



# Water Resources Data Maryland and Delaware Water Year 1987



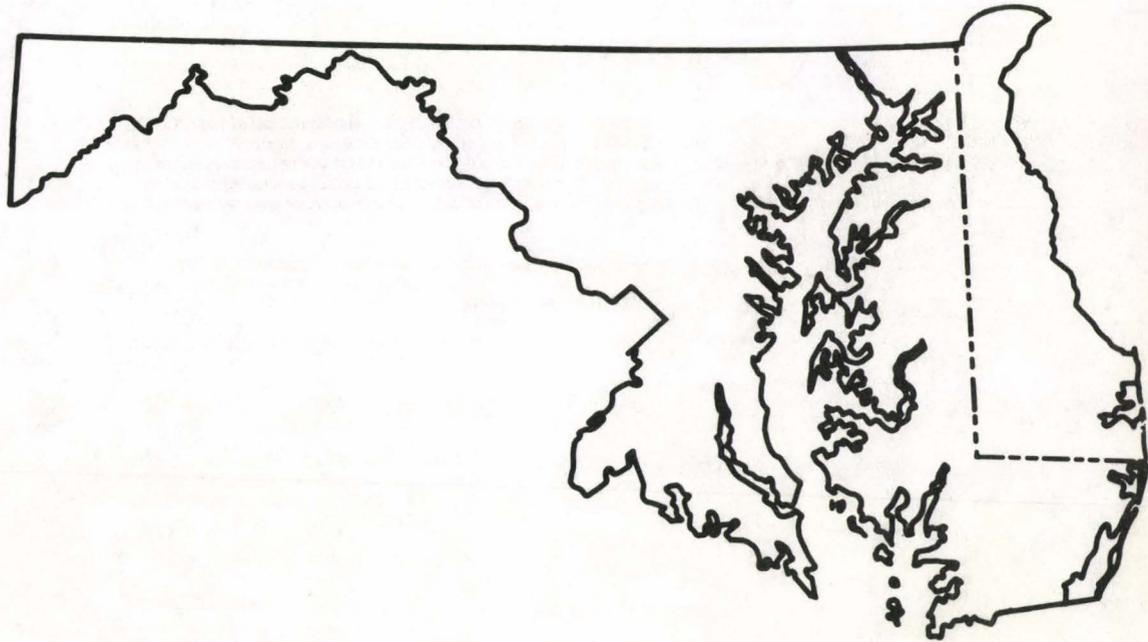
U.S. GEOLOGICAL SURVEY  
Prepared in cooperation  
and with other agencies





# Water Resources Data Maryland and Delaware Water Year 1987

by Robert W. James, Jr., Robert H. Simmons, and Bernard F. Strain



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT MD-DE-87-1  
Prepared in cooperation with the States of Maryland and Delaware  
and with other agencies

UNITED STATES DEPARTMENT OF THE INTERIOR

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GEOLOGICAL SURVEY

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1987

#### PREFACE

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

This report is the culmination of a concerted effort by dedicated personnel of the U.S. Geological Survey who collected, compiled, analyzed, verified, and organized the data, and who typed, edited, and assembled the 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 individuals contributed significantly to the collection, processing, and tabulation of the data:

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16. Abstract (Limit: 200 words)  Water resources data for the 1987 water year for Maryland and Delaware consist of records of stage, discharge, and water quality of streams; stage and contents of lakes and reservoirs; and water levels and water quality and ground-water wells. This volume contains records for water discharge at 98 gaging stations; stage and contents at 1 reservoir; water quality at 20 gaging stations and 147 wells; and water levels at 149 observation wells. Also included are data for 3 crest-stage, 10 low-flow, and 6 tidal crest-stage partial-record stations. Additional water data were collected at various sites not involved in the systematic data-collection program and are published as miscellaneous measurements. These data represent that part of the National Water Data System operated by the U.S. Geological Survey and cooperating State, local, and Federal agencies in Maryland and Delaware.				
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[Letter after station name designates type of data: (d) discharge, (c) chemical, (b) biological, (m) microbiological, (t) water temperature, (s) sediment, (e) elevation and contents]

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**DELAWARE:****KENT COUNTY**

Well 391026075304901	Local number Id 55-1	263
Well 390607075331501	Local number Jd 42-3	263
Well 385041075395601	Local number Mc 51-1	263
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**NEWCASTLE COUNTY**

Well 393855075415402	Local number Db 24-17	264
Well 391949075410701	Local number Hb 14-1	264

**SUSSEX COUNTY**

Well 384930075370201	Local number Nc 13-3	265
Well 384639075353101	Local number Nc 45-1	265
Well 384955075192801	Local number Ng 11-1	265
Well 383138075260201	Local number Qe 44-1	266

**MARYLAND:****ALLEGANY COUNTY**

Well 394024078273401	Local number AL Ah 1	267
Well 393930078460901	Local number AL Bd 2	268
Well 393009079025201	Local number AL Ca 19	269

**ANNE ARUNDEL COUNTY**

Well 391101076404001	Local number AA Ac 11	270
Well 391015076373501	Local number AA Ad 29	271
Well 390945076285601	Local number AA Bf 3	272
Well 390303076463201	Local number AA Cb 1	273
Well 390423076432001	Local number AA Cc 40	274
Well 385406076383901	Local number AA Ed 45	275
Well 384646076352401	Local number AA Fd 43	276

**BALTIMORE CITY**

Well 391617076322001	Local number 2S5E- 1	277
Well 391600076353301	Local number 3S2E- 5	278
Well 391556076315301	Local number 3S5E- 46	279
Well 391349076354501	Local number 5S2E- 24	280
Well 391349076354502	Local number 5S2E- 25	281
Well 391213076324401	Local number 7S4E- 1	282

**BALTIMORE COUNTY**

Well 393129076384201	Local number BA Cd 26	283
Well 393102076341801	Local number BA Ce 21	284
Well 392045076512501	Local number BA Ea 18	285
Well 392305076432001	Local number BA Ec 43	286
Well 391607076312901	Local number BA Fe 19	287
Well 391356076293501	Local number BA Gf 11	288
Well 391257076282501	Local number BA Gf 168	289
Well 391256076282501	Local number BA Gf 169	290
Well 391226076253401	Local number BA Gf 178	291

**CALVERT COUNTY**

Well 384331076395201	Local number CA Bb 27	292
Well 384334076394501	Local number CA Bb 28	293
Well 383930076314301	Local number CA Cc 18	294
Well 383605076344601	Local number CA Cc 57	295
Well 383239076354201	Local number CA Db 47	296
Well 382408076260401	Local number CA Fd 51	297
Well 382316076284801	Local number CA Fd 52	298
Well 382407076260301	Local number CA Fd 54	299
Well 382318076242401	Local number CA Fe 22	300
Well 381952076270901	Local number CA Gd 6	301

**CAROLINE COUNTY**

Well 390333075504501	Local number CO Bc 1	302
Well 390227075470201	Local number CO Bd 53	303
Well 385310075503601	Local number CO Dc 129	304
Well 385217075490601	Local number CO Dd 47	305

**CARROLL COUNTY**

Well 394008077005601	Local number CL Ad 47	306
Well 393638076510001	Local number CL Bf 1	307
Well 393754076512401	Local number CL Bf 184	308

**CECIL COUNTY**

Well 393537075492001	Local number CE Bf 82	309
Well 393603075471701	Local number CE Bf 142	310-311
Well 393433075544901	Local number CE Ce 54	312
Well 393241075500201	Local number CE Ce 55	313
Well 392403075521801	Local number CE Ee 29	314

**CHARLES COUNTY**

Well 383722076544001	Local number CH Bf 128	315
Well 383746076482901	Local number CH Bg 12	316
Well 383422077114601	Local number CH Cb 7	317
Well 382607077002601	Local number CH Dd 33	318
Well 382103076560201	Local number CH Ee 16	319

**DORCHESTER COUNTY**

Well 383708075503801	Local number DO Bg 59	320
Well 383151076080801	Local number DO Cd 1	321
Well 383340076041601	Local number DO Ce 5	322
Well 383408076042402	Local number DO Ce 15	323
Well 383346076030301	Local number DO Ce 21	324
Well 383243076042301	Local number DO Ce 78	325
Well 383401076032001	Local number DO Ce 88	326
Well 382800076180701	Local number DO Db 17	327

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Well 394200077190701	Local number	FR Af	27	328
Well 393733077274801	Local number	FR Bd	96	329
Well 393156077135701	Local number	FR Cg	1	330
Well 392517077190401	Local number	FR Df	35	331
Well 392257077095601	Local number	FR Eh	11	332

**GARRETT COUNTY**

Well 394017078581701	Local number	GA Ag	1	333
Well 393749079190301	Local number	GA Bc	1	334

**HARFORD COUNTY**

Well 393902076160001	Local number	HA Bd	31	335
Well 393158076302601	Local number	HA Ca	23	336
Well 392921076100401	Local number	HA De	66	337
Well 392435076203301	Local number	HA Ec	11	338
Well 392343076161901	Local number	HA Ed	24	339

**HOWARD COUNTY**

Well 391910076565701	Local number	HO Bd	1	340
Well 391001076540001	Local number	HO Ce	38	341

**KENT COUNTY**

Well 391432076015501	Local number	KE Cd	44	342
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**MONTGOMERY COUNTY**

Well 391314077224201	Local number	MO Cc	14	343
Well 390802077283801	Local number	MO Db	68	344
Well 390752077243101	Local number	MO Dc	72	345
Well 390434076573002	Local number	MO Eh	20	346

**PRINCE GEORGES COUNTY**

Well 390151076561501	Local number	PG Bc	16	347
Well 385130076465501	Local number	PG De	21	348
Well 385152076431301	Local number	PG Df	2	349
Well 384423077004501	Local number	PG Fb	36	350
Well 384230076555601	Local number	PG Fc	17	351
Well 384131076533301	Local number	PG Fd	41	352

**QUEEN ANNES COUNTY**

Well 390841075515201	Local number	QA Cg	1	353
Well 390201076182701	Local number	QA Db	30	354
Well 390201076182703	Local number	QA Db	32	355
Well 390201076182704	Local number	QA Db	36	356
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Well 385756076105301	Local number	QA Ec	1	362
Well 385429076120201	Local number	QA Fc	7	363

**SAINT MARYS COUNTY**

Well 382838076470101	Local number	SM Bb	15	364
Well 382838076470102	Local number	SM Bb	22	365
Well 381616076364701	Local number	SM Dd	46	366
Well 381616076364702	Local number	SM Dd	49	367
Well 381807076380001	Local number	SM Dd	50	368
Well 381616076364703	Local number	SM Dd	62	369
Well 381841076284401	Local number	SM Df	66	370
Well 381527076283101	Local number	SM Df	71	371
Well 381548076272102	Local number	SM Df	84	372
Well 381435076291802	Local number	SM Ef	57	373
Well 381213076222801	Local number	SM Eg	27	374
Well 380834076303401	Local number	SM Fe	30	375
Well 380834076303402	Local number	SM Fe	31	376
Well 380711076222201	Local number	SM Fg	45	377

**SOMERSET COUNTY**

Well 381156075412501	Local number	SO Be	42	378
Well 380616075380701	Local number	SO Cf	2	379

**TALBOT COUNTY**

Well 385242075593101	Local number	TA Bf	73	380
Well 385242075593102	Local number	TA Bf	74	381
Well 384923076100601	Local number	TA Cc	35	382
Well 384514076103701	Local number	TA Cc	36	383
Well 384643076043801	Local number	TA Ce	7	384

**WASHINGTON COUNTY**

Well 394154078103501	Local number	WA Ac	1	385
Well 393638078001301	Local number	WA Be	2	386
Well 393851077343001	Local number	WA Bk	25	387-388
Well 393414077461801	Local number	WA Ch	106	389-390
Well 393402077434201	Local number	WA Ci	82	391
Well 392904077371501	Local number	WA Dj	2	392

**WICOMICO COUNTY**

Well 382150075352101	Local number	WI Ce	13	393
Well 382404075355401	Local number	WI Ce	204	394
Well 382037075310801	Local number	WI Cf	3	395
Well 382429075344501	Local number	WI Cf	147	396
Well 382329075263701	Local number	WI Cg	20	397

**WORCESTER COUNTY**

Well 382621075174201	Local number	WO Ae	23	398
Well 382621075174202	Local number	WO Ae	24	399
Well 382621075174203	Local number	WO Ae	25	400
Well 382635075030601	Local number	WO Ah	35	401
Well 382635075030602	Local number	WO Ah	36	402
Well 382635075030603	Local number	WO Ah	37	403

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Well 382022075072401	Local number	WO Bg	1	404
Well 382325075063301	Local number	WO Bg	47	405-406
Well 382325075063302	Local number	WO Bg	48	407-408
Well 381037075234301	Local number	WO Dd	7	409
Well 380408075335701	Local number	WO Fb	2	410

## QUALITY OF GROUND WATER

**DELAWARE:****KENT COUNTY**

Well 391039075325501	Local number	Id	53-05	412
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**NEWCASTLE COUNTY**

Well 393104075425001	Local number	Eb	43-04	414
Well 392043075443101	Local number	Gb	51-03	414
Well 392045075443401	Local number	Gb	51-04	414
Well 392048075430301	Local number	Gb	52-03	414
Well 391911075345201	Local number	Hd	11-03	414

**SUSSEX COUNTY**

Well 385411075262901	Local number	Me	14-21	416
Well 385400075262601	Local number	Me	24-06	416
Well 384819075304601	Local number	Nd	25-03	416
Well 384826075231001	Local number	Nf	22-01	416
Well 384830075230601	Local number	Nf	22-02	416
Well 384524075091602	Local number	Ni	51-31	416
Well 384558075083501	Local number	Ni	52-11	416
Well 384558075083502	Local number	Ni	52-12	416
Well 384350075101401	Local number	Oh	25-02	416
Well 384349075101402	Local number	Oh	25-03	416
Well 384038075110001	Local number	Oh	54-01	416
Well 384038075110002	Local number	Oh	54-02	416
Well 384329075070101	Local number	Oi	23-14	416
Well 384258075063101	Local number	Oi	24-06	416
Well 384257075063101	Local number	Oi	34-01	416
Well 383525075174101	Local number	Pg	53-13	416
Well 383929075123102	Local number	Ph	13-14	416
Well 383903075123001	Local number	Ph	13-26	416
Well 383908075123701	Local number	Ph	13-28	416
Well 383932075122901	Local number	Ph	13-29	416
Well 383850075123601	Local number	Ph	23-15	416
Well 383646075041801	Local number	Pj	41-04	416
Well 383105075140801	Local number	Qh	41-14	416
Well 383059075135401	Local number	Qh	52-05	416
Well 383050075105201	Local number	Qh	54-04	416
Well 383050075105202	Local number	Qh	54-05	416
Well 383050075105203	Local number	Qh	54-06	416
Well 383050075105204	Local number	Qh	54-07	416
Well 383122075040301	Local number	Qj	41-02	416
Well 383123075040202	Local number	Qj	41-07	416
Well 383123075040203	Local number	Qj	41-08	416
Well 383210075035801	Local number	Qj	32-22	416
Well 382721075042601	Local number	Rj	31-07	416
Well 382721075042602	Local number	Rj	31-08	416

**MARYLAND:****ANNE ARUNDEL COUNTY**

Well 385920076322401	Local number	AA De	140	421
Well 385928076321701	Local number	AA De	142	421
Well 385928076321702	Local number	AA De	143	421
Well 385927076321704	Local number	AA De	155	421
Well 385927076321703	Local number	AA De	156	421
Well 385927076321702	Local number	AA De	157	421
Well 385854076333202	Local number	AA De	161	421

**CALVERT COUNTY**

Well 383216076351402	Local number	CA Db	66	426
Well 383216076351403	Local number	CA Db	67	426
Well 383217076351802	Local number	CA Db	69	426
Well 383217076351803	Local number	CA Db	70	426
Well 383217076351702	Local number	CA Db	72	426
Well 383217076351703	Local number	CA Db	73	426
Well 383218076351703	Local number	CA Db	84	426
Well 382343076302901	Local number	CA Fc	13	426
Well 382343076302902	Local number	CA Fc	14	426
Well 382340076303001	Local number	CA Fc	15	426
Well 382340076303002	Local number	CA Fc	16	435
Well 382343076303801	Local number	CA Fc	17	435
Well 382340076303801	Local number	CA Fc	18	435
Well 382337076303701	Local number	CA Fc	19	435
Well 382337076303702	Local number	CA Fc	20	435
Well 382342076303401	Local number	CA Fc	21	435
Well 382340076303201	Local number	CA Fc	22	435
Well 382340076303401	Local number	CA Fc	28	435
Well 382340076303402	Local number	CA Fc	29	435
Well 382340076303403	Local number	CA Fc	30	435

## QUALITY OF GROUND WATER--Continued

**MARYLAND--Continued:****CARROLL COUNTY**

Well 393811076521101	Local number	CL Bf	194	443
Well 393811076521102	Local number	CL Bf	195	443
Well 393817076520801	Local number	CL Bf	198	443
Well 393810076521001	Local number	CL Bf	199	443
Well 393810076521002	Local number	CL Bf	200	443
Well 393811076521103	Local number	CL Bf	201	443

**HARFORD COUNTY**

Well 393042076074801	Local number	HA Cf	114	447
Well 393158076082401	Local number	HA Cf	173	447
Well 392611076205001	Local number	HA Dc	117	447
Well 392512076204901	Local number	HA Dc	118	447
Well 392753076220401	Local number	HA Dc	119	447
Well 392707076155101	Local number	HA Dd	71	447
Well 392527076170801	Local number	HA Dd	73	447
Well 392543076184001	Local number	HA Dd	75	447
Well 392518076192701	Local number	HA Dd	79	447
Well 392832076154301	Local number	HA Dd	86	447
Well 392941076161101	Local number	HA Dd	87	447
Well 392834076111002	Local number	HA De	64	447
Well 392817076122602	Local number	HA De	73	447
Well 392539076131201	Local number	HA De	85	447
Well 392959076100101	Local number	HA De	86	447
Well 392718076134701	Local number	HA De	150	447
Well 392722076144501	Local number	HA De	168	447
Well 392920076111201	Local number	HA De	169	447
Well 393822076124201	Local number	HA De	174	447
Well 392905076114101	Local number	HA De	179	447
Well 392920076124601	Local number	HA De	180	447
Well 392731076122701	Local number	HA De	190	447
Well 392436076205401	Local number	HA Ec	13	447
Well 392408076195201	Local number	HA Ed	32	447
Well 392447076183701	Local number	HA Ed	36	447
Well 392421076192801	Local number	HA Ed	39	447
Well 392438076181201	Local number	HA Ed	40	447

**HOWARD COUNTY**

Well 391440076555401	Local number	HO Cd	20	450
Well 391442076555301	Local number	HO Cd	21	450
Well 391444076554701	Local number	HO Cd	25	450
Well 391442076554701	Local number	HO Cd	26	450
Well 391447076554702	Local number	HO Cd	28	450
Well 391442076554702	Local number	HO Cd	29	450

**SOMERSET COUNTY**

Well 375934076014501	Local number	SO Ea	3	456
Well 375937076014701	Local number	SO Ea	4	456
Well 375820076022701	Local number	SO Ea	7	456

**WASHINGTON COUNTY**

Well 394047077562401	Local number	WA Af	33	457
Well 394149077515001	Local number	WA Ag	65	457
Well 394113077500101	Local number	WA Ag	71	457
Well 394038077410201	Local number	WA Ai	74	457
Well 394023077324201	Local number	WA Ak	45	457
Well 393830078001801	Local number	WA Be	41	457
Well 393802077501001	Local number	WA Bg	27	457
Well 393957077380901	Local number	WA Bg	90	457
Well 393959077370301	Local number	WA Bj	105	457
Well 393301077435501	Local number	WA Ci	147	457
Well 393309077392201	Local number	WA Cj	126	457
Well 392533077405501	Local number	WA Di	137	457
Well 392617077442401	Local number	WA Di	185	457
Well 392515077433601	Local number	WA Di	187	457
Well 392021077413401	Local number	WA Ei	74	457
Well 392125077420302	Local number	WA Ei	93	457
Well 392128077441401	Local number	WA Ei	105	457
Well 392436077384901	Local number	WA Ej	21	457

