	5.81	5.93	5.82
18	3.53	3.42	4.97	4.77	6.19	6.02	5.22	5.01	6.01	5.81	5.93	5.81
19	4.35	3.53	5.02	4.95	6.12	6.01	5.01	4.83	6.01	5.91	6.18	5.81
20	4.77	4.35	4.95	4.82	6.10	5.75	4.92	4.83	5.91	5.62	6.36	6.18
21	4.87	4.77	4.82	4.73	5.75	5.60	4.90	4.60	5.87	5.62	6.36	6.27
22	4.89	4.87	4.73	4.45	5.69	5.61	4.87	4.60	5.94	5.72	6.38	6.08
23	5.03	4.89	4.45	4.37	5.72	5.68	4.95	4.87	5.72	5.38	6.08	5.74
24	5.03	4.85	4.44	4.36	5.89	5.72	5.02	4.81	5.38	5.34	5.74	5.55
25	4.85	4.65	4.41	4.36	5.89	5.66	5.53	5.02	---	---	5.67	5.53
26	4.65	4.49	4.77	4.41	5.66	5.62	5.53	5.35	5.40	5.25	5.86	5.67
27	4.53	4.48	4.77	4.67	5.69	5.65	5.46	5.34	5.59	5.40	5.91	5.86
28	4.63	4.53	4.90	4.67	5.71	5.66	5.74	5.46	5.59	5.25	5.91	5.86
29	4.63	4.47	4.95	4.90	5.74	5.71	5.74	5.65	---	---	5.97	5.86
30	4.75	4.48	5.10	4.95	5.74	5.55	5.77	5.65	---	---	5.95	5.84
31	4.75	4.45	---	---	5.58	5.48	5.98	5.77	---	---	6.02	5.84
MONTH	5.03	2.65	5.10	3.82	6.21	5.10	5.98	4.60	6.21	5.25	6.46	5.23

GROUND-WATER LEVELS

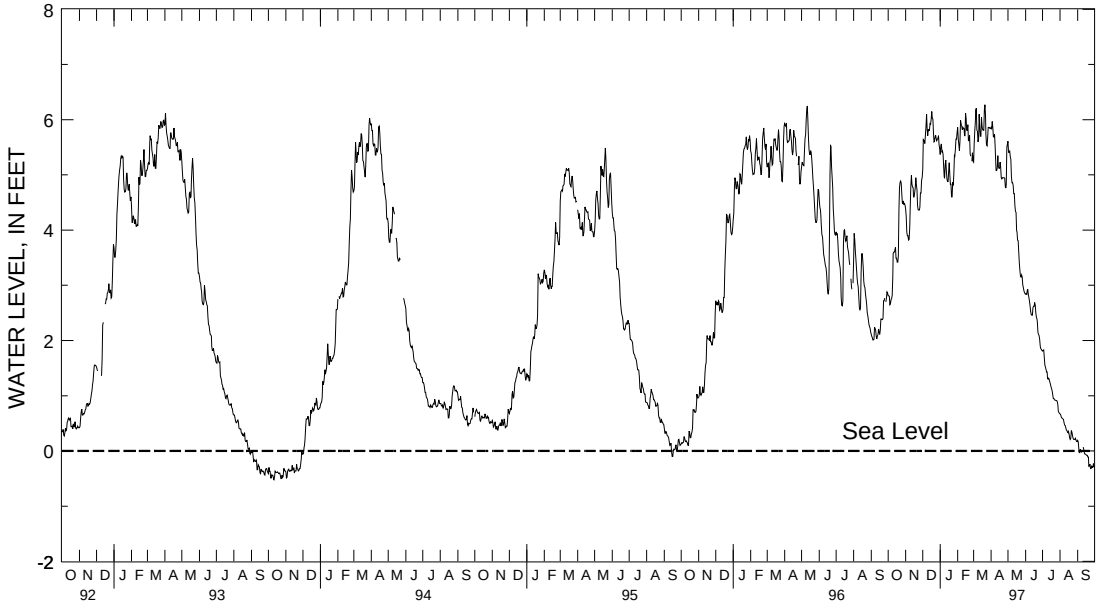
MARYLAND--Continued

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	6.02	5.86	5.73	5.61	2.85	2.84	1.83	1.81	.68	.67	.20	.19
2	5.97	5.84	5.65	5.41	2.85	2.85	1.83	1.82	.67	.66	.19	.16
3	6.02	5.97	5.71	5.41	2.90	2.84	1.86	1.83	.66	.62	.17	.08
4	6.02	5.86	5.71	5.43	2.96	2.90	1.85	1.70	.62	.60	.08	-.03
5	5.86	5.69	5.43	5.33	2.96	2.93	1.70	1.56	.60	.59	.03	-.03
6	5.78	5.69	5.44	5.28	2.93	2.83	1.56	1.52	.59	.58	.03	.03
7	5.83	5.74	5.28	4.96	2.83	2.78	1.52	1.48	.59	.57	.03	-.01
8	5.74	5.53	4.96	4.86	2.78	2.71	1.48	1.43	.57	.51	.00	-.02
9	5.53	5.24	4.98	4.86	2.71	2.63	1.45	1.43	.51	.47	.01	-.02
10	5.24	5.08	4.98	4.81	2.63	2.53	1.45	1.31	.47	.46	---	---
11	5.12	5.08	4.81	4.66	2.53	2.47	1.36	1.30	.46	.42	.12	.07
12	5.35	5.12	4.70	4.66	2.47	2.46	1.36	1.32	.42	.38	.12	.02
13	5.49	5.35	4.69	4.44	2.59	2.46	1.32	1.29	.41	.37	.02	-.04
14	5.43	5.15	4.44	4.34	2.67	2.59	1.29	1.25	.41	.34	-.04	-.06
15	5.15	5.12	4.39	4.32	2.67	2.62	1.25	1.21	.35	.33	-.06	-.06
16	5.23	5.12	4.32	3.99	2.69	2.62	1.21	1.16	.38	.35	-.06	-.07
17	5.28	5.23	3.99	3.97	2.72	2.69	1.16	1.13	.38	.31	-.07	-.08
18	5.26	5.13	3.97	3.82	2.69	2.64	1.13	1.09	.31	.24	-.08	-.08
19	5.13	4.95	3.84	3.81	2.64	2.50	1.09	1.02	.24	.21	-.08	-.11
20	4.96	4.93	3.83	3.60	2.50	2.42	1.02	.95	.38	.23	-.09	-.11
21	4.96	4.95	3.60	3.41	2.42	2.39	1.00	.95	.41	.37	-.11	-.28
22	4.96	4.95	3.41	3.27	2.40	2.33	1.00	.93	.37	.34	-.22	-.27
23	4.96	4.95	3.27	3.17	2.33	2.15	.93	.92	.34	.28	-.19	-.24
24	4.97	4.95	3.19	3.15	2.15	2.11	.93	.92	.28	.23	-.24	-.32
25	4.98	4.94	3.30	3.19	2.11	2.09	.93	.91	.23	.21	-.24	-.32
26	4.94	4.79	3.30	3.15	2.09	2.02	.92	.91	.21	.21	-.22	-.28
27	4.83	4.76	3.15	3.01	2.02	1.90	.92	.89	.23	.21	-.28	-.30
28	5.50	4.83	3.01	2.96	1.90	1.85	.89	.83	.25	.23	-.23	-.30
29	5.56	5.50	2.96	2.90	1.85	1.84	.83	.72	.25	.20	-.19	-.23
30	5.61	5.56	2.90	2.87	1.84	1.82	.72	.70	.20	.17	-.20	-.29
31	---	---	2.87	2.85	---	---	.70	.68	.19	.17	---	---
MONTH	6.02	4.76	5.73	2.85	2.96	1.82	1.86	.68	.68	.17	.20	-.32
YEAR	6.46	-.32										

Daily Low Water Levels



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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.--Periodic measurements with electric 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.--Altitude 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, 3.79 ft above sea level, Sept. 7, 1996; lowest measured, 1.42 ft below sea level, April 1, 1997.

WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
(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	1.61	.78	1.99	1.03	2.95	1.36	1.81	.37	1.86	.92	1.44	.39
2	1.76	.99	1.67	.99	2.95	.96	1.83	1.11	1.30	.60	1.97	.92
3	1.76	.18	1.30	.72	1.77	.96	1.65	1.02	1.38	.55	1.00	.19
4	1.53	.08	1.43	.81	1.79	.85	1.67	.82	1.55	.44	1.83	.83
5	1.63	1.10	1.33	.57	1.65	.74	2.53	1.38	1.70	.92	2.13	1.30
6	1.57	1.00	1.10	.48	1.94	.75	1.82	.98	1.28	.50	1.92	.33
7	1.65	1.26	1.76	.86	2.26	.81	1.29	.56	1.28	.46	.50	-.25
8	2.01	.78	2.47	1.44	2.36	1.16	.62	-.11	1.06	.32	1.09	-.03
9	2.00	.86	1.80	.83	1.87	.62	1.31	-.02	1.70	.25	1.44	-.05
10	2.34	.65	1.47	.75	2.09	.50	1.90	1.05	1.53	.79	1.79	.92
11	1.13	.51	1.39	.63	1.72	.98	1.47	.42	1.27	.32	1.71	.84
12	1.54	.74	1.02	.31	1.83	.97	.60	-.10	1.56	.65	1.24	.53
13	1.72	1.05	1.18	.33	1.66	1.11	.53	-.41	1.36	.24	1.18	.56
14	1.42	.76	1.05	.44	1.19	.05	.60	-.40	1.51	.59	2.05	.91
15	1.58	.55	1.32	.11	1.80	.26	1.54	.14	1.53	.77	1.95	.41
16	1.51	.87	1.57	.74	2.04	1.24	1.59	.52	.90	.28	.83	.34
17	1.31	.52	1.64	.89	2.04	1.31	.52	-.29	1.02	-.04	1.45	.49
18	1.98	.79	2.05	1.25	1.95	1.11	.52	-.40	1.62	.25	1.17	.32
19	2.02	.95	2.18	1.40	1.68	.94	.70	-.62	.96	.01	1.31	.34
20	2.33	1.72	2.04	1.19	1.04	.26	1.29	.50	.52	-.12	1.77	1.08
21	2.50	1.42	1.80	1.04	.75	-.10	.55	-.04	1.52	.26	1.58	.90
22	2.12	1.28	1.40	.40	1.21	.20	1.35	.20	1.69	.44	1.98	.41
23	2.36	1.40	1.65	.40	1.30	.53	1.05	.43	.74	-.01	1.23	.23
24	2.03	1.15	1.41	.64	1.91	.78	1.21	.05	.75	.20	1.25	.57
25	1.77	1.08	1.62	.84	1.20	.10	1.83	1.15	.88	.00	1.45	.81
26	1.66	.93	1.65	.61	1.06	.43	1.53	.20	1.37	.76	1.84	.50
27	1.87	.95	.61	-.43	1.22	.45	.95	.11	1.44	.74	1.18	.31
28	1.69	.99	1.33	-.11	1.81	.70	1.29	.65	.97	.10	1.23	.57
29	1.86	.72	1.53	.63	1.72	1.14	.80	.16	---	---	1.76	.98
30	2.25	1.52	1.77	1.04	1.53	.68	.89	.14	---	---	1.40	.79
31	2.00	1.14	---	---	1.26	.70	1.82	.62	---	---	1.31	-.46
MONTH	2.50	.08	2.47	-.43	2.95	-.10	2.53	-.62	1.86	-.12	2.13	-.46

GROUND-WATER LEVELS

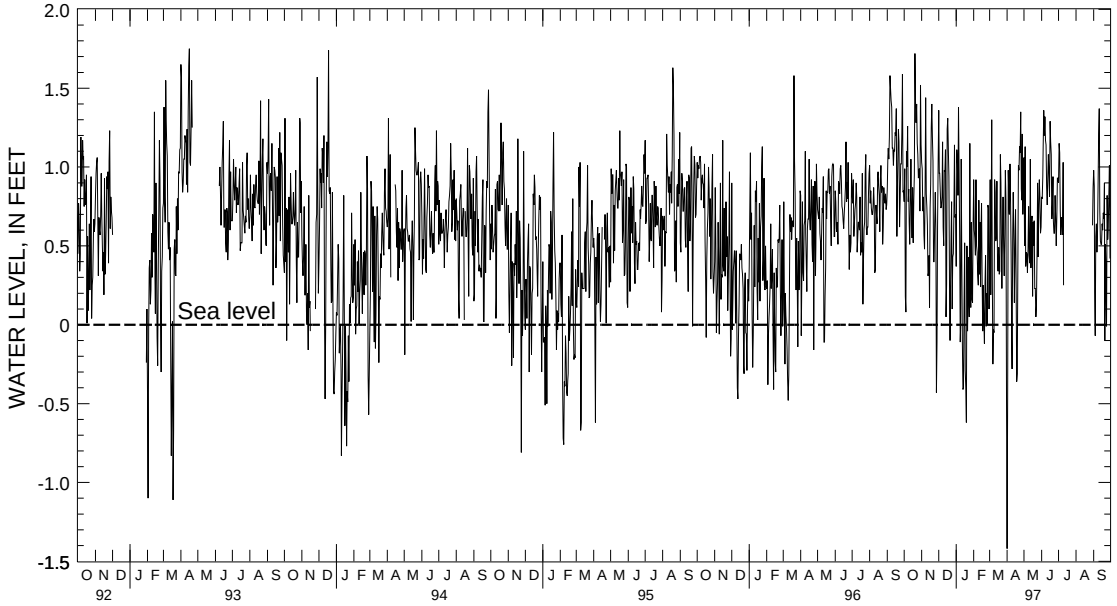
MARYLAND--Continued

HARFORD COUNTY--Continued

HA Fd 29--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	-.46	-1.42	2.07	1.06	1.48	.81	1.77	.90	---	---	1.68	.98
2	1.15	-.46	1.26	.50	1.57	.80	1.82	1.15	---	---	1.48	.88
3	1.76	.98	2.16	1.13	1.53	.94	2.10	1.09	---	---	1.44	.21
4	1.68	.80	1.45	.37	1.74	1.13	1.73	.72	---	---	.77	-.07
5	1.51	.70	1.37	.46	2.26	1.36	1.24	.57	---	---	1.36	.56
6	1.85	1.02	2.09	.45	2.16	1.20	1.34	.68	---	---	1.25	.64
7	1.84	.80	1.05	.33	1.89	1.32	1.34	.67	---	---	1.11	.46
8	1.11	.45	1.36	.48	1.91	1.17	1.23	.57	---	---	1.26	.59
9	.85	-.08	1.58	.75	1.78	1.14	1.56	1.03	---	---	1.58	.90
10	.79	-.28	1.13	.44	1.50	.87	1.15	.25	---	---	1.86	1.21
11	1.28	.53	1.24	.39	1.37	.76	---	---	---	---	2.17	1.37
12	1.67	.84	1.71	1.05	1.56	.93	---	---	---	---	1.76	.72
13	1.53	.60	1.13	.36	1.68	1.08	---	---	---	---	1.45	.53
14	.84	.14	1.50	.64	1.56	.96	---	---	---	---	1.19	.51
15	1.06	.48	1.70	.69	1.76	.81	---	---	---	---	1.26	.51
16	1.43	.73	.97	.18	1.92	1.29	---	---	---	---	1.35	.64
17	1.60	.29	1.14	.65	2.05	1.16	---	---	---	---	1.46	.60
18	.40	-.36	1.07	.50	1.85	1.08	---	---	---	---	1.54	.71
19	.35	-.31	1.37	.66	1.75	.67	---	---	---	---	1.60	.67
20	1.71	.35	1.31	.23	1.49	.76	---	---	---	---	1.56	.90
21	1.91	1.01	.90	.23	1.85	.94	---	---	---	---	1.04	-.10
22	1.59	.98	.78	.05	1.89	.66	---	---	---	---	1.40	.51
23	1.78	1.13	.78	.12	1.29	.58	---	---	---	---	1.45	.34
24	1.71	1.09	1.29	.45	1.33	.58	---	---	---	---	.96	-.01
25	2.27	1.35	1.77	.90	1.56	.82	---	---	---	---	1.27	.82
26	1.66	.86	1.11	.43	1.43	.68	---	---	---	---	1.62	.54
27	1.55	.79	1.40	.76	1.27	.50	---	---	---	---	1.07	.62
28	2.23	1.21	1.68	.92	1.52	.68	---	---	---	---	1.42	.82
29	1.44	.70	1.43	.80	1.62	.93	---	---	---	---	1.94	1.01
30	1.69	.99	1.36	.58	1.78	.93	---	---	1.25	.63	1.73	.42
31	---	---	1.20	.62	---	---	---	---	1.59	.87	---	---
MONTH	2.27	-1.42	2.16	.05	2.26	.50	2.10	.25	1.59	.63	2.17	-.10
YEAR	2.95	-1.42										

Daily Low Water Levels



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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.--Periodic measurements with electric 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.--Altitude 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, 6.55 ft above sea level, March 29, and 30, 1994. lowest measured, 0.17 ft above sea level, Sept. 17, 1993.

WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	3.97	3.89	4.49	4.40	4.93	4.57	5.25	5.16	5.49	5.45	5.15	5.02
2	3.89	3.86	4.40	4.33	5.41	4.93	5.19	5.16	5.45	5.28	5.50	5.15
3	3.93	3.88	4.33	4.17	5.50	5.41	5.19	5.17	5.28	5.17	5.64	5.50
4	3.88	3.72	4.17	4.06	5.51	5.45	5.17	5.08	5.17	5.08	5.98	5.64
5	3.72	3.63	4.06	4.03	5.45	5.38	5.09	5.07	5.58	5.09	6.12	5.98
6	3.63	3.61	4.03	3.97	5.65	5.38	5.09	5.00	5.77	5.58	6.19	6.12
7	3.61	3.60	4.00	3.97	5.82	5.65	5.00	4.84	5.78	5.75	6.15	5.90
8	3.84	3.59	4.21	4.00	5.97	5.82	4.84	4.70	5.75	5.70	5.90	5.77
9	4.43	3.84	4.88	4.21	5.97	5.88	4.71	4.67	5.70	5.65	5.77	5.60
10	4.69	4.43	5.08	4.88	5.88	5.72	4.88	4.71	5.67	5.65	5.82	5.60
11	4.69	4.58	5.09	5.02	5.72	5.68	4.93	4.88	5.67	5.64	5.91	5.82
12	4.58	4.47	5.02	4.84	5.68	5.65	4.90	4.77	5.64	5.63	5.91	5.76
13	4.47	4.39	4.84	4.71	5.84	5.65	4.77	4.67	5.63	5.54	5.76	5.58
14	4.39	4.33	4.71	4.64	6.17	5.84	4.67	4.58	5.74	5.54	5.78	5.56
15	4.33	4.18	4.64	4.51	6.18	6.17	4.58	4.55	6.04	5.74	5.96	5.78
16	4.18	4.13	4.51	4.47	6.17	6.15	4.87	4.57	6.05	6.04	5.96	5.86
17	4.14	4.05	4.47	4.46	6.15	6.14	4.91	4.87	6.05	5.91	5.86	5.78
18	4.05	4.02	4.51	4.46	6.14	6.04	4.91	4.77	5.91	5.83	5.78	5.69
19	4.84	4.04	4.54	4.51	6.07	6.03	4.77	4.58	5.83	5.79	5.92	5.69
20	5.24	4.84	4.54	4.48	6.07	5.93	4.58	4.53	5.79	5.59	6.10	5.92
21	5.29	5.24	4.48	4.40	5.93	5.74	4.53	4.41	5.59	5.55	6.11	6.09
22	5.28	5.20	4.40	4.29	5.74	5.66	4.43	4.39	5.60	5.55	6.09	5.98
23	5.20	5.17	4.29	4.21	5.66	5.61	4.57	4.43	5.55	5.30	5.98	5.72
24	5.17	5.03	4.21	4.16	5.64	5.61	4.59	4.55	5.30	5.18	5.72	5.48
25	5.03	4.83	4.16	4.14	5.65	5.62	5.07	4.59	5.18	5.09	5.48	5.40
26	4.83	4.68	4.49	4.14	5.62	5.54	5.17	5.07	5.09	5.07	5.62	5.41
27	4.68	4.62	4.62	4.49	5.54	5.50	5.17	5.15	5.19	5.07	5.71	5.62
28	4.64	4.62	4.62	4.61	5.50	5.46	5.35	5.16	5.19	5.07	5.71	5.67
29	4.64	4.58	4.62	4.59	5.46	5.44	5.40	5.35	---	---	5.67	5.65
30	4.61	4.56	4.59	4.57	5.44	5.33	5.41	5.40	---	---	5.65	5.59
31	4.61	4.49	---	---	5.33	5.25	5.47	5.41	---	---	5.83	5.59
MONTH	5.29	3.59	5.09	3.97	6.18	4.57	5.47	4.39	6.05	5.07	6.19	5.02

GROUND-WATER LEVELS

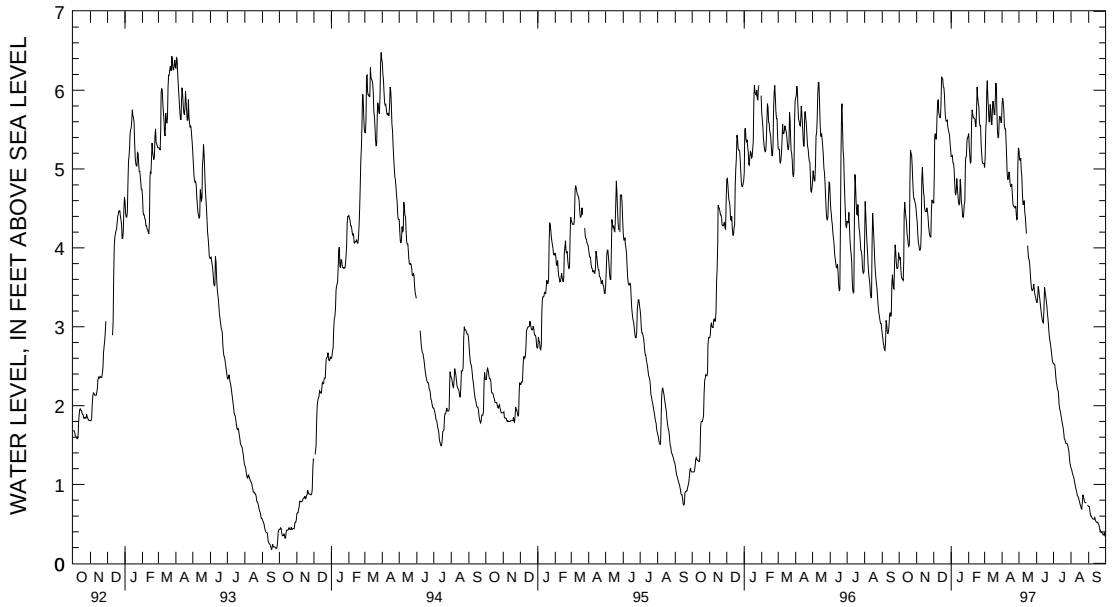
MARYLAND--Continued

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	5.95	5.83	5.27	5.24	3.34	3.31	2.54	2.53	1.24	1.21	.73	.72
2	5.95	5.90	5.24	5.12	3.40	3.31	2.53	2.53	1.21	1.19	.72	.72
3	5.90	5.85	5.18	5.11	3.51	3.40	2.53	2.52	1.19	1.16	.72	.69
4	5.85	5.74	5.20	5.14	3.54	3.51	2.52	2.46	1.16	1.13	.69	.63
5	5.74	5.55	5.14	4.98	3.54	3.47	2.46	2.36	1.13	1.11	.63	.60
6	5.55	5.51	4.98	4.90	3.47	3.40	2.36	2.29	1.11	1.08	.60	.60
7	5.56	5.51	4.90	4.68	3.40	3.34	2.29	2.25	1.08	1.04	.60	.58
8	5.51	5.34	4.68	4.55	3.34	3.27	2.25	2.20	1.04	1.00	.58	.57
9	5.34	5.13	4.63	4.55	3.27	3.20	2.20	2.19	1.00	.96	.57	.56
10	5.13	4.97	4.64	4.60	3.20	3.14	2.19	2.14	.96	.93	.56	.56
11	4.97	4.87	4.60	4.46	3.14	3.09	2.14	2.01	.93	.90	.60	.56
12	4.96	4.87	4.46	4.39	3.09	3.06	2.01	1.96	.90	.86	.60	.58
13	5.11	4.96	4.39	4.28	3.21	3.05	1.96	1.93	.86	.85	.58	.54
14	5.11	4.96	4.28	4.18	3.50	3.21	1.93	1.89	.85	.83	.54	.53
15	4.96	4.83	---	---	3.53	3.50	1.89	1.84	.83	.80	.53	.52
16	4.83	4.78	4.16	4.03	3.50	3.45	1.84	1.80	.80	.79	.52	.52
17	4.81	4.78	4.03	3.95	3.45	3.39	1.80	1.76	.79	.75	.52	.52
18	4.84	4.81	3.95	3.87	3.39	3.33	1.76	1.72	.75	.73	.52	.50
19	4.82	4.70	3.87	3.85	3.33	3.27	1.72	1.66	.73	.70	.50	.49
20	4.70	4.57	3.85	3.78	3.27	3.17	1.66	1.58	.77	.69	.49	.46
21	4.57	4.53	3.78	3.68	3.17	3.10	1.58	1.57	.87	.77	.46	.42
22	4.55	4.53	3.68	3.57	3.10	3.04	1.57	1.54	.88	.87	.42	.42
23	4.54	4.51	3.57	3.49	3.04	2.93	1.54	1.52	.87	.84	.42	.40
24	4.56	4.51	3.49	3.46	2.93	2.86	1.53	1.52	.84	.81	.40	.39
25	4.56	4.53	3.49	3.46	2.86	2.81	1.53	1.52	.81	.78	.40	.39
26	4.53	4.42	3.59	3.49	2.81	2.76	1.52	1.49	.78	.77	.40	.37
27	4.42	4.36	3.59	3.54	2.76	2.70	1.49	1.46	.77	.77	.37	.36
28	5.04	4.37	3.54	3.46	2.70	2.63	1.46	1.42	.78	.77	.40	.36
29	5.27	5.04	3.46	3.41	2.63	2.57	1.42	1.36	---	---	.40	.39
30	5.28	5.27	3.41	3.38	2.57	2.54	1.36	1.28	.77	.74	.39	.34
31	---	---	3.38	3.34	---	---	1.28	1.24	.74	.73	---	---
MONTH	5.95	4.36	5.27	3.34	3.54	2.54	2.54	1.24	1.24	.69	.73	.34
YEAR	6.19	.34										

Daily Low Water Levels



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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.--Periodic measurements with electric 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.--Altitude 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.
PERIOD OF RECORD.--December 1989 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.78 ft above sea level, Sept. 7, 1996; lowest measured, 1.40 ft below sea level, April 1, 1997.

WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
(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	1.62	.75	2.00	1.00	2.94	1.35	1.68	.38	1.90	.93	1.44	.39
2	1.76	.96	1.69	.97	2.97	.94	1.87	1.14	1.35	.61	1.99	.97
3	1.76	.17	1.33	.70	1.75	.94	1.70	1.06	1.43	.56	1.03	.19
4	1.56	.07	1.45	.79	1.82	.85	1.73	.84	1.59	.46	1.84	.81
5	1.63	1.09	1.34	.53	1.67	.72	2.56	1.28	1.74	.92	2.15	1.29
6	1.58	.98	1.11	.46	1.96	.74	2.36	1.09	1.33	.49	1.92	.36
7	1.66	1.24	1.78	.86	2.29	.75	1.73	.62	1.32	.45	.52	-.27
8	2.02	.76	2.50	1.45	2.38	1.17	1.32	-.09	1.11	.31	1.12	-.04
9	1.99	.86	1.81	.81	1.95	.71	1.27	.00	1.74	.24	1.45	-.07
10	2.34	.62	1.49	.72	2.13	.48	1.91	1.08	1.57	.77	1.79	.87
11	1.15	.49	1.40	.60	1.86	.96	1.97	.44	1.28	.32	1.72	.78
12	1.54	.71	1.05	.29	1.87	.95	.81	-.07	1.60	.64	1.26	.48
13	1.73	1.02	1.21	.32	1.74	1.09	.67	-.39	1.38	.25	1.25	.52
14	1.42	.72	1.08	.42	1.33	.06	.65	-.39	1.54	.58	2.05	.87
15	1.60	.52	1.34	.08	1.84	.27	1.61	.15	1.57	.76	1.97	.37
16	1.50	.85	1.57	.72	2.09	1.25	1.65	.54	.92	.28	.84	.31
17	1.33	.50	1.63	.88	2.10	1.33	.54	-.27	1.05	-.04	1.45	.41
18	1.99	.75	2.03	1.24	2.00	1.14	.55	-.40	1.65	.29	1.17	.29
19	2.02	.94	2.19	1.37	1.72	.94	.71	-.62	.98	-.01	1.32	.29
20	2.37	1.71	2.06	1.18	1.12	.38	1.31	.45	.56	-.11	1.79	1.13
21	2.51	1.40	1.83	1.03	.80	-.09	.55	-.08	1.56	.27	1.61	.88
22	2.14	1.26	1.42	.40	1.27	.21	1.37	.19	1.71	.40	2.01	.50
23	2.37	1.41	1.69	.39	1.35	.54	1.08	.43	.77	-.02	1.26	.21
24	2.05	1.11	1.45	.62	1.96	.79	1.26	.06	.78	.20	1.26	.53
25	1.79	1.03	1.65	.83	1.87	.11	1.87	1.17	.90	-.02	1.49	.80
26	1.69	.90	1.69	.72	1.11	.45	1.52	.21	1.39	.75	1.85	.56
27	1.89	.93	.72	-.44	1.23	.45	1.00	.13	1.47	.72	1.21	.29
28	1.72	.97	1.35	-.12	1.79	.71	1.34	.67	1.06	.09	1.25	.54
29	1.87	.71	1.56	.62	1.86	1.16	.81	.17	---	---	1.77	.96
30	2.26	1.51	1.78	1.04	1.64	.71	.94	.16	---	---	1.43	.78
31	2.00	1.11	---	---	1.32	.71	1.87	.63	---	---	1.33	-.43
MONTH	2.51	.07	2.50	-.44	2.97	-.09	2.56	-.62	1.90	-.11	2.15	-.43

GROUND-WATER LEVELS

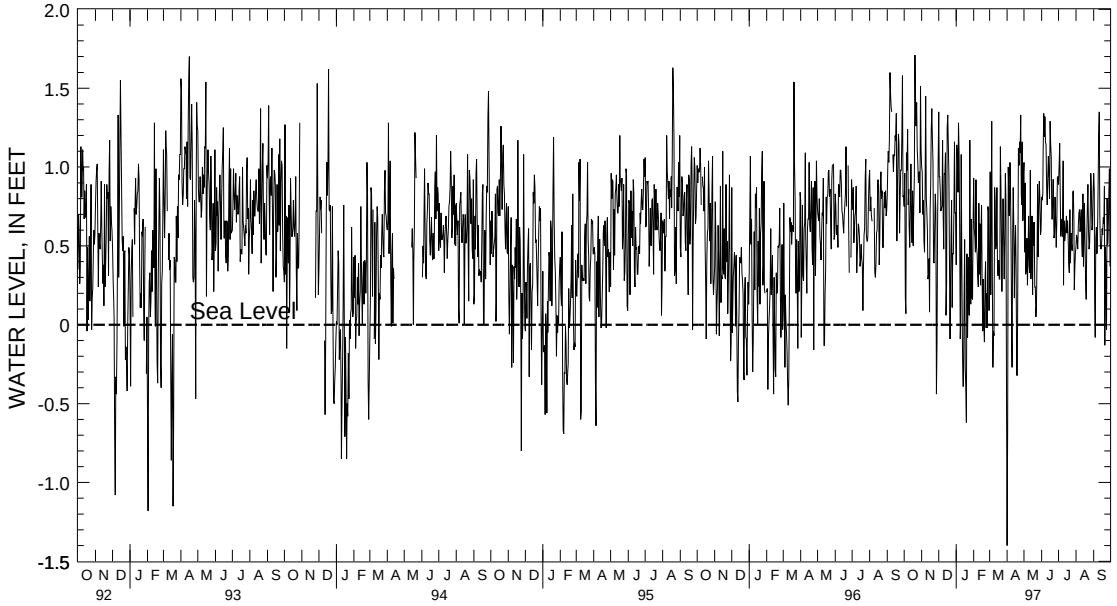
MARYLAND--Continued

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	-.43	-1.40	2.07	1.03	1.53	.81	1.82	.89	1.38	.50	1.70	.96
2	1.19	-.67	1.25	.46	1.61	.79	1.85	1.01	1.43	.57	1.51	.85
3	1.83	1.00	2.16	.90	1.58	.83	2.13	1.15	1.30	.54	1.47	.19
4	1.74	.81	1.44	.32	1.77	1.11	1.76	.80	1.25	.48	.79	-.08
5	1.56	.69	1.35	.35	2.28	1.34	1.28	.56	1.24	.63	1.38	.55
6	1.90	1.03	2.06	.55	2.19	1.19	1.38	.67	1.40	.71	1.24	.62
7	1.89	.86	1.03	.25	1.93	1.32	1.38	.65	1.42	.73	1.12	.45
8	1.16	.46	1.33	.43	1.94	1.16	1.26	.56	1.25	.59	1.30	.57
9	1.00	-.08	1.55	.69	1.81	1.14	1.59	1.04	1.33	.63	1.61	.88
10	.86	-.27	1.09	.37	1.54	.86	1.38	.25	1.41	.73	1.92	1.20
11	1.36	.56	1.18	.33	1.41	.76	1.19	.66	1.43	.51	2.17	1.35
12	1.73	.87	1.69	.98	1.52	.94	1.21	.53	1.19	.43	1.78	.69
13	1.59	.61	1.09	.29	1.69	1.07	1.10	.57	1.33	.83	1.48	.51
14	.88	.17	1.39	.55	1.59	.94	1.32	.63	1.52	.37	1.22	.48
15	1.13	.49	1.72	.69	1.51	.80	1.34	.69	1.45	.65	1.30	.50
16	1.49	.63	.99	.19	1.94	1.29	1.45	.58	1.83	.77	1.39	.61
17	1.66	.35	1.19	.65	2.08	1.15	1.35	.66	1.52	.50	1.48	.57
18	.46	-.32	1.11	.50	1.89	1.06	1.50	.56	1.38	.28	1.57	.68
19	.39	-.32	1.40	.65	1.79	.67	1.37	.39	1.43	.16	1.64	.64
20	1.79	.32	1.36	.24	1.54	.67	1.09	.33	2.04	.54	1.59	.88
21	1.99	1.12	.94	.24	1.88	.92	1.71	.73	1.86	.74	1.07	-.13
22	1.67	1.01	.81	.05	1.93	.92	1.34	.39	1.64	.89	1.44	.49
23	1.85	1.16	.81	.12	1.34	.55	1.44	.58	1.57	.60	1.48	.32
24	1.75	1.09	1.34	.43	1.38	.57	1.33	.51	1.30	.48	1.01	-.03
25	2.30	1.33	1.80	.89	1.59	.81	1.70	.47	1.31	.52	1.32	.80
26	1.69	.82	1.26	.43	1.47	.66	1.70	.84	1.40	.69	1.63	.51
27	1.57	.76	1.43	.75	1.18	.49	1.56	.85	1.59	.96	1.09	.61
28	2.21	1.16	1.72	.91	1.32	.66	1.60	.67	1.75	.85	1.45	.83
29	1.38	.66	1.46	.79	1.60	.93	1.43	.22	1.58	.60	1.96	.99
30	1.67	.94	1.40	.57	1.82	.94	.98	.36	1.28	.63	1.76	.37
31	---	---	1.24	.60	---	---	1.28	.46	1.61	.84	---	---
MONTH	2.30	-1.40	2.16	.05	2.28	.49	2.13	.22	2.04	.16	2.17	-.13
YEAR	2.97	-1.40										

Daily Low Water Levels



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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: 112TLBT.
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.--Periodic measurements with electric 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.--Altitude 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, 4.40 ft above sea level, March 6, 1997; lowest measured, 0.40 ft below sea level, Sept. 11, and 12, 1993.

WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
(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	2.01	1.81	2.70	2.46	3.93	3.07	3.35	2.89	3.32	3.19	3.41	2.73
2	2.09	1.92	2.55	2.34	4.04	3.58	3.43	3.27	3.27	2.94	3.81	3.41
3	2.15	1.54	2.34	2.08	3.73	3.54	3.28	3.14	3.84	2.93	3.75	3.24
4	1.69	1.41	2.24	2.13	3.77	3.39	3.16	2.98	3.94	3.67	4.22	3.75
5	1.88	1.69	2.23	2.08	3.62	3.31	3.56	3.14	3.78	3.56	4.39	4.19
6	1.92	1.77	2.10	1.98	3.92	3.62	3.48	3.10	3.66	3.44	4.40	3.78
7	1.93	1.78	2.42	2.08	4.20	3.69	3.10	2.81	3.47	3.33	3.78	3.31
8	2.10	1.91	2.97	2.42	4.27	3.98	2.82	2.44	3.68	3.41	3.55	3.28
9	2.66	2.05	3.16	2.97	4.26	3.61	2.83	2.43	3.64	3.33	3.50	3.10
10	2.84	2.32	3.14	3.03	3.87	3.47	3.24	2.83	3.59	3.30	3.91	3.50
11	2.32	2.10	3.13	2.91	3.87	3.64	3.24	2.76	3.58	3.20	3.98	3.78
12	2.32	2.14	3.01	2.68	3.74	3.56	2.76	2.46	3.78	3.16	3.78	3.46
13	2.41	2.27	2.77	2.60	4.09	3.66	2.53	2.24	4.10	3.78	3.54	3.35
14	2.41	2.13	2.77	2.60	4.09	3.74	2.34	2.21	4.10	3.71	4.21	3.39
15	2.16	1.89	2.67	2.36	4.09	3.75	2.79	2.34	3.79	3.40	4.22	3.66
16	2.18	2.05	2.73	2.58	4.24	4.09	3.17	2.59	3.85	3.34	3.66	3.47
17	2.11	1.84	2.80	2.71	4.26	4.11	2.64	2.49	3.87	3.48	3.73	3.45
18	2.27	1.92	3.02	2.77	4.13	3.82	2.49	2.21	3.48	3.03	3.71	3.39
19	2.88	2.27	3.12	2.93	3.97	3.81	2.76	2.36	3.40	3.07	3.96	3.39
20	3.28	2.88	3.03	2.81	3.84	3.36	2.76	2.30	3.68	3.40	4.18	3.96
21	3.41	3.12	2.82	2.69	3.36	3.14	2.68	2.31	3.45	2.85	4.10	3.89
22	3.22	3.05	2.73	2.29	3.41	3.20	2.76	2.62	---	---	4.14	3.62
23	3.27	3.02	2.57	2.25	3.43	3.28	2.63	2.41	---	---	3.62	3.24
24	3.21	2.90	2.56	2.36	3.73	3.39	3.53	2.57	---	---	3.43	3.27
25	2.90	2.74	2.57	2.39	3.71	3.15	3.58	3.06	2.93	2.74	3.50	3.29
26	2.79	2.58	2.92	2.56	3.31	3.19	3.08	2.97	3.15	2.90	3.75	3.50
27	---	---	2.88	2.36	3.31	3.17	3.44	3.08	3.30	3.14	3.60	3.41
28	2.76	2.62	2.84	2.41	3.53	3.24	3.26	3.18	3.19	2.71	3.60	3.45
29	2.70	2.38	2.89	2.70	3.54	3.44	3.36	3.18	---	---	3.75	3.52
30	2.96	2.63	3.07	2.89	3.46	3.13	3.74	3.34	---	---	3.68	3.50
31	2.95	2.53	---	---	3.21	3.05	3.67	3.23	---	---	3.69	3.45
MONTH	3.41	1.41	3.16	1.98	4.27	3.05	3.74	2.21	4.10	2.71	4.40	2.73

GROUND-WATER LEVELS

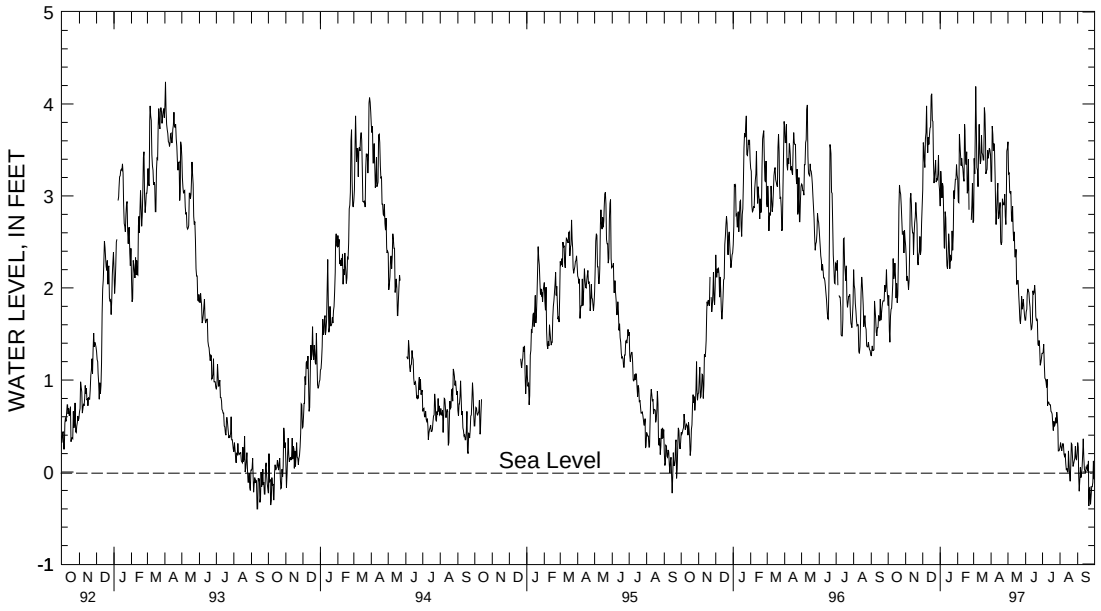
MARYLAND--Continued

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	3.45	3.16	3.83	3.59	1.83	1.65	1.49	1.29	.48	.27	.46	.32
2	3.76	3.16	3.59	3.24	1.88	1.74	1.52	1.30	.50	.32	.39	.27
3	3.98	3.76	3.81	3.25	1.94	1.77	1.63	1.39	.43	.27	.35	-.03
4	3.93	3.67	3.71	3.04	2.06	1.92	1.47	1.19	.37	.23	-.03	-.21
5	3.67	3.49	3.25	3.03	2.20	1.99	1.19	1.02	.38	.28	.16	-.09
6	3.78	3.57	3.51	3.05	2.17	1.97	1.16	1.01	.41	.31	.17	.05
7	3.78	3.50	3.05	2.78	2.05	1.95	1.13	.98	.45	.29	.12	-.06
8	3.50	3.21	2.91	2.72	2.01	1.85	1.01	.92	.35	.19	.09	-.02
9	3.27	2.83	3.03	2.89	1.90	1.79	1.19	1.01	.28	.17	.19	.05
10	2.84	2.69	2.89	2.62	1.80	1.63	1.12	.72	.32	.20	.36	.19
11	3.06	2.84	2.62	2.51	1.67	1.55	.93	.75	.34	.09	.55	.36
12	3.31	3.01	2.88	2.61	1.66	1.56	.94	.76	.22	.02	.51	.16
13	3.40	3.14	2.72	2.34	1.97	1.63	.86	.74	.30	.04	.30	.03
14	3.14	2.75	2.60	2.34	2.11	1.97	.90	.73	.34	.00	.15	.01
15	2.97	2.77	2.73	2.42	2.09	1.93	.89	.73	.27	.00	.14	-.01
16	3.11	2.86	2.42	2.04	2.20	1.95	.90	.66	.44	.23	.18	.05
17	3.21	2.93	2.28	2.04	2.26	2.03	.82	.65	.30	.09	.19	.04
18	2.93	2.50	2.21	2.08	2.12	1.94	.85	.63	.17	-.03	.26	.08
19	2.50	2.47	2.26	2.08	2.02	1.69	.75	.53	.18	-.10	.20	.01
20	3.03	2.50	2.20	1.92	1.79	1.65	.59	.45	.58	.07	.26	.12
21	3.12	2.97	1.94	1.80	1.87	1.66	.83	.55	.59	.31	.12	-.37
22	3.00	2.91	1.83	1.65	1.90	1.65	.71	.50	.41	.30	-.03	-.18
23	3.02	2.92	1.74	1.61	1.65	1.39	.73	.51	.41	.16	.10	-.17
24	3.05	2.90	1.91	1.72	1.51	1.37	.74	.59	.27	.06	-.16	-.35
25	3.22	3.02	2.15	1.91	1.58	1.43	.72	.53	.24	.09	.02	-.26
26	3.02	2.78	2.10	1.77	1.51	1.36	.82	.65	.27	.12	.17	-.16
27	2.88	2.69	1.94	1.81	1.39	1.16	.77	.59	.36	.15	-.07	-.16
28	3.77	2.88	2.04	1.88	1.33	1.19	.74	.48	.46	.28	.13	-.11
29	3.68	3.49	1.96	1.78	1.42	1.23	.63	.23	.40	.15	.34	.12
30	3.64	3.52	1.87	1.70	1.50	1.29	.36	.23	.24	.13	.24	-.08
31	---	---	1.77	1.65	---	---	.46	.24	.38	.20	---	---
MONTH	3.98	2.47	3.83	1.61	2.26	1.16	1.63	.23	.59	-.10	.55	-.37
YEAR	4.40	-.37										

Daily Low Water Levels



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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.--Periodic measurements with electric 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.--Altitude 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.
PERIOD OF RECORD.--November 1989 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.32 ft above sea level, Sept. 30, 1990; lowest measured, 0.22 ft above sea level, Jan. 21, 1994.

WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	1.53	1.43	1.43	1.42	1.42	1.11	1.21	1.14	1.23	1.10	1.01	.93
2	1.45	1.43	1.42	1.36	1.55	1.42	1.35	1.20	1.23	1.20	1.18	1.01
3	1.46	1.33	1.36	1.20	1.53	1.49	1.40	1.35	1.21	1.19	1.18	1.13
4	1.33	1.14	1.20	1.14	1.52	1.47	1.40	1.38	1.19	1.13	1.19	1.13
5	1.17	1.14	1.14	1.13	1.47	1.41	1.55	1.39	1.29	1.18	1.38	1.19
6	1.24	1.17	1.13	1.08	1.53	1.45	1.57	1.55	1.29	1.27	1.44	1.38
7	1.35	1.24	1.13	1.07	1.59	1.51	1.56	1.43	1.27	1.22	1.39	1.12
8	1.50	1.35	1.40	1.13	1.63	1.58	1.43	1.21	1.22	1.17	1.12	1.05
9	1.51	1.47	1.45	1.40	1.65	1.57	1.21	1.11	1.17	1.11	1.05	.93
10	1.57	1.51	1.43	1.34	1.57	1.45	1.29	1.14	1.21	1.14	1.15	.95
11	1.52	1.33	1.34	1.24	1.50	1.47	1.31	1.23	1.21	1.18	1.23	1.15
12	1.33	1.28	1.24	1.10	1.50	1.47	1.23	1.05	1.20	1.17	1.23	1.16
13	1.34	1.28	1.10	.99	1.50	1.47	1.05	.89	1.20	1.09	1.16	1.12
14	1.36	1.34	.99	.99	1.50	1.28	.89	.77	1.19	1.09	1.34	1.12
15	1.35	1.25	.99	.89	1.28	1.18	.88	.77	1.24	1.19	1.36	1.26
16	1.30	1.25	.95	.89	1.34	1.18	1.10	.88	1.23	1.16	1.26	1.11
17	1.30	1.25	1.08	.95	1.50	1.34	1.10	.94	1.16	.99	1.11	1.05
18	1.30	1.25	1.29	1.08	1.54	1.50	.94	.81	1.07	.97	1.11	1.08
19	1.40	1.30	1.45	1.29	1.56	1.54	.81	.69	1.10	1.07	1.11	1.06
20	1.51	1.40	1.53	1.45	1.55	1.33	.82	.69	1.09	.92	1.26	1.11
21	1.60	1.51	1.53	1.53	1.33	1.12	.82	.77	1.03	.91	1.36	1.26
22	1.63	1.60	1.53	1.40	1.12	1.06	.91	.76	1.14	1.03	1.44	1.36
23	1.72	1.63	1.40	1.29	1.09	1.06	.97	.91	1.12	.96	1.39	1.21
24	1.73	1.70	1.29	1.28	1.24	1.09	.96	.90	.96	.90	1.21	1.13
25	1.70	1.56	1.29	1.27	1.25	1.13	1.17	.94	.90	.81	1.21	1.12
26	1.56	1.41	1.37	1.29	1.13	1.06	1.17	1.07	.96	.81	1.29	1.21
27	1.41	1.35	1.36	1.03	1.06	1.05	1.07	.98	1.08	.96	1.27	1.22
28	1.37	1.35	1.03	.92	1.14	1.05	1.05	.98	1.08	.95	1.22	1.20
29	1.36	1.28	.95	.92	1.26	1.14	1.05	.94	---	---	1.30	1.20
30	1.45	1.28	1.11	.95	1.27	1.24	.94	.92	---	---	1.32	1.30
31	1.45	1.42	---	---	1.24	1.21	1.10	.94	---	---	1.34	1.24
MONTH	1.73	1.14	1.53	.89	1.65	1.05	1.57	.69	1.29	.81	1.44	.93

GROUND-WATER LEVELS

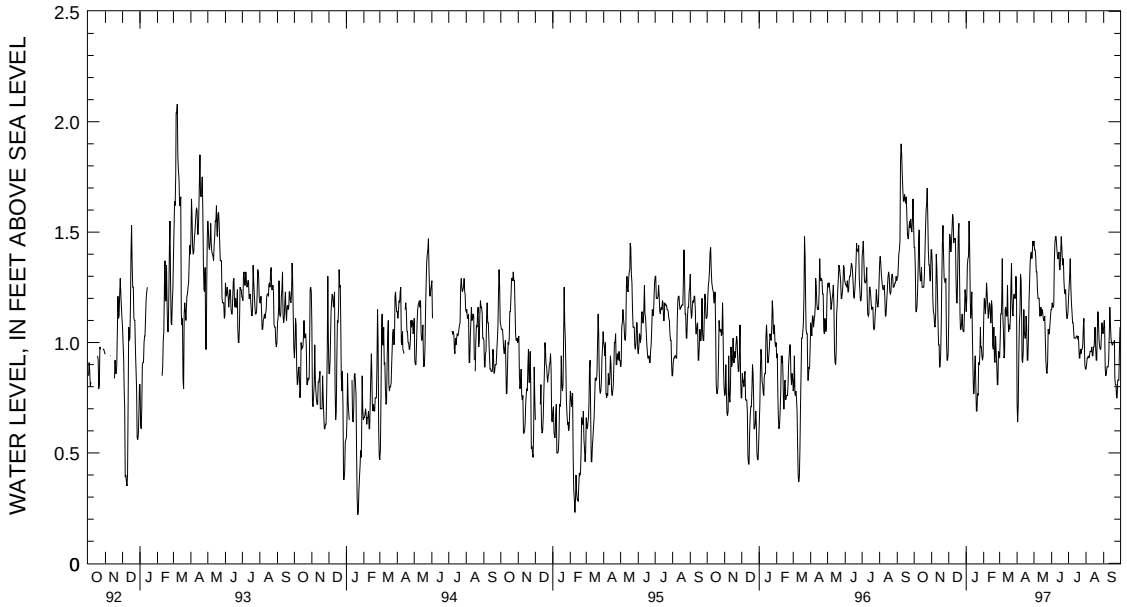
MARYLAND--Continued

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	1.24	.72	1.55	1.46	1.18	1.15	1.26	1.20	.90	.88	1.10	1.07
2	.72	.64	1.55	1.42	1.20	1.18	1.31	1.25	.93	.90	1.12	1.10
3	.94	.71	1.53	1.42	1.20	1.16	1.41	1.31	.94	.93	1.13	1.07
4	1.09	.94	1.53	1.39	1.19	1.16	1.41	1.38	.94	.93	1.07	.88
5	1.14	1.09	1.39	1.32	1.37	1.17	1.38	1.25	.95	.94	.88	.85
6	1.31	1.14	1.39	1.32	1.45	1.37	1.25	1.18	.94	.93	.89	.86
7	1.37	1.31	1.36	1.24	1.48	1.45	1.18	1.14	.96	.94	.90	.89
8	1.36	1.28	1.24	1.20	1.50	1.48	1.14	1.09	.97	.96	.89	.89
9	1.28	1.10	1.26	1.20	1.50	1.48	1.14	1.09	.97	.96	.92	.89
10	1.10	.92	1.26	1.20	1.49	1.44	1.15	1.06	.98	.96	1.03	.92
11	.96	.91	1.20	1.12	1.44	1.40	1.06	1.02	1.00	.98	1.17	1.03
12	1.15	.96	1.20	1.12	1.40	1.38	1.02	1.02	.98	.94	1.19	1.16
13	1.24	1.15	1.20	1.16	1.43	1.38	1.02	1.02	1.00	.94	1.16	1.09
14	1.22	1.05	1.16	1.12	1.44	1.41	1.03	1.02	1.02	.98	1.09	1.02
15	1.05	1.02	1.27	1.15	1.41	1.33	1.04	1.03	1.01	.98	1.02	1.00
16	1.12	1.02	1.26	1.14	1.40	1.33	1.04	1.03	1.07	1.01	1.00	.99
17	1.23	1.12	1.14	1.12	1.48	1.40	1.04	1.02	1.08	1.07	1.00	.99
18	1.23	1.07	1.13	1.10	1.50	1.48	1.06	1.03	1.07	.98	1.02	1.00
19	1.07	.92	1.15	1.10	1.50	1.43	1.05	1.00	.98	.92	1.01	1.00
20	1.02	.92	1.15	1.12	1.43	1.37	1.00	.93	1.05	.92	1.07	1.01
21	1.18	1.02	1.12	1.02	1.38	1.35	.99	.93	1.14	1.05	1.05	.84
22	1.27	1.18	1.02	.92	1.41	1.38	.99	.97	1.15	1.14	.84	.81
23	1.36	1.27	.92	.87	1.39	1.28	.97	.95	1.15	1.09	.87	.81
24	1.40	1.36	.91	.86	1.28	1.23	1.00	.97	1.09	1.01	.85	.75
25	1.45	1.40	1.07	.91	1.24	1.22	.99	.97	1.01	.98	.83	.75
26	1.45	1.41	1.08	1.06	1.25	1.24	1.07	.99	.98	.97	.87	.83
27	1.41	1.38	1.06	1.04	1.24	1.15	1.11	1.07	1.03	.97	.85	.83
28	1.52	1.40	1.08	1.04	1.15	1.11	1.12	1.11	1.11	1.03	.96	.83
29	1.52	1.46	1.12	1.08	1.14	1.11	1.11	1.01	1.12	1.09	1.07	.96
30	1.46	1.44	1.15	1.12	1.20	1.14	1.01	.90	1.09	1.05	1.12	1.07
31	---	---	1.15	1.15	---	---	.90	.88	1.07	1.04	---	---
MONTH	1.52	.64	1.55	.86	1.50	1.11	1.41	.88	1.15	.88	1.19	.75
YEAR	1.73	.64										

Daily Low Water Levels



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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, artesian well, depth 19 ft; casing diameter 4 in., to 16 ft; screen diameter 4 in. from 16 to 19 ft.
INSTRUMENTATION.--Periodic measurements with electric tape by U.S. Geological Survey personnel.
Water-level recorder interval varies between --5--and--60--minutes from Aug. 9, 1990 to current year.
DATUM.--Altitude of land surface is 4.10 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of recorder platform, 2.88 ft above land surface.
REMARKS.--J-Field Remedial Investigation observation well Jf63. Missing data due to recorder malfunction.
PERIOD OF RECORD.--November 1989 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.95 ft above sea level, March 24, 1993; lowest measured, 0.22 ft below sea level, Aug. 17, and 18, 1997.

WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
(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	---	---	---	---	4.35	3.87	4.08	4.02	4.21	4.08	4.14	3.92
2	---	---	3.74	3.62	4.37	4.20	4.11	4.08	4.08	4.03	4.25	4.14
3	---	---	3.62	3.45	4.21	4.19	4.11	4.05	4.03	3.95	4.36	4.13
4	---	---	3.45	3.37	4.21	4.11	4.05	4.00	4.08	3.94	4.48	4.36
5	---	---	3.37	3.32	4.21	4.10	4.13	4.00	4.31	4.08	4.56	4.47
6	---	---	3.32	3.28	4.33	4.21	4.11	3.95	4.32	4.30	4.62	4.41
7	---	---	3.36	3.29	4.45	4.31	3.95	3.86	4.30	4.26	4.41	4.29
8	---	---	3.80	3.36	4.50	4.45	3.86	3.82	4.27	4.25	4.34	4.26
9	---	---	4.00	3.80	4.48	4.31	4.03	3.82	4.26	4.23	4.26	4.15
10	---	---	4.03	4.00	4.33	4.28	4.06	4.03	4.25	4.23	4.39	4.22
11	---	---	4.01	3.91	4.33	4.32	4.04	3.92	4.25	4.22	4.41	4.33
12	---	---	3.91	3.82	4.33	4.28	3.92	3.86	4.23	4.22	4.33	4.23
13	---	---	3.82	3.80	4.54	4.28	3.86	3.78	4.22	4.11	4.23	4.14
14	---	---	3.81	3.78	4.64	4.54	3.81	3.77	4.37	4.14	4.49	4.15
15	---	---	3.78	3.71	4.64	4.59	3.85	3.75	4.49	4.37	4.49	4.37
16	---	---	3.71	3.68	4.59	4.57	4.06	3.85	4.46	4.41	4.37	4.28
17	---	---	3.75	3.69	4.59	4.56	4.01	3.91	4.45	4.31	4.31	4.27
18	---	---	3.83	3.75	4.56	4.46	3.91	3.68	4.34	4.31	4.31	4.25
19	---	---	3.83	3.80	4.55	4.46	3.68	3.57	4.34	4.30	4.47	4.26
20	---	---	3.80	3.71	4.51	4.34	3.59	3.53	4.30	4.16	4.52	4.47
21	---	---	3.71	3.66	4.34	4.29	3.53	3.42	4.27	4.17	4.48	4.43
22	---	---	3.66	3.56	4.30	4.30	3.72	3.43	4.28	4.08	4.50	4.27
23	---	---	3.56	3.53	4.30	4.27	3.81	3.72	4.08	4.00	4.27	4.18
24	---	---	3.55	3.48	4.36	4.28	3.97	3.76	4.01	3.98	4.18	4.06
25	---	---	3.53	3.48	4.34	4.23	4.09	3.97	3.98	3.94	4.14	4.06
26	---	---	3.88	3.53	4.23	4.19	4.07	3.98	4.02	3.96	4.27	4.14
27	---	---	3.84	3.81	4.23	4.21	4.07	3.98	4.10	4.02	4.28	4.25
28	---	---	3.86	3.80	4.21	4.19	4.19	4.07	4.06	3.92	4.28	4.24
29	---	---	3.86	3.80	4.20	4.19	4.15	4.10	---	---	4.28	4.26
30	---	---	3.87	3.80	4.19	4.10	4.16	4.11	---	---	4.26	4.21
31	---	---	---	---	4.13	4.04	4.21	4.16	---	---	4.43	4.23
MONTH	---	---	4.03	3.28	4.64	3.87	4.21	3.42	4.49	3.92	4.62	3.92

GROUND-WATER LEVELS

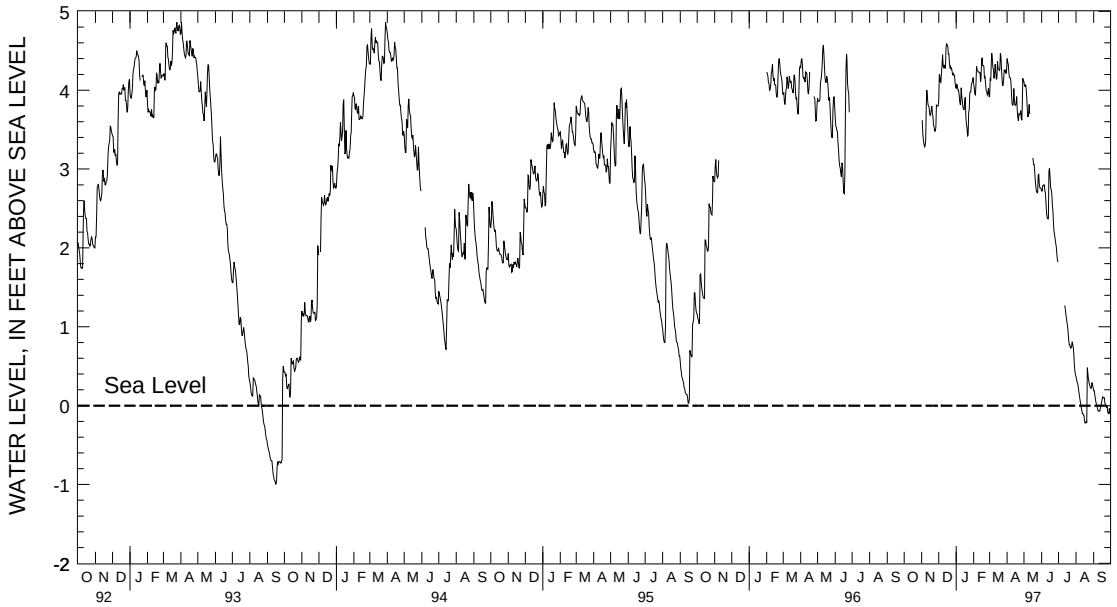
MARYLAND--Continued

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	4.45	4.40	4.16	4.11	2.75	2.72	---	---	.41	.37	.23	.19
2	4.40	4.36	4.12	4.05	2.79	2.72	---	---	.38	.33	.20	.19
3	4.36	4.33	4.25	4.05	2.79	2.79	---	---	.34	.29	.21	.15
4	4.33	4.23	4.23	4.07	2.80	2.79	---	---	.30	.28	.15	.10
5	4.23	4.16	4.07	4.00	2.80	2.80	---	---	.28	.23	.10	.05
6	4.26	4.16	4.05	3.88	2.81	2.80	---	---	.23	.17	.05	.02
7	4.28	4.15	3.88	3.72	2.80	2.72	---	---	.17	.12	.02	.00
8	4.15	4.06	3.72	3.66	2.72	2.69	---	---	.12	.07	.00	-.04
9	4.06	3.90	3.95	3.71	2.69	2.55	---	---	.07	.03	-.04	-.07
10	3.90	3.83	3.95	3.82	2.55	2.43	---	---	.03	-.02	-.07	-.07
11	3.83	3.81	3.82	3.70	2.43	2.38	---	---	-.02	-.06	-.07	-.07
12	4.06	3.82	---	---	2.39	2.37	1.30	1.27	-.06	-.10	-.03	-.07
13	4.11	4.02	---	---	2.98	2.37	1.27	1.23	-.07	-.10	.00	-.03
14	4.02	3.88	---	---	3.11	2.98	1.23	1.16	-.08	-.12	.04	.00
15	3.88	3.81	---	---	3.11	3.01	1.16	1.11	-.12	-.13	.08	.04
16	3.84	3.81	3.28	3.14	3.01	2.89	1.11	1.05	-.13	-.19	.11	.08
17	3.94	3.83	3.16	3.13	2.89	2.76	1.05	1.01	-.19	-.22	.13	.11
18	3.97	3.92	3.13	3.06	2.78	2.74	1.01	.93	-.19	-.22	.13	.10
19	3.92	3.75	3.11	3.06	2.82	2.68	.93	.83	-.19	-.20	.11	.10
20	3.75	3.65	3.08	2.96	2.68	2.54	.83	.77	.49	-.21	.13	.10
21	3.70	3.61	2.96	2.85	2.55	2.46	.78	.77	.53	.48	.10	.03
22	3.75	3.70	2.85	2.77	2.46	2.34	.77	.73	.48	.40	.03	.02
23	3.70	3.69	2.77	2.72	2.34	2.22	.75	.73	.40	.33	.04	.01
24	3.82	3.70	2.72	2.70	2.22	2.17	.82	.75	.33	.29	.01	-.02
25	3.81	3.74	2.92	2.70	2.17	2.12	.83	.81	.29	.26	.04	-.01
26	3.74	3.64	3.14	2.92	2.12	2.06	.81	.77	.26	.23	.03	-.08
27	3.81	3.62	3.14	2.93	2.09	2.02	.77	.73	.23	.22	-.08	-.10
28	4.18	3.81	2.93	2.80	2.02	1.92	.73	.64	.31	.22	.01	-.10
29	4.18	4.15	2.80	2.76	1.92	1.85	.64	.53	.34	.29	.05	-.03
30	4.15	4.11	2.76	2.76	1.85	1.82	.53	.44	.29	.26	-.02	-.10
31	---	---	2.76	2.75	---	---	.46	.39	.26	.23	---	---
MONTH	4.45	3.61	4.25	2.70	3.11	1.82	1.30	.39	.53	-.22	.23	-.10
YEAR	4.64	-.22										

Daily Low Water Levels



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--HA Fd 49. SITE ID.--391807076172803. PERMIT NUMBER.--HA-88-1057.
LOCATION.--Lat 39°18´07˝, 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 18 ft; casing diameter 4 in., to 15 ft; screen diameter 4 in. from 14 to 18 ft.
INSTRUMENTATION.--Periodic measurements with electric tape by U.S. Geological Survey personnel.
Water-level recorder interval varies between--5--and--60--minutes from Dec. 3, 1994 to current year.
DATUM.--Altitude of land surface is 7.48 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of recorder platform, 2.71 ft above land surface.
REMARKS.--J-Field Remedial Investigation observation well Jf73. Missing data due to recorder malfunction.
PERIOD OF RECORD.--November 1989 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.72 ft above sea level, Dec. 14, 1996; lowest measured, .80 ft below sea level, Sept. 9-11, 27, 28, and 30, 1997.

WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
(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	2.87	2.81	---	---	4.49	3.66	3.96	3.87	4.31	4.04	4.31	3.74
2	2.89	2.81	3.29	3.18	4.58	4.49	3.97	3.93	4.04	3.97	4.42	4.27
3	2.90	2.76	3.18	3.09	4.56	4.52	3.94	3.82	3.97	3.84	5.19	4.22
4	2.76	2.69	3.09	2.74	4.53	4.27	3.82	3.77	4.17	3.83	5.28	5.19
5	2.69	2.64	2.92	2.65	4.38	4.23	3.92	3.79	4.88	4.17	5.23	5.11
6	2.64	2.63	2.65	2.60	4.84	4.38	3.85	3.69	4.89	4.71	5.27	4.84
7	2.63	2.61	2.69	2.60	5.08	4.81	3.69	3.60	4.71	4.52	4.84	4.61
8	3.31	2.61	3.53	2.62	5.11	4.98	3.60	3.58	4.52	4.42	4.63	4.41
9	3.41	3.31	3.96	3.53	4.98	4.62	3.78	3.58	4.42	4.35	4.41	4.31
10	3.45	3.41	3.99	3.94	4.62	4.56	3.81	3.73	4.38	4.36	4.78	4.41
11	3.44	3.33	3.94	3.79	4.59	4.48	3.83	3.67	4.36	4.28	4.77	4.55
12	3.33	3.31	3.79	3.68	4.50	4.42	3.67	3.61	4.29	4.24	4.55	4.36
13	3.31	3.25	3.68	3.65	5.63	4.43	3.61	3.56	4.24	4.10	4.36	4.25
14	3.25	3.23	3.65	3.53	5.72	5.49	3.56	3.52	4.89	4.19	5.01	4.26
15	---	---	3.53	3.47	5.49	5.21	3.61	3.50	5.32	4.89	5.02	4.81
16	---	---	3.47	3.45	5.21	5.03	3.92	3.61	5.20	5.01	4.81	4.59
17	---	---	3.50	3.45	5.03	4.83	3.88	3.79	5.01	4.68	4.59	4.51
18	---	---	3.53	3.50	4.84	4.66	3.80	3.61	4.68	4.61	4.51	4.37
19	---	---	3.53	3.45	4.90	4.66	3.61	3.55	4.61	4.42	5.05	4.46
20	---	---	3.45	3.36	4.80	4.54	3.57	3.45	4.42	4.24	5.08	4.90
21	---	---	3.37	3.33	4.54	4.44	3.45	3.32	4.37	4.25	4.90	4.79
22	---	---	3.33	3.22	4.44	4.39	3.54	3.36	4.37	4.02	4.81	4.41
23	---	---	3.25	3.20	4.39	4.32	3.57	3.47	4.02	3.95	4.41	4.24
24	---	---	3.22	3.16	4.39	4.34	3.75	3.46	3.96	3.91	4.24	4.10
25	---	---	3.22	3.17	4.37	4.28	4.20	3.75	3.91	3.85	4.22	4.09
26	---	---	3.71	3.22	4.28	4.21	4.19	4.08	3.92	3.85	4.47	4.22
27	---	---	3.69	3.67	4.28	4.19	4.17	4.07	3.99	3.86	4.48	4.41
28	---	---	3.71	3.67	4.19	4.15	4.38	4.17	3.86	3.74	4.41	4.35
29	---	---	3.69	3.63	4.15	4.09	4.38	4.32	---	---	4.35	4.28
30	---	---	3.66	3.62	4.09	3.99	4.33	4.31	---	---	4.28	4.23
31	---	---	---	---	4.04	3.88	4.32	4.29	---	---	4.97	4.25
MONTH	3.45	2.61	3.99	2.60	5.72	3.66	4.38	3.32	5.32	3.74	5.28	3.74

GROUND-WATER LEVELS

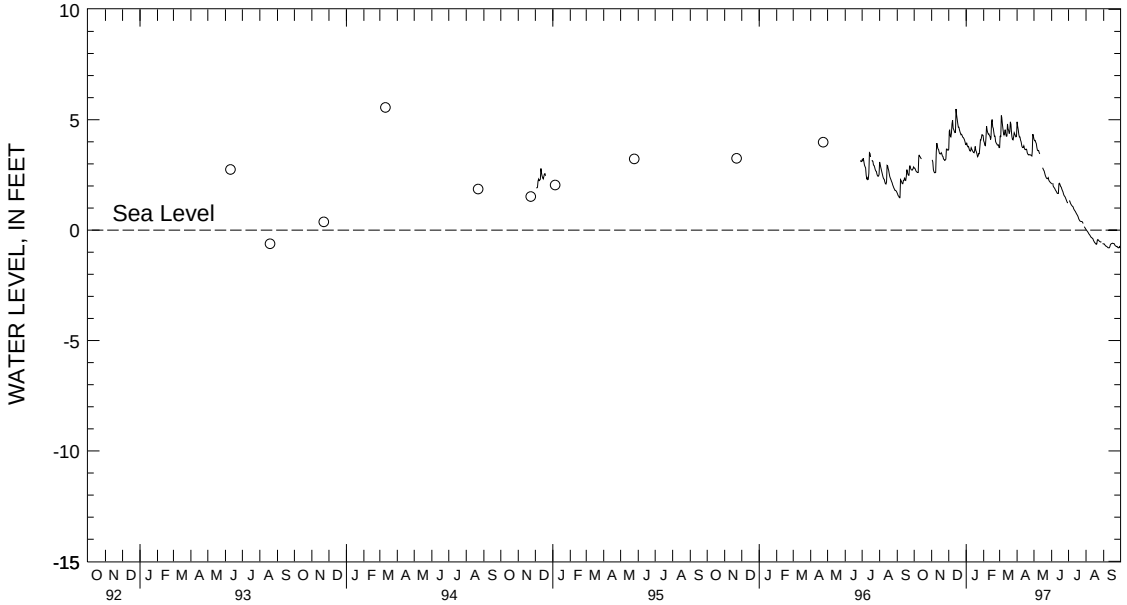
MARYLAND--Continued

HARFORD COUNTY--Continued

HA Fd 49--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	5.02	4.90	4.24	4.12	2.14	2.09	---	---	.07	.03	-.62	-.63
2	4.90	4.70	4.12	4.05	---	---	1.37	1.33	.04	-.01	-.62	-.63
3	4.70	4.55	4.27	4.06	2.38	2.13	1.37	1.32	-.01	-.04	-.62	-.66
4	4.55	4.33	4.19	3.98	2.13	2.00	1.32	1.24	-.04	-.08	-.66	-.69
5	4.33	4.22	3.98	3.92	2.00	1.95	1.24	1.18	-.08	-.12	-.69	-.72
6	4.28	4.22	3.95	3.75	1.96	1.91	1.18	1.14	-.12	-.17	-.72	-.73
7	4.29	4.08	3.75	3.62	1.91	1.87	1.14	1.10	-.16	-.20	-.73	-.75
8	4.08	4.00	3.62	3.60	1.87	1.81	1.10	1.07	-.20	-.24	-.75	-.77
9	4.00	3.84	3.68	3.61	1.81	1.77	1.08	1.05	-.24	-.29	-.77	-.80
10	3.84	3.77	3.65	3.51	1.77	1.72	1.05	.98	-.29	-.33	-.80	-.80
11	3.77	3.74	3.51	3.45	1.72	1.67	.98	.93	-.33	-.34	-.76	-.80
12	3.94	3.75	---	---	1.69	1.66	.93	.89	-.34	-.37	-.66	-.76
13	3.97	3.82	---	---	2.10	1.66	.90	.85	-.37	-.39	-.63	-.66
14	3.82	3.70	---	---	2.18	2.10	.85	.80	-.39	-.47	-.61	-.63
15	3.70	3.65	---	---	2.18	2.12	.80	.75	-.47	-.51	-.59	-.61
16	3.69	3.64	2.93	2.83	2.12	2.05	.76	.70	-.51	-.55	-.58	-.60
17	3.69	3.67	2.83	2.78	2.06	1.97	.70	.66	-.55	-.58	-.57	-.59
18	3.70	3.64	2.78	2.72	1.98	1.95	.66	.60	-.58	-.60	-.57	-.61
19	3.64	3.50	2.75	2.68	1.96	1.86	.60	.51	-.60	-.64	-.59	-.61
20	3.50	3.44	2.68	2.57	1.86	1.79	.51	.46	-.45	-.63	-.59	-.63
21	3.44	3.41	2.57	2.48	1.80	1.73	.46	.42	-.41	-.45	-.63	-.68
22	3.46	3.43	2.48	2.41	1.74	1.66	.42	.40	-.41	-.43	-.68	-.71
23	3.43	3.41	2.41	2.36	1.66	1.58	.40	.39	-.43	-.46	-.69	-.72
24	3.48	3.41	2.36	2.33	1.59	1.54	.41	.39	-.46	-.49	-.72	-.75
25	3.46	3.41	2.37	2.33	1.55	1.50	.41	.38	-.49	-.51	-.72	-.74
26	3.41	3.37	2.42	2.37	1.50	1.44	.38	.33	-.51	-.53	-.73	-.78
27	3.56	3.36	2.37	2.27	1.45	1.37	.33	.30	-.52	-.54	-.78	-.80
28	4.44	3.56	2.27	2.22	1.37	1.30	---	---	-.49	-.52	-.73	-.80
29	4.44	4.35	2.23	2.18	1.31	1.24	.23	.16	---	---	-.70	-.75
30	4.35	4.24	2.19	2.16	1.36	1.24	.16	.11	-.58	-.61	-.74	-.80
31	---	---	2.17	2.13	---	---	.11	.07	-.60	-.62	---	---
MONTH	5.02	3.36	4.27	2.13	2.38	1.24	1.37	.07	.07	-.64	-.57	-.80
YEAR	5.72	-.80										

Daily Low Water Levels



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--HA Fd 50. SITE ID.--391808076173001. PERMIT NUMBER.--HA-88-1059.
LOCATION.--Lat 39°18´08˝, long 76°17´30˝, 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 123 ft; casing diameter 4 in., to 120 ft; screen diameter 4 in. from 120 to 123 ft.
INSTRUMENTATION.--Periodic measurements with electric tape by U.S. Geological Survey personnel.
Water-level recorder interval varies between--5--and--60--minutes from June 8, 1996 to current year.
DATUM.--Altitude of land surface is 10.01 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of recorder platform, 2.96 ft above land surface.
REMARKS.--J-Field Remedial Investigation observation well Jf81. Missing data due to recorder malfunction.
PERIOD OF RECORD.--November 1989 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.16 ft above sea level, Sept. 6, 1996; lowest measured, 1.41 ft below sea level, April 1, 1997.

WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
(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	1.59	.77	2.01	1.03	2.96	1.36	1.84	.38	1.87	.94	1.44	.37
2	1.75	.98	1.69	1.00	2.96	.98	1.85	1.13	1.31	.60	1.96	.92
3	1.75	.18	1.32	.73	1.80	.97	1.67	1.04	1.39	.56	1.00	.19
4	1.51	.08	1.43	.81	1.82	.88	1.69	.85	1.55	.45	1.82	.82
5	1.61	1.10	1.33	.55	1.67	.75	2.54	1.39	1.71	.93	2.13	1.28
6	1.56	1.00	1.10	.48	1.95	.77	1.83	.99	1.28	.50	1.91	.32
7	1.63	1.25	1.77	.87	2.27	.84	1.31	.58	1.28	.45	.50	-.25
8	2.00	.77	2.50	1.45	2.36	1.18	.64	-.08	1.07	.31	1.08	-.03
9	2.00	.87	1.82	.86	1.89	.63	1.33	.01	1.69	.24	1.42	-.05
10	2.34	.65	1.48	.77	2.10	.50	1.92	1.06	1.52	.78	1.77	.91
11	1.13	.51	1.38	.64	1.73	1.00	1.49	.44	1.27	.32	1.69	.82
12	1.54	.74	1.05	.31	1.85	.98	.62	-.07	1.55	.63	1.23	.51
13	1.72	1.05	1.19	.33	1.68	1.11	.55	-.40	1.35	.24	1.17	.53
14	1.41	.76	1.06	.45	1.19	.07	.61	-.39	1.50	.58	2.03	.89
15	1.58	.55	1.32	.12	1.82	.28	1.56	.15	1.52	.75	1.93	.39
16	1.50	.89	1.57	.75	2.07	1.25	1.61	.53	.90	.27	.81	.31
17	1.31	.54	1.64	.91	2.07	1.33	.53	-.26	1.01	-.03	1.40	.47
18	1.98	.79	2.06	1.26	1.98	1.13	.53	-.39	1.61	.25	1.13	.28
19	2.02	.96	2.18	1.39	1.70	.96	.70	-.61	.95	.01	1.28	.32
20	2.33	1.72	2.07	1.21	1.06	.28	1.30	.50	.51	-.11	1.75	1.05
21	2.50	1.41	1.81	1.06	.78	-.07	.55	-.04	1.51	.26	1.57	.88
22	2.12	1.28	1.40	.40	1.22	.23	1.34	.20	1.67	.41	1.96	.38
23	2.36	1.39	1.66	.40	1.31	.54	1.06	.43	.72	-.02	1.20	.21
24	2.04	1.16	1.42	.64	1.93	.80	1.21	.07	.73	.19	1.22	.54
25	1.78	1.10	1.63	.85	1.21	.12	1.83	1.15	.86	-.01	1.44	.79
26	1.67	.94	1.66	.63	1.08	.45	1.52	.20	1.35	.73	1.82	.47
27	1.88	.97	.63	-.42	1.24	.46	.96	.12	1.42	.72	1.17	.28
28	1.70	1.01	1.34	-.09	1.83	.72	1.29	.65	.96	.09	1.21	.54
29	1.87	.73	1.54	.64	1.74	1.16	.80	.16	---	---	1.74	.96
30	2.26	1.52	1.79	1.06	1.54	.70	.90	.15	---	---	1.39	.78
31	2.02	1.16	---	---	1.28	.72	1.83	.63	---	---	1.29	-.46
MONTH	2.50	.08	2.50	-.42	2.96	-.07	2.54	-.61	1.87	-.11	2.13	-.46

GROUND-WATER LEVELS

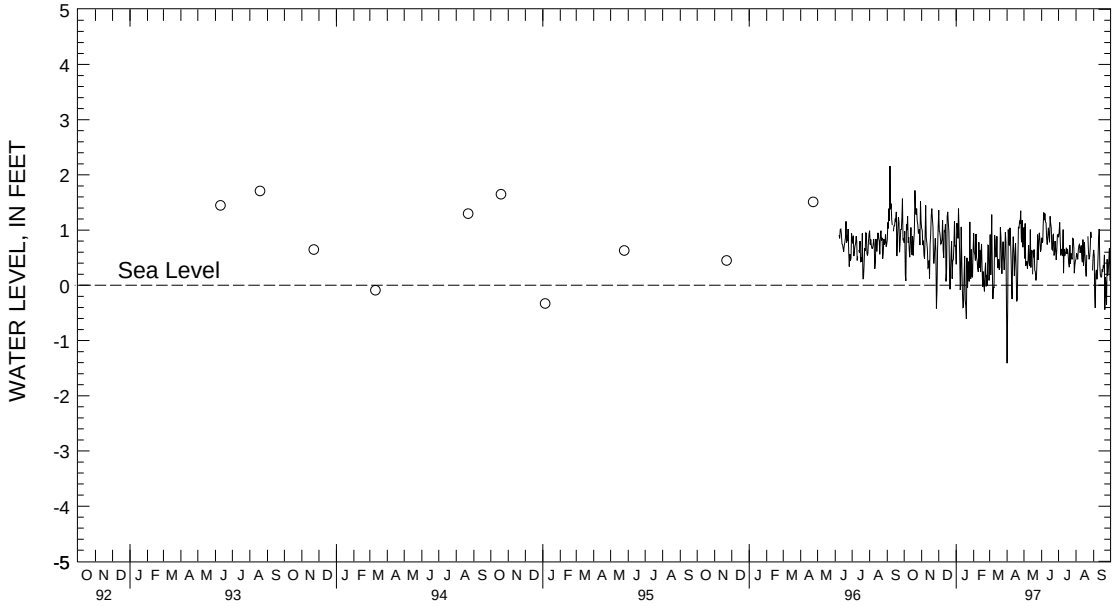
MARYLAND--Continued

HARFORD COUNTY--Continued

HA Fd 50--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	-.46	-1.41	2.07	1.05	1.52	.86	1.77	.87	1.32	.47	1.32	.64
2	1.17	-.46	1.24	.49	1.60	.77	1.80	.96	1.38	.58	1.13	.53
3	1.79	1.01	2.15	1.12	1.51	.80	2.07	1.14	1.25	.54	1.08	-.13
4	1.70	.82	1.43	.35	1.73	1.09	1.70	.80	1.19	.47	.42	-.41
5	1.52	.72	1.34	.43	2.24	1.32	1.21	.54	1.19	.64	1.01	.21
6	1.88	1.04	2.07	.43	2.14	1.18	1.31	.65	1.35	.72	.92	.28
7	1.86	.81	1.03	.30	1.88	1.30	1.32	.64	1.37	.74	.77	.11
8	1.13	.46	1.32	.46	1.90	1.15	1.20	.53	1.20	.59	.91	.24
9	.88	-.05	1.55	.73	1.77	1.13	1.53	1.01	1.27	.63	1.22	.55
10	.83	-.25	1.09	.41	1.49	.85	1.33	.22	1.34	.72	1.50	.87
11	1.32	.56	1.22	.35	1.36	.74	1.16	.66	1.37	.50	1.82	1.02
12	1.71	.88	1.69	1.01	1.44	.88	1.17	.53	1.14	.42	1.41	.36
13	1.56	.62	1.11	.32	1.64	1.04	1.06	.56	1.29	.83	1.10	.18
14	.87	.17	1.50	.64	1.52	.92	1.27	.62	1.46	.36	.85	.15
15	1.10	.50	---	---	1.42	.78	1.29	.68	1.40	.60	.92	.15
16	1.47	.76	.97	.20	1.89	1.25	1.39	.57	1.78	.78	1.01	.29
17	1.64	.33	1.15	.63	2.03	1.12	1.30	.66	1.47	.52	1.10	.24
18	.45	-.29	1.08	.51	1.83	1.04	1.46	.56	1.31	.29	1.19	.36
19	.41	-.26	1.37	.65	1.72	.66	1.31	.40	1.37	.16	1.25	.31
20	1.78	.41	1.32	.27	1.47	.64	1.04	.33	2.00	.55	1.21	.55
21	1.97	1.06	.91	.25	1.83	.91	1.66	.73	---	---	.69	-.44
22	1.65	1.03	.79	.09	1.88	.92	1.29	.39	1.58	.89	1.04	.15
23	1.83	1.17	.80	.15	1.28	.54	1.38	.58	1.55	.59	1.10	.00
24	1.73	1.11	1.31	.46	1.31	.56	1.29	.50	1.25	.47	.61	-.35
25	2.28	1.35	1.78	.92	1.53	.80	1.65	.47	1.26	.51	.92	.47
26	1.66	.85	1.28	.46	1.41	.65	1.65	.85	1.34	.68	1.26	.18
27	1.54	.78	1.41	.79	1.12	.46	1.50	.84	1.54	.97	.72	.26
28	2.20	1.18	1.71	.95	1.26	.65	1.55	.66	1.70	.86	1.08	.47
29	1.43	.69	1.45	.83	1.54	.91	1.38	.22	---	---	1.59	.67
30	1.69	.97	1.38	.61	1.77	.92	.93	.36	.91	.27	1.38	.08
31	---	---	1.23	.65	---	---	1.23	.45	1.23	.52	---	---
MONTH	2.28	-1.41	2.15	.09	2.24	.46	2.07	.22	2.00	.16	1.82	-.44
YEAR	2.96	-1.41										

Daily Low Water Levels



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--HA Fd 52. SITE ID.--391808076173003. PERMIT NUMBER.--HA-88-1060.
LOCATION.--Lat 39°18´08˝, long 76°17´30˝, 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 20 ft; casing diameter 4 in., to 15 ft; screen diameter 4 in. from 15 to 20 ft.
INSTRUMENTATION.--Periodic measurements with electric tape by U.S. Geological Survey personnel.
Water-level recorder interval varies between--5--and--60--minutes from June 8, 1996 to current year.
DATUM.--Altitude of land surface is 10.42 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of recorder platform, 2.96 ft above land surface.
REMARKS.--J-Field Remedial Investigation observation well Jf83. Missing data due to recorder malfunction.
PERIOD OF RECORD.--November 1989 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.65 ft above sea level, May 5, 1997; lowest measured, 0.47 ft below sea level, Sept. 30, 1997.

WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
(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	3.35	3.30	3.95	3.89	4.83	4.21	4.78	4.70	5.00	4.76	4.95	4.50
2	3.39	3.29	3.94	3.84	5.00	4.83	4.80	4.77	4.76	4.67	5.17	4.95
3	3.40	3.24	3.84	3.73	5.07	5.00	4.77	4.65	4.67	4.56	5.73	4.98
4	3.24	3.17	---	---	5.05	4.89	4.65	4.59	4.73	4.53	5.99	5.73
5	3.17	3.12	3.46	3.09	4.99	4.86	4.71	4.59	5.51	4.73	6.07	5.92
6	3.13	3.12	3.12	3.03	5.39	4.99	4.64	4.47	5.55	5.46	6.10	5.72
7	3.13	3.11	3.19	3.03	5.66	5.39	4.47	4.37	5.46	5.31	5.72	5.46
8	3.62	3.11	3.85	3.04	5.76	5.66	4.37	4.32	5.31	5.21	5.48	5.30
9	3.84	3.62	4.38	3.85	5.70	5.39	4.51	4.32	5.21	5.14	5.30	5.16
10	3.89	3.83	4.46	4.38	5.39	5.32	4.51	4.46	5.17	5.15	5.61	5.24
11	3.83	3.76	4.44	4.34	5.36	5.28	4.49	4.35	5.16	5.08	5.63	5.45
12	3.76	3.73	4.34	4.25	5.28	5.21	4.35	4.30	5.09	5.05	5.45	5.23
13	3.75	3.72	4.25	4.23	6.24	5.21	4.30	4.24	5.05	4.90	5.23	5.11
14	3.74	3.61	4.24	4.14	6.47	6.24	4.24	4.21	5.64	4.96	5.79	5.11
15	3.61	3.53	4.14	4.09	6.34	6.09	4.27	4.19	6.11	5.64	5.83	5.68
16	3.55	3.52	4.09	4.07	6.09	5.95	4.53	4.27	6.07	5.91	5.68	5.45
17	3.52	3.48	4.11	4.07	5.95	5.73	4.50	4.44	5.91	5.53	5.45	5.39
18	3.49	3.47	4.14	4.11	5.77	5.58	4.47	4.30	5.53	5.49	5.39	5.23
19	3.50	3.49	4.14	4.06	5.80	5.58	4.30	4.22	5.49	5.31	5.90	5.25
20	4.48	3.50	4.06	3.98	5.75	5.44	4.25	4.14	5.31	5.10	5.95	5.83
21	4.49	4.46	3.98	3.94	5.44	5.32	4.14	3.99	5.22	5.10	5.83	5.70
22	4.46	4.42	3.94	3.83	5.32	5.27	4.17	4.02	---	---	5.74	5.33
23	4.44	4.41	3.85	3.81	5.27	5.20	4.19	4.07	4.90	4.79	5.33	5.14
24	4.41	4.27	3.82	3.76	5.25	5.21	4.27	4.06	4.79	4.73	5.14	4.98
25	4.27	4.11	3.79	3.76	5.22	5.12	4.69	4.27	4.73	4.66	5.08	4.96
26	4.11	4.05	4.14	3.79	5.13	5.06	4.69	4.63	4.69	4.66	5.26	5.08
27	4.06	4.05	4.17	4.13	5.13	5.05	4.74	4.63	4.76	4.66	5.31	5.26
28	4.08	4.05	4.22	4.16	5.05	5.01	4.91	4.74	4.66	4.51	5.28	5.20
29	4.05	4.01	4.22	4.18	5.02	4.95	4.93	4.91	---	---	5.21	5.12
30	4.08	4.01	4.21	4.17	4.95	4.84	4.98	4.93	---	---	---	---
31	4.01	3.93	---	---	4.88	4.72	5.00	4.97	---	---	5.77	5.10
MONTH	4.49	3.11	4.46	3.03	6.47	4.21	5.00	3.99	6.11	4.51	6.10	4.50

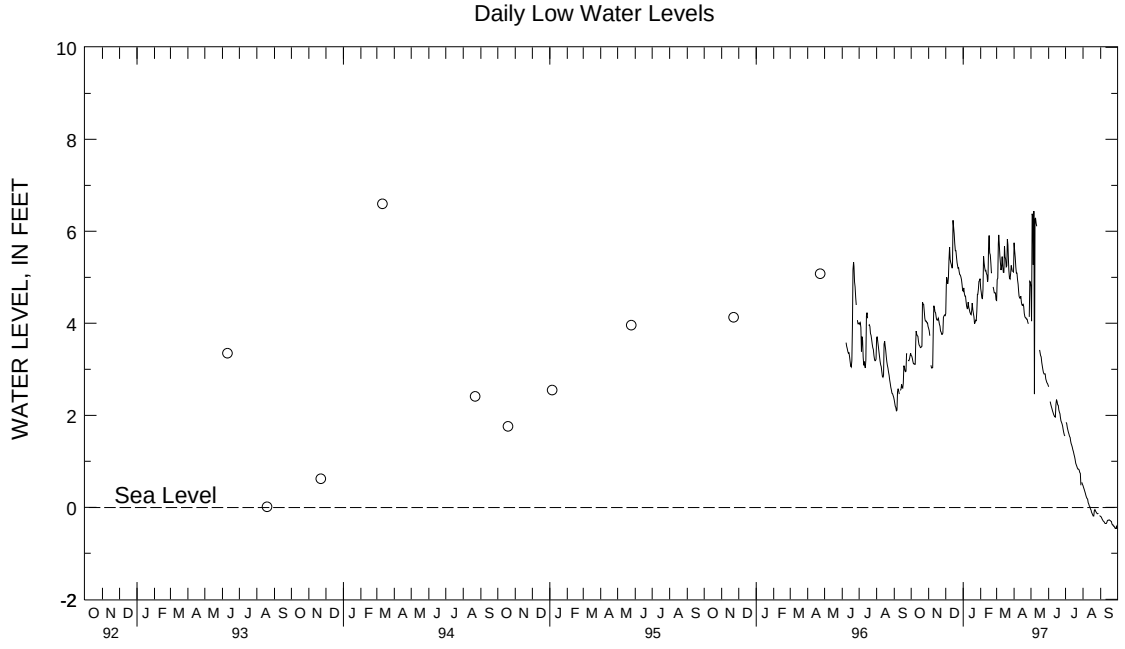
GROUND-WATER LEVELS

MARYLAND--Continued

HARFORD COUNTY--Continued

HA Fd 52--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	5.83	5.75	4.90	4.79	2.66	2.62	---	---	.51	.47	-.19	-.20
2	5.75	5.58	6.38	4.05	---	---	1.88	1.85	.48	.43	-.20	-.21
3	5.58	5.43	6.56	6.38	---	---	1.87	1.82	.43	.39	-.19	-.23
4	5.43	5.22	6.49	6.32	2.41	2.30	1.82	1.74	.39	.35	-.23	-.26
5	5.22	5.09	6.65	5.27	2.30	2.24	1.74	1.68	.35	.31	-.26	-.28
6	5.13	5.09	6.64	6.44	2.26	2.19	1.68	1.63	.31	.26	-.28	-.30
7	5.17	4.95	6.44	2.46	2.19	2.15	1.63	1.59	.26	.22	-.30	-.31
8	4.95	4.85	6.31	6.27	2.15	2.10	1.59	1.54	.22	.19	-.31	-.33
9	4.85	4.68	6.33	6.28	2.10	2.06	1.55	1.52	.20	.18	-.33	-.35
10	4.68	4.59	6.31	6.17	2.06	2.02	1.52	1.45	.18	.10	-.35	-.35
11	4.59	4.55	6.17	6.11	2.02	1.99	1.45	1.39	.10	.07	-.33	-.35
12	4.69	4.55	---	---	1.99	1.97	1.39	1.35	.07	.03	-.29	-.33
13	4.71	4.59	---	---	2.24	1.96	1.35	1.31	.03	.01	-.27	-.29
14	4.59	4.46	---	---	2.36	2.24	1.31	1.25	.02	-.04	-.27	-.28
15	4.46	4.40	---	---	2.37	2.34	1.25	1.21	-.03	-.06	-.26	-.28
16	4.43	4.39	3.52	3.42	2.34	2.30	1.21	1.15	-.06	-.10	-.26	-.27
17	4.43	4.41	3.42	3.37	2.31	2.23	1.15	1.10	-.09	-.13	-.25	-.28
18	4.43	4.37	3.37	3.30	2.24	2.22	1.10	1.04	-.12	-.16	-.26	-.29
19	4.37	4.22	3.31	3.27	2.23	2.12	1.04	.96	-.15	-.19	-.29	-.30
20	4.22	4.15	3.27	3.15	2.13	2.07	.96	.92	-.07	-.19	-.29	-.31
21	4.15	4.12	3.15	3.07	2.09	2.03	.92	.89	-.02	-.07	-.31	-.35
22	4.17	4.12	3.07	2.99	2.03	1.96	.89	.85	-.03	-.05	-.35	-.38
23	4.12	4.09	2.99	2.93	1.96	1.88	.85	.83	-.05	-.08	-.37	-.38
24	4.12	4.09	2.93	2.90	1.88	1.85	.84	.83	-.08	-.10	-.38	-.41
25	4.09	4.03	2.94	2.90	1.85	1.81	.84	.81	-.10	-.12	-.38	-.41
26	4.03	3.99	2.94	2.90	1.81	1.76	.81	.76	-.11	-.14	-.39	-.44
27	---	---	2.90	2.79	1.76	1.68	.76	.74	-.13	-.14	-.44	-.46
28	4.91	4.14	2.79	2.75	1.68	1.62	.74	.48	-.12	-.13	-.41	-.46
29	4.95	4.91	2.75	2.71	1.62	1.57	---	---	---	---	-.38	-.42
30	4.93	4.89	2.71	2.69	1.83	1.55	.60	.54	-.16	-.18	-.41	-.47
31	---	---	2.69	2.66	---	---	.55	.50	-.18	-.19	---	---
MONTH	5.83	3.99	6.65	2.46	2.66	1.55	1.88	.48	.51	-.19	-.19	-.47
YEAR	6.65	-.47										



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

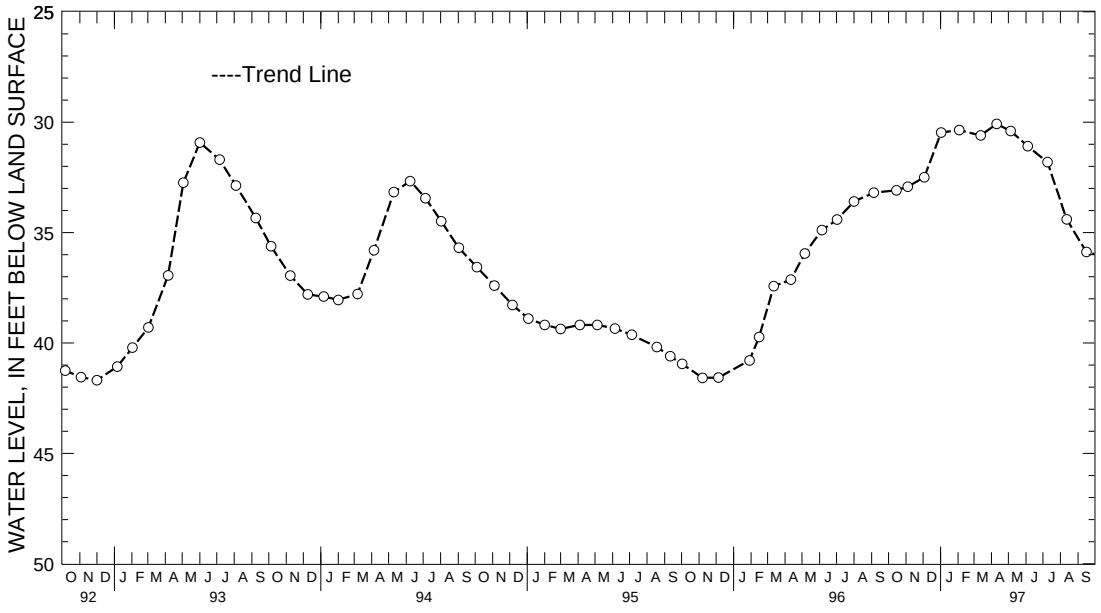
HOWARD COUNTY

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.--Morgan Run Formation of Ordovician age. Aquifer code: 300MRGR.
WELL CHARACTERISTICS.--Dug, stone-lined, observation, water-table well, measured depth 48 ft; diameter 60 in.
INSTRUMENTATION.--Monthly measurements with electric 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	33.09	JAN 02, 1997	30.47	APR 10, 1997	30.08	JUL 09, 1997	31.81
NOV 04	32.92	FEB 03	30.36	MAY 05	30.40	AUG 12	34.40
DEC 03	32.50	MAR 13	30.60	JUN 04	31.09	SEP 16	35.88

WATER YEAR 1997 HIGHEST 30.08 APR 10, 1997 LOWEST 35.88 SEP 16, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

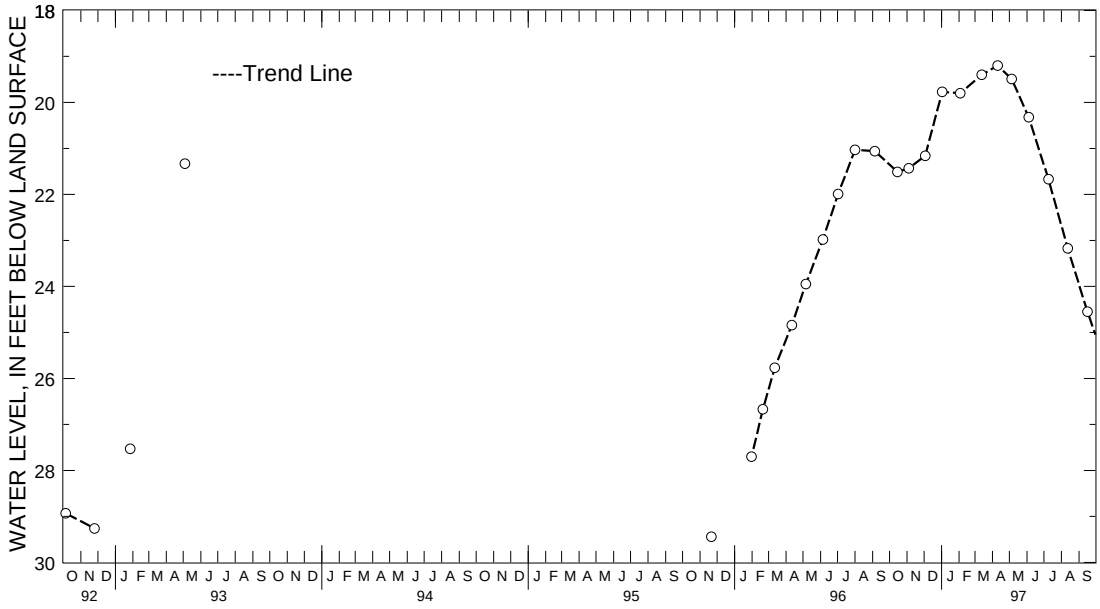
HOWARD COUNTY--Continued

WELL NUMBER.--HO Cd 79. SITE ID.--391445076555101. PERMIT NUMBER.--HO-81-2387.
LOCATION.--Lat 39°14′45″, long 76°55′51″, Hydrologic Unit 02060006, at University of Maryland Central Farm.
Owner: U.S. Geological Survey.
AQUIFER.--Loch Raven Formation of Cambian age. Aquifer code: 300LCRV.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 55 ft; casing diameter 6 in., to 6 ft; and casing diameter 3.5 in. from +1.5 to 43 ft; open hole.
DATUM.--Elevation of land surface is 452.37 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Top of casing, 2.05 ft above land surface.
REMARKS.--Maryland Water-Level Network observation well.
PERIOD OF RECORD.--January 1988 to May 1993, November 1995, January 1996 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 19.20 ft below land surface, April 10, 1997; lowest measured, 29.68 ft below land surface, Feb. 15, 1989.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1996	21.51	JAN 02, 1997	19.77	APR 10, 1997	19.20	JUL 09, 1997	21.67
NOV 04	21.43	FEB 03	19.80	MAY 05	19.49	AUG 12	23.17
DEC 03	21.16	MAR 13	19.40	JUN 04	20.32	SEP 16	24.55

WATER YEAR 1997 HIGHEST 19.20 APR 10, 1997 LOWEST 24.55 SEP 16, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

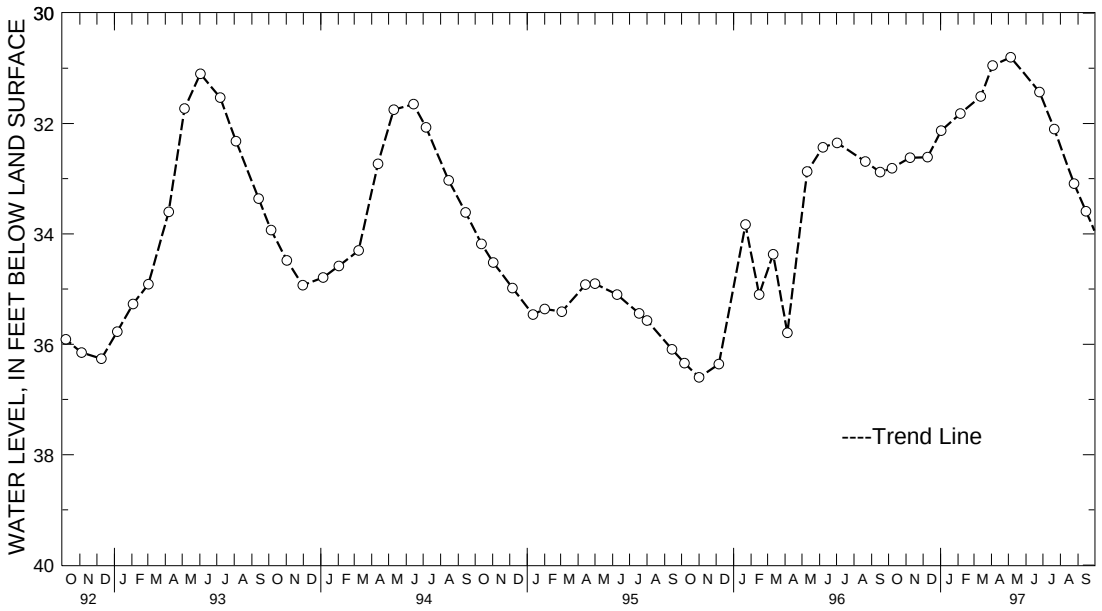
HOWARD COUNTY--Continued

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 Ordovician 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 electric 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, 1.45 ft below 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 07, 1996	32.81	JAN 02, 1997	32.13	APR 03, 1997	30.95	JUL 21, 1997	32.10
NOV 08	32.62	FEB 05	31.82	MAY 05	30.80	AUG 25	33.09
DEC 09	32.61	MAR 13	31.51	JUN 25	31.43	SEP 15	33.59

WATER YEAR 1997 HIGHEST 30.80 MAY 05, 1997 LOWEST 33.59 SEP 15, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

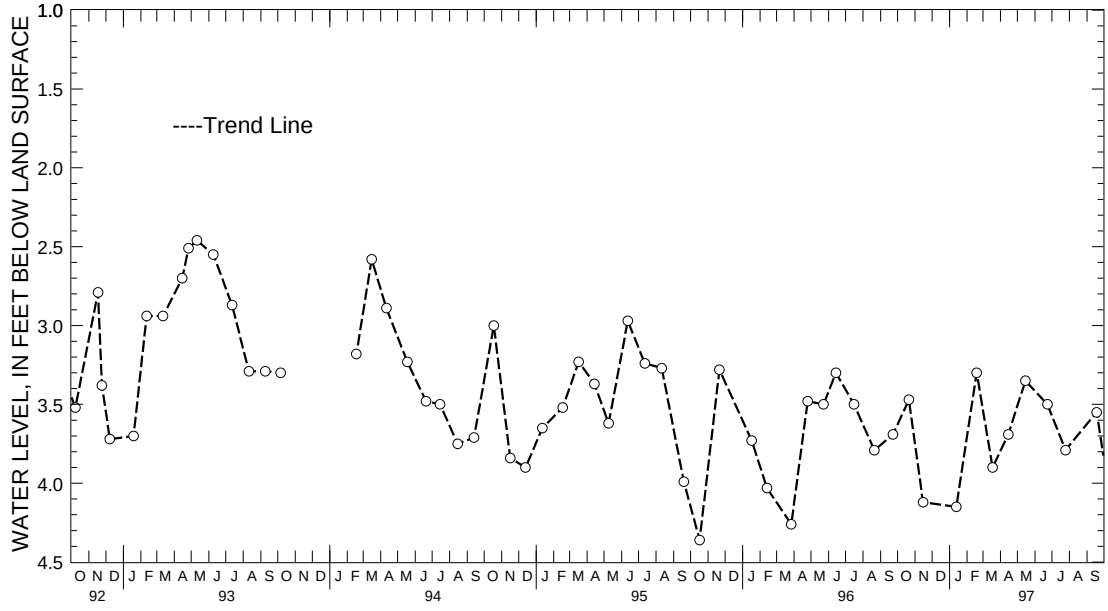
KENT COUNTY

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 electric 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, 3.30 ft above land surface.
REMARKS.--Maryland Water-Level Network 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, 4.36 ft below land surface, Oct. 17, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21, 1996	3.47	FEB 18, 1997	3.30	MAY 15, 1997	3.35	SEP 18, 1997	3.55
NOV 15	4.12	MAR 18	3.90	JUN 23	3.50		
JAN 13, 1997	4.15	APR 15	3.69	JUL 25	3.79		

WATER YEAR 1997 HIGHEST 3.30 FEB 18, 1997 LOWEST 4.15 JAN 13, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

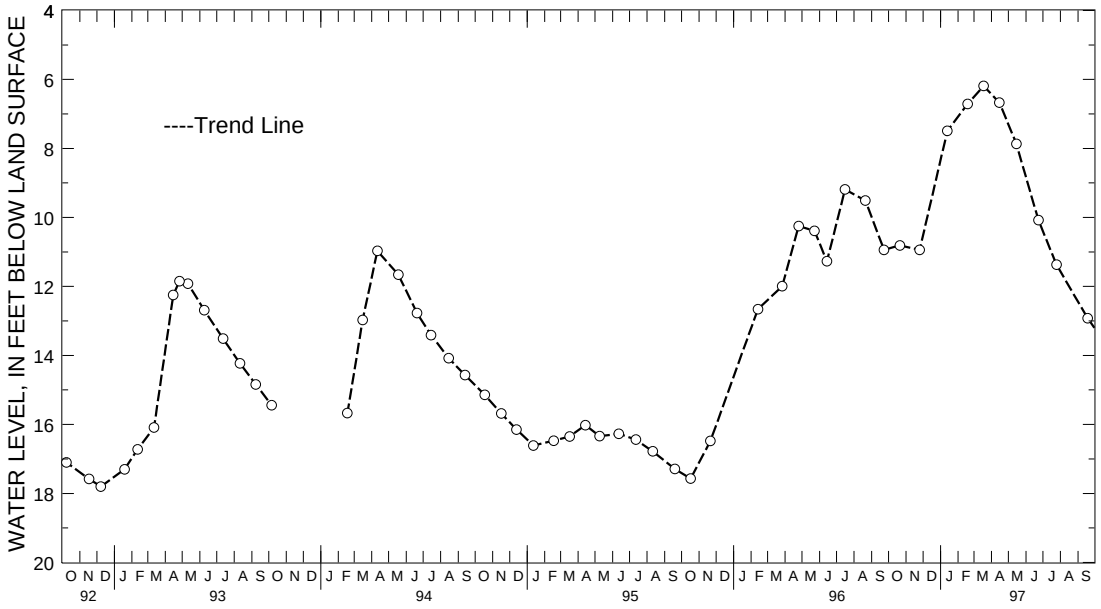
KENT COUNTY--Continued

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 well, 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 electric tape by U.S. Geological Survey personnel.
Equipped with digital water-level recorder--60-minute recorder interval from February 1992 to October 1993.
DATUM.--Elevation of land surface is 84.49 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of metal sleeve, 2.41 ft above land surface.
REMARKS.--Maryland Water-Level Network observation well.
PERIOD OF RECORD.--October 1991 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.19 ft below land surface, March 18, 1997; lowest measured, 20.23 ft below land surface, Dec. 12, 13 and 14, 1992.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21, 1996	10.81	FEB 18, 1997	6.71	MAY 15, 1997	7.87	SEP 18, 1997	12.92
NOV 25	10.94	MAR 18	6.19	JUN 23	10.08		
JAN 13, 1997	7.49	APR 15	6.67	JUL 25	11.37		

WATER YEAR 1997 HIGHEST 6.19 MAR 18, 1997 LOWEST 12.92 SEP 18, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

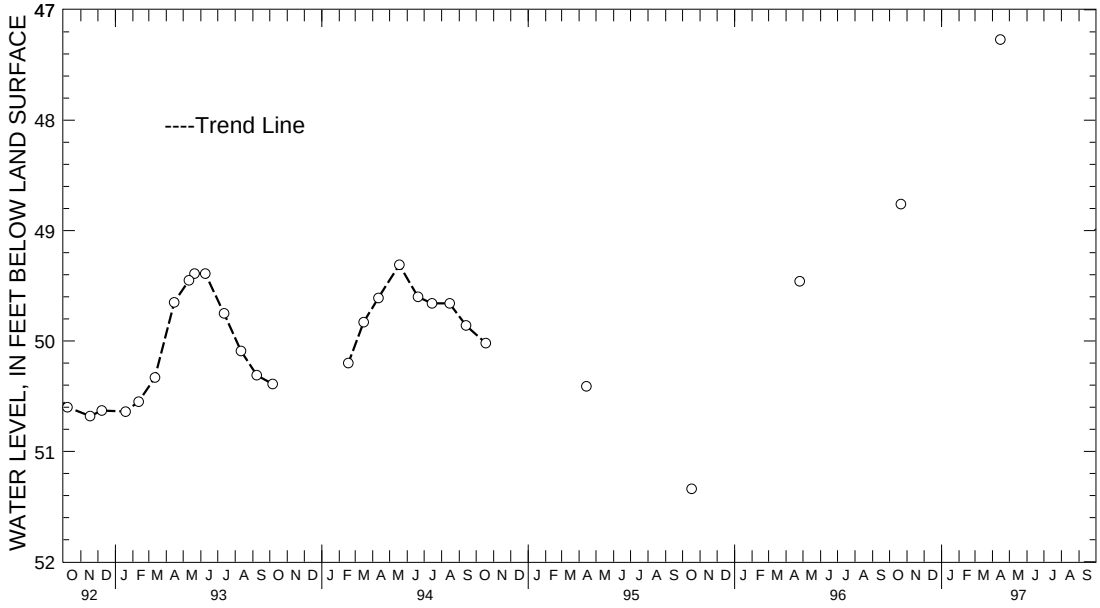
KENT COUNTY--Continued

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.--Twice yearly measurements with electric tape by U.S. Geological Survey personnel.
Equipped with digital water-level recorder--60-minute recorder interval from February 1992 to October 1993.
DATUM.--Elevation of land surface is 82.00 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of metal sleeve, 2.76 ft above land surface.
REMARKS.--Maryland Water-Level Network observation well.
PERIOD OF RECORD.--February 1992 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 47.27 below land surface, April 15, 1997; lowest measured, 51.34 ft below land surface, Oct. 17, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21, 1996	48.76	APR 15, 1997	47.27

WATER YEAR 1997 HIGHEST 47.27 APR 15, 1997 LOWEST 48.76 OCT 21, 1996



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

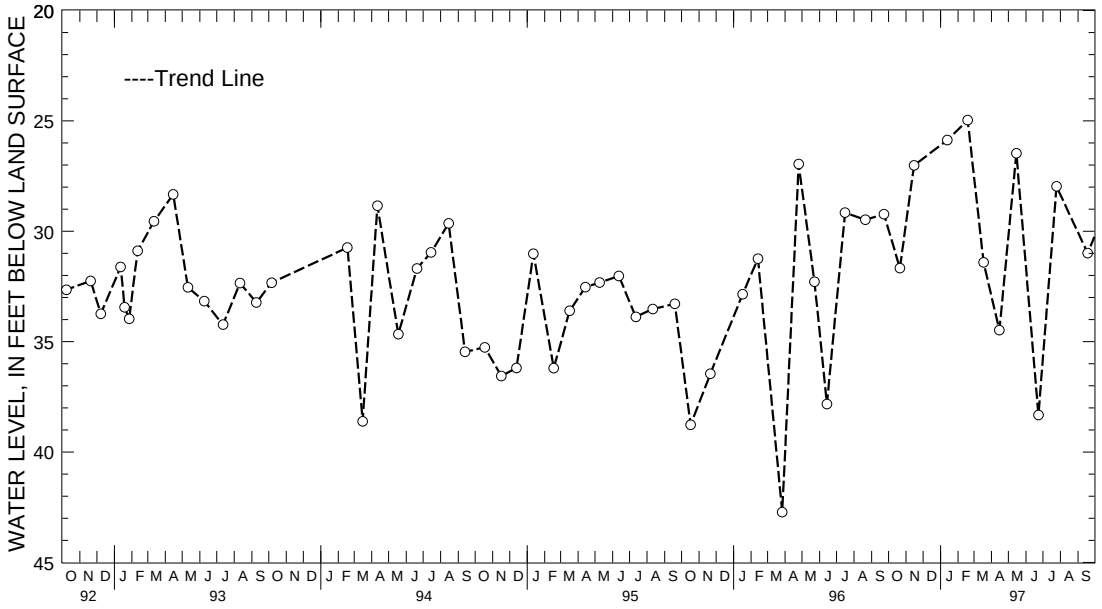
KENT COUNTY--Continued

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 electric 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, 2.41 ft above land surface.
REMARKS.--Maryland Water-Level Network observation well. Water levels affected by nearby pumping.
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, 42.72 ft below land surface, March 27, 1996.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21, 1996	31.67	FEB 18, 1997	24.97	MAY 15, 1997	26.47	SEP 18, 1997	30.99
NOV 15	27.02	MAR 18	31.41	JUN 23	38.32		
JAN 13, 1997	25.87	APR 15	34.48	JUL 25	27.97		

WATER YEAR 1997 HIGHEST 24.97 FEB 18, 1997 LOWEST 38.32 JUN 23, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

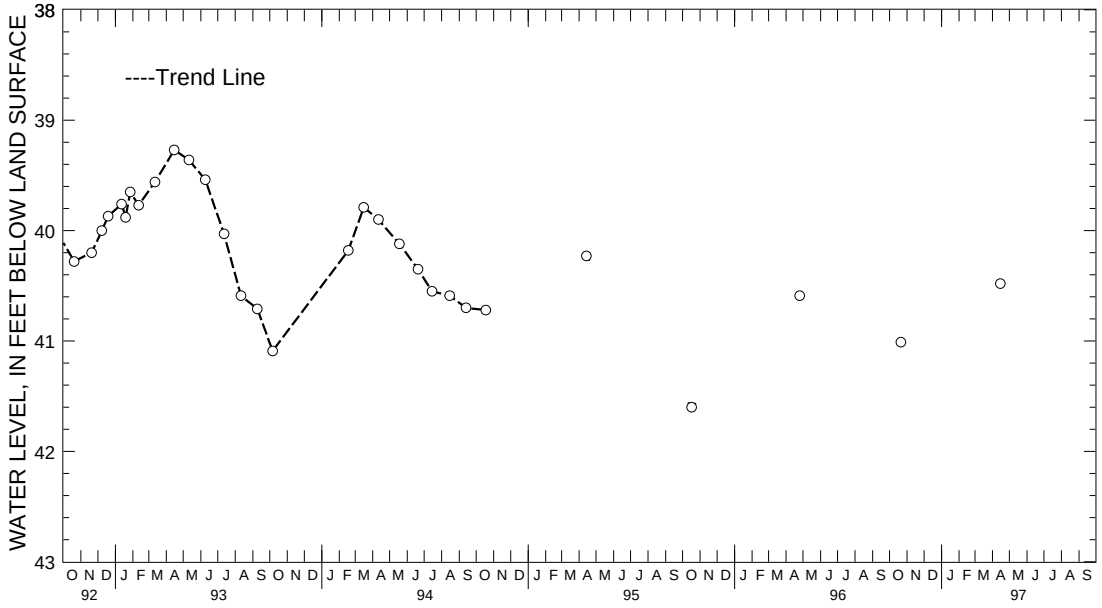
KENT COUNTY--Continued

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.--Twice yearly measurements with electric tape by U.S. Geological Survey personnel.
Equipped with digital water-level recorder--60-minute recorder interval from April 1992 to October 1993.
DATUM.--Elevation of land surface is 41.41 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of casing, 2.3 ft above land surface.
REMARKS.--Maryland Water-Level Network observation well.
PERIOD OF RECORD.--October 1991 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 38.76 ft below land surface, April 2, 1992; lowest measured, 41.60 ft below land surface, Oct. 17, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21, 1996	41.01	APR 15, 1997	40.48

WATER YEAR 1997 HIGHEST 40.48 APR 15, 1997 LOWEST 41.01 OCT 21, 1996



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

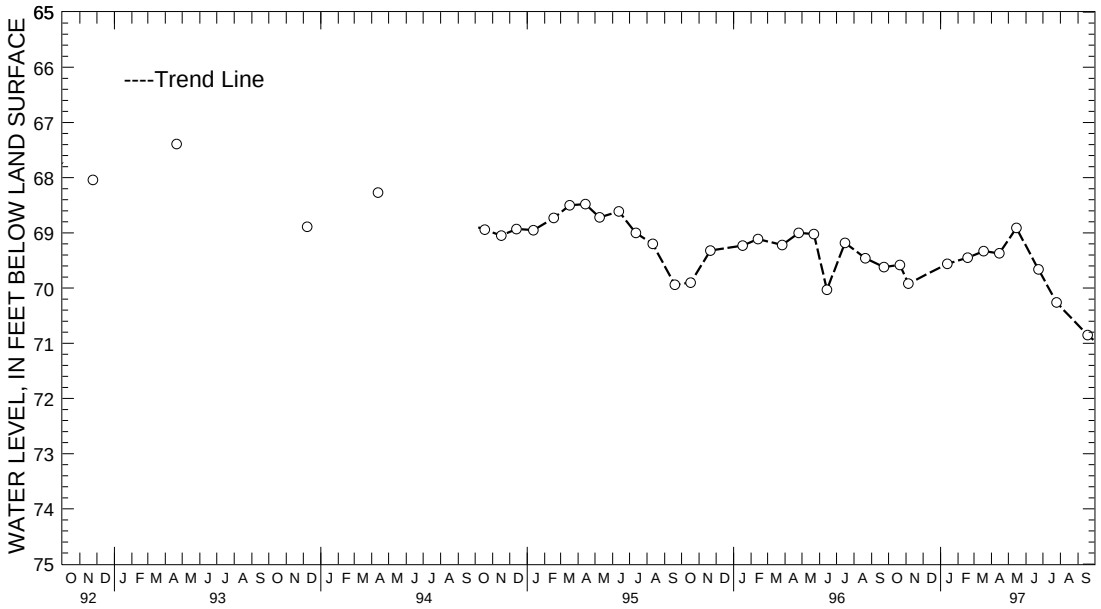
KENT COUNTY-Continued

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.--Monthly measurements with electric tape by U.S. Geological Survey personnel. Measured twice yearly from October 1986 to April 1994.
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.
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, 70.85 ft below land surface, Sept. 18, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21, 1996	69.58	FEB 18, 1997	69.45	MAY 15, 1997	68.91	SEP 18, 1997	70.85
NOV 05	69.92	MAR 18	69.33	JUN 23	69.66		
JAN 13, 1997	69.56	APR 15	69.37	JUL 25	70.26		

WATER YEAR 1997 HIGHEST 68.91 MAY 15, 1997 LOWEST 70.85 SEP 18, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

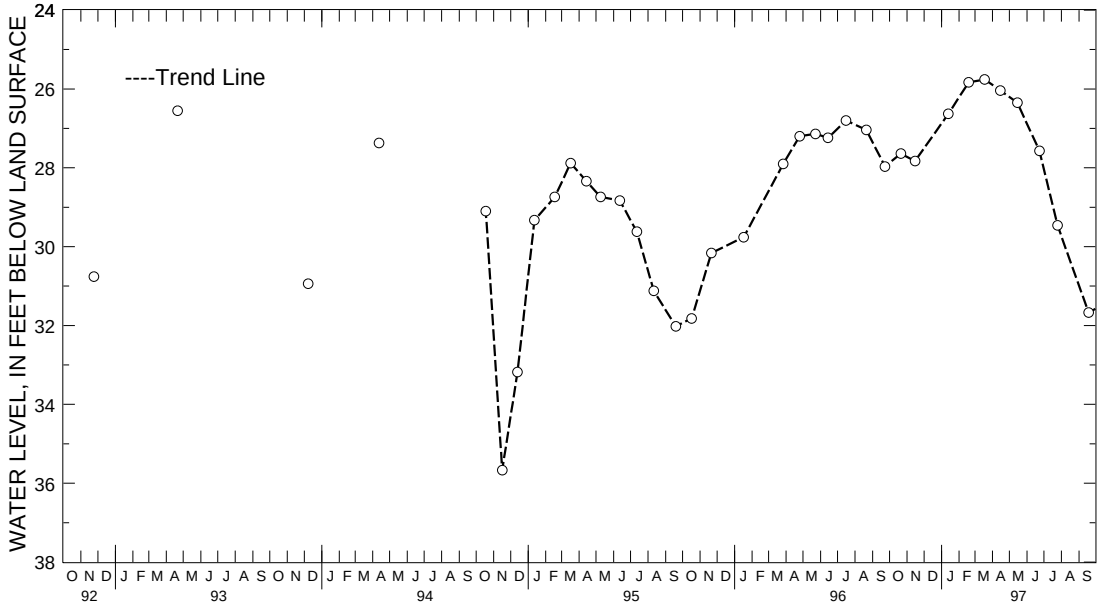
KENT COUNTY--Continued

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.--Monthly measurements with electric tape by U.S. Geological Survey personnel. Measured twice yearly from October 1986 to October 1994.
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.
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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21, 1996	27.64	FEB 18, 1997	25.83	MAY 15, 1997	26.35	SEP 18, 1997	31.67
NOV 15	27.83	MAR 18	25.76	JUN 23	27.57		
JAN 13, 1997	26.63	APR 15	26.04	JUL 25	29.46		

WATER YEAR 1997 HIGHEST 25.76 MAR 18, 1997 LOWEST 31.67 SEP 18, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

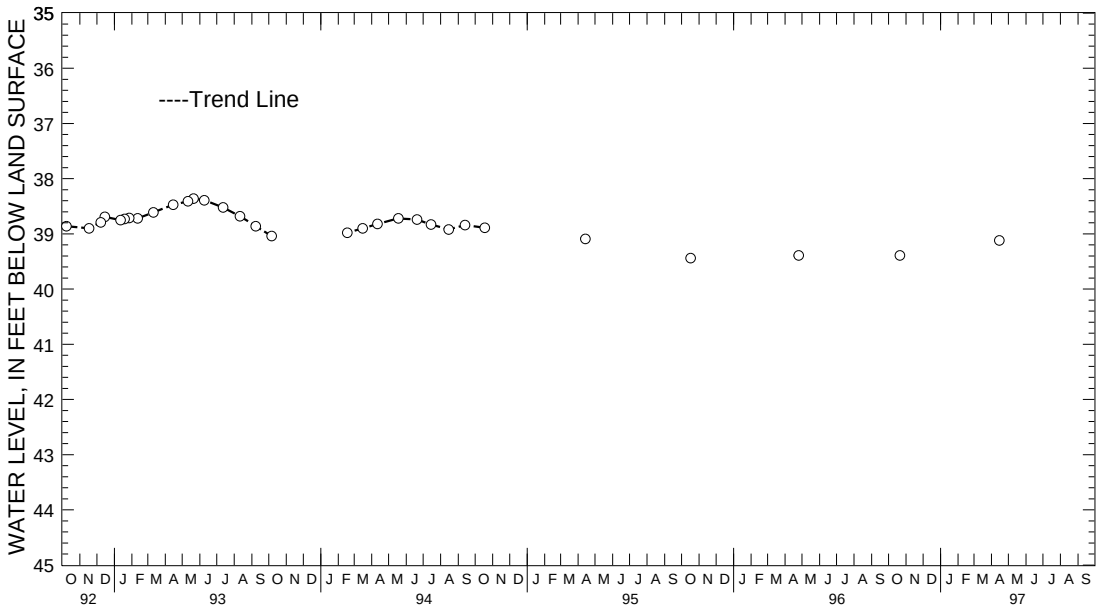
KENT COUNTY--Continued

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.--Twice yearly measurements with electric 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 October 1993.
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.
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, 39.44 ft below land surface, Oct. 17, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21, 1996	39.39	APR 15, 1997	39.12

WATER YEAR 1997 HIGHEST 39.12 APR 15, 1997 LOWEST 39.39 OCT 21, 1996



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

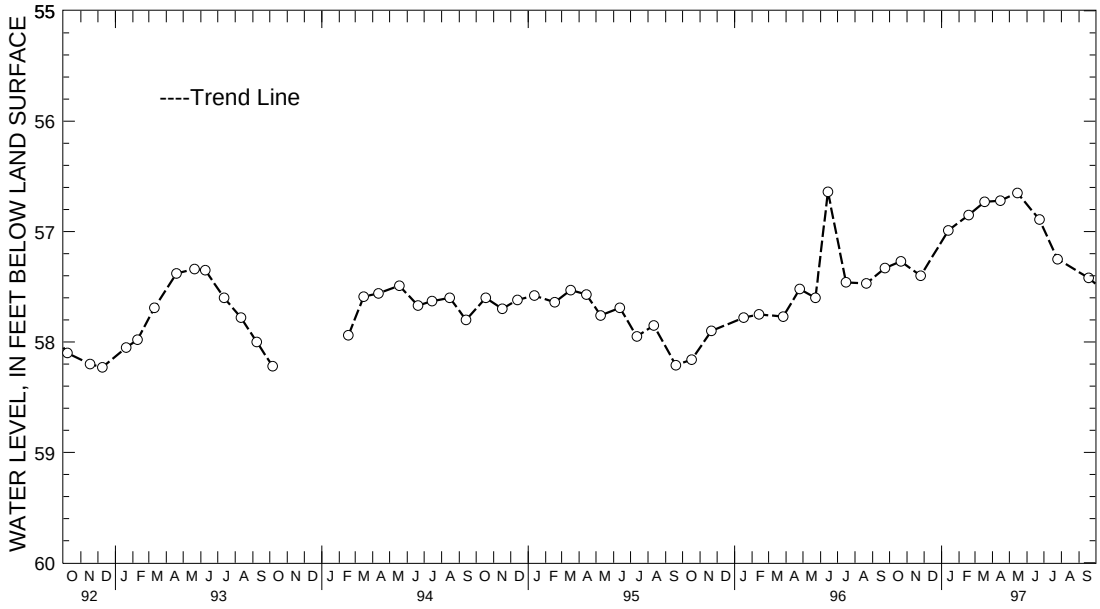
KENT COUNTY--Continued

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 electric tape by U.S. Geological Survey personnel.
Equipped with digital water-level recorder--60-minute recorder interval from February 1992 to October 1993.
DATUM.--Elevation of land surface is 65.84 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of metal sleeve, 2.3 ft above land surface.
REMARKS.--Maryland Water-Level Network observation well.
PERIOD OF RECORD.--October 1991 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 56.40 ft below land surface, Oct. 24, 1991; lowest measured, 58.23 ft below land surface, Dec. 9, 1992.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21, 1996	57.27	FEB 18, 1997	56.85	MAY 15, 1997	56.65	SEP 18, 1997	57.42
NOV 25	57.40	MAR 18	56.73	JUN 23	56.89		
JAN 13, 1997	56.99	APR 15	56.72	JUL 25	57.25		

WATER YEAR 1997 HIGHEST 56.65 MAY 15, 1997 LOWEST 57.42 SEP 18, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

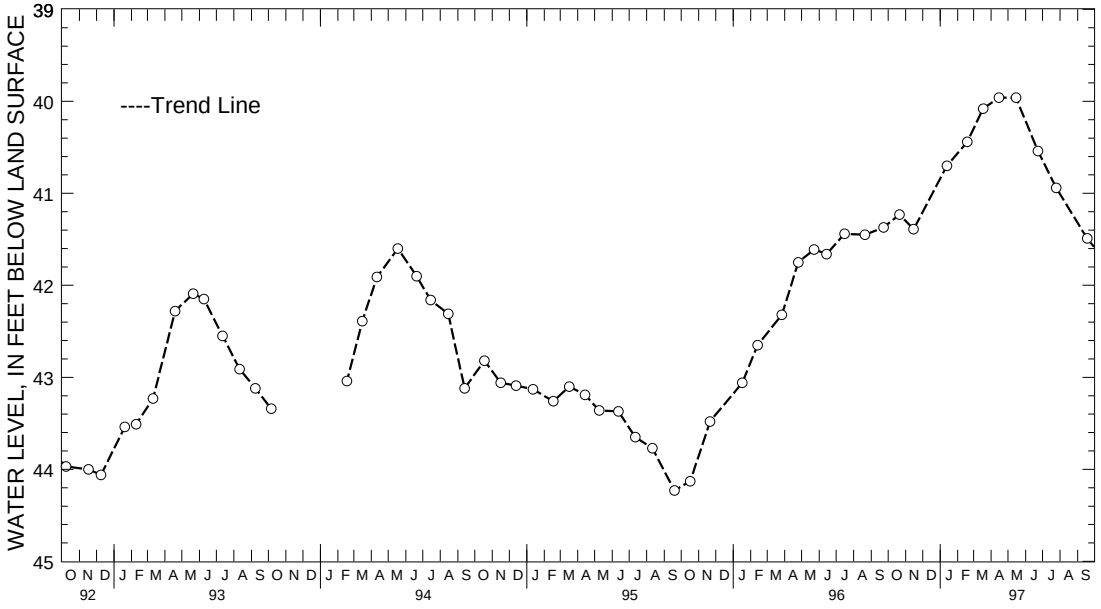
KENT COUNTY--Continued

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 Upper Cretaceous age. Aquifer code: 211MNMT.
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 electric tape by U.S. Geological Survey personnel.
Equipped with digital water-level recorder--60-minute recorder interval from February 1992 to October 1993.
DATUM.--Elevation of land surface is 68.38 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of metal sleeve, 2.54 ft above land surface.
REMARKS.--Maryland Water-Level Network observation well.
PERIOD OF RECORD.--October 1991 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 39.96 ft below land surface, April 15, 1997 and May 15, 1997; lowest measured, 44.23 ft below land surface, Sept. 19, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21, 1996	41.23	FEB 18, 1997	40.44	MAY 15, 1997	39.96	SEP 18, 1997	41.49
NOV 15	41.39	MAR 18	40.08	JUN 23	40.54		
JAN 13, 1997	40.70	APR 15	39.96	JUL 25	40.94		

WATER YEAR 1997 HIGHEST 39.96 APR 15, 1997 MAY 15, 1997 LOWEST 41.49 SEP 18, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

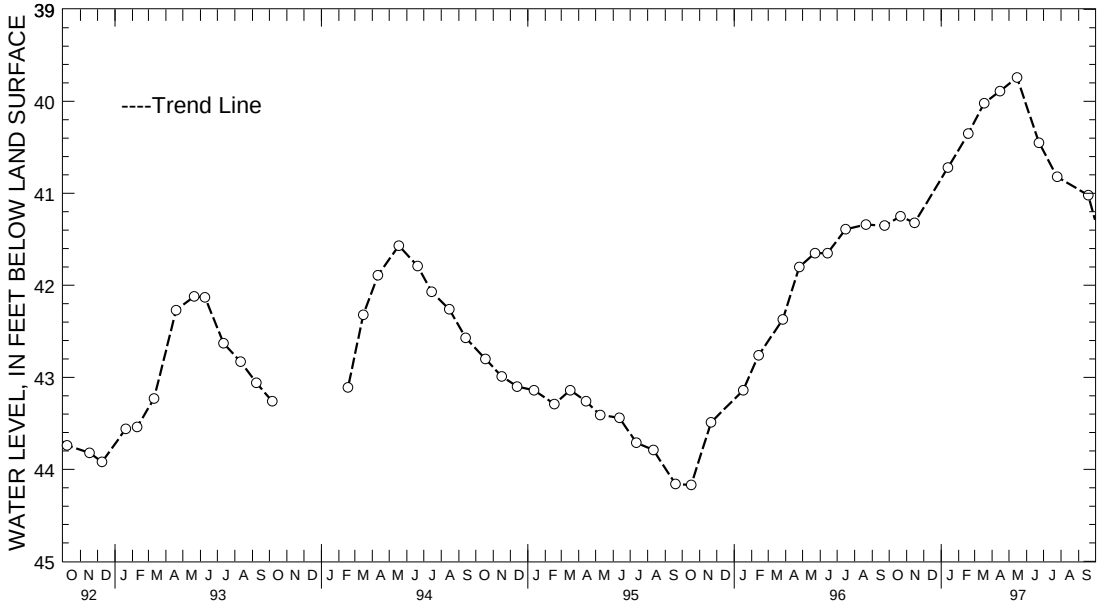
KENT COUNTY--Continued

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 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 electric tape by U.S. Geological Survey personnel.
Equipped with digital water-level recorder--60-minute recorder interval from February 1992 to October 1993.
DATUM.--Elevation of land surface is 68.38 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of metal sleeve, 2.53 ft above land surface.
REMARKS.--Maryland Water-Level Network observation well.
PERIOD OF RECORD.--October 1991 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 39.74 ft below land surface, May 15, 1997; lowest measured, 44.17 ft below land surface, Oct. 17, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21, 1996	41.25	FEB 18, 1997	40.35	MAY 15, 1997	39.74	SEP 18, 1997	41.02
NOV 15	41.32	MAR 18	40.02	JUN 23	40.45		
JAN 13, 1997	40.72	APR 15	39.89	JUL 25	40.82		

WATER YEAR 1997 HIGHEST 39.74 MAY 15, 1997 LOWEST 41.32 NOV 15, 1996



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

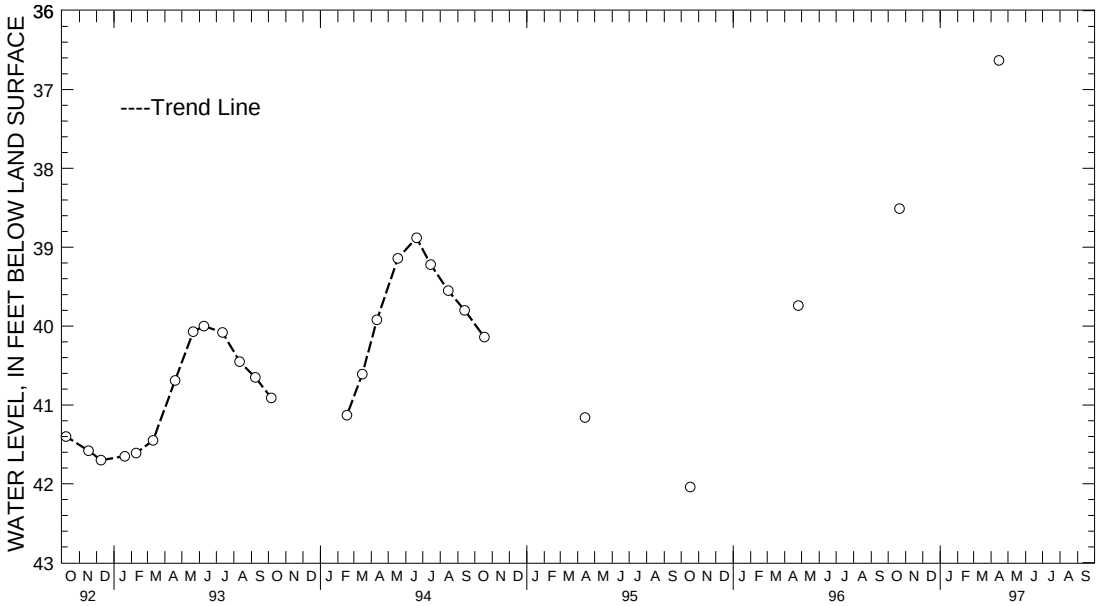
KENT COUNTY--Continued

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 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.--Twice yearly measurements with electric tape by U.S. Geological Survey personnel.
Equipped with digital water-level recorder--60-minute recorder interval from February 1992 to October 1993.
DATUM.--Elevation of land surface is 68.29 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of metal sleeve, 2.56 ft above land surface.
REMARKS.--Maryland Water-Level Network observation well.
PERIOD OF RECORD.--October 1991 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 36.63 ft below land surface, April 15, 1997; lowest measured, 42.04 ft below land surface, Oct. 17, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21, 1996	38.51	APR 15, 1997	36.63

WATER YEAR 1997 HIGHEST 36.63 APR 15, 1997 LOWEST 38.51 OCT 21, 1996



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

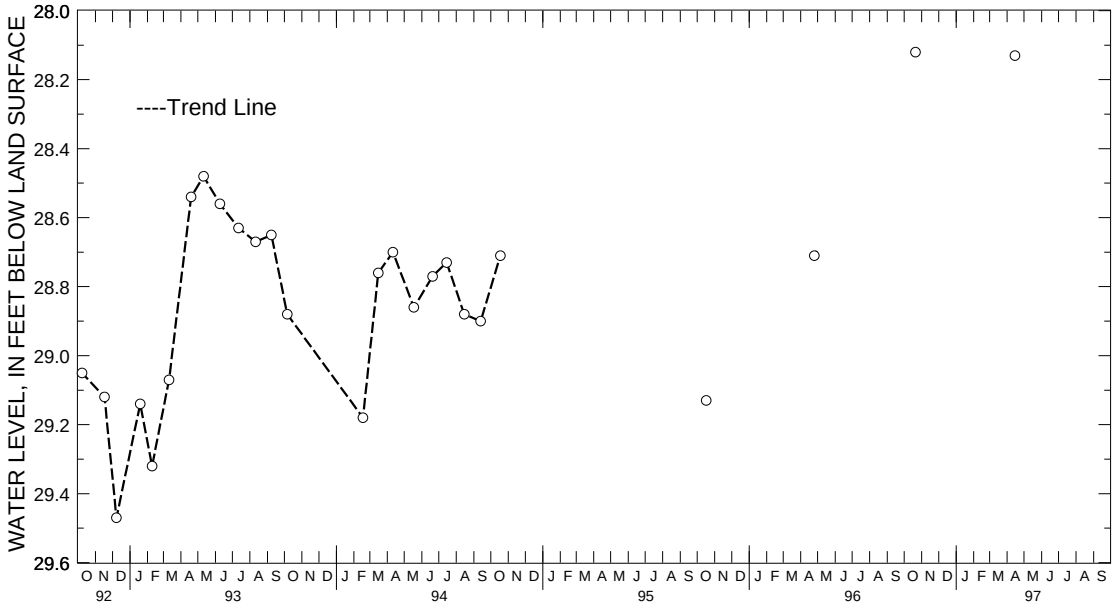
KENT COUNTY--Continued

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.--Twice yearly measurements with electric tape by U.S. Geological Survey personnel.
Equipped with digital water-level recorder--60-minute recorder interval from February 1992 to October 1993.
DATUM.--Elevation of land surface is 31.12 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of metal sleeve, 2.6 ft above land surface.
REMARKS.--Maryland Water-Level Network observation well. Gate locked on April 1995 visit.
PERIOD OF RECORD.--October 1991 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 28.12 ft below land surface, Oct. 21, 1996; lowest measured, 29.47 ft below land surface, Dec. 8, 1992.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21, 1996	28.12	APR 15, 1997	28.13

WATER YEAR 1997 HIGHEST 28.12 OCT 21, 1996 LOWEST 28.13 APR 15, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

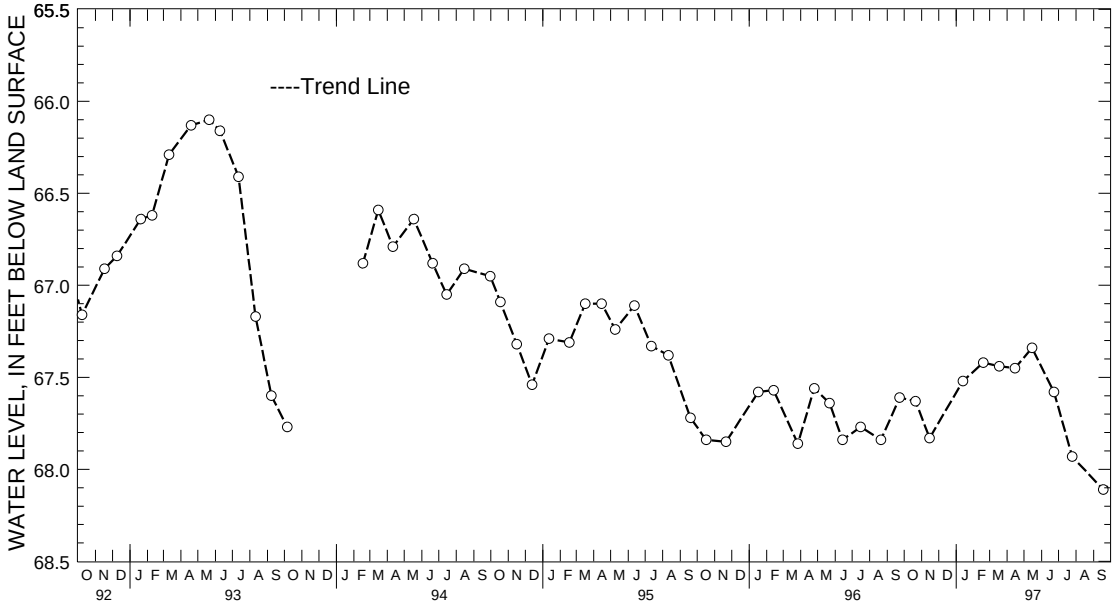
KENT COUNTY--Continued

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 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 electric tape by U.S. Geological Survey personnel.
Equipped with digital water-level recorder--60-minute recorder interval from February 1992 to October 1993.
DATUM.--Elevation of land surface is 65.60 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of metal sleeve, 2.54 ft above land surface.
REMARKS.--Maryland Water-Level Network observation well.
PERIOD OF RECORD.--February 1992 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 65.64 ft below land surface, April 2, 1992; lowest measured, 68.11 ft below land surface, Sept. 18, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21, 1996	67.63	FEB 18, 1997	67.42	MAY 15, 1997	67.34	SEP 18, 1997	68.11
NOV 15	67.83	MAR 18	67.44	JUN 23	67.58		
JAN 13, 1997	67.52	APR 15	67.45	JUL 25	67.93		

WATER YEAR 1997 HIGHEST 67.34 MAY 15, 1997 LOWEST 68.11 SEP 18, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

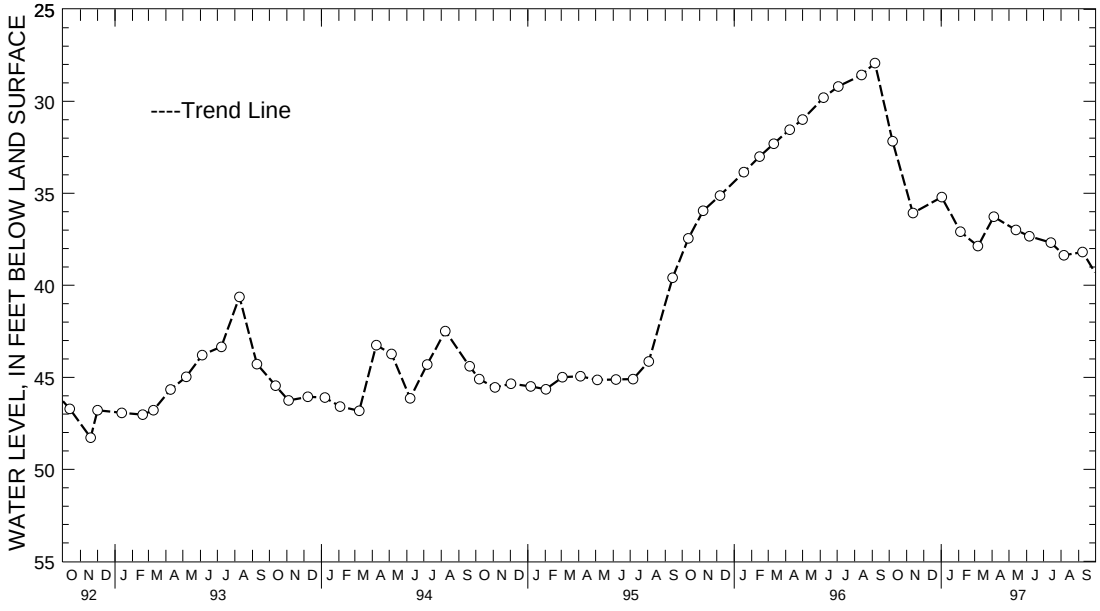
KENT COUNTY--Continued

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: Chestertown Foods
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 electric 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. Food processing plant closed from Aug. 31, 1995 to Sept. 30, 1996.
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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 07, 1996	32.17	FEB 04, 1997	37.08	MAY 13, 1997	36.99	AUG 06, 1997	38.37
NOV 12	36.07	MAR 07	37.87	JUN 06	37.33	SEP 08	38.19
JAN 02, 1997	35.21	APR 04	36.27	JUL 14	37.68		

WATER YEAR 1997 HIGHEST 32.17 OCT 07, 1996 LOWEST 38.37 AUG 06, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

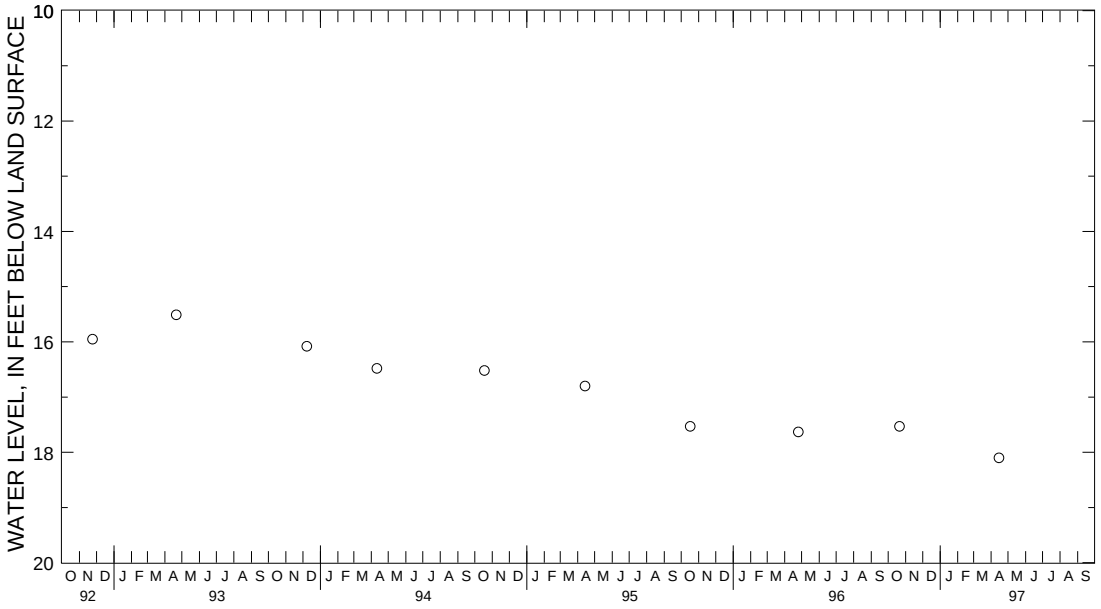
KENT COUNTY--Continued

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 electric 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, 11.08 ft below land surface, Oct. 30, 1980; lowest measured, 18.10 ft below land surface, April 15, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21, 1996	17.53	APR 15, 1997	18.10

WATER YEAR 1997 HIGHEST 17.53 OCT 21, 1996 LOWEST 18.10 APR 15, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

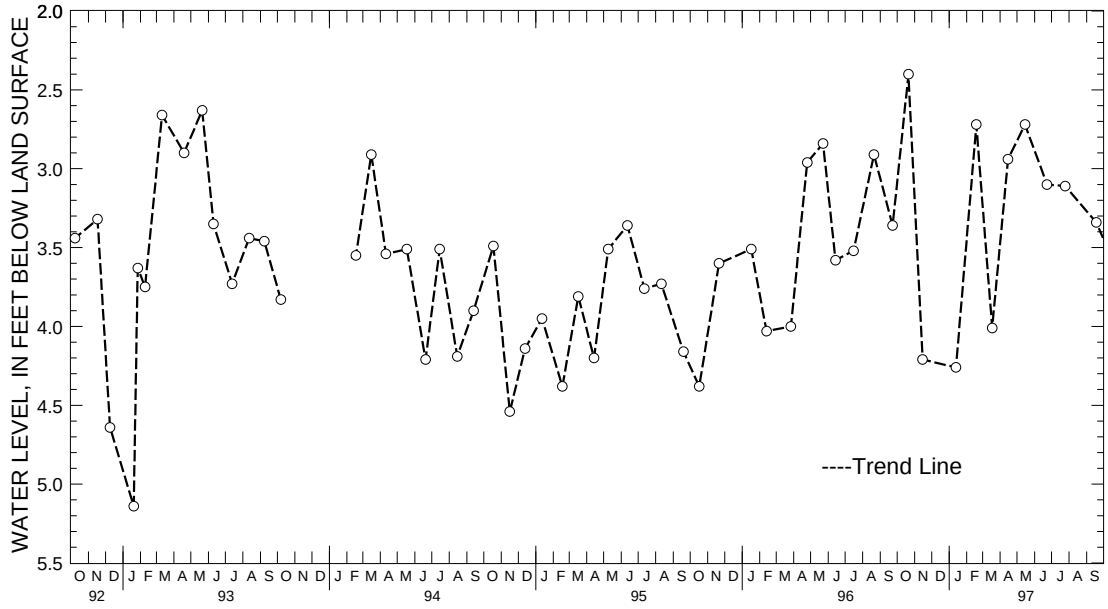
KENT COUNTY--Continued

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 electric tape by U.S. Geological Survey personnel.
Equipped with digital water-level recorder--60-minute recorder interval from February 1992 to October 1993.
DATUM.--Elevation of land surface is 4.52 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of metal sleeve, 2.44 ft above land surface.
REMARKS.--Maryland Water-Level Network observation well.
PERIOD OF RECORD.--October 1991 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.40 ft below land surface, Oct. 21, 1996; lowest measured, 5.14 ft below land surface, Jan. 20, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21, 1996	2.40	FEB 18, 1997	2.72	MAY 15, 1997	2.72	SEP 18, 1997	3.34
NOV 15	4.21	MAR 18	4.01	JUN 23	3.10		
JAN 13, 1997	4.26	APR 15	2.94	JUL 25	3.11		

WATER YEAR 1997 HIGHEST 2.40 OCT 21, 1996 LOWEST 4.26 JAN 13, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

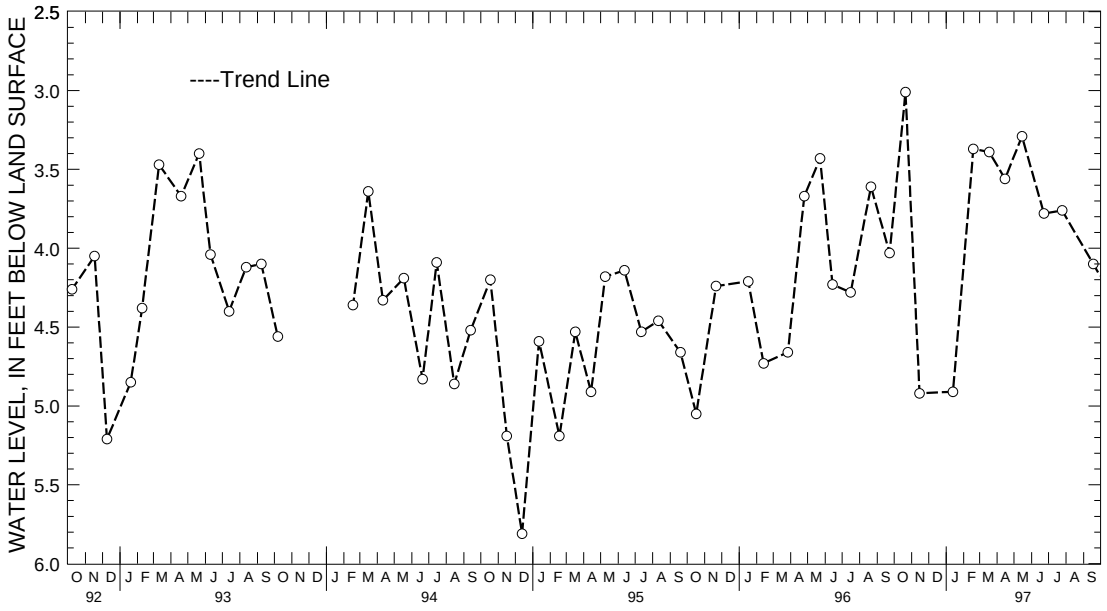
KENT COUNTY--Continued

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 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 electric tape by U.S. Geological Survey personnel.
Equipped with digital water-level recorder--60-minute recorder interval from February 1992 to October 1993.
DATUM.--Elevation of land surface is 7.14 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of metal sleeve, 2.46 ft above land surface.
REMARKS.--Maryland Water-Level Network observation well.
PERIOD OF RECORD.--October 1991 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.01 ft below land surface, Oct. 21, 1996; lowest measured, 5.81 ft below land surface, Dec. 13, 1994.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21, 1996	3.01	FEB 18, 1997	3.37	MAY 15, 1997	3.29	SEP 18, 1997	4.10
NOV 15	4.92	MAR 18	3.39	JUN 23	3.78		
JAN 13, 1997	4.91	APR 15	3.56	JUL 25	3.76		

WATER YEAR 1997 HIGHEST 3.01 OCT 21, 1996 LOWEST 4.92 NOV 15, 1996



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

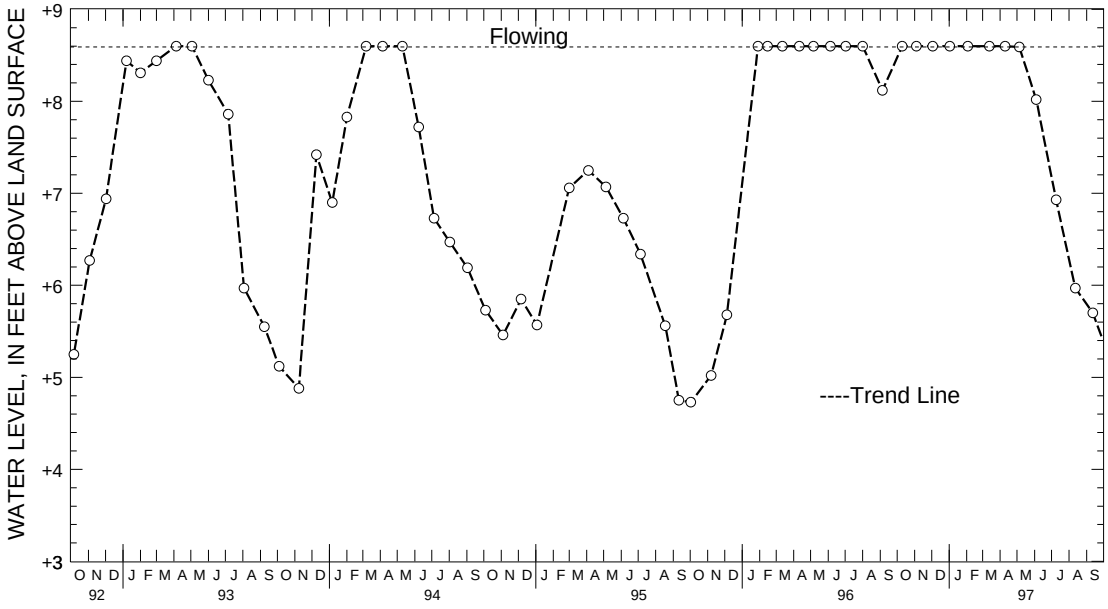
MONTGOMERY COUNTY

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 Upper 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.--February 1991 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, flowing on Jan. 3, 1991, April 3, 1991, April 5, 1993, May 3, 1993, March 7, 1994, April 5, 1994, May 10, 1994, Jan. 29, 1996, Feb. 15, 1996, March 12, 1996, April 11, 1996, May 6, 1996, June 5, 1996, July 2, 1996, Aug. 1, 1996, Oct. 10, 1996, Nov. 4, 1996, Dec. 3, 1996, Jan. 2, 1997, Feb. 3, 1997, March 13, 1997, and April 10, 1997;, lowest measured, 4.02 ft above land surface, Nov. 7, 1991.

WATER LEVEL, IN FEET ABOVE LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
(READINGS ABOVE LAND SURFACE INDICATED BY "+")

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 10, 1996	FLOWING	JAN 02, 1997	FLOWING	APR 10, 1997	FLOWING	JUL 09, 1997	+6.93
NOV 04	FLOWING	FEB 03	FLOWING	MAY 05	+8.59	AUG 12	+5.97
DEC 03	FLOWING	MAR 13	FLOWING	JUN 04	+8.02	SEP 12	+5.70

WATER YEAR 1997 HIGHEST +8.59 MAY 05, 1997 LOWEST +5.70 SEP 12, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

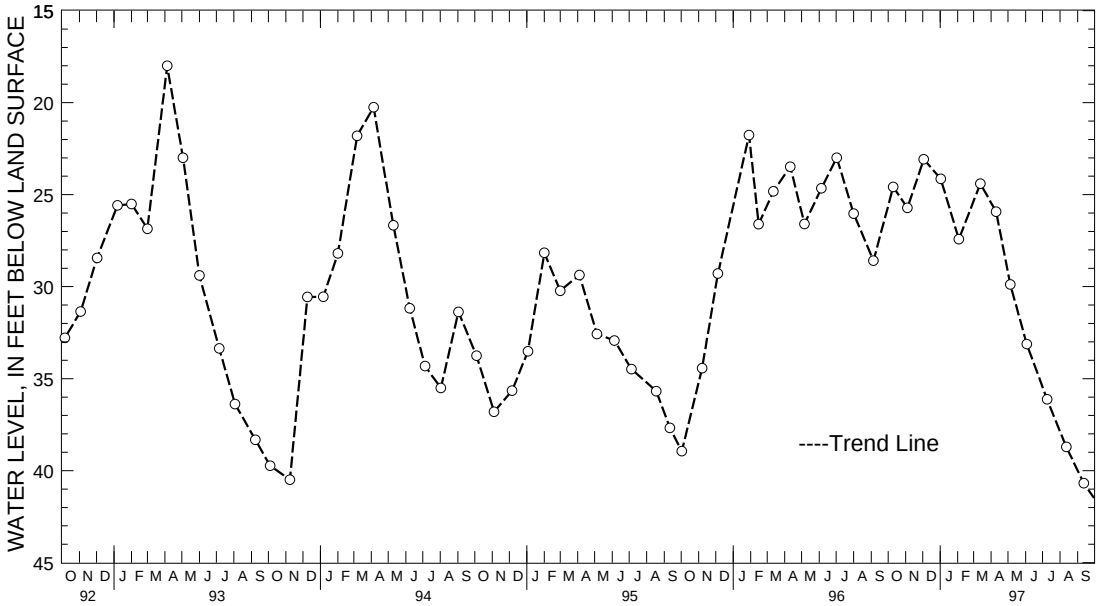
MONTGOMERY COUNTY

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 electric 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 10, 1996	24.58	JAN 02, 1997	24.14	APR 10, 1997	25.93	JUL 09, 1997	36.12
NOV 04	25.72	FEB 03	27.42	MAY 05	29.88	AUG 12	38.71
DEC 03	23.08	MAR 13	24.40	JUN 03	33.12	SEP 12	40.68

WATER YEAR 1997 HIGHEST 23.08 DEC 03, 1996 LOWEST 40.68 SEP 12, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

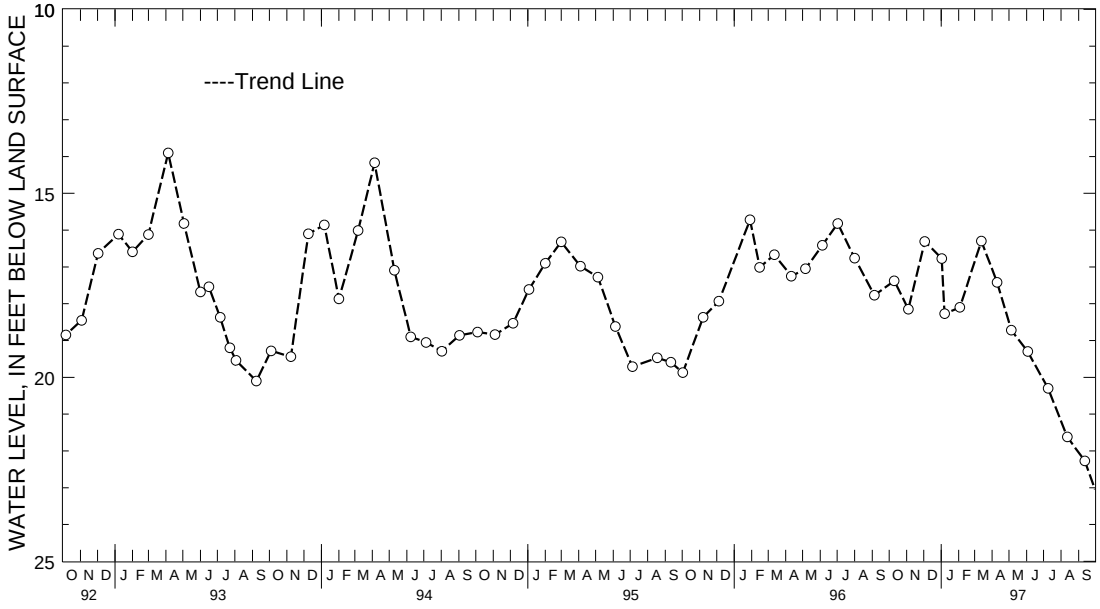
MONTGOMERY COUNTY--Continued

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, artesian well, depth 250 ft; casing diameter 6 in., to 40 ft; open hole.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 260 ft above National Geodetic Vertical Datum of 1929, from topographic map.
Measuring point: Top of casing, 0.80 ft above land surface.
REMARKS.--Maryland Water-Level Network observation well.
PERIOD OF RECORD.--May 1978 to August 1980, June 1985 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 11.12 ft below land surface, May 12, 1989; lowest measured, 22.27 ft below land surface, Sept. 12, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 10, 1996	17.38	JAN 07, 1997	18.27	MAY 05, 1997	18.72	SEP 12, 1997	22.27
NOV 04	18.15	FEB 03	18.10	JUN 03	19.30		
DEC 03	16.31	MAR 13	16.30	JUL 09	20.30		
JAN 02, 1997	16.77	APR 10	17.42	AUG 12	21.62		

WATER YEAR 1997 HIGHEST 16.30 MAR 13, 1997 LOWEST 22.27 SEP 12, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

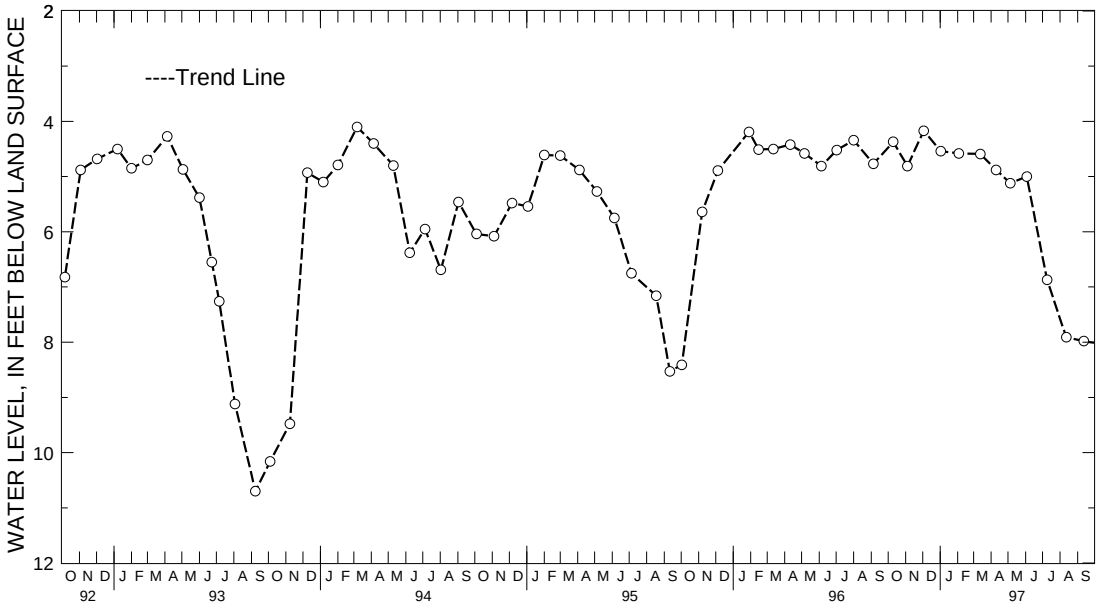
MONTGOMERY COUNTY--Continued

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 electric 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, 3.94 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, 4.10 ft below land surface, March 7, 1994; lowest measured, 10.70 ft below land surface, Sept. 8, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 10, 1996	4.37	JAN 02, 1997	4.54	APR 10, 1997	4.88	JUL 09, 1997	6.87
NOV 04	4.81	FEB 03	4.58	MAY 05	5.12	AUG 12	7.91
DEC 03	4.17	MAR 13	4.59	JUN 03	5.00	SEP 12	7.98

WATER YEAR 1997 HIGHEST 4.17 DEC 03, 1996 LOWEST 7.98 SEP 12, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

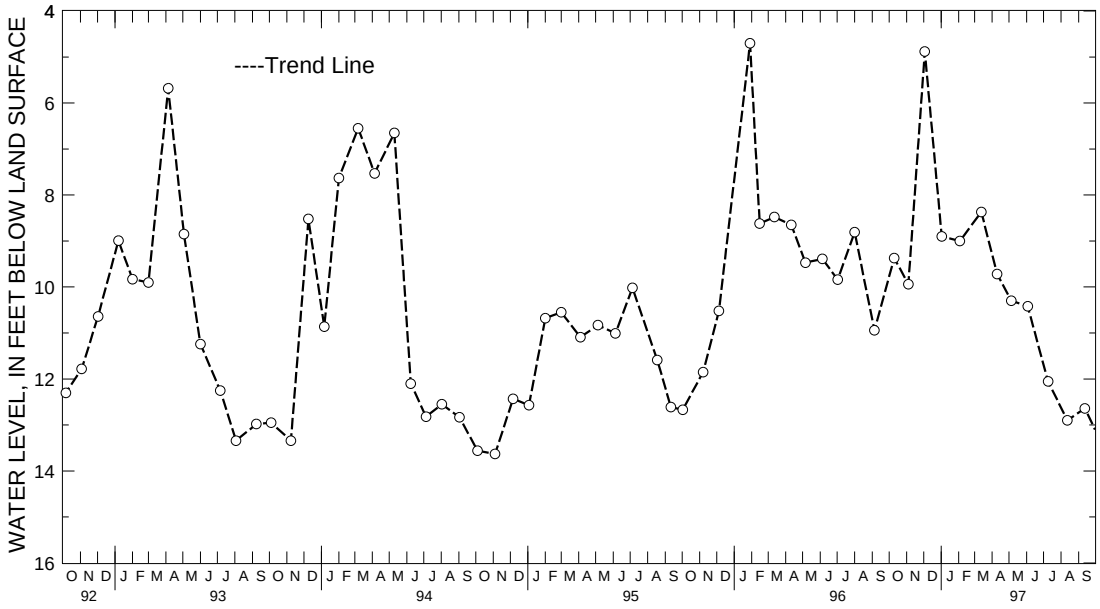
MONTGOMERY COUNTY--Continued

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 Besher Wildlife Management Area.
Owner: U.S. Geological Survey.
AQUIFER.--New Oxford Formation of Upper 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 electric 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, 4.70 ft below land surface, Jan. 29, 1996. lowest measured, 14.52 ft below land surface, July 8, 1992.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 10, 1996	9.37	JAN 02, 1997	8.90	APR 10, 1997	9.72	JUL 09, 1997	12.05
NOV 04	9.94	FEB 03	9.00	MAY 05	10.30	AUG 12	12.90
DEC 03	4.88	MAR 13	8.37	JUN 03	10.42	SEP 12	12.64

WATER YEAR 1997 HIGHEST 4.88 DEC 03, 1996 LOWEST 12.90 AUG 12, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

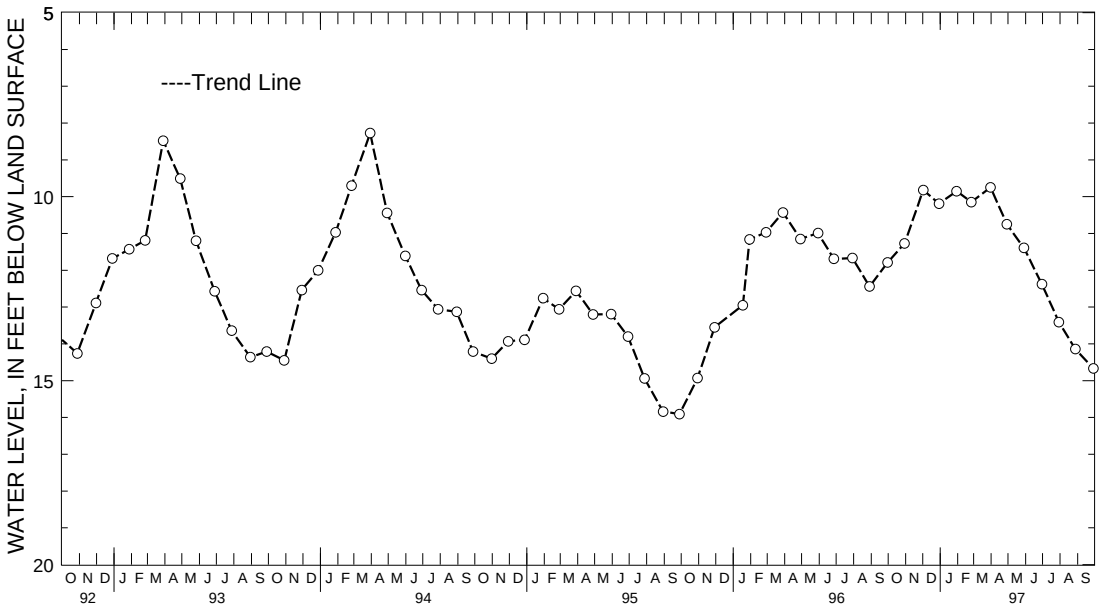
MONTGOMERY COUNTY--Continued

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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30, 1996	11.27	JAN 30, 1997	9.85	APR 29, 1997	10.75	JUL 30, 1997	13.41
DEC 02	9.82	FEB 25	10.15	MAY 29	11.39	AUG 28	14.14
30	10.19	MAR 31	9.75	JUN 30	12.38	SEP 29	14.67

WATER YEAR 1997 HIGHEST 9.75 MAR 31, 1997 LOWEST 14.67 SEP 29, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

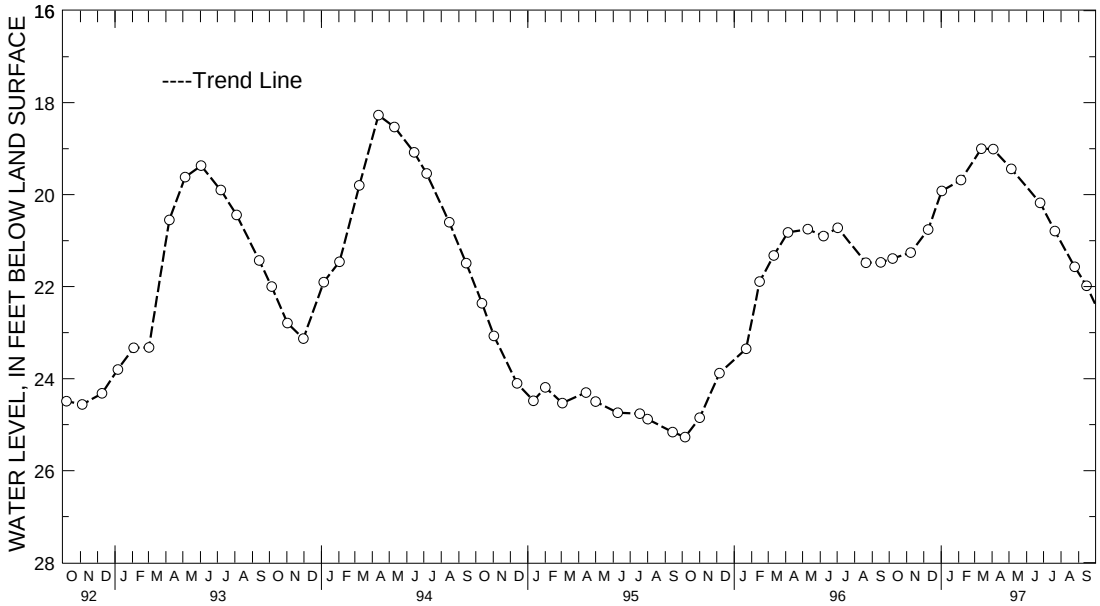
PRINCE GEORGES COUNTY

WELL NUMBER.--PG Bc 16. SITE ID.--390151076561501.
LOCATION.--Lat 39°01´51˝, long 76°56´15˝, Hydrologic Unit 02070010, at National Agricultural Research Center, Beltsville.
Owner: U.S. Department of Agriculture.
AQUIFER.--Patuxent Formation of Lower Cretaceous age. Aquifer code: 217PTXN.
WELL CHARACTERISTICS.--Dug brick-lined, unused, water-table well, measured depth 27.4 ft; casing diameter 40 in.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel. Equipped with water-level recorder from Oct. 31, 1962 to Feb. 9, 1965.
DATUM.--Elevation of land surface is 190 ft above National Geodetic Vertical Datum of 1929, from topographic map.
Measuring point: Top of steel cover, 0.10 ft above land surface.
REMARKS.--Maryland Water-Level Network observation well.
PERIOD OF RECORD.--September 1962 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 17.26 ft below land surface, July 6, 1972; lowest measured, 26.46 ft below land surface, July 8, 1981.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 07, 1996	21.39	JAN 02, 1997	19.92	APR 03, 1997	19.01	JUL 21, 1997	20.79
NOV 08	21.26	FEB 05	19.68	MAY 05	19.44	AUG 25	21.57
DEC 09	20.76	MAR 13	19.00	JUN 25	20.18	SEP 15	21.98

WATER YEAR 1997 HIGHEST 19.00 MAR 13, 1997 LOWEST 21.98 SEP 15, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

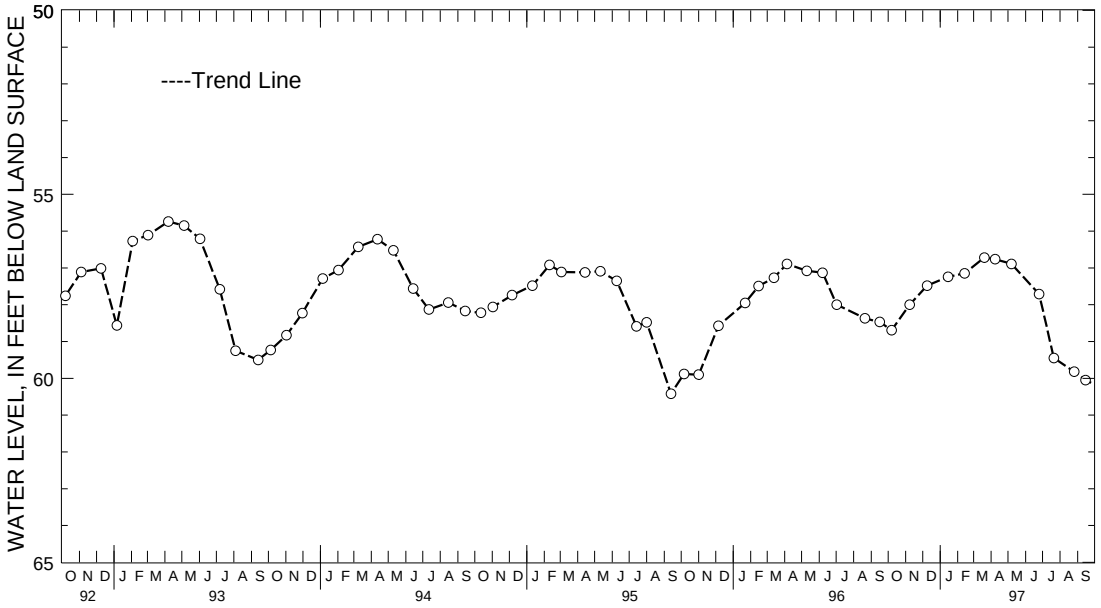
PRINCE GEORGES COUNTY

WELL NUMBER.--PG De 21. SITE ID.--385130076465501. PERMIT NUMBER.--PG-02-2875.
LOCATION.--Lat 38°51´30˝, long 76°46´55˝, Hydrologic Unit 02060006, Agricultural Experiment Station, Southern Maryland Research and Educational Facility, at Oak Grove.
Owner: University of Maryland.
AQUIFER.--Magothy Formation of Upper Cretaceous age. Aquifer code: 211MGTY.
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 155 ft; casing diameter 6 in., to 150 ft; screen diameter 6 in. from 150 to 155 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel. Equipped with graphic water-level recorder from May 26, 1958 to Jan. 27, 1965.
DATUM.--Elevation of land surface is 95.76 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 0.90 ft above land surface.
REMARKS.--Maryland Water-Level Network observation well.
PERIOD OF RECORD.--May 1958 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 38.39 ft below land surface, May 26, and 29, 1958; lowest measured, 60.42 ft below land surface, Sept. 13, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 07, 1996	58.69	JAN 15, 1997	57.24	APR 08, 1997	56.76	JUL 21, 1997	59.45
NOV 08	58.00	FEB 13	57.15	MAY 07	56.89	AUG 26	59.82
DEC 09	57.48	MAR 20	56.72	JUN 25	57.71	SEP 15	60.05

WATER YEAR 1997 HIGHEST 56.72 MAR 20, 1997 LOWEST 60.05 SEP 15, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

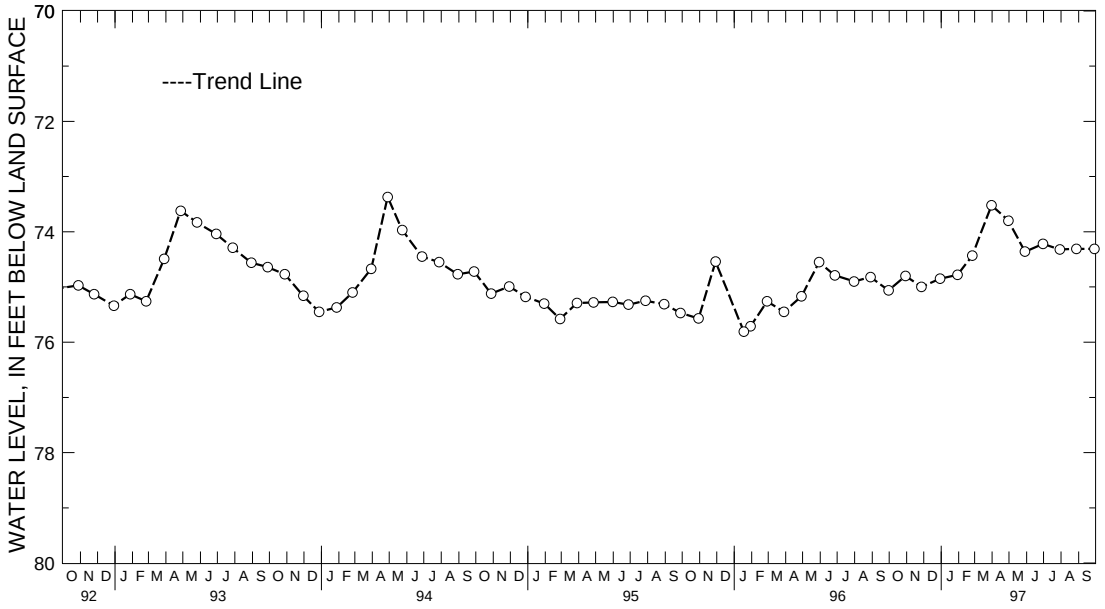
PRINCE GEORGES COUNTY--Continued

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 electric 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 67.78 ft below land surface, Sept. 7, 1990, (See Remarks); lowest measured, 75.96 ft below land surface, Nov. 19, 1951.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30, 1996	74.80	JAN 30, 1997	74.78	APR 30, 1997	73.80	JUL 30, 1997	74.32
NOV 27	75.00	FEB 25	74.43	MAY 29	74.36	AUG 28	74.31
DEC 30	74.85	MAR 31	73.52	JUN 30	74.22	SEP 29	74.31

WATER YEAR 1997 HIGHEST 73.52 MAR 31, 1997 LOWEST 75.00 NOV 27, 1996



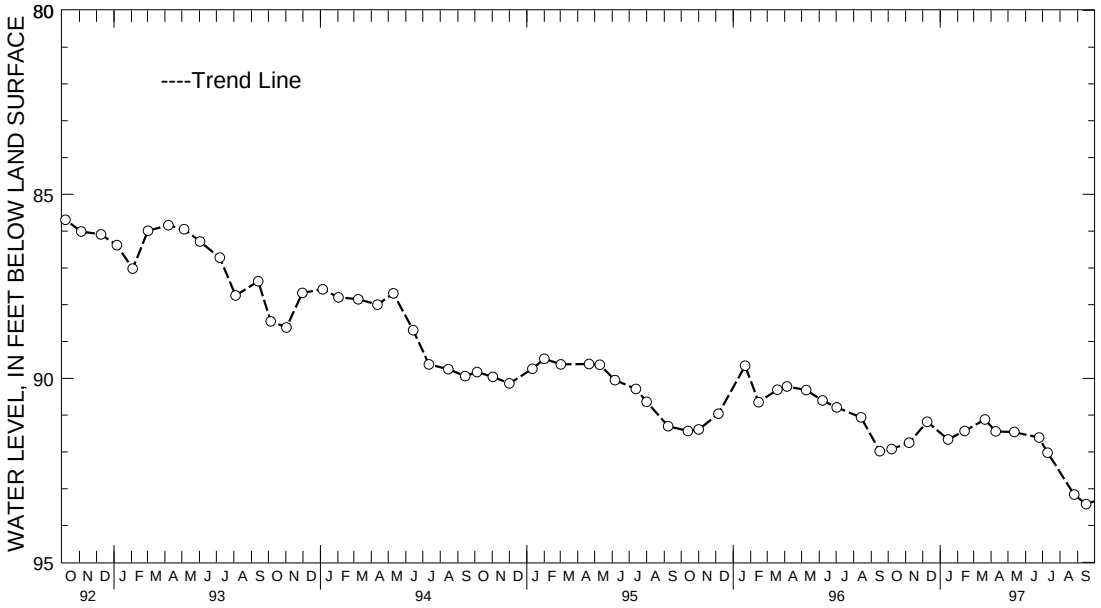
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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.--Upper Patapsco aquifer in the Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSCU.
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 electric 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 levels may be affected by nearby pumping. Highest water level reported, 62 ft below land surface, May 29, 1957;
PERIOD OF RECORD.--July 1961, March 1962 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 68.99 ft below land surface, Oct. 3, 1979; lowest measured, 93.42 ft below land surface, Sept. 16, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 07, 1996	91.92	JAN 15, 1997	91.66	APR 09, 1997	91.44	JUL 10, 1997	92.02
NOV 07	91.75	FEB 13	91.43	MAY 12	91.46	AUG 26	93.16
DEC 09	91.18	MAR 21	91.12	JUN 25	91.61	SEP 16	93.42

WATER YEAR 1997 HIGHEST 91.12 MAR 21, 1997 LOWEST 93.42 SEP 16, 1997



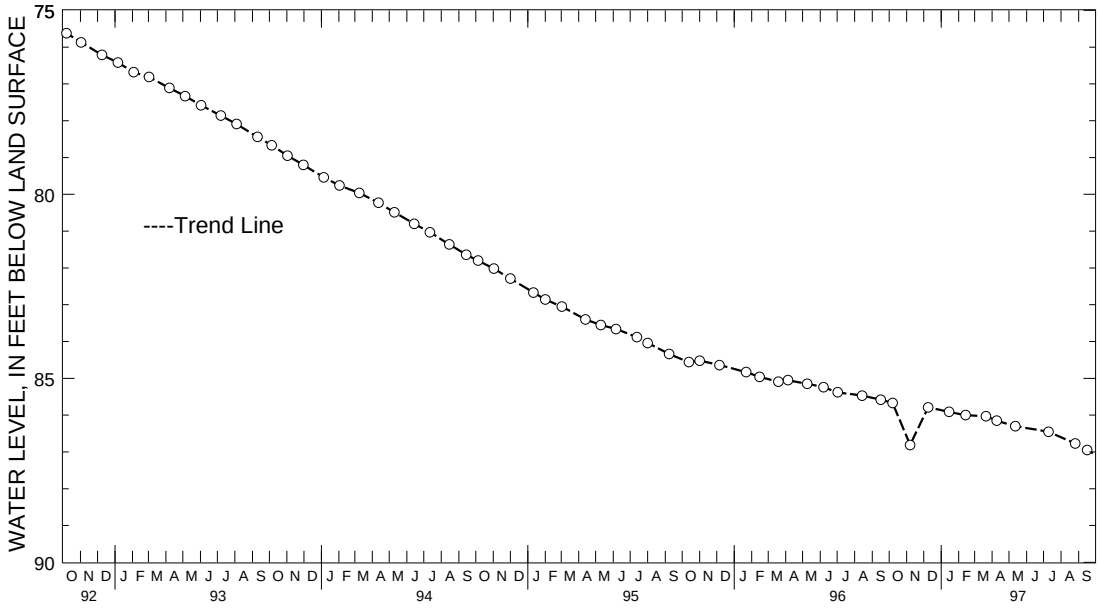
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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.--La Plata aquifer of the Patapsco Formation of Lower Cretaceous age. Aquifer code: 217LPLT.
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 750 ft; casing diameter 6 in.; casing perforated from 712 to 716 ft.
INSTRUMENTATION.--Monthly measurements with electric 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, 86.95 ft below land surface, Sept. 16, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 07, 1996	85.67	JAN 15, 1997	85.91	APR 09, 1997	86.15	AUG 26, 1997	86.77
NOV 07	86.81	FEB 13	86.00	MAY 12	86.30	SEP 16	86.95
DEC 09	85.79	MAR 21	86.03	JUL 10	86.45		

WATER YEAR 1997 HIGHEST 85.67 OCT 07, 1996 LOWEST 86.95 SEP 16, 1997



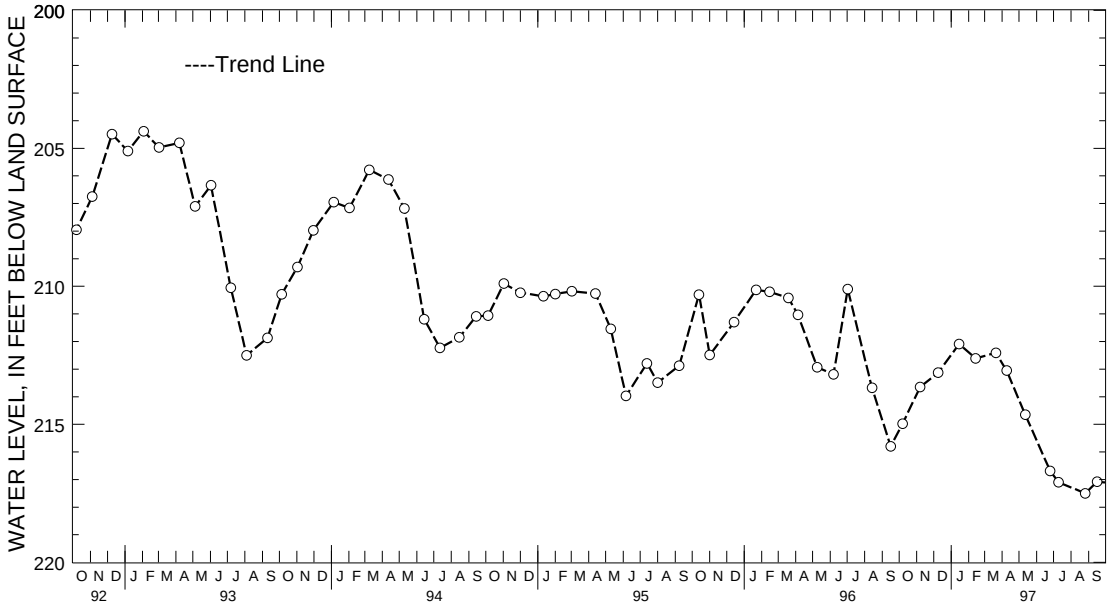
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 196.92 ft above National Geodetic Vertical Datum of 1929.
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. Water levels are affected by nearby pumping.
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, 217.50 ft below land surface, August 26, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 07, 1996	214.98	JAN 15, 1997	212.09	APR 09, 1997	213.05	JUL 10, 1997	217.10
NOV 07	213.65	FEB 13	212.61	MAY 12	214.65	AUG 26	217.50
DEC 09	213.13	MAR 21	212.41	JUN 25	216.69	SEP 16	217.08

WATER YEAR 1997 HIGHEST 212.09 JAN 15, 1997 LOWEST 217.50 AUG 26, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

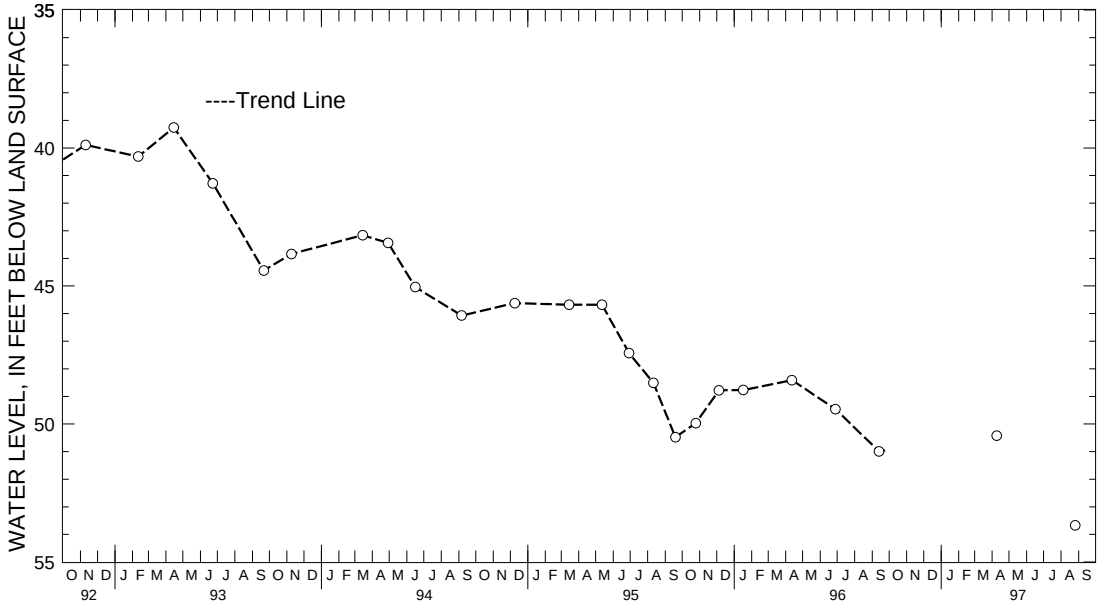
PRINCE GEORGES COUNTY--Continued

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 Edison Power Co.
AQUIFER.--Aquia Formation of Upper 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.--Periodic measurements with electric 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 Nov. 8, 1993.
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, 3.52 ft below land surface, Sept. 8, 1975; lowest measured, 53.67 ft below land surface, Aug. 26, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL
APR 09, 1997	50.42	AUG 26, 1997	53.67

WATER YEAR 1997 HIGHEST 50.42 APR 09, 1997 LOWEST 53.67 AUG 26, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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: Maryland Geological Survey.
AQUIFER.--Upper Patapsco aquifer in the Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSCU.
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.--Periodic measurements with electric 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.--Altitude 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.
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, 32.65 ft below sea level, Aug. 18, and 19, 1997.

WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
(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	-30.69	-30.98	-29.43	-29.66	-28.42	-29.02	-29.29	-29.80	-29.85	-30.18	-29.34	-29.84
2	-30.79	-31.07	-29.43	-29.65	-28.46	-29.02	-29.24	-29.43	-30.14	-30.39	-29.20	-29.52
3	-30.84	-31.21	-29.58	-29.85	-28.90	-29.15	-29.21	-29.43	-30.13	-30.48	-29.45	-29.74
4	-30.86	-31.24	-29.63	-29.83	-28.96	-29.63	-29.15	-29.52	-30.10	-30.59	-29.31	-29.63
5	-30.74	-30.97	-29.57	-29.78	-29.12	-29.76	-28.89	-29.29	-29.94	-30.32	-29.17	-29.52
6	-30.64	-30.92	-29.49	-29.81	-29.07	-29.54	-29.01	-29.43	-30.07	-30.43	-29.16	-30.11
7	-30.43	-30.73	-29.29	-29.63	-29.00	-29.41	-29.26	-29.64	-30.06	-30.43	-29.98	-30.39
8	-30.08	-30.44	-28.98	-29.33	-29.02	-29.37	-29.47	-29.85	-29.93	-30.33	-29.84	-30.28
9	-30.12	-30.48	-28.94	-29.48	-29.03	-29.64	-29.12	-29.70	-29.86	-30.30	-29.88	-30.35
10	-30.03	-30.67	-29.19	-29.56	-29.16	-29.62	-28.87	-29.28	-29.76	-30.14	-29.49	-29.95
11	-30.50	-30.77	-29.27	-29.60	-29.08	-29.40	-29.08	-29.68	-29.84	-30.21	-29.45	-29.84
12	-30.36	-30.72	-29.42	-29.74	-29.10	-29.43	-29.49	-29.84	-29.72	-30.18	-29.64	-29.96
13	-30.28	-30.65	-29.43	-29.77	-28.94	-29.38	-29.70	-30.00	-29.99	-30.31	-29.64	-29.97
14	-30.28	-30.59	-29.35	-29.66	-29.30	-29.58	-29.69	-29.98	-29.67	-30.14	-29.26	-29.87
15	-30.29	-30.66	-29.43	-29.76	-29.13	-29.58	-29.72	-29.97	-29.60	-29.88	-29.36	-29.92
16	-30.19	-30.52	-29.27	-29.62	-28.93	-29.34	-29.64	-30.13	-29.80	-30.12	-29.81	-29.99
17	-30.21	-30.54	-29.12	-29.51	-28.89	-29.20	-30.13	-30.52	-29.80	-30.28	-29.58	-29.98
18	-29.81	-30.42	-28.81	-29.31	-28.94	-29.21	-30.20	-30.56	-29.65	-30.05	-29.58	-29.93
19	-29.82	-30.11	-28.81	-29.09	-28.89	-29.19	-30.32	-30.66	-29.68	-30.02	-29.42	-29.81
20	-29.63	-29.95	-28.81	-29.11	-29.17	-29.60	-30.20	-30.53	-29.87	-30.15	-29.27	-29.52
21	-29.64	-30.03	-28.87	-29.18	-29.45	-29.93	-30.39	-30.82	-29.46	-29.97	-29.31	-29.61
22	-29.75	-30.06	-28.89	-29.40	-29.76	-30.07	-30.22	-30.67	-29.35	-29.97	-29.14	-29.79
23	-29.65	-30.01	-29.05	-29.42	-29.76	-30.09	-30.20	-30.71	-29.81	-30.12	-29.54	-29.90
24	-29.66	-30.09	-29.07	-29.40	-29.47	-29.90	-30.34	-30.79	-29.69	-30.03	-29.48	-29.93
25	-29.81	-30.21	-29.01	-29.39	-29.75	-30.15	-29.96	-30.37	-29.67	-30.03	-29.60	-29.91
26	-29.89	-30.28	-28.87	-29.44	-29.79	-30.12	-30.34	-30.77	-29.45	-29.87	-29.42	-29.93
27	-29.78	-30.23	-29.44	-29.74	-29.67	-30.03	-30.38	-30.78	-29.37	-29.65	-29.58	-29.93
28	-29.63	-30.05	-29.13	-29.66	-29.44	-29.90	-30.11	-30.54	-29.63	-29.92	-29.58	-29.88
29	-29.62	-30.02	-29.03	-29.35	-29.41	-29.66	-30.40	-30.62	---	---	-29.43	-29.77
30	-29.25	-29.81	-28.84	-29.23	-29.51	-29.79	-30.22	-30.61	---	---	-29.53	-29.79
31	-29.43	-29.75	---	---	-29.44	-29.75	-29.89	-30.35	---	---	-29.58	-30.05
MONTH	-29.25	-31.24	-28.81	-29.85	-28.42	-30.15	-28.87	-30.82	-29.35	-30.59	-29.14	-30.39

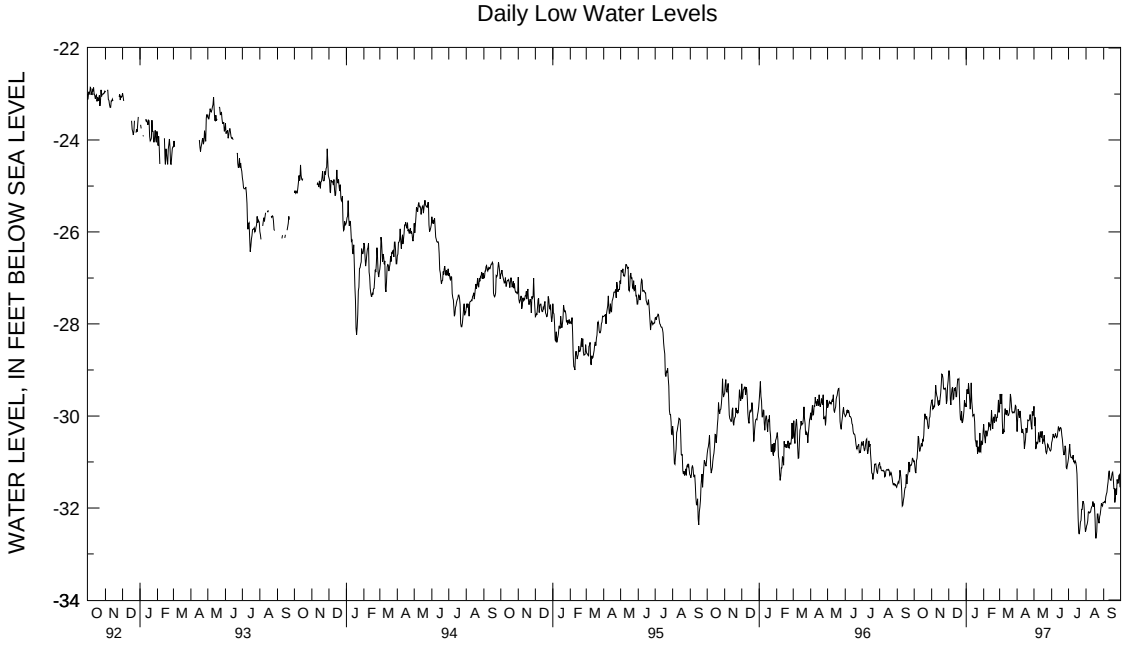
GROUND-WATER LEVELS

MARYLAND--Continued

PRINCE GEORGES COUNTY--Continued

PG Hf 40--Continued

DAY	APRIL MAX	APRIL MIN	MAY MAX	MAY MIN	JUNE MAX	JUNE MIN	JULY MAX	JULY MIN	AUGUST MAX	AUGUST MIN	SEPTEMBER MAX	SEPTEMBER MIN
1	-30.05	-30.34	-29.51	-29.79	-30.30	-30.58	-30.66	-30.91	-32.17	-32.47	-31.60	-31.88
2	-29.63	-30.07	-29.72	-30.22	-30.24	-30.53	-30.48	-30.76	-32.08	-32.39	-31.57	-31.87
3	-29.57	-29.85	-29.65	-30.03	-30.22	-30.45	-30.36	-30.61	-32.03	-32.35	-31.43	-31.86
4	-29.57	-29.95	-29.84	-30.72	-30.11	-30.39	-30.34	-30.82	-31.88	-32.28	-31.59	-31.88
5	-29.67	-30.04	-30.36	-30.68	-30.07	-30.45	-30.54	-30.90	-31.84	-32.09	-31.40	-31.76
6	-29.54	-29.89	-30.12	-30.56	-30.14	-30.47	-30.58	-30.90	-31.83	-32.08	-31.39	-31.70
7	-29.50	-30.01	-30.30	-30.61	-30.09	-30.43	-30.59	-30.90	-31.85	-32.11	-31.32	-31.66
8	-29.78	-30.16	-30.15	-30.56	-30.10	-30.38	-30.63	-30.94	-31.86	-32.10	-31.20	-31.53
9	-29.77	-30.33	-30.03	-30.36	-30.14	-30.44	-30.54	-30.85	-31.84	-32.08	-31.10	-31.43
10	-30.03	-30.37	-30.13	-30.47	-30.22	-30.47	-30.61	-30.99	-31.78	-32.01	-30.94	-31.25
11	-29.92	-30.28	-30.20	-30.57	-30.17	-30.45	-30.73	-30.98	-31.76	-31.97	-30.94	-31.19
12	-30.05	-30.37	-30.05	-30.34	-30.03	-30.35	-30.76	-31.02	-31.74	-31.96	-31.00	-31.36
13	-30.07	-30.39	-30.19	-30.45	-29.98	-30.23	-30.72	-30.98	-31.58	-31.86	-31.09	-31.39
14	-30.39	-30.71	-30.07	-30.46	-29.98	-30.27	-30.72	-31.01	-31.58	-31.97	-31.10	-31.40
15	-30.32	-30.61	-30.07	-30.33	-30.05	-30.33	-30.79	-31.10	-31.68	-31.90	-31.00	-31.33
16	-30.05	-30.50	-30.18	-30.60	-30.00	-30.26	-30.84	-31.26	-31.59	-31.95	-30.91	-31.24
17	-29.98	-30.26	-30.30	-30.51	-29.97	-30.25	-31.11	-31.72	-31.69	-32.22	-30.86	-31.22
18	-30.11	-30.37	-30.30	-30.55	-29.97	-30.28	-31.54	-32.22	-31.94	-32.65	-30.83	-31.36
19	-30.09	-30.33	-30.20	-30.42	-29.97	-30.42	-32.00	-32.54	-32.17	-32.65	-31.18	-31.58
20	-29.80	-30.09	-30.20	-30.59	-30.09	-30.51	-32.17	-32.57	-31.80	-32.51	-31.22	-31.58
21	-29.76	-30.10	-30.35	-30.64	-30.24	-30.67	-31.99	-32.45	-31.77	-32.13	-31.53	-31.88
22	-29.82	-30.10	-30.41	-30.78	-30.36	-30.77	-31.91	-32.30	-31.85	-32.13	-31.40	-31.78
23	-29.69	-30.06	-30.50	-30.81	-30.50	-30.85	-31.78	-32.27	-31.95	-32.28	-31.34	-31.58
24	-29.61	-29.97	-30.36	-30.76	-30.41	-30.81	-31.75	-32.03	-31.99	-32.33	-31.30	-31.71
25	-29.65	-30.09	-30.25	-30.61	-30.32	-30.65	-31.62	-32.03	-31.92	-32.19	-31.05	-31.38
26	-29.87	-30.23	-30.27	-30.63	-30.38	-30.70	-31.59	-31.86	-31.86	-32.14	-31.03	-31.46
27	-29.85	-30.29	-30.33	-30.69	-30.55	-31.12	-31.58	-31.86	-31.77	-32.03	-31.24	-31.46
28	-29.51	-29.90	-30.41	-30.70	-30.83	-31.14	-31.58	-31.92	-31.69	-31.90	-30.98	-31.30
29	-29.73	-29.98	-30.50	-30.75	-30.79	-31.07	-31.67	-32.05	-31.66	-31.94	-30.87	-31.28
30	-29.66	-29.98	-30.48	-30.76	-30.74	-31.00	-31.83	-32.36	-31.74	-31.96	-31.06	-31.55
31	---	---	-30.40	-30.73	---	---	-32.10	-32.52	-31.63	-31.88	---	---
MONTH	-29.50	-30.71	-29.51	-30.81	-29.97	-31.14	-30.34	-32.57	-31.58	-32.65	-30.83	-31.88
YEAR	-28.42	-32.65										



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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: Maryland Geological Survey.
AQUIFER.--Magothy Formation of Upper Cretaceous age. Aquifer code: 211MGTY.
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 667 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.--Periodic measurements with electric 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.--Altitude 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.
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, 44.51 ft below sea level, Sept. 13, 1997.

WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
(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	-40.49	-40.90	-38.15	-38.52	-35.37	-35.88	-37.25	-37.96	-39.60	-39.96	-37.93	-38.49
2	-40.38	-40.74	-38.18	-38.48	-35.41	-36.26	-37.15	-37.43	-39.80	-40.19	-37.79	-38.16
3	-40.26	-40.74	-38.19	-38.57	-36.23	-36.55	-37.06	-37.38	-39.76	-40.14	-38.08	-38.50
4	-40.21	-40.78	-38.11	-38.39	-36.24	-36.81	-37.01	-37.52	-39.81	-40.31	-37.89	-38.31
5	-40.12	-40.37	-38.06	-38.37	-36.22	-36.92	-36.69	-37.14	-39.47	-39.93	-37.63	-38.13
6	-40.12	-40.42	-38.14	-38.46	-36.16	-36.90	-36.81	-37.30	-39.38	-39.86	-37.59	-38.56
7	-39.89	-40.22	-37.78	-38.22	-36.35	-36.84	-37.03	-37.50	-39.18	-39.65	-38.44	-39.42
8	-39.55	-39.93	-37.27	-37.78	-36.50	-36.96	-37.31	-37.84	-38.91	-39.51	-38.87	-39.33
9	-39.55	-40.02	-37.24	-37.79	-36.46	-37.17	-37.17	-37.77	-38.67	-39.30	-38.83	-39.46
10	-39.38	-40.27	-37.23	-37.76	-36.61	-37.15	-36.96	-37.50	-38.45	-38.98	-38.17	-38.90
11	-40.05	-40.41	-37.15	-37.61	-36.57	-37.19	-37.31	-38.07	-38.55	-38.99	-37.97	-38.52
12	-39.79	-40.32	-37.10	-37.57	-36.90	-37.31	-37.84	-38.23	-38.40	-38.96	-38.18	-38.69
13	-39.66	-40.10	-36.94	-37.42	-36.89	-37.35	-38.17	-38.55	-38.62	-39.04	-38.54	-38.95
14	-39.71	-40.14	-36.87	-37.27	-37.35	-37.84	-38.28	-38.63	-38.29	-38.88	-38.25	-38.89
15	-39.80	-40.29	-36.76	-37.24	-37.15	-37.79	-38.06	-38.57	-38.20	-38.58	-38.37	-39.13
16	-39.69	-40.07	-36.49	-36.95	-36.93	-37.42	-37.88	-38.55	-38.47	-38.93	-38.80	-39.14
17	-39.54	-40.06	-36.17	-36.78	-36.75	-37.26	-38.55	-39.12	-38.63	-39.15	-38.50	-38.98
18	-38.80	-39.75	-35.74	-36.38	-36.65	-37.06	-38.85	-39.42	-38.32	-38.88	-38.50	-38.90
19	-38.87	-39.25	-35.60	-36.04	-36.53	-36.91	-39.09	-39.66	-38.45	-39.02	-38.42	-38.81
20	-38.66	-39.08	-35.58	-35.97	-36.88	-37.53	-38.95	-39.41	-38.83	-39.16	-38.30	-38.65
21	-38.66	-39.22	-35.70	-36.11	-37.36	-38.02	-39.30	-39.94	-38.29	-38.97	-38.45	-38.85
22	-38.88	-39.24	-35.75	-36.45	-37.77	-38.13	-39.38	-39.85	-38.09	-38.77	-38.36	-39.12
23	-38.75	-39.19	-36.07	-36.54	-37.81	-38.19	-39.45	-40.16	-38.60	-39.00	-38.80	-39.24
24	-38.81	-39.41	-35.93	-36.37	-37.80	-38.29	-39.77	-40.28	-38.48	-38.87	-38.66	-39.12
25	-39.01	-39.43	-35.78	-36.28	-38.26	-38.80	-39.26	-39.83	-38.38	-38.80	-38.69	-39.10
26	-38.86	-39.38	-35.69	-36.37	-38.31	-38.76	-39.70	-40.23	-38.08	-38.60	-38.46	-38.99
27	-38.65	-39.23	-36.37	-36.82	-38.04	-38.59	-39.74	-40.24	-38.05	-38.36	-38.66	-39.02
28	-38.44	-38.98	-35.95	-36.66	-37.77	-38.30	-39.46	-39.94	-38.22	-38.59	-38.79	-39.17
29	-38.37	-38.87	-35.78	-36.19	-37.77	-38.07	-39.81	-40.11	---	---	-38.43	-39.01
30	-37.92	-38.60	-35.62	-36.05	-37.83	-38.17	-39.86	-40.19	---	---	-38.30	-38.73
31	-38.10	-38.51	---	---	-37.60	-38.02	-39.61	-40.06	---	---	-38.30	-38.87
MONTH	-37.92	-40.90	-35.58	-38.57	-35.37	-38.80	-36.69	-40.28	-38.05	-40.31	-37.59	-39.46

GROUND-WATER LEVELS

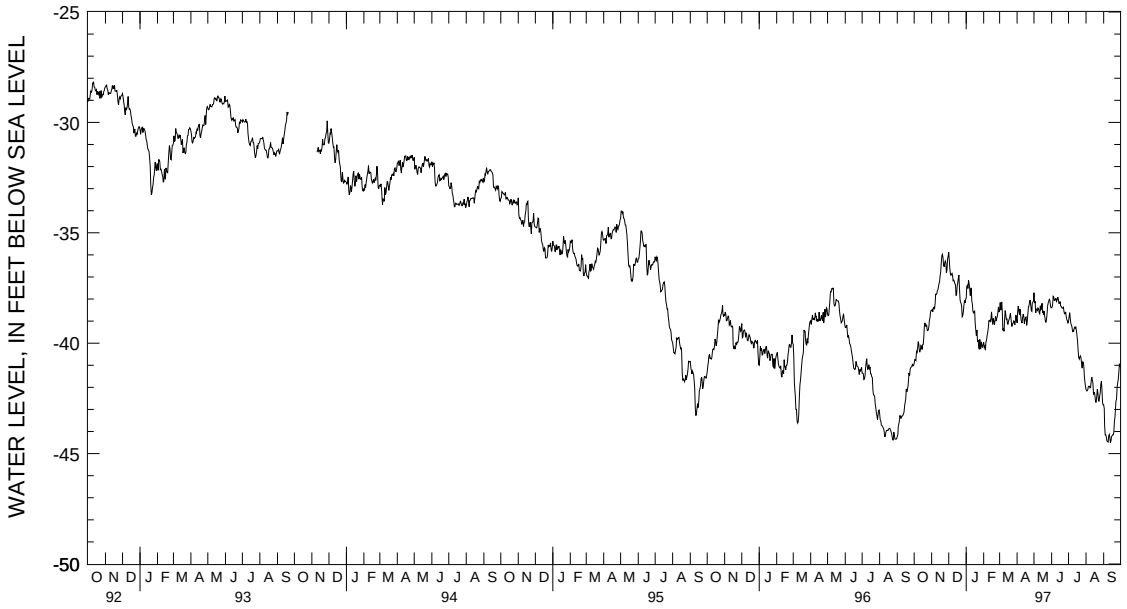
MARYLAND--Continued

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	-38.59	-39.08	-37.34	-37.71	-37.98	-38.38	-38.72	-39.02	-41.60	-42.10	-42.41	-42.79
2	-37.99	-38.59	-37.53	-38.18	-37.99	-38.36	-38.42	-38.79	-41.75	-42.16	-42.49	-42.97
3	-37.97	-38.31	-37.71	-38.10	-37.77	-38.16	-38.27	-38.62	-41.79	-42.16	-42.76	-43.75
4	-37.96	-38.52	-37.89	-38.63	-37.56	-37.88	-38.31	-38.88	-41.69	-42.11	-43.75	-44.16
5	-38.22	-38.70	-38.06	-38.47	-37.39	-37.91	-38.59	-39.11	-41.61	-41.97	-43.80	-44.16
6	-38.03	-38.45	-37.84	-38.45	-37.59	-38.06	-38.76	-39.17	-41.59	-41.95	-43.88	-44.25
7	-38.00	-38.68	-38.10	-38.51	-37.68	-38.07	-38.86	-39.27	-41.60	-41.96	-44.07	-44.43
8	-38.44	-38.96	-37.99	-38.41	-37.60	-37.98	-39.08	-39.46	-41.68	-42.03	-44.11	-44.46
9	-38.48	-39.04	-37.95	-38.44	-37.64	-37.98	-39.06	-39.43	-41.56	-42.00	-44.05	-44.48
10	-38.58	-39.09	-38.23	-38.62	-37.77	-38.10	-39.10	-39.49	-41.23	-41.71	-43.78	-44.22
11	-38.36	-38.82	-38.13	-38.67	-37.65	-38.03	-38.86	-39.35	-41.23	-41.54	-43.78	-44.14
12	-38.33	-38.68	-37.94	-38.30	-37.64	-37.91	-38.88	-39.28	-41.26	-41.67	-43.88	-44.26
13	-38.40	-38.78	-38.10	-38.48	-37.64	-38.00	-38.97	-39.31	-41.40	-41.82	-43.96	-44.51
14	-38.69	-39.11	-37.89	-38.43	-37.80	-38.20	-38.97	-39.27	-41.58	-42.32	-44.02	-44.42
15	-38.66	-38.96	-37.88	-38.19	-37.85	-38.19	-39.00	-39.44	-41.97	-42.27	-43.82	-44.23
16	-38.40	-38.84	-38.04	-38.62	-37.78	-38.11	-39.14	-39.65	-41.82	-42.23	-43.69	-44.19
17	-38.31	-38.82	-38.27	-38.57	-37.83	-38.31	-39.39	-39.93	-41.86	-42.41	-43.71	-44.15
18	-38.73	-39.19	-38.32	-38.70	-37.99	-38.34	-39.66	-40.32	-42.02	-42.67	-43.65	-44.15
19	-38.69	-39.02	-38.26	-38.54	-37.90	-38.40	-39.98	-40.65	-42.06	-42.67	-43.27	-44.02
20	-38.15	-38.69	-38.19	-38.79	-38.03	-38.42	-40.27	-40.72	-41.51	-42.39	-42.84	-43.52
21	-38.03	-38.35	-38.56	-38.97	-37.98	-38.41	-40.09	-40.62	-41.52	-42.08	-42.92	-43.42
22	-37.82	-38.31	-38.66	-39.06	-37.92	-38.35	-40.07	-40.57	-41.86	-42.26	-42.42	-43.05
23	-37.69	-38.12	-38.41	-38.95	-38.10	-38.56	-40.30	-40.67	-42.12	-42.61	-42.21	-42.61
24	-37.57	-38.05	-38.04	-38.68	-38.27	-38.67	-40.52	-40.95	-42.17	-42.63	-41.99	-42.55
25	-37.68	-38.27	-37.78	-38.31	-38.24	-38.64	-40.60	-41.13	-42.02	-42.39	-41.50	-42.01
26	-38.08	-38.52	-37.73	-38.18	-38.21	-38.58	-40.51	-40.84	-41.72	-42.25	-41.44	-41.79
27	-38.10	-38.56	-37.67	-38.09	-38.27	-38.80	-40.51	-40.88	-41.56	-41.87	-41.33	-41.64
28	-37.70	-38.18	-37.64	-38.02	-38.46	-38.94	-40.55	-41.09	-41.41	-41.72	-40.79	-41.33
29	-37.84	-38.15	-37.67	-38.08	-38.60	-38.98	-40.78	-41.46	-41.41	-42.11	-40.59	-40.93
30	-37.59	-38.10	-37.86	-38.32	-38.63	-39.08	-41.19	-41.73	-41.96	-42.68	-40.58	-41.07
31	---	---	-38.01	-38.40	---	---	-41.39	-41.94	-42.42	-42.79	---	---
MONTH	-37.57	-39.19	-37.34	-39.06	-37.39	-39.08	-38.27	-41.94	-41.23	-42.79	-40.58	-44.51
YEAR	-35.37	-44.51										

Daily Low Water Levels



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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: Maryland Geological Survey.
AQUIFER.--Aquia Formation of Upper Paleocene 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.--Periodic measurements with electric 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.--Altitude 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. Water levels affected by nearby pumping.
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, 40.51 ft below sea level, Sept. 4, 1997.

WATER LEVEL, IN FEET ABOVE SEA LEVEL, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
(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	-37.32	-37.76	-36.81	-37.10	-36.54	-37.21	-36.85	-37.36	-36.72	-37.10	-36.70	-37.28
2	-37.13	-37.56	-36.83	-37.10	-36.57	-37.22	-36.83	-37.04	-37.08	-37.30	-36.48	-36.83
3	-37.19	-37.61	-37.01	-37.43	-36.98	-37.34	-36.86	-37.05	-37.08	-37.39	-36.75	-37.08
4	-37.29	-37.76	-37.20	-37.44	-36.98	-37.38	-36.74	-37.16	-37.06	-37.51	-36.61	-36.94
5	-37.27	-37.44	-37.25	-37.43	-36.77	-37.43	-36.44	-36.83	-36.77	-37.22	-36.41	-36.82
6	-37.26	-37.44	-37.20	-37.51	-36.69	-37.27	-36.57	-37.11	-36.99	-37.42	-36.35	-37.24
7	-37.11	-37.33	-36.89	-37.26	-36.69	-37.17	-36.88	-37.37	-37.09	-37.44	-37.07	-37.45
8	-36.68	-37.11	-36.49	-36.94	-36.69	-37.12	-37.25	-37.68	-37.01	-37.39	-36.89	-37.37
9	-36.88	-37.25	-36.49	-37.19	-36.69	-37.50	-36.89	-37.60	-36.99	-37.41	-36.93	-37.40
10	-36.69	-37.50	-36.91	-37.27	-36.98	-37.50	-36.58	-36.96	-36.91	-37.29	-36.51	-37.02
11	-37.32	-37.66	-37.07	-37.40	-36.88	-37.27	-36.71	-37.43	-37.08	-37.42	-36.53	-37.03
12	-37.21	-37.59	-37.26	-37.63	-36.93	-37.29	-37.26	-37.61	-36.94	-37.40	-36.87	-37.19
13	-37.13	-37.51	-37.29	-37.74	-36.76	-37.24	-37.50	-37.86	-37.16	-37.58	-36.86	-37.18
14	-37.16	-37.49	-37.26	-37.56	-37.14	-37.52	-37.35	-37.79	-36.93	-37.38	-36.38	-37.13
15	-37.21	-37.61	-37.34	-37.80	-37.05	-37.52	-36.90	-37.53	-36.88	-37.19	-36.44	-37.19
16	-37.17	-37.43	-37.21	-37.55	-36.73	-37.21	-36.59	-37.05	-37.11	-37.43	-37.07	-37.26
17	-37.21	-37.53	-37.11	-37.43	-36.70	-37.02	-37.05	-37.60	-37.16	-37.76	-36.78	-37.26
18	-36.79	-37.43	-36.71	-37.26	-36.75	-37.13	-37.29	-37.75	-37.01	-37.52	-36.78	-37.20
19	-36.84	-37.22	-36.71	-37.10	-36.79	-37.15	-37.25	-37.87	-37.10	-37.45	-36.66	-37.11
20	-36.68	-37.02	-36.76	-37.13	-37.11	-37.63	-36.97	-37.29	-37.30	-37.62	-36.41	-36.72
21	-36.68	-37.18	-36.89	-37.24	-37.45	-37.83	-37.20	-37.74	-36.75	-37.41	-36.49	-36.83
22	-36.88	-37.22	-36.95	-37.54	-37.27	-37.63	-37.07	-37.60	-36.60	-37.34	-36.27	-37.06
23	-36.74	-37.19	-37.13	-37.55	-37.12	-37.44	-36.98	-37.54	-37.22	-37.56	-36.85	-37.23
24	-36.76	-37.27	-37.09	-37.45	-36.75	-37.28	-37.14	-37.63	-37.13	-37.45	-36.69	-37.16
25	-36.95	-37.37	-37.07	-37.45	-37.10	-37.55	-36.67	-37.17	-37.14	-37.44	-36.73	-37.15
26	-37.10	-37.45	-36.88	-37.44	-37.19	-37.51	-37.12	-37.69	-36.86	-37.27	-36.50	-37.14
27	-37.03	-37.45	-37.44	-37.94	-37.14	-37.44	-37.29	-37.74	-36.77	-37.06	-36.69	-37.14
28	-36.89	-37.30	-37.27	-37.87	-36.87	-37.32	-37.07	-37.43	-37.06	-37.37	-36.64	-37.00
29	-36.95	-37.34	-37.20	-37.50	-36.82	-37.11	-37.40	-37.63	---	---	-36.37	-36.81
30	-36.54	-37.17	-37.07	-37.39	-37.02	-37.29	-37.20	-37.62	---	---	-36.48	-36.76
31	-36.78	-37.19	---	---	-36.98	-37.29	-36.78	-37.30	---	---	-36.53	-37.16
MONTH	-36.54	-37.76	-36.49	-37.94	-36.54	-37.83	-36.44	-37.87	-36.60	-37.76	-36.27	-37.45

GROUND-WATER LEVELS

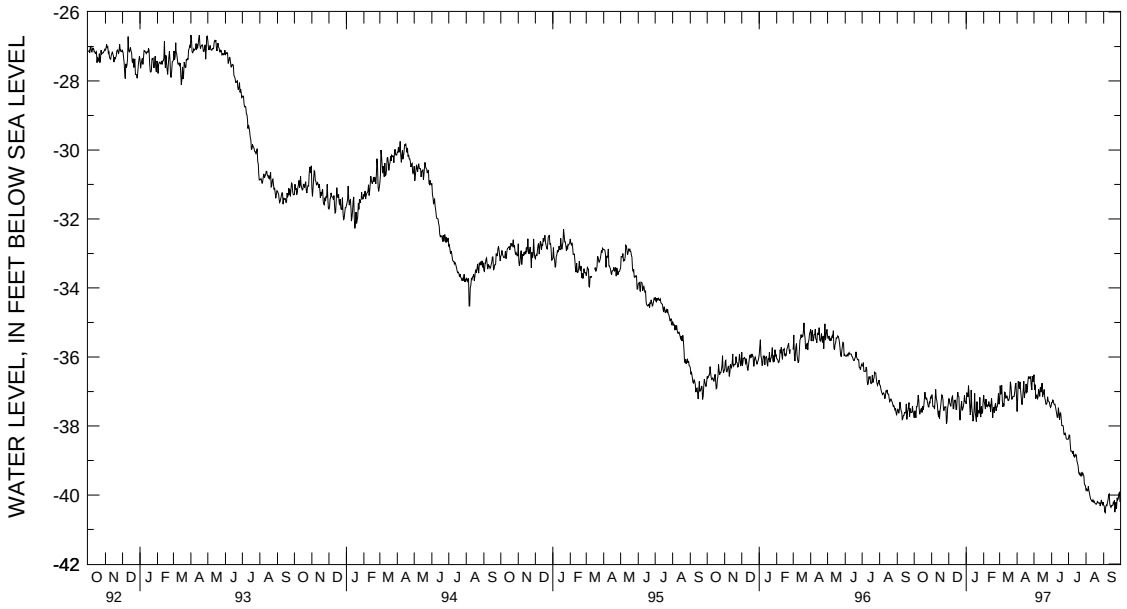
MARYLAND--Continued

PRINCE GEORGES COUNTY--Continued

PG Hf 42--Continued

DAY	APRIL MAX	APRIL MIN	MAY MAX	MAY MIN	JUNE MAX	JUNE MIN	JULY MAX	JULY MIN	AUGUST MAX	AUGUST MIN	SEPTEMBER MAX	SEPTEMBER MIN
1	-37.16	-37.58	-36.23	-36.51	-37.08	-37.32	-38.08	-38.36	-39.44	-39.86	-39.92	-40.30
2	-36.49	-37.22	-36.45	-36.94	-37.01	-37.32	-37.99	-38.26	-39.44	-39.83	-40.03	-40.32
3	-36.38	-36.70	-36.39	-36.80	-36.98	-37.25	-37.93	-38.27	-39.45	-39.88	-39.96	-40.48
4	-36.37	-36.82	-36.50	-37.21	-36.89	-37.26	-38.00	-38.54	-39.44	-39.88	-40.19	-40.51
5	-36.50	-36.92	-36.74	-37.13	-36.93	-37.35	-38.26	-38.73	-39.44	-39.75	-40.01	-40.33
6	-36.34	-36.72	-36.50	-37.10	-37.08	-37.38	-38.35	-38.73	-39.46	-39.87	-40.02	-40.29
7	-36.29	-36.94	-36.87	-37.21	-37.07	-37.37	-38.42	-38.74	-39.61	-39.95	-40.04	-40.31
8	-36.69	-37.13	-36.72	-37.17	-37.13	-37.44	-38.53	-38.80	-39.79	-40.04	-39.93	-40.21
9	-36.71	-37.33	-36.55	-36.94	-37.26	-37.54	-38.39	-38.72	-39.88	-40.12	-39.83	-40.13
10	-37.01	-37.38	-36.68	-37.03	-37.35	-37.64	-38.51	-38.86	-40.00	-40.14	-39.68	-39.99
11	-36.71	-37.18	-36.78	-37.14	-37.41	-37.75	-38.61	-38.84	-40.01	-40.18	-39.67	-39.97
12	-36.41	-36.93	-36.54	-36.88	-37.29	-37.75	-38.61	-38.90	-40.03	-40.19	-39.78	-40.27
13	-36.34	-36.70	-36.68	-36.99	-37.27	-37.47	-38.70	-38.87	-40.00	-40.14	-39.98	-40.33
14	-36.70	-37.18	-36.55	-37.00	-37.28	-37.61	-38.63	-38.83	-39.91	-40.20	-40.04	-40.36
15	-36.77	-37.04	-36.53	-36.76	-37.38	-37.82	-38.64	-38.86	-40.01	-40.18	-39.97	-40.30
16	-36.58	-37.00	-36.69	-37.16	-37.36	-37.64	-38.65	-39.02	-39.99	-40.21	-39.93	-40.31
17	-36.46	-36.78	-36.76	-37.02	-37.32	-37.62	-38.79	-39.09	-40.06	-40.24	-39.89	-40.31
18	-36.67	-37.03	-36.75	-37.06	-37.34	-37.79	-38.78	-39.16	-40.15	-40.26	-39.84	-40.22
19	-36.71	-37.00	-36.68	-36.94	-37.46	-37.99	-38.80	-39.35	-40.18	-40.27	-39.85	-40.25
20	-36.24	-36.73	-36.68	-37.18	-37.73	-37.99	-38.88	-39.40	-39.89	-40.25	-39.77	-40.15
21	-36.18	-36.57	-36.91	-37.25	-37.59	-37.99	-38.89	-39.36	-39.86	-40.19	-40.02	-40.50
22	-36.27	-36.62	-37.00	-37.37	-37.54	-38.04	-39.06	-39.43	-40.02	-40.21	-40.02	-40.36
23	-36.23	-36.62	-37.10	-37.37	-37.89	-38.24	-38.97	-39.45	-40.13	-40.23	-39.97	-40.21
24	-36.12	-36.56	-36.89	-37.33	-37.94	-38.25	-38.97	-39.35	-40.19	-40.24	-40.04	-40.40
25	-36.21	-36.64	-36.73	-37.15	-37.90	-38.21	-38.95	-39.42	-40.17	-40.23	-39.73	-40.08
26	-36.47	-36.85	-36.79	-37.27	-37.95	-38.26	-38.93	-39.36	-40.07	-40.32	-39.68	-40.14
27	-36.51	-36.95	-36.93	-37.29	-38.00	-38.37	-39.07	-39.41	-40.00	-40.23	-39.89	-40.11
28	-36.19	-36.55	-37.03	-37.31	-38.07	-38.38	-39.10	-39.45	-39.87	-40.14	-39.54	-39.96
29	-36.37	-36.70	-37.13	-37.41	-38.04	-38.38	-39.28	-39.65	-39.84	-40.24	-39.43	-39.93
30	-36.38	-36.70	-37.18	-37.46	-38.08	-38.39	-39.42	-39.72	-39.98	-40.28	-39.66	-40.20
31	---	---	-37.18	-37.43	---	---	-39.42	-39.73	-39.90	-40.21	---	---
MONTH	-36.12	-37.58	-36.23	-37.46	-36.89	-38.39	-37.93	-39.73	-39.44	-40.32	-39.43	-40.51
YEAR	-36.12	-40.51										

Daily Low Water Levels



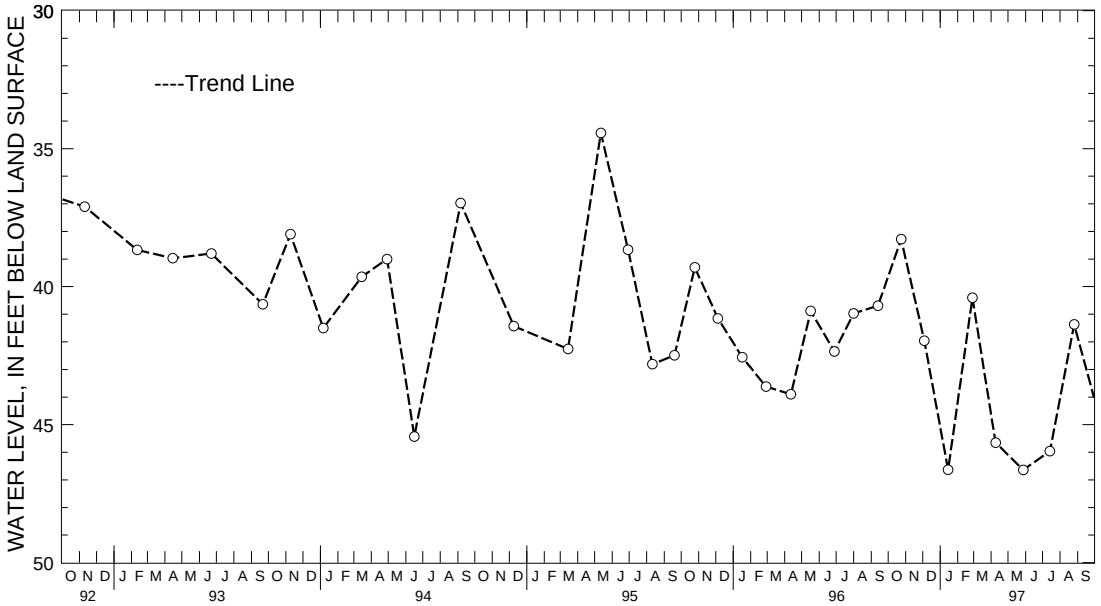
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--PG Hf 44. SITE ID.--383250076405304. PERMIT NUMBER.--PG-73-0065.
LOCATION.--Lat 38°32´50˝, long 76°40´53˝, Hydrologic Unit 02060006, at Chalk Point Power Plant, on east side of canal.
Owner: Potomac Edison Power Co.
AQUIFER.--Upper Patapsco aquifer in the Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSCU.
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 1,030 ft; casing diameter 3 in., to 1,025 ft; screen diameter 3 in. from 1,025 to 1,030 ft.
INSTRUMENTATION.--Periodic measurements with electric tape by U.S. Geological Survey personnel.
Equipped with transducer water-level recorder--15-minute recorder interval from June 1995 to current year.
DATUM.--Elevation of land surface is 10.48 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of casing, 5 ft above land surface.
REMARKS.--Southern Maryland Observation Well Network. Water levels affected by nearby pumping. This well has a 1 in. diameter well inside the 3 in. casing seperated by a packer screened in the Lower Patapsco Formation as well PG Hf 32.
PERIOD OF RECORD.--June 1973, July 1975 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.37 ft above land surface, June 24, 1973; lowest measured, 46.64 ft below land surface, May 28, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24, 1996	38.28	JAN 15, 1997	46.63	APR 09, 1997	45.65	JUL 14, 1997	45.96
DEC 04	41.96	FEB 27	40.40	MAY 28	46.64	AUG 26	41.37

WATER YEAR 1997 HIGHEST 38.28 OCT 24, 1996 LOWEST 46.64 MAY 28, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

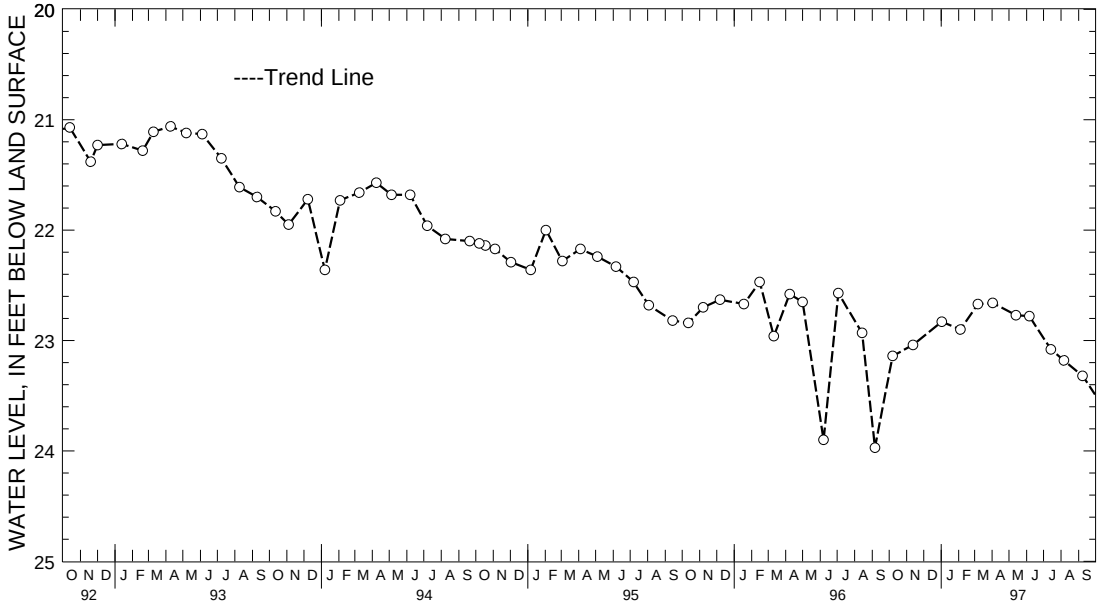
QUEEN ANNES COUNTY

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 electric 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, 23.97 ft below land surface, Sept. 6, 1996.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 07, 1996	23.14	FEB 04, 1997	22.90	MAY 13, 1997	22.77	AUG 06, 1997	23.18
NOV 12	23.04	MAR 07	22.67	JUN 06	22.78	SEP 08	23.32
JAN 02, 1997	22.83	APR 02	22.66	JUL 14	23.08		