**WICOMICO COUNTY**

Well 382454075200701	Local number	WI Ch	47	460
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**WORCHESTER COUNTY**

Well 382621075174201	Local number	WO Ae	23	462
Well 382621075174202	Local number	WO Ae	24	462
Well 382621075174203	Local number	WO Ae	25	462
Well 382632075031901	Local number	WO Ah	34	462
Well 382359075094501	Local number	WO Bg	15	462
Well 382358075094501	Local number	WO Bg	45	462
Well 382358075094502	Local number	WO Bg	46	462
Well 382325075063301	Local number	WO Bg	47	462
Well 382325075063302	Local number	WO Bg	48	462
Well 382038075065901	Local number	WO Bg	49	462
Well 382215075041802	Local number	WO Bh	28	462
Well 382443075033501	Local number	WO Bh	34	462
Well 382215075041901	Local number	WO Bh	84	462
Well 382215075041902	Local number	WO Bh	85	462
Well 382215075041903	Local number	WO Bh	89	462
Well 381941075052201	Local number	WO Cg	32	462
Well 381931075071101	Local number	WO Cg	69	462
Well 381939075052102	Local number	WO Gg	75	462
Well 381427075081102	Local number	WO Dg	21	462

DISCONTINUED STREAMFLOW STATIONS, IN DOWNSTREAM ORDER, FOR WHICH RECORDS HAVE BEEN PUBLISHED xiii

[Letter after station name designates type of data: (d) discharge, (c) chemical, (b) biological, (m) microbiological, (t) water temperature, (s) sediment, (e) elevation and contents]

NORTH ATLANTIC SLOPE BASINS

Station Number

DELAWARE RIVER BASIN

Delaware River:

Christina River:

White Clay Creek above Newark, DE (d,c).....01478500  
 Mill Creek at Stanton, DE (d).....01479500  
 Little Mill Creek at Elsmere, DE (d,c).....01480100  
 Army Creek at State Road, DE (d).....01482200  
 Red Lion Creek near Red Lion, DE (d).....01482298  
 Drawyer Creek tributary near Odessa, MD (d).....01483170

LEIPSIC RIVER BASIN

Leipsic River near Cheswold, DE (d).....01483500

MURDERKILL RIVER BASIN

Murderkill River near Felton, DE (d,c).....01484000

BROADKILL RIVER BASIN

Broadkill River:

Sowbridge Branch (head of Primehook Creek) near Milton, DE (d).....01484300

WICOMICO RIVER BASIN

Andrews Branch (head of Wicomico River):

Beaverdam Creek near Salisbury, MD (d).....01486500

NANTICOKE RIVER BASIN

Nanticoke River:

James Branch (head of Broad Creek):

Trap Pond Outlet (head of Hitch Pond Branch) near Laurel, DE (d).....01487500

Broad Creek:

Holly Ditch near Laurel, DE (d).....01488000  
 Rewastico Creek near Hebron, MD (d).....01489500

TRANSQUAKING RIVER BASIN

Transquaking River:

Chicamacomico River near Salem, MD (d,c).....01490000

CHOPTANK RIVER BASIN

Tappahanna Ditch (head of Choptank River):

Tidy Island Creek (continuation of Tappahanna Ditch):

Culbreth Marsh Ditch near Chapelton, DE (d).....01490500

Choptank River:

Tuckahoe Creek near Ruthsburg, MD (d).....01491500

Kings Creek:

Beaverdam Branch at Matthews, MD (d,c).....01492000

WYE RIVER BASIN

Wye River:

Wye East River:

Sallie Harris Creek near Carmichael, MD (d).....01492550

CHESTER RIVER BASIN

Chester River:

Southeast Creek at Church Hill, MD (d).....01494000

SASSAFRAS RIVER BASIN

Sassafras River:

Jacobs Creek near Sassafras, MD (d).....01494500

ELK RIVER BASIN

Big Elk Creek (head of Elk River):

Little Elk Creek at Childs, MD (d).....01495500

Long Creek near Chesapeake City, MD (d,c).....01495800

NORTHEAST RIVER BASIN

Northeast Creek (head of Northeast River) at Leslie, MD (d,c).....01496000

SUSQUEHANNA RIVER BASIN

Susquehanna River:

Broad Creek at Mill Creek, MD (d).....01578000

Octoraro Creek near Rising Sun, MD (d,c).....01578500

Basin Run at Liberty Grove, MD (d).....01579000

Octoraro Creek at Rowlandsville, MD (d).....01579500

Deer Creek near Kalmia, MD (d).....01580200

Deer Creek near Churchville, MD (d).....01580500

BUSH RIVER BASIN

Bynum Run (head of Bush River) near Bel Air, MD (d).....01581000

Bynum Run at Bel Air, MD (d).....01581500

GUNPOWDER RIVER BASIN

Gunpowder Falls (head of Gunpowder River):

Western Run:

Delaware Run:

Slade Run near Glyndon, MD (d).....01583000

Beaverdam Run:

Baisman Run:

Pond Branch at Oregon Ridge, MD (d).....01583570

Baisman Run at Broadmoor, MD (d).....01583580

Gunpowder Falls near Carney, MD (d).....01584000

Little Gunpowder Falls at Laurel Brook, MD (d).....01584500

Little Gunpowder Falls near Bel Air, MD (d).....01585000

PATAPSCO RIVER BASIN

North Branch Patapsco River near Reistertown, MD (d).....01586500

North Branch Patapsco River near Marriottsville, MD (d).....01586990

South Branch Patapsco River at Henryton, MD (d).....01587500

Piney Run near Sykesville, MD (d).....01588000

Patapsco River at Woodstock, MD (d).....01588500

Gwynns Falls near Owings Mills, MD (d).....01589200

Jones Falls at Maryland Avenue at Baltimore, MD (d).....01589478

Jones Falls near mouth at Baltimore, MD (d,c).....01589480

xiv DISCONTINUED STREAMFLOW STATIONS, IN DOWNSTREAM ORDER, FOR WHICH RECORDS HAVE BEEN PUBLISHED

[Letter after station name designates type of data: (d) discharge, (c) chemical, (b) biological, (m) microbiological, (t) water temperature, (s) sediment, (e) elevation and contents]

<u>NORTH ATLANTIC SLOPE BASINS--Continued</u>	Station Number
<u>PATAPSCO RIVER BASIN--Continued</u>	
Curtis Creek:	
Furnace Creek:	
Sawmill Creek at Crain Highway at Glen Burnie, MD (d,c).....	01589512
Marley Creek at Harundale, MD (d,c).....	01589522
<u>SOUTH RIVER BASIN</u>	
North River (head of South River) near Annapolis, MD (d).....	01590500
<u>RHODE RIVER BASIN</u>	
Rhode River:	
Muddy Creek:	
North Fork Muddy Creek at South River, MD (d,t).....	01590700
Rhode River near South River, MD (c,t).....	01590720
<u>PATUXENT RIVER BASIN</u>	
Patuxent River:	
Cattail Creek near Cookesville, MD (d).....	01591350
Cattail Creek at Roxbury Mills, MD (d).....	01591500
Patuxent River near Burtonsville, MD (d).....	01592000
Little Patuxent River:	
Dorsey Run near Jessup, MD (d).....	01594400
Western Branch near Largo, MD (d).....	01594500
Cocktown Creek near Huntingtown, MD (d).....	01594600
St. Leonard Creek near St. Leonard, MD (d).....	01594800
<u>POTOMAC RIVER BASIN</u>	
North Branch Potomac River:	
South Fork Sand Run near Wilson, MD (d,c,t).....	01594934
North Branch Potomac River at Bloomington, MD (d).....	01596000
Savage River:	
Crabtree Creek near Swanton, MD (d,c).....	01597000
Savage River at Bloomington, MD (d).....	01598000
Wills Creek below Hyndman, PA (d).....	01601000
North Branch Potomac River at Cumberland, MD (d).....	01602500
Evitts Creek near Centerville, PA (d).....	01603500
Evitts Creek near Cumberland, MD (d).....	01604000
Town Creek near Oldtown, MD (d).....	01609000
Sawpit Run near Oldtown, MD (d).....	01609500
Sideling Hill Creek at Bellegrove, MD (d,c).....	01610155
Little Tonoloway Creek near Hancock, MD (d,c).....	01612500
Antietam Creek near Waynesboro, MD (d,c).....	01619000
Catoctin Creek:	
Little Catoctin Creek at Harmony, MD (d).....	01637000
Catoctin Creek near Jefferson, MD (d).....	01638000
Monocacy River:	
Big Pipe Creek (head of Double Pipe Creek):	
Little Pipe Creek at Avondale, MD (d).....	01640000
Hunting Creek near Thurmont, MD (d).....	01640975
Owens Creek at Lantz, MD (d).....	01640500
Fishing Creek near Lewistown, MD (d).....	01641500
Monocacy River near Frederick, MD (d,c).....	01642000
Linganore Creek near Frederick, MD (d,c).....	01642500
Seneca Creek:	
Great Seneca Creek near Gaithersburg, MD (d).....	01644500
Potomac River at Great Falls, MD (c,m,t).....	01645500
Little Falls Branch near Bethesda, MD (d).....	01646550
Rock Creek:	
North Branch Rock Creek:	
Williamsburg Run near Olney, MD (d,s).....	01647685
North Branch Rock Creek near Norbeck, MD (d,s).....	01647720
Manor Run near Norbeck, MD (d,s).....	01647725
North Branch Rock Creek near Rockville, MD (d,s).....	01647740
Rock Creek at Q Street, Washington, DC (d).....	01649000
Northeast Branch Anacostia River:	
Northwest Branch Anacostia River:	
Browns Creek:	
Nursery Run at Cloverly, MD (d,s).....	01650085
North Creek:	
Batchellors Run at Oakdale, MD (d,s).....	01650190
Bel Pre Creek at Lay Hill, MD (d,s).....	01650450
Lutes Run at Lutes, MD (d,s).....	01650470
Northwest Branch Anacostia River near Colesville, MD (d,s).....	01650500
Anacostia River:	
Beaverdam Branch Anacostia River at Kenilworth Avenue, Washington, DC (d).....	01652000
Henson Creek (head of Broad Creek) at Oxon Hill, MD (d).....	01653500
Potomac River at Indian Head, MD (c,t).....	01655480
Mattawoman Creek near Pomonkey, MD (d).....	01658000
Wicomico River:	
Chaptico Creek at Chaptico, MD (d).....	01661000
Potomac River at Piney Point, MD (c,t).....	01661475
<u>OHIO RIVER BASIN</u>	
<u>MONONGAHELA RIVER BASIN</u>	
Monongahela River:	
Youghiogheny River:	
South Branch Casselman River near Bittenger, MD (d,c,s).....	03077940
Casselman River:	
Big Piney Run near Salisbury, PA (d).....	03078500

*WB Potomac (5/4)*

## WATER RESOURCES DATA - MARYLAND AND DELAWARE, 1987

### INTRODUCTION

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

This report series includes records of stage, discharge, and water quality of streams; stage, contents, and water quality of lakes and reservoirs; and water levels and water quality of ground-water wells. This volume contains records for water discharge at 98 gaging stations; stage and contents at 1 reservoir; water quality at 20 gaging stations and 147 wells; and water levels at 149 observation wells. Also included are data for 3 crest-stage, 10 low-flow, and 6 tidal crest-gage partial-record stations. Locations of these sites are shown on figures 3 and 4. Additional water data were collected at various sites not involved in the systematic data-collection program. 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.

This series of annual reports for Maryland and Delaware began with the 1961 water year with a report that contained only data relating to the quantities of surface water. For the 1964 water year, a similar report was introduced that contained only data relating to water quality. Beginning with the 1975 water year, the report format was changed to present, in one volume, data on quantities of surface water, quality of surface and ground water, and ground-water levels.

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 stream discharge and stage and on lake or reservoir contents and stage, through September 1960, were published annually under the title "Surface-Water Supply of the United States, Parts 6A and 6B." For the 1961 through 1970 water years, the data were published in two 5-year reports. Data on chemical quality, temperature, and suspended sediment for the 1941 through 1970 water years were published annually under the title "Quality of Surface Waters of the United States," and water levels for the 1935 through 1974 water years were published under the title "Ground-Water Levels in the United States." The above mentioned Water-Supply Papers may be consulted in the libraries of the principal cities of the United States and may be purchased from Books and Open-File Reports Section, Federal Center, Bldg. 41, Box 25425, Denver, CO 80225.

Publications similar to this report are published annually by the Geological Survey for all States. These official Survey reports have an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this volume is identified as "U.S. Geological Survey Water-Data Report MD-DE-87-1." For archiving and general distribution, the reports for 1971-74 water years also are identified as water-data reports. These water-data reports are for sale in paper copy or in microfiche by the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161.

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 (301) 828-1535.

### 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 been had between the Survey and agencies of the State of Delaware since 1943. Organizations that assisted in collecting the data in this report through cooperative agreements with the Survey are:

Maryland Geological Survey, K. N. Weaver, director.

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

Maryland State Highway Administration, M. S. Caltrider, administrator.

Maryland Department of Environment; Toxics, Environmental Science and Health, Dr. Max Eisenberg, assistant secretary.

District of Columbia Department of Public Works, William B. Johnson, director.

Assistance with funds or services was given by the U.S. Army Corps of Engineers for collecting records at 20 gaging stations and 4 water-quality stations throughout Maryland and Delaware.

The following organizations aided in collecting records:

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

Maryland: Maryland Water Resources Administration, Washington Suburban Sanitary Commission, Upper Potomac River Commission, Baltimore County.

Organizations that provided data are acknowledged in station descriptions.

#### SUMMARY OF HYDROLOGIC CONDITIONS

Streamflow at the start of the 1987 water year was in the deficient range (lower 25 percent of the record) throughout the bi-State area. Rainfall in November, which averaged 1 to 3 inches above normal, brought flows throughout the area into the normal range where they remained through the winter months. In April, the combination of snow-melt and above-average rainfall increased flows in western Maryland and along the main-stem of the Potomac River into the excessive range (upper 25 percent of the record). On the Eastern Shore of Maryland and in Delaware, deficient rainfall and snowfall through the winter months decreased flows into the deficient range during April where they remained the remainder of the water year. From May through August, flows west of the Chesapeake Bay hovered in or just above the deficient range. During this period, drought conditions were declared in all Maryland and Delaware counties, losses were estimated at \$94 million. As in the 1986 water year, very few water restrictions were imposed. Rainfall deficiencies averaged about 2 inches per month for this period. In September, above-average rainfall of 2 to 4 inches fell over the area west of Chesapeake Bay. This rainfall was fairly evenly distributed between September 5th and 22nd. Flows jumped into the excessive range throughout the bi-State area except in the Delmarva Peninsula, where flows remained in the deficient range.

During the 1987 water year, all four of the index stations used (Potomac River near Washington, D.C., in central Maryland; Choptank River at Greensboro on the Eastern Shore; North Branch Potomac River at Paw Paw, W. Va., in western Maryland; and Seneca Creek at Dawsonville, in central Maryland) were in the normal range. Several new extremes were set at the Choptank River index site. Record monthly mean discharge lows were set in June and September; both lows resulted from deficient rainfall (2 inches and 4 inches respectively).

Monthly and annual mean discharges are compared with the long-term averages (reference period 1951-80) for two representative gaging stations in figure 1. Data for the station, Potomac River at Point of Rocks in central Maryland, reflect runoff conditions in the Potomac River basin, excluding the Coastal Plain. Data for the station, Choptank River at Greensboro on the Eastern Shore of Maryland, reflect runoff from a 113 mi<sup>2</sup> area, of which 21.6 mi<sup>2</sup> is in Delaware in the central part of the Delmarva peninsula.

Average freshwater inflow to the Chesapeake Bay was estimated to be 78,100 ft<sup>3</sup>/s, based on flows of the James, Potomac, and Susquehanna Rivers. This is 102 percent of the long-term average during the reference period 1951-87. No record monthly means were set during the water year.

The combined storage in the three major water-supply reservoirs in the Baltimore City Municipal System (combined usable capacity of 85,340 million gal) increased from 57 percent of capacity in September 1986, to 86 percent of capacity at the end of September 1987. For October, the combined storage was 48,430,000 gal -- the second lowest storage on record since 1960. Combined storage was lower only for October 1967, with a combined storage of 43,700,000 gal.

#### Ground-Water Levels

Water levels began below normal and continued below normal throughout the 1987 water year. In general, precipitation throughout Maryland and Delaware was below normal and decreased eastward. Ground-water conditions, by physiographic province, for the 1987 water year were as follows:

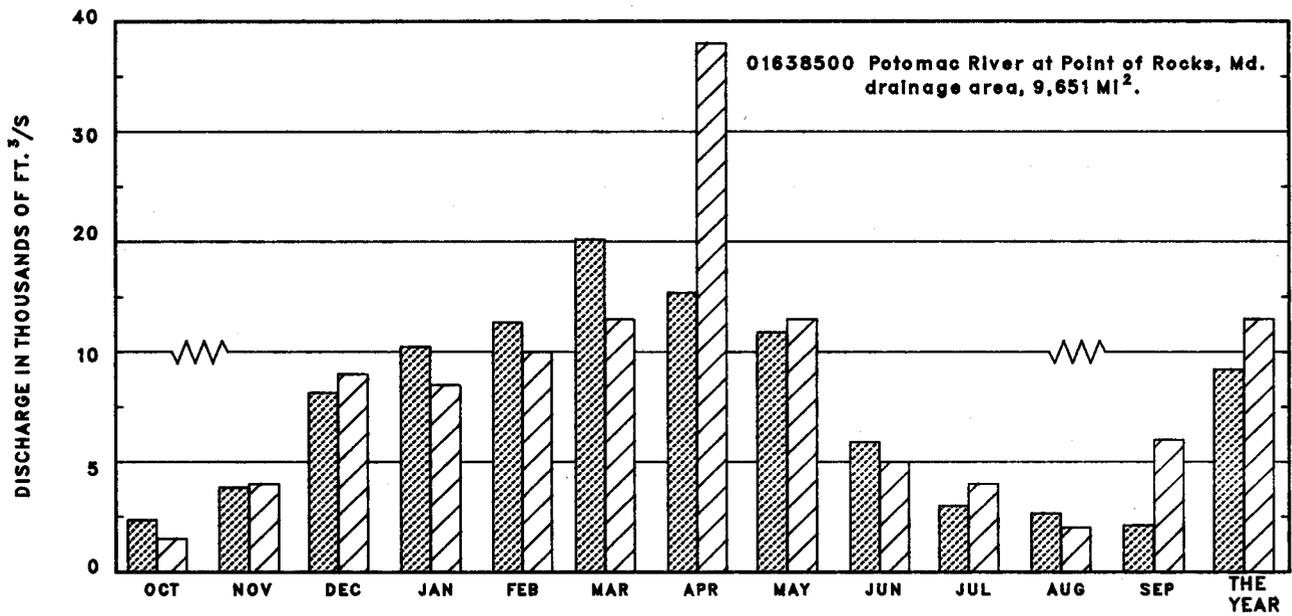
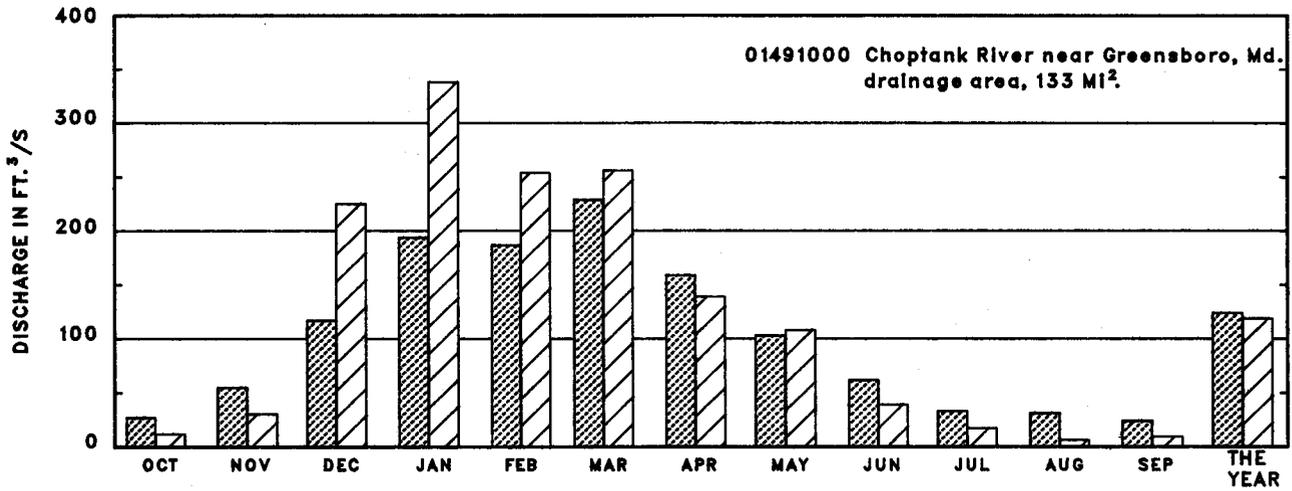
Appalachian Plateau- Precipitation was slightly below normal. The water table was lower than normal, but no record-low water levels were recorded.

Valley and Ridge- The precipitation in this province was much the same as that in the Appalachian Plateau, except for a decrease in precipitation in the valleys. No record-low water levels were recorded.

Blue Ridge- A record-low water level was recorded in this physiographic province, indicating a progressive decrease in precipitation eastward.

Piedmont- Numerous record-low water levels were recorded throughout the Piedmont in water-table and artesian wells. Water levels remained low throughout the water year but did not decline to critical levels. In the Poolesville area, Montgomery County, Maryland, where the water supply comes from the artesian New Oxford Formation, water levels declined as much as 40 ft. This decline can be attributed to the drought and an increase in ground-water withdrawals.

Coastal Plain- Record-low water levels occurred in water-table and artesian wells throughout the Coastal Plain province. Although the Eastern Shore had critical deficiencies in precipitation, the decreasing water levels in these aquifers is more related to the increase in ground-water withdrawal than to the drought. The following areas in Maryland recorded record low water levels: Annapolis, Elkton, Glen Burnie, Kent Island, Leonardtown, Lexington Park, Prince Frederick, St. Charles, Solomons Island, Salisbury, and Waldorf.



Denotes a change of scale.



Median of monthly and yearly mean discharge for 30-year period 1951-80.



Monthly and yearly mean discharge for 1987 water year.

FIGURE 1. COMPARISON OF DISCHARGE AT TWO LONG-TERM REPRESENTATIVE GAGING STATIONS DURING THE 1987 WATER YEAR WITH MEDIAN DISCHARGE FOR INDICATED PERIOD.

## SPECIAL NETWORKS AND PROGRAMS

National Stream Quality Accounting Network (NASQAN) is a nationwide data-collection network designed by the U.S. Geological Survey to meet many of the information needs of government agencies and other groups involved in natural or regional water-quality planning and management. The 500 or so sites in NASQAN are generally located at the downstream ends of hydrologic accounting units designated by the U.S. Geological Survey Office of Water Data Coordination in consultation with the Water Resources Council. The objectives of NASQAN are (1) to obtain information on the quality and quantity of water moving within and from the United States through a systematic and uniform process of data collection, summarization, analysis, and reporting such that the data may be used for, (2) description of the areal variability of water quality in the Nation's rivers through analysis of data from this and other programs, (3) detection of changes or trends with time in the pattern of occurrence of water-quality characteristics, and (4) providing a nationally consistent data base useful for water-quality assessment and hydrologic research.

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.

Tritium Network is a network of stations which has been established to provide baseline information on the occurrence of tritium in the Nation's surface waters. In addition to the surface-water stations in the network, tritium data are also obtained at a number of precipitation stations. The purpose of the precipitation stations is to provide an estimate sufficient for hydrologic studies of the tritium input to the United States.

## EXPLANATION OF THE RECORDS

The surface-water and ground-water records published in this report are for the 1987 water year that began October 1, 1986, and ended September 30, 1987. A calendar of the water year is provided on the inside of the front cover. The records contain streamflow data, stage and content data for lakes and reservoirs, water-quality data for surface and ground water, and ground-water-level data. The locations of the stations and wells where the data were collected are shown in figures 3 and 4. The following sections of the introductory text are presented to provide users with a more detailed explanation of how the hydrologic data published in this report were collected, analyzed, computed, and arranged for presentation.

Station Identification Numbers

Each data station, whether streamsite or well, in this report is assigned a unique identification number. This number is unique in that it applies specifically to a given station and to no other. The number usually is assigned when a station is first established and is retained for that station indefinitely. The systems used by the U.S. Geological Survey to assign identification numbers for surface-water stations and for ground-water well sites differ, but both are based on geographic location. The "downstream order" system is used for regular surface-water stations and the "latitude-longitude" system is used for wells and, in Maryland and Delaware, for surface-water stations where only miscellaneous measurements are made.

## Downstream Order System

Since October 1, 1950, the order of listing hydrologic-station records in Survey reports is in a downstream direction along the main stream. All stations on a tributary entering upstream from a mainstream station are listed before that station. A station on a tributary that enters between two mainstream stations is listed between them. A similar order is followed in listing stations on first rank, second rank, and other ranks of tributaries. The rank of any tributary with respect to the stream to which it is immediately tributary is indicated by an indentation in the "List of Stations" in the front of this report. Each indentation represents one rank. This downstream order and system of indentation shows which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

The station-identification number is assigned according to downstream order. In assigning station numbers, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list made up of both types of stations. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The complete eight-digit number for each station, such as 01477800, which appears just to the left of the station name, includes the two-digit Part number "01" plus the six-digit downstream-order number "477800." The Part number designates the major river basin; for example, Part "01" is the North Atlantic slope basin.

## Latitude-Longitude System

The identification numbers for wells and miscellaneous surface-water sites 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 below.)

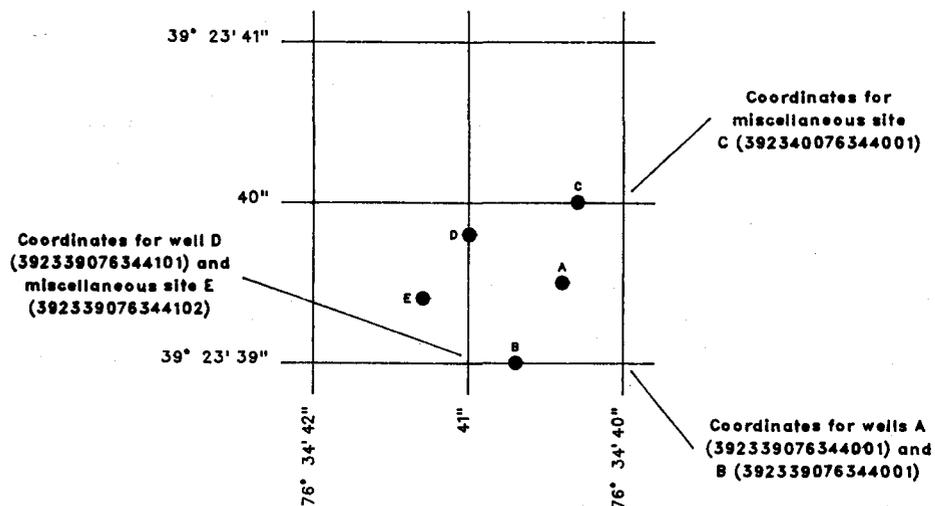


Figure 2. System for numbering wells and miscellaneous sites (latitude and longitude)

A second well-numbering system used in Maryland utilizes the county prefix and a 5-minute grid. The first 2 letters of the identification number are the county prefix; for example, for Charles County the prefix is CH. Each county is divided by 5-minute quadrangles of latitude and longitude. Each quadrangle is identified by 2 uppercase letters; the first designates north to south and the second west to east. The wells are numbered serially within each quadrangle. A similar system used in Delaware divides the state, rather than the counties, by 5-minute quadrangles of latitude and longitude which are designated as explained above. Each 5-minute quadrangle is further subdivided by 1-minute quadrangles. Each of the 1-minute quadrangles from north to south is designated by a number from 1 to 5, and west to east by a number from 1 to 5. Thus ID 55-1 is the first well inventoried in the southeast 1-minute quadrangle of Delaware.

#### Records of Stage and Water Discharge

Records of stage and water discharge may be complete or partial. Complete records of discharge are those obtained using a continuous stage-recording device through which either instantaneous or mean daily discharges may be computed for any time, or any period of time, during the period of record. Complete records of lake or reservoir content, similarly, are those for which stage or content may be computed or estimated with reasonable accuracy for any time, or period of time. They may be obtained using a continuous stage-recording device, but need not be. Because daily mean discharges and end-of-day contents commonly are published for such stations, they are referred to as "daily stations."

By contrast, partial records are obtained through discrete measurements without using a continuous stage-recording device and pertain only to a few flow characteristics, or perhaps only one. The nature of the partial record is indicated by table titles such as "Crest-stage partial records," or "Low-flow partial records." Records of miscellaneous discharge measurements or of measurements from special studies, such as low-flow seepage studies, may be considered as partial records, but they are presented separately in this report. Location of all complete-record and crest-stage partial-record stations for which data are given in this report are shown in figures 3 and 4.

### Data Collection and Computation

The data obtained at a complete-record gaging station on a stream or canal consist of a continuous record of stage, individual measurements of discharge throughout a range of stages, and notations regarding factors that may affect the relationships between stage and discharge. These data, together with supplemental information, such as weather records, are used to compute daily discharges. The data obtained at a complete-record gaging station on a lake or reservoir consist of a record of stage and of notations regarding factors that may affect the relationship between stage and lake content. These data are used with stage-area and stage-capacity curves or tables to compute water-surface areas and lake storage.

Continuous records of stage are obtained with analog recorders that trace continuous graphs of stage or with digital recorders that punch stage values on paper tapes at selected time intervals. Measurements of discharge are made with current meters using methods adopted by the Geological Survey as a result of experience accumulated since 1880. These methods are described in standard textbooks, in Water-Supply Paper 2175, and in U.S. Geological Survey Techniques of Water-Resources Investigations, Book 3, Chapter A6.

In computing discharge records, results of individual measurements are plotted against the corresponding stages, and stage-discharge relation curves are then constructed. From these curves, rating tables indicating the approximate discharge for any stage within the range of the measurements are prepared. If it is necessary to define extremes of discharge outside the range of the current-meter measurements, the curves are extended using: (1) logarithmic plotting; (2) velocity-area studies; (3) results of indirect measurements of peak discharge, such as slope-area or contracted-opening measurements, and computations of flow over dams or weirs; or (4) step-backwater techniques.

Daily mean discharges are computed by applying the daily mean stages (gage heights) to the stage-discharge curves or tables. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is determined by the shifting-control method, in which correction factors based on the individual discharge measurements and notes of the personnel making the measurements are applied to the gage heights before the discharges are determined from the curves or tables. This shifting-control method also is used if the stage-discharge relation is changed temporarily because of aquatic growth or debris on the control. For some stations, formation of ice in the winter may so obscure the stage-discharge relations that daily mean discharges must be estimated from other information such as temperature and precipitation records, notes of observations, and records for other stations in the same or nearby basins for comparable periods.

At some stream-gaging stations, the stage-discharge relation is affected by the backwater from reservoirs, tributary streams, or other sources. This necessitates the use of the slope method in which the slope or fall in a reach of the stream is a factor in computing discharge. The slope or fall is obtained by means of an auxiliary gage set at some distance from the base gage. At some stations the stage-discharge relation is affected by changing stage; at these stations the rate of change in stage is used as a factor in computing discharge.

In computing records of lake or reservoir contents, it is necessary to have available from surveys, curves or tables defining the relationship of stage and content. The application of stage to the stage-content curves or tables gives the contents from which daily, monthly, or yearly changes then are determined. If the stage-content relationship changes because of deposition of sediment in a lake or reservoir, periodic resurveys may be necessary to redefine the relationship. Even when this is done, the contents computed may become increasingly in error as the lapsed time since the last survey increases. Discharges over lake or reservoir spillways are computed from stage-discharge relationships such as other stream discharges are computed.

For some gaging stations, there are periods when no gage-height record is obtained, or the recorded gage height is so faulty that it cannot be used to compute daily discharge or contents. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods, the daily discharges are estimated from the recorded range in stage, previous or following record, discharge measurements, weather records, and comparison with other station records from the same or nearby basins. Likewise, daily contents may be estimated from operator's logs, previous or following record, inflow-outflow studies, and other information. Information explaining how estimated daily-discharge values are identified in station records is included in the next two sections, "Data Presentation" (REMARKS paragraph) and "Identifying Estimated Daily Discharge."

## Data Presentation

The records published for each gaging station consist of two parts, the manuscript or station description and the data table for the current water year. The manuscript provides, under various headings, descriptive information, such as station location; period of record; average discharge; historical extremes; record accuracy; and other remarks pertinent to station operation and regulation. The following information, as appropriate, is provided with each continuous record of discharge or lake content. Comments to follow clarify information presented under the various headings of the station description.

**LOCATION.**--Information on locations is obtained from the most accurate maps available. The location of the gage with respect to the cultural and physical features in the vicinity and with respect to the reference place mentioned in the station name is given. River mileages, given for only a few stations, were determined by methods given in "River Mileage Measurement," Bulletin 14, Revision of October 1968, prepared by the Water Resources Council or were provided by the U.S. Army Corps of Engineers.

**DRAINAGE AREA.**--Drainage areas are measured using the most accurate maps available. Because the type of maps available varies from one drainage basin to another, the accuracy of drainage areas likewise varies. Drainage areas are updated as better maps become available.

**PERIOD OF RECORD.**--This indicates the period for which there are published records for the station or for an equivalent station. An equivalent station is one that was in operation at a time that the present station was not, and whose location was such that records from it can reasonably be considered equivalent with records from the present station.

**REVISED RECORDS.**--Published records, because of new information, occasionally are found to be incorrect, and revisions are printed in later reports. Listed under this heading are all the reports in which revisions have been published for the station and the water years to which the revisions apply. If a revision did not include daily, monthly, or annual figures of discharge, that fact is noted after the year dates as follows: "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that only peak discharges were revised. If the drainage area has been revised, the report in which the most recently revised figure was first published is given.

**GAGE.**--The type of gage in current use, the datum of the current gage referred to National Geodetic Vertical Datum of 1929 (see glossary), and a condensed history of the types, locations, and datums of previous gages are given under this heading.

**REMARKS.**--All periods of estimated daily-discharge record will either be identified by date in this paragraph of the station description for water-discharge stations or flagged in the daily-discharge table. (See next section, "Identifying Estimated Daily Discharge.") If a remarks statement is used to identify estimated record, the paragraph will begin with this information presented as the first entry. The paragraph is also used to present information relative to the accuracy of the records, to special methods of computation, to conditions that affect natural flow at the station and, possibly, to other pertinent items. For reservoir stations, information is given on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir.

**COOPERATION.**--Records provided by a cooperating organization or obtained for the Geological Survey by a cooperating organization are identified here.

**AVERAGE DISCHARGE.**--The discharge value given is the arithmetic mean of the water-year mean discharges. It is computed only for stations having at least 5 water years of complete record, and only water years of complete record are included in the computation. It is not computed for stations where diversions, storage, or other water-use practices cause the value to be meaningless. If water developments significantly altering flow at a station are put into use after the station has been in operation for a period of years, a new average is computed as soon as 5 water years of record have accumulated following the development. The median of yearly mean discharges also is given under this heading for stations having 10 or more water years of record, if the median differs from the average given by more than 10 percent.

**EXTREMES FOR PERIOD OF RECORD.**--Extremes may include maximum and minimum stages and maximum and minimum discharges or content. Unless otherwise qualified, the maximum discharge or content is the instantaneous maximum corresponding to the highest stage that occurred. The highest stage may have been obtained from a graphic or digital recorder, a crest-stage gage, or by direct observation of a nonrecording gage. If the maximum stage did not occur on the same day as the maximum discharge or content, it is given separately. Similarly, the minimum is the instantaneous minimum discharge, unless otherwise qualified, and was determined and is reported in the same manner as the maximum.

**EXTREMES OUTSIDE PERIOD OF RECORD.**--Included here is information concerning major floods or unusually low flows that occurred outside the stated period of record. The information may or may not have been obtained by the U.S. Geological Survey.

**EXTREMES FOR CURRENT YEAR.**--Extremes given here are similar to those for the period of record, except the peak discharge listing may include secondary peaks. For stations meeting certain criteria, all peak discharges and stages occurring during the water year and greater than a selected base discharge are presented under this heading. The peaks greater than the base discharge, excluding the highest one, are referred to as secondary peaks. Peak discharges are not published for canals, ditches, drains, or streams for which the peaks are subject to substantial control by man. The time of occurrence for peaks is expressed in 24-hour local standard time. For example, 12:30 a.m. is 0030, and 1:30 p.m. is 1330. The minimum for the current water year appears below the table of peak data.

**REVISIONS.**--If a critical error in published records is discovered, a revision is included in the first report published following discovery of the error.

Although rare, occasionally the records of a discontinued gaging station may need revision. Because, for these stations, there would be no current or, possibly, future station manuscript published to document the revision in a "Revised Records" entry, users of data for these stations who obtained the record from previously published data reports may wish to contact the offices whose addresses are given on the back of the title page of this report to determine if the published records were ever revised after the station was discontinued. Of course, if the data were obtained by computer retrieval, the data would be current and there would be no need to check because any published revision of data is always accompanied by revision of the corresponding data in computer storage.

Manuscript information for lake or reservoir stations differs from that for stream stations in the nature of the "Remarks" and in the inclusion of a skeleton stage-capacity table when daily contents are given.

The daily table for stream-gaging stations gives mean discharge for each day and is followed by monthly and yearly summaries. In the monthly summary below the daily table, the line headed "TOTAL" gives the sum of the daily figures. The line headed "MEAN" gives the average flow in cubic feet per second during the month. The lines headed "MAX" and "MIN" give the maximum and minimum daily discharges, respectively, for the month. Discharge for the month also is usually expressed in cubic feet per second per square mile (line headed "CFSM"), or in inches (line headed "IN."), or in acre-feet (line headed "AC-FT"). Figures for cubic feet per second per square mile and runoff in inches are omitted if there is extensive regulation or diversion or if the drainage area includes large noncontributing areas. In the yearly summary below the monthly summary, the figures shown are the appropriate discharges for the calendar and water years. At some stations monthly and (or) yearly observed discharges are adjusted for reservoir storage or diversion, or diversions or reservoir contents are given. These figures are identified by a symbol and corresponding footnote.

Data collected at partial-record stations follow the information for continuous-record sites. Data for partial-record discharge stations are presented in two tables. The first is a table of annual maximum stage and discharge at crest-stage stations, and the second is a table of discharge measurements at low-flow partial-record stations. The tables of partial-record stations are followed by a listing of discharge measurements made at sites other than continuous-record or partial-record stations. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

#### Identifying Estimated Daily Discharge

Estimated daily-discharge values published in the water-discharge tables of annual State data reports are identified either by flagging individual daily values with the letter symbol "e" and printing a table footnote, "e Estimated," or by listing the dates of the estimated record in the REMARKS paragraph of the station description.