WATER YEAR 1997 HIGHEST 22.66 APR 02, 1997 LOWEST 23.32 SEP 08, 1997



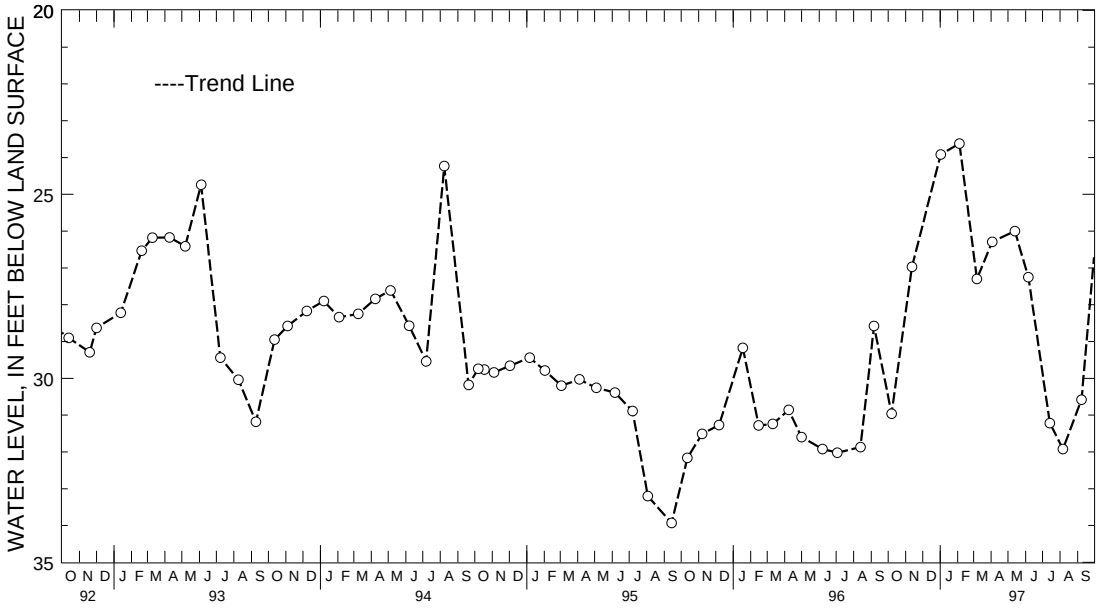
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 electric 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, 33.93 ft below land surface, Sept. 14, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 07, 1996	30.96	FEB 04, 1997	23.62	MAY 13, 1997	26.00	AUG 06, 1997	31.92
NOV 12	26.97	MAR 07	27.30	JUN 06	27.25	SEP 08	30.58
JAN 02, 1997	23.92	APR 03	26.29	JUL 14	31.22		

WATER YEAR 1997 HIGHEST 23.62 FEB 04, 1997 LOWEST 31.92 AUG 06, 1997



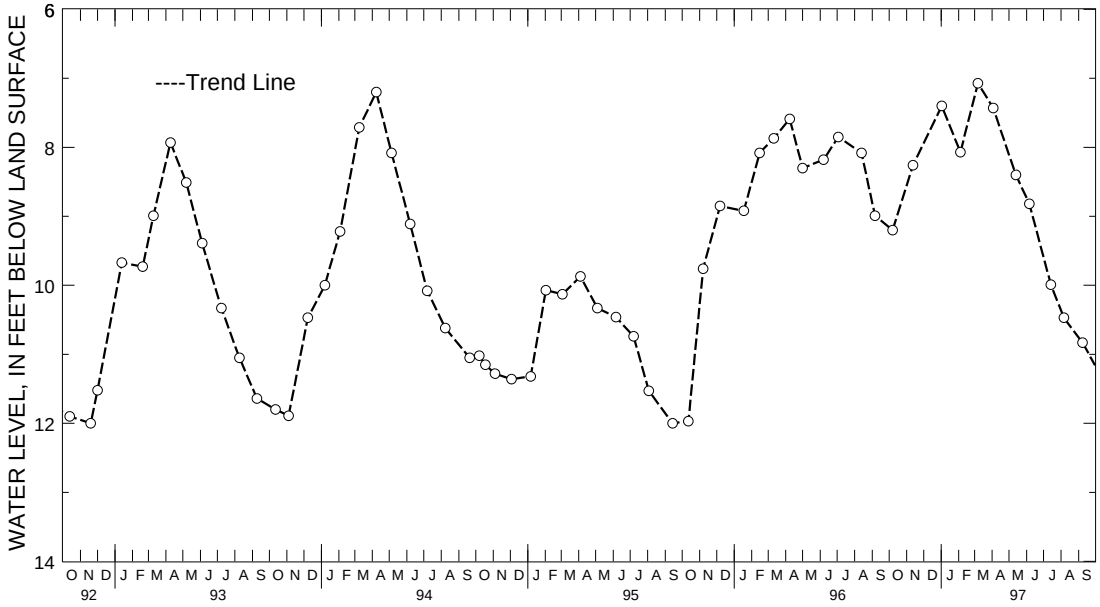
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 electric 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 07, 1996	9.20	FEB 04, 1997	8.07	MAY 13, 1997	8.40	AUG 06, 1997	10.47
NOV 12	8.26	MAR 07	7.07	JUN 06	8.82	SEP 08	10.83
JAN 02, 1997	7.40	APR 03	7.43	JUL 14	9.99		

WATER YEAR 1997 HIGHEST 7.07 MAR 07, 1997 LOWEST 10.83 SEP 08, 1997



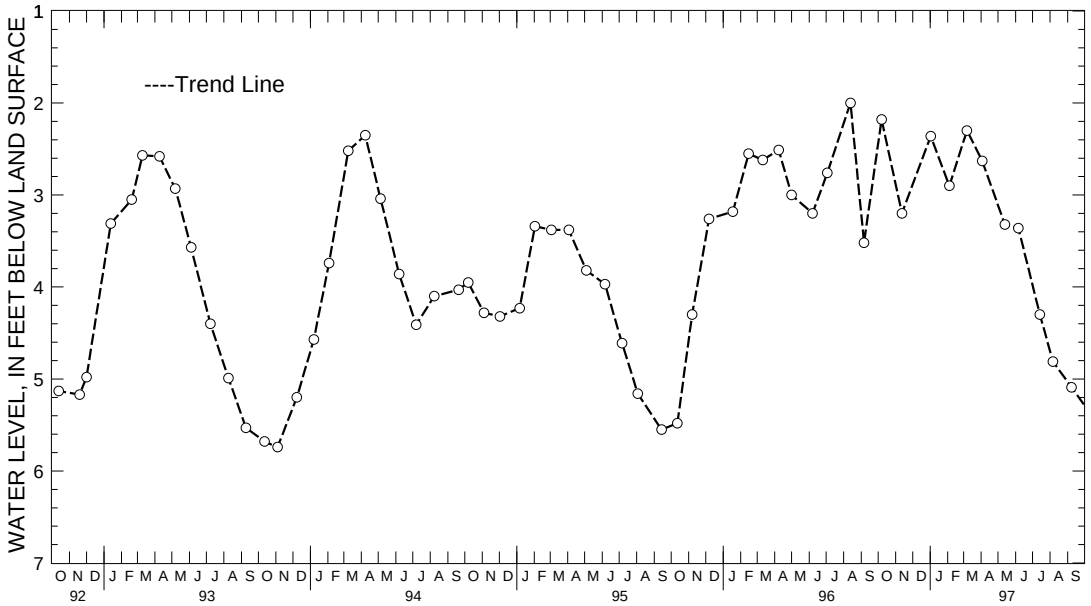
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 Upper 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 electric 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 07, 1996	2.18	FEB 04, 1997	2.90	MAY 13, 1997	3.32	AUG 06, 1997	4.81
NOV 12	3.20	MAR 07	2.30	JUN 06	3.36	SEP 08	5.09
JAN 02, 1997	2.36	APR 03	2.63	JUL 14	4.30		

WATER YEAR 1997 HIGHEST 2.18 OCT 07, 1996 LOWEST 5.09 SEP 08, 1997



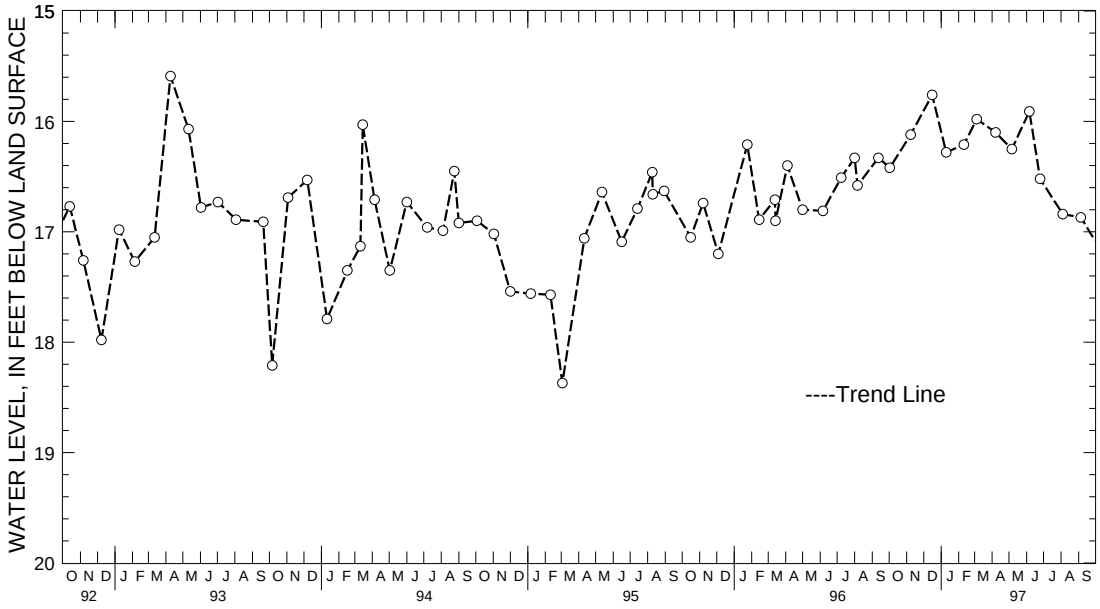
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--QA Db 30. SITE ID.--390201076182701. 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 220 ft; casing diameter 4 in., to 210 ft; screen diameter 4 in. from 210 to 220 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 17.80 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Top of casing, 2.40 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, 15.59 ft below land surface, April 9, 1993; lowest measured, 18.37 ft below land surface, March 3, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1996	16.42	JAN 10, 1997	16.28	APR 07, 1997	16.10	JUN 25, 1997	16.52
NOV 08	16.12	FEB 10	16.21	MAY 06	16.25	AUG 04	16.84
DEC 16	15.76	MAR 05	15.98	JUN 06	15.91	SEP 05	16.87

WATER YEAR 1997 HIGHEST 15.76 DEC 16, 1996 LOWEST 16.87 SEP 05, 1997



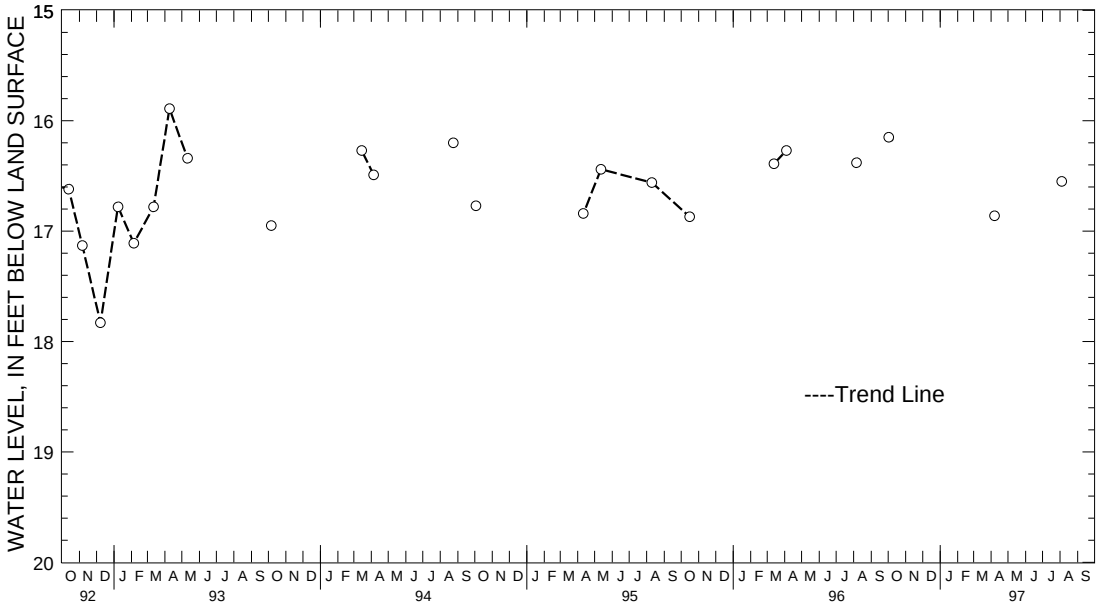
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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.--Twice yearly measurements with electric 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1996	16.15	APR 07, 1997	16.86	AUG 04, 1997	16.55

WATER YEAR 1997 HIGHEST 16.15 OCT 02, 1996 LOWEST 16.86 APR 07, 1997



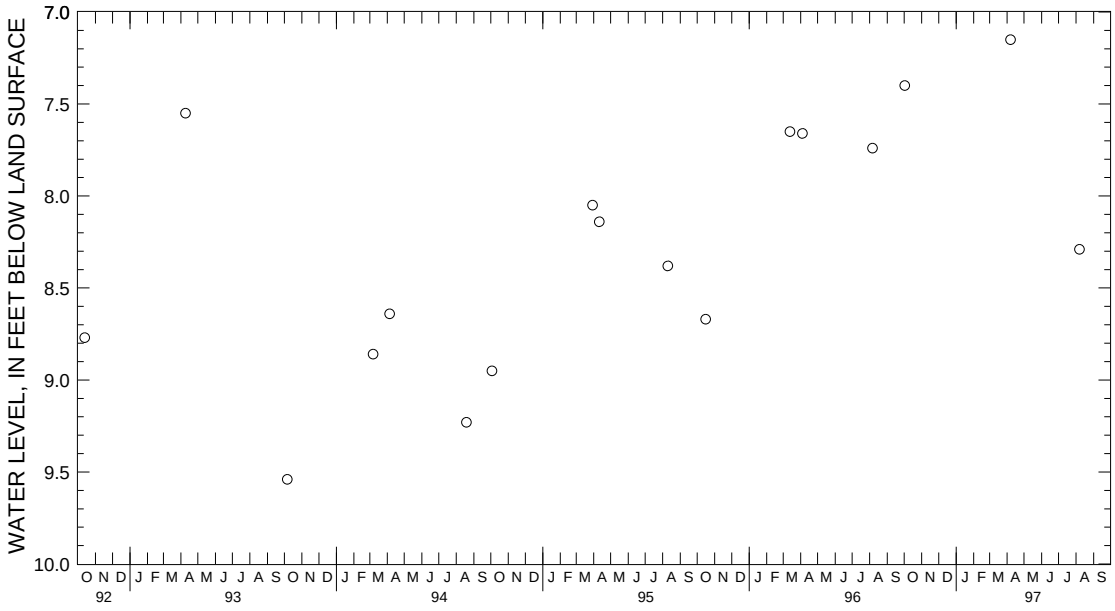
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 electric 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, 7.15 ft below land surface, April 7, 1997;
lowest measured, 9.72 ft below land surface, Nov. 13, 1990.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1996	7.40	APR 07, 1997	7.15	AUG 07, 1997	8.29

WATER YEAR 1997 HIGHEST 7.15 APR 07, 1997 LOWEST 8.29 AUG 07, 1997



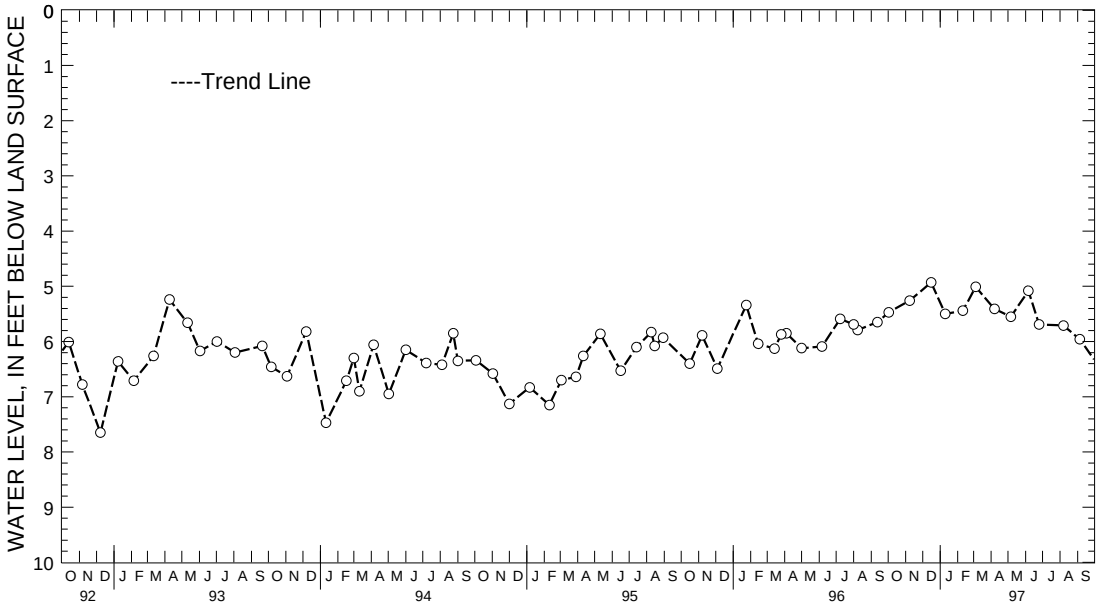
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 electric 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, 4.93 ft below land surface, Dec. 16, 1996; lowest measured, 7.65 ft below land surface, Dec. 8, 1992.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1996	5.47	JAN 10, 1997	5.50	APR 07, 1997	5.41	JUN 25, 1997	5.69
NOV 08	5.26	FEB 10	5.44	MAY 06	5.55	AUG 07	5.71
DEC 16	4.93	MAR 05	5.01	JUN 06	5.08	SEP 05	5.96

WATER YEAR 1997 HIGHEST 4.93 DEC 16, 1996 LOWEST 5.96 SEP 05, 1997



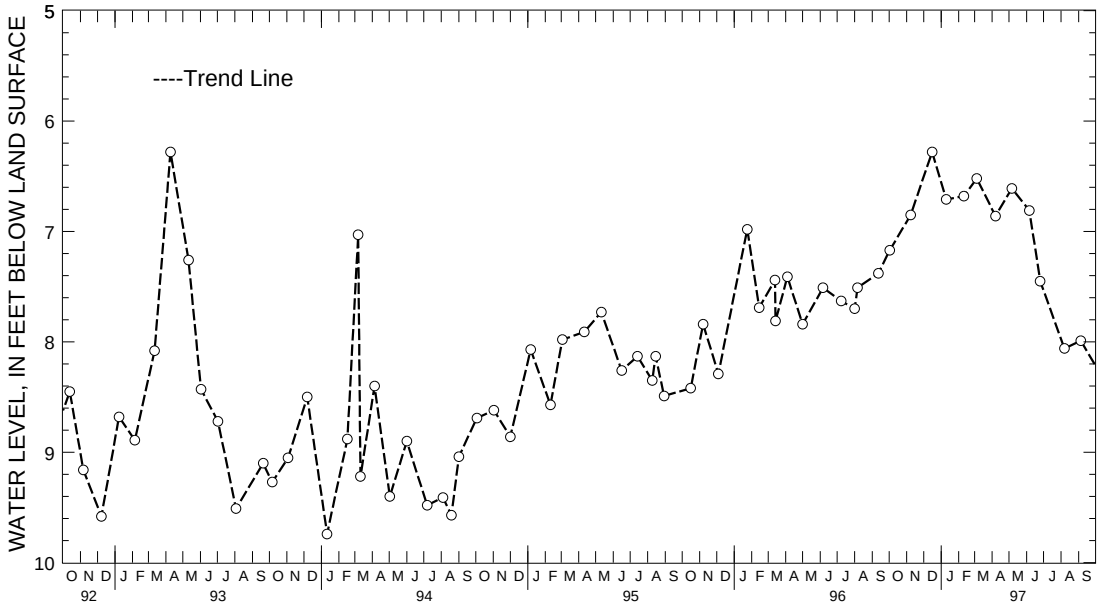
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--QA Db 37. SITE ID.--390023076174302. PERMIT NUMBER.--QA-81-0471.
LOCATION.--Lat 39°00´23˝, long 76°17´43˝, Hydrologic Unit 02060002, near Cloverfield 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 250 ft; casing diameter 4 in., to 240 ft; screen diameter 4 in. from 240 to 250 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 7.1 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.
PERIOD OF RECORD.--April 1985 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.28 ft below land surface, April 9, 1993 and Dec. 16, 1996; lowest measured, 9.74 ft below land surface, Jan. 11, 1994.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1996	7.17	JAN 10, 1997	6.71	APR 07, 1997	6.86	JUN 25, 1997	7.45
NOV 08	6.85	FEB 10	6.68	MAY 06	6.61	AUG 07	8.06
DEC 16	6.28	MAR 05	6.52	JUN 06	6.81	SEP 05	7.99

WATER YEAR 1997 HIGHEST 6.28 DEC 16, 1996 LOWEST 8.06 AUG 07, 1997



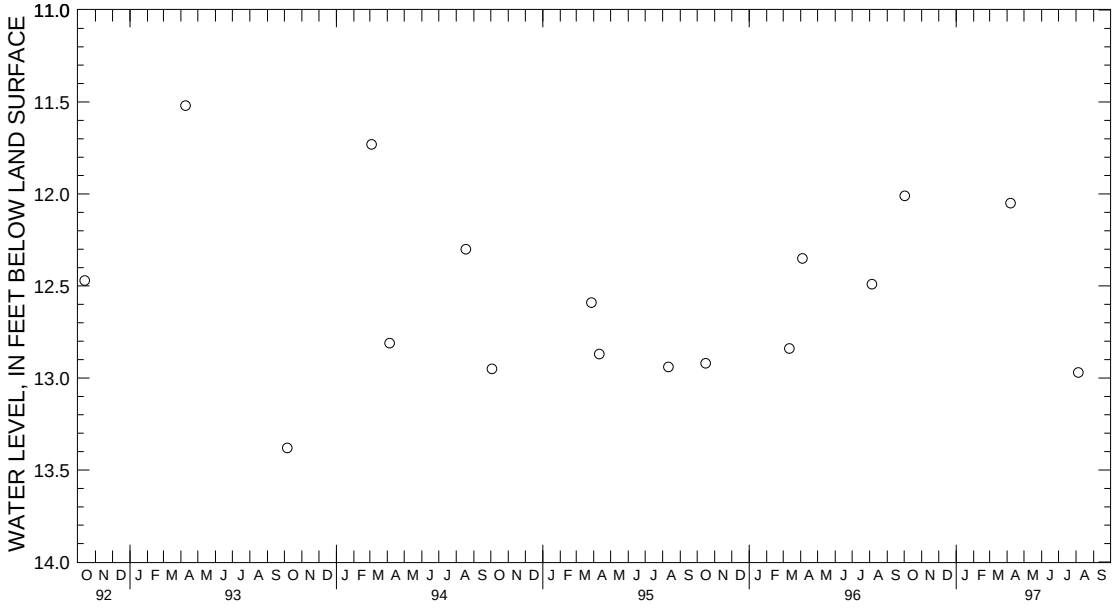
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 electric 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1996	12.01	APR 07, 1997	12.05	AUG 05, 1997	12.97

WATER YEAR 1997 HIGHEST 12.01 OCT 02, 1996 LOWEST 12.97 AUG 05, 1997



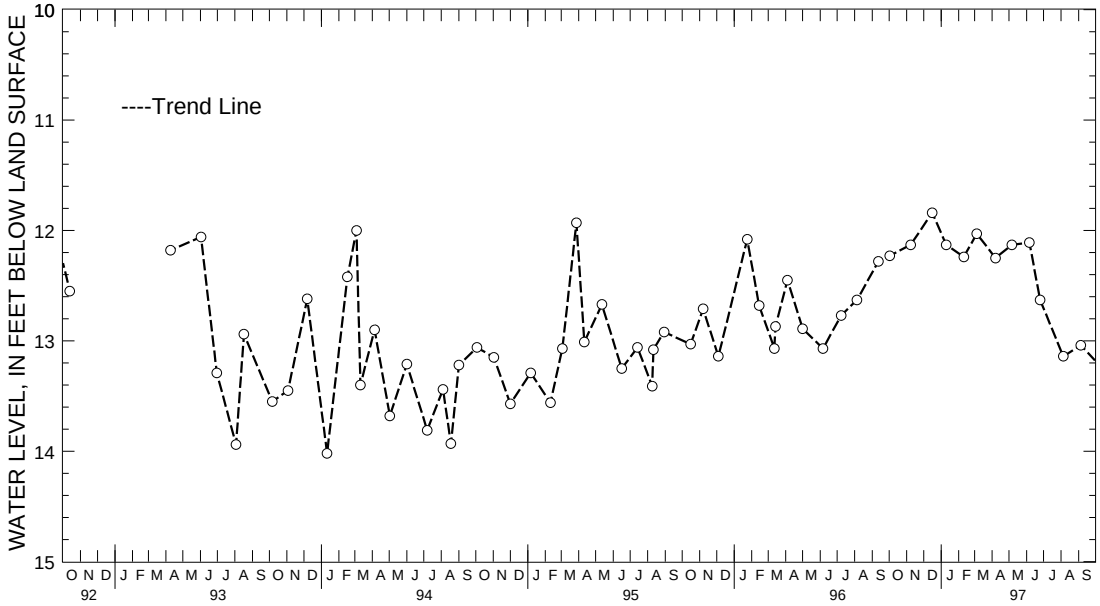
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--QA Ea 78. SITE ID.--385718076211502 . 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 135 ft; casing diameter 4 in., to 125 ft; screen diameter 4 in. from 125 to 135 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 11.8 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Top of casing, 1.91 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, 10.45 ft below land surface, June 4, 1992; lowest measured, 14.02 ft below land surface, Jan. 11, 1994.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1996	12.23	JAN 10, 1997	12.13	APR 07, 1997	12.25	JUN 25, 1997	12.63
NOV 08	12.13	FEB 10	12.24	MAY 06	12.13	AUG 05	13.14
DEC 16	11.84	MAR 05	12.03	JUN 06	12.11	SEP 05	13.04

WATER YEAR 1997 HIGHEST 11.84 DEC 16, 1996 LOWEST 13.14 AUG 05, 1997



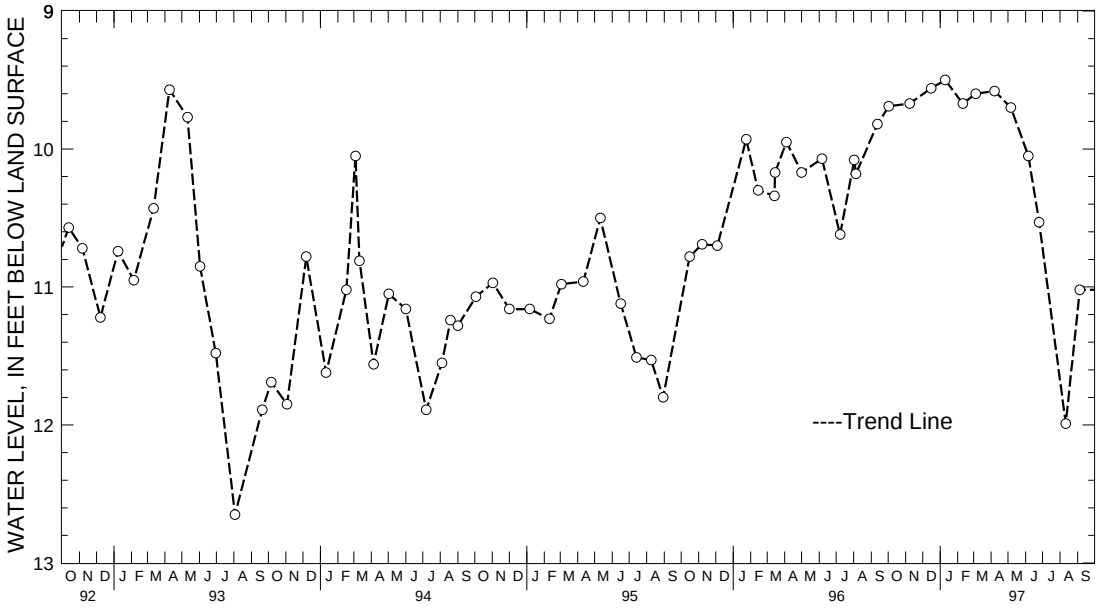
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 electric 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1996	9.69	JAN 10, 1997	9.50	APR 07, 1997	9.58	JUN 25, 1997	10.53
NOV 08	9.67	FEB 10	9.67	MAY 06	9.70	AUG 11	11.99
DEC 16	9.56	MAR 05	9.60	JUN 06	10.05	SEP 05	11.02

WATER YEAR 1997 HIGHEST 9.50 JAN 10, 1997 LOWEST 11.99 AUG 11, 1997



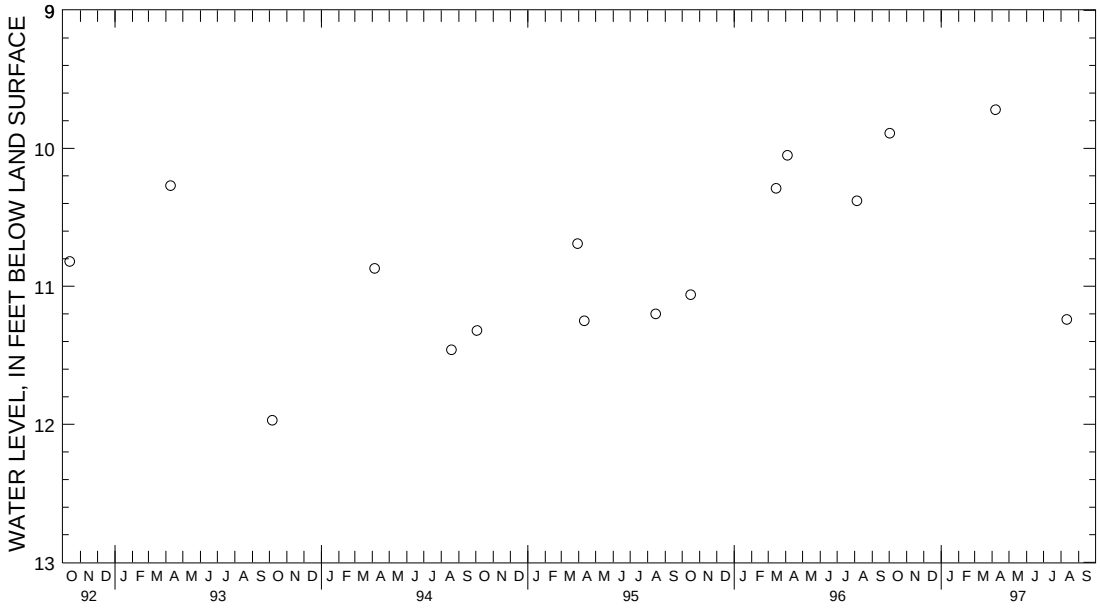
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 electric 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, 11.97 ft below land surface, Oct. 6, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1996	9.89	APR 07, 1997	9.72	AUG 11, 1997	11.24

WATER YEAR 1997 HIGHEST 9.72 APR 07, 1997 LOWEST 11.24 AUG 11, 1997



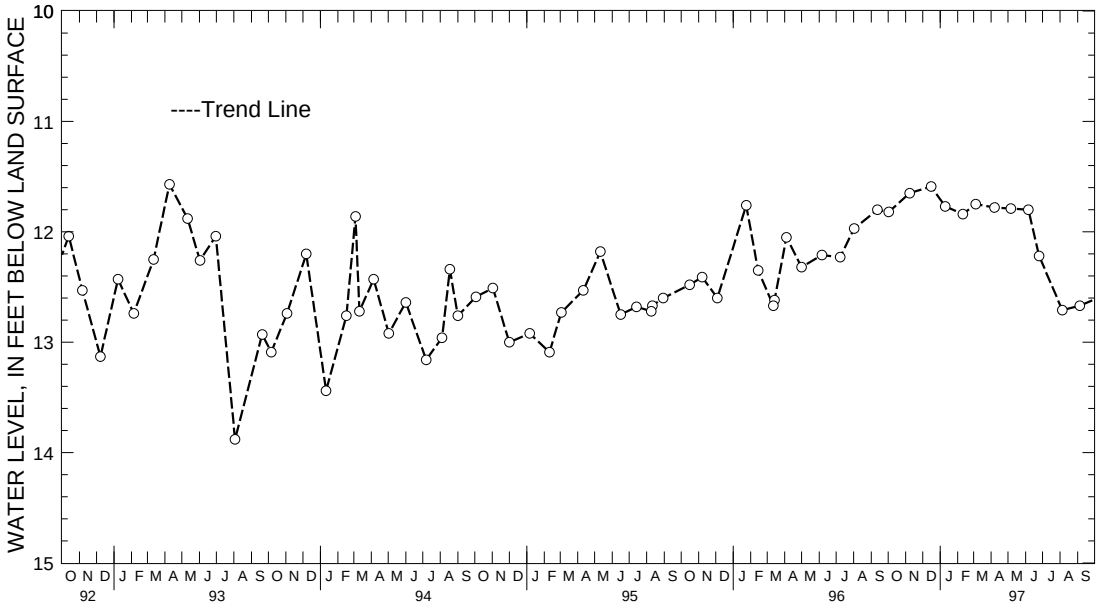
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 electric 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1996	11.82	JAN 10, 1997	11.77	APR 07, 1997	11.78	JUN 25, 1997	12.22
NOV 08	11.65	FEB 10	11.84	MAY 06	11.79	AUG 05	12.71
DEC 16	11.59	MAR 05	11.75	JUN 06	11.80	SEP 05	12.67

WATER YEAR 1997 HIGHEST 11.59 DEC 16, 1996 LOWEST 12.71 AUG 05, 1997



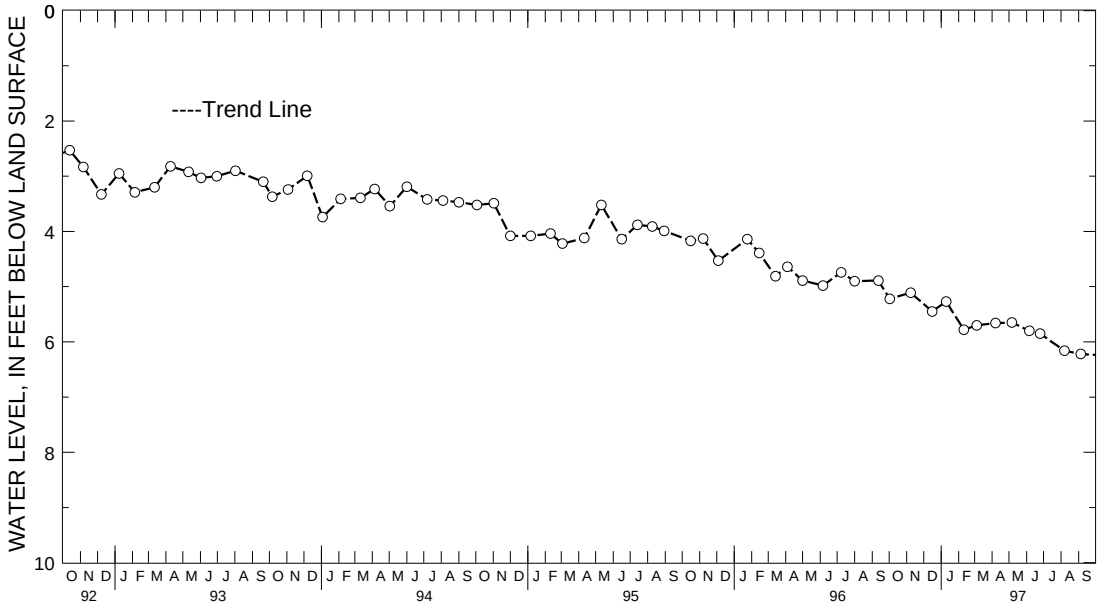
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--QA Eb 110. SITE ID.--385751076171603. PERMIT NUMBER.--QA-73-2979.
LOCATION.--Lat 38°57´51˝, long 76°17´16˝, Hydrologic Unit 02060002, near Chester, Kent Island.
   Owner: U.S. Geological Survey.
AQUIFER.--Patuxent Formation of Lower Cretaceous age. Aquifer code: 217PTXN.
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 2,485 ft; casing diameter 4 in.,
   to 2,413 ft, 2,423 to 2,465 ft and 2,475 to 2,485 ft; screen diameter 4 in., from 2,413 to 2,423 ft,
   and 2,465 to 2,475 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
   Measured twice yearly from January 1980 to October 1989.
DATUM.--Elevation of land surface is 14 ft above National Geodetic Vertical Datum of 1929,
   from topographic map.
   Measuring point: Top of casing, 3.36 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, 6.99 ft above land surface, Jan. 21, 1980;
   lowest measured, 6.22 ft below land surface, Sept. 5, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1996	5.22	JAN 10, 1997	5.27	APR 07, 1997	5.66	JUN 25, 1997	5.85
NOV 08	5.11	FEB 10	5.78	MAY 06	5.65	AUG 07	6.16
DEC 16	5.45	MAR 05	5.70	JUN 06	5.80	SEP 05	6.22

WATER YEAR 1997 HIGHEST 5.11 NOV 08, 1996 LOWEST 6.22 SEP 05, 1997



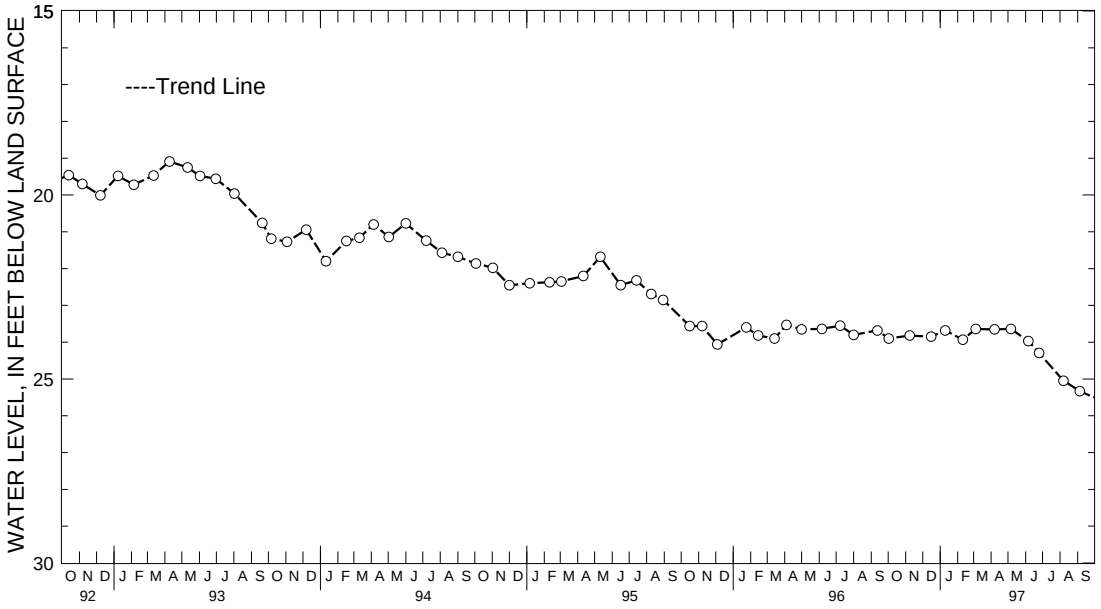
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 electric tape by U.S. Geological Survey personnel.
Twice yearly measurements from April 1984 to September 1989.
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, 25.33 ft below land surface, Sept. 5, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1996	23.90	JAN 10, 1997	23.68	APR 07, 1997	23.65	JUN 25, 1997	24.29
NOV 08	23.82	FEB 10	23.93	MAY 06	23.64	AUG 07	25.05
DEC 16	23.85	MAR 05	23.64	JUN 06	23.97	SEP 05	25.33

WATER YEAR 1997 HIGHEST 23.64 MAR 05, 1997 MAY 06, 1997 LOWEST 25.33 SEP 05, 1997



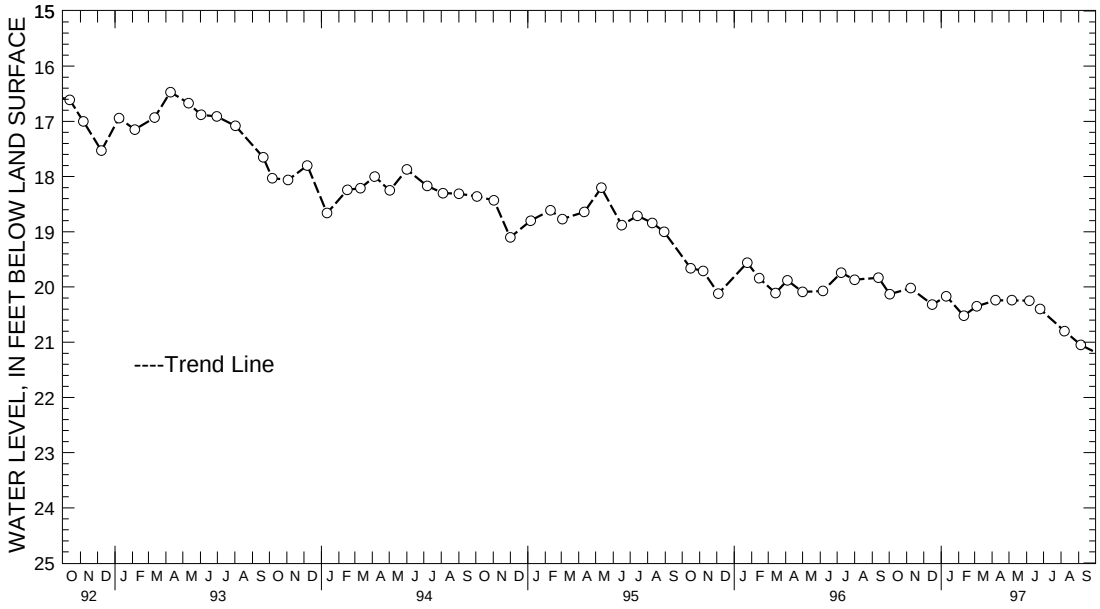
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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: 217PPSC.
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 electric 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, 21.05 ft below land surface, Sept. 5, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1996	20.13	JAN 10, 1997	20.17	APR 07, 1997	20.24	JUN 25, 1997	20.40
NOV 08	20.02	FEB 10	20.52	MAY 06	20.24	AUG 07	20.80
DEC 16	20.32	MAR 05	20.35	JUN 06	20.25	SEP 05	21.05

WATER YEAR 1997 HIGHEST 20.02 NOV 08, 1996 LOWEST 21.05 SEP 05, 1997



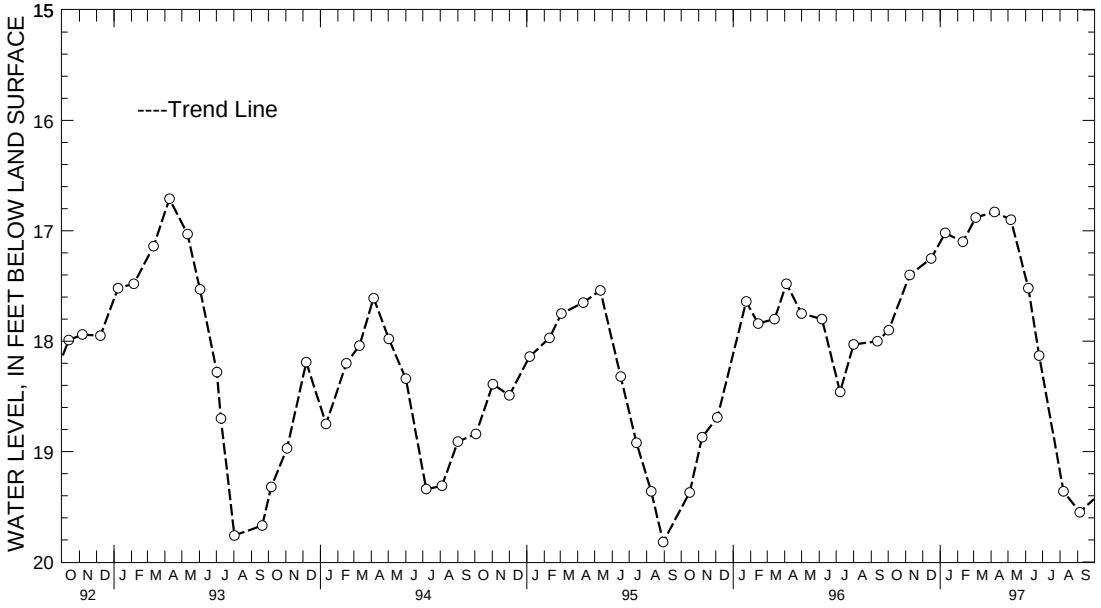
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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, near 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 electric tape by U.S. Geological Survey personnel.
Equipped with graphic water-level recorder from June 30, 1986 to October 2, 1994.
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.--October 1982 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, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1996	17.90	JAN 10, 1997	17.02	APR 07, 1997	16.83	JUN 25, 1997	18.13
NOV 08	17.40	FEB 10	17.10	MAY 06	16.90	AUG 07	19.36
DEC 16	17.25	MAR 05	16.88	JUN 06	17.52	SEP 05	19.55

WATER YEAR 1997 HIGHEST 16.83 APR 07, 1997 LOWEST 19.55 SEP 05, 1997



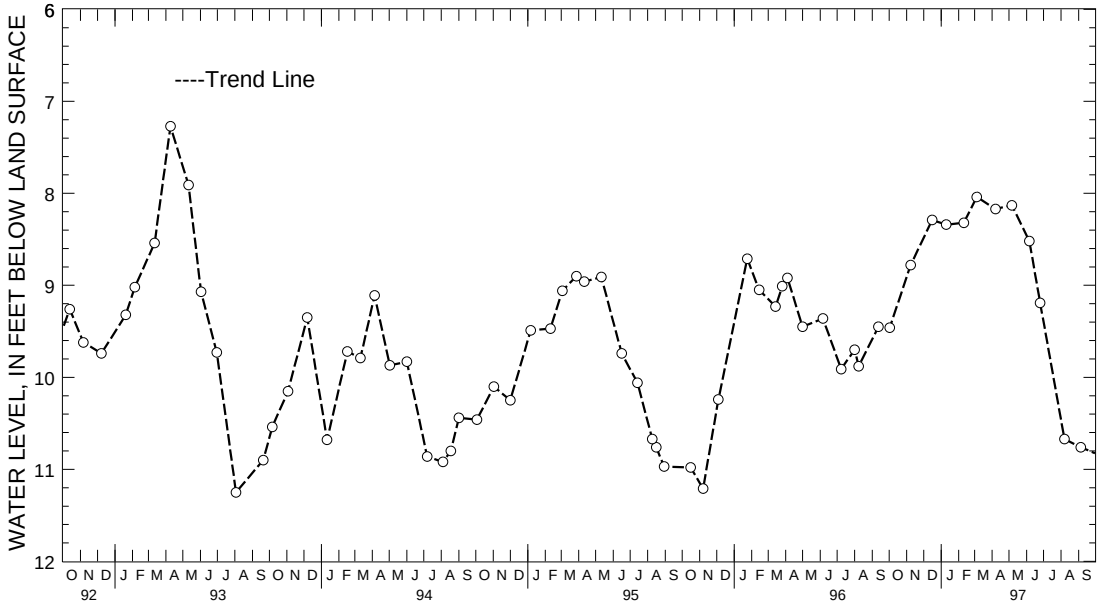
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 electric tape by U.S. Geological Survey personnel. Measured twice yearly from June 1986 to April 1989.
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.
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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1996	9.46	JAN 10, 1997	8.34	APR 07, 1997	8.17	JUN 25, 1997	9.19
NOV 08	8.78	FEB 10	8.32	MAY 06	8.13	AUG 07	10.67
DEC 16	8.29	MAR 05	8.04	JUN 06	8.52	SEP 05	10.76

WATER YEAR 1997 HIGHEST 8.04 MAR 05, 1997 LOWEST 10.76 SEP 05, 1997



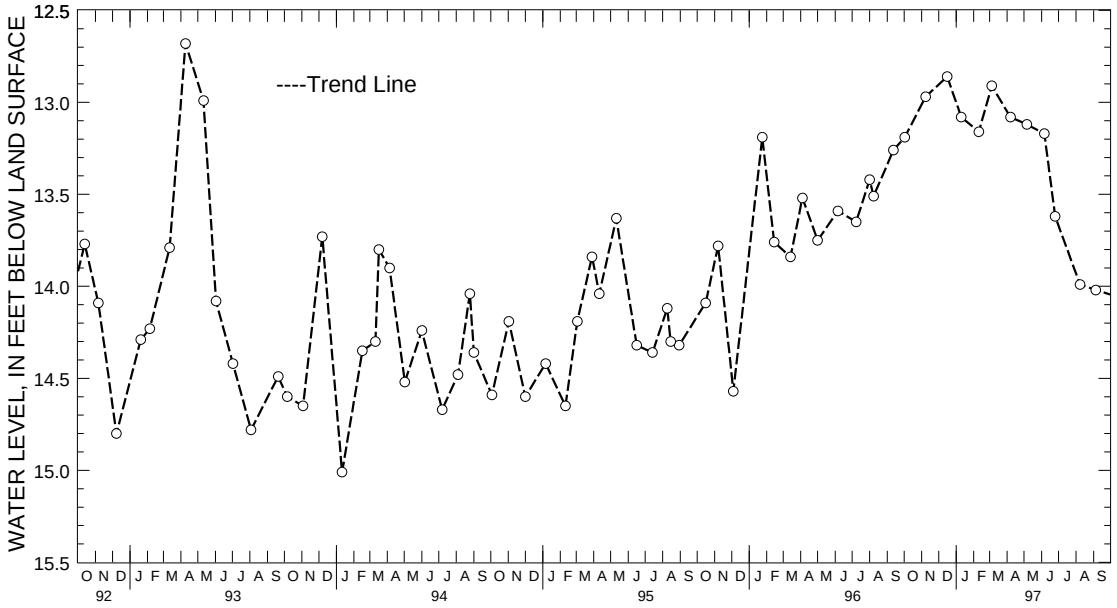
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 electric 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, 15.01 ft below land surface, Jan. 11, 1994.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1996	13.19	JAN 10, 1997	13.08	APR 07, 1997	13.08	JUN 25, 1997	13.62
NOV 08	12.97	FEB 10	13.16	MAY 06	13.12	AUG 08	13.99
DEC 16	12.86	MAR 05	12.91	JUN 06	13.17	SEP 05	14.02

WATER YEAR 1997 HIGHEST 12.86 DEC 16, 1996 LOWEST 14.02 SEP 05, 1997



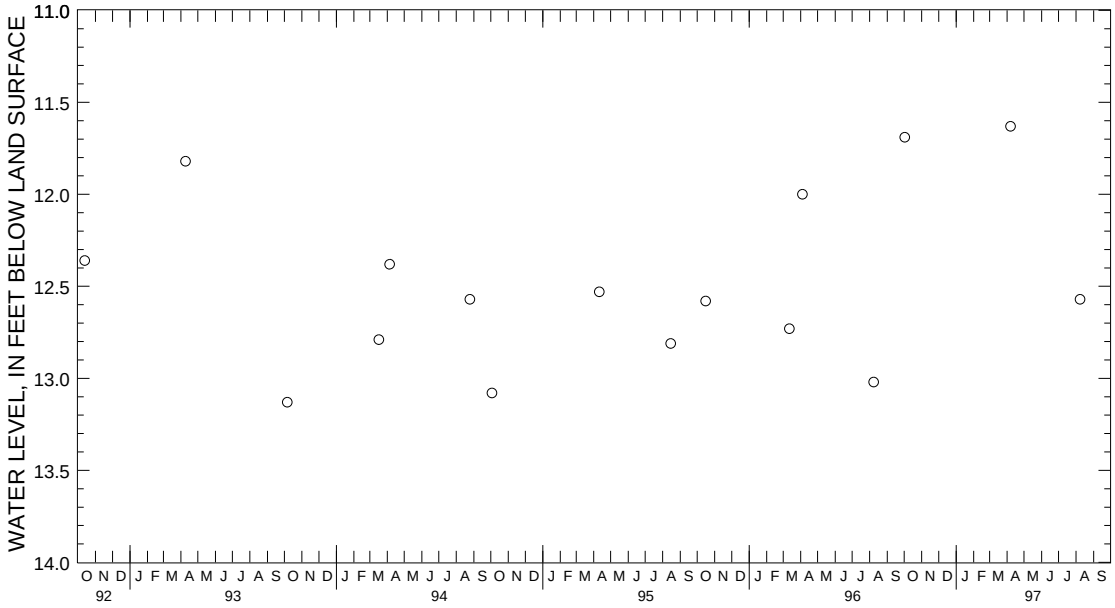
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 electric tape by U.S. Geological Survey personnel from April 1992 to current year. Measured monthly from May 1989 to November 1991. Measured twice yearly from March 1988 to April 1989.
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.
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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1996	11.69	APR 07, 1997	11.63	AUG 08, 1997	12.57

WATER YEAR 1997 HIGHEST 11.63 APR 07, 1997 LOWEST 12.57 AUG 08, 1997



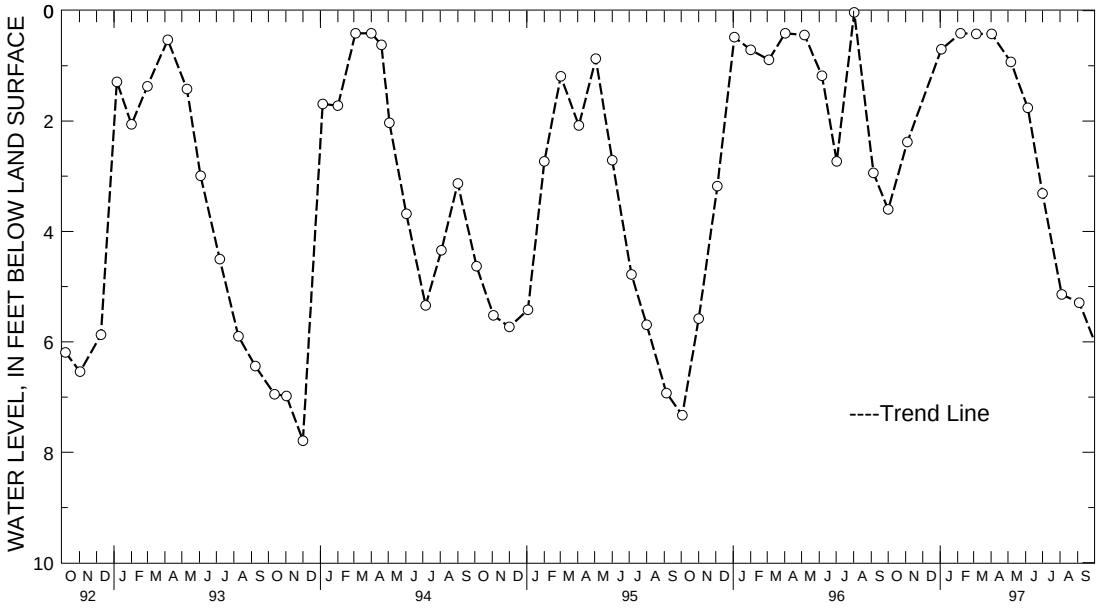
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--QA Ec 1. SITE ID.--385756076105301.
LOCATION.--Lat 38°57´56˝, long 76°10´53˝, Hydrologic Unit 02060002, near Grasonville, south side of old U.S. Rt. 50.
Owner: Maryland State Highway Administration.
AQUIFER.--Kent Island Formation of Pleistocene age. Aquifer code: 112KILD.
WELL CHARACTERISTICS.--Drilled, unused, water-table well, depth 21 ft; casing diameter 1.25 in., to 21 ft.
INSTRUMENTATION.--Monthly measurements with electric 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 2 in. coupling, 0.27 ft above land surface.
REMARKS.--Maryland Water-Level Network observation well.
PERIOD OF RECORD.--September 1949 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.03 ft below land surface, Aug. 2, 1996; lowest measured, 8.46 ft below land surface, Jan. 7, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1996	3.60	FEB 06, 1997	.41	MAY 06, 1997	.93	AUG 04, 1997	5.14
NOV 04	2.38	MAR 06	.42	JUN 05	1.76	SEP 04	5.29
JAN 03, 1997	.70	APR 02	.42	JUL 01	3.31		

WATER YEAR 1997 HIGHEST .41 FEB 06, 1997 LOWEST 5.29 SEP 04, 1997



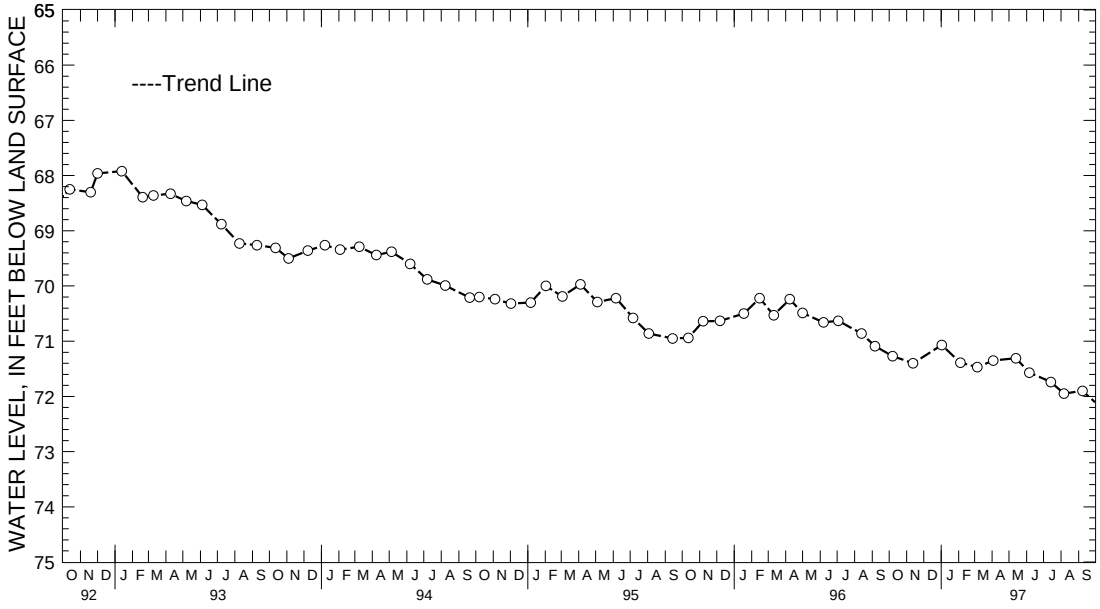
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 electric 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, 71.95 ft below land surface, August 6, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 07, 1996	71.27	FEB 04, 1997	71.39	MAY 13, 1997	71.31	AUG 06, 1997	71.95
NOV 12	71.40	MAR 06	71.47	JUN 06	71.57	SEP 08	71.90
JAN 02, 1997	71.07	APR 03	71.35	JUL 14	71.74		

WATER YEAR 1997 HIGHEST 71.07 JAN 02, 1997 LOWEST 71.95 AUG 06, 1997



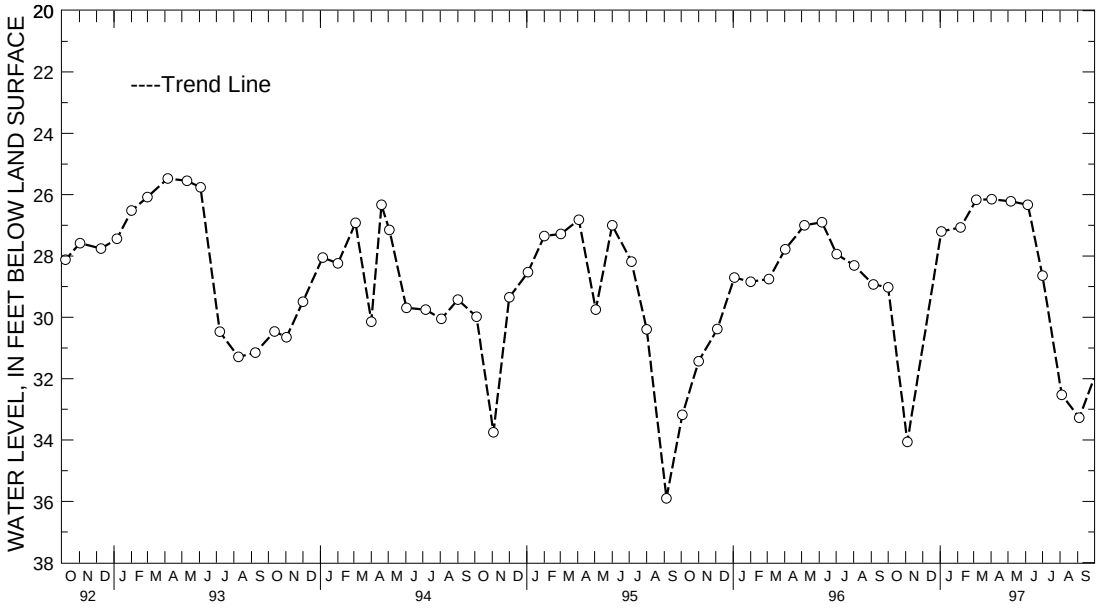
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 electric 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, 35.90 ft below land surface, Sept. 5, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1996	29.02	FEB 06, 1997	27.07	MAY 06, 1997	26.22	AUG 04, 1997	32.53
NOV 04	34.06	MAR 06	26.17	JUN 05	26.33	SEP 04	33.27
JAN 03, 1997	27.20	APR 02	26.15	JUL 01	28.64		

WATER YEAR 1997 HIGHEST 26.15 APR 02, 1997 LOWEST 34.06 NOV 04, 1996



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

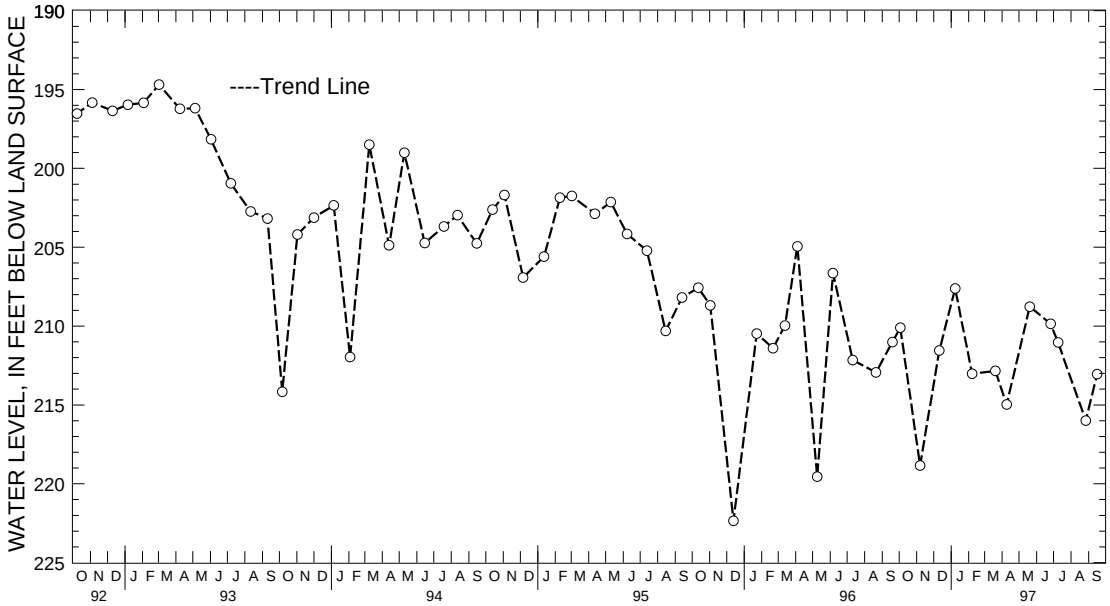
ST. MARYS COUNTY

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 Veterans Home.
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 electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 165.30 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, 222.35 ft below land surface, Dec. 13, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 03, 1996	210.10	JAN 08, 1997	207.62	APR 09, 1997	214.97	JUL 09, 1997	211.04
NOV 07	218.84	FEB 07	213.02	MAY 20	208.77	AUG 27	215.99
DEC 11	211.55	MAR 20	212.84	JUN 26	209.86	SEP 16	213.05

WATER YEAR 1997 HIGHEST 207.62 JAN 08, 1997 LOWEST 218.84 NOV 07, 1996



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

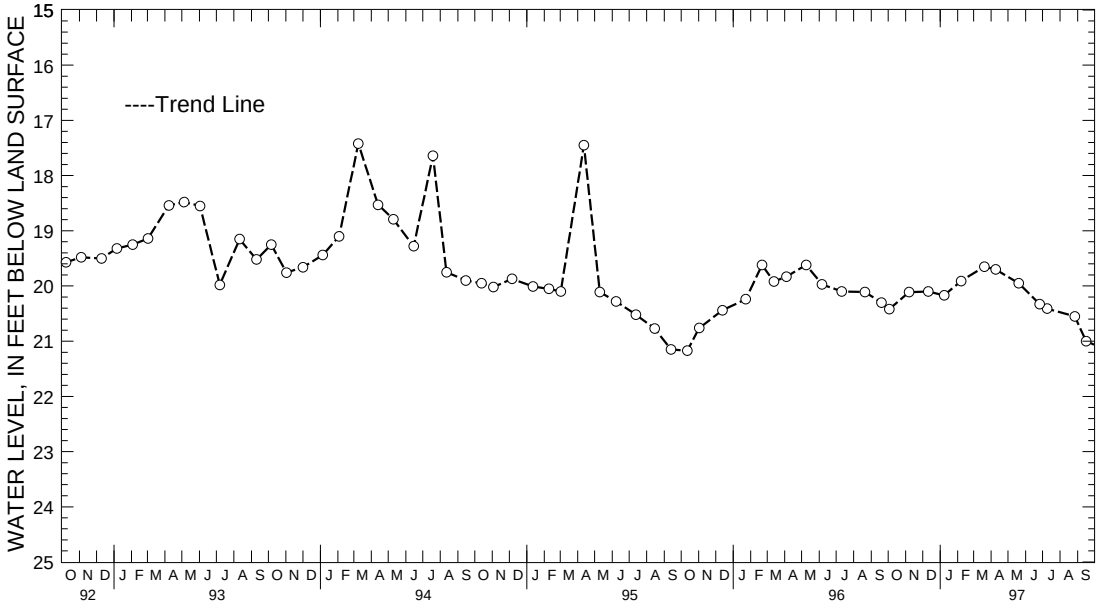
ST. MARYS COUNTY--Continued

WELL NUMBER.--SM Bb 22. SITE ID.--382838076470102. PERMIT NUMBER.--SM-73-3787.
LOCATION.--Lat 38°28´38˝, long 76°47´01˝, Hydrologic Unit 02070011, at Charlotte Hall Veterans Home.
Owner: U.S. Geological Survey.
AQUIFER.--Piney Point Formation of Middle Eocene age. Aquifer code: 124PNPN.
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 218 ft; casing diameter 4 in., to 210 ft; screen diameter 2 in. from 210 to 218 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 165.31 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Top of casing, 1.55 ft above land surface.
REMARKS.--Maryland Water-Level Network observation well. Water levels may be affected by nearby pumping.
The July 12, 1989 water-level measured 27.95 ft below land surface declined due to nearby pump test.
PERIOD OF RECORD.--July 1980 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 13.27 ft below land surface, July 9, 1980; lowest measured, 21.17 ft below land surface, Oct. 12, 1995--See Remarks.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 03, 1996	20.42	JAN 08, 1997	20.17	APR 09, 1997	19.70	JUL 09, 1997	20.41
NOV 07	20.11	FEB 07	19.91	MAY 20	19.95	AUG 27	20.55
DEC 11	20.10	MAR 20	19.65	JUN 26	20.33	SEP 16	21.00

WATER YEAR 1997 HIGHEST 19.65 MAR 20, 1997 LOWEST 21.00 SEP 16, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

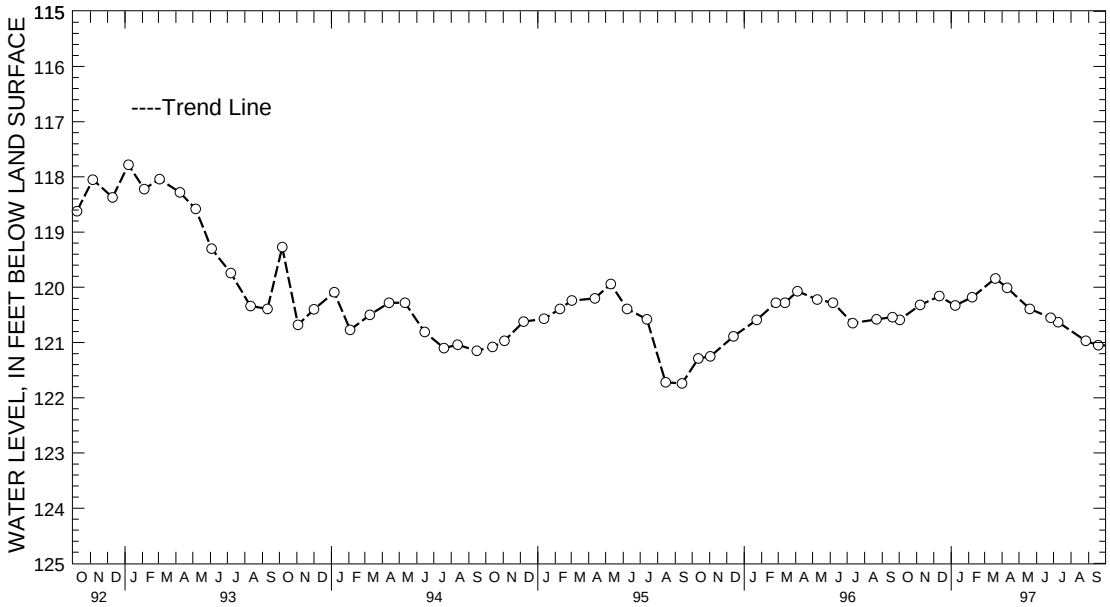
ST. MARYS COUNTY--Continued

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 electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 118.84 ft above National Geodetic Vertical Datum of 1929.
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, 121.74 ft below land surface, Sept. 13, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1996	120.59	JAN 08, 1997	120.33	APR 10, 1997	120.01	JUL 09, 1997	120.63
NOV 07	120.32	FEB 07	120.18	MAY 20	120.39	AUG 27	120.97
DEC 11	120.16	MAR 20	119.84	JUN 26	120.55	SEP 18	121.05

WATER YEAR 1997 HIGHEST 119.84 MAR 20, 1997 LOWEST 121.05 SEP 18, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

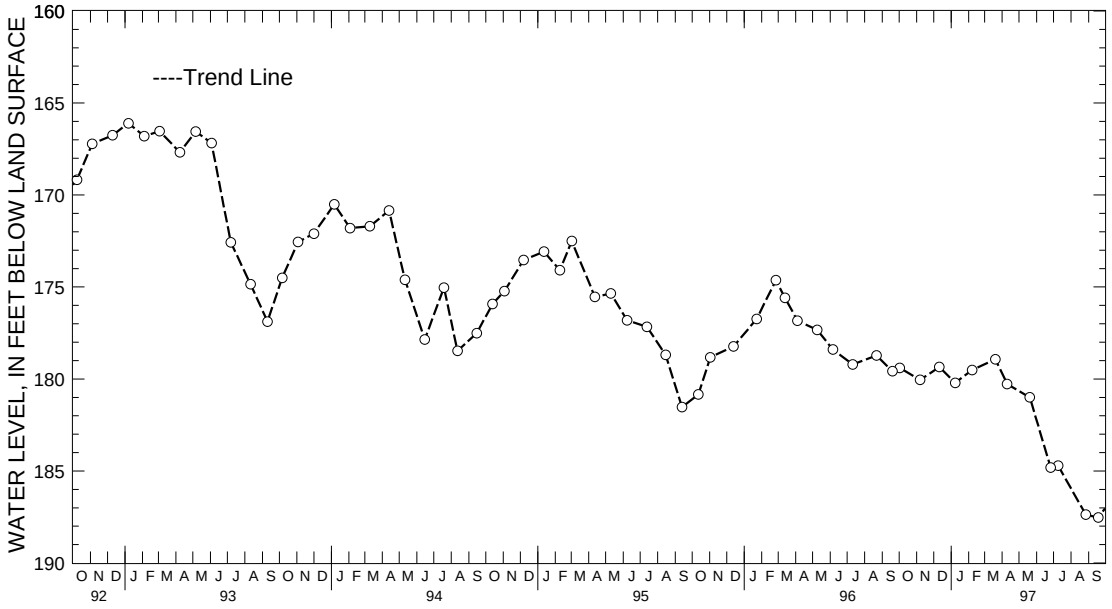
ST. MARYS COUNTY--Continued

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 electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 118.94 ft above National Geodetic Vertical Datum of 1929.
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, 187.53 ft below land surface, Sept. 18, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1996	179.40	JAN 08, 1997	180.21	APR 10, 1997	180.27	JUL 09, 1997	184.71
NOV 07	180.05	FEB 07	179.51	MAY 20	181.00	AUG 27	187.37
DEC 11	179.35	MAR 20	178.93	JUN 26	184.81	SEP 18	187.53

WATER YEAR 1997 HIGHEST 178.93 MAR 20, 1997 LOWEST 187.53 SEP 18, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

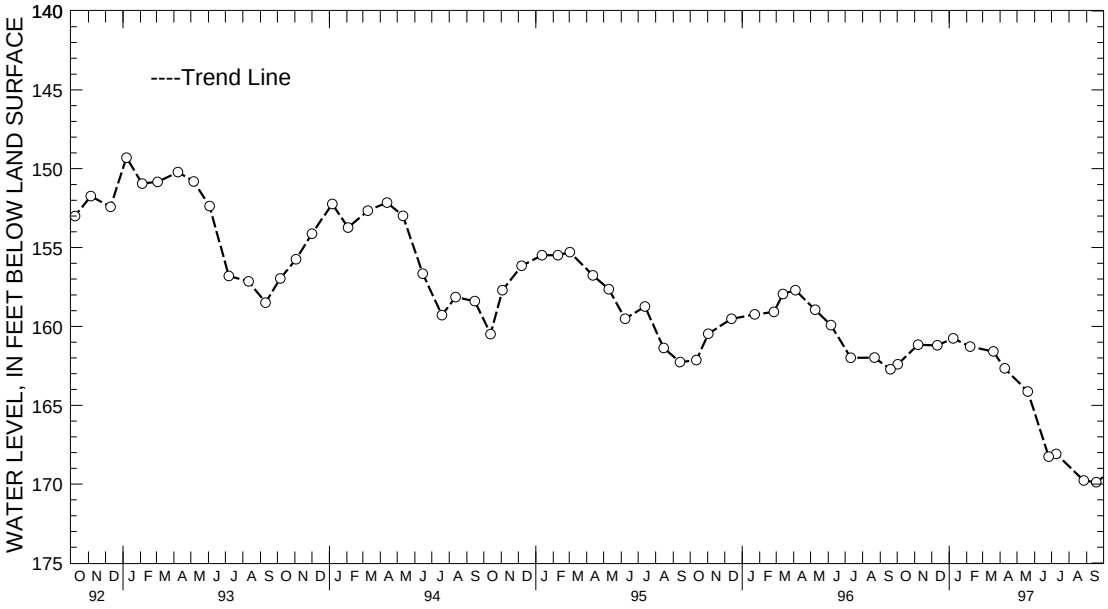
ST. MARYS COUNTY--Continued

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 electric 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, 169.88 ft below land surface, Sept. 18, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1996	162.40	JAN 08, 1997	160.76	APR 09, 1997	162.66	JUL 09, 1997	168.08
NOV 07	161.16	FEB 07	161.28	MAY 20	164.13	AUG 27	169.77
DEC 11	161.20	MAR 20	161.59	JUN 26	168.25	SEP 18	169.88

WATER YEAR 1997 HIGHEST 160.76 JAN 08, 1997 LOWEST 169.88 SEP 18, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

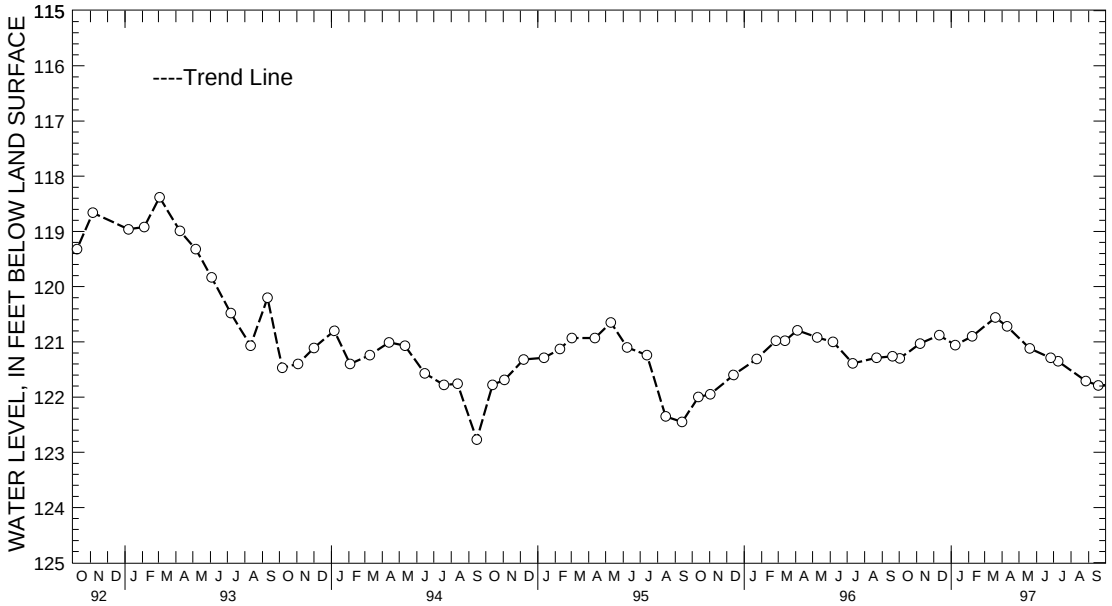
ST. MARYS COUNTY--Continued

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 electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 119.30 ft above National Geodetic Vertical Datum of 1929.
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, 122.77 ft below land surface, Sept. 15, 1994.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1996	121.30	JAN 08, 1997	121.06	APR 10, 1997	120.72	JUL 09, 1997	121.35
NOV 07	121.03	FEB 07	120.90	MAY 20	121.12	AUG 27	121.71
DEC 11	120.88	MAR 20	120.56	JUN 26	121.29	SEP 18	121.79

WATER YEAR 1997 HIGHEST 120.56 MAR 20, 1997 LOWEST 121.79 SEP 18, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

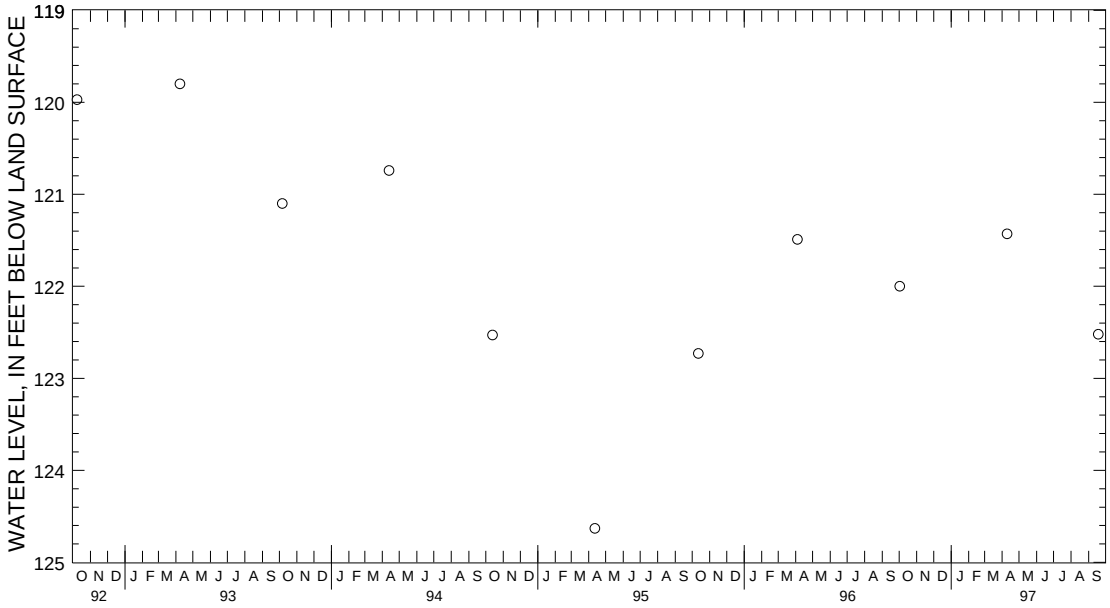
ST. MARYS COUNTY--Continued

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 electric tape by U.S. Geological Survey personnel from April 1987 to current year. Measured monthly from October 1977 to October 1986.
DATUM.--Elevation of land surface is 119.72 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Top of casing, 1.00 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, 113.15 ft below land surface, March 2, 1981; lowest measured, 124.63 ft below land surface, April 12, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1996	122.00	APR 10, 1997	121.43	SEP 18, 1997	122.52