#### Accuracy of the Records

The accuracy of streamflow records depends primarily on: (1) The stability of the stage-discharge relation or, if the control is unstable, the frequency of discharge measurements; and (2) the accuracy of measurements of stage, measurements of discharge, and interpretation of records.

The accuracy attributed to the records is indicated under "REMARKS." "Excellent" means that about 95 percent of the daily discharges are within 5 percent of their true values; "good," within 10 percent; and "fair," within 15 percent. Records that do not meet the criteria mentioned are rated "poor." Different accuracies may be attributed to different parts of a given record.

Daily mean discharges in this report are given to the nearest hundredth of a cubic foot per second for values less than 1 ft<sup>3</sup>/s; to the nearest tenth between 1.0 and 10 ft<sup>3</sup>/s; to whole numbers between 10 and 1,000 ft<sup>3</sup>/s; and to 3 significant figures for more than 1,000 ft<sup>3</sup>/s. The number of significant figures used is based solely on the magnitude of the discharge value. The same rounding rules apply to discharges listed for partial-record stations and miscellaneous sites.

## Data Presentation

For continuing-record stations, information pertinent to the history of station operation is provided in descriptive headings preceding the tabular data. These descriptive headings give details regarding location, drainage area, period of record, type of data available, instrumentation, general remarks, cooperation, and extremes for parameters currently measured daily. Tables of chemical, physical, biological, radiochemical data, and so forth, obtained at a frequency less than daily are presented first. Tables of "daily values" of specific conductance, pH, water temperature, dissolved oxygen, and suspended sediment then follow in sequence.

In the descriptive headings, if the location is identical to that of the discharge gaging station, neither the LOCATION nor the DRAINAGE AREA statements are repeated. The following information, as appropriate, is provided with each continuous-record station. Comments that follow clarify information presented under the various headings of the station description.

LOCATION.--See Data Presentation under "Records of Stage and Water Discharge;" same comments apply.

DRAINAGE AREA.--See Data Presentation under "Records of Stage and Water Discharge;" same comments apply.

PERIOD OF RECORD.--This indicates the periods for which there are published water-quality records for the station. The periods are shown separately for records of parameters measured daily or continuously and those measured less than daily. For those measured daily or continuously, periods of record are given for the parameters individually.

INSTRUMENTATION.--Information on instrumentation is given only if a water-quality monitor temperature record, sediment pumping sampler, or other sampling device is in operation at a station.

REMARKS.--Remarks provide added information pertinent to the collection, analysis, or computation of the records.

COOPERATION.--Records provided by a cooperating organization or obtained for the Geological Survey by a cooperating organization are identified here.

EXTREMES.--Maximums and minimums are given only for parameters measured daily or more frequently. None are given for parameters measured weekly or less frequently, because the true maximums or minimums may not have been sampled. Extremes, when given, are provided for both the period of record and for the current water year.

REVISIONS.--If errors in published water-quality records are discovered after publication, appropriate updates are made to the Water-Quality File in the U.S. Geological Survey's computerized data system, WATSTORE, and subsequently by monthly transfer of update transactions to the U.S. Environmental Protection Agency's STORET system. Because the usual volume of updates makes it impractical to document individual changes in the State data-report series or elsewhere, potential users of U.S. Geological Survey water-quality data are encouraged to obtain all required data from the appropriate computer file to insure the most recent updates.

The surface-water-quality records for partial-record stations and miscellaneous sampling sites are published in separate tables following the table of discharge measurements at miscellaneous sites. No descriptive statements are given for these records. Each station is published with its own station number and name in the regular downstream-order sequence.

## Remark Codes

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

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

### Records of Ground-Water Levels

Only water-level data from a national network of observation wells are given in this report. These data are intended to provide a sampling and historical record of water-level changes in the Nation's most important aquifers. Locations of the observation wells in this network in Maryland and Delaware are shown in figure 4.

#### Data Collection and Computation

Measurements of water levels are made in many types of wells under varying conditions, but the methods of measurement are standardized to the extent possible. The equipment and measuring techniques used at each observation well ensure that measurements at each well are of consistent accuracy and reliability.

Tables of water-level data are presented by counties arranged in alphabetical order. The prime identification number for a given well is the 15-digit number that appears in the upper left corner of the table. The secondary identification number is the local well number, an alphanumeric number, derived from the county location of the well.

Water-level records are obtained from direct measurements with a steel tape or from the graph or punched tape of a water-stage recorder. The water-level measurements in this report are given in feet with reference to land-surface datum (lsd). Land-surface datum is a datum plane that is approximately at land surface at each well. If known, the elevation of the land-surface datum is given in the well description. The height of the measuring point (MP) above or below land-surface datum is given in each well description. Water levels in wells equipped with recording gages are reported for every fifth day and the end of each month (eom).

Water levels are reported to as many significant figures as can be justified by the local conditions. For example, in a measurement of a depth to water of several hundred feet, the error of determining the absolute value of the total depth to water may be a few tenths of a foot, whereas the error in determining the net change of water level between successive measurements may be only a hundredth or a few hundredths of a foot. For lesser depths to water, the accuracy is greater. Accordingly, most measurements are reported to a hundredth of a foot, but some are given to a tenth of a foot or a larger unit.

#### Data Presentation

Each well record consists of two parts, the station description and the data table of water levels observed during the water year. The description of the well is presented first through use of descriptive headings preceding the tabular data. The comments to follow clarify information presented under the various headings.

**LOCATION.**--This paragraph follows the well-identification number and reports the latitude and longitude (given in degrees, minutes, and seconds) a landline location designation" the hydrologic-unit number" the distance and direction from a geographic point of reference" and the owner's name.

**AQUIFER.**--This entry designates by name (if a name exists) and geologic age the aquifer(s) open to the well.

**WELL CHARACTERISTICS.**--This entry describes the well in terms of depth, diameter, casing depth and/or screened interval, method of construction, use, and additional information such as casing breaks, collapsed screen, and other changes since construction.

**INSTRUMENTATION.**--This paragraph provides information on both the frequency of measurement and the collection method used, allowing the user to better evaluate the reported water-level extremes by knowing whether they are based on weekly, monthly, or some other frequency of measurement.

**DATUM.**--This entry describes both the measuring point and the land-surface elevation at the well. The measuring point is described physically (such as top of collar, notch in top of casing, plug in pump base and so on), and in relation to land surface (such as 1.3 ft above land-surface datum). The elevation of the land-surface datum is described in feet above (or below) National Geodetic Vertical Datum of 1929 (NGVD of 1929); it is reported with a precision depending on the method of determination.

**REMARKS.**--This entry describes factors that may influence the water level in a well or the measurement of the water level. It should identify wells that also are water-quality observation wells, and may be used to acknowledge the assistance of local (non-Survey) observers.

**PERIOD OF RECORD.**--This entry indicates the period for which there are published records for the well. It reports the month and year of the start of publication of water-level records by the U.S. Geological Survey and the words "to current year" if the records are to be continued into the following year. Periods for which water-level records are available, but are not published by the Geological Survey, may be noted.

**EXTREMES FOR PERIOD OF RECORD.**--This entry contains the highest and lowest water levels of the period of published record, with respect to land-surface datum, and the dates of their occurrence.

A table of water levels follows the station description for each well. Water levels are reported in feet below land-surface datum and all taped measurements of water level are listed. For wells equipped with recorders, only abbreviated tables are published; generally, only water-level lows are listed for every fifth day and at the end of the month (eom). The highest and lowest water levels of the water year and their dates of occurrence are shown on a line below the abbreviated table. Because all values are not published for wells with recorders, the extremes may be values that are not listed in the table. Missing records are indicated by dashes in place of the water level.

#### 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 concentration. In the special cases where the quality of ground water may change more rapidly, more frequent measurements are made to identify the nature of the changes.

#### Data Collection and Computation

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

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

#### Data Presentation

The records of ground-water quality are published in a section titled QUALITY OF GROUND WATER immediately following the ground-water-level records. Data for quality of ground water are listed alphabetically by County, and are identified by well number. The prime identification number for wells sampled is the 15-digit number derived from the latitude-longitude locations. 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. The REMARK codes listed for surface-water-quality records are also applicable to ground-water-quality records.

#### ACCESS TO WATSTORE DATA

The National WATER Data STORAGE and RETRIEVAL System (WATSTORE) was established for handling water data collected through the activities of the U.S. Geological Survey and to provide for more effective and efficient means of releasing the data to the public. The system is operated and maintained on the central computer facilities of the Survey at its National Center in Reston, Virginia.

WATSTORE can provide a variety of useful products ranging from simple data tables to complex statistical analyses. A minimal fee, plus the actual computer cost incurred in producing a desired product, is charged to the requester. Information about the availability of specific types of data, the acquisition of data or products, and user charges can be obtained locally from the offices whose addresses are given on the back of the title page.

General inquiries about WATSTORE may be directed to:

Chief Hydrologist  
U.S. Geological Survey  
437 National Center  
Reston, Virginia 22092

## DEFINITION OF TERMS

Terms related to streamflow, 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.

Acre-foot (AC-FT, acre-ft) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equivalent to 43,560 cubic feet or about 326,000 gallons or 1,233 cubic meters.

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.

Bed material is the sediment mixture of which a streambed, lake, pond, reservoir, or estuary bottom is composed.

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

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

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

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

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

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

Bottom material: See Bed material.

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).

Cubic-foot-per-second day is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, approximately 1.9835 acre-feet, about 646,000 gallons, or 2,445 cubic meters.

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

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

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

Contents is the volume of water in a reservoir or lake. Unless otherwise indicated, volume is computed on the basis of a level pool and does not include bank storage.

Control designates a feature downstream from the gage that determines the stage-discharge relation at the gage. This feature may be a natural constriction of the channel, an artificial structure, or a uniform cross section over a long reach of the channel.

Control structure as used in this report is a structure on a stream or canal that is used to regulate the flow or stage of the stream or to prevent the intrusion of salt water.

Cubic foot per second (ft<sup>3</sup>/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to 7.48 gallons per second or 448.8 gallons per minute or 0.02832 cubic meters per second.

Cubic feet per second per square mile [(ft<sup>3</sup>/s)/mi<sup>2</sup>] is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming that the runoff is distributed uniformly in time and area.

Discharge is the volume of water (or more broadly, volume of fluid plus suspended sediment) that passes a given point within a given period of time.

Mean discharge (MEAN) is the arithmetic mean of individual daily mean discharges during a specific period.

Instantaneous discharge is the discharge at a particular instant of time.

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.

Drainage area of a stream at a specified location is that area, measured in a horizontal plane, enclosed by a topographic divide from which direct surface runoff from precipitation normally drains by gravity into the stream above the specified point. Figures of drainage area given herein include all closed basins, or noncontributing areas, within the area unless otherwise specified.

Drainage basin is a part of the surface of the earth that is occupied by a drainage system, which consists of a surface stream or a body of impounded surface water together with all tributary surface streams and bodies of impounded surface water.

Gage height (G.H.) is the water-surface elevation referred to some arbitrary gage datum. Gage height is often used interchangeably with the more general term "stage," although gage height is more appropriate when used with a reading on a gage.

Gaging station is a particular site on a stream, canal, lake, or reservoir where systematic observations of hydrologic data are obtained.

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

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

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

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

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

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

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

Micrograms per gram (ug/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, ug/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.

National Stream Quality Accounting Network (NASQAN) is a nationwide data-collection network designed by the U.S. Geological Survey to meet many of the information needs of government agencies and other groups involved in natural or regional water-quality planning and management. The 500 or so sites in NASQAN are generally located at the downstream ends of hydrologic accounting units designated by the U.S. Geological Survey Office of Water Data Coordination in consultation with the Water Resources Council. The objectives of NASQAN are (1) to obtain information on the quality and quantity of water moving within and from the United States through a systematic and uniform process of data collection, summarization, analysis, and reporting such that the data may be used for, (2) description of the areal variability of water quality in the Nation's rivers through analysis of data from this and other programs, (3) detection of changes or trends with time in the pattern of occurrence of water-quality characteristics, and (4) providing a nationally consistent data base useful for water-quality assessment and hydrologic research.

The National Trends Network (NTN) is a 150-station network for sampling atmospheric deposition in the United States. The purpose of the network is to determine the variability, both in location and in time, of the composition of atmospheric deposition, which includes snow, rain, dust particles, aerosols, and gases. The core from which the NTN was built was the already-existing deposition-monitoring network of the National Atmospheric Deposition Program (NADP).

Organism is any living entity.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Recoverable from bottom material is the amount of a given constituent that is in solution after a representative sample of bottom material has been digested by a method (usually using an acid or mixture of acids) that results in dissolution of readily soluble substances. Complete dissolution of all bottom material is not achieved by the digestion treatment and thus the determination represents less than the total amount (that is, less than 95 percent) of the constituent in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Return period is the average time interval between occurrences of a hydrological event of a given or greater magnitude, usually expressed in years. May also be called recurrence interval.

Runoff in inches (IN., in.) shows the depth to which the drainage area would be covered if all the runoff for a given time period were uniformly distributed on it.

Sediment is solid material that originates mostly from disintegrated rocks and is transported by, suspended in, or deposited from water; it includes chemical and biochemical precipitates and decomposed organic material, such as humus. The quantity, characteristics, and cause of the occurrence of sediment in streams are influenced by environmental factors. Some major factors are degree of slope, length of slope, soil characteristics, land usage, and quantity and intensity of precipitation.

Bed load is the sediment that is transported in a stream by rolling, sliding, or skipping along the bed and very close to it. In this report, bed load is considered to consist of particles in transit within 0.25 ft of the streambed.

Bed load discharge (tons per day) is the quantity of bed load measured by dry weight that moves past a section as bed load in a given time.

Suspended sediment is the sediment that at any given time is maintained in suspension by the upward components of turbulent currents or that exists in suspension as a colloid.

Suspended-sediment concentration is the velocity-weighted concentration of suspended sediment in the sampled zone (from the water surface to a point approximately 0.3 ft above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L).

Mean concentration is the time-weighted concentration of suspended sediment passing a stream section during a 24-hour day.

Suspended-sediment discharge (tons/day) is the rate at which dry mass of sediment passes a section of a stream or is the quantity of sediment, as measured by dry mass or volume, that passes a section in a given time. It is calculated in units of tons per day as follows: concentration (mg/L) x discharge (ft<sup>3</sup>/s) x 0.0027.

Suspended-sediment load is a general term that refers to material in suspension. It is not synonymous with either discharge or concentration.

Total sediment discharge (tons/day) is the sum of the suspended-sediment discharge and the bed-load discharge. It is the total quantity of sediment, as measured by dry mass or volume, that passes a section during a given time.

Total-sediment load or total load is a term which refers to the total sediment (bed load plus suspended-sediment load) that is in transport. It is not synonymous with total-sediment discharge.

7-day 10-year low flow ( $7 Q_{10}$ ) is the discharge at the 10-year recurrence interval taken from a frequency curve of annual values of the lowest mean discharge for 7 consecutive days (the 7-day low flow).

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.

Stage-discharge relation is the relation between gage height (stage) and volume of water, per unit of time, flowing in a channel.

Streamflow is the discharge that occurs in a natural channel. Although the term "discharge" can be applied to the flow of a canal, the word "streamflow" uniquely describes the discharge in a surface stream course. The term "streamflow" is more general than "runoff" as streamflow may be applied to discharge whether or not it is affected by diversion or regulation.

Substrate is the physical surface upon which an organism lives.

Natural substrate refers to any naturally occurring emerged or submersed solid surface, such as a rock or tree, upon which an organism lives.

Artificial substrate is a device which is purposely placed in a stream or lake for colonization of organisms. The artificial substrate simplifies the community structure by standardizing the substrate from which each sample is taken. Examples of artificial substrates are basket samplers (made of wire cages filled with clean streamside rocks) and multiplate samplers (made of hardboard) for benthic organism collection, and plexiglass strips for periphyton collection.

Surface area of a lake is that area outlined on the latest U.S.G.S. topographic map as the boundary of the lake and measured by a planimeter in acres. In localities not covered by topographic maps, the areas are computed from the best maps available at the time planimetered. All areas shown are those for the stage when the planimetered map was made.

Surficial bed material is the part (0.1 to 0.2 ft) of the bed material that is sampled using U.S. Series Bed-Material Samplers.

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

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

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

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

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

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

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

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

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

Tons per acre-foot indicates the dry mass of dissolved solids in 1 acre-foot of water. It is computed by multiplying the concentration of the constituent, in milligrams per liter, by 0.00136.

Tons per day (T/DAY) is the quantity of a substance in solution or suspension that passes a stream section during a 24-hour period.

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 discharge is the total quantity of any individual constituent, as measured by dry mass or volume, that passes through a stream cross-section per unit of time. This term needs to be qualified, such as "total sediment discharge," "total chloride discharge," and so on.

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.

Tritium Network is a network of stations which has been established to provide baseline information on the occurrence of tritium in the Nation's surface waters. In addition to the surface-water stations in the network, tritium data are also obtained at a number of precipitation stations. The purpose of the precipitation stations is to provide an estimate sufficient for hydrologic studies of the tritium input to the United States.

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

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

Weighted average is used in this report to indicate discharge-weighted average. It is computed by multiplying the discharge for a sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the sum of the discharges. A discharge-weighted average approximates the composition of water that would be found in a reservoir containing all the water passing a given location during the water year after thorough mixing in the reservoir.

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

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

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

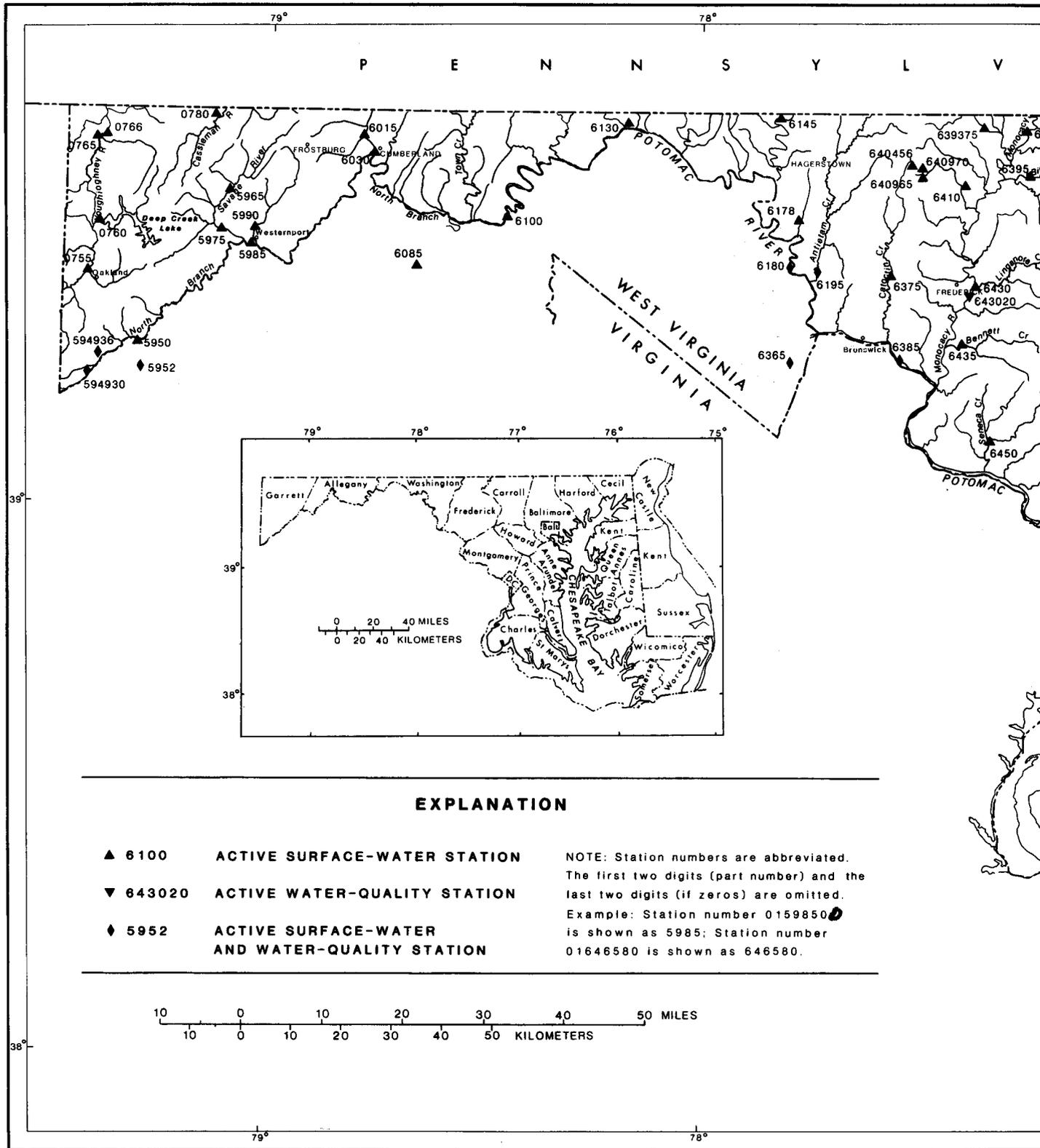
The reports listed below are for sale by the U.S. Geological Survey, Books and Open-File Reports Section, Federal Center, Box 25425, Denver, Colorado 80225 (authorized agent of the Superintendent of Documents, Government Printing Office). Prepayment is required. Remittance should be sent by check or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

- 1-D1. **Water temperature--influential factors, field measurements, and data presentation**, by H. H. Stevens, Jr., J. F. Ficke, and G. F. Smoot: USGS--TWRI Book 1, Chapter D1. 1975. 65 pages.
- 1-D2. **Guidelines for collection and field analysis of ground-water samples for selected unstable constituents**, by W. W. Wood: USGS--TWRI Book 1, Chapter D2. 1976. 24 pages.
- 2-D1. **Application of surface geophysics to ground-water investigations**, by A. A. R. Zohdy, G. P. Eaton, and D. R. Mabey: USGS--TWRI Book 2, Chapter D1. 1974. 116 pages.
- 2-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.
- 3-A1. **General field and office procedures for indirect discharge measurements**, by M. A. Benson and Tate Dalrymple: USGS--TWRI Book 3, Chapter A1. 1967. 30 pages.
- 3-A2. **Measurement of peak discharge by the slope-area method**, by Tate Dalrymple and M. A. Benson: USGS--TWRI Book 3, Chapter A2. 1967. 12 pages.
- 3-A3. **Measurement of peak discharge at culverts by indirect methods**, by G. L. Bodhaine: USGS--TWRI Book 3, Chapter A3. 1968. 60 pages.
- 3-A4. **Measurement of peak discharge at width contractions by indirect methods**, by H. F. Matthai: USGS--TWRI Book 3, Chapter A4. 1967. 44 pages.
- 3-A5. **Measurement of peak discharge at dams by indirect methods**, by Harry Hulsing: USGS--TWRI Book 3, Chapter A5. 1967. 29 pages.
- 3-A6. **General procedure for gaging streams**, by R. W. Carter and Jacob Davidian: USGS--TWRI Book 3, Chapter A6. 1968. 13 pages.
- 3-A7. **Stage measurements at gaging stations**, T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A7. 1968. 28 pages.
- 3-A8. **Discharge measurements at gaging stations**, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A8. 1969. 65 pages.
- 3-A9. **Measurement of time of travel and dispersion in streams by dye tracing**, by E. F. Hubbard, F. A. Kilpatrick, L. A. Martens, and J. F. Wilson, Jr.: USGS--TWRI Book 3, Chapter A9. 1982. 44 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-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-B1. **Aquifer-test design, observation, and data analysis**, by R. W. Stallman: USGS--TWRI Book 3, Chapter B1. 1971. 26 pges.
- 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-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.

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

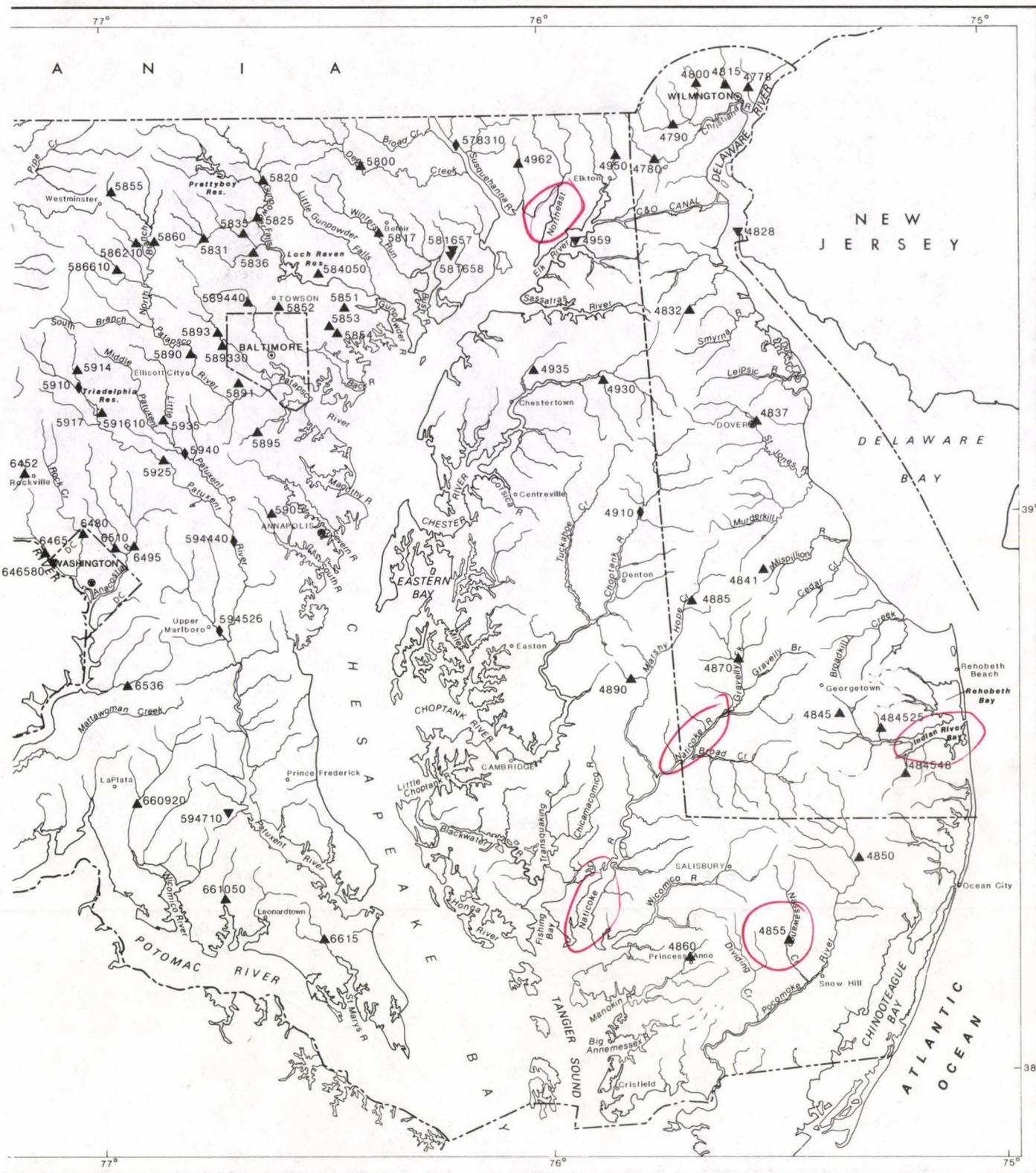
- 4-A1. **Some statistical tools in hydrology**, by H. C. Riggs: USGS--TWRI Book 4, Chapter A1. 1968. 39 pages.
- 4-A2. **Frequency curves**, by H. C. Riggs: USGS--TWRI Book 4, Chapter A2. 1968. 15 pages.
- 4-B1. **Low-flow investigations**, by H. C. Riggs: USGS--TWRI Book 4, Chapter B1. 1972. 18 pages.
- 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. W. Skougstad and others, editors: USGS--TWRI Book 5, Chapter A1. 1979. 626 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 analysis of organic substances in water**, by D. F. Goerlitz and Eugene Brown: USGS--TWRI Book 5, Chapter A3. 1972. 40 pages.
- 5-A4. **Methods for collection and analysis of aquatic biological and microbiological samples**, edited by P. E. Greeson, T. A. Ehlke, G. A. Irwin, B. W. Lium, and K. V. Slack: USGS--TWRI Book 5, Chapter A4. 1977. 332 pages.
- 5-A5. **Methods for determination of radioactive substances in water and fluvial sediments**, by L. L. Thatcher, V. J. Janzer, and K. W. Edwards: USGS--TWRI Book 5, Chapter A5. 1977. 95 pages.
- 5-A6. **Quality assurance practices for the chemical and biological analyses of water and fluvial sediments**, by L. C. Friedman and D. E. Erdmann: USGS--TWRI Book 5, Chapter A6. 1982. 181 pages.
- 5-C1. **Laboratory theory and methods for sediment analysis**, by H. P. Guy: USGS--TWRI Book 5, Chapter C1. 1969. 58 pages.
- 7-C1. **Finite difference model for aquifer simulation in two dimensions with results of numerical experiments**, by P. C. Trescott, G. F. Pinder, and S. P. Larson: USGS--TWRI Book 7, Chapter C1. 1976. 116 pages.
- 7-C2. **Computer model of two-dimensional solute transport and dispersion in ground water**, by L. F. Konikow and J. D. Bredehoeft: USGS--TWRI Book 7, Chapter C2. 1978. 90 pages.
- 7-C3. **A model for simulation of flow in singular and interconnected channels**, by R. W. Schaffranek, R. A. Baltzer, and D. E. Goldberg: USGS--TWRI Book 7, Chapter C3. 1981. 110 pages.
- 8-A1. **Methods of measuring water levels in deep wells**, by M. S. Garber and F. C. Koopman: USGS--TWRI Book 8, Chapter A1. 1968. 23 pages.
- 8-A2. **Installation and service manual for U. S. Geological Survey manometers**, by J. D. Craig: USGS--TWRI Book 8, Chapter A2. 1983. 57 pages.
- 8-B2. **Calibration and maintenance of vertical-axis type current meters**, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 8, Chapter B2. 1968. 15 pages.

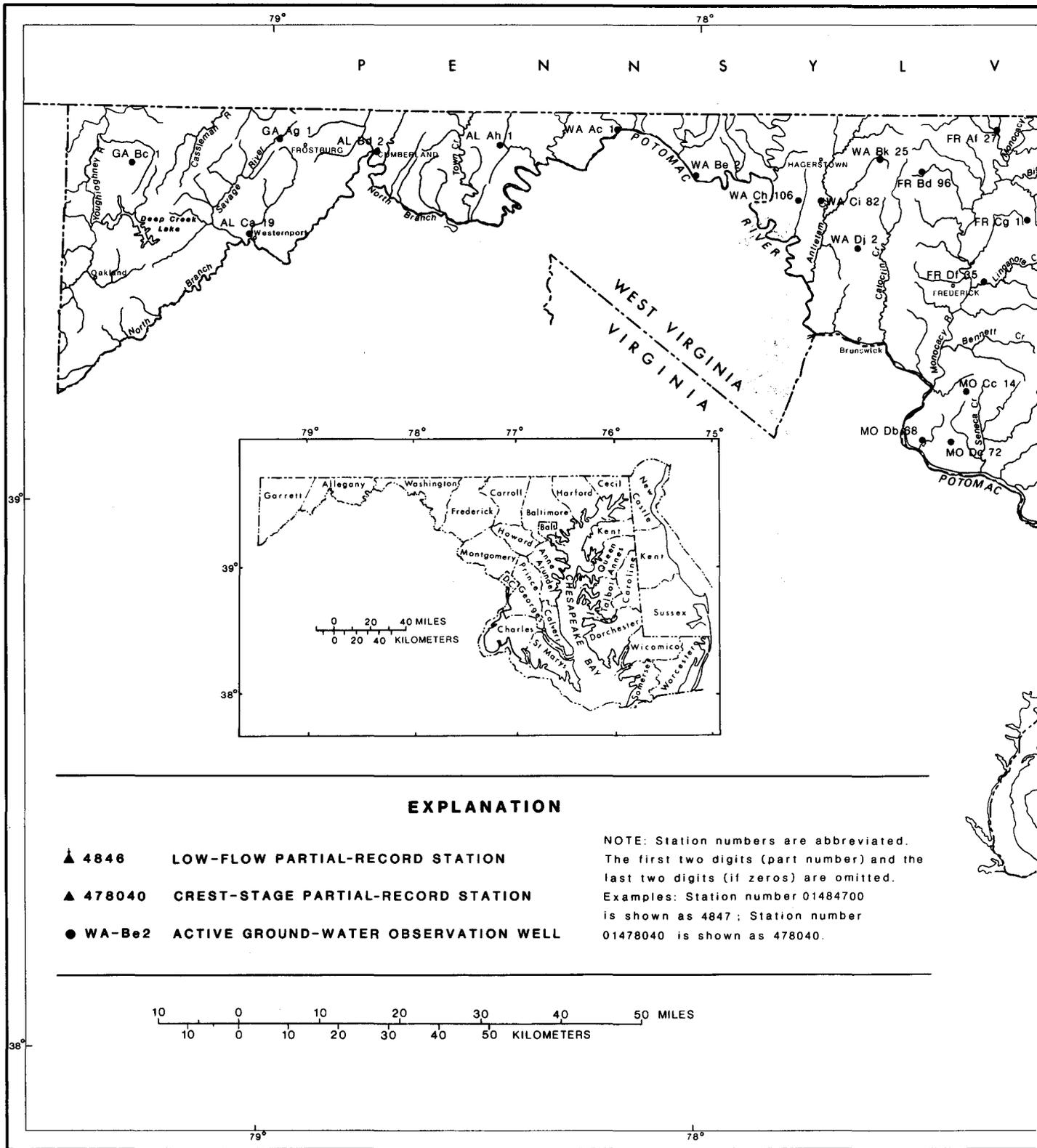
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Base map modified from U.S. Geological Survey 1:500,000

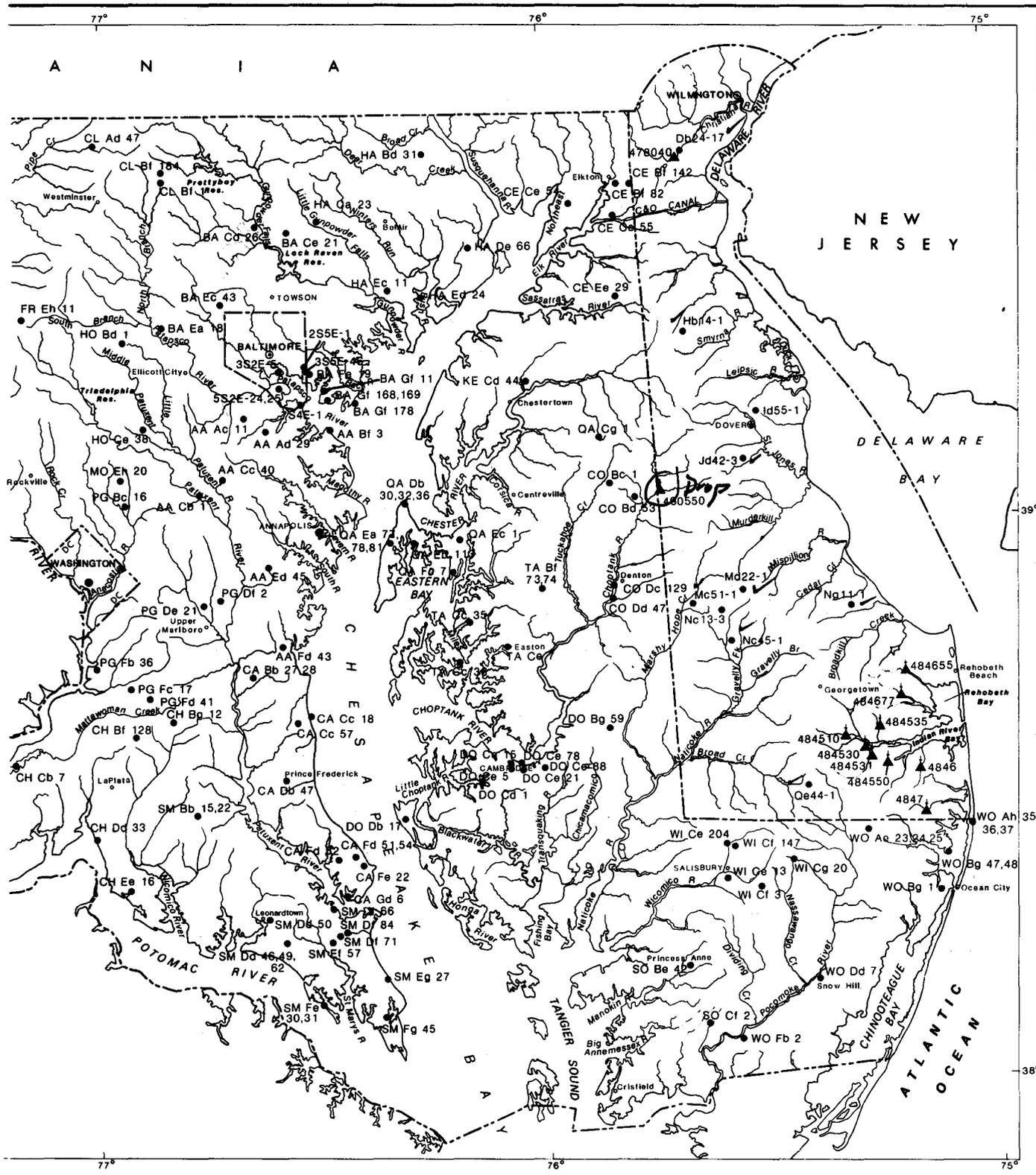
Figure 3. Location of surface-water and water-quality stations in Maryland and Delaware.





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

**Figure 4. Location of low-flow and crest-gage partial-record stations and ground-water observation wells in Maryland and Delaware.**



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SURFACE-WATER RECORDS

REMARK CODES.--The following remark codes may appear with the water-quality data in this section.

<u>PRINTED OUTPUT</u>	<u>REMARK</u>
E	Estimated
>	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.

HYDROLOGIC-DATA STATION RECORDS

NORTH ATLANTIC SLOPE BASINS

DELAWARE RIVER BASIN

01477800 SHELLPOT CREEK AT WILMINGTON, DE

LOCATION.--Lat 39°45'39", long 75°31'10", New Castle County, Hydrologic Unit 02040205, on right bank 100 ft east of intersection of 44th and Pine Streets in Clifton Park, 700 ft downstream from bridge on North Market Street in Wilmington, 0.2 mi downstream from Matson Run, and 2.3 mi upstream from mouth.

DRAINAGE AREA.--7.46 mi<sup>2</sup>.

PERIOD OF RECORD.--December 1945 to current year.