WATER YEAR 1997 HIGHEST 121.43 APR 10, 1997 LOWEST 122.52 SEP 18, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

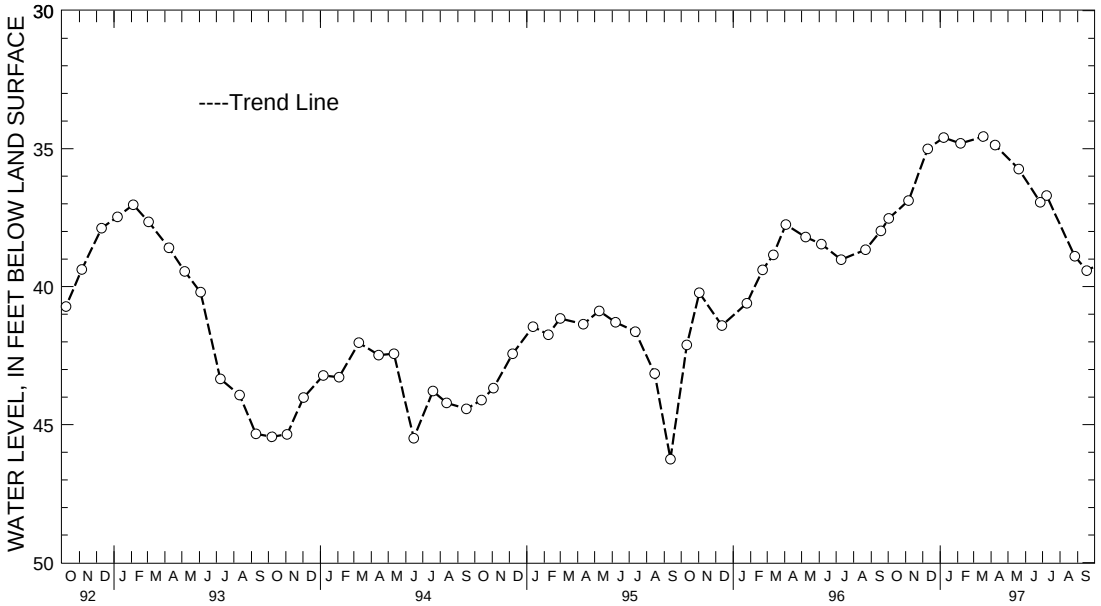
ST. MARYS COUNTY

WELL NUMBER.--SM Df 66. SITE ID.--381841076284401. PERMIT NUMBER.--SM-73-1990.
LOCATION.--Lat 38°18´41˝, long 76°28´44˝, Hydrologic Unit 02060006, 0.8 mi south of Town Point.
Owner: U.S. Geological Survey.
AQUIFER.--Piney Point Formation of Middle Eocene age. Aquifer code: 124PNPN.
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 258 ft; casing diameter 6 in., to 84 ft; casing diameter 2 in. from 84 to 248 ft; screen diameter 2 in. from 248 to 258 ft.
INSTRUMENTATION.--Monthly measurements with electric 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, 3.00 ft above land surface.
REMARKS.--Maryland Water-Level Network observation well.
PERIOD OF RECORD.--July 1976 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 30.79 ft below land surface, April 5, 1979; lowest measured, 49.66 ft below land surface, July 9, 1986.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1996	37.53	JAN 07, 1997	34.60	APR 08, 1997	34.87	JUL 08, 1997	36.70
NOV 06	36.88	FEB 06	34.81	MAY 20	35.74	AUG 27	38.90
DEC 10	35.01	MAR 18	34.56	JUN 27	36.94	SEP 17	39.42

WATER YEAR 1997 HIGHEST 34.56 MAR 18, 1997 LOWEST 39.42 SEP 17, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

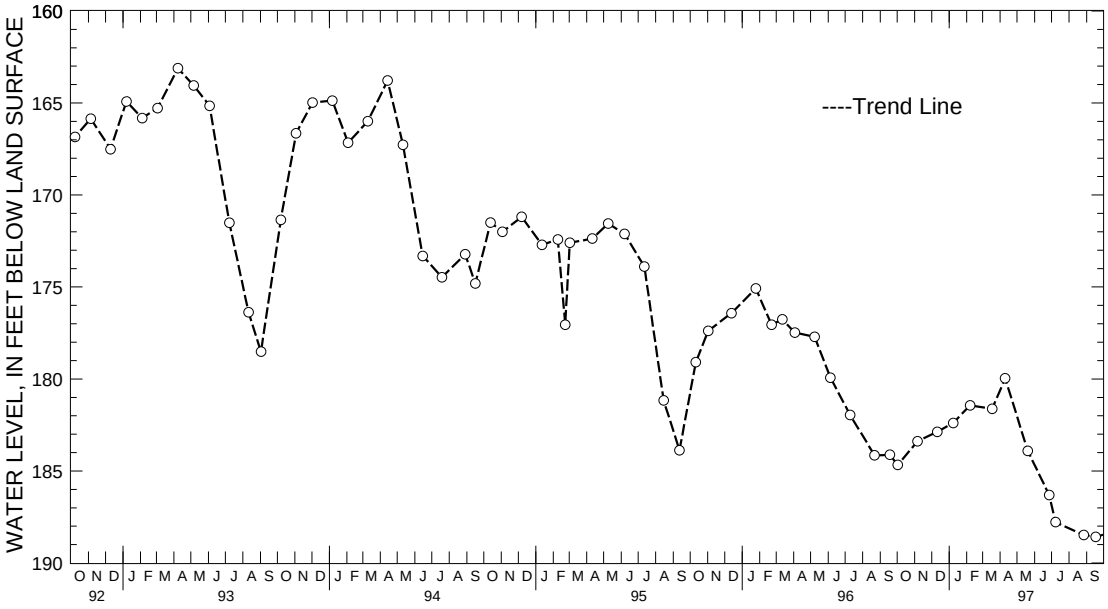
ST. MARYS COUNTY--Continued

WELL NUMBER.--SM Df 71. SITE ID.--381527076283101. PERMIT NUMBER.--SM-73-3431.
LOCATION.--Lat 38°15′27″, long 76°28′31″, Hydrologic Unit 02070011, at Cheryl Dr. and Great Mills Rd., Lexington Park.
Owner: U.S. Geological Survey.
AQUIFER.--Aquia Formation of Upper Paleocene age. Aquifer code: 125AQUI.
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 560 ft; casing diameter 4 in., to 420 ft; casing diameter 2 in. from 420 to 550 ft; screen diameter 2 in. from 550 to 560 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 69.15 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Top of casing, 0.80 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, 119.19 ft below land surface, May 1, 1980; lowest measured, 188.58 ft below land surface, Sept. 17, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1996	184.67	JAN 08, 1997	182.39	APR 10, 1997	179.96	JUL 08, 1997	187.78
NOV 06	183.38	FEB 07	181.43	MAY 20	183.91	AUG 27	188.48
DEC 11	182.87	MAR 18	181.62	JUN 27	186.31	SEP 17	188.58

WATER YEAR 1997 HIGHEST 179.96 APR 10, 1997 LOWEST 188.58 SEP 17, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

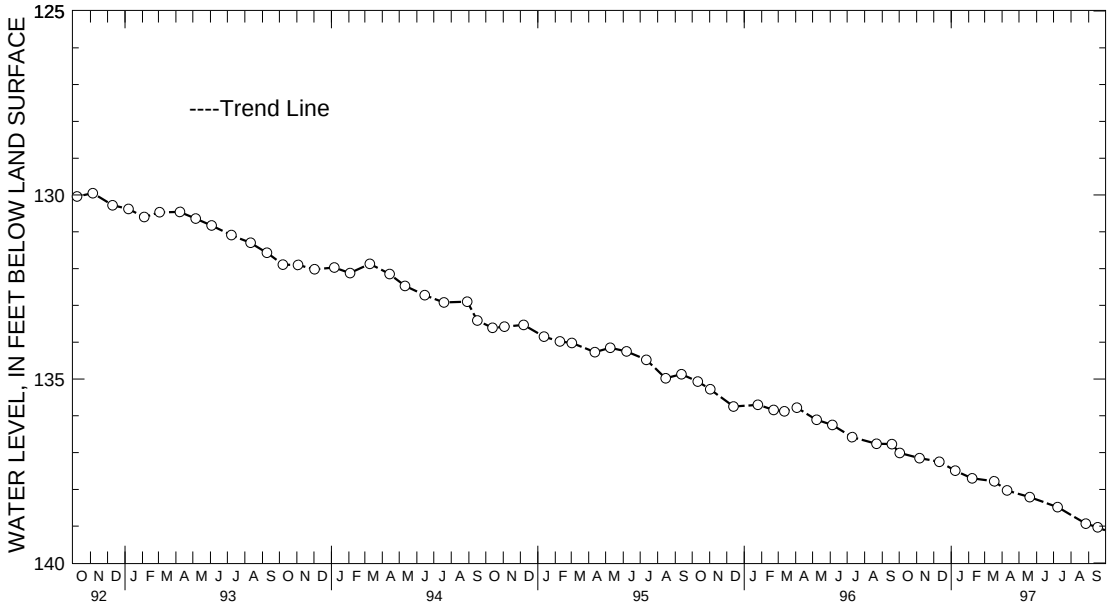
ST. MARYS COUNTY--Continued

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.--Upper Patapsco aquifer in the Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSCU.
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 912 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 electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 108.39 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Top of casing, 2.80 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, 115.68 ft below land surface, Feb. 3, 1983; lowest measured, 139.03 ft below land surface, Sept. 17, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1996	137.01	JAN 08, 1997	137.49	APR 10, 1997	138.03	AUG 27, 1997	138.93
NOV 06	137.15	FEB 07	137.70	MAY 20	138.21	SEP 17	139.03
DEC 11	137.25	MAR 18	137.78	JUL 08	138.48		

WATER YEAR 1997 HIGHEST 137.01 OCT 02, 1996 LOWEST 139.03 SEP 17, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

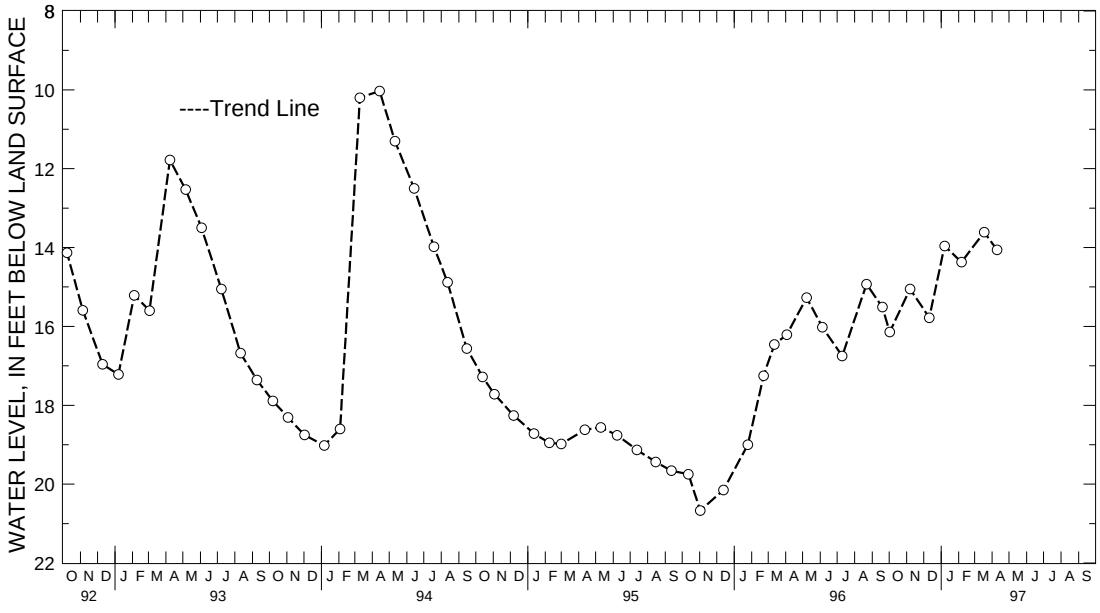
ST. MARYS COUNTY--Continued

WELL NUMBER.--SM Ef 80. SITE ID.--381052076253001.
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., St. Mary's City.
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 electric 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.--Discontinued in April 1997 as a Maryland Water-Level Network observation well.
PERIOD OF RECORD.--February 1988 to April 1997.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.03 ft below land surface, April 14, 1994; lowest measured, 20.67 ft below land surface, Nov 2, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1996	16.14	DEC 11, 1996	15.78	FEB 06, 1997	14.37	APR 10, 1997	14.06
NOV 07	15.05	JAN 07, 1997	13.96	MAR 18	13.61		

WATER YEAR 1997 HIGHEST 13.61 MAR 18, 1997 LOWEST 16.14 OCT 02, 1996



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

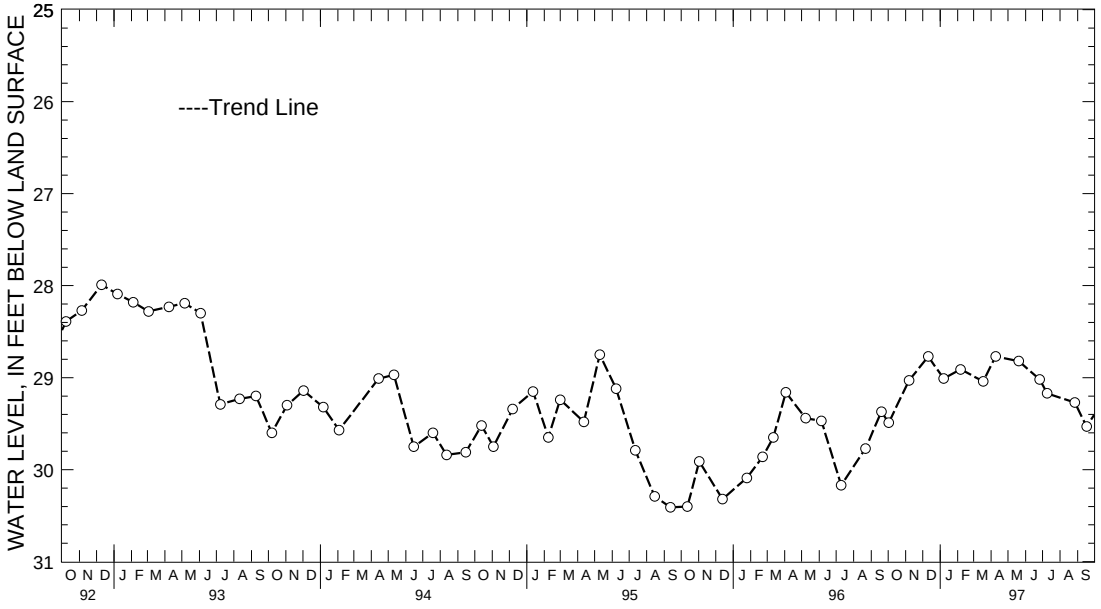
ST. MARYS COUNTY--Continued

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 electric 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, 30.41 ft below land surface, Sept. 12, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1996	29.49	JAN 07, 1997	29.01	APR 09, 1997	28.77	JUL 09, 1997	29.17
NOV 07	29.03	FEB 06	28.91	MAY 20	28.82	AUG 27	29.27
DEC 11	28.77	MAR 18	29.04	JUN 26	29.02	SEP 17	29.53

WATER YEAR 1997 HIGHEST 28.77 DEC 11, 1996 APR 09, 1997 LOWEST 29.53 SEP 17, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

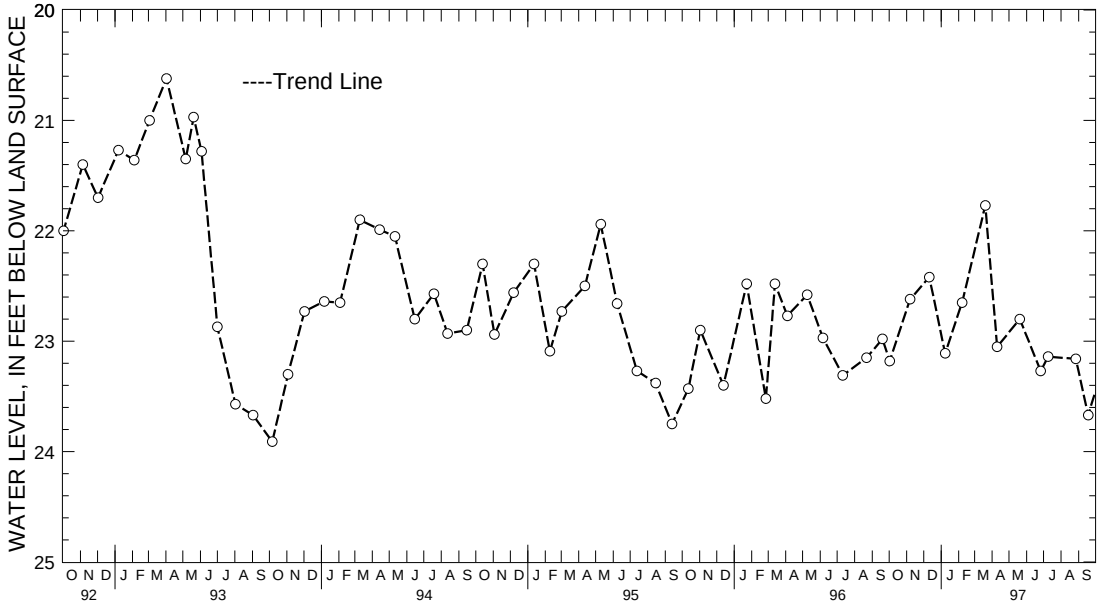
ST. MARYS COUNTY--Continued

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 Middle 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 electric tape by U.S. Geological Survey personnel. Equipped with graphic water-level recorder from Oct. 12, 1988 to Oct. 12, 1994.
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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1996	23.18	JAN 08, 1997	23.11	APR 10, 1997	23.05	JUL 09, 1997	23.14
NOV 07	22.62	FEB 07	22.65	MAY 20	22.80	AUG 27	23.16
DEC 11	22.42	MAR 20	21.77	JUN 26	23.27	SEP 18	23.67

WATER YEAR 1997 HIGHEST 21.77 MAR 20, 1997 LOWEST 23.67 SEP 18, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

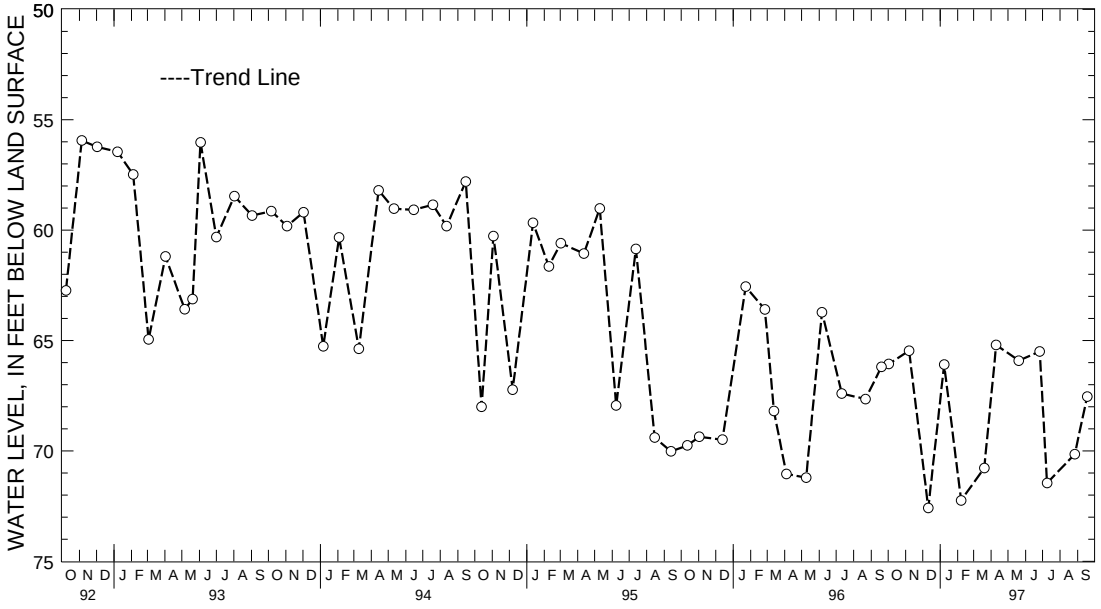
ST. MARYS COUNTY--Continued

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 electric 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, 72.58 ft below land surface, Dec. 11, 1996.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1996	66.06	JAN 08, 1997	66.09	APR 10, 1997	65.20	JUL 09, 1997	71.45
NOV 07	65.46	FEB 07	72.24	MAY 20	65.91	AUG 27	70.15
DEC 11	72.58	MAR 20	70.77	JUN 26	65.50	SEP 18	67.54

WATER YEAR 1997 HIGHEST 65.20 APR 10, 1997 LOWEST 72.58 DEC 11, 1996



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER LEVELS

MARYLAND--Continued

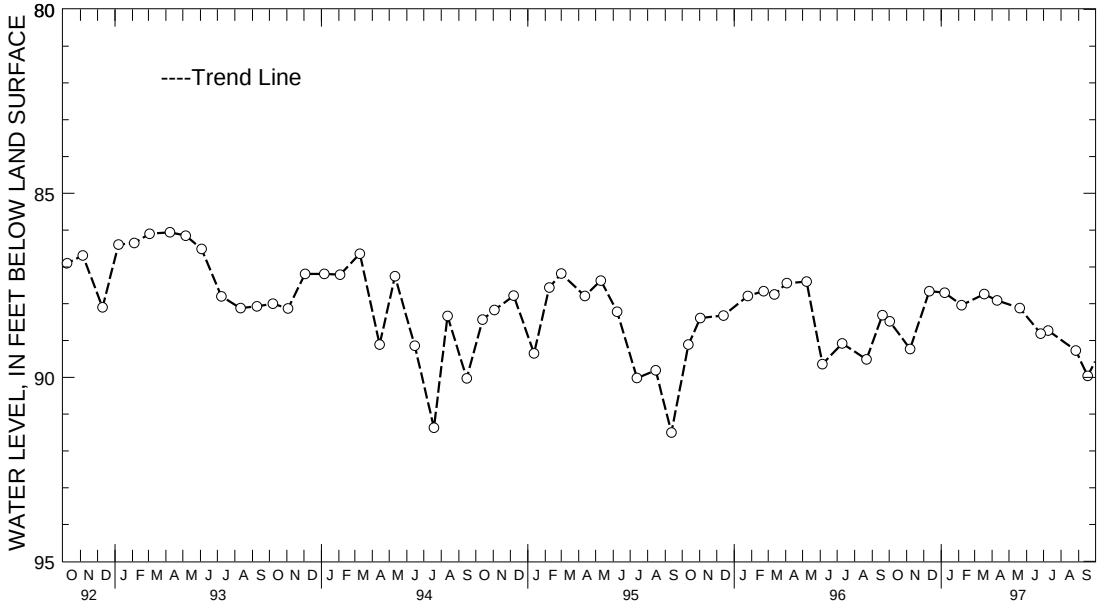
ST. MARYS COUNTY--Continued

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, 91.50 ft below land surface, Sept. 12, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1996	88.48	JAN 07, 1997	87.70	APR 10, 1997	87.91	JUL 09, 1997	88.73
NOV 07	89.23	FEB 06	88.04	MAY 20	88.12	AUG 27	89.27
DEC 11	87.66	MAR 18	87.74	JUN 26	88.81	SEP 17	89.96

WATER YEAR 1997 HIGHEST 87.66 DEC 11, 1996 LOWEST 89.96 SEP 17, 1997



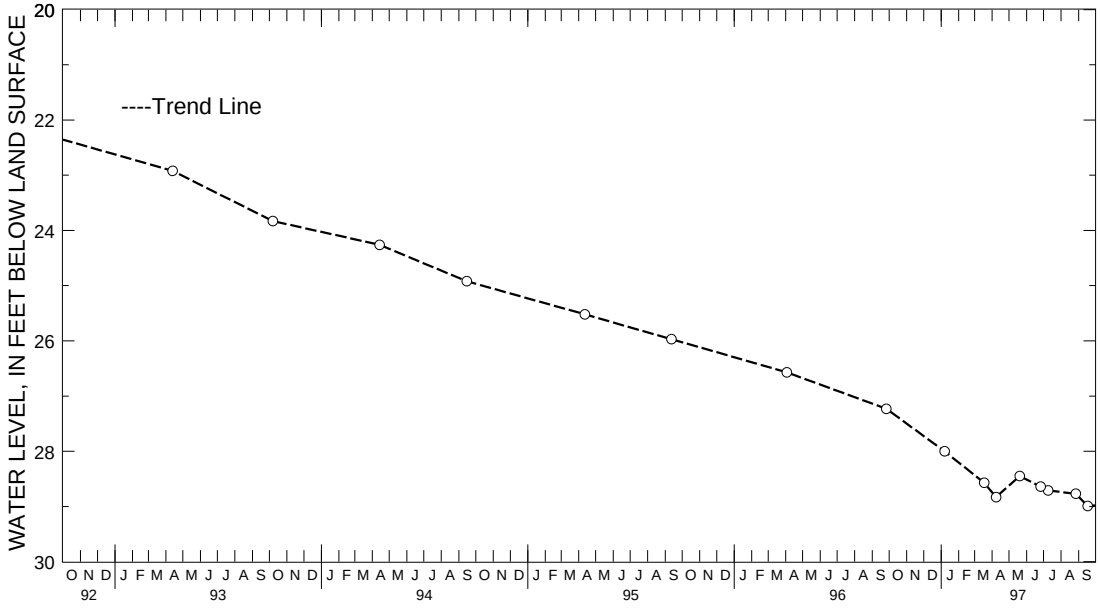
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--SM Ff 36. SITE ID.--380724076251901. PERMIT NUMBER.--SM-73-1478.
LOCATION.--Lat 38°07´23˝, long 76°25´20˝, Hydrologic Unit 02070011, nr Kitts Point.
Owner: Kitts Point Utility Company.
AQUIFER.--Upper Patapsco aquifer in the Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSCU.
WELL CHARACTERISTICS.--Drilled, irragation, artesian well, depth 618 ft; casing diameter 8 in., to 545 ft, and casing diameter 6 in. from 545 to 594 ft; screen diameter 6 in. from 594 to 618 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel. Twice yearly measurements from September 1982 to September 1996.
DATUM.--Elevation of land surface is 5.50 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 1978, September 1982 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.20 ft below land surface, Nov. 14, 1978; lowest measured, 28.99 ft below land surface, Sept. 17, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 07, 1997	28.00	APR 08, 1997	28.83	JUN 26, 1997	28.64	AUG 27, 1997	28.77
MAR 18	28.57	MAY 20	28.45	JUL 09	28.71	SEP 17	28.99

WATER YEAR 1997 HIGHEST 28.00 JAN 07, 1997 LOWEST 28.99 SEP 17, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

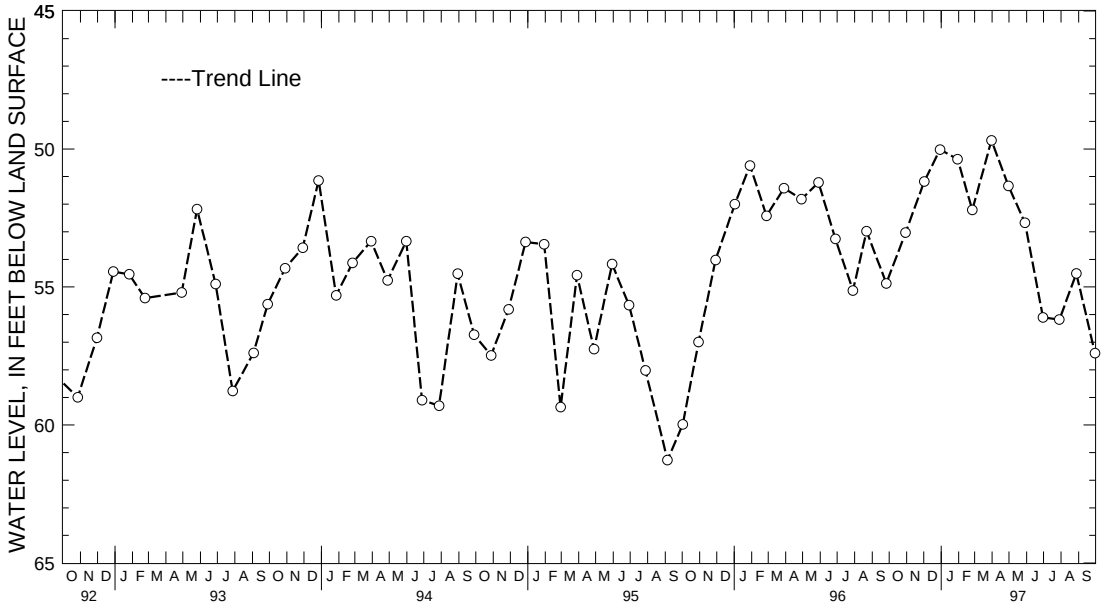
SOMERSET COUNTY

WELL NUMBER.--SO Be 42. SITE ID.--381156075412501.
LOCATION.--Lat 38°11´56˝, long 75°41´25˝, Hydrologic Unit 02060009, 0.1 mi northeast of US Rt. 13 and Hampden Ave., Princess Anne.
Owner: E. Mace Smith.
AQUIFER.--Manokin aquifer of Upper Miocene age. Aquifer code: 122MNKN.
WELL CHARACTERISTICS.--Drilled, unused, artesian well, measured depth 184 ft; casing diameter 2 in., to unknown depth.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 17 ft above National Geodetic Vertical Datum of 1929, from topographic map.
Measuring point: Top of casing, 2.28 ft above land surface.
REMARKS.--Maryland Water-Level Network observation well.
PERIOD OF RECORD.--August 1952 to current year.
EXTREMES FOR PERIOD OF RECORD.---Highest water level measured, 6.15 ft below land surface May 1, 1953; lowest measured 65.72 ft below land surface, July 26, 1991.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30, 1996	53.03	JAN 30, 1997	50.37	APR 30, 1997	51.34	JUL 29, 1997	56.18
DEC 02	51.18	FEB 25	52.21	MAY 29	52.67	AUG 28	54.51
30	50.02	MAR 31	49.69	JUN 30	56.10	SEP 30	57.40

WATER YEAR 1997 HIGHEST 49.69 MAR 31, 1997 LOWEST 57.40 SEP 30, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--SO Ce 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 electric 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.--Altitude 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.
ERIOD 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 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	37.21	37.08	36.95	36.81	35.80	35.53	35.11	34.88	34.69	34.50	34.98	34.77
2	37.17	36.97	36.90	36.75	35.73	35.55	34.95	34.84	34.75	34.66	34.84	34.64
3	37.17	37.01	36.89	36.78	35.76	35.60	34.94	34.83	34.77	34.63	34.89	34.74
4	37.19	37.06	36.86	36.73	35.71	35.60	34.94	34.79	34.80	34.62	34.81	34.65
5	37.14	37.05	36.76	36.66	35.74	35.51	34.86	34.63	34.70	34.48	34.80	34.60
6	37.15	36.96	36.71	36.54	35.64	35.33	34.85	34.67	34.75	34.56	34.83	34.56
7	37.04	36.80	36.58	36.39	35.63	35.39	34.86	34.69	34.93	34.67	34.95	34.81
8	36.91	36.63	36.45	36.21	35.57	35.33	34.88	34.78	35.18	34.87	34.94	34.78
9	36.78	36.54	36.42	36.17	35.63	35.34	34.86	34.63	35.29	35.11	35.00	34.83
10	36.84	36.52	36.43	36.28	35.67	35.44	34.63	34.37	35.27	35.09	34.86	34.63
11	36.91	36.80	36.39	36.23	35.59	35.42	34.75	34.46	35.23	35.11	34.78	34.62
12	36.92	36.76	36.42	36.30	35.60	35.39	34.77	34.67	35.21	35.03	34.84	34.71
13	36.86	36.70	36.42	36.31	35.55	35.26	34.76	34.66	35.22	35.13	34.87	34.74
14	36.81	36.66	36.41	36.29	35.49	35.42	34.75	34.69	35.16	34.92	34.85	34.54
15	36.82	36.65	36.45	36.31	35.50	35.28	34.76	34.60	35.00	34.83	34.81	34.62
16	36.77	36.64	36.41	36.24	35.40	35.16	34.64	34.39	35.07	34.95	34.83	34.79
17	36.77	36.67	36.38	36.19	35.31	35.17	34.66	34.51	35.05	34.95	34.83	34.67
18	36.75	36.52	36.30	36.02	35.40	35.22	34.76	34.61	35.02	34.85	34.75	34.67
19	36.56	36.40	36.17	36.01	35.36	35.21	34.83	34.73	34.96	34.87	34.71	34.55
20	36.57	36.37	36.17	36.01	35.48	35.24	34.85	34.68	35.04	34.95	34.70	34.54
21	36.64	36.40	36.19	36.04	35.51	35.45	35.06	34.85	34.99	34.80	34.77	34.62
22	36.65	36.48	36.20	36.04	35.48	35.36	35.04	34.88	35.00	34.75	34.76	34.52
23	36.65	36.44	36.21	36.01	35.39	35.26	34.98	34.81	35.07	34.98	34.81	34.70
24	36.66	36.42	36.15	36.00	35.31	35.11	34.98	34.85	35.06	34.96	34.79	34.61
25	36.81	36.55	36.10	35.92	35.33	35.16	34.85	34.57	35.04	34.95	34.86	34.71
26	36.85	36.70	36.01	35.72	35.34	35.22	34.94	34.76	35.00	34.88	35.05	34.73
27	36.83	36.64	36.00	35.93	35.27	35.12	34.94	34.80	34.95	34.84	35.07	34.94
28	36.75	36.52	36.00	35.82	35.21	35.02	34.81	34.64	34.99	34.95	35.02	34.90
29	36.71	36.52	35.90	35.76	35.13	34.98	34.82	34.74	---	---	34.94	34.72
30	36.80	36.58	35.87	35.71	35.14	35.05	34.80	34.68	---	---	34.85	34.75
31	36.93	36.79	---	---	35.11	34.97	34.70	34.52	---	---	34.78	34.57
MONTH	37.21	36.37	36.95	35.71	35.80	34.97	35.11	34.37	35.29	34.48	35.07	34.52

GROUND-WATER LEVELS

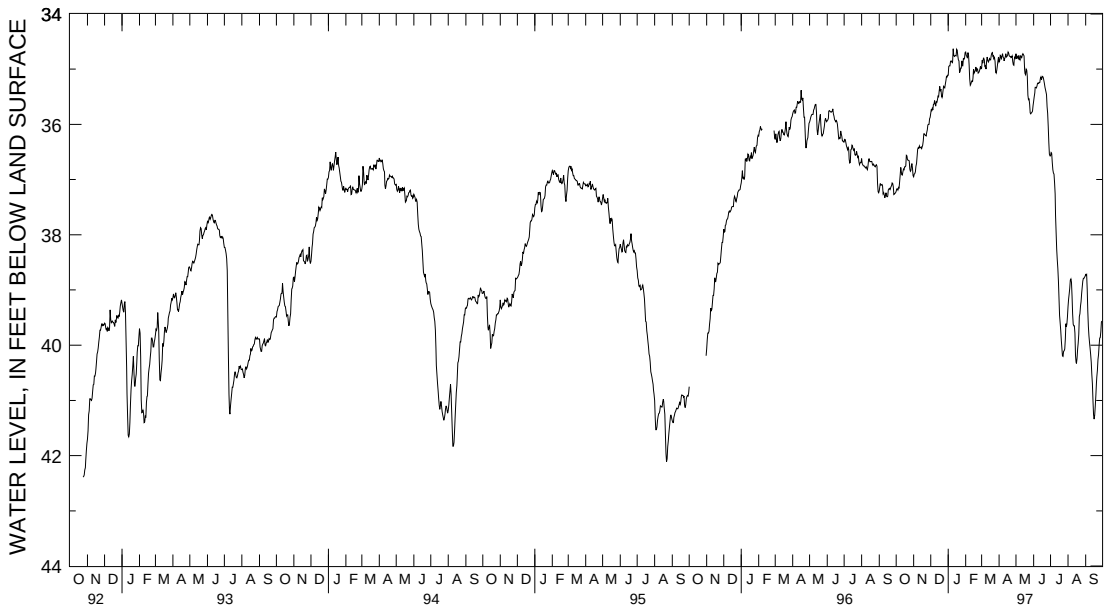
MARYLAND--Continued

SOMERSET COUNTY--Continued

SO Ce 42--Continued

DAY	APRIL MAX	APRIL MIN	MAY MAX	MAY MIN	JUNE MAX	JUNE MIN	JULY MAX	JULY MIN	AUGUST MAX	AUGUST MIN	SEPTEMBER MAX	SEPTEMBER MIN
1	34.87	34.78	34.72	34.61	35.58	35.38	36.57	36.43	39.30	39.17	38.72	38.59
2	34.85	30.70	34.81	34.62	35.50	35.33	36.51	36.34	39.17	39.05	38.73	38.59
3	34.75	34.59	34.77	34.58	35.43	35.27	36.53	36.35	39.07	38.95	38.72	38.53
4	34.77	34.58	34.79	34.54	35.33	35.16	36.69	36.43	38.97	38.75	38.99	38.71
5	34.82	34.65	34.81	34.69	35.33	35.11	36.82	36.60	38.82	38.66	39.38	38.99
6	34.76	34.57	34.75	34.54	35.34	35.12	36.88	36.72	38.80	38.65	39.66	39.37
7	34.72	34.52	34.81	34.65	35.31	35.14	36.90	36.78	38.86	38.67	39.83	39.66
8	34.78	34.58	34.83	34.69	35.26	35.09	37.06	36.85	39.11	38.79	39.95	39.81
9	34.80	34.60	34.76	34.62	35.25	35.12	37.26	37.00	39.43	39.11	40.06	39.94
10	34.85	34.75	34.77	34.59	35.26	35.13	37.65	37.25	39.62	39.43	40.17	40.02
11	34.81	34.68	34.79	34.68	35.24	35.14	37.95	37.65	39.65	39.55	40.31	40.08
12	34.78	34.59	34.74	34.59	35.24	35.10	38.26	37.95	39.65	39.53	40.53	40.23
13	34.72	34.57	34.72	34.68	35.17	35.06	38.45	38.26	39.78	39.63	40.70	40.44
14	34.78	34.72	34.74	34.64	35.14	35.06	38.61	38.44	40.18	39.74	41.01	40.63
15	34.77	34.70	34.76	34.64	35.19	35.05	38.84	38.56	40.31	40.11	41.26	40.96
16	34.75	34.58	35.01	34.70	35.14	34.99	39.14	38.78	40.33	40.17	41.34	41.15
17	34.69	34.58	35.08	35.00	35.13	34.97	39.46	39.09	40.24	40.07	41.27	41.02
18	34.71	34.62	35.10	34.94	35.15	34.99	39.59	39.36	40.07	39.91	41.10	40.77
19	34.76	34.62	35.00	34.89	35.20	34.98	39.73	39.42	39.96	39.68	40.91	40.59
20	34.77	34.59	35.02	34.86	35.26	35.08	39.91	39.64	39.80	39.39	40.69	40.38
21	34.77	34.56	35.13	34.94	35.33	35.10	40.05	39.78	39.48	39.25	40.57	40.39
22	34.79	34.61	35.47	35.10	35.36	35.15	40.19	39.92	39.43	39.15	40.46	40.21
23	34.78	34.59	35.55	35.40	35.41	30.30	40.20	40.03	39.29	39.10	40.26	40.10
24	34.76	34.54	35.54	35.39	35.46	35.29	40.11	39.95	39.21	39.01	40.17	39.99
25	34.86	34.56	35.63	35.36	35.68	35.35	40.10	39.94	39.06	38.88	40.00	39.73
26	34.92	34.71	35.79	35.59	35.80	35.60	40.07	39.83	38.95	38.76	39.87	39.73
27	34.93	34.80	35.81	35.68	36.04	35.73	39.89	39.55	38.84	38.68	39.86	39.70
28	34.82	34.53	35.79	35.60	36.33	36.04	39.61	39.31	38.79	38.67	39.75	39.46
29	34.78	34.70	35.78	35.68	36.54	36.30	39.67	39.30	38.79	38.68	39.58	39.33
30	34.80	34.66	35.76	35.60	36.57	36.41	39.62	39.44	38.77	38.65	39.56	39.39
31	---	---	35.66	35.47	---	---	39.49	39.28	38.75	38.61	---	---
MONTH	34.93	30.70	35.81	34.54	36.57	30.30	40.20	36.34	40.33	38.61	41.34	38.53
YEAR	41.34	30.30										

Daily Low Water Levels



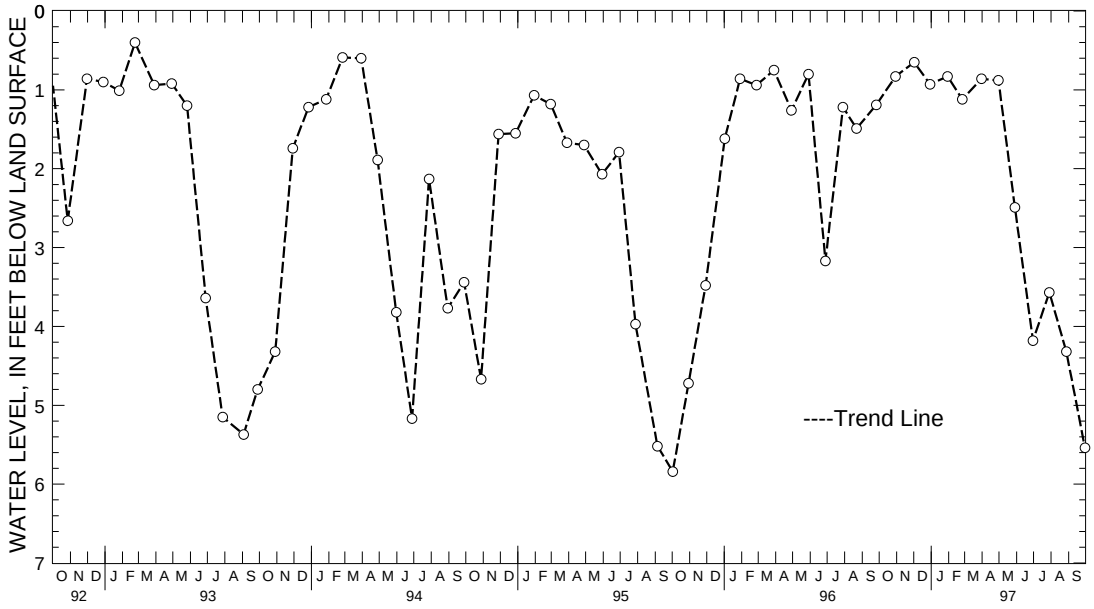
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 electric 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30, 1996	.83	JAN 30, 1997	.83	APR 30, 1997	.88	JUL 29, 1997	3.57
DEC 02	.65	FEB 25	1.12	MAY 29	2.49	AUG 28	4.32
30	.93	MAR 31	.86	JUN 30	4.18	SEP 30	5.54

WATER YEAR 1997 HIGHEST .65 DEC 02, 1996 LOWEST 5.54 SEP 30, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

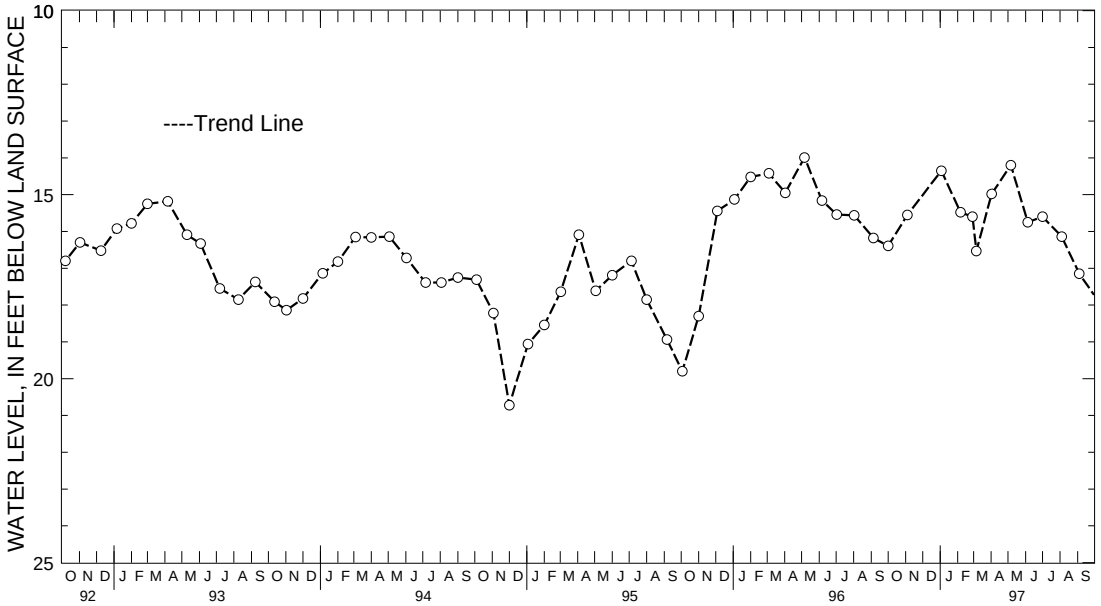
TALBOT COUNTY

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: Allen Foods.
AQUIFER.--Piney Point Formation of Middle Eocene age. Aquifer code: 124PNPN.
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 electric 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1996	16.39	FEB 06, 1997	15.48	APR 02, 1997	14.98	JUL 01, 1997	15.60
NOV 04	15.55	27	15.60	MAY 06	14.20	AUG 04	16.14
JAN 03, 1997	14.35	MAR 06	16.53	JUN 05	15.75	SEP 04	17.15

WATER YEAR 1997 HIGHEST 14.20 MAY 06, 1997 LOWEST 17.15 SEP 04, 1997



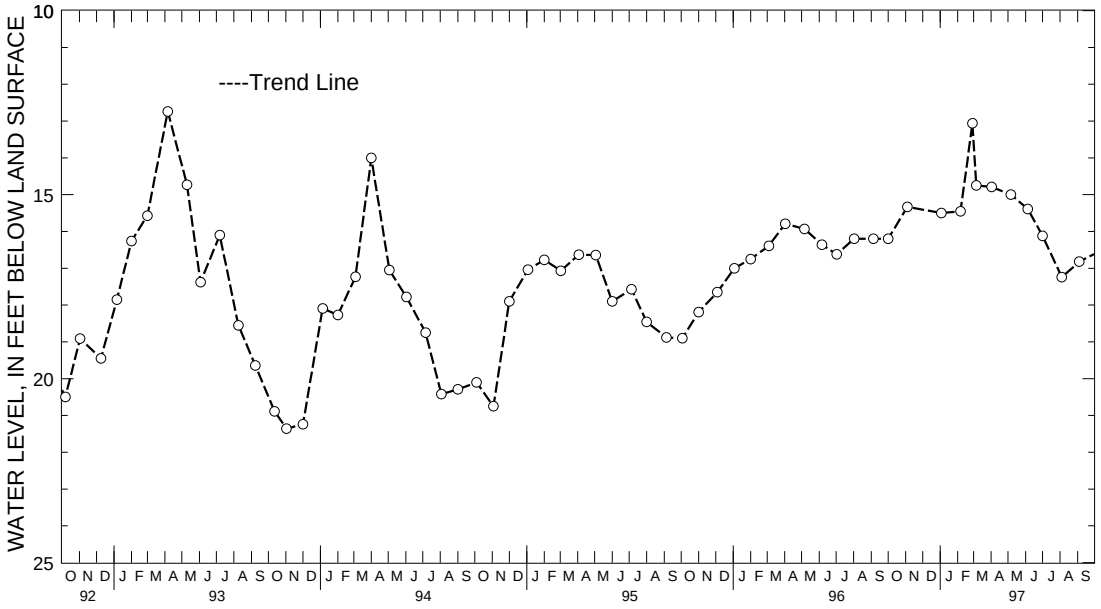
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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: Allen Foods.
AQUIFER.--Pensauken Formation of Upper Miocene age. Aquifer code: 122PNSK.
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 electric 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, 21.36 ft below land surface, Nov. 2, 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1996	16.20	FEB 06, 1997	15.45	APR 02, 1997	14.79	JUL 01, 1997	16.12
NOV 04	15.33	27	13.06	MAY 06	15.00	AUG 04	17.24
JAN 03, 1997	15.50	MAR 06	14.75	JUN 05	15.39	SEP 04	16.82

WATER YEAR 1997 HIGHEST 13.06 FEB 27, 1997 LOWEST 17.24 AUG 04, 1997



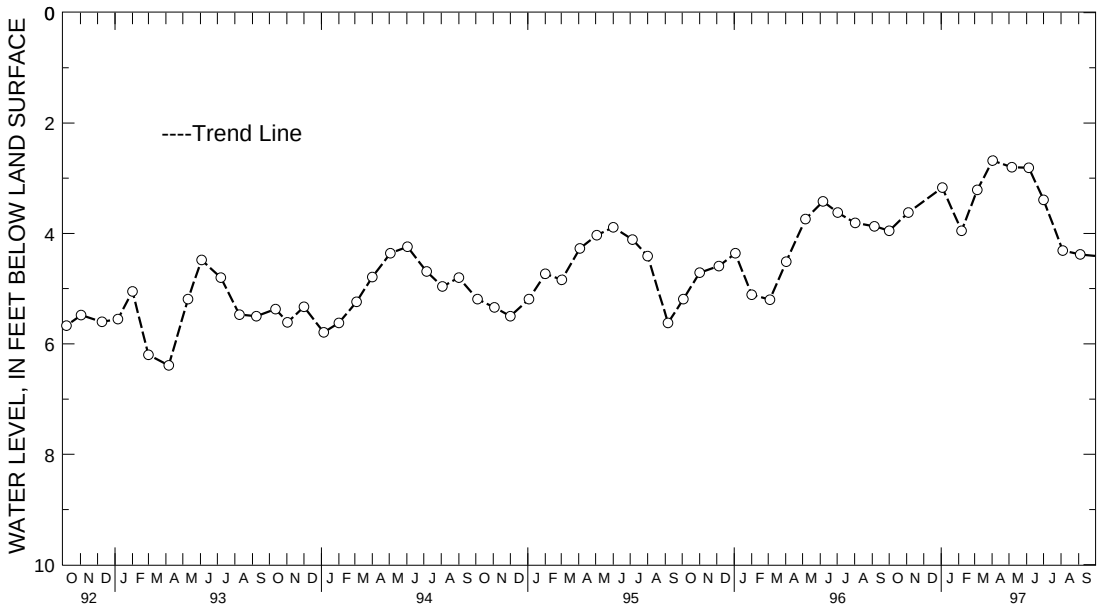
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 electric 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1996	3.95	FEB 06, 1997	3.95	MAY 06, 1997	2.80	AUG 04, 1997	4.31
NOV 04	3.62	MAR 06	3.21	JUN 05	2.81	SEP 04	4.38
JAN 03, 1997	3.17	APR 02	2.68	JUL 01	3.39		

WATER YEAR 1997 HIGHEST 2.68 APR 02, 1997 LOWEST 4.38 SEP 04, 1997



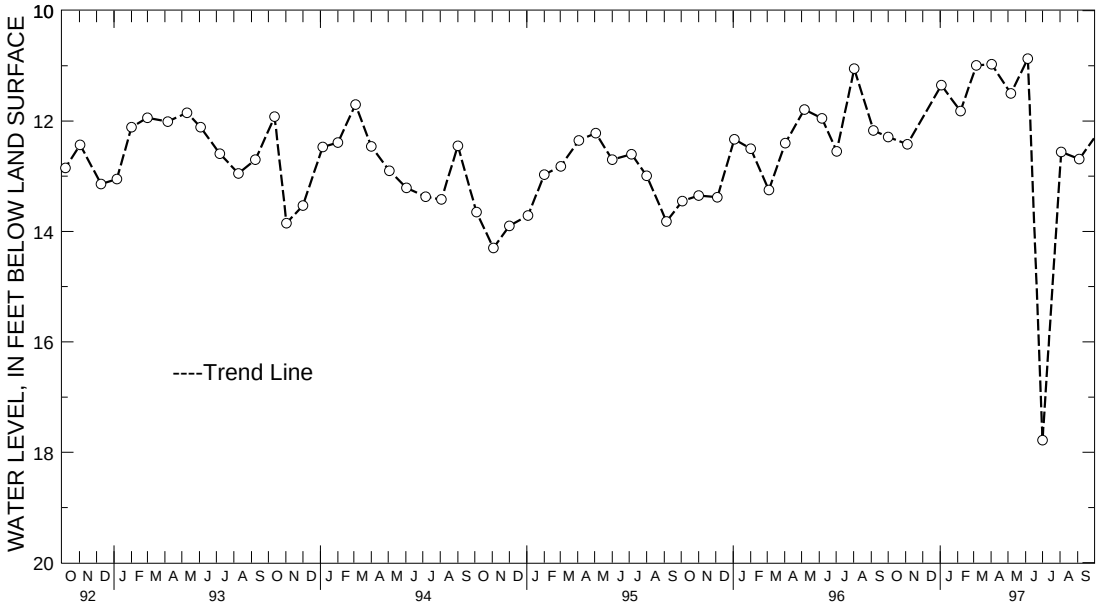
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 electric 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, 17.78 ft below land surface, July 1, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1996	12.29	FEB 06, 1997	11.82	MAY 06, 1997	11.50	AUG 03, 1997	12.56
NOV 04	12.42	MAR 06	10.99	JUN 05	10.87	SEP 04	12.69
JAN 03, 1997	11.35	APR 02	10.97	JUL 01	17.78		

WATER YEAR 1997 HIGHEST 10.87 JUN 05, 1997 LOWEST 17.78 JUL 01, 1997



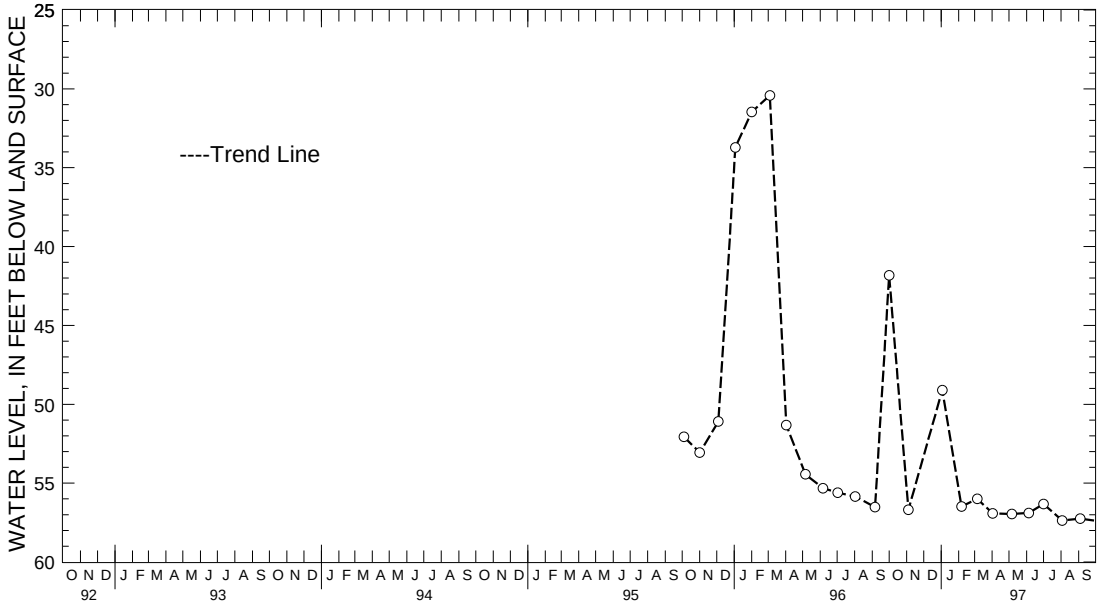
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--TA Cd 57. SITE ID.--384709076050301. PERMIT NUMBER.--TA-88-1328.
LOCATION.--Lat 38°47´09˝, long 076°05´03˝, Hydrologic Unit 02060005, in Easton, 0.3 mi southwest of the intersection of Glebe Rd and Commerce Drive..
Owner: Easton Utilities Commission.
AQUIFER.--Upper Patapsco Formation of Lower Cretaceous age. Aquifer code: 217PPSC.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
WELL CHARACTERISTICS.--Drilled, unused, artesian well, depth 1,198 ft; casing diameter 4 in., to 295 ft; casing diameter 2 in. from 260 to 1,137 ft, and 1,158 to 1,198 ft; screen diameter 2 in. from 1,137 to 1,158 ft.
DATUM.--Elevation of land surface is 12 ft above National Geodetic Vertical Datum of 1929, from topographic map.
Measuring point: Top of casing, 3.78 ft above land surface.
REMARKS.--Maryland Water-Level Network observation well.
PERIOD OF RECORD.--October 1995 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 30.42 ft below land surface, March 4, 1996; lowest measured, 57.37 ft below land surface, August 3, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1996	41.83	FEB 06, 1997	56.48	MAY 06, 1997	56.96	AUG 03, 1997	57.37
NOV 04	56.69	MAR 06	56.00	JUN 05	56.89	SEP 04	57.25
JAN 03, 1997	49.10	APR 02	56.92	JUL 01	56.32		

WATER YEAR 1997 HIGHEST 41.83 OCT 01, 1996 LOWEST 57.37 AUG 03, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

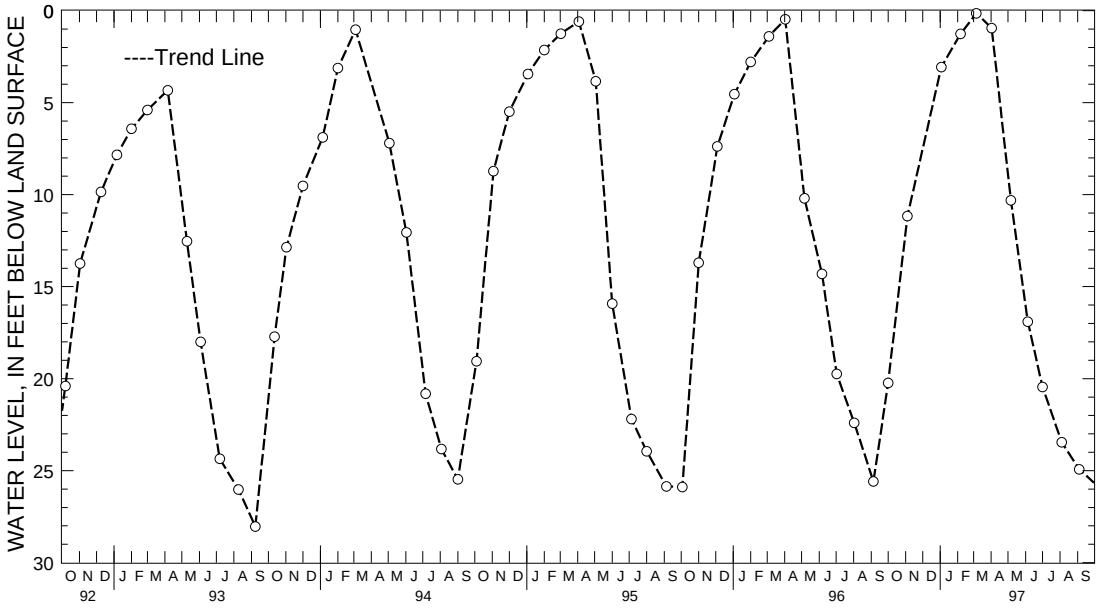
TALBOT COUNTY--Continued

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.--Cheswold aquifer of the Calvert Formation of Miocene age. Aquifer code: 122CSLD.
WELL CHARACTERISTICS.--Drilled, unused, artesian well, measured depth 104 ft; casing diameter 4 in., to unknown depth.
INSTRUMENTATION.--Monthly measurements with electric 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, 0.15 ft below land surface, March 6, 1997; lowest measured 75.36 ft below land surface, Aug. 2, 1966.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1996	20.23	FEB 06, 1997	1.26	MAY 06, 1997	10.31	AUG 04, 1997	23.46
NOV 04	11.17	MAR 06	.15	JUN 05	16.90	SEP 04	24.93
JAN 03, 1997	3.07	APR 02	.95	JUL 01	20.45		

WATER YEAR 1997 HIGHEST .15 MAR 06, 1997 LOWEST 24.93 SEP 04, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

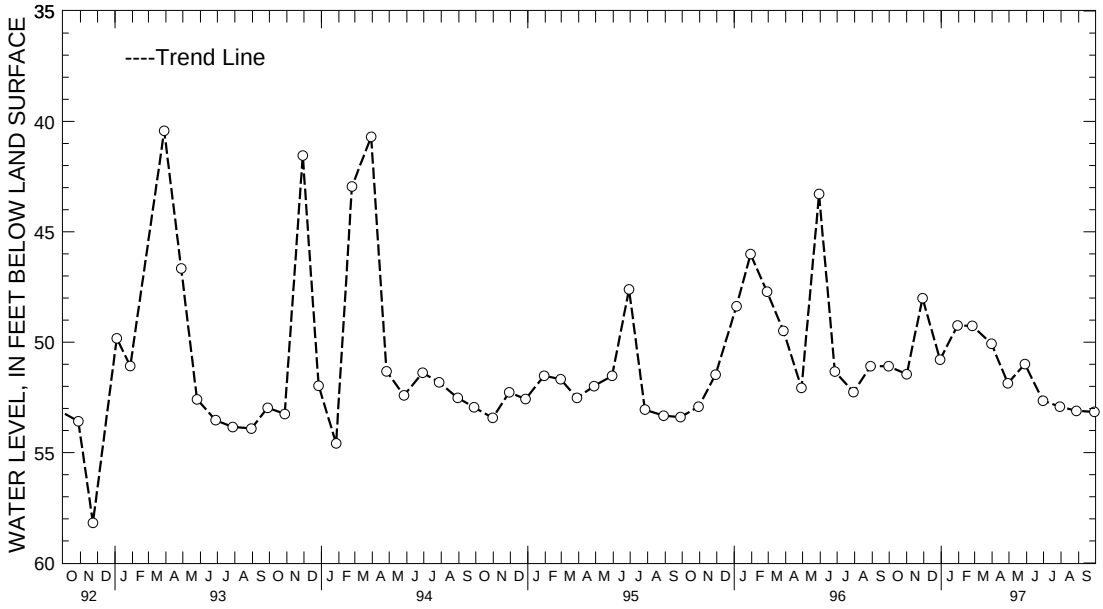
WASHINGTON COUNTY

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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 01, 1996	51.45	JAN 30, 1997	49.24	APR 29, 1997	51.86	JUL 30, 1997	52.92
29	48.01	FEB 25	49.26	MAY 29	50.99	AUG 28	53.11
DEC 30	50.79	MAR 31	50.07	JUN 30	52.65	SEP 29	53.16

WATER YEAR 1997 HIGHEST 48.01 NOV 29, 1996 LOWEST 53.16 SEP 29, 1997



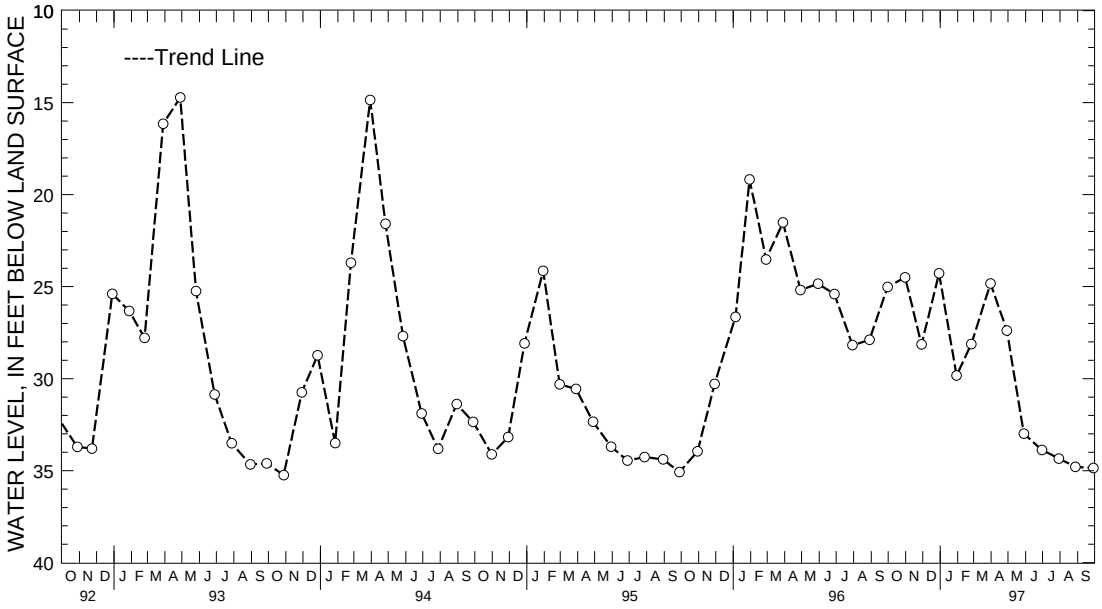
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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, 14.72 ft below land surface, April 28, 1993; lowest measured, 37.34 ft below land surface, April 28, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 31, 1996	24.49	JAN 30, 1997	29.83	APR 29, 1997	27.38	JUL 30, 1997	34.34
NOV 29	28.14	FEB 25	28.12	MAY 29	32.99	AUG 28	34.79
DEC 30	24.28	MAR 31	24.83	JUN 30	33.88	SEP 29	34.86

WATER YEAR 1997 HIGHEST 24.28 DEC 30, 1996 LOWEST 34.86 SEP 29, 1997



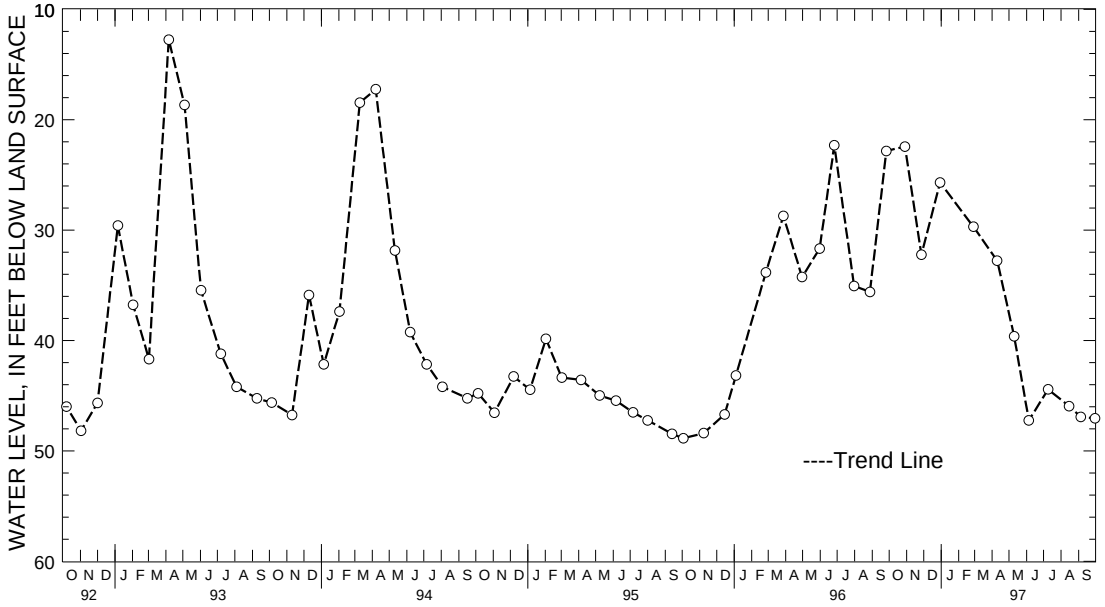
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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.
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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29, 1996	22.43	FEB 27, 1997	29.69	JUN 05, 1997	47.23	SEP 05, 1997	46.93
NOV 27	32.22	APR 10	32.77	JUL 09	44.42	30	47.05
DEC 30	25.69	MAY 10	39.61	AUG 15	45.94		

WATER YEAR 1997 HIGHEST 22.43 OCT 29, 1996 LOWEST 47.23 JUN 05, 1997



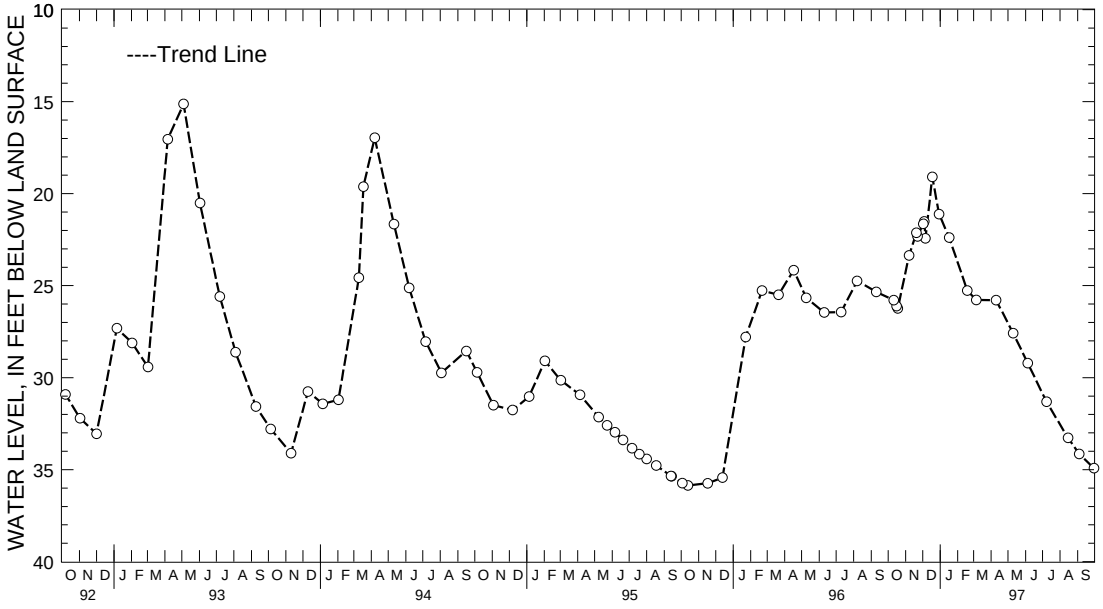
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 June 1994.
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.
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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 11, 1996	25.79	DEC 02, 1996	21.64	FEB 18, 1997	25.27	AUG 15, 1997	33.27
16	26.11	04	21.51	MAR 06	25.78	SEP 04	34.15
18	26.24	06	22.43	APR 10	25.79	30	34.92
NOV 07	23.36	18	19.09	MAY 10	27.58		
20	22.13	30	21.11	JUN 05	29.21		
22	22.32	JAN 17, 1997	22.39	JUL 08	31.31		

WATER YEAR 1997 HIGHEST 19.09 DEC 18, 1996 LOWEST 34.92 SEP 30, 1997



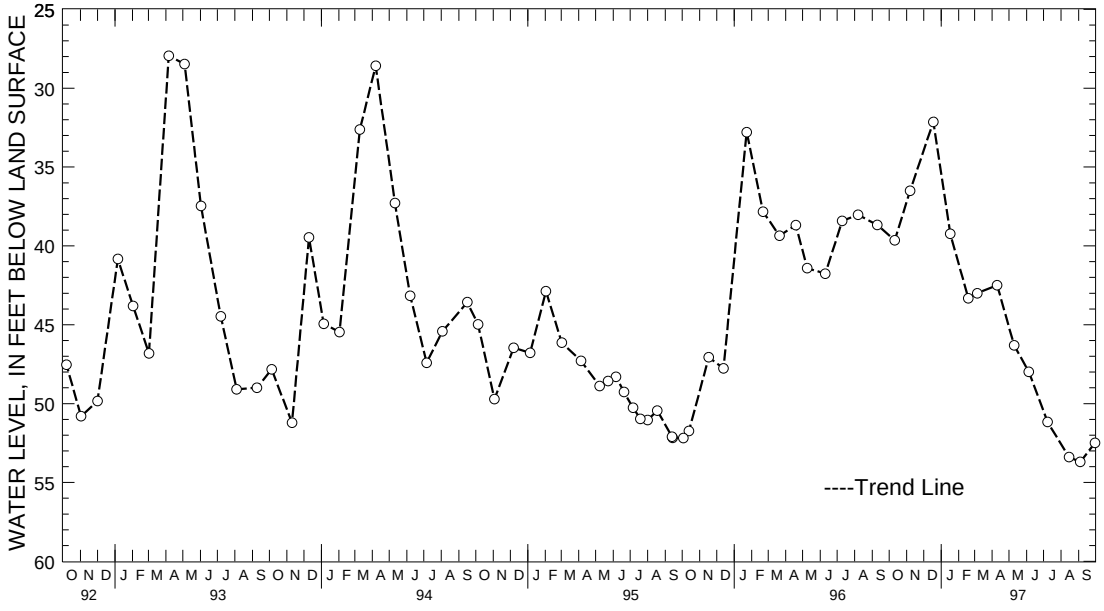
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--WA Ci 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 11, 1996	39.64	FEB 18, 1997	43.32	JUN 05, 1997	47.98	SEP 30, 1997	52.49
NOV 07	36.51	MAR 06	43.00	JUL 08	51.16		
DEC 18	32.14	APR 10	42.49	AUG 15	53.39		
JAN 17, 1997	39.23	MAY 10	46.31	SEP 04	53.70		

WATER YEAR 1997 HIGHEST 32.14 DEC 18, 1996 LOWEST 53.70 SEP 04, 1997



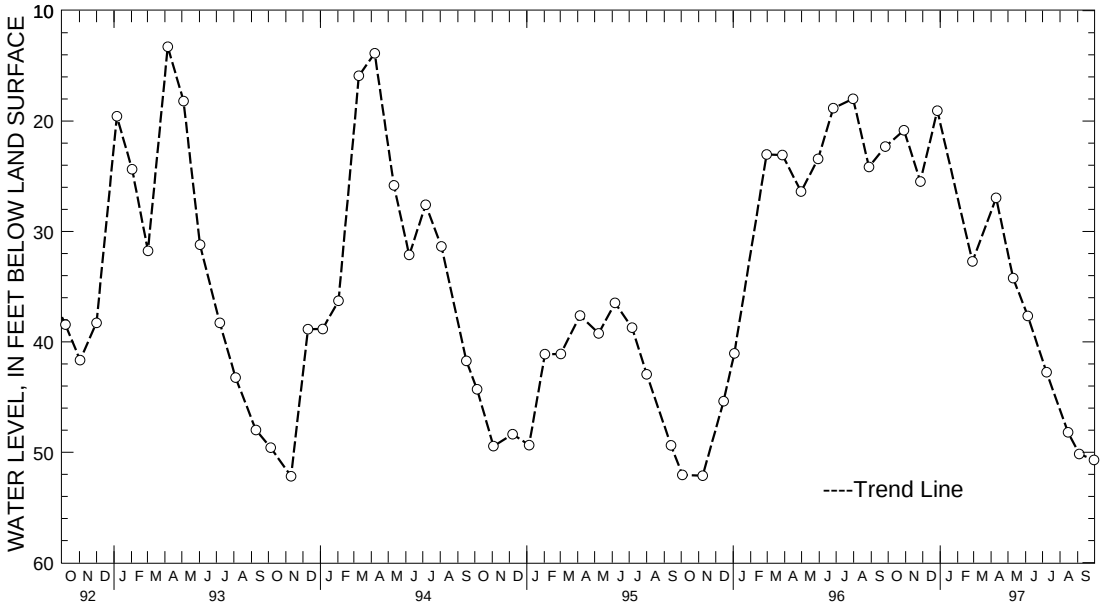
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--WA Dj 2. SITE ID.--392904077371501.
LOCATION.--Lat 39°29´04˝, long 77°37´15˝, Hydrologic Unit 02070004, at Turner's Gap on Alt. U.S. 40.
Owner: Russell Schwartz.
AQUIFER.--Weverton Formation of Lower Cambrian age. Aquifer code: 377WVRN.
WELL CHARACTERISTICS.--Dug, stone-lined, observation, water-table well, depth 61.3 ft; casing diameter 48 in.
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 1,070 ft above National Geodetic Vertical Datum of 1929, from topographic map.
Measuring point: Top of concrete cover, 0.25 ft above land surface.
REMARKS.--Maryland Water-Level Network observation well.
PERIOD OF RECORD.--December 1956 to current year.
EXTREMES FOR PERIOD FOR RECORD.--Highest water level measured, 13.27 ft below land surface, April 6, 1993; lowest measured, 58.88 ft below land surface, Oct. 5, 1961.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29, 1996	20.83	FEB 27, 1997	32.72	JUN 05, 1997	37.65	SEP 04, 1997	50.15
NOV 27	25.47	APR 10	26.96	JUL 08	42.74	30	50.69
DEC 27	19.06	MAY 10	34.23	AUG 15	48.20		

WATER YEAR 1997 HIGHEST 19.06 DEC 27, 1996 LOWEST 50.69 SEP 30, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

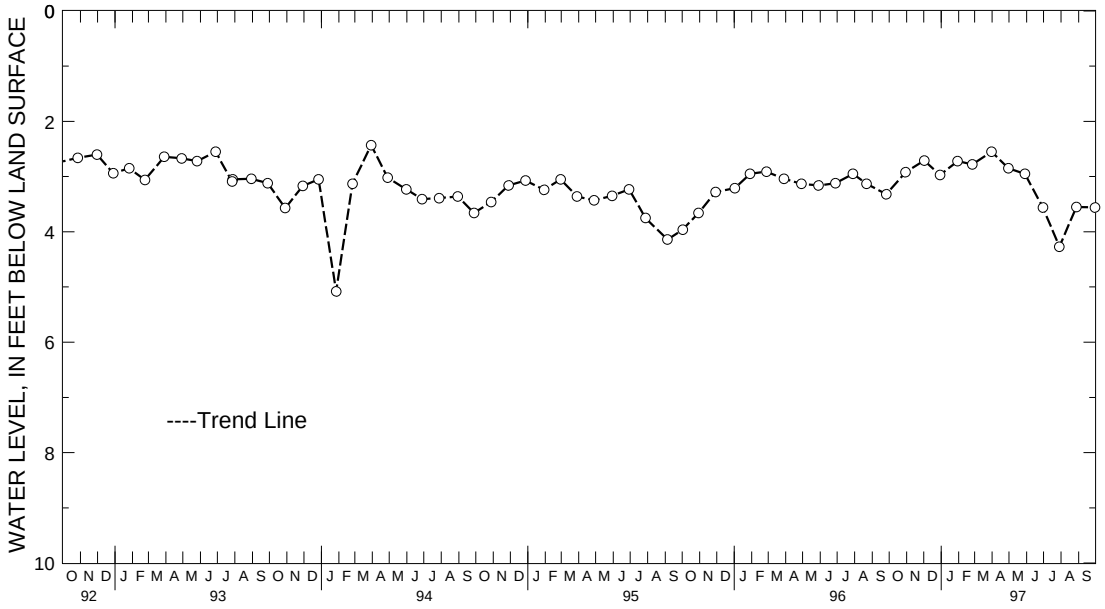
WICOMICO COUNTY

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 electric 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, 0.22 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30, 1996	2.92	JAN 30, 1997	2.72	APR 30, 1997	2.85	JUL 29, 1997	4.27
DEC 02	2.71	FEB 25	2.78	MAY 29	2.95	AUG 28	3.55
30	2.97	MAR 31	2.55	JUN 30	3.56	SEP 30	3.56