REVISED RECORDS.--WSP 1382: 1948(m).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 15.16 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Nov. 9, 10, Jan. 23-28, Feb. 15, 16, Mar. 10-25, Apr. 13 to May 14, May 18 to June 10, Aug. 3-18, Aug. 24 to Sept. 29. Records good except those for periods of backwater from rocks on control, Nov. 9, 10, Mar. 10-25, Apr. 13 to May 14, May 18 to June 10, Aug. 3-18, Aug 24 to Sept. 29, which are fair to poor. Occasional regulation at low flow from unknown source upstream from station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--41 years (water years 1947-87), 9.61 ft<sup>3</sup>/s, 17.49 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,850 ft<sup>3</sup>/s, Sept. 13, 1971, gage height, 11.91 ft, from rating curve extended above 200 ft<sup>3</sup>/s on basis of culvert and flow-over-road measurements at gage heights 9.10 ft and 11.91 ft; minimum daily discharge, 0.09 ft<sup>3</sup>/s, Oct. 2, 4, 1968.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known since at least 1940, that of Sept. 13, 1971. Flood of Aug. 1, 1945, reached a stage of about 8.5 ft, from floodmarks.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 550 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 20	2305	674	3.82	July 12	1740	1,280	4.92
Nov. 26	1900	737	3.92	Aug. 5	1945	1,640	5.49
Dec. 2	2110	750	3.94	Sept. 1	0010	575	3.65
Dec. 24	2400	1,730	5.61	Sept. 13	1300	*1,940	*5.91
Mar. 1	0915	626	3.74	Sept. 18	2000	893	4.21
Apr. 24	1915	1,180	4.74				

Minimum daily discharge, 0.37 ft<sup>3</sup>/s, Oct. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.2	.70	2.1	5.5	4.7	185	4.5	2.2	1.7	3.5	.78	34
2	9.5	11	135	90	13	20	3.0	5.1	1.7	48	.73	1.2
3	1.2	1.3	124	15	30	7.9	2.6	11	1.6	11	.70	.90
4	1.2	1.9	7.7	6.8	22	5.4	78	88	18	1.5	.66	.86
5	.74	44	4.1	4.8	9.5	4.4	30	12	6.4	1.7	137	.82
6	.46	14	3.4	4.0	7.1	4.0	55	5.5	1.4	1.1	13	1.9
7	.39	2.5	2.8	4.0	8.8	3.9	9.7	3.8	1.3	14	1.1	2.5
8	.40	41	2.6	3.7	8.7	3.7	5.7	2.9	1.2	20	.89	7.8
9	.93	4.7	49	3.3	7.5	3.6	4.3	2.5	1.8	1.6	2.9	3.1
10	.58	2.8	17	8.9	5.6	3.2	3.8	2.3	1.3	1.3	7.3	1.1
11	.38	38	19	5.6	4.9	2.9	3.6	2.2	1.1	1.3	.88	.92
12	.37	6.3	16	3.6	4.9	2.8	3.4	28	1.1	98	.79	1.3
13	4.2	2.3	5.3	2.1	4.1	2.7	3.3	4.2	1.3	6.1	.83	183
14	28	1.6	3.7	3.9	3.7	2.6	3.0	2.2	1.1	73	.84	5.3
15	1.5	1.5	3.7	3.4	3.0	2.5	3.1	4.5	1.2	5.3	.83	1.8
16	.75	1.6	2.9	2.9	2.7	2.4	3.8	2.5	3.9	1.9	.84	1.5
17	.62	1.6	2.7	2.5	3.3	2.3	12	2.1	1.1	1.5	.91	13
18	.76	27	119	48	3.2	2.3	4.5	2.1	.95	1.3	.85	97
19	.67	23	16	109	2.9	2.3	3.7	6.4	.98	1.2	.76	8.3
20	.52	53	5.6	24	2.7	2.3	3.4	22	.99	1.1	.77	2.1
21	.50	39	3.9	8.2	2.7	2.3	3.2	12	16	1.1	.64	1.6
22	.48	3.6	3.3	6.1	2.8	2.1	3.1	3.2	2.5	1.1	6.3	16
23	.47	2.4	2.9	5.6	7.0	2.1	3.0	17	1.4	1.0	1.3	2.9
24	.45	8.8	157	4.8	8.2	2.0	115	3.8	1.1	1.0	.72	1.6
25	.44	3.5	154	4.2	6.2	1.9	28	3.4	1.1	1.1	.68	1.7
26	18	121	8.6	3.9	6.0	2.0	5.6	2.2	1.0	4.6	.68	1.2
27	2.4	20	5.3	3.9	5.5	1.9	3.6	5.2	1.8	1.9	1.8	1.2
28	2.2	4.5	4.3	3.9	12	4.3	3.0	2.3	1.1	.89	.96	1.2
29	1.0	3.1	3.7	3.9	---	2.1	2.9	2.0	.91	.75	6.9	1.3
30	.81	2.4	3.5	4.9	---	13	2.4	1.7	1.6	.79	.98	3.9
31	.70	---	3.1	5.7	---	23	---	1.7	---	.77	7.2	---
TOTAL	84.82	488.10	891.2	406.1	202.7	322.9	410.2	266.0	78.63	309.40	201.52	401.00
MEAN	2.74	16.3	28.7	13.1	7.24	10.4	13.7	8.58	2.62	9.98	6.50	13.4
MAX	28	121	157	109	30	185	115	88	18	98	137	183
MIN	.37	.70	2.1	2.5	2.7	1.9	2.4	1.7	.91	.75	.64	.82
CFSM	.37	2.19	3.85	1.76	.97	1.39	1.84	1.15	.35	1.34	.87	1.80
IN.	.42	2.43	4.44	2.02	1.01	1.61	2.05	1.33	.39	1.54	1.00	2.00
CAL YR 1986	TOTAL	3365.18	MEAN	9.22	MAX	202	MIN	.22	CFSM	1.24	IN	16.78
WTR YR 1987	TOTAL	4062.57	MEAN	11.1	MAX	185	MIN	.37	CFSM	1.49	IN	20.26

DELAWARE RIVER BASIN

01478000 CHRISTINA RIVER AT COOCHS BRIDGE, DE

LOCATION.--Lat 39°38'14", long 75°43'43", New Castle County, Hydrologic Unit 02040205, on right bank 60 ft downstream from highway bridge, 0.5 mi southeast of Coochs Bridge, 3.3 mi south of Newark, 3.6 mi upstream from Belltown Run, and 22.6 mi upstream from mouth.

DRAINAGE AREA.--20.5 mi<sup>2</sup>.

PERIOD OF RECORD.--April 1943 to current year.

REVISED RECORDS.--WDR MD-DE-79-1: 1943-70(P).

GAGE.--Water-stage recorder. Datum of gage is 25.54 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 14, 1944, nonrecording gage on upstream side of bridge at same datum. Sept. 14, 1944, to May 13, 1969, recording gage at site on left bank at downstream side of highway bridge at same datum. May 26, 1969, to Dec. 5, 1973, recording gage on left bank 82 ft downstream from highway bridge at same datum.

REMARKS.--Estimated daily discharges: Jan. 23-31. Records good except those for estimated daily discharges (ice effect), which are fair. Low and medium flow regulated by mill upstream from station. Gage-height telemeter at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--44 years, 28.2 ft<sup>3</sup>/s, 18.68 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,330 ft<sup>3</sup>/s, May 1, 1947, gage height, 12.41 ft; minimum daily discharge, 0.2 ft<sup>3</sup>/s, Aug. 7, 14, 18, 21, 27, 28, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1000 ft<sup>3</sup>/s and maximum (\*):

Discharge				Gage height			
Date	Time	(ft <sup>3</sup> /s)	(ft)	Date	Time	(ft <sup>3</sup> /s)	(ft)
Nov. 26	2230	1,090	9.98	Sept. 9	0115	1,250	10.16
Dec. 3	0145	1,530	10.43	Sept. 13	1600	1,160	10.07
Dec. 25	0315	*2,110	*11.01				

Minimum daily discharge, 1.1 ft<sup>3</sup>/s, Oct. 7.

REVISIONS.--The peak discharges and annual maximums (\*) reported for water years 1980-82 have been revised as shown in the following table. They supersede figures published in reports for 1980-82.

Water					Water				
Year	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Year	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
1980	Nov. 26, 1979	1530	*1,670	*10.57	1982	Feb. 1, 1982	0930	971	9.83
1981	May 11, 1981	2015	929	9.74		Feb. 3, 1982	0515	1,530	10.43
	May 15, 1981	2145	*1,140	*10.04		May 28, 1982	1730	1,620	10.52
1982	Jan. 4, 1982	1130	1,700	10.60		June 13, 1982	1845	*1,820	*10.71

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	2.8	11	19	19	500	35	12	8.6	18	3.0	76
2	54	16	109	164	30	80	21	14	8.2	52	3.0	5.6
3	7.4	7.7	432	50	54	35	18	14	7.7	10	3.1	3.7
4	6.3	6.5	31	27	56	25	193	111	47	6.2	2.9	3.1
5	2.5	55	19	20	34	21	67	37	27	5.7	28	2.8
6	1.4	66	15	18	24	19	135	21	9.9	5.6	15	5.8
7	1.1	11	12	17	28	19	50	17	8.7	5.0	4.7	7.4
8	2.8	81	13	16	29	18	29	14	8.3	6.2	3.9	204
9	2.5	17	89	15	28	18	23	13	9.3	5.2	3.7	230
10	2.4	9.6	57	21	17	16	20	12	8.1	4.9	5.3	12
11	2.2	61	47	22	17	15	19	11	7.2	4.7	3.5	8.6
12	2.3	34	53	16	18	15	19	23	7.2	11	3.0	7.8
13	6.1	9.4	22	14	17	15	17	16	7.8	16	2.8	260
14	32	7.8	16	13	15	14	16	11	7.2	45	2.6	33
15	6.4	7.1	14	15	14	15	16	18	6.9	11	2.6	14
16	3.6	6.8	14	14	12	14	17	14	6.7	5.9	2.7	10
17	3.0	6.4	14	12	14	14	21	11	6.2	4.4	2.6	9.0
18	2.7	15	194	83	14	13	17	10	5.9	4.3	2.5	67
19	2.6	64	55	246	13	14	16	17	5.8	4.3	2.2	54
20	2.4	31	21	82	13	13	16	56	5.5	4.0	2.1	15
21	2.4	129	17	31	13	13	15	27	5.8	3.8	2.1	12
22	2.4	17	14	23	13	13	15	15	6.4	3.6	5.6	19
23	2.4	12	13	18	20	13	14	13	6.2	3.3	3.9	10
24	2.4	17	119	16	25	13	31	13	5.5	3.6	2.5	8.9
25	2.3	15	594	13	21	12	37	11	5.1	3.3	2.1	7.6
26	19	226	39	12	20	12	19	11	5.4	13	4.7	6.7
27	7.7	125	26	12	20	12	15	11	9.0	9.6	3.4	6.3
28	7.0	22	23	12	28	15	14	11	5.2	4.0	1.8	6.0
29	3.6	16	20	13	---	12	14	10	4.8	3.4	10	6.4
30	3.1	12	20	16	---	22	13	9.5	9.0	3.2	3.7	9.9
31	3.4	---	19	20	---	133	---	8.9	---	3.1	3.2	---
TOTAL	221.4	1106.1	2142	1070	626	1163	952	592.4	271.6	283.3	142.2	1121.6
MEAN	7.14	36.9	69.1	34.5	22.4	37.5	31.7	19.1	9.05	9.14	4.59	37.4
MAX	54	226	594	246	56	500	193	111	47	52	28	260
MIN	1.1	2.8	11	12	12	12	13	8.9	4.8	3.1	1.8	2.8
CFSM	.35	1.80	3.37	1.68	1.09	1.83	1.55	.93	.44	.45	.22	1.82
IN.	.40	2.01	3.89	1.94	1.14	2.11	1.73	1.07	.49	.51	.26	2.04

CAL YR 1986 TOTAL 7757.20 MEAN 21.3 MAX 594 MIN .55 CFSM 1.04 IN 14.08  
WTR YR 1987 TOTAL 9691.60 MEAN 26.6 MAX 594 MIN 1.1 CFSM 1.30 IN 17.59

01479000 WHITE CLAY CREEK NEAR NEWARK, DE

LOCATION.--Lat 39°41'47", long 75°40'33", New Castle County, Hydrologic Unit 02040205, on left bank 35 ft downstream from bridge on private road at Delaware Park Race Track, 0.4 mi downstream from the Baltimore and Ohio Railroad bridge, 1.1 mi downstream from Pike Creek, 3.8 mi east of Newark, and 5.0 mi upstream from mouth.

DRAINAGE AREA.--89.1 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1931 to September 1936, June 1943 to September 1957, October 1959 to current year. Monthly discharge only for some periods, published in WSP 1302.

REVISED RECORDS.--WSP 1051: 1933(M). WSP 1382: 1932, 1934. WDR MD-DE-83-1: 1978-82(P).

GAGE.--Water-stage recorder. Datum of gage is 9.00 ft above National Geodetic Vertical Datum of 1929. Nov. 17, 1931, to Sept. 30, 1936, June 4, 1943, to Sept. 30, 1957, and Oct. 1, 1959, to Apr. 7, 1976, at site 0.5 mi upstream at datum 2.6 ft higher.

REMARKS.--Estimated daily discharges: Jan. 23 to Feb. 3, Feb. 15-17, 23-25. Records good except those for estimated daily discharges (ice effect), which are fair. Slight diurnal fluctuation at low flow caused by mills upstream from station. Records do not include a negligible diversion upstream from station by E. I. du Pont de Nemours & Co. Gage-height telemeter at station. Several measurements of water temperature were made during the year. Water-quality records for some periods have been collected at this location.

AVERAGE DISCHARGE.--47 years (water years 1932-36, 1944-57, 1960-87, 114 ft<sup>3</sup>/s, 17.37 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,080 ft<sup>3</sup>/s, June 22, 1972, gage height, 17.74 ft, at previous site and datum, from rating curve extended above 6,700 ft<sup>3</sup>/s on basis of contracted-opening and flow-over-road measurement of peak flow; minimum discharge, 4.7 ft<sup>3</sup>/s, Sept. 11, 1966; minimum daily discharge, 5.0 ft<sup>3</sup>/s, Sept. 10, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 23 ft, previous site and datum, in July 1937 (probably affected by backwater from railroad bridge which has since been raised and widened), from information by Baltimore & Ohio Railroad.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft<sup>3</sup> and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 25	0315	2,610	12.89	Sept. 9	0145	*2,620	*12.90

Minimum daily discharge, 20 ft<sup>3</sup>/s, Aug. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	78	28	76	104	110	1070	182	91	68	65	28	197
2	176	52	273	298	130	362	122	98	66	132	28	39
3	41	40	760	185	160	192	109	117	65	88	27	29
4	32	39	153	139	178	151	555	293	132	50	26	26
5	30	137	107	115	143	132	243	189	167	64	158	24
6	24	240	90	107	120	124	386	123	76	45	88	35
7	22	69	83	106	123	121	233	107	66	43	43	49
8	21	214	79	104	126	118	161	97	64	58	37	465
9	22	100	198	100	123	116	142	90	67	47	34	880
10	21	104	185	116	111	107	132	87	66	43	42	104
11	22	286	139	135	105	101	126	84	58	42	35	68
12	23	237	134	108	104	104	123	110	58	107	31	59
13	32	80	103	98	101	103	121	117	61	146	28	419
14	90	59	82	93	96	100	115	84	58	145	27	140
15	40	52	79	98	93	100	114	98	55	88	28	74
16	28	50	75	95	86	98	115	94	67	50	27	61
17	25	48	75	87	88	94	130	80	54	44	26	60
18	25	79	401	190	90	92	122	77	50	40	24	516
19	24	212	225	551	89	91	115	89	49	39	22	458
20	24	129	115	334	86	91	112	163	48	37	22	114
21	23	539	98	169	87	91	110	139	53	35	20	85
22	23	111	87	143	88	91	106	97	67	34	32	124
23	23	78	82	140	115	89	102	120	60	32	34	87
24	23	88	264	120	112	87	143	143	50	31	24	66
25	23	78	1050	100	102	86	145	93	47	30	21	60
26	60	455	197	90	102	86	115	86	46	104	22	55
27	59	540	141	86	102	84	105	84	51	63	24	52
28	40	133	124	85	119	94	102	83	47	37	26	51
29	31	101	115	90	---	87	99	78	46	31	73	50
30	30	84	110	100	---	108	95	73	55	30	36	56
31	28	---	106	120	---	372	---	70	---	29	40	---

TOTAL	1163	4462	5806	4406	3089	4742	4580	3354	1917	1829	1133	4503
MEAN	37.5	149	187	142	110	153	153	108	63.9	59.0	36.5	150
MAX	176	540	1050	551	178	1070	555	293	167	146	158	880
MIN	21	28	75	85	86	84	95	70	46	29	20	24
CFSM	.42	1.67	2.10	1.59	1.24	1.72	1.72	1.21	.72	.66	.41	1.68
IN.	.49	1.86	2.42	1.84	1.29	1.98	1.91	1.40	.80	.76	.47	1.88

CAL YR 1986 TOTAL 33566 MEAN 92.0 MAX 1050 MIN 16 CFSM 1.03 IN 14.01  
WTR YR 1987 TOTAL 40984 MEAN 112 MAX 1070 MIN 20 CFSM 1.26 IN 17.11

DELAWARE RIVER BASIN

01480000 RED CLAY CREEK AT WOODDALE, DE

LOCATION.--Lat 39°45'52", long 75°38'08", New Castle County, Hydrologic Unit 02040205, on right bank 12 ft upstream from bridge on State Highway 48, 0.3 mi south of Wooddale, 2.3 mi north of Marshallton, and 4.9 mi upstream from mouth.

DRAINAGE AREA.--47.0 mi<sup>2</sup>.

PERIOD OF RECORD.--April 1943 to current year.

REVISED RECORDS.--WSP 1141: 1948. WSP 1272: 1951(M). WSP 1432: 1944(M), 1945, 1946(M), 1948, 1949(M). WSP 2102: 1960(M), 1964(M), 1966-67(M).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 81.46 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 21, 1950, nonrecording gage at site 10 ft downstream at same datum.

REMARKS.--Estimated daily discharges: Jan. 25-31. Records good except those for estimated daily discharges (ice effect), which are fair. Some diurnal fluctuation at low flow caused by mills upstream from station. National Weather Service gage-height telemeter at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--44 years, 63.7 ft<sup>3</sup>/s, 18.40 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,010 ft<sup>3</sup>/s, July 21, 1975, gage height, 10.32 ft, from rating curve extended above 3,900 ft<sup>3</sup>/s on basis of contracted-opening measurement at gage height 9.93 ft; minimum discharge, 2.9 ft<sup>3</sup>/s, Sept. 4, 1966; minimum daily discharge, 4.5 ft<sup>3</sup>/s, Sept. 4, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,200 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 26	2215	1,370	5.05	July 12	1945	*1,730	*5.62
Dec. 25	0230	1,360	5.03				

Minimum discharge, 12 ft<sup>3</sup>/s, Oct. 10, gage height, 2.27 ft; minimum daily discharge, 14 ft<sup>3</sup>/s, Oct. 19, 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	2.8	11	19	19	500	35	12	8.6	18	3.0	76
2	54	16	109	164	30	80	21	14	8.2	52	3.0	5.6
3	7.4	7.7	432	50	54	35	18	14	7.7	10	3.1	3.7
4	6.3	6.5	31	27	56	25	193	111	47	6.2	2.9	3.1
5	2.5	55	19	20	34	21	67	37	27	5.7	28	2.8
6	1.4	66	15	18	24	19	135	21	9.9	5.6	15	5.8
7	1.1	11	12	17	28	19	50	17	8.7	5.0	4.7	7.4
8	2.8	81	13	16	29	18	29	14	8.3	6.2	3.9	204
9	2.5	17	89	15	28	18	23	13	9.3	5.2	3.7	230
10	2.4	9.6	57	21	17	16	20	12	8.1	4.9	5.3	12
11	2.2	61	47	22	17	15	19	11	7.2	4.7	3.5	8.6
12	2.3	34	53	16	18	15	19	23	7.2	11	3.0	7.8
13	6.1	9.4	22	14	17	15	17	16	7.8	16	2.8	260
14	32	7.8	16	13	15	14	16	11	7.2	45	2.6	33
15	6.4	7.1	14	15	14	15	18	18	6.9	11	2.6	14
16	3.6	6.8	14	14	12	14	17	14	6.7	5.9	2.7	10
17	3.0	6.4	14	12	14	14	21	11	6.2	4.4	2.6	9.0
18	2.7	15	194	83	14	13	17	10	5.9	4.3	2.5	67
19	2.6	64	55	246	13	14	16	17	5.8	4.3	2.2	54
20	2.4	31	21	82	13	13	16	56	5.5	4.0	2.1	15
21	2.4	129	17	31	13	13	15	27	5.8	3.8	2.1	12
22	2.4	17	14	23	13	13	15	15	6.4	3.6	5.6	19
23	2.4	12	13	18	20	13	14	13	6.2	3.3	3.9	10
24	2.4	17	119	16	25	13	31	13	5.5	3.6	2.5	8.9
25	2.3	15	594	13	21	12	37	11	5.1	3.3	2.1	7.6
26	19	226	39	12	20	12	19	11	5.4	13	4.7	6.7
27	7.7	125	26	12	20	12	15	11	9.0	9.6	3.4	6.3
28	7.0	22	23	12	28	15	14	11	5.2	4.0	1.8	6.0
29	3.6	16	20	13	---	12	14	10	4.8	3.4	10	6.4
30	3.1	12	20	16	---	22	13	9.5	9.0	3.2	3.7	9.9
31	3.4	---	19	20	---	133	---	8.9	---	3.1	3.2	---
TOTAL	221.4	1106.1	2142	1070	626	1163	952	592.4	271.6	283.3	142.2	1121.6
MEAN	7.14	36.9	69.1	34.5	22.4	37.5	31.7	19.1	9.05	9.14	4.59	37.4
MAX	54	226	594	246	56	500	193	111	47	52	28	260
MIN	1.1	2.8	11	12	12	12	13	8.9	4.8	3.1	1.8	2.8
CFSM	.35	1.80	3.37	1.68	1.09	1.83	1.55	.93	.44	.45	.22	1.82
IN.	.40	2.01	3.89	1.94	1.14	2.11	1.73	1.07	.49	.51	.26	2.04

CAL YR 1986 TOTAL 7757.20 MEAN 21.3 MAX 594 MIN .55 CFSM 1.04 IN 14.08  
WTR YR 1987 TOTAL 9691.60 MEAN 26.6 MAX 594 MIN 1.1 CFSM 1.30 IN 17.59

DELAWARE RIVER BASIN

01481500 BRANDYWINE CREEK AT WILMINGTON, DE

LOCATION.--Lat 39°46'09", long 75°34'25", New Castle County, Hydrologic Unit 02040205, on right bank in Rockford Park, 0.2 mi downstream from Rising Sun Bridge, in Wilmington, and 4.2 mi upstream from mouth.

DRAINAGE AREA.--314 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1946 to current year. Prior to December 1946 monthly discharge only, published in WSP 1302.

REVISED RECORDS.--WSP 1432: 1948, 1950.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 68.23 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Jan. 23, 25-31, Feb.1, 16-18. Records good except those for estimated daily discharges (ice effect), which are fair. Some diurnal fluctuation at low flow caused by mills upstream from station. Flow regulated since November 1973 by Marsh Creek Reservoir, capacity 7,230,000,000 gal, about 27 mi upstream. No diversion just upstream from station by plant of E. I. du Pont de Nemours & Co. since June 13, 1960. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--41 years, 478 ft<sup>3</sup>/s, 20.67 in/yr, adjusted for storage since November 1973.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 29,000 ft<sup>3</sup>/s, June 23, 1972, gage height, 15.49 ft, from rating curve extended above 18,000 ft<sup>3</sup>/s; minimum discharge, about 30 ft<sup>3</sup>/s, Dec. 26, 1948, during period of ice effect; minimum daily discharge, 56 ft<sup>3</sup>/s, Aug. 23, 24, 1957.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 25	1045	4,450	7.31	Sept. 9	1630	4,540	7.39
Mar. 1	2230	*4,630	*7.45				

Minimum discharge, 79 ft<sup>3</sup>/s, Nov. 3, gage height, 2.53 ft; minimum daily discharge, 92 ft<sup>3</sup>/s, Aug. 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	115	110	322	484	430	2610	709	405	283	174	114	194
2	166	125	479	767	438	2590	456	409	276	375	114	148
3	142	127	1870	733	500	1070	424	454	272	286	108	105
4	133	115	672	577	648	826	1290	620	304	228	103	99
5	131	177	442	512	583	861	1010	613	488	256	144	97
6	117	532	387	476	501	562	1120	475	309	200	261	97
7	103	279	386	478	501	546	937	440	277	199	197	179
8	105	368	381	430	501	539	652	412	274	242	145	201
9	105	360	526	412	491	526	577	390	267	251	128	3550
10	104	266	726	439	438	499	534	376	271	206	325	903
11	101	460	477	538	466	477	537	370	237	187	235	392
12	98	812	468	486	461	478	526	457	233	524	142	276
13	114	313	432	446	454	432	518	423	250	459	126	582
14	182	224	379	442	436	421	472	367	246	326	118	835
15	161	190	371	471	416	414	461	387	231	924	110	387
16	128	184	393	506	370	421	461	409	220	307	111	306
17	116	176	554	436	390	435	540	368	202	234	113	278
18	116	181	1090	543	380	430	535	355	201	206	114	709
19	111	620	1310	1260	388	427	486	368	190	189	110	876
20	106	402	523	1550	374	425	470	566	189	180	99	428
21	104	1590	426	735	377	425	459	605	220	170	94	354
22	107	534	388	636	382	417	450	464	338	162	96	322
23	111	324	373	540	444	411	437	500	301	153	137	267
24	109	334	537	411	456	406	549	645	291	143	112	235
25	109	385	3150	360	426	391	617	421	220	139	99	217
26	171	801	1030	350	416	389	504	389	196	136	92	203
27	209	2040	629	340	451	385	450	371	230	142	93	193
28	150	527	550	330	458	405	434	372	224	136	137	185
29	130	396	511	350	---	397	432	338	194	128	206	179
30	123	347	492	400	---	404	422	322	175	120	147	193
31	113	---	494	485	---	830	---	298	---	112	122	---
TOTAL	3890	13299	20768	16923	12576	19849	17469	13389	7609	7494	4252	12990
MEAN	125	443	670	546	449	640	582	432	254	242	137	433
MAX	209	2040	3150	1550	648	2610	1290	645	488	924	325	3550
MIN	98	110	322	330	370	385	422	298	175	112	92	97
(†)	-5.4	+23.4	-22.1	-4.9	+2.9	+13.5	+13.6	-1.8	-1.5	-1.5	-4.7	+6.1
MEAN*	120	466	648	541	452	654	596	430	253	241	132	439
CFSM*	0.38	1.49	2.06	1.72	1.44	2.08	1.90	1.37	0.80	0.77	0.42	1.40
IN*	0.44	1.66	2.38	1.99	1.50	2.40	2.12	1.58	0.90	0.88	0.49	1.56

CAL YR 1986 TOTAL 137049 MEAN 375 MAX 3150 MIN 81 MEAN\* 375 CFSM\* 1.19 IN\* 16.23  
 WTR YR 1987 TOTAL 150508 MEAN 412 MAX 3550 MIN 92 MEAN\* 413 CFSM\* 1.32 IN\* 17.89

† Change in contents in Marsh Creek Reservoir, equivalent in cubic feet per second, provided by Pennsylvania Department of Environmental Resources.  
 \* Adjusted for change in reservoir contents.

DELAWARE RIVER BASIN

01482800 DELAWARE RIVER AT REEDY ISLAND JETTY, DE

LOCATION.--Lat 39°30'03", long 75°34'07", New Castle County, Hydrologic Unit 22, waterquality recorder located on platform about . mi downstream from Reedy Island near Fort Penn.

DRAINAGE AREA.--11,200 mi<sup>2</sup>, approximately.

PERIOD OF RECORD.--Water years 1964 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1963 to current year.

pH: February 1970 to current year.

WATER TEMPERATURE: February 1970 to current year.

DISSOLVED OXYGEN: February 1970 to current year.

INSTRUMENTATION.--Water-quality monitor since February 1970.

REMARKS.--Interruptions in record due to instrument malfunctions and pump failures.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 35,600 microsiemens, Nov. 15, 1978; minimum, 100 microsiemens, on several days during August 1969, April 1970, February 1974, January, February, March 1979.

pH: Maximum, 8.9 units, Mar. 4, 1980; minimum, 5.4 units, Dec. 31, 12.

WATER TEMPERATURE: Maximum, 32.5°C, July 23, 1987; minimum 0.0°C, on many days during winter periods.

DISSOLVED OXYGEN: Maximum, 17.1 mg/L, Dec. 16, 19, 1976; minimum, 0.3 mg/L, Sept. 16, 17, 1971.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 22,900 microsiemens, Nov. 4; minimum, 1,090 microsiemens, Apr. 4.

pH: Maximum, 8.5 units, Mar. 24, 25; minimum, 6.4 units, Jan. 8.

WATER TEMPERATURE: Maximum, 32.5°C, July 23; minimum, 0.5°C, Feb. 15.

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	17700	10100	13000	22000	13000	17000	9080	2200	6540	10900	2160	4910
2	18800	10400	14000	21600	13700	16500	---	---	---	12600	3840	7060
3	19200	11600	14400	22400	14000	16700	---	---	---	7370	2280	3920
4	18800	11500	14500	22900	14700	17900	---	---	---	7090	1560	2860
5	17200	11200	13800	21700	14800	17400	---	---	---	---	---	---
6	17900	10500	13300	22600	14800	18600	---	---	---	---	---	---
7	18000	10400	12900	22000	14700	17200	---	---	---	8450	2160	4190
8	19200	10800	13600	21400	13600	17200	---	---	---	5850	1160	2900
9	17200	10400	12700	19000	13600	16400	---	---	---	7930	2000	4410
10	19500	10000	13200	19000	13000	14700	---	---	---	11200	2680	6180
11	20400	11900	15400	19300	12700	15200	---	---	---	12300	3760	6820
12	20400	12000	15500	19300	11500	15100	7170	1250	2810	---	---	---
13	18100	12300	14800	17300	10700	13500	4670	1280	2020	---	---	---
14	18400	11600	14300	17400	10200	12500	8230	1670	4280	---	---	---
15	17500	11200	13600	15900	9480	11900	7050	1160	3080	11300	3840	6320
16	18400	11600	14000	16800	9520	12000	8650	1280	3130	11300	3920	6080
17	19500	12000	14500	18100	9960	12900	9650	1640	4020	12200	3960	6530
18	19500	12000	15100	18800	10500	13200	10200	2680	4950	11300	3920	6840
19	19600	12500	15700	17800	10100	12700	5770	1880	3020	11200	4080	6660
20	20000	12800	15300	20800	10500	14500	9770	2280	5310	10700	3200	6500
21	20400	12500	16000	19400	8000	13400	10700	2520	6090	10500	3360	6260
22	19600	12400	15200	12700	6160	8870	11300	2480	6220	12800	3040	6700
23	19700	12700	15600	1400	7000	10600	11100	2760	6420	11500	3080	6520
24	18900	12000	14900	16000	6440	11300	12000	2760	6410	---	---	---
25	18900	13100	15900	14600	4800	9080	14700	3200	8640	---	---	---
26	19700	13300	16100	14100	5000	9900	7730	2120	4020	---	---	---
27	20900	12500	16500	12200	4080	7700	8210	1760	3450	---	---	---
28	21700	14000	17900	12500	3240	6840	8930	1720	3470	---	---	---
29	21600	13200	16800	11700	2800	5320	9250	1640	3680	---	---	---
30	20900	13300	16300	10200	2480	4260	9730	1720	3770	---	---	---
31	21200	13400	16800	---	---	---	9690	1720	4020	---	---	---
MONTH	21700	10000	14890	22900	2480	13010	---	---	---	---	---	---

## DELAWARE RIVER BASIN

01482800 DELAWARE RIVER AT REEDY ISLAND JETTY, DE.--Continued

SPECIFIC CONDUCTANCE MICROSIEMENS/CM AT 25 DEG C, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	FEBRUARY			MARCH			APRIL			MAY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	16000	9210	11800	8890	4460	6100	---	---	---
2	---	---	---	12200	6810	9760	10800	4080	6120	---	---	---
3	---	---	---	10000	5810	7680	5920	2620	3930	---	---	---
4	---	---	---	9490	4480	6320	9480	1930	5450	---	---	---
5	---	---	---	10100	3840	5930	5190	1090	2350	---	---	---
6	---	---	---	10200	3360	5090	---	---	---	9930	3000	6230
7	---	---	---	8370	3160	4450	---	---	---	11000	3000	6830
8	13000	4680	9020	9170	2920	5540	---	---	---	12500	4320	7680
9	10400	3810	7140	10600	4320	7540	---	---	---	13700	4640	8880
10	17700	6530	12100	13400	6050	9500	---	---	---	13900	5160	8780
11	17900	7450	12200	13700	7930	10700	---	---	---	14600	4720	8260
12	14900	5930	9330	15000	7290	11200	---	---	---	14500	4570	8550
13	14900	5530	9380	17700	8090	12100	---	---	---	12900	5210	7690
14	15800	6530	10200	17800	8210	13000	---	---	---	14400	5340	8390
15	15200	6970	10300	18400	8090	12700	10200	2080	4340	14100	5400	8110
16	---	---	---	16500	7850	11100	7290	1920	3180	12200	4280	7000
17	---	---	---	15100	7530	10100	7210	1680	3510	13100	5190	7740
18	16500	7850	11100	14900	7410	9920	6090	1480	2910	11300	4870	6930
19	14100	7450	10400	15900	6530	9810	5930	1360	2390	12700	5290	8520
20	14000	7570	9930	14100	5770	9150	5400	1320	2410	13500	6290	9500
21	14700	6930	10300	14500	5840	9010	5610	1280	2710	13600	6410	9820
22	15900	6970	10700	14000	5960	9530	6410	1160	2610	12300	6410	9960
23	15400	8450	11300	15600	5720	11100	5930	1400	3070	13100	6450	8610
24	17300	7810	11800	16600	7090	11400	6290	1560	3080	15000	6370	8740
25	16100	8370	11100	16500	7490	11000	8810	1440	3570	14300	6770	9330
26	17300	8570	11700	15500	7330	10400	8490	2200	4970	14500	6650	9000
27	18200	8650	11900	14300	6650	9370	---	---	---	13300	6570	8480
28	16200	8810	11700	14500	6250	9450	---	---	---	13600	6370	8620
29	---	---	---	14300	6210	8990	---	---	---	13000	6290	8090
30	---	---	---	11300	6290	8400	---	---	---	13400	6210	8470
31	---	---	---	12900	5570	8910	---	---	---	13900	6370	8840
MONTH	---	---	---	18400	2920	9385	---	---	---	---	---	---
DAY	JUNE			JULY			AUGUST			SEPTEMBER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	13400	6210	8690	16100	7250	10500	16100	8170	12000	18100	11200	13500
2	13500	6470	9210	---	---	---	16100	9410	12400	18700	10500	13400
3	14600	7100	10600	---	---	---	15100	8990	11500	18900	9890	12800
4	14300	7750	10400	---	---	---	17300	8160	11500	19100	9810	13200
5	14000	7130	10200	---	---	---	18300	9020	12200	18800	10500	13200
6	15100	7440	10900	---	---	---	18900	9690	12700	18500	10700	13200
7	17800	7230	12000	---	---	---	19500	9640	13200	19200	10700	13300
8	17600	8540	12000	---	---	---	19500	10600	13300	18500	10900	13800
9	17100	7370	11000	---	---	---	19000	10500	12900	18300	9770	13500
10	16900	7410	10300	15600	7250	9830	19000	8820	12300	14400	7330	10700
11	17100	4280	11300	16300	7410	10100	15900	7960	11300	14500	6330	9310
12	18300	8690	11800	16700	7610	10700	16800	8070	11400	13500	6450	9110
13	16500	8010	10800	16100	7570	10300	15900	8120	11300	12500	5730	8290
14	17000	8050	10800	16200	7730	10800	14300	7300	10300	10700	4740	6660
15	16900	8370	11200	12900	6850	9110	13800	7070	9900	8120	3090	5100
16	---	---	---	13000	6330	8690	13500	7540	9560	7280	2600	4430
17	---	---	---	12100	5770	8360	15600	7260	10600	8460	2630	5080
18	---	---	---	12500	5770	8090	15100	8530	11100	20400	3170	6750
19	---	---	---	12500	5770	7870	16800	8930	11900	14300	5120	9070
20	---	---	---	14500	5730	9030	16600	8930	12200	14600	4950	9660
21	---	---	---	15100	5570	8920	18900	9370	12800	13500	4530	8520
22	---	---	---	17400	6250	9700	19000	10400	13600	14100	4840	8010
23	---	---	---	16600	6610	10800	17500	9250	12100	12700	3040	6960
24	---	---	---	16300	7010	11000	18700	9130	13300	10900	2880	5690
25	17800	8770	11700	16700	6930	9970	19000	10000	13500	9690	2840	5030
26	16100	7170	11200	15500	6530	9530	17700	6810	13000	10500	2840	5650
27	14500	7130	10300	16200	6490	10100	18200	10400	13800	9210	2760	4510
28	12900	6690	9230	17100	7730	10800	18400	11000	14500	9650	2640	4980
29	13300	5810	8650	15500	7850	11100	17300	11400	14300	9370	2760	4780
30	14500	6530	9820	16900	8010	12000	---	---	---	9410	3160	5040
31	---	---	---	14800	8490	10900	18900	10900	14200	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	20400	2600	8774