WATER YEAR 1997 HIGHEST 2.55 MAR 31, 1997 LOWEST 4.27 JUL 29, 1997



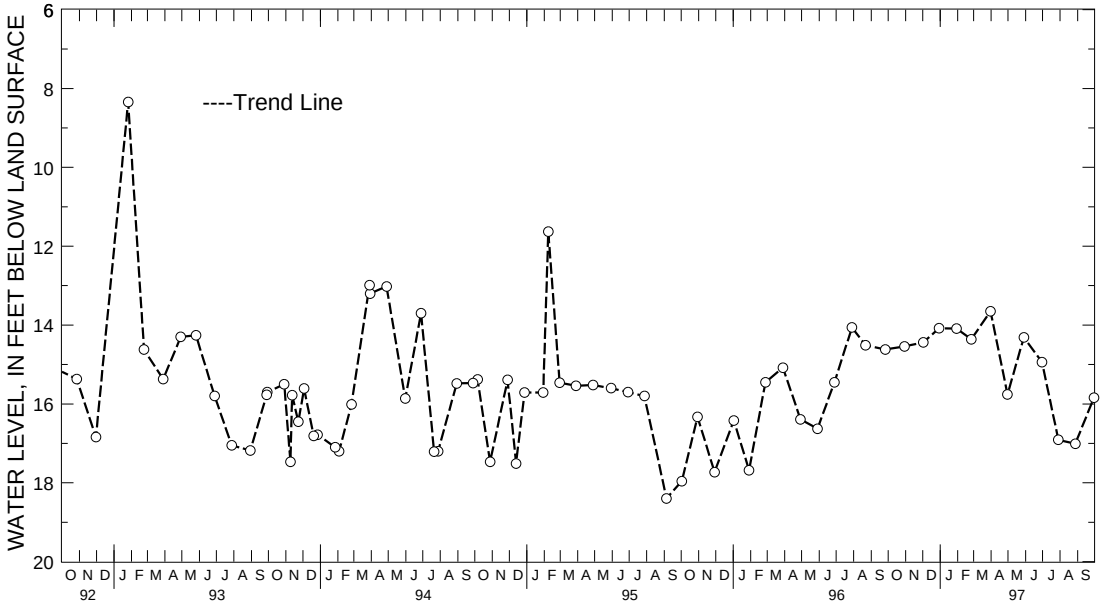
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--WI Ce 204. SITE ID.--382404075355401 PERMIT NUMBER.--WI-67-0191.
LOCATION.--Lat 38°24´04˝, long 75°35´54˝, Hydrologic Unit 02060007, north side of Naylor Mill Rd., Salisbury.
Owner: City of Salisbury.
AQUIFER.--Pensauken Formation of the Salisbury aquifer of Miocene age. Aquifer code: 112SLBR.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 113 ft; casing diameter 8 in., to 109 ft; screen diameter 3 in. from 109 to 113 ft.
INSTRUMENTATION.--Monthly measurements with electric tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 28 ft above National Geodetic Vertical Datum of 1929, from topographic map.
Measuring point: Top of shelter floor on cross-brace, 3.14 ft above land surface.
REMARKS.--Maryland Water-Level Network and Salisbury project observation well.
PERIOD OF RECORD.--April 1967 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.35 ft below land surface, April 27, 1967; lowest measured, 17.96 ft below land surface, Oct. 2, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30, 1996	14.54	JAN 30, 1997	14.09	APR 30, 1997	15.76	JUL 29, 1997	16.91
DEC 02	14.44	FEB 25	14.36	MAY 29	14.31	AUG 28	17.01
30	14.08	MAR 31	13.65	JUN 30	14.94	SEP 30	15.84

WATER YEAR 1997 HIGHEST 13.65 MAR 31, 1997 LOWEST 17.01 AUG 28, 1997



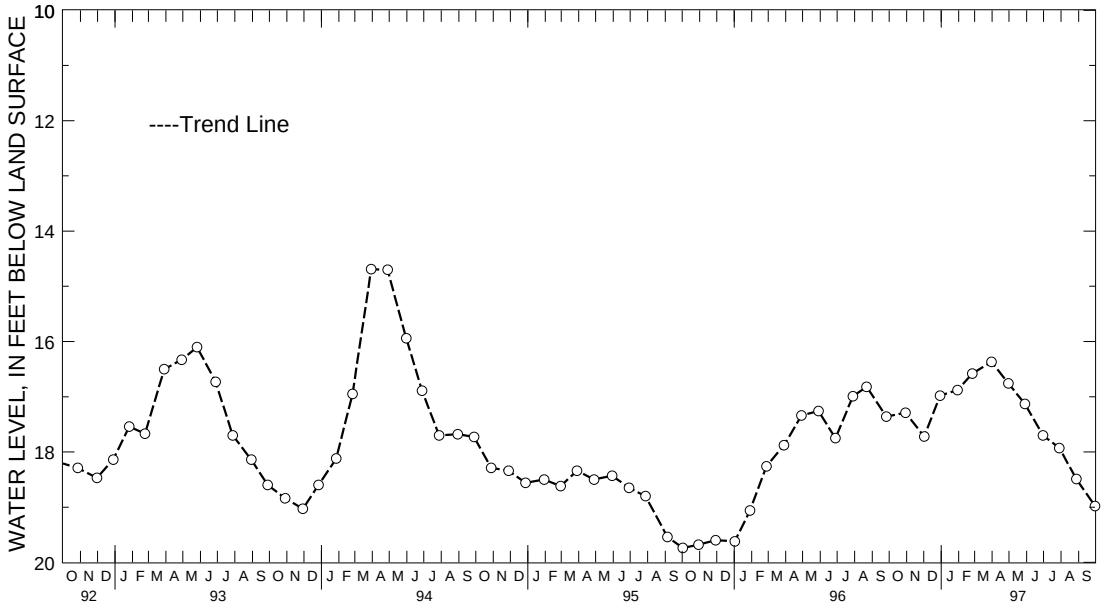
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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, water-table well, depth 80 ft; casing diameter 2 in., to 80 ft; perforated casing from 60 to 80 ft.
INSTRUMENTATION.--Monthly measurements with electric 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 and Oct. 2, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30, 1996	17.29	JAN 30, 1997	16.88	APR 30, 1997	16.76	JUL 29, 1997	17.93
DEC 02	17.72	FEB 25	16.58	MAY 29	17.13	AUG 28	18.49
30	16.98	MAR 31	16.37	JUN 30	17.70	SEP 30	18.98

WATER YEAR 1997 HIGHEST 16.37 MAR 31, 1997 LOWEST 18.98 SEP 30, 1997



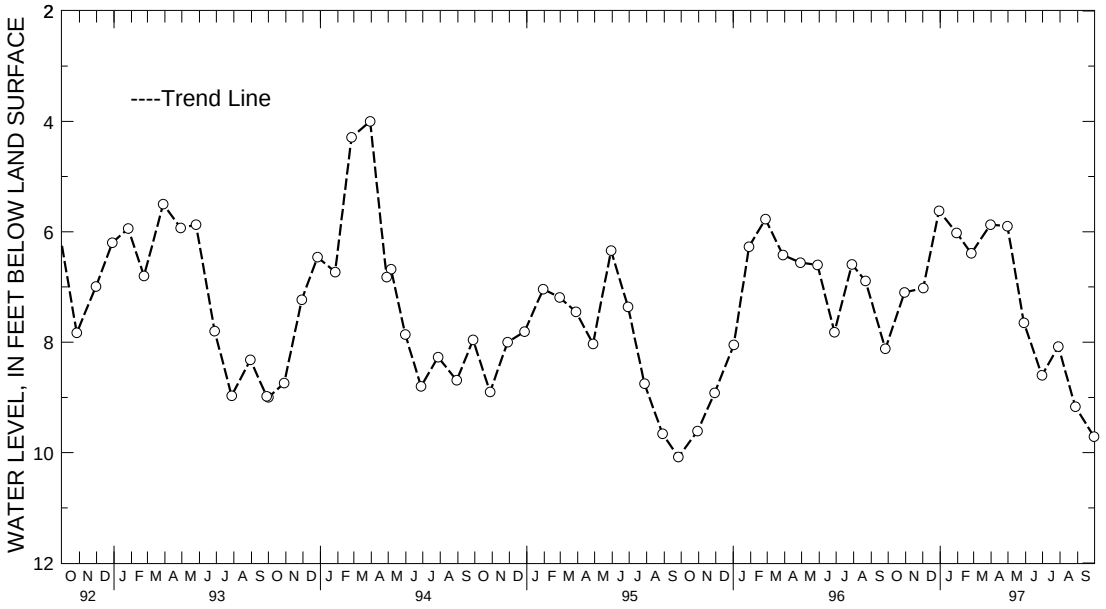
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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, Mt. Hermon.
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 electric tape by U.S. Geological Survey personnel. Equipped with graphic water-level recorder from March 24, 1948 to July 9, l948, 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 and Salisbury project 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30, 1996	7.10	JAN 30, 1997	6.02	APR 30, 1997	5.90	JUL 29, 1997	8.08
DEC 02	7.02	FEB 25	6.39	MAY 29	7.65	AUG 28	9.17
30	5.62	MAR 31	5.87	JUN 30	8.60	SEP 30	9.71

WATER YEAR 1997 HIGHEST 5.62 DEC 30, 1996 LOWEST 9.71 SEP 30, 1997



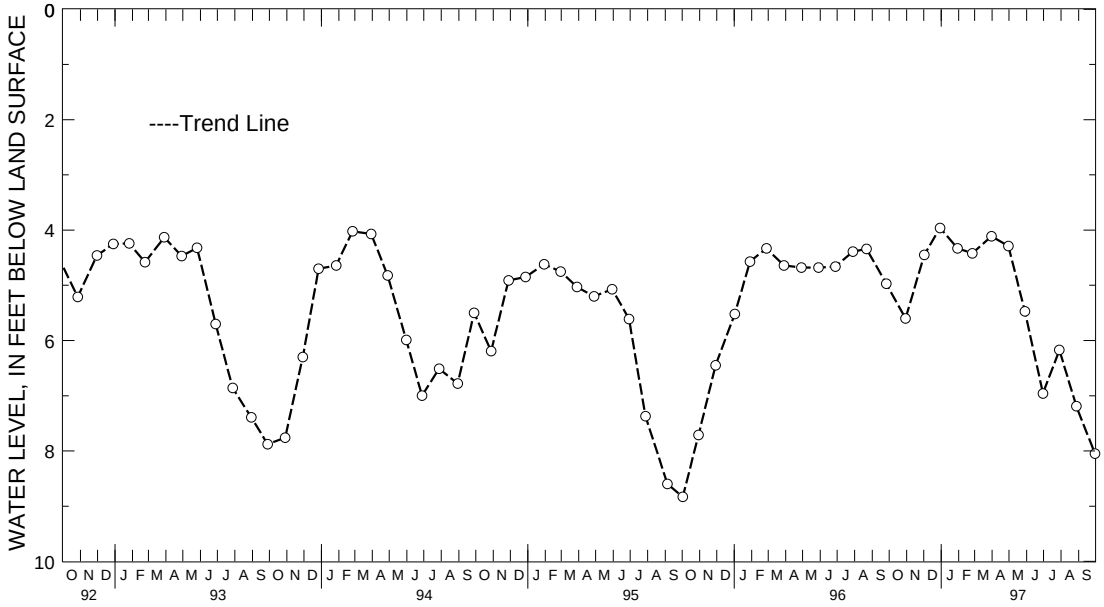
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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: 112PRBG.
WELL CHARACTERISTICS.--Driven, unused, water-table well, depth 25 ft, casing diameter 1.25 in., to unknown depth.
INSTRUMENTATION.--Monthly measurements with electric 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, 8.83 ft below land surface, Oct. 2, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30, 1996	5.60	JAN 30, 1997	4.33	APR 30, 1997	4.29	JUL 29, 1997	6.17
DEC 02	4.45	FEB 25	4.42	MAY 29	5.47	AUG 28	7.19
30	3.96	MAR 31	4.11	JUN 30	6.96	SEP 30	8.05

WATER YEAR 1997 HIGHEST 3.96 DEC 30, 1996 LOWEST 8.05 SEP 30, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

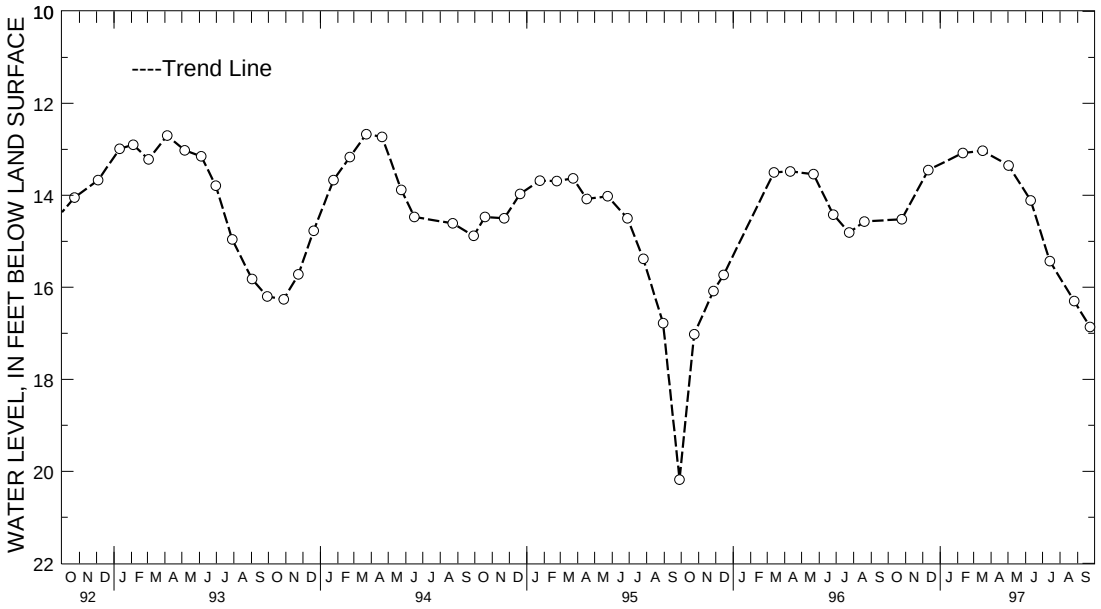
WORCESTER COUNTY

WELL NUMBER.--WO Ae 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 Whaleyville.
Owner: U.S. Geological Survey.
AQUIFER.--Manokin aquifer of Upper 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 electric 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, 20.18 ft below land surface, Sept. 28, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25, 1996	14.52	MAR 17, 1997	13.03	JUL 14, 1997	15.43
DEC 11	13.45	MAY 02	13.35	AUG 26	16.30
FEB 10, 1997	13.08	JUN 10	14.11	SEP 23	16.86

WATER YEAR 1997 HIGHEST 13.03 MAR 17, 1997 LOWEST 16.86 SEP 23, 1997



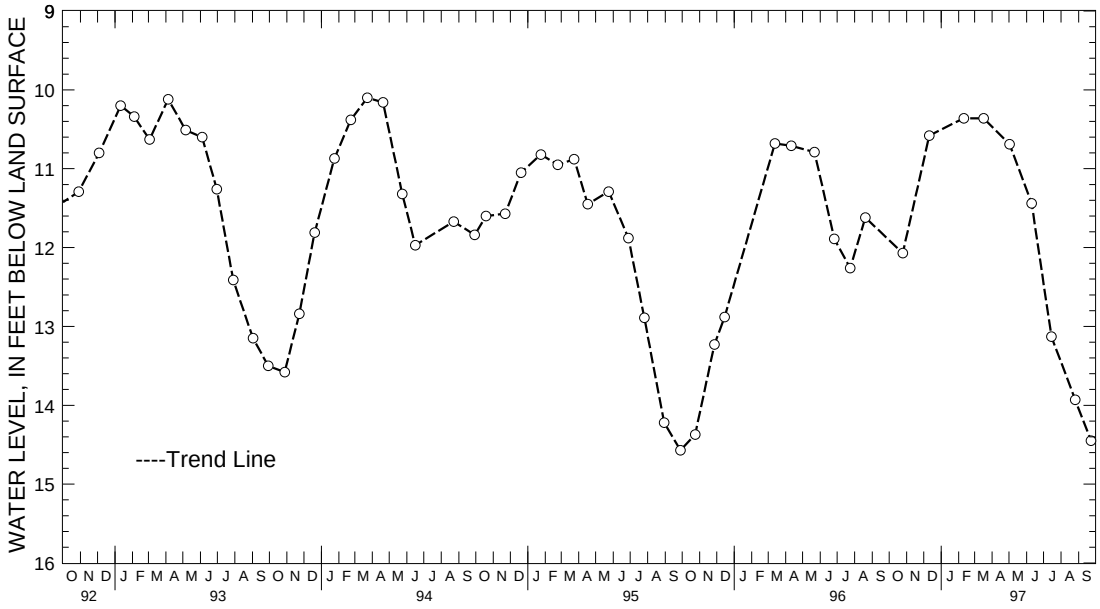
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--WO Ae 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 Whaleyville.
Owner: U.S. Geological Survey.
AQUIFER.--Ocean City aquifer of Upper 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 electric 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25, 1996	12.07	MAR 17, 1997	10.36	JUL 15, 1997	13.13
DEC 11	10.58	MAY 02	10.69	AUG 26	13.93
FEB 10, 1997	10.36	JUN 10	11.44	SEP 23	14.45

WATER YEAR 1997 HIGHEST 10.36 FEB 10, 1997 MAR 17, 1997 LOWEST 14.45 SEP 23, 1997



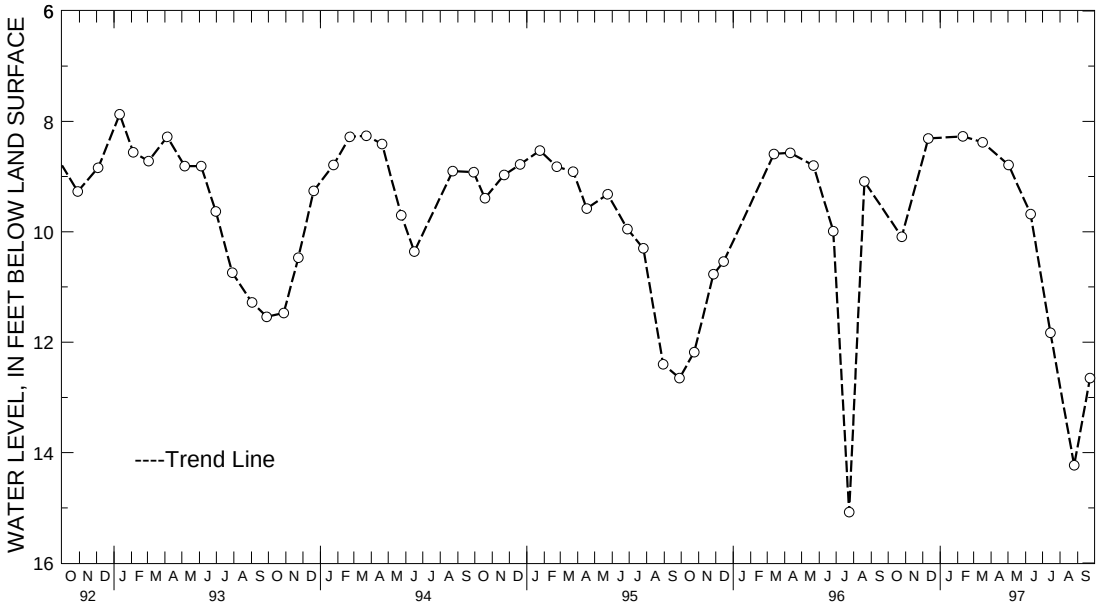
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--WO Ae 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 Whaleyville.
Owner: U.S. Geological Survey.
AQUIFER.--Beaverdam Sand of Pliocene age. Aquifer code: 121BVDM.
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 electric 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, 15.08 ft below land surface, July 24, 1996.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25, 1996	10.09	MAR 17, 1997	8.38	JUL 15, 1997	11.83
DEC 11	8.31	MAY 02	8.79	AUG 26	14.23
FEB 10, 1997	8.27	JUN 10	9.68	SEP 23	12.65

WATER YEAR 1997 HIGHEST 8.27 FEB 10, 1997 LOWEST 14.23 AUG 26, 1997



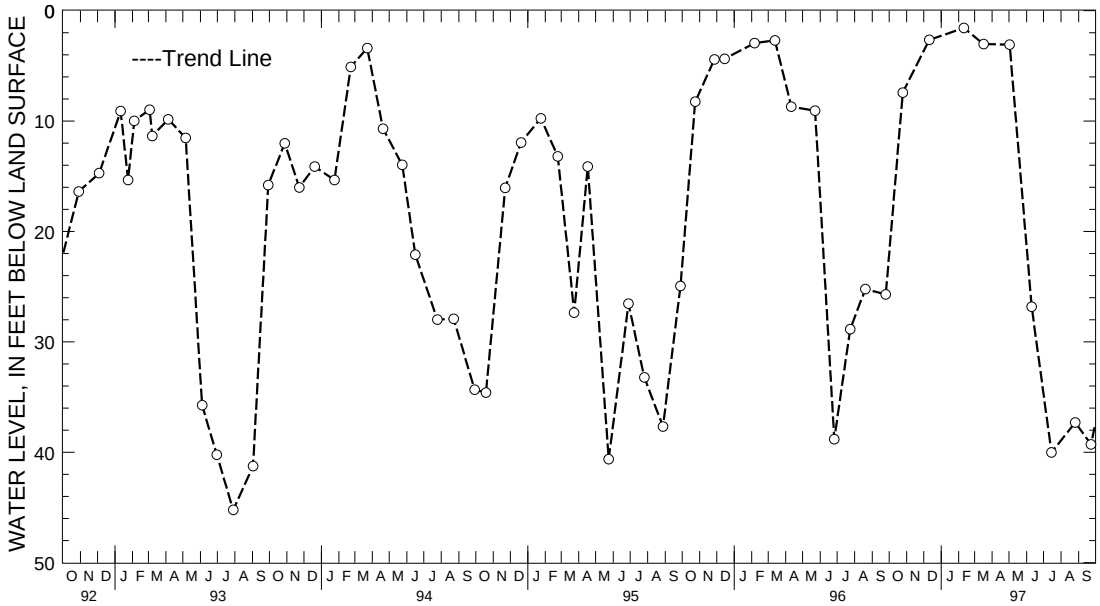
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 Upper 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 February 1994.
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, when shelter removed, measuring point top of metal sleeve, 3.27 ft above land surface.
REMARKS.--Ocean City ground-water monitoring network well. Water levels affected by nearby pumping.
Recorder removed on February 1, 1994, due to poor water level response.
PERIOD OF RECORD.--September 1970 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.56 ft above land surface, Feb. 10, 1997; lowest measured, 52.46 ft below land surface, July 24, 1989.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25, 1996	7.43	MAR 17, 1997	3.03	JUL 15, 1997	40.01		
DEC 11	2.65	MAY 02	3.07	AUG 26	37.30		
FEB 10, 1997	1.56	JUN 10	26.81	SEP 23	39.29		

WATER YEAR 1997 HIGHEST 1.56 FEB 10, 1997 LOWEST 40.01 JUL 15, 1997



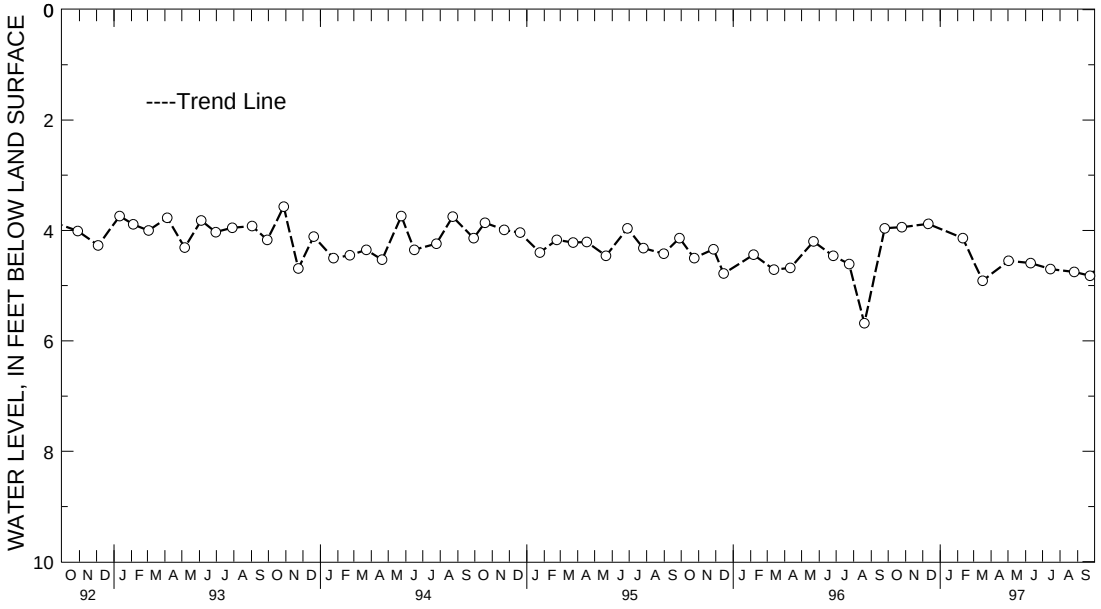
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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-Upper 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25, 1996	3.94	MAR 17, 1997	4.91	JUL 15, 1997	4.70
DEC 11	3.88	MAY 02	4.55	AUG 26	4.75
FEB 10, 1997	4.14	JUN 10	4.59	SEP 23	4.82

WATER YEAR 1997 HIGHEST 3.88 DEC 11, 1996 LOWEST 4.91 MAR 17, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 Upper 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. Equipped with digital water-level recorder--60-minute recording interval from May 1994 to current.
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. Recorder measuring point, top of shelter floor, 4.29 ft above National Geodetic Vertical Datum of 1929.
REMARKS.--Ocean City ground-water monitoring network well. 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, 8.23 ft below land surface, Feb. 9, 1997; lowest measured, 38.75 ft below land surface, Aug. 30, 1989.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	30.09	28.18	---	---	---	---	10.63	9.54	10.30	9.03	---	---
2	28.92	27.41	---	---	---	---	10.57	9.63	10.55	9.18	---	---
3	27.64	26.42	---	---	---	---	10.47	9.56	10.65	9.21	---	---
4	26.82	25.72	---	---	---	---	10.25	9.25	10.38	8.93	---	---
5	26.53	25.49	---	---	---	---	10.37	8.82	10.78	8.63	---	---
6	26.24	25.30	---	---	---	---	10.82	8.91	10.94	8.95	---	---
7	25.93	24.57	---	---	---	---	11.51	9.09	11.06	9.01	---	---
8	25.43	22.31	---	---	---	---	11.58	9.62	11.08	8.52	---	---
9	24.36	22.99	---	---	---	---	11.61	8.99	10.50	8.23	---	---
10	24.36	22.70	---	---	---	---	10.70	8.60	---	---	---	---
11	24.21	22.28	---	---	---	---	11.32	9.39	---	---	---	---
12	23.71	21.66	---	---	---	---	11.70	9.85	---	---	---	---
13	22.86	20.63	---	---	---	---	11.72	9.84	---	---	---	---
14	22.15	19.90	---	---	---	---	11.25	9.64	---	---	---	---
15	21.38	18.86	---	---	---	---	10.98	9.59	---	---	---	---
16	19.49	18.49	---	---	---	---	10.74	9.34	---	---	---	---
17	19.42	18.04	---	---	11.15	9.68	11.29	9.72	---	---	---	---
18	18.38	17.64	---	---	11.15	9.74	11.18	9.86	---	---	10.76	9.67
19	17.96	17.24	---	---	11.21	9.64	10.88	9.58	---	---	10.34	9.31
20	17.24	16.84	---	---	12.24	10.11	11.20	9.48	---	---	10.33	9.05
21	17.02	16.44	---	---	12.14	10.68	11.20	9.82	---	---	11.96	9.02
22	16.44	16.02	---	---	11.99	10.30	11.05	9.43	---	---	10.40	9.01
23	16.02	15.62	---	---	11.78	9.98	10.94	9.37	---	---	10.27	8.89
24	15.62	15.21	---	---	11.44	9.77	10.99	8.91	---	---	10.65	9.17
25	---	---	---	---	11.40	9.82	10.21	8.67	---	---	11.03	9.39
26	---	---	---	---	11.78	10.05	11.14	9.66	---	---	11.25	9.50
27	---	---	---	---	11.26	9.66	11.20	9.55	---	---	11.01	9.59
28	---	---	---	---	10.92	9.49	10.90	9.61	---	---	10.81	9.02
29	---	---	---	---	10.76	9.51	11.00	9.85	---	---	10.27	8.96
30	---	---	---	---	10.88	9.81	10.84	9.29	---	---	10.42	9.01
31	---	---	---	---	10.73	9.54	10.15	9.21	---	---	10.68	9.01
MONTH	30.09	15.21	---	---	12.24	9.49	11.72	8.60	11.08	8.23	11.96	8.89

GROUND-WATER LEVELS

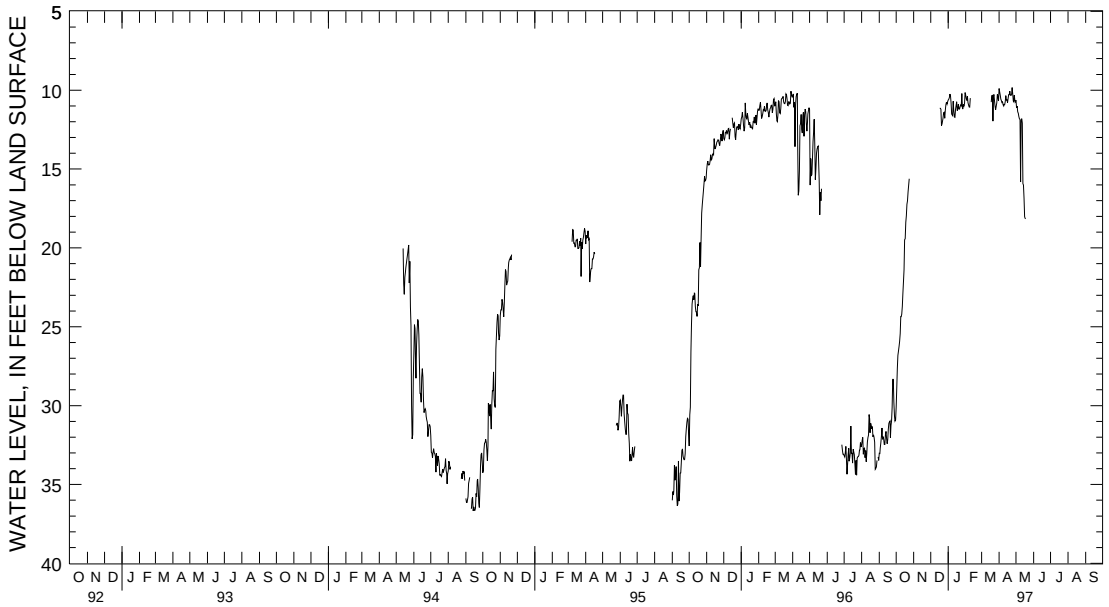
MARYLAND--Continued

WORCESTER COUNTY--Continued

WO Ah 36--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	9.89	8.73	10.64	9.31	---	---	---	---	---	---	---	---
2	10.10	8.62	11.11	9.36	---	---	---	---	---	---	---	---
3	10.32	8.73	11.02	9.42	---	---	---	---	---	---	---	---
4	10.56	8.79	11.37	9.41	---	---	---	---	---	---	---	---
5	10.66	8.80	11.46	9.58	---	---	---	---	---	---	---	---
6	10.78	8.78	11.67	9.62	---	---	---	---	---	---	---	---
7	10.75	8.78	11.82	9.78	---	---	---	---	---	---	---	---
8	10.93	8.97	11.86	10.00	---	---	---	---	---	---	---	---
9	11.00	9.12	15.82	10.28	---	---	---	---	---	---	---	---
10	10.91	9.18	11.91	10.26	---	---	---	---	---	---	---	---
11	10.92	9.20	11.81	10.44	---	---	---	---	---	---	---	---
12	10.74	9.06	12.08	10.63	---	---	---	---	---	---	---	---
13	10.35	9.05	15.92	10.86	---	---	---	---	---	---	---	---
14	10.62	9.31	16.02	11.46	---	---	---	---	---	---	---	---
15	10.61	9.65	16.87	11.72	---	---	---	---	---	---	---	---
16	10.78	9.78	18.01	12.05	---	---	---	---	---	---	---	---
17	10.53	9.58	18.11	18.01	---	---	---	---	---	---	---	---
18	10.28	9.15	18.16	16.10	---	---	---	---	---	---	---	---
19	10.28	8.74	---	---	---	---	---	---	---	---	---	---
20	10.06	8.69	---	---	---	---	---	---	---	---	---	---
21	10.32	8.84	---	---	---	---	---	---	---	---	---	---
22	10.33	8.79	---	---	---	---	---	---	---	---	---	---
23	10.28	8.38	---	---	---	---	---	---	---	---	---	---
24	9.83	8.28	---	---	---	---	---	---	---	---	---	---
25	10.24	8.78	---	---	---	---	---	---	---	---	---	---
26	10.69	9.20	---	---	---	---	---	---	---	---	---	---
27	10.75	8.99	---	---	---	---	---	---	---	---	---	---
28	10.32	8.85	---	---	---	---	---	---	---	---	---	---
29	10.63	8.85	---	---	---	---	---	---	---	---	---	---
30	10.74	9.22	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	11.00	8.28	18.16	9.31	---	---	---	---	---	---	---	---
YEAR	30.09	8.23										

Daily Low Water Levels



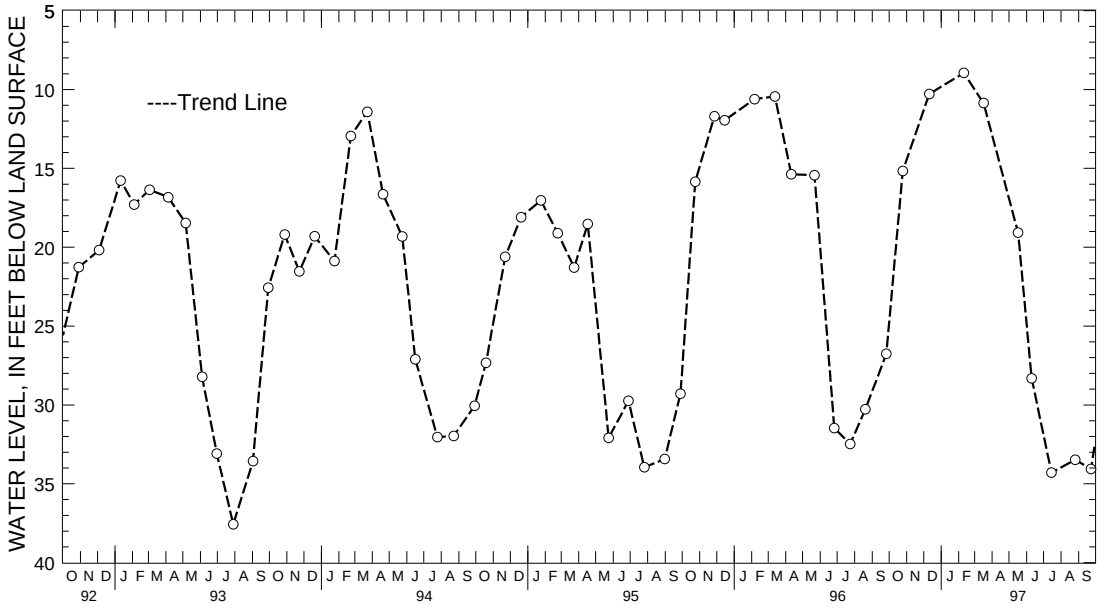
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--WO Ah 37. SITE ID.--382635075030603. PERMIT NUMBER.--WO-73-0517.
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 Upper Miocene age. Aquifer code: 122MNKN.
WELL CHARACTERISTICS.--Drilled, observation, artesian well, depth 478 ft; casing diameter 4 in., to 468 ft; screen diameter 2 in. from 468 to 478 ft.
INSTRUMENTATION.--Monthly measurements with chalked steel tape by U.S. Geological Survey personnel.
DATUM.--Elevation of land surface is 13.89 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Top of 4 in. casing, 2.75 ft above land surface.
REMARKS.--Ocean City ground-water monitoring network well. Water levels affected by nearby pumping.
PERIOD OF RECORD.--December 1975 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.58 ft below land surface, Feb. 10, 1977; lowest measured, 41.42 ft below land surface, Aug. 30, 1989.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25, 1996	15.17	MAR 17, 1997	10.86	JUL 15, 1997	34.29		
DEC 11	10.28	MAY 17	19.07	AUG 26	33.48		
FEB 10, 1997	8.95	JUN 10	28.31	SEP 23	34.06		

WATER YEAR 1997 HIGHEST 8.95 FEB 10, 1997 LOWEST 34.29 JUL 15, 1997



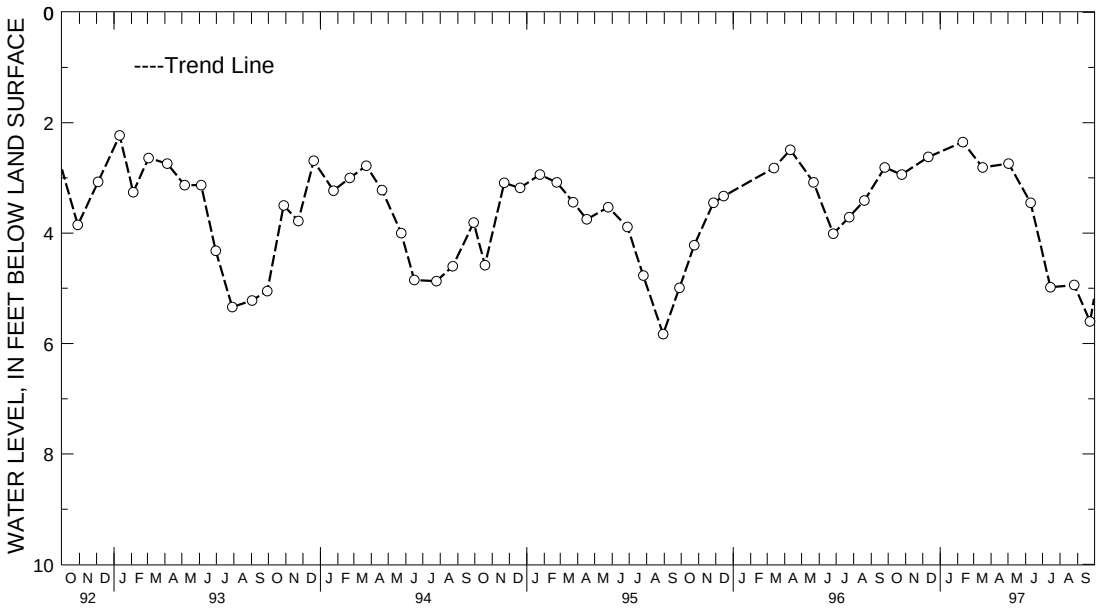
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 electric 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25, 1996	2.94	MAR 17, 1997	2.81	JUL 15, 1997	4.98		
DEC 11	2.62	MAY 02	2.74	AUG 26	4.94		
FEB 10, 1997	2.35	JUN 10	3.45	SEP 23	5.60		

WATER YEAR 1997 HIGHEST 2.35 FEB 10, 1997 LOWEST 5.60 SEP 23, 1997



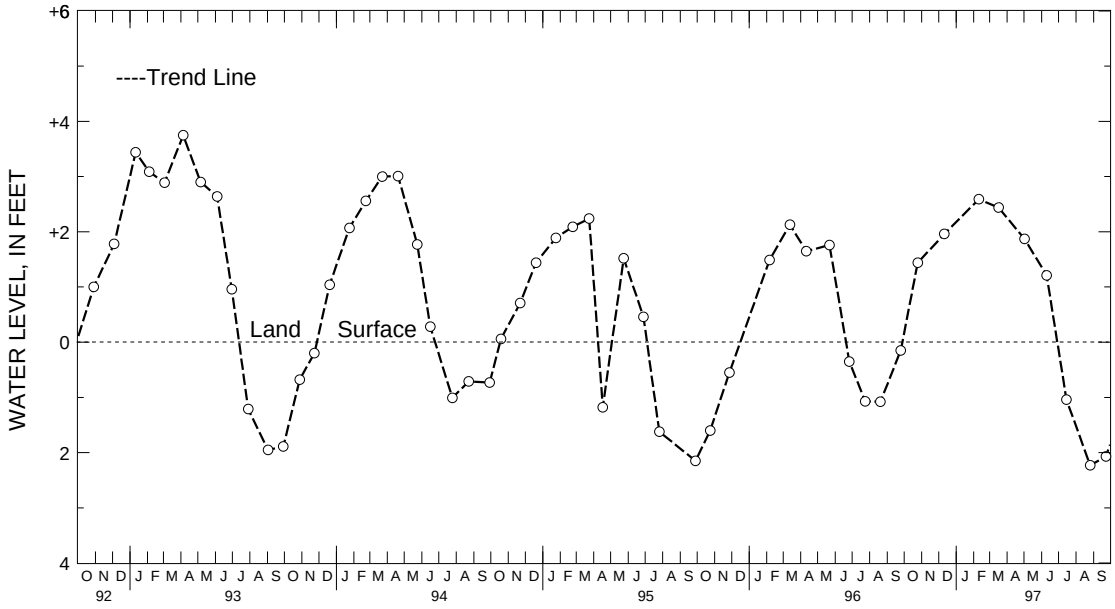
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 Upper 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 1996 TO SEPTEMBER 1997
(READINGS ABOVE LAND SURFACE INDICATED BY "+")

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25, 1996	+1.44	MAR 17, 1997	+2.44	JUL 15, 1997	1.04
DEC 11	+1.96	MAY 02	+1.87	AUG 26	2.23
FEB 10, 1997	+2.59	JUN 10	+1.21	SEP 23	2.07

WATER YEAR 1997 HIGHEST +2.59 FEB 10, 1997 LOWEST 2.23 AUG 26, 1997



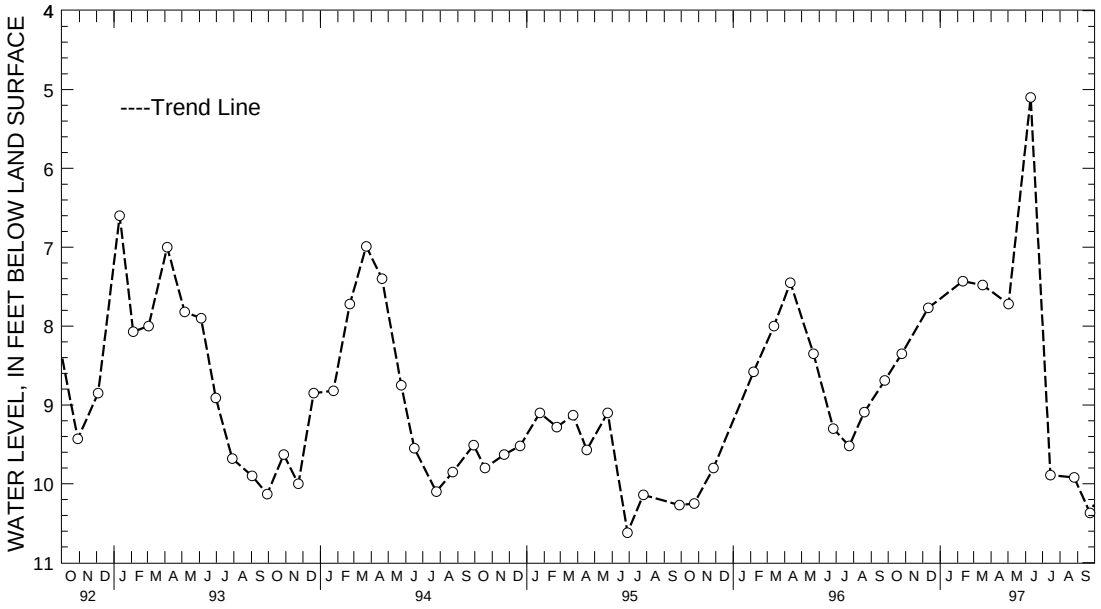
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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, water-table 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, 10.62 ft below land surface, June 28, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25, 1996	8.35	MAR 17, 1997	7.48	JUL 15, 1997	9.89
DEC 11	7.77	MAY 02	7.72	AUG 26	9.92
FEB 10, 1997	7.43	JUN 10	5.10	SEP 23	10.37

WATER YEAR 1997 HIGHEST 5.10 JUN 10, 1997 LOWEST 10.37 SEP 23, 1997



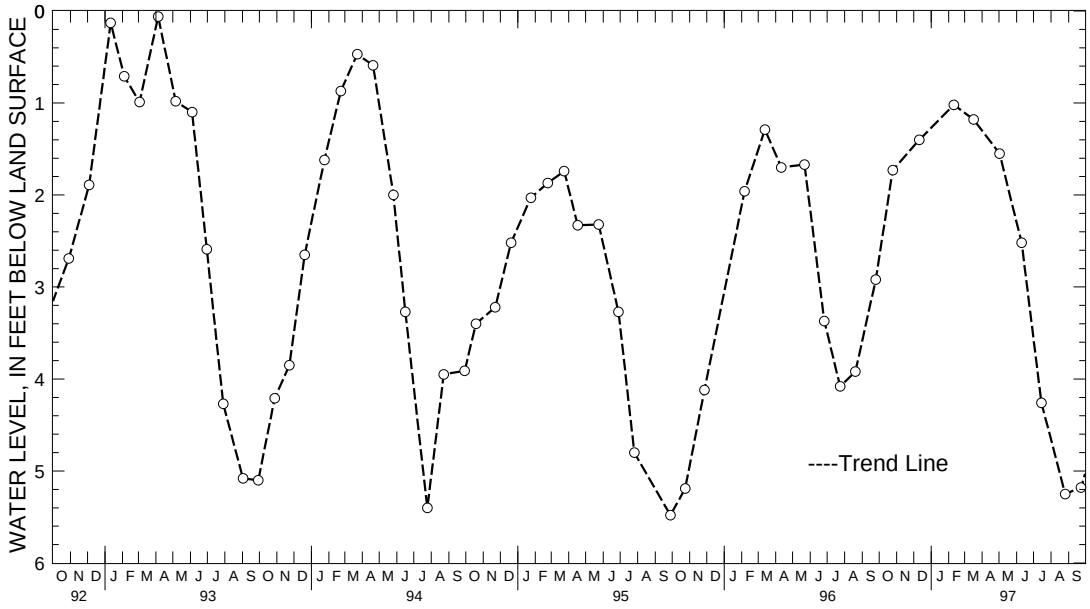
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 Upper Miocene-Pliocene age. Aquifer code: 122PCMK.
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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25, 1996	1.73	MAR 17, 1997	1.18	JUL 15, 1997	4.26
DEC 11	1.40	MAY 02	1.55	AUG 26	5.25
FEB 10, 1997	1.02	JUN 10	2.52	SEP 23	5.18

WATER YEAR 1997 HIGHEST 1.02 FEB 10, 1997 LOWEST 5.25 AUG 26, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 Upper 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.--Altitude 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.
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 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	7.92	7.23	6.59	5.84	5.76	5.16	4.85	4.30	4.74	3.92	4.80	4.23
2	7.69	6.99	6.47	5.87	5.92	5.16	4.91	4.40	4.82	4.16	4.97	4.02
3	7.59	6.98	6.86	6.16	5.96	5.47	4.88	4.43	4.89	4.23	4.92	4.32
4	7.37	6.68	7.14	6.59	5.80	5.32	4.87	4.19	4.94	4.13	4.62	3.81
5	7.30	6.73	7.25	6.76	5.80	5.23	4.64	3.91	4.72	3.84	4.76	4.01
6	7.23	6.68	7.13	6.36	5.51	4.81	4.84	4.09	4.92	4.26	5.53	4.26
7	7.10	6.52	6.78	6.14	5.33	4.52	5.15	4.36	5.06	4.32	6.02	5.45
8	6.98	5.55	6.61	5.83	5.06	4.27	5.49	4.86	4.93	3.83	5.94	5.04
9	6.40	5.85	6.45	5.82	5.36	4.75	5.60	4.01	4.45	3.63	5.58	4.50
10	6.87	6.33	6.63	6.01	5.45	4.68	4.52	3.74	4.62	3.89	5.02	4.28
11	6.94	6.38	6.69	5.99	5.59	4.82	5.19	4.16	4.72	4.06	5.08	4.38
12	6.89	6.25	6.88	6.17	5.42	4.60	5.46	4.81	4.66	4.03	5.26	4.49
13	6.89	6.29	6.92	6.17	5.21	4.10	5.54	4.90	5.08	4.26	5.46	4.76
14	6.98	6.35	6.77	5.97	4.83	4.07	5.26	4.61	4.89	4.23	5.20	4.61
15	6.95	6.23	6.46	5.62	4.82	4.08	4.89	4.37	5.34	4.19	5.43	4.43
16	7.10	6.48	6.23	5.47	4.93	4.19	4.93	4.17	5.43	4.92	5.70	4.99
17	7.07	6.34	6.08	5.29	5.04	4.42	5.34	4.67	5.51	5.02	5.68	5.16
18	6.67	5.70	5.70	5.03	5.04	4.49	5.34	4.74	5.71	4.93	5.67	5.20
19	5.94	5.22	5.59	4.90	5.04	4.37	5.30	4.46	5.91	5.50	5.56	4.71
20	5.81	5.06	5.79	5.00	5.76	4.83	5.03	4.37	5.95	5.30	5.08	4.51
21	6.14	5.47	5.85	5.19	5.88	5.37	5.28	4.81	5.66	4.73	5.14	4.43
22	6.18	5.57	5.90	5.18	5.74	4.99	5.22	4.51	5.31	4.79	5.05	4.47
23	6.16	5.50	5.91	5.17	5.45	4.72	5.09	4.53	5.68	5.08	5.10	4.55
24	6.20	5.59	6.02	5.38	5.16	4.45	5.30	4.04	5.55	5.01	5.45	4.81
25	6.30	5.66	6.10	5.34	5.20	4.66	4.54	3.85	5.53	4.83	5.74	5.12
26	6.42	5.77	5.96	5.08	5.47	4.72	5.47	4.37	5.21	4.74	5.73	5.13
27	6.48	5.81	6.26	5.57	5.09	4.36	5.59	4.72	5.25	4.74	5.69	5.13
28	6.52	5.75	6.08	5.25	4.89	4.17	5.17	4.54	5.28	4.80	5.57	4.67
29	6.53	5.80	5.89	5.23	4.76	4.17	5.34	4.79	---	---	5.13	4.62
30	6.60	5.70	5.90	5.21	5.04	4.50	5.21	4.67	---	---	5.49	4.67
31	6.38	5.71	---	---	4.92	4.40	4.67	4.08	---	---	5.76	4.79
MONTH	7.92	5.06	7.25	4.90	5.96	4.07	5.60	3.74	5.95	3.63	6.02	3.81

GROUND-WATER LEVELS

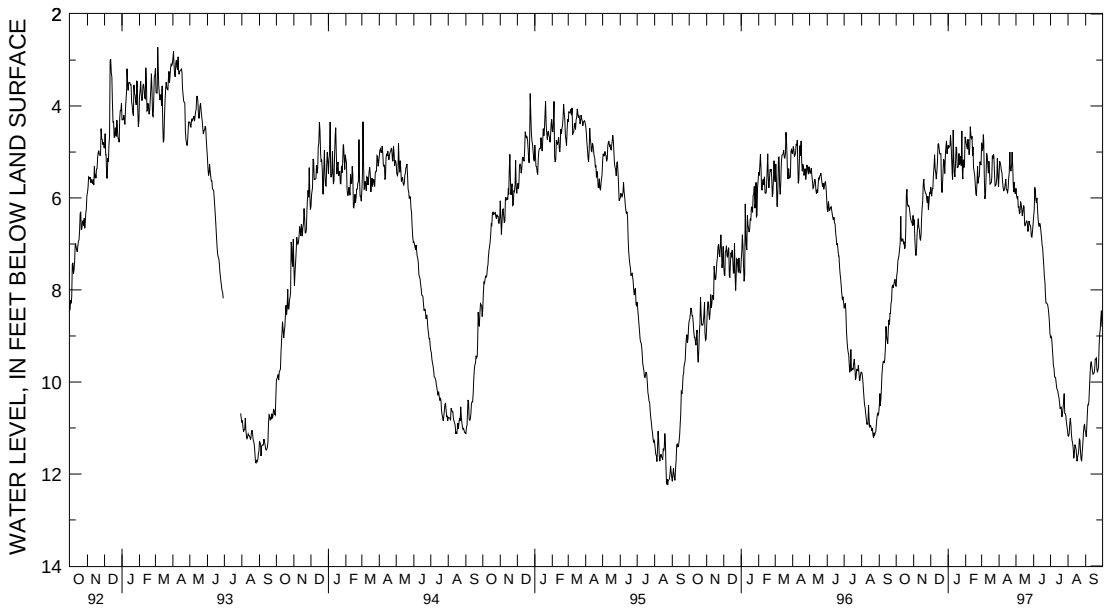
MARYLAND--Continued

WORCESTER COUNTY--Continued

WO Bg 47--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	5.49	4.75	5.79	5.16	6.40	5.75	9.03	8.36	11.17	10.49	11.10	10.54
2	5.20	4.55	5.95	5.38	6.26	5.24	9.01	8.34	11.18	10.52	11.19	10.56
3	5.24	4.57	6.00	5.14	5.77	4.97	9.06	8.34	11.13	10.44	11.05	10.31
4	5.30	4.68	5.96	5.33	5.82	5.03	9.24	8.49	10.92	10.17	10.76	10.02
5	5.41	4.77	6.20	5.48	6.01	5.12	9.43	8.68	10.78	10.12	10.50	9.95
6	5.45	4.81	6.19	5.52	6.10	5.33	9.65	8.82	10.92	10.12	10.50	9.99
7	5.64	4.96	6.35	5.61	6.00	5.33	9.70	8.99	11.15	10.44	10.41	9.80
8	5.77	5.08	6.31	5.57	6.22	5.36	9.88	9.12	11.27	10.70	10.10	9.42
9	5.84	5.14	6.08	5.26	6.44	5.63	9.90	9.31	11.33	10.83	9.82	9.09
10	5.83	5.18	6.13	5.22	6.58	5.89	9.90	9.36	11.44	10.96	9.61	8.92
11	5.80	5.15	6.25	5.52	6.62	6.09	10.01	9.42	11.66	11.07	9.56	8.87
12	5.68	5.04	6.39	5.76	6.55	6.09	10.13	9.64	11.55	10.94	9.66	8.91
13	5.59	4.89	6.29	5.88	6.60	6.08	10.17	9.67	11.36	10.69	9.75	9.03
14	5.82	5.16	6.17	5.70	6.73	6.16	10.20	9.70	11.41	10.69	9.83	9.08
15	5.82	5.35	6.18	5.71	6.86	6.34	10.29	9.71	11.45	10.66	9.82	9.06
16	5.90	5.41	6.57	5.87	7.02	6.47	10.34	9.65	11.58	10.84	9.80	9.07
17	5.80	5.21	6.60	6.10	7.09	6.50	10.46	9.73	11.72	10.92	9.71	8.87
18	5.57	4.95	6.58	5.99	7.30	6.64	10.58	9.82	11.63	10.73	9.50	8.82
19	5.44	4.63	6.52	5.89	7.48	6.84	10.55	9.81	11.57	10.76	9.50	8.79
20	5.00	4.42	6.50	5.82	7.72	6.96	10.55	9.86	11.48	10.53	9.48	8.80
21	5.38	4.80	6.54	5.94	7.84	7.02	10.76	9.90	11.24	10.53	9.70	8.92
22	5.42	4.78	6.73	6.04	8.07	7.10	10.69	9.93	11.26	10.51	9.79	9.07
23	5.31	4.43	6.67	5.93	8.28	7.36	10.58	9.89	11.51	10.81	9.74	9.17
24	5.00	4.24	6.50	5.76	8.28	7.59	10.44	9.79	11.68	11.02	9.67	8.81
25	5.30	4.29	6.57	5.76	8.30	7.64	10.25	9.62	11.72	11.01	9.21	8.28
26	5.75	4.75	6.59	5.89	8.32	7.71	10.68	9.88	11.52	10.78	8.96	8.30
27	5.87	5.12	6.64	5.98	8.40	7.74	10.69	10.04	11.36	10.63	8.84	8.15
28	5.66	4.98	6.84	5.98	8.53	7.91	10.74	10.06	11.13	10.36	8.61	7.61
29	5.88	4.98	6.85	6.29	8.69	8.08	10.85	10.15	10.97	10.25	8.45	7.76
30	5.91	5.25	6.72	6.14	8.95	8.36	10.95	10.25	10.91	10.23	8.80	8.18
31	---	---	6.58	5.88	---	---	11.04	10.37	11.05	10.41	---	---
MONTH	5.91	4.24	6.85	5.14	8.95	4.97	11.04	8.34	11.72	10.12	11.19	7.61
YEAR	11.72	3.63										

Daily Low Water Levels



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 Upper 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.--Altitude 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.
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, 13.68 ft below land surface, Sept. 6, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	8.72	8.14	6.91	6.25	5.81	5.29	4.67	4.22	4.56	3.83	4.68	4.16
2	8.48	7.88	6.80	6.28	5.99	5.27	4.72	4.29	4.65	4.09	4.75	3.93
3	8.35	7.86	7.17	6.56	6.06	5.65	4.72	4.32	4.72	4.16	4.70	4.20
4	8.19	7.57	7.46	7.00	5.92	5.52	4.72	4.13	4.76	4.05	4.43	3.74
5	8.10	7.58	7.55	7.13	5.92	5.41	4.50	3.85	4.53	3.76	4.55	3.89
6	8.01	7.51	7.44	6.76	5.60	4.97	4.69	4.04	4.75	4.17	5.34	4.13
7	7.87	7.34	7.09	6.54	5.46	4.68	5.01	4.32	4.90	4.27	5.83	5.31
8	7.74	6.40	6.91	6.21	5.15	4.45	5.33	4.82	4.76	3.78	5.79	5.02
9	7.21	6.71	6.75	6.19	5.41	4.89	5.43	3.98	4.31	3.60	5.48	4.51
10	7.64	7.15	6.91	6.39	5.53	4.87	4.39	3.70	4.44	3.82	4.90	4.27
11	7.71	7.24	6.95	6.35	5.63	4.98	5.02	4.07	4.53	3.98	4.94	4.35
12	7.67	7.08	7.13	6.55	5.49	4.76	5.29	4.71	4.48	3.94	5.15	4.44
13	7.56	7.08	7.19	6.54	5.27	4.23	5.35	4.80	4.85	4.14	5.38	4.74
14	7.63	7.09	7.00	6.32	4.89	4.21	5.08	4.51	4.67	4.08	5.14	4.61
15	7.62	7.01	6.72	5.97	4.88	4.22	4.78	4.26	5.14	4.06	5.35	4.43
16	7.75	7.21	6.47	5.79	4.96	4.32	4.66	4.04	5.27	4.80	5.60	4.97
17	7.74	7.10	6.29	5.58	5.06	4.52	5.02	4.49	5.38	4.94	5.57	5.15
18	7.35	6.42	5.90	5.30	5.06	4.57	5.04	4.74	5.57	4.89	5.54	5.16
19	6.62	5.99	5.76	5.19	5.06	4.44	5.01	4.33	5.76	5.42	5.47	4.70
20	6.50	5.84	5.97	5.27	5.64	4.89	4.75	4.22	5.82	5.26	5.01	4.51
21	6.81	6.22	6.01	5.45	5.73	5.38	5.02	4.62	5.54	4.71	5.05	4.41
22	6.87	6.33	6.06	5.46	5.68	4.99	4.99	4.36	5.23	4.76	4.93	4.43
23	6.85	6.25	6.07	5.44	5.35	4.70	4.86	4.38	5.56	5.06	4.99	4.52
24	6.85	6.32	6.14	5.61	5.05	4.43	5.07	3.97	5.43	4.95	5.33	4.67
25	6.89	6.30	6.20	5.55	5.08	4.60	4.36	3.76	5.39	4.76	5.62	5.10
26	6.91	6.34	6.06	5.29	5.33	4.66	5.29	4.22	5.08	4.67	5.61	5.10
27	6.91	6.32	6.35	5.77	4.96	4.34	5.42	4.73	5.06	4.63	5.57	5.13
28	6.87	6.19	6.21	5.49	4.75	4.13	5.01	4.45	5.13	4.68	5.48	4.76
29	6.87	6.24	5.91	5.44	4.60	4.09	5.18	4.69	---	---	5.01	4.62
30	6.92	6.12	5.97	5.38	4.86	4.36	5.05	4.51	---	---	5.33	4.61
31	6.73	6.15	---	---	4.75	4.31	4.51	4.00	---	---	5.58	4.71
MONTH	8.72	5.84	7.55	5.19	6.06	4.09	5.43	3.70	5.82	3.60	5.83	3.74

GROUND-WATER LEVELS

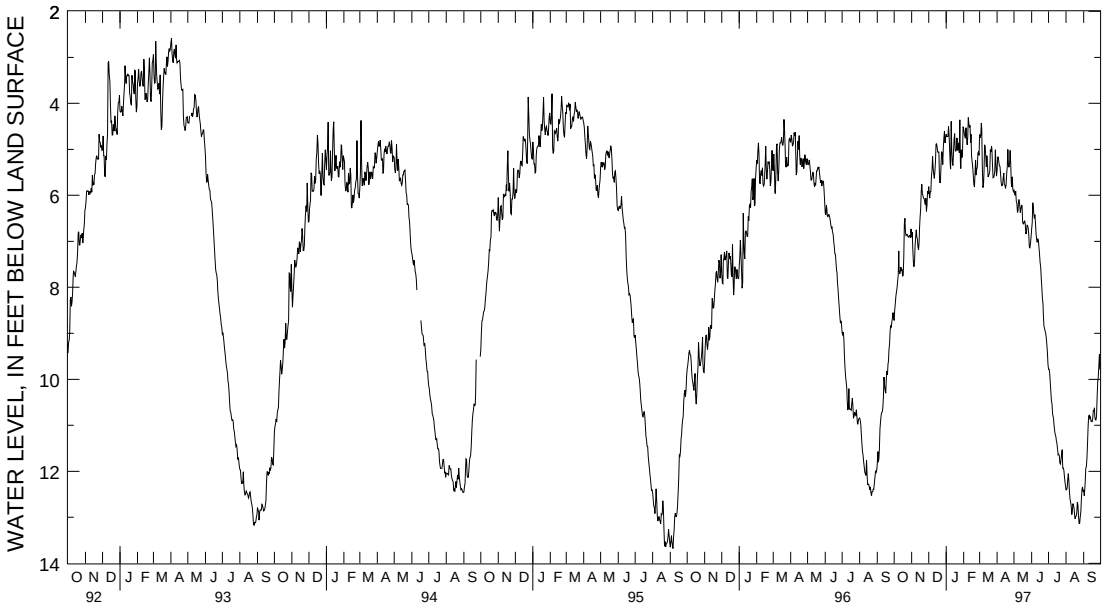
MARYLAND--Continued

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	5.46	4.74	5.89	5.26	6.73	6.15	9.78	9.18	12.40	11.83	12.42	11.99
2	5.17	4.58	5.95	5.48	6.60	5.72	9.78	9.18	12.40	11.86	12.53	12.04
3	5.17	4.63	6.00	5.23	6.16	5.48	9.87	9.25	12.36	11.78	12.43	11.89
4	5.27	4.73	5.91	5.39	6.23	5.56	10.07	9.39	12.18	11.50	12.23	11.58
5	5.36	4.81	6.13	5.55	6.39	5.66	10.27	9.57	12.05	11.50	11.93	11.00
6	5.37	4.81	6.17	5.62	6.50	5.84	10.47	9.76	12.22	11.51	11.90	11.40
7	5.52	4.98	6.36	5.72	6.42	5.84	10.53	9.94	12.46	11.83	11.72	11.08
8	5.71	5.05	6.34	5.68	6.61	5.88	10.75	10.08	12.60	12.08	11.40	10.80
9	5.79	5.13	6.10	5.36	6.83	6.09	10.81	10.28	12.67	12.08	11.03	10.40
10	5.79	5.27	6.10	5.33	6.96	6.35	10.86	10.37	12.75	12.34	10.80	10.20
11	5.76	5.24	6.22	5.59	7.02	6.56	11.01	10.48	12.94	12.47	10.78	10.13
12	5.61	5.13	6.38	5.79	6.94	6.57	11.13	10.70	12.86	12.35	10.85	10.20
13	5.52	4.91	6.29	5.94	6.98	6.53	11.20	10.77	12.70	12.11	10.82	10.20
14	5.77	5.19	6.22	5.80	7.12	6.61	11.24	10.80	12.75	12.13	10.91	10.28
15	5.78	5.39	6.22	5.81	7.27	6.82	11.34	10.80	12.80	12.13	10.91	10.27
16	5.85	5.45	6.58	5.94	7.46	6.99	11.40	10.80	12.91	12.29	10.92	10.32
17	5.77	5.24	6.61	6.19	7.55	7.05	11.52	10.90	13.03	12.38	10.86	10.11
18	5.52	4.98	6.62	6.12	7.80	7.22	11.64	11.01	12.99	12.22	10.68	10.00
19	5.39	4.70	6.57	6.03	8.00	7.44	11.63	11.02	12.97	12.26	10.68	10.00
20	5.00	4.48	6.56	6.00	8.24	7.61	11.66	11.09	12.90	12.08	10.62	10.04
21	5.33	4.78	6.64	6.14	8.36	7.67	11.82	11.00	12.67	12.08	10.81	10.11
22	5.39	4.83	6.84	6.25	8.59	7.75	11.84	11.19	12.73	12.02	10.88	10.20
23	5.30	4.51	6.79	6.17	8.84	8.02	11.74	11.16	12.97	12.35	10.88	10.40
24	5.02	4.36	6.65	5.98	8.89	8.27	11.64	11.07	13.13	12.58	10.80	10.08
25	5.31	4.36	6.66	5.98	8.95	8.34	11.53	10.95	13.13	12.53	10.39	9.53
26	5.73	4.83	6.71	6.07	9.00	8.45	11.93	11.20	13.00	12.39	10.07	9.51
27	5.82	5.20	6.86	6.21	9.09	8.50	11.93	11.40	12.89	12.23	9.95	9.33
28	5.60	5.03	7.12	6.32	9.24	8.70	11.98	11.42	12.61	11.92	9.70	8.74
29	5.87	5.03	7.14	6.67	9.40	8.89	12.08	11.08	12.40	11.80	9.46	8.85
30	5.92	5.35	7.04	6.55	9.67	9.15	12.21	11.63	12.34	11.76	9.79	9.29
31	---	---	6.90	6.28	---	---	12.30	11.72	12.43	11.89	---	---
MONTH	5.92	4.36	7.14	5.23	9.67	5.48	12.30	9.18	13.13	11.50	12.53	8.74
YEAR	13.13	3.60										

Daily Low Water Levels



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 Upper 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.--Altitude of land surface is 10 ft above National Geodetic Vertical Datum of 1929, from topographic map.
Measuring Point: Top of recorder shelf, 2.12 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 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	12.24	11.87	12.63	12.41	13.31	13.15	12.69	12.50	12.14	11.94	11.82	11.62
2	11.87	11.45	12.43	12.29	13.30	13.06	12.59	12.46	12.20	12.07	11.75	11.50
3	11.45	11.13	12.53	12.37	13.35	13.29	12.57	12.48	12.22	12.13	11.80	11.53
4	11.13	10.80	12.71	12.53	13.38	13.25	12.54	12.36	12.16	11.96	11.53	10.60
5	10.83	10.63	12.80	12.71	13.39	13.31	12.38	12.18	12.00	11.76	10.60	9.93
6	10.63	10.40	12.80	12.56	13.41	13.21	12.38	12.20	12.04	11.91	9.94	9.64
7	10.40	10.24	12.56	12.42	13.39	13.01	12.61	12.37	12.09	12.02	10.15	9.77
8	10.25	9.50	12.55	12.47	13.04	12.86	12.75	12.61	12.08	11.73	10.42	10.15
9	9.67	9.58	12.88	12.54	13.31	12.99	12.79	12.21	11.83	11.69	10.67	10.42
10	9.85	9.67	13.10	12.88	13.77	13.31	12.21	12.05	11.98	11.76	10.58	10.45
11	9.86	9.80	13.30	13.10	13.81	13.63	12.49	12.14	12.03	11.91	10.45	9.98
12	9.84	9.71	13.54	13.30	13.64	13.38	12.81	12.49	12.00	11.72	9.98	9.79
13	9.72	9.63	13.59	13.50	13.39	12.93	12.80	12.71	11.72	11.13	9.95	9.79
14	9.69	9.48	13.63	13.49	12.93	12.78	12.74	12.62	11.13	10.34	9.90	9.63
15	9.62	9.35	13.56	13.41	12.88	12.77	12.62	12.42	10.46	10.17	9.88	9.57
16	9.74	9.61	13.46	13.32	12.90	12.72	12.42	12.18	10.56	10.44	10.07	9.87
17	9.70	9.34	13.40	13.26	12.88	12.78	12.59	12.31	10.55	10.48	10.05	9.94
18	9.34	8.83	13.26	13.04	12.96	12.83	12.69	12.51	10.59	10.43	10.08	9.95
19	8.83	8.38	13.10	12.93	12.88	12.70	12.69	12.47	10.59	10.46	10.04	9.77
20	8.38	8.13	13.16	12.97	13.38	12.83	12.58	12.42	10.46	10.27	9.83	9.68
21	8.28	8.16	13.20	13.10	13.40	13.33	12.75	12.58	10.42	10.27	9.77	9.64
22	8.49	8.17	13.26	13.13	13.40	13.24	12.71	12.47	10.92	10.41	9.79	9.61
23	9.37	8.49	13.29	13.19	13.32	13.06	12.47	12.28	11.40	10.92	9.83	9.69
24	10.30	9.37	13.39	13.24	13.07	12.91	12.28	11.85	11.50	11.35	9.89	9.70
25	11.07	10.30	13.38	13.27	13.01	12.91	11.92	11.69	11.71	11.50	10.07	9.89
26	11.72	11.07	13.32	13.08	13.10	12.91	12.37	11.92	11.71	11.63	10.31	10.02
27	12.16	11.72	13.57	13.32	12.91	12.75	12.50	12.37	11.79	11.62	10.74	10.31
28	12.51	12.16	13.55	13.33	12.78	12.62	12.43	12.24	11.87	11.77	10.91	10.74
29	12.82	12.51	13.35	13.28	12.69	12.55	12.55	12.37	---	---	10.98	10.83
30	12.82	12.62	13.36	13.25	12.76	12.60	12.50	12.31	---	---	11.31	10.96
31	12.66	12.52	---	---	12.72	12.58	12.31	12.04	---	---	11.31	11.18
MONTH	12.82	8.13	13.63	12.29	13.81	12.55	12.81	11.69	12.22	10.17	11.82	9.57

GROUND-WATER LEVELS

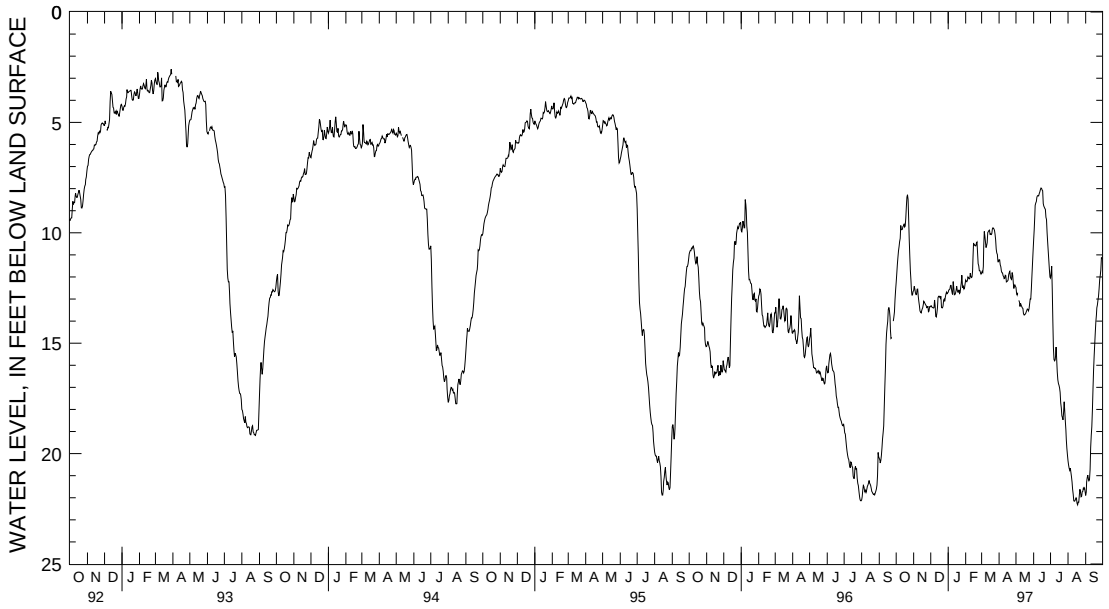
MARYLAND--Continued

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	11.22	10.97	12.47	12.34	10.32	9.85	12.05	11.84	20.33	19.99	21.90	21.64
2	11.23	11.04	12.74	12.45	9.85	9.23	11.84	11.49	20.52	20.32	21.74	21.28
3	11.45	11.22	12.82	12.63	9.23	8.73	11.51	11.36	20.67	20.52	21.28	21.03
4	11.54	11.37	12.71	12.59	8.76	8.52	12.58	11.48	20.76	20.57	21.09	20.87
5	11.73	11.54	---	---	8.65	8.48	14.02	12.58	20.66	20.57	20.97	20.87
6	11.81	11.69	13.06	12.87	8.58	8.33	15.21	14.02	20.85	20.58	21.14	20.95
7	11.82	11.75	13.14	12.99	8.38	8.21	15.74	15.21	21.04	20.85	21.23	21.10
8	11.95	11.75	13.34	13.12	8.32	8.19	15.80	15.67	21.29	21.04	21.16	20.71
9	11.98	11.81	13.20	13.06	8.31	8.19	15.76	15.54	21.62	21.25	20.71	19.72
10	12.08	11.92	13.28	13.06	8.33	8.12	15.59	15.09	21.84	21.61	19.72	19.17
11	12.07	11.90	13.34	13.17	8.23	8.06	15.17	14.87	22.14	21.84	19.17	18.65
12	11.92	11.87	13.40	13.26	8.16	8.03	15.74	15.17	22.16	22.00	18.78	18.04
13	11.94	11.82	13.43	13.32	8.05	7.92	16.30	15.74	22.14	21.96	18.04	17.09
14	12.23	11.93	13.66	13.38	7.97	7.85	16.66	16.30	22.07	21.83	17.09	16.26
15	12.21	12.11	13.72	13.58	7.98	7.84	16.83	16.62	22.00	21.78	16.26	15.60
16	12.18	12.10	13.72	13.54	8.06	7.91	16.90	16.74	22.03	21.79	15.60	15.07
17	12.14	11.90	13.69	13.59	8.10	7.90	17.03	16.90	22.25	21.99	15.07	14.52
18	11.90	11.64	13.67	13.51	8.68	8.10	17.23	17.01	22.32	22.16	14.52	14.02
19	11.80	11.67	13.59	13.44	8.79	8.68	17.70	17.22	22.20	22.06	14.02	13.72
20	11.75	11.65	13.52	13.33	8.85	8.72	17.93	17.70	22.20	21.86	13.72	13.40
21	12.01	11.75	13.45	13.30	8.91	8.70	18.29	17.93	21.88	21.62	13.40	13.21
22	12.08	11.98	13.47	13.32	8.93	8.73	18.37	18.28	21.62	21.45	13.27	12.99
23	12.11	11.80	13.54	13.32	9.30	8.83	18.47	18.13	21.74	21.58	13.05	12.86
24	11.80	11.63	13.44	13.22	9.40	9.25	18.13	17.65	21.96	21.74	12.87	12.52
25	11.92	11.63	13.22	12.99	9.99	9.35	17.65	17.24	21.93	21.69	12.52	12.10
26	12.27	11.88	13.00	12.88	10.42	9.98	18.07	17.41	21.73	21.50	12.11	11.93
27	12.52	12.25	13.00	12.55	10.84	10.35	18.54	18.07	21.71	21.51	11.93	11.67
28	12.40	12.23	12.55	11.96	11.26	10.82	18.93	18.54	21.56	21.37	11.67	11.11
29	12.36	12.16	11.96	11.39	11.66	11.26	19.36	18.93	21.60	21.41	11.13	11.03
30	12.43	12.29	11.39	10.85	12.01	11.66	19.76	19.36	21.56	21.42	11.16	11.08
31	---	---	10.85	10.32	---	---	20.06	19.76	21.72	21.52	---	---
MONTH	12.52	10.97	13.72	10.32	12.01	7.84	20.06	11.36	22.32	19.99	21.90	11.03
YEAR	22.32	7.84										

Daily Low Water Levels



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 Upper 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.--Altitude of land surface is 5.59 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of recorder shelf, 3.44 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 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 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	15.91	11.16	19.62	15.01	16.20	11.50	12.20	11.03	6.22	5.26	12.23	6.21
2	15.80	12.04	20.07	18.89	15.93	9.75	12.21	9.23	7.65	5.40	14.14	7.00
3	15.61	12.56	20.88	19.65	12.19	8.98	10.90	7.68	13.90	7.65	21.95	8.21
4	15.33	12.04	21.36	20.52	12.80	8.40	11.24	9.13	12.05	6.95	23.92	14.96
5	15.83	15.02	21.48	16.26	9.31	8.06	11.63	8.71	7.47	5.88	25.21	16.63
6	15.89	15.16	20.06	14.52	9.95	7.16	11.63	7.55	7.07	5.81	26.52	14.92
7	15.83	11.48	18.83	13.67	11.68	9.82	8.29	6.93	7.06	5.64	18.30	12.46
8	14.52	9.24	17.12	11.98	11.96	7.77	8.29	6.98	6.83	4.84	16.77	10.98
9	10.02	8.88	17.58	11.42	11.99	7.68	8.16	5.81	6.02	4.63	16.37	10.16
10	9.74	8.71	16.82	12.58	8.48	7.05	6.76	5.28	6.23	4.85	24.81	9.33
11	9.60	8.49	16.67	12.08	8.32	6.87	7.26	6.06	6.06	4.97	25.01	13.62
12	19.87	9.13	12.76	10.92	7.85	6.40	7.57	6.44	21.50	4.96	20.76	12.55
13	22.48	17.44	12.66	10.63	9.73	5.89	7.58	6.36	21.58	15.54	13.46	12.29
14	21.89	13.18	11.73	9.67	9.69	5.86	7.14	6.01	17.16	12.53	20.90	12.25
15	22.14	13.09	11.04	8.94	10.12	6.41	6.68	5.82	19.50	11.93	25.80	12.80
16	16.14	13.05	11.21	9.49	7.96	6.81	6.48	5.56	19.50	14.49	22.75	15.08
17	15.30	12.28	11.71	10.72	7.59	6.48	7.07	5.84	17.84	14.36	21.49	14.52
18	15.33	12.23	11.64	9.51	7.20	6.36	9.73	6.06	17.72	13.90	14.63	13.52
19	14.45	13.47	12.51	8.72	7.13	6.12	10.02	6.33	27.45	13.08	20.41	12.65
20	18.88	13.54	11.28	8.51	8.16	6.53	14.60	6.74	27.47	11.83	14.37	12.40
21	15.46	11.55	9.28	8.00	8.16	7.15	14.82	9.03	11.94	9.05	21.53	12.09
22	14.47	10.21	11.93	7.58	10.95	7.57	11.86	8.11	19.74	8.47	24.76	13.32
23	14.79	13.55	12.28	8.37	8.68	6.87	20.17	8.38	15.07	8.98	23.37	19.13
24	15.03	13.79	13.02	9.30	9.07	6.84	11.67	7.96	10.72	8.37	22.86	14.65
25	15.27	13.98	13.28	8.75	7.65	6.53	10.13	6.80	9.06	7.51	23.00	14.24
26	18.82	12.48	10.41	8.58	7.78	6.50	8.15	7.28	8.19	7.15	20.48	12.83
27	22.35	13.90	12.13	8.32	9.03	6.30	8.08	6.52	7.86	7.12	20.31	12.75
28	22.95	16.38	11.69	8.00	9.96	6.18	7.23	6.31	7.75	6.56	25.17	12.42
29	19.95	18.71	12.48	9.58	11.31	9.86	7.25	6.49	---	---	29.31	14.68
30	19.48	13.91	16.15	12.20	11.85	7.89	7.00	5.81	---	---	28.08	20.04
31	19.29	14.45	---	---	11.62	8.89	6.17	5.47	---	---	31.36	15.49
MONTH	22.95	8.49	21.48	7.58	16.20	5.86	20.17	5.28	27.47	4.63	31.36	6.21

GROUND-WATER LEVELS

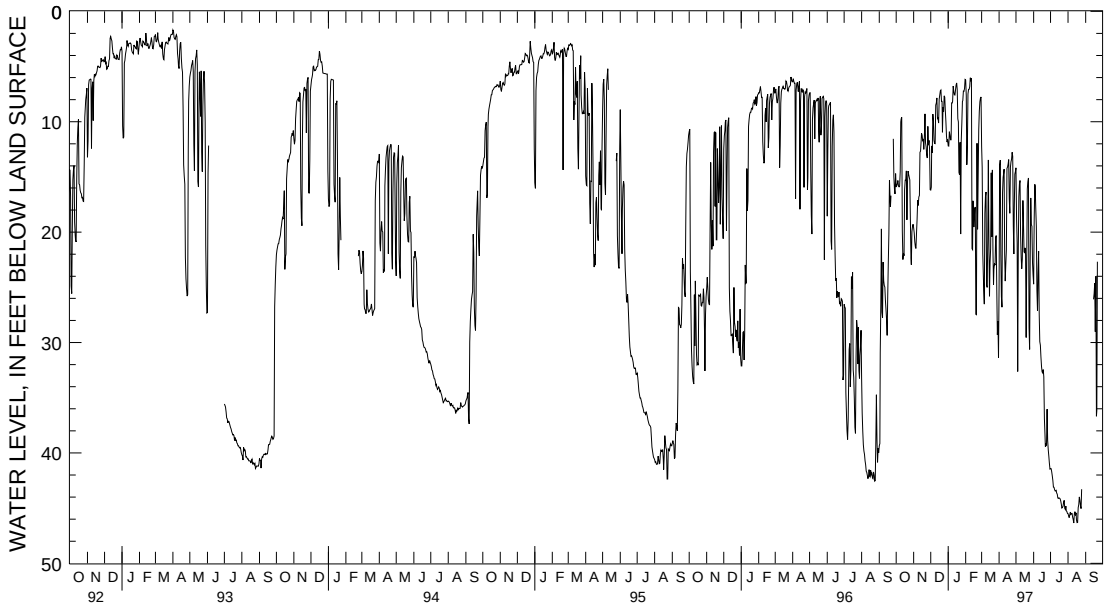
MARYLAND--Continued

WORCESTER COUNTY--Continued

WO Bh 31--Continued

DAY	APRIL MAX	APRIL MIN	MAY MAX	MAY MIN	JUNE MAX	JUNE MIN	JULY MAX	JULY MIN	AUGUST MAX	AUGUST MIN	SEPTEMBER MAX	SEPTEMBER MIN
1	24.72	13.94	14.17	13.21	24.71	12.58	41.43	40.35	45.49	44.54	---	---
2	13.94	12.15	18.73	13.24	18.75	11.56	41.43	34.67	45.69	44.62	---	---
3	13.47	12.39	20.98	13.71	15.67	8.80	41.70	40.54	45.86	44.75	---	---
4	21.96	12.43	32.63	20.81	15.81	8.62	42.07	40.81	45.62	44.55	---	---
5	25.82	13.60	21.50	15.94	17.81	15.68	42.48	41.26	45.36	44.43	---	---
6	26.80	15.19	16.78	14.50	19.52	11.54	43.10	41.82	45.56	40.41	---	---
7	16.44	13.93	15.64	14.23	25.24	13.39	43.11	42.10	45.47	38.72	---	---
8	15.05	13.44	15.32	13.94	27.11	15.71	43.32	42.21	45.48	35.65	---	---
9	14.64	13.20	20.27	14.05	23.71	15.78	43.45	42.43	45.81	40.11	---	---
10	14.30	13.06	22.26	16.73	21.73	20.86	43.45	42.51	46.04	36.82	---	---
11	21.98	13.07	23.33	17.85	27.48	20.88	43.39	42.61	46.34	39.05	---	---
12	24.44	13.85	22.46	17.13	29.91	27.43	43.64	42.72	45.51	35.64	---	---
13	22.91	13.91	17.13	15.01	30.25	25.43	43.74	42.97	45.33	35.07	---	---
14	21.62	13.79	19.17	14.74	31.31	25.90	44.08	42.97	45.65	39.57	---	---
15	14.22	13.56	21.78	16.04	32.17	30.64	44.13	43.12	45.43	35.21	26.09	19.64
16	14.11	13.40	21.90	17.41	32.66	31.38	44.07	43.12	46.05	44.52	25.57	19.16
17	13.85	12.93	21.42	16.22	32.75	25.75	44.11	37.82	46.31	44.95	24.65	18.25
18	13.42	12.36	22.04	15.89	32.46	21.50	44.15	42.58	46.30	35.04	29.02	18.01
19	17.01	12.37	29.54	16.21	33.12	28.27	44.34	43.22	44.95	35.07	24.00	19.37
20	18.30	12.42	22.38	15.41	36.89	31.22	44.64	43.18	44.67	35.05	36.68	23.42
21	14.12	12.79	16.08	14.54	38.37	36.80	44.99	43.58	43.98	34.01	36.18	22.67
22	13.64	12.48	15.43	14.10	39.42	37.92	44.94	43.59	44.31	34.65	22.67	17.61
23	13.40	11.95	15.09	13.65	39.22	36.42	44.83	43.67	44.80	34.97	---	---
24	12.76	11.66	28.64	13.86	39.29	35.34	44.47	43.35	45.04	35.09	---	---
25	13.13	11.87	30.63	16.89	36.04	29.82	44.30	43.05	43.28	33.17	---	---
26	19.44	12.20	22.56	16.53	38.86	34.71	45.01	43.53	---	---	---	---
27	21.98	16.96	16.90	12.80	39.70	38.08	45.11	43.84	---	---	---	---
28	17.91	14.14	19.30	12.51	40.29	32.42	44.81	38.65	---	---	---	---
29	14.74	13.93	19.47	11.25	40.94	39.31	45.26	43.55	---	---	---	---
30	14.50	13.62	22.76	11.12	41.46	39.90	45.30	39.38	---	---	---	---
31	---	---	23.86	11.71	---	---	45.47	44.32	---	---	---	---
MONTH	26.80	11.66	32.63	11.12	41.46	8.62	45.47	34.67	46.34	33.17	36.68	17.61
YEAR	46.34	4.63										

Daily Low Water Levels



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 Upper 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.--Altitude 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 record 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, 19.04 ft below land surface, Sept. 5, 1995.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	13.35	12.46	6.05	5.05	3.25	2.49	3.51	2.88	3.21	2.25	3.37	2.52
2	13.19	12.28	5.69	4.88	3.28	2.45	3.50	2.89	3.37	2.46	3.53	2.39
3	12.98	12.17	5.85	5.05	3.29	2.69	3.44	2.87	3.47	2.53	3.30	2.64
4	12.57	11.74	6.06	5.38	3.16	2.54	3.27	2.60	3.43	2.31	2.95	1.96
5	12.51	11.80	6.07	5.38	3.01	2.45	3.33	2.23	3.42	1.93	3.15	2.05
6	12.47	11.81	5.86	4.88	2.93	1.95	3.70	2.36	3.55	2.37	4.23	2.02
7	12.36	11.59	5.48	4.61	2.64	1.63	4.20	2.61	3.75	2.45	4.51	3.40
8	12.21	10.35	5.27	4.30	2.68	1.27	4.37	3.17	3.71	1.98	4.45	3.15
9	11.92	10.79	5.17	4.16	2.75	1.64	4.47	2.45	3.11	1.69	4.20	2.55
10	12.15	11.28	5.28	4.27	2.77	1.56	3.46	2.00	3.33	2.13	3.65	2.29
11	12.23	11.40	5.26	4.10	4.44	1.75	4.08	2.91	3.32	2.26	3.57	2.39
12	12.20	11.29	5.43	4.26	4.51	3.17	4.44	3.39	3.25	2.26	3.64	2.51
13	12.15	11.22	5.48	4.27	4.25	2.69	4.48	3.36	3.47	2.47	3.87	2.73
14	12.06	10.99	5.26	4.04	3.80	2.54	4.11	3.09	3.13	2.30	3.59	2.63
15	11.79	10.71	4.82	3.64	3.67	2.57	3.72	2.93	3.57	2.21	3.71	2.51
16	11.62	10.61	4.54	3.48	3.85	2.80	3.58	2.68	3.62	2.89	3.98	3.08
17	11.48	10.43	4.32	3.20	4.03	3.04	4.12	3.04	3.65	2.97	3.97	3.26
18	11.00	9.69	3.80	2.81	4.04	3.15	4.03	3.23	4.24	2.90	3.98	3.32
19	10.17	9.16	3.60	2.59	4.10	3.05	3.99	2.94	4.28	3.51	3.83	2.90
20	10.07	9.02	3.87	2.68	5.09	3.52	3.90	2.80	4.30	3.36	3.50	2.64
21	10.29	9.24	3.95	2.85	5.09	4.17	3.96	3.13	4.01	2.90	3.52	2.59
22	10.28	9.21	3.95	2.81	4.92	3.82	3.83	2.78	3.97	2.95	3.40	2.62
23	10.04	8.58	3.94	2.77	4.64	3.48	3.67	2.70	4.25	3.40	3.44	2.60
24	9.50	8.13	4.04	2.95	4.27	3.18	3.82	2.22	4.19	3.31	3.79	2.89
25	9.16	6.88	4.03	2.80	4.26	3.32	2.98	1.98	4.17	3.15	4.13	3.16
26	7.86	6.60	3.77	2.53	4.60	3.53	3.95	2.79	3.88	3.14	4.14	3.21
27	7.49	6.26	3.96	2.90	4.13	3.10	4.11	2.90	3.94	3.18	4.17	3.32
28	7.08	5.77	3.76	2.68	3.84	2.87	3.74	2.86	3.96	2.93	4.06	2.80
29	6.66	5.52	3.53	2.64	3.66	2.83	3.92	3.12	---	---	3.51	2.72
30	6.46	5.25	3.53	2.63	3.80	3.11	3.75	2.75	---	---	3.70	2.72
31	6.09	5.10	---	---	3.67	2.94	3.07	2.44	---	---	3.86	2.74
MONTH	13.35	5.10	6.07	2.53	5.09	1.27	4.48	1.98	4.30	1.69	4.51	1.96

GROUND-WATER LEVELS

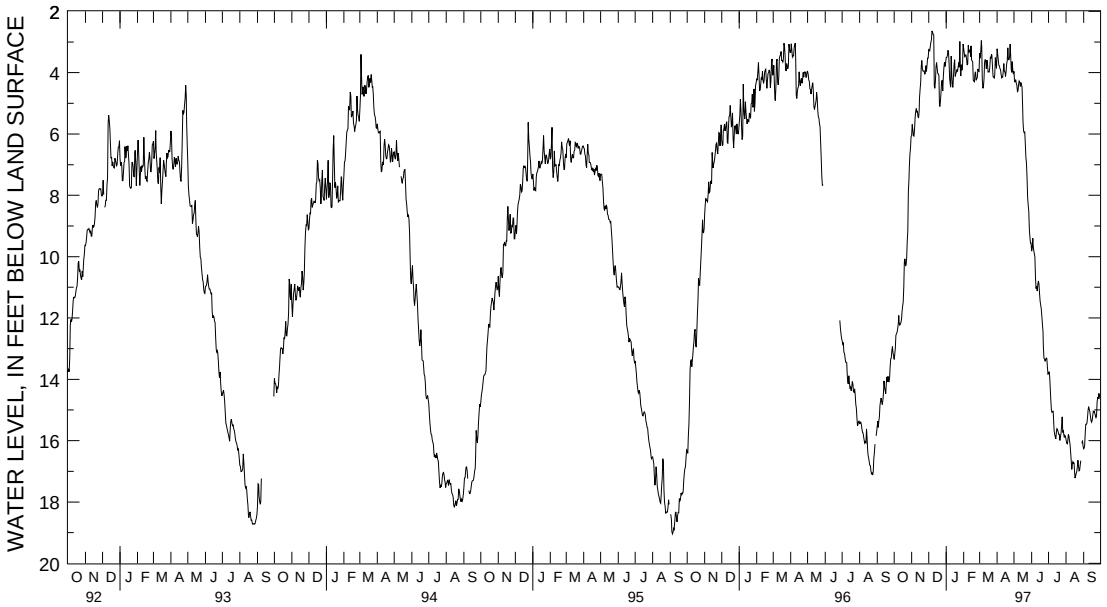
MARYLAND--Continued

WORCESTER COUNTY--Continued

WO Bh 34--Continued

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	3.22	2.49	3.96	3.13	9.82	8.77	13.82	12.68	15.96	14.95	16.26	15.37
2	3.38	2.35	4.30	3.27	9.73	8.38	13.75	12.66	16.06	15.09	16.23	15.35
3	3.57	2.46	4.30	3.09	9.40	8.26	13.92	12.93	16.10	15.18	16.16	15.12
4	3.76	2.60	4.23	3.11	9.64	8.41	14.30	13.37	16.03	14.93	15.76	14.80
5	3.78	2.67	4.35	3.15	9.80	8.68	14.70	13.80	15.80	14.87	15.47	14.70
6	3.87	2.62	4.41	3.17	9.91	8.83	15.00	14.05	15.84	15.06	15.47	14.75
7	3.90	2.68	4.62	3.39	10.02	9.08	15.07	14.17	15.99	15.29	15.43	14.65
8	4.06	2.88	4.59	3.44	10.70	9.29	15.05	14.23	16.12	15.41	15.24	14.42
9	4.16	3.04	4.38	3.07	11.04	9.96	15.04	14.24	16.37	15.63	15.00	14.14
10	4.13	3.10	4.27	3.15	10.96	10.13	15.28	14.42	16.64	15.96	14.89	14.08
11	4.14	3.08	4.31	3.35	11.12	10.33	15.67	14.72	16.94	16.14	14.98	14.10
12	3.97	2.92	4.45	3.56	10.91	10.23	15.79	15.17	16.76	15.97	15.05	14.07
13	3.70	2.83	4.32	3.71	10.79	10.14	15.88	15.19	16.69	15.78	15.20	14.14
14	3.95	3.09	4.40	3.60	10.88	10.18	15.94	15.09	16.74	15.67	15.34	14.15
15	3.98	3.37	4.47	3.83	11.19	10.39	15.71	14.81	16.73	15.57	15.40	14.11
16	4.12	3.46	5.08	3.94	11.45	10.61	15.61	14.61	16.97	15.82	15.35	14.04
17	3.96	3.27	5.60	4.66	11.57	10.64	15.65	14.49	17.22	15.97	15.20	13.77
18	3.71	2.91	5.90	5.13	11.70	10.60	15.71	14.52	17.15	15.67	15.04	13.78
19	3.61	2.54	5.96	5.04	11.93	10.81	15.79	14.55	17.07	15.77	15.06	13.85
20	3.19	2.36	5.94	5.01	12.19	10.99	15.79	14.63	17.00	15.53	15.05	13.93
21	3.57	2.62	6.31	5.45	12.43	11.34	15.99	14.70	16.86	15.44	15.11	14.07
22	3.58	2.58	6.76	5.70	12.93	11.78	15.87	14.51	16.64	15.47	15.18	14.25
23	3.50	2.25	6.94	5.98	13.31	12.03	15.76	14.45	16.83	15.83	15.24	14.49
24	3.07	2.02	7.42	6.32	13.34	12.28	15.53	14.17	16.98	16.01	15.17	14.30
25	3.48	2.22	8.06	6.61	13.40	12.30	15.22	14.21	16.96	16.01	14.74	13.74
26	3.93	2.62	8.32	7.12	13.36	12.37	15.71	14.56	16.79	15.81	14.58	13.77
27	3.99	2.86	8.52	7.46	13.31	12.32	15.68	14.76	16.65	15.65	14.63	13.77
28	3.64	2.79	9.10	7.66	13.32	12.42	15.82	14.80	---	---	14.46	13.26
29	3.92	2.68	9.37	8.38	13.59	12.62	15.89	14.85	16.09	15.13	14.52	13.50
30	4.05	3.05	9.56	8.64	13.83	12.80	15.83	14.82	16.00	15.06	14.65	13.82
31	---	---	9.56	8.66	---	---	15.87	14.86	16.19	15.25	---	---
MONTH	4.16	2.02	9.56	3.07	13.83	8.26	15.99	12.66	17.22	14.87	16.26	13.26
YEAR	17.22	1.27										

Daily Low Water Levels



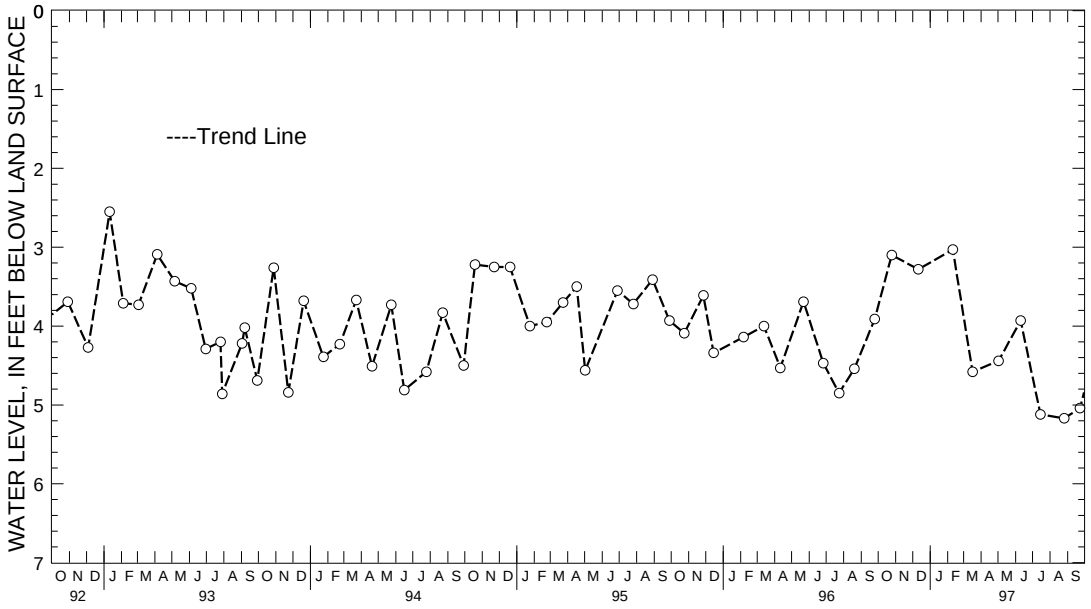
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--WO Bh 84. SITE ID.--382215075041901. PERMIT NUMBER.--WO-73-0095.
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.--Beaverdam Sand of Pliocene age. Aquifer code: 121BVDM.
WELL CHARACTERISTICS.--Drilled, observation, water-table well, depth 89 ft; casing diameter 4 in., to 84 ft; screen diameter 4 in. from 84 to 89 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, 2.55 ft above land surface.
REMARKS.--Ocean City ground-water monitoring network well.
PERIOD OF RECORD.--April 1973 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.55 ft below land surface, Jan. 11, 1993; lowest measured, 6.34 ft below land surface, Sept. 17, 1991.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25, 1996	3.10	MAR 17, 1997	4.58	JUL 15, 1997	5.12
DEC 11	3.28	MAY 02	4.44	AUG 26	5.17
FEB 10, 1997	3.03	JUN 10	3.93	SEP 23	5.04

WATER YEAR 1997 HIGHEST 3.03 FEB 10, 1997 LOWEST 5.17 AUG 26, 1997



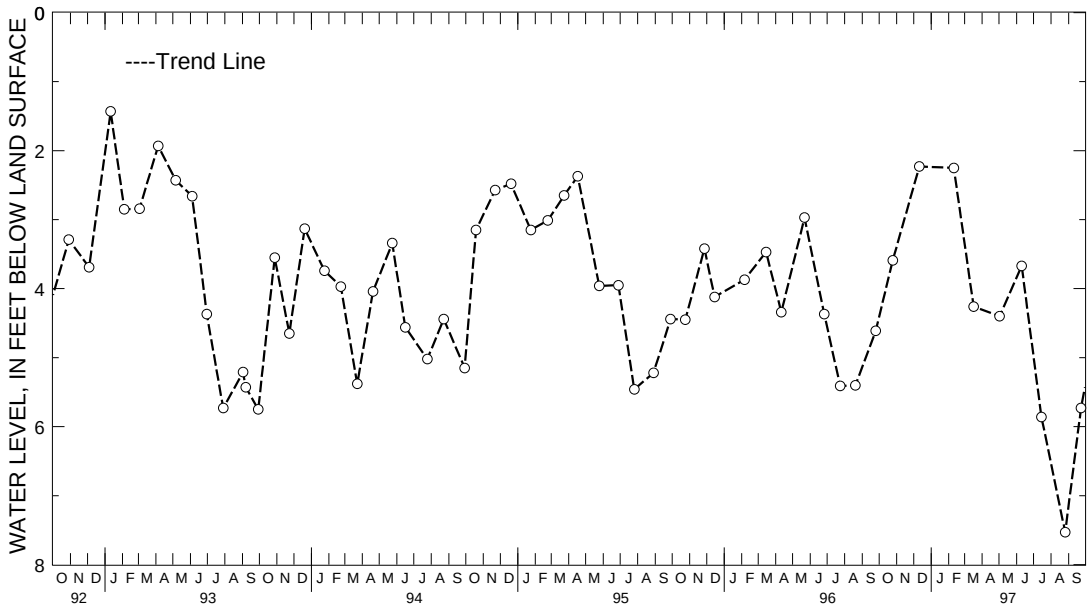
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 Upper Miocene-Pliocene 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, 7.53 ft below land surface, August 26, 1997.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25, 1996	3.59	MAR 17, 1997	4.26	JUL 15, 1997	5.86
DEC 11	2.23	MAY 02	4.40	AUG 26	7.53
FEB 10, 1997	2.25	JUN 10	3.67	SEP 23	5.73

WATER YEAR 1997 HIGHEST 2.23 DEC 11, 1996 LOWEST 7.53 AUG 26, 1997



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 Upper 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.--Altitude of land surface is 5.59 ft above National Geodetic Vertical Datum of 1929.
Measuring Point: Top of recorder shelf, 2.84 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, 0.42 ft below land surface, Oct. 8, 1993; lowest recorded, 39.83 ft below land surface, Aug. 6, 1987.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	14.24	11.53	17.25	14.51	13.74	11.25	10.85	9.72	6.09	5.17	9.39	5.79
2	14.14	12.32	17.59	16.48	13.52	9.74	10.87	9.13	6.43	5.30	11.13	6.48
3	13.95	12.79	18.37	17.21	10.19	9.00	9.60	7.58	11.21	6.43	13.42	7.59
4	13.65	12.30	18.88	18.04	10.59	8.40	9.93	8.91	10.83	6.78	15.30	11.88
5	14.11	13.37	19.00	16.21	9.29	8.05	10.27	8.48	7.25	5.77	16.45	13.45
6	14.17	13.50	17.61	14.43	8.75	7.19	10.29	6.98	6.88	5.72	17.90	13.97
7	14.12	11.81	16.56	13.61	10.41	8.67	8.14	6.86	6.86	5.55	15.15	11.59
8	12.94	9.66	14.86	12.00	10.62	7.74	8.14	6.93	6.61	4.78	14.12	10.25
9	10.34	9.02	15.23	11.47	10.70	7.69	8.01	5.78	5.84	4.55	13.15	9.39
10	10.07	9.11	15.21	12.46	8.42	7.09	6.65	5.29	6.07	4.96	15.86	8.54
11	9.93	8.90	15.00	11.98	8.25	6.90	7.16	6.04	6.10	5.07	16.40	12.14
12	15.85	9.42	12.59	10.94	7.80	6.47	7.42	6.38	13.25	5.04	14.11	11.01
13	18.37	13.93	12.30	10.63	8.51	5.97	7.45	6.33	14.53	12.89	11.83	10.75
14	17.95	13.34	11.57	9.75	8.47	5.89	7.03	5.99	14.05	11.70	13.84	10.66
15	18.19	13.15	10.54	8.95	8.89	6.39	6.58	5.78	16.04	11.00	16.52	11.05
16	14.40	13.20	10.65	9.25	7.68	6.27	6.37	5.52	16.04	13.35	17.09	13.36
17	13.59	12.46	11.04	10.13	7.32	6.03	6.92	5.80	15.43	13.22	15.65	12.78
18	13.62	11.98	11.02	9.48	7.15	6.00	8.45	6.01	15.43	12.82	12.89	11.81
19	12.76	11.84	11.31	8.73	7.06	6.11	8.73	6.23	18.98	12.25	13.30	10.87
20	14.92	11.87	11.10	8.57	8.05	6.52	11.84	6.62	19.18	11.47	12.59	10.72
21	13.74	11.83	9.29	8.08	8.05	7.13	12.19	8.82	11.57	8.81	14.32	10.40
22	12.74	10.48	10.69	7.69	9.70	7.50	10.45	7.93	12.12	8.24	15.70	11.49
23	13.00	11.92	11.04	8.40	8.54	6.89	12.63	8.14	12.26	8.67	15.98	14.92
24	13.19	12.13	11.71	9.27	7.95	6.85	10.26	7.78	10.30	8.06	15.95	12.90
25	13.40	12.28	12.03	8.78	7.58	6.53	8.83	6.67	8.68	7.19	15.84	13.03
26	15.54	12.49	9.36	8.62	7.70	6.49	7.96	7.17	7.80	6.82	13.85	11.21
27	18.12	13.66	10.95	8.37	7.91	6.29	7.91	6.43	7.45	6.73	13.65	11.48
28	18.81	15.16	10.51	8.02	8.69	6.14	7.08	6.23	7.31	6.22	16.24	11.20
29	17.54	16.37	11.26	9.48	9.99	8.58	7.10	6.41	---	---	19.15	13.27
30	17.20	13.75	13.66	11.00	10.53	7.80	6.86	5.79	---	---	19.20	16.05
31	16.87	14.33	---	---	10.30	7.86	6.05	5.38	---	---	20.95	14.16
MONTH	18.81	8.90	19.00	7.69	13.74	5.89	12.63	5.29	19.18	4.55	20.95	5.79

GROUND-WATER LEVELS

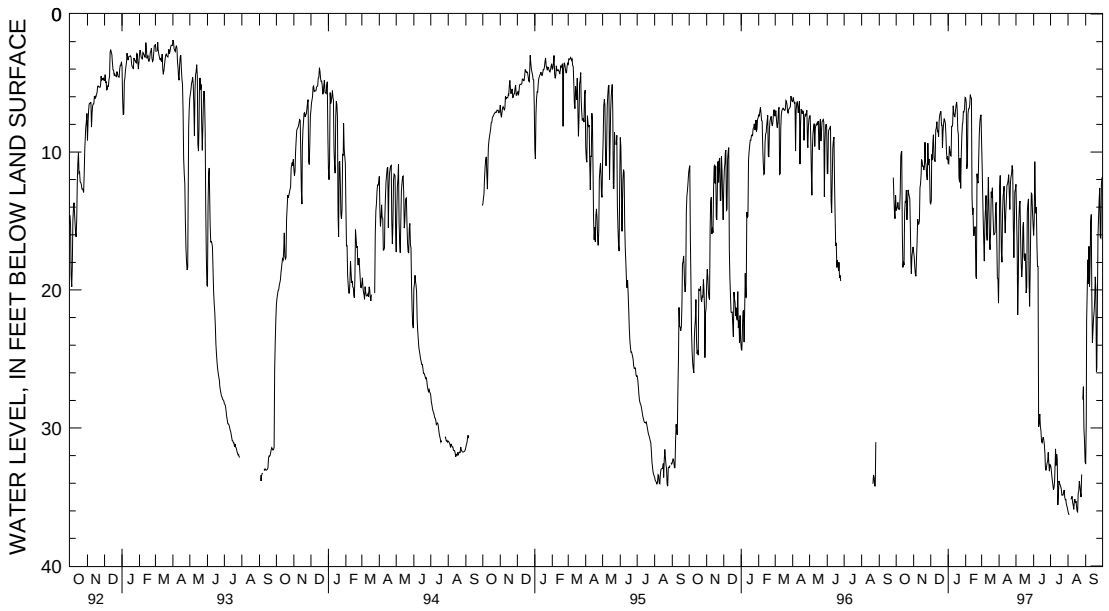
MARYLAND--Continued

WORCESTER COUNTY--Continued

WO Bh 89--Continued

DAY	APRIL MAX	APRIL MIN	MAY MAX	MAY MIN	JUNE MAX	JUNE MIN	JULY MAX	JULY MIN	AUGUST MAX	AUGUST MIN	SEPTEMBER MAX	SEPTEMBER MIN
1	18.00	12.57	12.34	11.44	16.04	11.13	32.70	29.60	36.05	35.15	32.61	29.09
2	12.57	10.77	14.70	11.51	14.95	10.70	32.90	29.20	36.22	35.40	29.48	22.16
3	11.70	10.73	16.73	12.00	10.70	8.02	33.39	31.32	36.30	35.89	22.19	19.59
4	14.76	10.74	21.80	16.65	12.46	7.95	33.76	31.63	---	---	20.02	17.41
5	17.27	11.73	19.44	14.18	14.44	12.46	34.10	32.09	---	---	17.81	16.43
6	17.99	13.23	14.92	12.86	14.01	10.63	34.46	33.00	35.17	34.29	19.53	16.43
7	14.51	12.15	13.83	12.55	16.61	12.17	34.35	32.69	35.09	33.39	16.84	15.37
8	13.20	11.71	13.55	12.26	18.30	14.12	33.87	32.17	34.95	31.88	19.78	15.34
9	12.81	11.46	16.14	12.34	18.30	14.38	32.58	30.64	35.39	34.56	17.99	15.04
10	12.48	11.32	18.05	14.79	29.91	14.36	31.51	30.34	35.60	33.00	15.11	14.10
11	14.81	11.32	19.06	15.91	29.61	25.37	32.71	30.78	35.89	35.14	14.52	13.51
12	15.88	12.06	18.36	15.37	29.00	25.29	31.90	30.80	35.27	31.95	20.32	13.64
13	14.33	12.06	15.37	13.35	29.89	27.39	32.26	30.94	35.16	31.43	23.82	18.99
14	13.43	12.02	15.08	13.04	30.19	27.83	35.57	30.91	35.43	34.30	22.93	20.97
15	12.41	11.81	17.62	14.24	30.94	29.01	34.70	32.49	35.31	31.50	22.07	18.07
16	12.31	11.66	17.87	15.62	31.06	29.15	33.83	32.90	35.62	34.56	21.56	17.58
17	12.08	11.18	17.36	14.50	30.80	25.83	34.02	32.38	36.01	34.89	20.77	16.74
18	11.64	10.68	17.92	14.19	30.67	27.88	34.12	33.04	36.07	31.36	19.05	16.34
19	12.98	10.67	20.21	14.44	30.87	28.31	34.26	33.16	34.76	31.37	19.96	17.67
20	14.16	10.68	19.78	13.72	31.24	28.76	34.44	33.28	34.58	31.60	25.92	19.36
21	12.24	11.04	14.31	12.89	31.93	29.82	34.87	33.71	33.85	30.43	25.66	21.03
22	11.81	10.75	13.73	12.49	32.80	30.86	34.87	33.72	34.22	30.98	21.03	16.13
23	11.60	10.21	13.40	12.06	33.07	31.42	34.87	33.76	34.65	31.35	16.13	14.78
24	10.98	9.93	19.22	12.24	32.82	30.96	34.67	33.46	35.01	31.45	14.79	13.27
25	11.31	10.09	21.19	15.07	32.54	31.27	34.49	33.35	33.36	29.84	13.52	12.02
26	15.20	10.43	18.52	14.89	32.41	30.46	35.04	33.53	---	---	12.60	11.55
27	17.66	14.88	15.17	11.90	31.77	29.43	35.20	33.76	27.94	26.42	16.17	11.40
28	15.93	12.40	12.99	11.59	32.55	28.80	35.19	33.78	27.00	25.59	16.24	11.80
29	12.90	12.16	13.07	10.31	33.13	30.63	35.49	33.79	30.11	25.52	12.36	11.14
30	12.67	11.85	14.36	10.30	32.66	28.70	35.64	34.35	30.95	26.56	11.82	10.90
31	---	---	15.25	10.87	---	---	35.83	34.92	32.44	28.06	---	---
MONTH	18.00	9.93	21.80	10.30	33.13	7.95	35.83	29.20	36.30	25.52	32.61	10.90
YEAR	36.30	4.55										

Daily Low Water Levels



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 Upper 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,
Equipped with digital water-level recorder--60-minute recorder interval from November 1990 to current year.
DATUM.--Altitude 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 1996 TO SEPTEMBER 1997

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	11.30	10.98	14.94	14.25	---	---	13.78	13.34	12.53	12.52	11.72	11.07
2	11.14	10.68	14.75	13.94	---	---	14.06	13.69	12.52	12.51	12.96	11.36
3	10.75	10.43	14.31	13.59	---	---	13.91	12.95	12.53	12.51	12.81	11.69
4	10.56	9.96	14.55	13.64	---	---	13.20	12.93	12.53	11.53	11.69	10.76
5	10.48	10.12	14.82	13.64	---	---	13.21	12.69	11.78	10.88	11.05	10.65
6	---	---	15.37	14.23	---	---	13.21	12.56	11.44	10.83	12.41	10.51
7	---	---	14.71	13.76	---	---	12.85	12.20	11.53	10.79	12.90	11.91
8	---	---	15.61	13.75	---	---	12.84	12.35	11.37	10.13	13.37	12.49
9	---	---	15.91	15.34	---	---	12.80	11.33	10.71	9.99	13.74	12.57
10	---	---	15.87	15.14	---	---	11.66	10.92	11.07	10.29	13.40	12.37
11	---	---	15.25	14.20	---	---	12.16	11.28	11.15	10.43	12.95	12.16
12	---	---	14.59	14.08	13.56	12.74	12.46	11.78	10.98	10.43	12.69	11.41
13	---	---	14.23	13.35	13.10	12.13	12.54	11.89	12.73	10.95	12.77	12.18
14	---	---	13.87	13.33	12.73	11.94	12.22	11.59	12.69	11.26	12.55	12.04
15	---	---	14.18	13.43	12.95	12.23	11.65	11.24	13.88	12.15	13.60	12.10
16	---	---	14.48	13.60	12.95	12.43	11.45	10.99	14.27	13.81	14.43	13.40
17	---	---	14.10	13.43	12.80	12.34	11.99	11.23	14.49	13.82	14.41	13.61
18	---	---	14.28	13.48	12.69	12.16	12.17	11.51	15.86	14.11	13.74	13.14
19	---	---	---	---	12.59	11.99	12.50	11.58	16.01	14.20	13.22	12.31
20	---	---	---	---	13.45	12.36	13.57	11.99	14.46	12.81	12.71	12.19
21	---	---	---	---	13.45	12.98	13.74	13.11	13.00	12.01	12.89	12.40
22	---	---	---	---	13.57	12.78	13.55	12.62	12.71	11.91	13.36	12.57
23	---	---	---	---	13.61	12.67	12.81	12.37	13.31	12.64	13.81	13.25
24	---	---	---	---	12.94	12.49	12.66	11.96	13.60	12.58	14.05	13.53
25	---	---	---	---	12.95	12.38	12.10	11.41	12.89	12.00	14.29	13.14
26	15.08	13.57	---	---	13.01	12.32	12.53	11.83	12.28	11.67	13.49	13.02
27	17.68	15.08	---	---	12.56	12.04	12.62	12.47	12.01	11.67	13.99	13.24
28	16.74	16.17	---	---	12.49	11.88	12.56	12.55	12.01	11.38	14.15	13.69
29	16.52	15.95	---	---	13.30	12.45	12.55	12.54	---	---	15.21	14.12
30	18.13	15.77	---	---	13.74	13.18	12.54	12.54	---	---	16.52	15.21
31	18.62	14.62	---	---	13.58	13.11	12.54	12.53	---	---	16.25	15.61
MONTH	18.62	9.96	15.91	13.33	13.74	11.88	14.06	10.92	16.01	9.99	16.52	10.51

GROUND-WATER LEVELS

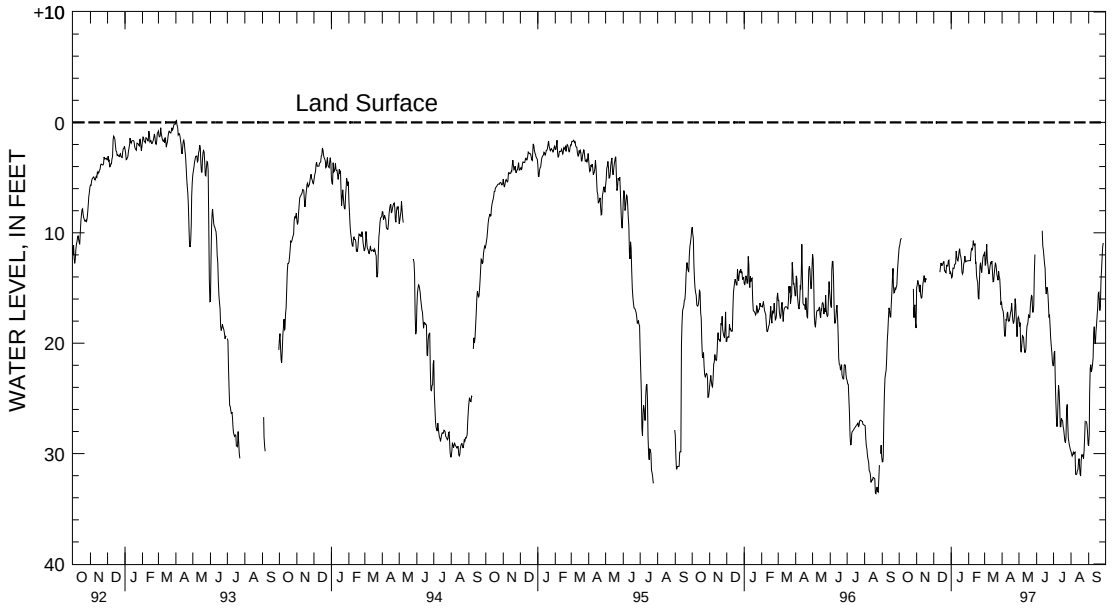
MARYLAND--Continued

WORCESTER COUNTY--Continued

WO Bh 98--Continued

DAY	APRIL MAX	APRIL MIN	MAY MAX	MAY MIN	JUNE MAX	JUNE MIN	JULY MAX	JULY MIN	AUGUST MAX	AUGUST MIN	SEPTEMBER MAX	SEPTEMBER MIN
1	16.82	15.32	17.83	17.23	---	---	22.03	20.77	29.81	29.12	29.27	28.21
2	16.96	15.37	18.49	17.51	---	---	20.91	19.50	30.02	29.41	28.22	24.54
3	17.14	16.47	18.14	17.59	---	---	20.72	19.46	30.23	29.47	24.54	22.10
4	17.75	16.60	20.67	17.92	---	---	23.34	20.72	30.10	29.22	22.29	21.43
5	18.95	17.39	20.81	19.59	---	---	25.31	23.34	29.87	29.10	21.94	21.16
6	19.39	18.47	20.07	18.68	---	---	26.75	25.04	30.03	29.27	22.61	21.83
7	18.94	17.34	19.33	18.59	---	---	27.56	26.40	29.94	29.09	22.36	21.44
8	17.80	16.70	19.39	18.63	---	---	26.66	24.71	29.87	29.06	21.93	21.32
9	17.96	16.84	19.51	18.64	---	---	24.71	23.58	31.88	29.82	21.32	19.10
10	17.32	16.39	20.34	18.95	---	---	23.80	23.42	31.90	30.99	19.10	18.51
11	17.16	16.12	20.84	20.02	9.81	9.78	24.39	23.31	31.84	31.12	18.51	17.55
12	17.81	16.95	20.81	20.18	11.20	9.81	25.68	24.39	31.54	30.98	19.87	17.83
13	18.02	17.37	20.48	18.78	11.57	11.13	27.56	25.61	31.44	30.16	20.05	18.45
14	17.96	17.51	19.11	18.09	12.14	11.49	27.56	25.69	30.84	29.99	18.94	17.78
15	17.62	16.82	18.40	17.69	12.79	12.07	26.79	25.98	30.45	29.30	18.31	17.22
16	17.22	16.35	18.29	17.82	13.22	12.69	26.97	26.19	31.01	29.80	17.49	16.39
17	17.03	15.95	18.04	17.31	14.99	13.09	27.01	25.40	31.82	31.01	16.76	15.45
18	16.38	14.97	17.44	16.72	15.54	14.63	27.54	26.00	32.03	30.61	15.51	14.70
19	17.24	16.36	17.52	16.67	14.95	14.26	27.85	26.95	30.63	29.15	15.40	14.55
20	17.95	16.94	17.69	16.44	14.98	14.44	28.36	27.51	30.08	28.88	16.32	14.88
21	18.21	17.71	16.71	15.76	15.67	14.69	28.88	28.02	30.20	29.00	17.04	16.22
22	18.03	16.89	16.13	15.33	16.33	15.22	29.01	28.24	30.14	29.00	16.62	14.41
23	17.41	15.95	15.68	14.89	17.58	15.70	28.47	25.87	30.45	29.77	14.41	13.40
24	15.97	15.09	15.74	14.90	17.50	16.97	26.02	24.54	29.77	28.31	13.40	12.16
25	16.50	15.47	17.19	15.74	18.44	17.10	25.55	24.48	28.50	26.97	12.22	11.01
26	17.91	16.18	17.19	16.52	19.49	18.38	27.23	25.34	27.02	26.33	11.22	10.53
27	19.41	17.91	16.59	13.65	20.20	18.94	28.61	27.22	---	---	10.92	10.42
28	19.34	17.75	13.65	11.97	20.82	19.53	28.94	28.08	27.08	26.07	---	---
29	17.77	17.43	11.97	10.78	21.64	20.43	29.18	28.40	27.37	26.20	---	---
30	17.61	17.07	---	---	22.03	21.02	29.42	28.65	28.03	26.42	---	---
31	---	---	---	---	---	---	29.67	28.88	29.16	27.60	---	---
MONTH	19.41	14.97	20.84	10.78	22.03	9.78	29.67	19.46	32.03	26.07	29.27	10.42
YEAR	32.03	9.78										

Daily Low Water Levels



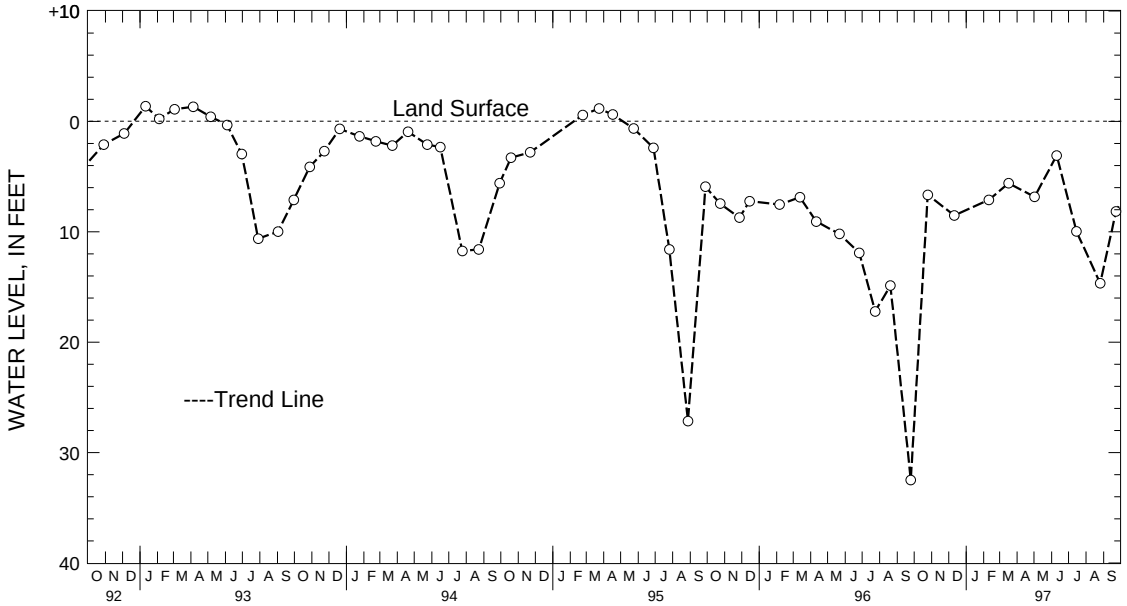
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 upper 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, 3.0 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, 32.49 ft below land surface, Sept. 25, 1996.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997
(READINGS ABOVE LAND SURFACE INDICATED BY "+")

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25, 1996	6.66	MAR 17, 1997	5.60	JUL 15, 1997	9.96
DEC 11	8.52	MAY 02	6.83	AUG 26	14.66
FEB 10, 1997	7.11	JUN 10	3.09	SEP 23	8.15

WATER YEAR 1997 HIGHEST 3.09 JUN 10, 1997 LOWEST 14.66 AUG 26, 1997



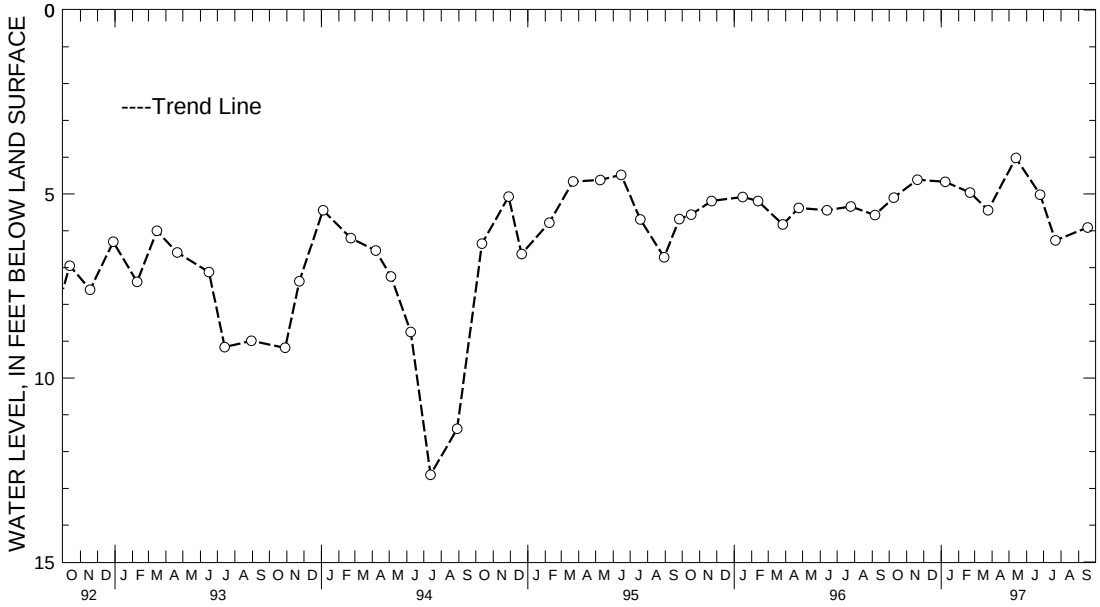
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 Upper 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 electric 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 09, 1996	5.10	FEB 21, 1997	4.96	JUN 25, 1997	5.02
NOV 20	4.61	MAR 25	5.44	JUL 22	6.26
JAN 08, 1997	4.67	MAY 13	4.02	SEP 17	5.91

WATER YEAR 1997 HIGHEST 4.02 MAY 13, 1997 LOWEST 6.26 JUL 22, 1997



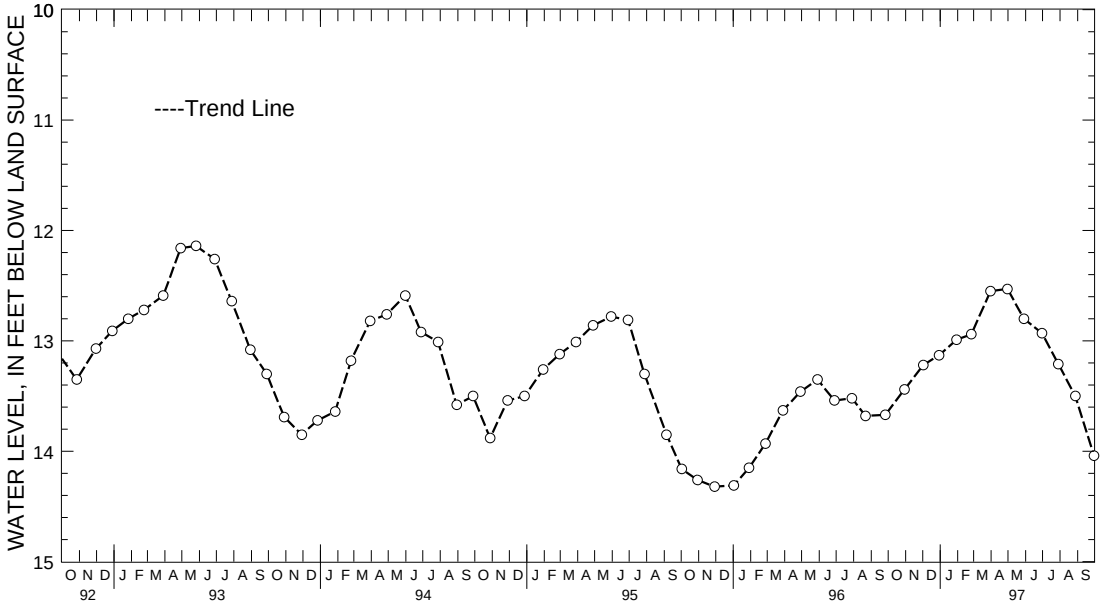
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 Upper 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 electric 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 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30, 1996	13.44	JAN 30, 1997	12.99	APR 30, 1997	12.53	JUL 29, 1997	13.21
DEC 02	13.22	FEB 25	12.94	MAY 29	12.80	AUG 28	13.50
30	13.13	MAR 31	12.55	JUN 30	12.93	SEP 30	14.04

WATER YEAR 1997 HIGHEST 12.53 APR 30, 1997 LOWEST 14.04 SEP 30, 1997



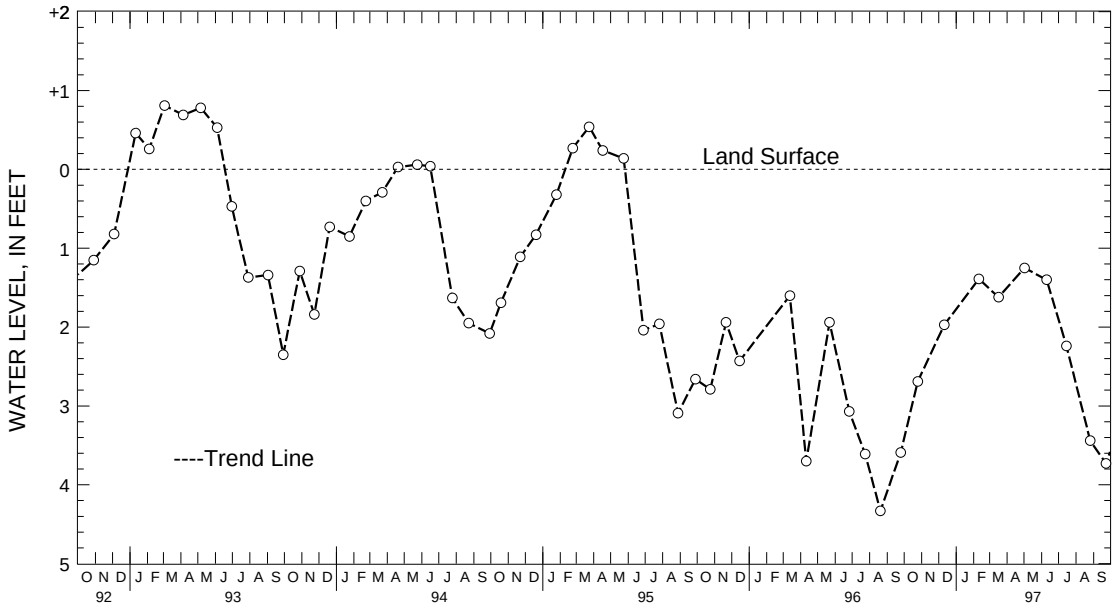
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

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 Upper 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 metal sleeve, 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 1996 TO SEPTEMBER 1997
(READINGS ABOVE LAND SURFACE INDICATED BY "+")

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25, 1996	2.69	MAR 17, 1997	1.62	JUL 15, 1997	2.24
DEC 11	1.97	MAY 02	1.25	AUG 26	3.44
FEB 10, 1997	1.39	JUN 10	1.40	SEP 23	3.73

WATER YEAR 1997 HIGHEST 1.25 MAY 02, 1997 LOWEST 3.73 SEP 23, 1997



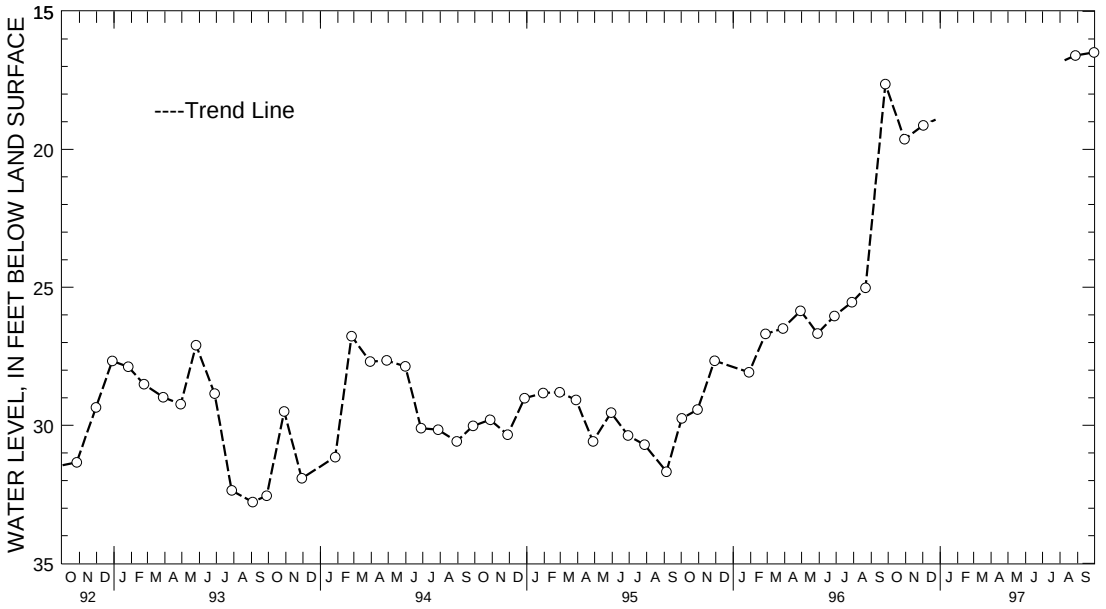
5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

WELL NUMBER.--WO Fb 2. SITE ID.--380408075335701.
LOCATION.--Lat 38°04´08˝, long 75°33´57˝, Hydrologic Unit 02060009, near 7th and Young Sts., Pocomoke City.
Owner: Pocomoke City.
AQUIFER.--Pocomoke aquifer of Upper Miocene-Pliocene age. Aquifer code: 122PCMK.
WELL CHARACTERISTICS.--Drilled, unused, artesian well, depth 130 ft; casing diameter 16 in., to 100 ft; casing diameter 10 in., to 100 ft; screen diameter 9.5 in. from 100 to 130 ft.
INSTRUMENTATION.--Monthly measurements with electric 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 1.5 in. casing extension, 3.40 ft above land surface.
REMARKS.--Maryland Water-Level Network observation well. Water level reported 30 ft below land surface, Oct. 3, 1947; water levels may be affected by nearby pumpage. Well inaccessible between January 1997 and July 1997 due to construction equipment.
PERIOD OF RECORD.--January 1953 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 16.49 ft below land surface, Sept. 30, 1997; lowest measured, 49.70 ft below land surface, July 1, 1954.

WATER LEVEL, IN FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30, 1996	19.63	DEC 02, 1996	19.13	AUG 28, 1997	16.60	SEP 30, 1997	16.49

WATER YEAR 1997 HIGHEST 16.49 SEP 30, 1997 LOWEST 19.63 OCT 30, 1996



5 YEAR HYDROGRAPH
OCTOBER 1, 1992 THROUGH SEPTEMBER 30, 1997

GROUND-WATER QUALITY RECORDS

REMARK CODES

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

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 egual to or greater than 15 percent (dominant).
&	Biological organism estimated as dominant.
V	Analyte was detected in both the environmental sample and the associated blank.

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). 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 began using new trace-element protocols in water year 1994. Full implementation of the protocols will take place during the 1995 water year.

Change in National Trends Network procedures

NOTE--Sample handling procedures at all national Trends Network stations were changed substantially on January 11, 1994, in order to reduce contamination from the sample shipping container. The data for samples before and after that date are different and not directly comparable. A tabular summary of the differences based on a special intercomparison study, is available from the NADP/NTN Coordination Office, Colorado State University, Fort Collins, CO 80523 (Telephone: 303-491-5643).

ALEGANY COUNTY, MARYLAND

WELL NUMBER	DATE	TIME	STATION NUMBER	GEO-LOGIC UNIT	SITE	SAM-PLING METHOD, CODES (82398)	DEPTH OF WELL, TOTAL (FEET) (72008)	DEPTH TO TOP OF SAMPLE INTER-VAL (FT) (72015)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL (FT) (72016)
AL Ai 26	8-06-97	1000	394311078245501	341JNGS	GW	8030	83.00	30	83
AL Cb 8	8-06-97	1300	393342078570901	321CNMG	GW	8030	86.00	34	86

WELL NUMBER	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	PUMP OR FLOW PERIOD PRIOR TO SAM-PLING (MIN) (72004)	FLOW RATE (G/M) (00059)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)
AL Ai 26	1250	24	2.5	168	6.4	13.0	<1.0	12	8.1
AL Cb 8	2000	19	2.9	187	7.4	10.0	2.6	52	18

WELL NUMBER	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	ALKA-LINITY WAT WH TOT IT FIELD MG/L AS CACO3 (00419)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
AL Ai 26	0.67	6.6	2.6	1.8	0.17	22	78	111	107
AL Cb 8	1.2	1.2	8.8	3.0	0.10	5.8	187	219	210

WELL NUMBER	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)
AL Ai 26	0.041	<0.050	<0.010	<0.010	0.010	2800	3300	1190	1100
AL Cb 8	0.021	0.070	<0.010	<0.010	0.010	4.4	20	4.6	<10

Geologic Unit (aquifer): 321CNMG - Conemaugh Formation
341JNGS - Jennings Formation

Site Type: GW - Ground Water

Sampling Method: 8030 - Grab sample at water-supply tap

ANNE ARUNDEL COUNTY, MARYLAND

WELL NUMBER	DATE	TIME	STATION NUMBER	GEO-LOGIC UNIT	SITE	SAM-PLING METHOD, CODES (82398)	DEPTH OF WELL, TOTAL (FEET) (72008)	DEPTH TO TOP OF SAMPLE INTER-VAL (FT) (72015)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL (FT) (72016)
AA Bc 242	09-10-97	1400	390613076411101	211MGTY	GW	8030	84.00	77	100
AA Bd 164	09-10-97	1000	390724076360601	217PPSC	GW	8030	70.00	63	70
AA Bf 64	09-09-97	1000	390622076272601	211MGTY	GW	8030	90.00	83	90
AA Bf 65	09-30-97	1300	390627076291401	211MGTY	GW	8030	70.00	60	70
AA Cc 133	09-16-97	1300	390122076423801	211MGTY	GW	8030	131.00	126	131
AA Cd 100	09-16-97	1000	390313076393001	211MGTY	GW	8030	130.00	77	82
AA Cf 145	09-30-97	0900	390102076251401	125AQUI	GW	8030	120.00	113	120
AA Dd 51	09-30-97	1400	385601076390901	125AQUI	GW	8030	135.00	125	135
AA Dd 52	09-17-97	1000	385702076400101	125AQUI	GW	8030	90.00	78	90
AA Dd 53	09-22-97	1300	385726076381701	125AQUI	GW	8030	80.00	75	80
AA Dd 54	09-17-97	1200	385844076380301	125AQUI	GW	8030	80.00	73	80
AA Dd 55	09-22-97	1000	385756076384401	125AQUI	GW	8030	55.00	45	50
AA Dd 157	09-25-97	1000	385617076360501	125AQUI	GW	8030	46.00	36	46
AA De 209	09-25-97	1300	385740076324001	125AQUI	GW	8030	82.00	75	82

WELL NUMBER	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	PUMP OR FLOW PERIOD PRIOR TO SAM-PLING (MIN) (72004)	FLOW RATE (G/M) (00059)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TEMPER-ATURE AIR (DEG C) (00020)	OXYGEN, DIS-SOLVED (MG/L) (00300)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)
AA Bc 242	100	24	2.8	57	4.6	15.0	--	7.8	2.1	0.97
AA Bd 164	90.0	35	1.8	162	4.7	15.0	21.5	7.0	8.0	3.7
AA Bf 64	60.0	25	2.6	222	3.5	15.0	22.0	1	3.3	3.8
AA Bf 65	50.0	28	4.6	178	3.7	14.5	23.0	5.8	0.97	2.6
AA Cc 133	70.0	18	3.4	26	4.3	14.5	28.0	0.7	0.36	0.15
AA Cd 100	130	23	3.2	1020	4.1	15.0	24.0	9.2	8.9	15
AA Cf 145	10.0	30	2.9	136	6.3	14.0	23.0	<1.0	5.1	4.5
AA Dd 51	140	20	3.4	240	7.3	14.5	--	0.6	48	1.2
AA Dd 52	100	38	3.0	241	7.2	16.5	26.0	0.5	45	0.75
AA Dd 53	120	45	2.4	217	6.1	16.5	22.0	<1.0	5.2	1.6
AA Dd 54	100	23	3.4	106	5.9	15.5	29.0	1.3	7.0	2.3
AA Dd 55	90.0	20	2.0	124	6.3	14.0	16.5	0.5	5.0	1.3
AA Dd 157	70.0	26	2.2	162	4.8	15.0	17.0	8.6	14	3.1
AA De 209	20.0	25	2.0	221	4.9	15.0	18.0	4.1	12	3.4

Geologic Unit (aquifer): 125AQUI - Aquia Formation
211MGTY - Magothy Formation
217PPSC - Patapsco Formation

Site Type: GW - Ground Water

Sampling Method: 8030 - Grab sample at water-supply tap

ANNE ARUNDEL COUNTY, MARYLAND--Continued

WELL NUMBER	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	ALKALINITY WAT WH TOT IT FIELD MG/L AS CACO3 (00419)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	ARSENIC TOTAL (UG/L AS AS) (01002)
AA Bc 242	1.2	2.7	0.97	5.4	<0.10	7.4	1	32	22	<1
AA Bd 164	7.7	6.5	18	15	<0.10	7.5	1	92	66	<1
AA Bf 64	2.3	10	44	20	<0.10	16	<1	94	--	4
AA Bf 65	1.4	12	38	21	<0.10	14	<1	74	--	<1
AA Cc 133	0.40	1.0	5.7	1.3	<0.10	9.9	1	22	21	<1
AA Cd 100	5.4	130	9.3	290	0.11	13	<1	493	--	<1
AA Cf 145	5.3	4.2	2.8	6.1	0.61	27	52	62	90	1
AA Dd 51	3.6	2.0	21	4.3	0.12	46	93	194	189	<1
AA Dd 52	1.8	0.97	22	7.1	<0.10	25	94	164	156	<1
AA Dd 53	3.3	2.9	<0.10	0.14	0.13	25	34	158	--	<1
AA Dd 54	3.1	1.2	1.6	4.7	0.33	19	47	76	68	<1
AA Dd 55	2.8	1.4	26	2.7	0.32	23	47	70	112	<1
AA Dd 157	5.5	2.7	22	16	<0.10	20	2	111	85	<1
AA De 209	6.2	4.0	2.4	32	0.14	22	6	113	87	<1

WELL NUMBER	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE) (01012)	IRON, DISSOLVED (UG/L AS FE) (01046)	IRON, TOTAL RECOVERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOVERABLE (UG/L AS PB) (01051)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) (01055)	GROSS BETA, DISSOLVED (PCI/L AS CS-137) (03515)	RADON 222 TOTAL (PCI/L) (82303)	RN-222 2 SIGMA WATER, WHOLE, TOTAL, (PCI/L) (76002)	URANIUM NATURAL DISSOLVED (UG/L AS U) (22703)
AA Bc 242	<2.0	<3.0	<10	<1	15	18	4.8	136	19	<1.0
AA Bd 164	<2.0	<10	10	6	90	92	25	237	22	<1.0
AA Bf 64	<2.0	1700	1700	<1	29	42	26	210	20	<1.0
AA Bf 65	<2.0	88	70	1	17	<10	51	172	20	<1.0
AA Cc 133	<2.0	1500	1400	1	7.6	14	<4.0	106	17	<1.0
AA Cd 100	<2.0	13	10	<1	448	460	80	217	19	<1.0
AA Cf 145	<2.0	14700	14000	<1	112	94	6.9	315	23	<1.0
AA Dd 51	<2.0	790	850	<1	15	15	<4.0	311	22	<1.0
AA Dd 52	<2.0	610	690	<1	11	17	<4.0	361	23	<1.0
AA Dd 53	<2.0	41300	42000	<1	359	280	5.9	687	28	<1.0
AA Dd 54	<2.0	11200	12000	<1	329	330	<4.0	381	23	<1.0
AA Dd 55	<2.0	21600	23000	<1	145	120	4.2	271	22	<1.0
AA Dd 157	<2.0	11	320	2	234	220	5.0	726	27	<1.0
AA De 209	<2.0	140	150	2	173	170	8.0	395	22	<1.0

BALTIMORE COUNTY, MARYLAND

WELL NUMBER	DATE	TIME	STATION NUMBER	GEO-LOGIC UNIT	SITE	SAM-PLING METHOD, CODES (82398)	DEPTH OF WELL, TOTAL (FEET) (72008)	DEPTH TO TOP OF SAMPLE INTER-VAL (FT) (72015)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL (FT) (72016)
BA Ad 146	07-31-97	1000	394019076374501	300PRTB	GW	8030	100.00	48	100
BA Bb 145	05-12-97	1300	393540076455801	300PRTB	GW	8030	225.00	--	--
BA Bb 152	05-13-97	1430	393529076454601	300PRTB	GW	8030	150.00	--	--
BA Bb 153	05-12-97	1130	393553076455201	300PRTB	GW	8030	175.00	--	--
BA Bb 154	06-30-97	1300	393537076455401	300PRTB	GW	8030	110.00	30	110
BA Bb 155	05-15-97	0930	393535076454501	300PRTB	GW	8030	--	--	--
BA Bd 233	10-15-96	1400	393732076392401	300PLGV	GW	8030	200.00	72	200
BA Bd 234	10-16-96	1300	393739076391801	300PLGV	GW	8030	175.00	60	175
	10-29-96	1500		300PLGV	GW	8030	175.00	60	175
BA Bd 235	10-15-96	1000	393733076391301	300PLGV	GW	8030	175.00	69	175
BA Bd 236	10-16-96	1000	393742076390701	300PLGV	GW	8030	200.00	67	200
	10-29-96	1400		300PLGV	GW	8030	200.00	67	200
BA Bd 237	10-23-96	1400	393738076391401	300PLGV	GW	8030	175.00	40	175
BA Bd 238	10-23-96	1000	393736076390401	300PLGV	GW	8030	200.00	--	--
BA Ea 95	07-31-97	1300	392159076520101	400BLMR	GW	8030	200.00	60	200

WELL NUMBER	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	PUMP OR FLOW PERIOD PRIOR TO SAM-PLING (MIN) (72004)	FLOW RATE (G/M) (00059)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TEMPER-ATURE AIR (DEG C) (00020)	OXYGEN, DIS-SOLVED (MG/L) (00300)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)
BA Ad 146	720	17	3.0	19	5.6	12.0	--	--	--	--
BA Bb 145	690	12	3.0	93	6.0	12.5	--	8.0	--	--
BA Bb 152	650	15	2.1	132	5.9	13.0	--	7.2	--	--
BA Bb 153	690	19	1.7	127	6.9	13.5	--	8.1	--	--
BA Bb 154	680	20	3.6	227	5.7	13.0	--	7.3	--	--
BA Bb 155	660	12	2.2	218	6.1	13.0	17.0	6.1	--	--
BA Bd 233	580	20	1.8	141	5.9	13.0	16.0	8.6	9.9	4.9
BA Bd 234	590	25	1.8	140	5.5	13.5	26.0	4.7	9.7	5.2
	590	19	2.0	141	--	13.0	--	--	--	--
BA Bd 235	550	26	2.0	129	6.0	12.5	16.0	8.0	11	4.5
BA Bd 236	560	20	2.6	176	6.3	13.0	16.0	8.8	14	5.1
	560	17	2.8	--	--	13.5	--	--	--	--
BA Bd 237	590	26	2.3	170	5.8	13.0	19.0	9.0	13	5.8
BA Bd 238	560	27	2.1	68	6.0	13.5	14.0	9.6	4.4	2.1
BA Ea 95	440	20	2.0	161	5.7	15.0	--	--	--	--

Geologic Unit (aquifer): 400BLMR - Balitmore Gneiss
300PLGV - Pleasant Grove Schist
300PRTB - Prettyboy Schist

Site Type: GW - Ground Water

Sampling Method:8030 - Grab sample at water-supply tap

BALTIMORE COUNTY, MARYLAND -- Continued

WELL NUMBER	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	ALKALINITY WAT WH TOT IT FIELD MG/L AS CACO3 (00419)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)
BA Ad 146	--	--	--	--	--	--	--	--	--	--
BA Bb 145	--	--	--	--	--	--	23	--	--	--
BA Bb 152	--	--	--	--	--	--	15	--	--	--
BA Bb 153	--	--	--	--	--	--	28	--	--	--
BA Bb 154	--	--	--	--	--	--	13	--	--	--
BA Bb 155	--	--	--	--	--	--	35	--	--	--
BA Bd 233	0.90	6.2	0.50	9.6	<0.10	15	13	108	99	0.030
BA Bd 234	0.90	4.4	0.40	9.5	<0.10	12	21	104	89	0.030
	--	--	--	--	--	--	--	--	--	--
BA Bd 235	1.0	5.1	11	10	<0.10	13	13	86	87	0.030
BA Bd 236	0.90	6.5	17	9.8	<0.10	14	20	116	112	0.030
	--	--	--	--	--	--	--	--	--	--
BA Bd 237	1.1	5.4	<0.10	16	<0.10	12	9	114	--	<0.015
BA Bd 238	0.70	3.6	0.10	5.5	<0.10	11	7	52	48	<0.015
BA Ea 95	--	--	--	--	--	--	--	--	--	--

WELL NUMBER	NITROGEN, NITRATE DISSOLVED (MG/L AS N) (00618)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	NITROGEN, NITRITE DISSOLVED (MG/L AS N) (00613)	PHOSPHORUS DISSOLVED (MG/L AS P) (00666)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P) (00671)	ANTIMONY, DISSOLVED (UG/L AS SB) (01095)	ARSENIC DISSOLVED (UG/L AS AS) (01000)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	CADMIUM DISSOLVED (UG/L AS CD) (01025)
BA Ad 146	--	--	--	--	--	--	--	--	--	--
BA Bb 145	--	2.49	--	--	--	--	--	--	--	--
BA Bb 152	--	4.15	--	--	--	--	--	--	--	--
BA Bb 153	--	1.93	--	--	--	--	--	--	--	--
BA Bb 154	--	2.38	--	--	--	--	--	--	--	--
BA Bb 155	--	5.53	--	--	--	--	--	--	--	--
BA Bd 233	9.89	9.90	0.010	0.040	0.040	<1.0	<1	11	<0.50	<1.0
BA Bd 234	--	7.40	<0.010	<0.010	0.020	<1.0	<1	11	<0.50	<1.0
	--	--	--	--	--	--	--	--	--	--
BA Bd 235	5.09	5.10	0.010	0.040	0.040	<1.0	<1	2.0	<0.50	<1.0
BA Bd 236	--	7.50	<0.010	0.050	0.030	<1.0	<1	3.0	<0.50	<1.0
	--	--	--	--	--	--	--	--	--	--
BA Bd 237	--	5.30	<0.010	0.010	0.030	<1.0	<1	6.0	<0.50	<1.0
BA Bd 238	--	3.60	<0.010	0.020	0.030	<1.0	<1	3.0	<0.50	<1.0
BA Ea 95	--	--	--	--	--	--	--	--	--	--

BALTIMORE COUNTY, MARYLAND -- Continued

WELL NUMBER	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, DISSOLVED (UG/L AS FE) (01046)	IRON, TOTAL RECOVERABLE (UG/L AS FE) (01045)	LEAD, DISSOLVED (UG/L AS PB) (01049)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) (01055)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	THALLIUM, DISSOLVED (UG/L AS TL) (01057)
BA Ad 146	--	--	--	--	--	--	--	--	--	--
BA Bb 145	--	--	--	--	--	--	--	--	--	--
BA Bb 152	--	--	--	--	--	--	--	--	--	--
BA Bb 153	--	--	--	--	--	--	--	--	--	--
BA Bb 154	--	--	--	--	--	--	--	--	--	--
BA Bb 155	--	--	--	--	--	--	--	--	--	--
BA Bd 233	<1.0	10	<3.0	<10	<1.0	3.0	<10	2.0	<1	<0.50
BA Bd 234	1.3	18	4.0	<10	1.0	8.0	10	3.0	<1	<0.50
	--	--	--	--	--	--	--	--	--	--
BA Bd 235	<1.0	2.0	<3.0	<10	<1.0	2.0	<10	1.0	<1	<0.50
BA Bd 236	<1.0	5.0	<3.0	<10	<1.0	3.0	<10	2.0	<1	<0.50
	--	--	--	--	--	--	--	--	--	--
BA Bd 237	<1.0	9.0	<3.0	<10	<1.0	2.0	<10	2.0	<1	<0.50
BA Bd 238	<1.0	6.0	<3.0	<10	<1.0	3.0	<10	<1.0	<1	<0.50
BA Ea 95	--	--	--	--	--	--	--	--	--	--

WELL NUMBER	ZINC, DISSOLVED (UG/L AS ZN) (01090)	GROSS BETA, DISSOLVED (PCI/L AS CS-137) (03515)	N15/N14 NO3 FRAC WATER FLTRD 0.45 U PER MIL (82690)	RADON 222 TOTAL (PCI/L) (82303)	RN-222 2 SIGMA WATER, WHOLE, TOTAL, (PCI/L) (76002)	TRITIUM 2 SIGMA WATER, WHOLE, TOTAL (PCI/L) (75985)	TRITIUM TOTAL (PCI/L) (07000)	URANIUM NATURAL DISSOLVED (UG/L AS U) (22703)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	1-NAPHTHOL WATER WHOLE REC (UG/L) (77441)
BA Ad 146	--	<4.0	--	6448	74	--	--	<1.0	--	--
BA Bb 145	--	--	--	--	--	--	--	--	--	--
BA Bb 152	--	--	--	--	--	--	--	--	--	--
BA Bb 153	--	--	--	--	--	--	--	--	--	--
BA Bb 154	--	--	--	--	--	--	--	--	--	--
BA Bb 155	--	--	--	--	--	--	--	--	--	--
BA Bd 233	4.0	--	2.6	2600	46	3.0	42	--	0.20	<0.028
BA Bd 234	19	--	2.5	--	--	3.0	44	--	0.30	<0.028
	--	--	--	1400	35	--	--	--	--	--
BA Bd 235	7.0	--	1.7	1600	37	3.0	44	--	0.20	<0.028
BA Bd 236	<3.0	--	--	2000	42	3.0	45	--	0.40	<0.028
	--	--	0.4	--	--	--	--	--	--	--
BA Bd 237	9.0	--	1.1	2200	42	3.0	43	--	0.30	<0.028
BA Bd 238	8.0	--	2.2	2100	41	3.0	37	--	0.30	<0.028
BA Ea 95	--	11	--	28610	150	--	--	<1.0	--	--

BALTIMORE COUNTY, MARYLAND -- Continued

WELL NUMBER	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	ALDI-CARB WATER WHOLE TOT.REC (UG/L) (82619)	ALPHA BHC DIS-SOLVED (UG/L) (34253)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	METHYL AZIN-PHOS WAT FLT 0.7 U GF, REC (UG/L) (82686)	BEN-FLUR-ALIN WAT FLD 0.7 U GF, REC (UG/L) (82673)	BUTYL-ATE, WATER, DISS, REC (UG/L) (04028)	CAR-BARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	CARBO-FURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)	CARB-ARYL UNFILT RECOVER (UG/L) (39750)
BA Ad 146	--	--	--	--	--	--	--	--	--	--
BA Bb 145	--	--	--	--	--	--	--	--	--	--
BA Bb 152	--	--	--	--	--	--	--	--	--	--
BA Bb 153	--	--	--	--	--	--	--	--	--	--
BA Bb 154	--	--	--	--	--	--	--	--	--	--
BA Bb 155	--	--	--	--	--	--	--	--	--	--
BA Bd 233	<0.002	<0.023	<0.002	0.029	<0.001	<0.002	<0.002	<0.003	E0.133	<0.013
BA Bd 234	<0.002	<0.023	<0.002	0.217	<0.001	<0.002	<0.002	<0.003	E0.082	<0.013
	--	--	--	--	--	--	--	--	--	--
BA Bd 235	<0.002	<0.023	<0.002	0.395	<0.001	<0.002	<0.002	<0.003	E0.053	<0.013
BA Bd 236	<0.002	<0.023	<0.002	0.231	<0.001	<0.002	<0.002	<0.003	E0.032	<0.013
	--	--	--	--	--	--	--	--	--	--
BA Bd 237	<0.002	<0.023	<0.002	0.114	<0.001	<0.002	<0.002	<0.003	E0.066	<0.013
BA Bd 238	<0.002	<0.023	<0.002	0.100	<0.001	<0.002	<0.002	<0.003	E0.011	<0.013
BA Ea 95	--	--	--	--	--	--	--	--	--	--

WELL NUMBER	CHLOR-PYRIFOS DIS-SOLVED (UG/L) (38933)	CARBO-FURAN WATER WHOLE TOT.REC (UG/L) (82615)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	P,P' DDE DISSOLV (UG/L) (34653)	DI-AZINON, DIS-SOLVED (UG/L) (39572)	DI-ELDRIN DIS-SOLVED (UG/L) (39381)	2,6-DI-ETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)	DISUL-FOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)
BA Ad 146	--	--	--	--	--	--	--	--	--	--
BA Bb 145	--	--	--	--	--	--	--	--	--	--
BA Bb 152	--	--	--	--	--	--	--	--	--	--
BA Bb 153	--	--	--	--	--	--	--	--	--	--
BA Bb 154	--	--	--	--	--	--	--	--	--	--
BA Bb 155	--	--	--	--	--	--	--	--	--	--
BA Bd 233	<0.004	E0.100	<0.004	<0.002	<0.006	<0.002	<0.001	<0.003	<0.017	<0.002
BA Bd 234	<0.004	<0.013	<0.004	<0.002	<0.006	<0.002	<0.001	<0.003	<0.017	<0.002
	--	--	--	--	--	--	--	--	--	--
BA Bd 235	<0.004	<0.013	E0.003	<0.002	<0.006	<0.002	<0.001	<0.003	<0.017	<0.002
BA Bd 236	<0.004	<0.013	E0.004	<0.002	<0.006	<0.002	<0.001	<0.003	<0.017	<0.002
	--	--	--	--	--	--	--	--	--	--
BA Bd 237	<0.004	<0.013	<0.004	<0.002	<0.006	<0.002	<0.001	<0.003	<0.017	<0.002
BA Bd 238	<0.004	<0.013	<0.004	<0.002	E0.001	<0.002	<0.001	<0.003	<0.017	<0.002
BA Ea 95	--	--	--	--	--	--	--	--	--	--

BALTIMORE COUNTY, MARYLAND -- Continued

WELL NUMBER	ETHAL-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)	ETHO-PROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	FONOFOS WATER DISS REC (UG/L) (04095)	LINDANE DIS-SOLVED (UG/L) (39341)	LIN-URON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	MALA-THION, DIS-SOLVED (UG/L) (39532)	METHIO-CARB WATER WHOLE RECOV. (UG/L) (30282)	METHO-MYL TOTAL (UG/L) (39051)	METHYL PARA-THION WAT FLT 0.7 U GF, REC (UG/L) (82667)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)
BA Ad 146	--	--	--	--	--	--	--	--	--	--
BA Bb 145	--	--	--	--	--	--	--	--	--	--
BA Bb 152	--	--	--	--	--	--	--	--	--	--
BA Bb 153	--	--	--	--	--	--	--	--	--	--
BA Bb 154	--	--	--	--	--	--	--	--	--	--
BA Bb 155	--	--	--	--	--	--	--	--	--	--
BA Bd 233	<0.004	<0.003	<0.003	<0.004	<0.002	<0.005	<0.023	<0.017	<0.006	0.332
BA Bd 234	<0.004	<0.003	<0.003	<0.004	<0.002	<0.005	<0.023	<0.017	<0.006	0.390
	--	--	--	--	--	--	--	--	--	--
BA Bd 235	<0.004	<0.003	<0.003	<0.004	<0.002	<0.005	<0.023	<0.017	<0.006	0.278
BA Bd 236	<0.004	<0.003	<0.003	<0.004	<0.002	<0.005	<0.023	<0.017	<0.006	0.415
	--	--	--	--	--	--	--	--	--	--
BA Bd 237	<0.004	<0.003	<0.003	<0.004	<0.002	<0.005	<0.023	<0.017	<0.006	0.378
BA Bd 238	<0.004	<0.003	<0.003	<0.004	<0.002	<0.005	<0.023	<0.017	<0.006	0.035
BA Ea 95	--	--	--	--	--	--	--	--	--	--

WELL NUMBER	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	MOL-INATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)	NAPROP-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	PARA-THION, DIS-SOLVED (UG/L) (39542)	PEB-ULATE WATER FILTRD 0.7 U GF, REC (UG/L) (82669)	PENDI-METH-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	PER-METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L) (82664)	PRO-METON, WATER, DISS, REC (UG/L) (04037)	PRON-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)
BA Ad 146	--	--	--	--	--	--	--	--	--	--
BA Bb 145	--	--	--	--	--	--	--	--	--	--
BA Bb 152	--	--	--	--	--	--	--	--	--	--
BA Bb 153	--	--	--	--	--	--	--	--	--	--
BA Bb 154	--	--	--	--	--	--	--	--	--	--
BA Bb 155	--	--	--	--	--	--	--	--	--	--
BA Bd 233	<0.004	<0.004	<0.003	<0.004	<0.004	<0.004	<0.005	<0.002	<0.018	<0.003
BA Bd 234	<0.004	<0.004	<0.003	<0.004	<0.004	<0.004	<0.005	<0.002	<0.018	<0.003
	--	--	--	--	--	--	--	--	--	--
BA Bd 235	<0.004	<0.004	<0.003	<0.004	<0.004	<0.004	<0.005	<0.002	<0.018	<0.003
BA Bd 236	<0.004	<0.004	<0.003	<0.004	<0.004	<0.004	<0.005	<0.002	<0.018	<0.003
	--	--	--	--	--	--	--	--	--	--
BA Bd 237	<0.004	<0.004	<0.003	<0.004	<0.004	<0.004	<0.005	<0.002	<0.018	<0.003
BA Bd 238	<0.004	<0.004	<0.003	<0.004	<0.004	<0.004	<0.005	<0.002	<0.018	<0.003
BA Ea 95	--	--	--	--	--	--	--	--	--	--

BALTIMORE COUNTY, MARYLAND -- Continued

WELL NUMBER	PROP-CHLOR, WATER, DISS, REC (UG/L) (04024)	PRO-PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	PRO-PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	PROPHAM TOTAL (UG/L) (39052)	PROPO-XUR WATER WHOLE RECOV. (UG/L) (30296)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)	TEBU-THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	TER-BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	TER-BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)
BA Ad 146	--	--	--	--	--	--	--	--	--
BA Bb 145	--	--	--	--	--	--	--	--	--
BA Bb 152	--	--	--	--	--	--	--	--	--
BA Bb 153	--	--	--	--	--	--	--	--	--
BA Bb 154	--	--	--	--	--	--	--	--	--
BA Bb 155	--	--	--	--	--	--	--	--	--
BA Bd 233	<0.007	<0.004	<0.013	<0.015	<0.015	<0.005	<0.010	<0.007	<0.013
BA Bd 234	<0.007	<0.004	<0.013	<0.015	<0.015	<0.005	<0.010	<0.007	<0.013
	--	--	--	--	--	--	--	--	--
BA Bd 235	<0.007	<0.004	<0.013	<0.015	<0.015	0.010	<0.010	<0.007	<0.013
BA Bd 236	<0.007	<0.004	<0.013	<0.015	<0.015	E0.004	<0.010	<0.007	<0.013
	--	--	--	--	--	--	--	--	--
BA Bd 237	<0.007	<0.004	<0.013	<0.015	<0.015	<0.005	<0.010	<0.007	<0.013
BA Bd 238	<0.007	<0.004	<0.013	<0.015	<0.015	<0.005	<0.010	<0.007	<0.013
BA Ea 95	--	--	--	--	--	--	--	--	--

WELL NUMBER	THIO-BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	TRIAL-LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	TRI-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)	DI-BROMO-METHANE WATER WHOLE RECOVER (UG/L) (30217)	DI-CHLORO-BROMO-METHANE TOTAL (UG/L) (32101)	CARBON-TETRA-CHLO-RIDE TOTAL (UG/L) (32102)	1,2-DI-CHLORO-ETHANE TOTAL (UG/L) (32103)	BROMO-FORM TOTAL (UG/L) (32104)	CHLORO-DI-BROMO-METHANE TOTAL (UG/L) (32105)
BA Ad 146	--	--	--	--	--	--	--	--	--
BA Bb 145	--	--	--	--	--	--	--	--	--
BA Bb 152	--	--	--	--	--	--	--	--	--
BA Bb 153	--	--	--	--	--	--	--	--	--
BA Bb 154	--	--	--	--	--	--	--	--	--
BA Bb 155	--	--	--	--	--	--	--	--	--
BA Bd 233	<0.002	<0.001	<0.002	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
BA Bd 234	<0.002	<0.001	<0.002	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
	--	--	--	--	--	--	--	--	--
BA Bd 235	<0.002	<0.001	<0.002	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
BA Bd 236	<0.002	<0.001	<0.002	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
	--	--	--	--	--	--	--	--	--
BA Bd 237	<0.002	<0.001	<0.002	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
BA Bd 238	<0.002	<0.001	<0.002	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
BA Ea 95	--	--	--	--	--	--	--	--	--

BALTIMORE COUNTY, MARYLAND -- Continued

WELL NUMBER	CHLORO-FORM TOTAL (UG/L) (32106)	TOLUENE TOTAL (UG/L) (34010)	BENZENE TOTAL (UG/L) (34030)	CHLORO-BENZENE TOTAL (UG/L) (34301)	CHLORO-ETHANE TOTAL (UG/L) (34311)	ETHYL-BENZENE TOTAL (UG/L) (34371)	METHYL-BROMIDE TOTAL (UG/L) (34413)	METHYL-METHYL-CHLO-RIDE TOTAL (UG/L) (34418)	ENE CHLO-RIDE TOTAL (UG/L) (34423)
BA Ad 146	--	--	--	--	--	--	--	--	--
BA Bb 145	--	--	--	--	--	--	--	--	--
BA Bb 152	--	--	--	--	--	--	--	--	--
BA Bb 153	--	--	--	--	--	--	--	--	--
BA Bb 154	--	--	--	--	--	--	--	--	--
BA Bb 155	--	--	--	--	--	--	--	--	--
BA Bd 233	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
BA Bd 234	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
	--	--	--	--	--	--	--	--	--
BA Bd 235	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
BA Bd 236	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
	--	--	--	--	--	--	--	--	--
BA Bd 237	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
BA Bd 238	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
BA Ea 95	--	--	--	--	--	--	--	--	--

WELL NUMBER	TETRA-CHLORO-ETHYL-ENE TOTAL (UG/L) (34475)	TRI-CHLORO-FLUORO-METHANE TOTAL (UG/L) (34488)	1,1-DI-CHLORO-ETHANE TOTAL (UG/L) (34496)	1,1-DI-CHLORO-ETHYL-ENE TOTAL (UG/L) (34501)	1,1,1-TRI-CHLORO-ETHANE TOTAL (UG/L) (34506)	1,1,2-TRI-CHLORO-ETHANE TOTAL (UG/L) (34511)	ETHANE, 1,1,2,2 TETRA-CHLORO-WAT UNF REC (UG/L) (34516)	BENZENE O-DI-CHLORO-WATER UNFLTRD REC (UG/L) (34536)	1,2-DI-CHLORO-PROPANE TOTAL (UG/L) (34541)
BA Ad 146	--	--	--	--	--	--	--	--	--
BA Bb 145	--	--	--	--	--	--	--	--	--
BA Bb 152	--	--	--	--	--	--	--	--	--
BA Bb 153	--	--	--	--	--	--	--	--	--
BA Bb 154	--	--	--	--	--	--	--	--	--
BA Bb 155	--	--	--	--	--	--	--	--	--
BA Bd 233	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
BA Bd 234	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
	--	--	--	--	--	--	--	--	--
BA Bd 235	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
BA Bd 236	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
	--	--	--	--	--	--	--	--	--
BA Bd 237	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
BA Bd 238	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
BA Ea 95	--	--	--	--	--	--	--	--	--

BALTIMORE COUNTY, MARYLAND -- Continued

WELL NUMBER	1,2-TRANSDICHLOROETHENE TOTAL (UG/L) (34546)	BENZENE 1,2,4-TRICHLORO-WAT UNF REC (UG/L) (34551)	BENZENE 1,3-DICHLORO-WATER UNFLTRD REC (UG/L) (34566)	BENZENE 1,4-DICHLORO-WATER UNFLTRD REC (UG/L) (34571)	DICHLORODIFLUOROMETHANE TOTAL (UG/L) (34668)	NAPHTHALENE TOTAL (UG/L) (34696)	TRANS-1,3-DICHLOROPROPENE TOTAL (UG/L) (34699)	CIS 1,3-DICHLOROPROPENE TOTAL (UG/L) (34704)	VINYL CHLORIDE TOTAL (UG/L) (39175)
BA Ad 146	--	--	--	--	--	--	--	--	--
BA Bb 145	--	--	--	--	--	--	--	--	--
BA Bb 152	--	--	--	--	--	--	--	--	--
BA Bb 153	--	--	--	--	--	--	--	--	--
BA Bb 154	--	--	--	--	--	--	--	--	--
BA Bb 155	--	--	--	--	--	--	--	--	--
BA Bd 233	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<1.00
BA Bd 234	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<1.00
	--	--	--	--	--	--	--	--	--
BA Bd 235	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<1.00
BA Bd 236	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<1.00
	--	--	--	--	--	--	--	--	--
BA Bd 237	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<1.00
BA Bd 238	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<1.00
BA Ea 95	--	--	--	--	--	--	--	--	--

WELL NUMBER	TRICHLOROETHYLENE TOTAL (UG/L) (39180)	HEXACHLOROBUTADIENE TOTAL (UG/L) (39702)	CIS-1,2-DICHLOROETHENE WATER TOTAL (UG/L) (77093)	STYRENE TOTAL (UG/L) (77128)	1,1-DICHLOROPROPENE, WAT, WH TOTAL (UG/L) (77168)	2,2-DICHLOROPROPANE WAT, WH TOTAL (UG/L) (77170)	1,3-DICHLOROPROPANE WAT. WH TOTAL (UG/L) (77173)	BENZENE 124-TRIMETHYL UNFILT RECOVER (UG/L) (77222)	ISOPROPYLBENZENE WATER WHOLE REC (UG/L) (77223)
BA Ad 146	--	--	--	--	--	--	--	--	--
BA Bb 145	--	--	--	--	--	--	--	--	--
BA Bb 152	--	--	--	--	--	--	--	--	--
BA Bb 153	--	--	--	--	--	--	--	--	--
BA Bb 154	--	--	--	--	--	--	--	--	--
BA Bb 155	--	--	--	--	--	--	--	--	--
BA Bd 233	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
BA Bd 234	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
	--	--	--	--	--	--	--	--	--
BA Bd 235	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
BA Bd 236	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
	--	--	--	--	--	--	--	--	--
BA Bd 237	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
BA Bd 238	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
BA Ea 95	--	--	--	--	--	--	--	--	--

BALTIMORE COUNTY, MARYLAND -- Continued

WELL NUMBER	BENZENE N-PROPY WATER UNFLTRD REC (UG/L) (77224)	BENZENE 135-TRI METHYL WATER UNFLTRD REC (UG/L) (77226)	O-CHLORO-TOLUENE WATER WHOLE TOTAL (UG/L) (77275)	TOLUENE P-CHLOR WATER UNFLTRD REC (UG/L) (77277)	METHANE BROMO CHLORO-WAT UNFLTRD REC (UG/L) (77297)	BENZENE N-BUTYL WATER UNFLTRD REC (UG/L) (77342)	BENZENE SEC BUTYL-WATER UNFLTRD REC (UG/L) (77350)	BENZENE TERT-BUTYL-WATER UNFLTRD REC (UG/L) (77353)	P-ISO-PROPYL-TOLUENE WATER WHOLE REC (UG/L) (77356)
BA Ad 146	--	--	--	--	--	--	--	--	--
BA Bb 145	--	--	--	--	--	--	--	--	--
BA Bb 152	--	--	--	--	--	--	--	--	--
BA Bb 153	--	--	--	--	--	--	--	--	--
BA Bb 154	--	--	--	--	--	--	--	--	--
BA Bb 155	--	--	--	--	--	--	--	--	--
BA Bd 233	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
BA Bd 234	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
	--	--	--	--	--	--	--	--	--
BA Bd 235	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
BA Bd 236	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
	--	--	--	--	--	--	--	--	--
BA Bd 237	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
BA Bd 238	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
BA Ea 95	--	--	--	--	--	--	--	--	--

WELL NUMBER	123-TRI CHLORO-PROPANE WATER WHOLE TOTAL (UG/L) (77443)	ETHANE, 1112-TETRA-CHLORO-WAT UNF REC (UG/L) (77562)	1,2,3-TRI-CHLORO BENZENE WAT, WH REC (UG/L) (77613)	1,2-DIBROMO ETHANE WATER WHOLE TOTAL (UG/L) (77651)	FREON-113 WATER UNFLTRD REC (UG/L) (77652)	METHYL TERT-BUTYL ETHER WAT UNF REC (UG/L) (78032)	XYLENE WATER UNFLTRD REC (UG/L) (81551)	BROMO-BENZENE WATER, WHOLE, TOTAL (UG/L) (81555)	DIBROMO CHLORO-PROPANE WATER WHOLE TOT.REC (UG/L) (82625)
BA Ad 146	--	--	--	--	--	--	--	--	--
BA Bb 145	--	--	--	--	--	--	--	--	--
BA Bb 152	--	--	--	--	--	--	--	--	--
BA Bb 153	--	--	--	--	--	--	--	--	--
BA Bb 154	--	--	--	--	--	--	--	--	--
BA Bb 155	--	--	--	--	--	--	--	--	--
BA Bd 233	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
BA Bd 234	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
	--	--	--	--	--	--	--	--	--
BA Bd 235	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
BA Bd 236	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
	--	--	--	--	--	--	--	--	--
BA Bd 237	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
BA Bd 238	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
BA Ea 95	--	--	--	--	--	--	--	--	--

CARROLL COUNTY, MARYLAND

WELL NUMBER	DATE	TIME	STATION NUMBER	GEO-LOGIC UNIT	SITE	SAM-PLING METHOD, CODES (82398)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	DEPTH OF WELL, TOTAL (FEET) (72008)
CL Ae 1	05-15-97	1200	394200076551201	300MRBG	GW	8030	--	100.00
CL Bf 184	08-13-97	1200	393754076512401	300PRTB	GW	4040	1.81	340.00
CL Ec 106	05-06-97	1130	392345077082701	300MRBG	GW	8030	--	260.00
CL Ec 108	05-05-97	1130	392332077084801	300MRBG	GW	8030	--	225.00
CL Ec 109	05-06-97	1330	392337077084201	300MRBG	GW	8030	--	285.00
CL Ec 110	05-06-97	1000	392355077085101	300MRBG	GW	8030	--	245.00
CL Ec 111	05-06-97	1500	392342077084901	300MRBG	GW	8030	--	403.00
CL Ec 112	05-07-97	1630	392347077082701	300MRBG	GW	8030	--	400.00
CL Ec 113	05-05-97	1500	392337077083201	300MRBG	GW	8030	--	400.00
CL Ec 114	05-05-97	1330	392334077083001	300MRBG	GW	8030	--	80.00
CL Ec 115	05-08-97	1000	392344077083401	300MRBG	GW	8030	--	320.00
CL Ec 116	05-08-97	1200	392348077084101	300MRBG	GW	8030	--	280.00

WELL NUMBER	DEPTH TO TOP OF SAMPLE INTER-VAL (FT) (72015)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL (FT) (72016)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	PUMP OR FLOW PERIOD PRIOR TO SAM-PLING (MIN) (72004)	FLOW RATE (G/M) (00059)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TEMPER-ATURE AIR (DEG C) (00020)
CL Ae 1	--	--	1005	46	4.1	120	5.1	12.0	19.0
CL Bf 184	50	340	785	47	8.6	237	6.3	12.0	--
CL Ec 106	--	--	760	15	2.7	130	5.3	13.5	--
CL Ec 108	--	--	750	14	2.0	109	--	13.0	--
CL Ec 109	--	--	770	14	1.3	93	5.7	13.0	--
CL Ec 110	--	--	720	12	2.0	106	6.2	13.0	--
CL Ec 111	--	--	760	19	2.0	195	6.0	13.0	--
CL Ec 112	--	--	760	18	3.6	416	5.5	12.5	--
CL Ec 113	--	--	820	21	3.6	198	5.4	13.0	--
CL Ec 114	--	--	810	15	2.0	196	5.4	13.5	--
CL Ec 115	--	--	760	14	2.7	247	5.4	12.5	--
CL Ec 116	--	--	710	13	2.2	188	5.7	13.0	--

Geologic Unit (aquifer): 300MRBG - Marburg Formation
300PRTB - Prettyboy Schist

Site Type: GW - Ground Water

Sampling Method: 4040 - Submersible Pump
8030 - Grab sample at water-supply tap

CARROLL COUNTY, MARYLAND -- Continued

WELL NUMBER	OXYGEN, DIS-SOLVED (MG/L) (00300)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)
CL Ae 1	7.1	4.8	3.3	0.80	9.5	1.3	24	<0.10	5.6
CL Bf 184	5.8	27	5.3	0.57	4.2	0.85	12	<0.10	11
CL Ec 106	8.0	--	--	--	--	--	--	--	--
CL Ec 108	7.1	--	--	--	--	--	--	--	--
CL Ec 109	8.1	--	--	--	--	--	--	--	--
CL Ec 110	7.9	--	--	--	--	--	--	--	--
CL Ec 111	6.3	--	--	--	--	--	--	--	--
CL Ec 112	6.2	--	--	--	--	--	--	--	--
CL Ec 113	7.5	--	--	--	--	--	--	--	--
CL Ec 114	6.2	--	--	--	--	--	--	--	--
CL Ec 115	7.9	--	--	--	--	--	--	--	--
CL Ec 116	8.0	--	--	--	--	--	--	--	--

WELL NUMBER	ALKA-LINITY WAT WH TOT IT FIELD MG/L AS CACO3 (00419)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)
CL Ae 1	6	69	62	<0.015	1.64	<0.010	<0.010	0.014
CL Bf 184	28	173	146	<0.015	14.2	<0.010	<0.010	0.016
CL Ec 106	5	--	--	--	5.34	--	--	--
CL Ec 108	12	--	--	--	5.31	--	--	--
CL Ec 109	6	--	--	--	5.53	--	--	--
CL Ec 110	11	--	--	--	5.39	--	--	--
CL Ec 111	22	--	--	--	7.20	--	--	--
CL Ec 112	12	--	--	--	8.50	--	--	--
CL Ec 113	7	--	--	--	7.02	--	--	--
CL Ec 114	4	--	--	--	8.73	--	--	--
CL Ec 115	7	--	--	--	9.42	--	--	--
CL Ec 116	10	--	--	--	10.1	--	--	--

WELL NUMBER	IRON, DIS-SOLVED (UG/L AS FE) (01046)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137) (03515)	RADON 222 TOTAL (PCI/L) (82303)	RN-222 2 SIGMA WATER, WHOLE, TOTAL, (PCI/L) (76002)	URANIUM NATURAL DIS-SOLVED (UG/L AS U) (22703)
CL Ae 1	8.4	10	4.7	<10	<4.0	6554	73	<1.0
CL Bf 184	33	3300	5.7	15	--	--	--	--
CL Ec 106	--	--	--	--	--	--	--	--
CL Ec 108	--	--	--	--	--	--	--	--
CL Ec 109	--	--	--	--	--	--	--	--
CL Ec 110	--	--	--	--	--	--	--	--
CL Ec 111	--	--	--	--	--	--	--	--
CL Ec 112	--	--	--	--	--	--	--	--
CL Ec 113	--	--	--	--	--	--	--	--
CL Ec 114	--	--	--	--	--	--	--	--
CL Ec 115	--	--	--	--	--	--	--	--
CL Ec 116	--	--	--	--	--	--	--	--

CECIL COUNTY, MARYLAND

WELL NUMBER	DATE	TIME	STATION NUMBER	GEO-LOGIC UNIT	SITE	SAM-PLING METHOD, CODES (82398)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	FLOW RATE (G/M) (00059)
CE Cc 40	09-04-97	1000	393459076045001	300LFPF	SP	4010	180	1.6

WELL NUMBER	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TEMPER-ATURE AIR (DEG C) (00020)	OXYGEN, DIS-SOLVED (MG/L) (00300)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)
CE Cc 40	499	5.3	12.5	15.0	5.7	26	15	1.2	33

WELL NUMBER	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	ALKA-LINITY WAT WH TOT IT FIELD MG/L AS CACO3 (00419)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)
CE Cc 40	0.43	130	<0.10	22	7	376	244	<0.015

WELL NUMBER	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)
CE Cc 40	1.07	<0.010	<0.010	<0.010	25	70	16	21

Geologic Unit (aquifer): 300LFPF - Little Northeast Creek, Frenchtown, Principo Furnace Members, James Run Formation

Site Type: SP - Spring

Sampling Method: 4010 - Thief sample

CHARLES COUNTY, MARYLAND

WELL NUMBER	DATE	TIME	STATION NUMBER	GEO-LOGIC UNIT	SITE	SAM-PLING METHOD, CODES (82398)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	DEPTH OF WELL, TOTAL (FEET) (72008)	DEPTH TO TOP OF SAMPLE INTER-VAL (FT) (72015)
CH Bc 75	11-24-96	1618	383645077062401	217PTXN	GW	4040	124.00	940.00	820
CH Bd 52	10-08-96	1915	383553077032401	217PTXN	GW	4040	48.50	1100	1040
CH Ce 55	06-26-97	1022	383252076583901	217PPSC	GW	4060	288.00	1273	870
	06-26-97	1123		217PPSC	GW	4060	288.00	1273	870
CH Ce 56	03-19-97	1515	383251076583901	217PPSC	GW	4040	287.00	1268	896
CH Ce 57	02-19-97	0905	383250076584001	217PTXN	GW	4040	200.51	1703	1410

WELL NUMBER	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL (FT) (72016)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	PUMP OR FLOW PERIOD PRIOR TO SAM-PLING (MIN) (72004)	FLOW RATE (G/M) (00059)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TEMPER-ATURE AIR (DEG C) (00020)	OXYGEN, DIS-SOLVED (MG/L) (00300)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
CH Bc 75	923	124	7200	500	306	7.9	19.5	--	--	0.47
CH Bd 52	1100	40.0	675	60.0	425	7.7	20.5	--	--	0.83
CH Ce 55	1260	200	2782	600	394	7.4	--	--	--	--
	1260	200	2843	600	394	7.4	--	--	--	--
CH Ce 56	1260	200	435	102	370	7.7	--	--	--	--
CH Ce 57	1700	200	1385	41.0	1010	7.3	23.0	60.0	0.2	1.7

WELL NUMBER	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	ALKA-LINITY WAT WH TOT IT FIELD MG/L AS CACO3 (00419)	BICAR-BONATE WATER WH IT FIELD MG/L AS HCO3 (00450)
CH Bc 75	0.08	1.8	68	7.7	16	0.90	--	22	--	--
CH Bd 52	0.15	2.4	98	8.4	20	0.80	0.10	34	--	--
CH Ce 55	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
CH Ce 56	--	--	--	--	--	--	--	--	--	--
CH Ce 57	0.52	3.8	220	10	96	1.2	0.35	41	350	427

WELL NUMBER	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137) (03515)	RADON 222 TOTAL (PCI/L) (82303)	RN-222 2 SIGMA WATER, WHOLE, TOTAL, (PCI/L) (76002)
CH Bc 75	214	194	17	30	2.0	<10	--	--	--
CH Bd 52	278	280	80	250	9.0	<10	--	--	--
CH Ce 55	--	--	--	--	--	--	--	357	24
	--	--	--	--	--	--	--	325	23
CH Ce 56	--	--	--	--	--	--	5.6	380	25
CH Ce 57	602	585	450	480	28	30	--	--	--

Geologic Unit (aquifer): 217PPSC - Patapsco Formation
217PTXN - Patuxent Formation

Site Type: GW - Ground Water

Sampling Method: 4040 - Submersible pump 4060 - Gas reciprocating pump

GARRETT COUNTY, MARYLAND

WELL NUMBER	DATE	TIME	STATION NUMBER	GEO-LOGIC UNIT	SITE	SAM-PLING METHOD, CODES (82398)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	FLOW RATE (G/M) (00059)
GA Eb 72	08-06-97	1600	392420079221701	341JNGS	SP	4010	2410	17.0

WELL NUMBER	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)
GA Eb 72	112	5.1	9.5	8.6	5.7	1.7	1.1	8.6

WELL NUMBER	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	ALKA-LINITY WAT WH TOT IT FIELD MG/L AS CACO3 (00419)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)
GA Eb 72	13	17	<0.10	4.6	4	66	57	0.041

WELL NUMBER	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)
GA Eb 72	0.685	<0.010	<0.010	<0.010	<3.0	<10	82	79

Geologic Unit (aquifer): 341JNGS - Jennings Formation

Site Type: SP - Spring

Sampling Method: 4010 - Theif sample

WATER-QUALITY DATA, WATER YEAR OCTOBER 1996 TO SEPTEMBER 1997

HARFORD COUNTY, MARYLAND

		DATE	TIME	STATION NUMBER	GEO-LOGIC UNIT	SITE	SAM-PLING METHOD, CODES (82398)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	DEPTH OF WELL, TOTAL (FEET) (72008)	DEPTH TO TOP OF SAMPLE INTER-VAL (FT) (72015)
HA Ca	23	08-14-97	1000	393158076302601	300LCRV	GW	4040	7.51	200.00	24
HA Dd	92	08-13-97	0900	392721076150302	112TLBT	GW	4040	9.61	38.00	18

		DEPTH TO BOT-TOM OF SAMPLE INTER-VAL (FT) (72016)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	PUMP OR FLOW PERIOD PRIOR TO SAM-PLING (MIN) (72004)	FLOW RATE (G/M) (00059)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)
HA Ca	23	200	470	47	9.2	132	6.0	12.5	7.0	8.0	4.3
HA Dd	92	28	20.0	27	10.0	491	5.9	15.0	<1.0	16	10

		POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	ALKA-LINITY WAT WH TOT IT FIELD MG/L AS CACO3 (00419)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
HA Ca	23	2.1	6.4	0.68	9.5	<0.10	23	16	110	95
HA Dd	92	0.69	58	50	80	<0.10	35	53	302	283

		NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)
HA Ca	23	<0.015	6.55	<0.010	0.010	0.010	21	1500	13	16
HA Dd	92	0.146	0.052	<0.010	<0.010	0.015	5800	5800	169	160

Geologic Unit (aquifer): 300LCRV - Loch Raven Schist
112TLBT - Talbot Formation

Site Type: GW - Ground Water

Sampling Method: 4040 - Submersible pump

HOWARD COUNTY, MARYLAND

WELL NUMBER	DATE	TIME	STATION NUMBER	GEO-LOGIC UNIT	SITE	SAM-PLING METHOD, CODES (82398)
HO Ab 103	05-13-97	0830	392056077055901	300PRTB	GW	8030
HO Bd 405	06-30-97	0900	391626076572301	300LCRV	GW	8030
HO Be 88	05-13-97	1130	391839076521301	400BLMR	GW	8030
HO Cd 384	07-31-97	1700	391135076571701	400BLMR	GW	8030
HO Cf 66	06-30-97	1100	391332076451601	300MWSG	GW	8030

WELL NUMBER	DEPTH OF WELL, TOTAL (FEET) (72008)	DEPTH TO TOP OF SAMPLE INTER-VAL (FT) (72015)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL (FT) (72016)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	PUMP OR FLOW PERIOD PRIOR TO SAM-PLING (MIN) (72004)	FLOW RATE (G/M) (00059)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)
HO Ab 103	160.00	--	--	680	17	2.0	160
HO Bd 405	58.00	52	58	590	31	2.0	136
HO Be 88	200.00	--	--	505	32	3.2	69
HO Cd 384	305.00	42	305	950	27	2.0	214
HO Cf 66	250.00	42	250	340	15	2.0	155

WELL NUMBER	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TEMPER-ATURE AIR (DEG C) (00020)	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137) (03515)	RADON 222 TOTAL (PCI/L) (82303)	RN-222 2 SIGMA WATER, WHOLE, TOTAL, (PCI/L) (76002)	URANIUM NATURAL DIS-SOLVED (UG/L AS U) (22703)
HO Ab 103	5.3	12.5	--	<4.0	3489	53	<1.0
HO Bd 405	5.1	15.0	--	7.5	10836	89	<1.0
HO Be 88	5.8	13.0	13.0	10	27717	140	<1.0
HO Cd 384	7.2	15.0	--	12	2616	48	<1.0
HO Cf 66	6.5	15.5	--	15	30689	150	5.9

Geologic Unit (aquifer):
400BLMR - Baltimore Gneiss
300LCRV - Loch Raven Schist
300MWSG - Mount Washington Amphibolite
300PRTB - Prettyboy Schist

Site Type: GW - Groundwater

Sampling Method: 8030 - Grab sample at water-supply tap

MONTGOMERY COUNTY, MARYLAND

	DATE	TIME	STATION	NUMBER	GEO-LOGIC UNIT	SITE	SAM-PLING METHOD, CODES (82398)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	DEPTH OF WELL, TOTAL (FEET) (72008)	DEPTH TO TOP OF SAMPLE INTER-VAL (FT) (72015)
MO Be 62	09-11-97	1000	391927077120801		300IJMV	GW	8030	--	180.00	29
MO Db 68	08-14-97	1300	390802077283801		231NOXF	GW	4040	21.88	252.00	40

	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL (FT) (72016)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	PUMP OR FLOW PERIOD PRIOR TO SAM-PLING (MIN) (72004)	FLOW RATE (G/M) (00059)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TEMPER-ATURE AIR (DEG C) (00020)	OXYGEN, DIS-SOLVED (MG/L) (00300)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
MO Be 62	180	790	44	4.6	118	5.3	14.0	21.0	6.7	4.5
MO Db 68	252	260	32	10.0	233	7.4	13.5	28.0	6.4	33

	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	ALKA-LINITY WAT WH TOT IT FIELD MG/L AS CACO3 (00419)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
MO Be 62	6.0	1.2	5.2	4.6	16	<0.10	7.2	12	104	65
MO Db 68	6.5	0.37	5.2	0.60	2.9	<0.10	22	106	149	145

	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)
MO Be 62	<0.015	2.47	<0.010	0.049	0.058	10	40	18	22
MO Db 68	<0.015	1.93	<0.010	0.045	0.060	15	3200	2.1	19

Geologic Unit (aquifer): 300IJMV - Ijamsville FOrmation
231NOXF - New Oxford Formation

Site Type: GW - Ground Water

Sampling Method: 4040 - Submersible pump
8030 - Grab sample at water-supply tap

QUEEN ANNE'S COUNTY, MARYLAND

	DATE	TIME	STATION NUMBER	GEO-LOGIC UNIT	SITE	DEPTH SAM-PLING METHOD, CODES (82398)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	DEPTH OF WELL, TOTAL (FEET) (72008)	TO TOP OF SAMPLE INTER-VAL (FT) (72015)
QA Db 14	10-16-96	1600	390055076184501	125AQUI	GW	4040	--	165.00	145
	03-19-97	1045		125AQUI	GW	8030	--	165.00	145
	08-18-97	1030		125AQUI	GW	8030	--	165.00	145
QA Db 17	10-16-96	1430	390059076191801	125AQUI	GW	4040	--	--	--
	03-19-97	1145		125AQUI	GW	8030	--	--	--
	08-18-97	0940		125AQUI	GW	8030	--	--	--
QA Db 23	10-17-96	1135	390033076184501	125AQUI	GW	4040	--	185.00	165
	03-19-97	1245		125AQUI	GW	8030	--	185.00	165
	08-18-97	1120		125AQUI	GW	8030	--	185.00	165
QA Db 27	10-17-96	1030	390117076191301	125AQUI	GW	4040	--	145.00	110
	03-19-97	1430		125AQUI	GW	8030	--	145.00	110
	08-07-97	1220		125AQUI	GW	8030	--	145.00	110
QA Db 30	08-04-97	1255	390201076182701	125AQUI	GW	4040	16.84	220.00	210
QA Db 32	08-04-97	1430	390201076182703	125AQUI	GW	4040	16.55	116.00	106
QA Db 34	08-07-97	1110	390023076174301	125AQUI	GW	4040	8.29	180.00	170
QA Db 35	08-07-97	1300	390119076191001	125AQUI	GW	4040	5.71	200.00	190
	08-08-97	1100		125AQUI	GW	4040	13.99	200.00	210
QA Db 37	08-07-97	1030	390023076174302	125AQUI	GW	4040	8.06	250.00	240
QA Ea 39	03-13-97	1545	385825076202901	125AQUI	GW	8030	--	95.00	80
	08-18-97	1220		125AQUI	GW	8030	--	95.00	80
QA Ea 42	10-17-96	1320	385820076202501	125AQUI	GW	4040	--	120.00	100
	03-27-97	1210		125AQUI	GW	8030	--	120.00	100
	08-18-97	1325		125AQUI	GW	8030	--	120.00	100
QA Ea 45	03-20-97	1230	385554076213801	125AQUI	GW	8030	--	210.00	200
	08-18-97	1505		125AQUI	GW	8030	--	210.00	200
QA Ea 48	03-27-97	1045	385825076201201	125AQUI	GW	8030	--	160.00	129
	08-21-97	1430		125AQUI	GW	8030	--	160.00	129
QA Ea 59	03-12-97	1400	385505076215001	125AQUI	GW	8030	--	215.00	195
	08-19-97	1520		125AQUI	GW	8030	--	215.00	195
QA Ea 60	10-17-96	1540	385701076212501	125AQUI	GW	4040	--	185.00	165
	03-20-97	1330		125AQUI	GW	8030	--	185.00	165
	08-26-97	1340		125AQUI	GW	8030	--	185.00	165
QA Ea 61	03-12-97	1200	385812076202801	125AQUI	GW	8030	--	170.00	150
	08-18-97	1410		125AQUI	GW	8030	--	170.00	150
QA Ea 71	03-27-97	1300	385742076205801	125AQUI	GW	8030	--	135.00	115
QA Ea 77	08-05-97	1500	385718076211501	125AQUI	GW	4040	12.97	205.00	195
QA Ea 78	08-05-97	1000	385718076211502	125AQUI	GW	4040	13.14	135.00	125
	08-05-97	1005		125AQUI	GW	4040	13.14	135.00	125
QA Ea 79	08-11-97	1230	385757076200101	125AQUI	GW	4040	11.99	298.00	288
QA Ea 80	08-11-97	1030	385757076200102	125AQUI	GW	4040	11.24	130.00	120
QA Ea 81	08-05-97	1130	385718076211503	125AQUI	GW	4040	12.72	310.00	300
QA Ea 82	03-12-97	1035	385705076212002	125AQUI	GW	8030	--	170.00	155
	08-19-97	1010		125AQUI	GW	8030	--	170.00	155
QA Ea 83	03-12-97	0950	385705076212001	125AQUI	GW	8030	--	170.00	160
	08-19-97	0935		125AQUI	GW	8030	--	170.00	160
QA Eb 155	08-05-97	1520	385843076155302	125AQUI	GW	4040	--	245.00	235
QA Eb 156	08-08-97	1100	385852076195201	125AQUI	GW	4040	13.99	220.00	210
QA Eb 157	08-08-97	1200	385852076195202	125AQUI	GW	4040	12.57	120.00	110
QA Fa 49	08-26-97	1000	385354076212701	125AQUI	GW	8030	--	210.00	185
QA Fa 54	03-13-97	1130	385024076222501	125AQUI	GW	8030	--	260.00	240
	08-19-97	1300		125AQUI	GW	8030	--	260.00	240
QA Fa 58	10-17-96	1425	385133076201201	125AQUI	GW	4040	--	280.00	260
	08-21-97	1100		125AQUI	GW	8030	--	280.00	260
QA Fa 60	03-20-97	1130	385254076201901	125AQUI	GW	8030	--	240.00	230
	08-26-97	1430		125AQUI	GW	8030	--	240.00	230

Geologic Unit (aquifer): 125AQUI - Aquia Formation

Site Type: GW - Ground Water

Sampling Method: 4040 - Submersible pump 8030 - Grab sample at water-supply tap

QUEEN ANNE'S COUNTY, MARYLAND -- Continued

	DEPTH TO BOTTOM OF SAMPLE INTERVAL (FT) (72016)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN) (72004)	FLOW RATE (G/M) (00059)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TEMPERATURE AIR (DEG C) (00020)	OXYGEN, DISSOLVED (MG/L) (00300)	CALCIUM DISSOLVED (MG/L AS CA) (00915)
QA Db 14	165	15.0	30	--	429	8.2	E15.0	--	--	--
	165	15.0	--	--	456	7.2	13.5	2.5	--	--
	165	15.0	--	--	460	7.1	15.5	22.0	--	--
QA Db 17	--	20.0	25	--	605	6.8	15.0	--	--	--
	--	20.0	--	--	646	7.2	13.5	2.0	--	--
	--	20.0	--	--	654	7.1	15.5	26.0	--	--
QA Db 23	185	18.0	--	--	423	7.5	15.5	--	--	--
	185	18.0	--	--	450	7.2	14.0	4.0	--	--
	185	18.0	--	--	453	7.1	15.0	20.5	--	--
QA Db 27	145	15.0	--	--	1140	7.6	14.5	--	--	--
	145	15.0	--	--	1320	7.0	14.0	4.0	--	--
	145	15.0	--	--	1340	7.0	15.0	29.0	--	--
QA Db 30	220	17.8	125	8.6	17400	--	16.0	28.5	--	--
QA Db 32	116	18.0	70	8.6	8250	--	15.0	25.0	--	--
QA Db 34	180	7.4	30	12.0	522	7.2	15.5	32.0	--	--
QA Db 35	200	7.5	55	10.0	17600	6.7	15.5	30.0	--	--
	220	12.0	60	8.6	18100	6.9	15.5	33.0	--	--
QA Db 37	250	7.1	60	10.0	578	7.4	16.0	31.0	--	--
QA Ea 39	95	15.0	--	--	425	7.4	14.5	6.0	--	--
	95	15.0	--	--	432	7.3	15.5	21.5	--	--
QA Ea 42	120	18.0	--	--	525	7.7	15.5	--	--	--
	120	18.0	--	--	551	7.5	14.5	19.5	--	--
	120	18.0	--	--	691	7.3	15.5	22.5	--	--
QA Ea 45	210	15.0	--	--	363	7.7	15.0	9.5	--	--
	210	15.0	--	--	363	7.5	15.5	22.0	--	--
QA Ea 48	160	5.0	--	--	1220	7.4	15.0	11.0	--	--
	160	5.0	--	--	1430	7.3	15.5	31.0	--	--
QA Ea 59	215	10.0	--	--	665	7.7	15.5	12.0	--	--
	215	10.0	--	--	645	7.7	16.0	27.0	--	--
QA Ea 60	185	7.0	--	--	1360	7.6	16.0	--	--	--
	185	7.0	--	--	1630	7.6	15.0	10.5	--	--
	185	7.0	--	--	1930	7.7	16.0	27.0	--	--
QA Ea 61	170	18.0	--	--	3440	7.1	14.5	7.0	--	--
	170	18.0	--	--	3520	7.0	15.0	21.5	--	--
QA Ea 71	135	20.0	--	--	333	7.6	11.0	17.0	--	--
QA Ea 77	205	10.8	80	10.0	16500	7.1	16.0	32.0	--	--
QA Ea 78	135	11.9	55	8.0	325	7.5	15.5	23.0	1.7	40
	135	11.8	60	8.0	325	7.5	15.5	26.0	--	--
QA Ea 79	298	8.3	125	10.0	367	9.0	16.5	31.0	--	--
QA Ea 80	130	8.5	20	10.0	355	7.8	15.5	30.5	--	--
QA Ea 81	310	12.4	110	5.0	584	7.7	16.5	31.0	--	--
QA Ea 82	170	10.0	--	--	1090	7.4	14.5	6.0	--	--
	170	10.0	--	--	1090	7.4	16.0	24.0	--	--
QA Ea 83	170	10.0	--	--	427	7.6	14.5	6.0	--	--
	170	10.0	--	--	420	7.5	15.5	24.0	--	--
QA Eb 155	245	3.9	40	10.0	330	7.8	16.0	29.0	--	--
QA Eb 156	220	12.0	60	8.6	18100	6.9	15.5	33.0	--	--
QA Eb 157	120	11.9	45	10.0	337	7.4	15.0	34.0	--	--
QA Fa 49	210	8.0	--	--	1020	7.5	16.5	29.5	--	--
QA Fa 54	260	10.0	--	--	358	7.6	15.5	10.5	--	--
	260	10.0	--	--	357	7.6	16.0	27.5	--	--
QA Fa 58	280	7.1	--	--	445	8.0	16.0	--	--	--
	280	7.1	--	--	468	7.7	16.0	30.5	--	--
QA Fa 60	240	10.1	--	--	422	8.5	15.0	7.5	--	--
	240	10.1	--	--	432	8.4	26.5	28.5	--	--

QUEEN ANNE'S COUNTY, MARYLAND -- Continued

	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	ALKA-LINITY WAT WH TOT IT FIELD MG/L AS CACO3 (00419)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)
QA Db 14	--	--	--	--	14	--	0.050	--	--	--
	--	--	--	--	14	--	--	--	--	--
	--	--	--	--	13	--	--	--	--	--
QA Db 17	--	--	--	--	72	--	0.27	--	--	--
	--	--	--	--	66	--	--	--	--	--
	--	--	--	--	70	--	--	--	--	--
QA Db 23	--	--	--	--	16	--	0.060	--	--	--
	--	--	--	--	17	--	--	--	--	--
	--	--	--	--	16	--	--	--	--	--
QA Db 27	--	--	--	--	270	--	0.89	--	--	--
	--	--	--	--	270	--	--	--	--	--
	--	--	--	--	270	--	--	--	--	--
QA Db 30	--	--	--	--	5900	--	--	--	--	--
QA Db 32	--	--	--	--	2600	--	--	--	--	--
QA Db 34	--	--	--	--	9.0	--	--	--	--	--
QA Db 35	--	--	--	--	6200	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
QA Db 37	--	--	--	--	12	--	--	--	--	--
QA Ea 39	--	--	--	--	33	--	--	--	--	--
	--	--	--	--	34	--	--	--	--	--
QA Ea 42	--	--	--	--	73	--	0.25	--	--	--
	--	--	--	--	67	--	--	--	--	--
	--	--	--	--	110	--	--	--	--	--
QA Ea 45	--	--	--	--	4.7	--	--	--	--	--
	--	--	--	--	5.0	--	--	--	--	--
QA Ea 48	--	--	--	--	280	--	--	--	--	--
	--	--	--	--	350	--	--	--	--	--
QA Ea 59	--	--	--	--	110	--	--	--	--	--
	--	--	--	--	110	--	--	--	--	--
QA Ea 60	--	--	--	--	400	--	0.62	--	--	--
	--	--	--	--	400	--	--	--	--	--
	--	--	--	--	410	--	--	--	--	--
QA Ea 61	--	--	--	--	980	--	--	--	--	--
	--	--	--	--	1100	--	--	--	--	--
QA Ea 71	--	--	--	--	20	--	--	--	--	--
QA Ea 77	--	--	--	--	5900	--	--	--	--	--
QA Ea 78	7.0	3.6	12	<0.10	6.7	0.13	--	24	147	194
	--	--	--	--	3.9	--	--	--	--	--
QA Ea 79	--	--	--	--	1.3	--	--	--	--	--
QA Ea 80	--	--	--	--	2.0	--	--	--	--	--
QA Ea 81	--	--	--	--	70	--	--	--	--	--
QA Ea 82	--	--	--	--	240	--	--	--	--	--
	--	--	--	--	240	--	--	--	--	--
QA Ea 83	--	--	--	--	31	--	--	--	--	--
	--	--	--	--	26	--	--	--	--	--
QA Eb 155	--	--	--	--	1.7	--	--	--	--	--
QA Eb 156	--	--	--	--	6600	--	--	--	--	--
QA Eb 157	--	--	--	--	3.6	--	--	--	--	--
QA Fa 49	--	--	--	--	180	--	--	--	--	--
QA Fa 54	--	--	--	--	11	--	--	--	--	--
	--	--	--	--	11	--	--	--	--	--
QA Fa 58	--	--	--	--	8.9	--	0.040	--	--	--
	--	--	--	--	9.1	--	--	--	--	--
QA Fa 60	--	--	--	--	9.6	--	--	--	--	--
	--	--	--	--	11	--	--	--	--	--

QUEEN ANNE'S COUNTY, MARYLAND -- Continued

	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)
QA Db 14	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--
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	0.959	<0.050	<0.010	0.145	0.143	1400	1500	26	26
	--	--	--	--	--	--	--	--	--
QA Ea 79	--	--	--	--	--	--	--	--	--
QA Ea 80	--	--	--	--	--	--	--	--	--
QA Ea 81	--	--	--	--	--	--	--	--	--
QA Ea 82	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--
QA Ea 83	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--
QA Eb 155	--	--	--	--	--	--	--	--	--
QA Eb 156	--	--	--	--	--	--	--	--	--
QA Eb 157	--	--	--	--	--	--	--	--	--
QA Fa 49	--	--	--	--	--	--	--	--	--
QA Fa 54	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--
QA Fa 58	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--
QA Fa 60	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--

QUEEN ANNE'S COUNTY, MARYLAND -- Continued

	DATE	TIME	STATION NUMBER	GEO-LOGIC UNIT	SITE	DEPTH SAM-PLING METHOD, CODES (82398)	OF WELL, TOTAL (FEET) (72008)
QA Fa 63	03-13-97	1445	385434076215601	125AQUI	GW	8030	235.00
	08-26-97	1040		125AQUI	GW	8030	235.00
QA Fa 64	03-13-97	1345	385454076214901	125AQUI	GW	8030	231.00
	08-21-97	1300		125AQUI	GW	8030	231.00
QA Fa 66	03-13-97	1015	385236076215201	125AQUI	GW	8030	270.00
	08-19-97	1200		125AQUI	GW	8030	270.00
QA Fa 67	03-13-97	1230	385023076222201	125AQUI	GW	8030	270.00
	08-19-97	1400		125AQUI	GW	8030	270.00
QA Fa 72	03-20-97	0945	385254076201301	125AQUI	GW	8030	220.00
	08-21-97	1020		125AQUI	GW	8030	220.00
QA Fa 74	03-13-97	0920	385227076215401	125AQUI	GW	8030	280.00
	08-19-97	1120		125AQUI	GW	8030	280.00
QA Fa 75	03-20-97	1030	385155076200401	125AQUI	GW	8030	200.00
	08-21-97	1200		125AQUI	GW	8030	200.00

	DEPTH TO TOP OF SAMPLE INTER-VAL (FT) (72015)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL (FT) (72016)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TEMPER-ATURE AIR (DEG C) (00020)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
QA Fa 63	200	235	15.0	467	7.2	15.0	7.0	8.1
	200	235	15.0	462	7.1	16.0	30.5	8.0
QA Fa 64	191	231	5.0	927	7.7	13.5	11.0	200
	191	231	5.0	1030	7.6	17.0	31.0	230
QA Fa 66	250	270	13.0	521	7.7	15.0	6.5	20
	250	270	13.0	518	7.6	16.5	26.0	20
QA Fa 67	250	270	7.4	352	7.6	15.5	12.0	11
	250	270	10.0	352	7.7	16.0	26.5	11
QA Fa 72	200	220	12.0	493	8.0	14.5	8.0	14
	200	220	12.0	490	7.8	16.0	30.5	14
QA Fa 74	--	--	10.0	464	7.6	15.0	5.5	11
	--	--	10.0	462	7.5	16.5	24.0	12
QA Fa 75	180	200	10.0	524	8.0	13.0	7.0	20
	180	200	10.0	523	7.8	19.5	27.5	21

WASHINGTON COUNTY, MARYLAND

WELL NUMBER	DATE	TIME	STATION NUMBER	GEO-LOGIC UNIT	SITE	SAM-PLING METHOD, CODES (82398)	DEPTH OF WELL, TOTAL (FEET) (72008)	DEPTH TO TOP OF SAMPLE INTER-VAL (FT) (72015)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL (FT) (72016)
WA Ad 101	08-07-97	1200	394149078052801	344RMNY	GW	8030	120.00	21	120

WELL NUMBER	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	PUMP OR FLOW PERIOD PRIOR TO SAM-PLING (MIN) (72004)	FLOW RATE (G/M) (00059)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)
WA Ad 101	560	36	1.6	143	6.8	14.5	4.2	15	4.7

WELL NUMBER	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	ALKA-LINITY WAT WH TOT IT FIELD MG/L AS CACO3 (00419)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
WA Ad 101	1.5	5.3	11	0.95	<0.10	18	59	99	91

WELL NUMBER	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)
WA Ad 101	0.021	0.089	<0.010	<0.010	0.015	<3.0	100	1.5	<10

Geologic Unit (aquifer): 344RMNY - Romney Formation

Site Type: GW - Ground Water

Sampling Method: 8030 - Grab sample at water-supply tap

WORCESTER COUNTY, MARYLAND

		DATE	TIME	STATION	NUMBER	GEO-LOGIC UNIT	SITE	SAM-PLING METHOD, CODES (82398)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	DEPTH OF WELL, TOTAL (FEET) (72008)	DEPTH TO TOP OF SAMPLE INTER-VAL (FT) (72015)
WO Ah	34	08-25-97	1120	382632075031901	122MNKN	GW	4045	--	450.00	350
WO Ah	36	08-28-97	1340	382635075030602	122MNKN	GW	4040	--	430.00	420
WO Bh	28	08-25-97	0915	382214075041901	122OCNC	GW	4045	--	294.00	248
WO Bh	34	08-28-97	1050	382443075033501	122MNKN	GW	4040	15.94	353.00	337
WO Bh	84	08-26-97	1130	382215075041901	112CLMB	GW	4030	--	89.00	84
WO Bh	85	08-26-97	1030	382215075041902	122PCMK	GW	4030	--	195.00	190
WO Bh	88	08-25-97	1010	382041075045301	122MNKN	GW	4045	--	445.00	362
WO Bh	89	08-26-97	1205	382215075041903	122MNKN	GW	4040	--	500.00	388
WO Bh	91	08-26-97	1450	382235075040901	122MNKN	GW	4040	--	385.00	340
WO Bh	97	08-27-97	1320	382127075043803	122MNKN	GW	4040	--	445.00	370
WO Bh	98	08-27-97	1045	382127075043802	122OCNC	GW	4040	--	310.00	255

		DEPTH TO BOT-TOM OF SAMPLE INTER-VAL (FT) (72016)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	PUMP OR FLOW PERIOD PRIOR TO SAM-PLING (MIN) (72004)	FLOW RATE (G/M) (00059)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TEMPER-ATURE AIR (DEG C) (00020)	ALKA-LINITY WAT WH TOT IT FIELD MG/L AS CACO3 (00419)	BICAR-BONATE WATER WH IT FIELD MG/L AS HCO3 (00450)
WO Ah	34	450	5.0	20	--	538	6.5	17.0	24.0	109	133
WO Ah	36	440	15.4	120	8.0	834	6.6	17.0	24.0	127	155
WO Bh	28	294	5.0	60	--	846	6.8	17.5	25.5	126	154
WO Bh	34	353	4.0	110	8.0	232	6.6	17.0	24.0	82	100
WO Bh	84	89	5.0	25	15.0	360	6.9	24.0	17.0	108	132
WO Bh	85	195	5.0	80	6.0	398	7.0	17.5	24.0	116	141
WO Bh	88	442	8.0	17	820	468	6.9	17.5	25.0	136	166
WO Bh	89	500	5.0	140	8.0	1880	7.0	24.0	18.0	178	217
WO Bh	91	380	10.0	110	8.0	1140	7.2	18.0	24.0	164	200
WO Bh	97	440	6.0	130	8.0	405	6.9	18.0	25.0	102	124
WO Bh	98	310	5.0	100	8.0	436	7.5	17.0	25.0	186	227

Geologic Unit (aquifer):
112CLMB - Columbia Group
122MNKN - Manokin Aquifer
122OCNC - Ocean City Aquifer
122PCMK - Pokomoke Aquifer

Site Type: GW - Ground Water

Sampling Method: 4030 - Suction pump
4040 - Submersible pump
4045 - Submersible multiple impeller (turbine) pump

INDEX

Page

Access to USGS data..... 8
Adenosine triphosphate (ATP), definition of..... 9
Algae, definition of..... 9
Algal growth potential (AGP), definition of..... 9
Allegany County, MD, ground-water levels in 158-161
  ground-water quality records in..... 521
Anne Arundel County, MD, ground-water levels in..... 162-205
Aquifer, definition of..... 9
  explanation of..... 5
Artesian, definition of..... 9
Ash mass, definition of..... 9

Bacteria, definition of..... 9
Baltimore City, MD, ground-water levels in..... 206-209
Baltimore County, MD, ground-water levels in..... 210-218
  ground-water quality records in..... 524-532
Bibliographic Data Sheet..... iv
Biochemical oxygen demand (BOD), definition of..... 9
Biomass, definition of..... 9
Blue-green algae, definition of..... 11

Calvert County, MD, ground-water levels in..... 219-232
Caroline County, MD, ground-water levels in..... 233-236
Carroll County, MD, ground-water levels in..... 237-240
  ground-water quality records in..... 533-534
Cecil County, MD, ground-water levels in..... 241-253
  ground-water spring discharge..... 44
  ground-water quality record in..... 535
Cells/volume, definition of..... 9
Charles County, MD, ground-water levelsin.....254-299
  ground-water quality records in..... 536
Chemical data, explanation of..... 6-7
Chemical oxygen demand (COD), definition of..... 9
Chlorophyll, definition of..... 10
Coliform bacteria, fecal..... 9
  total..... 9
Collection and computation of
    ground-water levels..... 5
  ground-water quality..... 6
Color unit, definition of..... 10
Contents..... v
Conversion factors, English units to
  International System (SI) units.....Inside back cover
Cooperation, explanation of..... 1-2

Data, collection and computation of
    ground-water levels..... 5
  collection and computation of
    ground-water quality..... 6
  presentation, ground-water levels..... 5-6
  presentation, ground-water quality..... 6
Datum of ground-water levels, explanation of..... 5
Definition of terms..... 9-13
Delaware and Maryland, 1997, water
  resources data for, explanation of..... 1-13
Diatoms, definition of..... 11
Dissolved, definition of..... 10
Dissolved-solids concentration, definition of..... 10
Documention, Report Page..... iv
Dorchester County, MD, ground-water levels in..... 300-311
Dry mass, definition of..... 9

Explanation of ground-water level records..... 5-6
Extremes for period of record, explanation of..... 6

Factors for converting English units to
  International System (SI) units.....Inside back cover
Fecal coliform bacteria, definition of..... 9

Page

Fecal streptococcal bacteria, definition of..... 9
Frederick County, MD, ground-water
    levels in..... 312-316
  ground-water spring discharges in..... 45-46
Footnotes, ground-water quality records..... 7, 520

Garrett County, MD, ground-water levels in..... 317-336
  ground-water quality records in..... 537
Green algae, definition of..... 10
Ground-water level records..... 50-519
  explanation of..... 5-6
Ground-water levels at key observation wells..... 3
Ground-water quality records:
  Maryland,
    Allegany County..... 521
    Anne Arundel County..... 522-523
    Baltimore County..... 524-532
    Carroll County..... 533-534
    Cecil County..... 535
    Charles County..... 536
    Garrett County..... 537
    Harford County..... 538
    Howard County..... 539
    Montgomery County..... 540
    Queen Annes County..... 541-545
    Washington County..... 546
    Worchester County..... 547
Ground-water records..... 44-547

Hardness of water, definition of..... 10
Harford County, MD, ground-water levels in..... 337-384
  ground-water spring discharge in..... 47
  ground-water quality records in..... 538
Howard County, MD, ground-water levels in..... 385-387
  ground-water quality records in..... 539
Hydrologic Bench-Mark Network,
    definition of..... 10
Hydrologic conditions, summary of..... 2
Hydrologic unit, definition of..... 10

Instrumentation, explanation of..... 5
Introduction..... 1

Kent County, DE, ground-water levels in..... 50-75
Kent County, MD, ground-water levels in..... 388-405
Land-surface datum, definition of..... 10
Latitude-longitude system, explanation of..... 4
Location, explanation of..... 5

Maryland and Delaware, 1997, water resources
  data for, explanation of..... 1-13
Measuring point, definition of..... 10
Metamorphic stage, definition of..... 10
Methylene blue active substance (MBAS),
    definition of..... 10
Micrograms per gram, definition of..... 10
Micrograms per liter, definition of..... 10
Milligrams, of carbon per area or volume per unit
    of time for periphyton, macrophytes, and
    phytoplankton, definition of..... 12
Milligrams, of oxygen per area or volume per unit
    of time for periphyton, macrophytes, and
    phytoplankton, definition of..... 12
Milligrams per liter, definition of..... 10
Montgomery County, MD, ground-water levels in..... 406-411
  ground-water quality records in..... 540
Monthly ground-water levels at key
    observation wells..... 3

INDEX

Page

National Geodetic Vertical Datum of l929 (NGVD), definition of..... 10
National Technical Information Service..... 1
New Castle County, DE, ground-water levels in..... 76-87
Numbering system for wells 4
Numbers, station identification..... 4

Organic mass, definition of..... 9
Organism count/area, definition of..... 10
Organism count/volume, definition of..... 10
Organism total count, definition of..... 10

Parameter code, definition of..... 11
Partial-record station, definition of..... 11
Particle-size classification, definition of..... 11
Particle size, definition of..... 11
Percent composition, definition of..... 11
Period of record, explanation of..... 5
Periphyton, definition of..... 11
Pesticides, definition of..... 11
Phytoplankton, definition of..... 11
Picocurie, definition of..... 11
Plankton, definition of..... 11
Preface..... iii
Primary productivity, definition of..... 11
Prince Georges County, MD, ground-water levels in..... 412-425
Publications on Techniques of Water-Resources Investigations..... 14-16

Quality of ground water..... 520-547
Queen Annes County, MD, ground-water levels in..... 426-449
ground-water quality records in..... 545

Radiochemical program, definition of..... 12
Records of ground-water levels..... 50-519
Records of ground-water quality..... 521-547
Remark codes..... 7, 520
Remarks, explanation of..... 6
Report Documentation Page..... iv

St. Marys County, MD, ground-water levels in..... 450-465
Sea level, definition of..... 12
Selected ground-water references:
Delaware
Delaware Geological Survey..... 19-21
U.S. Geological Survey..... 16-19
Maryland
Maryland Geological Survey..... 28-32
U.S. Geological Survey..... 22-28
Washington, D.C.
U.S. Geological Survey..... 33
Sodium-adsorption-ratio, definition of..... 12
Solute, definition of..... 12
Somerset County, MD, ground water levels in..... 466-469
Specific conductance, definition of..... 12
Station identification numbers, explanation of..... 47
Streptococcal bacteria, fecal..... 9
Summary of hydrologic conditions..... 2
Suspended, definition of..... 12
Suspended recoverable, definition of..... 12
Suspended, total, definition of..... 12
Sussex County, DE, ground-water levels in..... 88-157
System for numbering wells..... 4

Talbot County, MD, ground-water levels in..... 470-475
Taxonomy, definition of..... 12
Techniques of Water-Resources Investigations, publications on..... 14-16
Terms and abbreviations, definition of..... 5-13
Thermograph, definition of..... 13
Time-weighted average, definition of..... 13
Total coliform bacteria, definition of..... 9
Total, definition of..... 13
Total organism count, definition of..... 10
Total, recoverable, definition of..... 13

USGA data, access to..... 8

Washington County, MD, ground-water levels in..... 476-481
ground-water spring discharge..... 48-49
ground-water quality record in..... 546
Water-level records, explanation of..... 5-6
Water-quality codes for ground water..... 7
Water-quality control data..... 7-8
Water-quality records, explanation of..... 6-8
Water resources data for Maryland and Delaware, 1997, explanation of..... 1-13
Water-resources investigations, publications on techniques of..... 14-16
Water year, explanation of..... 13
WDR (Water Data Report), definition of..... 13
Well descriptions and water-level measurements:
Delaware,
Kent County..... 50-75
New Castle County..... 76-87
Sussex County..... 88-157
Maryland,
Allegany County..... 158-161
Anne Arundel County..... 162-205
Baltimore, City of..... 206-209
Baltimore County..... 210-218
Calvert County..... 219-232
Caroline County..... 233-236
Carroll County..... 237-240
Cecil County..... 241-253
Charles County..... 254-299
Dorchester County..... 300-311
Frederick County..... 312-316
Garrett County..... 317-336
Harford County..... 337-384
Howard County..... 385-387
Kent County..... 388-405
Montgomery County..... 406-411
Prince Georges County..... 412-425
Queen Annes County..... 426-449
Saint Marys County..... 450-465
Somerset County..... 466-469
Talbot County..... 470-475
Washington County..... 476-481
Wicomico County..... 482-486
Worchester County..... 487-519
Wells, numbering system for, explanation of..... 4
Wet mass, definition of..... 9
Wicomico County, MD, ground-water levels in..... 482-486
Worchester County, MD, ground-water levels in..... 487-519
ground-water quality records in..... 547
WSP (Water-Supply Paper), definition of..... 13

Zooplankton, definition of..... 11

THIS IS A BLANK PAGE.

CONVERSION FACTORS AND VERTICAL DATUM

Multiply	By	To obtain
	Length	
inch (in.)	2.54×10^{1}	millimeter
	2.54×10^{-2}	meter
foot (ft)	3.048×10^{-1}	meter
mile (mi)	1.609×10^{0}	kilometer
	Area	
acre	4.047×10^{3}	square meter
	4.047×10^{-1}	square hectometer
	4.047×10^{-3}	square kilometer
square mile (mi^2)	2.590×10^{0}	square kilometer
	Volume	
gallon (gal)	3.785×10^{0}	liter
	3.785×10^{0}	cubic decimeter
	3.785×10^{-3}	cubic meter
million gallons (Mgal)	3.785×10^{3}	cubic meter
	3.785×10^{-3}	cubic hectometer
cubic foot (ft^3)	2.832×10^{1}	cubic decimeter
	2.832×10^{-2}	cubic meter
cubic-foot-per-second day [(ft^3/s) d]	2.447×10^{3}	cubic meter
	2.447×10^{-3}	cubic hectometer
acre-foot (acre-ft)	1.233×10^{3}	cubic meter
	1.233×10^{-3}	cubic hectometer
	1.233×10^{-6}	cubic kilometer
	Flow	
cubic foot per second (ft^3/s)	2.832×10^{1}	liter per second
	2.832×10^{1}	cubic decimeter per second
	2.832×10^{-2}	cubic meter per second
gallon per minute (gal/min)	6.309×10^{-2}	liter per second
	6.309×10^{-2}	cubic decimeter per second
	6.309×10^{-5}	cubic meter per second
million gallons per day (Mgal/d)	4.381×10^{1}	cubic decimeter per second
	4.381×10^{-2}	cubic meter per second
	Mass	
ton (short)	9.072×10^{-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.

U.S. DEPARTMENT OF THE INTERIOR
U.S. Geological Survey
8987 Yellow Brick Road
Baltimore, MD 21237

ERRATA

WATER RESOURCES DATA MARYLAND AND DELAWARE WATER YEAR 1997
Volume 2. Ground-Water Data
by M.J. Smigaj. R.W. Saffer, R.J. Starsoneck, and J.L. Tegeler
U.S. GEOLOGICAL SURVEY WATER DATA REPORT MD-DE-97-2

Page 1 and 2: replace entire pages; final draft replaces rough draft.

Page 484: should be page 485.

Page 485: should be page 484.

Page 523: QUALITY OF GROUND WATER -- ANNE ARUNDEL COUNTY, MARYLAND
The following water quality constituents were omitted from the final table:
ALPHA RADIO WATER DISSOLVED AS TH-230, ALPHA COUNT, 2 SIGMA WATER DISSOLVED AS TH-230, BETA 2 SIGMA WATER DISSOLVED AS CS-137, RA-226 DISSOLVED PLANCHET COUNT, RA-222 SIGMA WATER DISSOLVED, RADIUM 228 DISSOLVED, RA-228 2 SIGMA WATER DISSOLVED, URANIUM NATURAL 2 SIGMA WATER DISSOLVED, ALACHLOR TOTAL RECOVER, AMETRYNE TOTAL, ATRAZINE WATER UNFILTERED, BUTACHLOR WATER WHLREC, BUTYLATE WATER WHLREC, BROMACIL WATER WHLREC, CARBOXIN WATER WHOLE RECOVERABLE, CYANAZINE TOTAL, CYCLOATE WATER WHOLE RECOVERABLE, DEETHYLATRAZINE WATER WHOLE TOTAL, DE-ISO PROPYL ATRAZIN WATER WHOLE TOTAL, DIPHENAMID WATER WHOLE RECOVERABLE, HEXAZINONE WATER WHOLE RECOVERABLE, METOLACHLOR WATER WHOLE TOTAL RECOVERABLE, METRIBUZIN WATER WHOLE TOTAL RECOVERABLE, PROMETONE TOTAL, PROMETRYNE TOTAL, PROPACHLOR WATER WHOLE RECOVERABLE, PROPAZINE TOTAL, SIMAZINE TOTAL, SIMETRYNE TOTAL, TERBACIL WATER WHOLE RECOVERABLE, TRIFLURALIN TOTAL RECOVERABLE, VERNOLATE WATER WHOLE RECOVERABLE,

Page 526: QUALITY OF GROUND WATER -- BALTIMORE COUNTY, MARYLAND
The following water quality constituents were omitted from the final table:
ALPHA RADIO WATER DISSOLVED AS TH-230, ALPHA COUNT 2 SIGMA WATER DISSOLVED AS TH-230, BETA 2 SIGMA WATER DISSOLVED AS CS-137, RA-226 DISSOLVED PLANCHET COUNT, RA-226 2 SIGMA WATER DISSOLVED, RA-222 SIGMA WATER DISSOLVED, RADIUM 228 DISSOLVED, RA-228 2 SIGMA WATER DISSOLVED, RADON 222 TOTAL RN-222 2 SIGMA WATER WHOLE TOTAL, URANIUM NATURAL DISSOLVED, URANIUM NATURAL 2 SIGMA WATER DISSOLVED,

Page 533: QUALITY OF GROUND WATER -- CARROLL COUNTY, MARYLAND
The following water quality constituents were omitted from the final table:
ALPHA RADIO WATER DISSOLVED AS TH-230, ALPHA COUNT 2 SIGMA WATER DISSOLVED AS TH-230, BETA 2 SIGMA WATER DISSOLVED AS CS-137, RA-226 DISSOLVED PLANCHET COUNT, RA-226 2 SIGMA WATER DISSOLVED, RA-222 SIGMA WATER DISSOLVED, RADIUM 228 DISSOLVED, RA-228 2 SIGMA WATER DISSOLVED, RADON 222 TOTAL RN-222 2 SIGMA WATER WHOLE TOTAL, URANIUM NATURAL DISSOLVED, URANIUM NATURAL 2 SIGMA WATER DISSOLVED,

Page 536: QUALITY OF GROUND WATER -- CHARLES COUNTY, MARYLAND
The following water quality constituents were omitted from the final table:
ALPHA RADIO WATER DISSOLVED AS TH-230, ALPHA COUNT 2 SIGMA WATER DISSOLVED AS TH-230, GROSS BETA DISSOLVED, BETA 2 SIGMA WATER DISSOLVED AS CS-137, RADON 222 TOTAL, RN-222 2 SIGMA WATER WHOLE TOTAL

Page 539: QUALITY OF GROUND WATER -- HOWARD COUNTY, MARYLAND
The following water quality constituents were omitted from the final table:
ALPHA RADIO WATER DISSOLVED AS TH-230, ALPHA COUNT 2 SIGMA WATER DISSOLVED AS TH-230, GROSS BETA DISSOLVED, BETA 2 SIGMA WATER DISSOLVED AS CS-137, RA-226 DISSOLVED PLANCHET COUNT, RA-226 2 SIGMA WATER DISSOLVED, RADIUM 228 DISSOLVED, RA-228 2 SIGMA WATER DISSOLVED, RADON 222 TOTAL, RN-222 2 SIGMA WATER WHOLE TOTAL, URANIUM NATURAL DISSOLVED, URANIUM NATURAL 2 SIGMA WATER DISSOLVED,

Page 541 QUALITY OF GROUND WATER -- QUEEN ANNE'S COUNTY, MARYLAND
"DEPTH" over SAMPLING METHOD and DEPTH OF WELL heading should be omitted.

Page 547: QUALITY OF GROUND WATER -- WORCESTER COUNTY, MARYLAND
The following water quality constituents were omitted from the final table:
CALCIUM DISSOLVED, MAGNESIUM DISSOLVED, POTASSIUM DISSOLVED, SODIUM DISSOLVED, SULFATE DISSOLVED, CHLORIDE DISSOLVED, FLUORIDE DISSOLVED, BROMIDE DISSOLVED, SILICA DISSOLVED, SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED, SOLIDS SUMMARY OF CONSTITUENTS DISSOLVED, IRON DISSOLVED, and MANGANESE DISSOLVED

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 U.S. 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 l975 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 1997 series and includes records of water levels and water quality of ground-water wells and springs. It contains records for water levels at 397 observation wells, discharge data for 6 springs, and water quality at 107 wells. Location of ground-water level wells are shown on figures 3 and 4. The location for the ground-water-quality sites are shown on figures 5. 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 the Branch of Information Services, Federal Center, Bldg. 41, Box 25286, Denver, CO 80225-0286.

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-97-2."** For archiving and general distribution, the reports for l971-74 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.

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)238-4200.

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 the funding or services in this report through cooperative agreements with the Survey or through the Maryland Geological Survey and Delaware Geological Survey are:

Maryland Geological Survey, Emery T. Cleaves, Director.

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

Delaware Department of Transportation, Anne P. Canby, Secretary of Transportation.

Delaware Department of Natural Resources and Environmental Control, Christophe Tulou, Secretary of Natural Resources and Environmental Control.

Maryland Department of the Environment, Drinking Water Program, John Grace.

Maryland Department of Natural Resources, Tidewater Ecosystem Assessment, Robert Magnien, Director.

Maryland Department of Natural Resources, Research Assessment Service, Power Plant Research Program, Peter Dunbar, Director.

Anne Arundel County Health Department, Well Construction and Well Quality Program, John Simpson, Program Manager.

Baltimore County Department of Environmental Protection and Resource Management, Water Well Program, Susan Farinetti, Supervisor.

Town of Ocean City, Water Department, Ronald Ellis, Superintendent.

U.S. Army Garrison, Aberdeen Proving Ground, Environmental Conservation and Restoration Division, Kennith P. Stachiw, Division Chief.

U.S. Environmental Protection Agency, Office of Research and Development, Tom Pheiffer.

U.S. Navy, Naval Surface Warfare Center, Indian Head Division, James Sirinakis, Utilities Division Chief.

Dover Air Force Base, 436TH Support Group, Civil Engineering Squadron, EnvironmentalFlight, Charles Mikula, Restoration Program Manager.

Organizations and projects that provided data are acknowledged in the site Remarks description.

SUMMARY OF HYDROLOGIC CONDITIONS

Ground-Water Levels

Ground-water levels in water-table and artesian observation wells in Maryland and Delaware fluctuated in response to precipitation and ground-water withdrawal. Water-table levels were above normal levels throughout the bi-State area at the beginning of the 1997 water year (fig. 1). These above normal levels were attributed to tropical storm Fran which moved up the eastern seaboard on September 7, 1996, dumping 6 to 8 inches of precipitaion on the bi-State area. In November, heavy rains fell on the bi-state area that accounted for over 8 inches of precipitation, raising ground-water-levels even higher. As the water year progressed, the normal springtime and summer precipitation rainfall events did not occur. This decline in rainfall during the growing season affected farming, but had little effect on ground-water because of the heavy precipitation events in the beginning of the water year.

In the bi-State areas where 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 water year, in part due to tropical storm Fran, in September 1996. Several major storm systems moved from the Gulf of Mexico up along the Appalachian mountains throughout October and November. Several of these stroms dumped most of their precipitation on the western mountains causing minor flooding in the valleys. The pattern of storms seemed to be all or nothing throughout the water year. Heavy, solitary strom events were followed by long periods of no percipitation. This can easily be seen in figure 1, with well GA Bc 1. Water levels at the end of the 1997 water year were slightly below normal levels. No record high or low water-table levels were recorded in the Appalachian Plateau.

Valley and Ridge.-- Ground-water-table levels were slightly below normal at the beginning of the 1997 water year. Water-table levels rose to a peak high level in January due to steady rain showers throughout most of the first half of the water year. By mid-March strom fronts that normally move over the Appalachian mountains were depleted of most of their precipitation and only small amounts of rain fell on this area for the remainder of the water year. Record high or low water-table levels were not recorded in this physiographic province during the 1997 water year.

Blue Ridge.-- Water-table levels were above normal at the beginning of the water year. A wetter than normal fall and winter kept ground-water levels above normal most of the spring. With little rainfall in the spring, ground-water-table levels dropped below normal by summer and remained below normal throughout the remainder of the water year. No record high or low water levels were recorded during the water year.

Piedmont.-- Ground-water-table levels at the beginning of the water year were above normal. Water-table levels remained above normal until June. The lack of summertime thunderstorms caused ground-water levels to drop to below normal. Ground-water-table levels declined gradually during the summer, rising in September from several heavy storm events moving up the Atlantic Coast. No record high or low water-table levels were recorded, but levels were above normal at the end of the 1997 water year.

Coastal Plain.-- Water-table levels on the western shore of the Chesapeake Bay were at normal levels at the beginning of the 1997 water year. These water-table levels rose above normal by November and remained above normal throughout the water year. On the Delmarva Peninsula water-table levels were below normal at the start of the 1997 water year, and did not rise above nomal water-table levels until January and February. Water- table levels remained above normal in the Coastal Plain through the end of the water year, with no high or low water-level records occuring.

Artesian aquifers on the western shore of the Chesapeake Bay lie close to their surface-recharge zones at the northwestern boundary with the Piedmont physiographic province. It is in this outcrop belt where these aquifers receive most of their ground-water recharge. This area is heavily populated because of its close proximity to the Baltimore-Washington and Annapolis metropolitan area. These areas rely exclusively on ground-water supplies, except for the northwestern part of Prince Georges County where the Washington Suburban Sanitary Commission supplies surface water from the Potomac and Patuxent Rivers.

Artesian aquifers (identified in parentheses) in the following towns or areas of Maryland continued to decline due to the general regional increase in ground-water withdrawals: Annapolis and vicinity (Patapsco), Cecilton (Potomac), Charlotte Hall (Aquia), Indian Head and vicinity (Patapsco, Patuxent), La Plata (Patapsco), Leonardtown (Aquia, Piney Point), Lexington Park (Aquia, Piney Point), Prince Frederick (Aquia), St. Charles (Patuxent, Lower Patapsco, Magothy), Solomons Island (Aquia), southern Anne Arundel County (Aquia), and Waldorf (Patuxent, Patapsco, Magothy).

In the Glen Burnie area, the Patapsco aquifer water-levels rose because water management shifted to using the Patuxent aquifer to make better use of the area’s available ground-water resources.