DELAWARE RIVER BASIN

01482800 DELAWARE RIVER AT REEDY ISLAND JETTY, DE.--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	7.6	7.5	7.5	7.8	7.7	7.7	7.5	7.3	7.5	7.5	7.3	7.4
2	7.6	7.5	7.6	7.7	7.7	7.7	---	---	---	7.6	7.4	7.5
3	7.6	7.5	7.6	7.8	7.7	7.7	---	---	---	7.5	7.4	7.4
4	7.6	7.5	7.5	7.8	7.7	7.7	---	---	---	7.5	7.3	7.4
5	7.6	7.5	7.5	7.8	7.7	7.8	---	---	---	---	---	---
6	7.7	7.5	7.6	7.8	7.7	7.8	---	---	---	---	---	---
7	7.7	7.6	7.6	7.8	7.7	7.7	---	---	---	7.5	6.6	7.4
8	7.7	7.6	7.6	7.7	7.7	7.7	---	---	---	7.4	6.4	7.3
9	7.6	7.5	7.6	7.7	7.7	7.7	---	---	---	7.5	7.3	7.4
10	7.7	7.6	7.7	7.7	7.7	7.7	---	---	---	7.6	7.4	7.5
11	7.8	7.6	7.7	7.8	7.7	7.7	---	---	---	7.6	7.0	7.5
12	7.8	7.7	7.7	7.8	7.7	7.7	7.5	7.2	7.3	---	---	---
13	7.7	7.6	7.7	7.8	7.7	7.7	7.4	7.2	7.3	---	---	---
14	7.7	7.6	7.6	7.9	7.7	7.8	7.6	7.3	7.4	---	---	---
15	7.7	7.6	7.6	7.8	7.7	7.8	7.4	7.3	7.4	7.6	7.4	7.5
16	7.7	7.6	7.6	7.8	7.7	7.8	7.5	7.3	7.3	7.6	7.4	7.5
17	7.7	7.6	7.6	7.8	7.7	7.8	7.5	7.3	7.4	7.7	7.5	7.5
18	7.7	7.6	7.7	7.8	7.7	7.8	7.5	7.3	7.4	7.6	7.4	7.5
19	7.7	7.6	7.7	7.8	7.7	7.7	7.4	7.3	7.4	7.6	7.4	7.5
20	7.7	7.7	7.7	7.9	7.8	7.8	7.6	7.3	7.4	7.6	7.4	7.5
21	7.7	7.6	7.7	7.9	7.8	7.9	7.6	7.4	7.5	7.6	7.3	7.5
22	7.8	7.6	7.7	7.9	7.8	7.8	7.6	7.3	7.5	7.7	7.4	7.5
23	7.7	7.6	7.7	7.9	7.7	7.8	7.6	7.3	7.4	7.7	7.0	7.5
24	7.7	7.6	7.7	7.8	7.6	7.8	7.6	7.3	7.4	---	---	---
25	7.8	7.7	7.7	7.8	7.5	7.8	7.7	7.4	7.5	---	---	---
26	7.7	7.7	7.7	7.7	7.4	7.6	7.5	7.3	7.4	---	---	---
27	7.7	7.6	7.7	7.6	7.4	7.5	7.5	7.3	7.3	---	---	---
28	7.7	7.6	7.7	7.6	7.3	7.4	7.5	7.2	7.3	---	---	---
29	7.7	7.6	7.7	7.5	7.3	7.4	7.5	7.2	7.3	---	---	---
30	7.7	7.6	7.7	7.5	7.3	7.4	7.5	7.2	7.3	---	---	---
31	7.8	7.7	7.8	---	---	---	7.5	7.2	7.3	---	---	---
MONTH	7.8	7.5	7.65	7.9	7.3	7.71	---	---	---	---	---	---
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	---	---	---	7.8	7.6	7.7	8.4	7.5	7.8	---	---	---
2	---	---	---	7.7	7.6	7.6	8.0	7.6	7.7	---	---	---
3	---	---	---	7.6	7.5	7.6	7.6	7.5	7.6	---	---	---
4	---	---	---	7.7	7.5	7.6	8.0	7.5	7.7	---	---	---
5	---	---	---	7.7	7.5	7.5	7.6	7.3	7.4	---	---	---
6	---	---	---	7.7	7.4	7.5	7.4	7.1	7.2	7.5	7.1	7.3
7	---	---	---	7.6	7.4	7.4	7.2	7.1	7.1	7.5	7.2	7.3
8	7.9	7.7	7.8	7.7	7.4	7.5	7.3	7.0	7.2	7.6	7.2	7.3
9	7.9	7.7	7.8	7.7	7.4	7.6	7.5	7.1	7.2	7.7	7.2	7.4
10	8.0	7.8	7.9	7.9	7.5	7.7	7.5	7.0	7.2	7.8	7.2	7.4
11	7.9	7.8	7.9	8.0	7.7	7.8	7.5	7.0	7.2	7.6	7.1	7.3
12	7.9	7.7	7.8	8.0	7.6	7.8	7.3	6.9	7.1	7.6	7.1	7.4
13	7.8	7.7	7.7	8.1	7.7	7.9	7.3	6.9	7.0	7.8	7.3	7.5
14	7.9	7.7	7.8	8.2	7.7	8.0	7.4	7.0	7.1	7.8	7.4	7.5
15	7.8	7.7	7.8	8.2	7.7	8.0	7.4	6.9	7.0	7.7	7.3	7.4
16	8.0	7.5	7.9	8.1	7.7	7.9	7.2	6.9	7.0	8.1	7.3	7.5
17	8.1	7.1	7.6	8.1	7.7	7.8	7.2	7.0	7.1	7.6	7.3	7.4
18	7.8	7.6	7.7	8.1	7.7	7.9	7.2	6.9	7.0	7.5	7.3	7.4
19	7.7	7.6	7.7	8.2	7.7	7.9	7.1	6.9	7.0	7.6	7.3	7.4
20	7.8	7.6	7.7	8.1	7.7	7.9	7.0	6.9	6.9	7.6	7.4	7.5
21	7.7	7.6	7.7	8.2	7.7	7.9	7.1	6.9	6.9	7.6	7.4	7.5
22	7.8	7.6	7.7	8.2	7.7	8.0	7.1	6.8	6.9	7.6	7.4	7.5
23	7.8	7.6	7.7	8.4	7.8	8.1	7.1	6.9	7.0	7.5	7.4	7.5
24	7.8	7.6	7.7	8.5	7.8	8.2	7.1	6.9	7.0	7.6	7.3	7.4
25	7.8	7.6	7.7	8.5	7.9	8.3	7.3	7.0	7.1	7.5	7.4	7.5
26	7.8	7.6	7.7	8.4	7.9	8.2	7.3	7.1	7.2	7.5	7.3	7.4
27	7.8	7.6	7.7	8.4	7.9	8.1	---	---	---	7.5	7.3	7.4
28	7.8	7.6	7.7	8.4	7.9	8.1	---	---	---	7.5	7.3	7.3
29	---	---	---	8.4	7.9	8.1	---	---	---	7.4	7.2	7.3
30	---	---	---	8.3	7.8	8.0	---	---	---	7.4	7.2	7.2
31	---	---	---	8.3	7.8	8.0	---	---	---	7.4	7.2	7.2
MONTH	---	---	---	8.5	7.4	7.86	---	---	---	---	---	---

## DELAWARE RIVER BASIN

01482800 DELAWARE RIVER AT REEDY ISLAND JETTY, DE.--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	JUNE			JULY			AUGUST			SEPTEMBER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	7.3	7.2	7.2	7.6	7.4	7.5	7.8	7.5	7.6	7.5	7.4	7.5
2	7.3	7.2	7.2	---	---	---	7.7	7.5	7.6	7.6	7.4	7.5
3	7.4	7.2	7.3	---	---	---	7.7	7.5	7.6	7.6	7.4	7.5
4	7.4	7.2	7.3	---	---	---	7.8	7.4	7.5	7.6	7.5	7.5
5	7.3	7.2	7.3	---	---	---	7.7	7.4	7.5	7.6	7.5	7.5
6	7.4	7.2	7.3	---	---	---	7.5	7.4	7.4	7.6	7.4	7.5
7	7.4	7.2	7.3	---	---	---	7.6	7.4	7.4	7.6	7.4	7.5
8	7.5	7.2	7.3	---	---	---	7.6	7.3	7.4	7.5	7.4	7.5
9	7.4	7.2	7.3	---	---	---	7.5	7.3	7.4	7.5	7.4	7.4
10	8.3	7.3	7.5	7.8	7.3	7.4	7.4	7.3	7.3	7.4	7.3	7.3
11	7.5	7.3	7.4	7.5	7.3	7.4	7.5	7.4	7.4	7.4	7.2	7.3
12	7.7	7.3	7.4	7.5	7.3	7.4	7.5	7.4	7.4	7.4	7.2	7.3
13	8.4	7.3	7.4	7.4	7.3	7.4	7.6	7.4	7.4	7.3	7.2	7.3
14	7.4	7.3	7.3	7.4	7.3	7.4	7.6	7.4	7.5	7.3	7.2	7.2
15	7.7	7.3	7.3	7.9	7.4	7.4	7.6	7.4	7.5	7.3	7.1	7.2
16	---	---	---	7.5	7.4	7.4	7.6	7.4	7.5	7.3	7.0	7.1
17	---	---	---	7.5	7.3	7.4	7.6	7.4	7.5	7.2	7.0	7.1
18	---	---	---	7.5	7.4	7.4	7.7	7.4	7.5	7.3	7.0	7.1
19	---	---	---	7.5	7.3	7.4	7.7	7.4	7.5	7.4	7.1	7.3
20	---	---	---	7.5	7.3	7.4	7.7	7.4	7.5	7.4	7.2	7.3
21	---	---	---	7.6	7.3	7.4	7.9	7.4	7.6	7.3	7.1	7.2
22	---	---	---	7.8	7.4	7.5	7.7	7.4	7.5	7.3	7.1	7.1
23	---	---	---	7.8	7.4	7.5	7.6	7.4	7.5	7.2	7.1	7.2
24	---	---	---	7.6	7.4	7.5	7.7	7.4	7.5	7.3	7.1	7.2
25	7.6	7.4	7.5	7.7	7.4	7.5	7.7	7.5	7.6	7.3	7.1	7.2
26	7.5	7.4	7.5	7.5	7.4	7.4	7.6	7.5	7.5	7.3	7.2	7.3
27	7.5	7.3	7.4	7.7	7.4	7.5	7.6	7.4	7.5	7.3	7.1	7.2
28	7.4	7.3	7.4	7.7	7.4	7.5	7.6	7.4	7.5	7.3	7.1	7.2
29	7.5	7.3	7.4	7.8	7.5	7.6	8.4	7.4	7.5	7.3	7.1	7.2
30	7.6	7.4	7.5	7.8	7.6	7.6	---	---	---	7.3	7.2	7.2
31	---	---	---	7.8	7.5	7.6	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	7.6	7.0	7.30

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	23.5	22.5	22.5	14.5	13.5	14.0	7.0	7.0	7.0	5.0	4.0	4.5
2	23.5	22.5	23.0	15.0	14.0	14.5	---	---	---	4.5	4.5	4.5
3	23.0	22.5	22.5	14.5	13.0	13.5	---	---	---	4.5	3.5	4.0
4	23.0	22.5	22.5	14.0	13.0	13.5	---	---	---	4.0	3.5	4.0
5	23.0	22.0	22.5	13.0	11.5	12.0	---	---	---	---	---	---
6	22.5	20.5	22.0	12.5	11.5	12.0	---	---	---	---	---	---
7	21.0	20.0	20.5	12.0	11.0	11.5	---	---	---	4.5	3.5	4.0
8	21.0	20.0	20.5	12.5	11.5	12.0	---	---	---	4.5	3.5	4.0
9	21.0	20.0	20.5	13.5	12.0	12.5	---	---	---	4.5	3.0	3.5
10	20.0	18.5	19.5	12.5	11.0	12.0	---	---	---	4.0	3.5	4.0
11	19.0	18.5	18.5	11.5	11.0	11.0	---	---	---	5.0	3.5	4.0
12	19.5	18.0	18.5	12.0	10.5	11.0	7.0	6.0	6.5	---	---	---
13	19.0	18.5	18.5	11.0	9.5	10.5	6.0	5.0	6.0	---	---	---
14	19.5	18.5	19.0	10.0	8.5	9.0	5.5	5.0	5.5	---	---	---
15	19.0	18.0	18.0	9.5	8.0	9.0	6.0	4.5	5.5	5.5	3.5	4.0
16	18.5	17.0	18.0	10.0	9.5	9.5	6.0	4.5	5.5	4.5	4.0	4.0
17	18.0	17.0	17.5	10.5	10.0	10.0	6.0	5.0	5.5	4.5	3.0	4.0
18	17.5	16.5	17.0	10.5	10.0	10.0	6.0	5.5	5.5	4.0	3.5	4.0
19	17.0	16.0	16.5	10.5	9.5	9.5	6.0	5.0	5.5	4.0	3.5	4.0
20	17.0	15.5	16.0	9.5	9.0	9.0	5.5	4.5	5.0	4.0	3.5	4.0
21	16.5	15.0	16.0	9.5	9.0	9.0	5.5	4.5	5.0	4.0	3.5	4.0
22	16.5	15.5	16.0	8.5	8.0	8.0	5.5	4.5	5.0	3.5	3.0	3.5
23	16.5	15.5	16.0	9.0	8.5	8.5	5.5	4.5	5.0	3.0	1.5	2.5
24	16.5	15.5	16.0	9.0	9.0	9.0	5.5	4.5	5.0	---	---	---
25	16.0	15.0	15.5	9.5	9.0	9.0	5.5	5.5	5.5	---	---	---
26	15.5	15.0	15.5	9.5	9.0	9.0	5.5	5.0	5.5	---	---	---
27	15.5	15.0	15.5	9.5	9.0	9.0	5.5	5.0	5.0	---	---	---
28	16.5	15.0	15.5	9.0	8.5	8.5	5.5	5.0	5.0	---	---	---
29	16.0	15.0	15.5	9.5	8.5	8.5	5.5	4.5	5.0	---	---	---
30	16.5	14.5	15.5	8.5	8.0	8.0	5.0	4.5	5.0	---	---	---
31	15.5	13.5	14.5	---	---	---	5.0	4.5	5.0	---	---	---
MONTH	23.5	13.5	18.0	15.0	8.0	10.5	---	---	---	---	---	---

DELAWARE RIVER BASIN

01482800 DELAWARE RIVER AT REEDY ISLAND JETTY, DE.--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	FEBRUARY			MARCH			APRIL			MAY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	6.5	5.5	6.0	11.0	7.0	10.5	---	---	---
2	---	---	---	7.0	6.0	6.5	11.5	10.0	10.5	---	---	---
3	---	---	---	7.5	6.5	6.5	11.0	10.0	10.5	---	---	---
4	---	---	---	7.0	6.5	7.0	11.5	10.5	11.0	---	---	---
5	---	---	---	7.5	6.5	7.0	11.5	10.0	10.5	---	---	---
6	---	---	---	8.5	7.0	8.0	11.0	10.0	10.5	16.0	14.0	15.0
7	---	---	---	10.0	7.5	9.0	11.5	10.5	11.0	16.5	14.5	15.5
8	2.5	1.5	2.0	12.0	9.0	10.5	12.5	11.0	11.5	17.0	15.0	15.5
9	2.5	1.0	1.5	12.5	10.5	11.5	12.5	11.0	11.5	17.5	15.0	16.0
10	2.0	1.0	1.5	11.0	9.5	10.5	13.0	11.0	12.0	20.5	16.0	17.0
11	2.5	1.0	1.5	10.0	9.0	9.5	13.5	11.5	12.0	19.0	17.0	17.5
12	2.0	1.5	1.5	9.0	8.5	9.0	13.0	11.5	12.5	19.5	17.5	18.0
13	2.5	1.5	2.0	9.0	8.0	8.5	12.5	11.5	12.0	19.0	17.0	18.0
14	2.0	1.0	1.5	8.5	7.5	8.0	13.5	11.5	12.5	19.0	17.0	18.0
15	1.5	.5	1.0	7.5	7.0	7.5	12.5	11.5	12.0	19.5	18.0	18.5
16	---	---	---	7.5	6.5	7.0	12.5	11.0	11.5	19.0	16.0	18.0
17	---	---	---	6.5	6.0	6.5	12.0	11.5	11.5	19.5	18.0	19.0
18	1.5	1.0	1.5	6.5	5.5	6.0	12.5	11.5	12.0	21.0	18.5	19.5
19	2.0	1.0	1.5	7.0	5.5	6.0	13.0	12.0	12.5	19.5	18.0	19.0
20	2.5	1.0	1.5	7.0	5.5	6.0	13.5	12.5	13.0	19.0	17.5	18.0
21	3.5	1.5	2.0	7.0	6.0	6.5	14.5	13.0	13.5	20.0	17.5	18.5
22	3.5	2.0	2.5	7.5	6.0	6.5	15.5	13.5	14.0	20.5	18.5	19.5
23	3.0	2.5	2.5	8.5	6.0	7.0	14.5	13.5	14.0	21.0	19.0	20.0
24	4.5	2.5	3.0	9.5	6.5	7.5	14.5	14.0	14.0	21.5	20.0	20.0
25	4.5	3.0	3.5	9.5	7.5	8.5	14.0	13.5	13.5	20.5	19.5	20.0
26	5.0	3.5	4.0	10.0	8.5	9.0	14.5	13.0	13.5	20.0	19.5	20.0
27	5.0	4.0	4.5	10.5	9.0	9.5	---	---	---	20.0	19.0	19.5
28	5.5	4.0	5.0	11.5	9.5	10.0	---	---	---	21.5	19.5	20.0
29	---	---	---	11.5	10.0	10.5	---	---	---	22.0	20.0	21.0
30	---	---	---	11.0	10.5	11.0	---	---	---	23.0	20.5	22.0
31	---	---	---	11.5	10.5	11.0	---	---	---	23.5	21.5	22.5
MONTH	---	---	---	12.5	5.5	8.0	---	---	---	---	---	---
DAY	JUNE			JULY			AUGUST			SEPTEMBER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	24.5	22.0	23.0	28.0	27.0	27.5	30.0	29.0	29.5	25.5	24.5	25.0
2	24.5	22.5	23.5	---	---	---	29.5	28.5	29.5	25.5	24.5	25.0
3	23.5	23.0	23.5	---	---	---	30.0	28.5	29.5	25.5	24.5	25.0
4	24.0	23.0	23.0	---	---	---	31.0	29.5	30.0	25.5	24.0	24.5
5	25.0	23.0	23.5	---	---	---	31.5	29.5	30.0	25.0	24.0	24.5
6	24.5	23.0	23.5	---	---	---	29.5	28.5	29.0	24.5	24.0	24.0
7	25.0	23.0	23.5	---	---	---	29.5	28.5	29.0	25.0	24.0	24.5
8	29.5	23.5	24.5	---	---	---	30.5	28.5	29.0	24.5	24.5	24.5
9	26.0	24.0	24.5	---	---	---	29.5	28.5	29.0	25.5	24.5	25.0
10	25.5	20.5	23.5	29.5	28.0	28.5	29.5	28.5	29.0	25.5	24.5	25.0
11	25.0	22.5	24.0	30.5	28.0	29.0	29.5	28.0	28.5	25.5	25.0	25.5
12	25.0	23.0	23.5	29.5	28.5	29.0	29.0	28.0	28.5	25.5	25.0	25.0
13	26.5	23.5	24.0	30.0	28.5	29.5	28.5	27.5	28.0	25.5	25.0	25.5
14	26.0	24.0	24.5	29.5	28.5	29.0	28.5	27.0	28.0	26.0	25.0	25.5
15	27.0	24.5	25.5	29.0	27.0	28.5	29.0	27.5	28.0	26.0	25.0	25.5
16	---	---	---	28.5	27.5	28.0	29.0	27.5	28.0	26.5	25.0	25.5
17	---	---	---	29.0	27.5	28.0	29.5	28.0	28.5	26.0	25.5	25.5
18	---	---	---	29.0	27.5	28.5	30.0	28.5	29.0	26.5	25.0	25.5
19	---	---	---	30.0	28.0	28.5	29.5	28.5	29.0	25.0	24.0	24.5
20	---	---	---	30.5	28.5	29.0	30.0	28.5	29.0	24.5	23.5	24.0
21	---	---	---	31.0	28.5	29.5	30.0	28.0	28.5	24.5	23.0	24.0
22	---	---	---	32.0	29.0	30.0	28.5	27.5	28.0	24.5	23.0	23.5
23	---	---	---	32.5	29.5	30.0	28.0	27.0	27.5	24.0	22.5	23.0
24	---	---	---	31.0	29.5	30.5	27.5	26.0	27.0	23.5	22.0	23.0
25	28.0	26.5	27.0	32.0	30.0	30.5	26.5	25.5	26.5	23.0	21.5	22.5
26	27.5	26.5	26.5	31.0	30.0	30.5	26.5	24.5	26.0	22.5	21.5	22.0
27	28.5	27.0	27.5	31.5	30.0	30.5	26.5	25.5	26.0	22.5	21.5	22.0
28	28.5	27.5	28.0	31.0	30.0	30.5	26.0	25.5	25.5	22.5	21.5	22.0
29	29.0	27.5	28.0	30.5	29.0	30.0	26.0	22.5	25.5	22.5	22.0	22.0
30	29.0	27.5	28.0	30.5	29.0	29.5	---	---	---	22.5	21.5	22.0
31	---	---	---	30.5	29.5	30.0	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	26.5	21.5	24.0

## DELAWARE RIVER BASIN

01482800 DELAWARE RIVER AT REEDY ISLAND JETTY, DE.--Continued

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	7.1	6.2	6.6	7.7	7.0	7.5	10.3	9.9	10.2	11.0	10.3	10.7
2	7.0	6.4	6.7	7.2	6.8	7.0	---	---	---	10.8	10	10.5
3	7.1	6.5	6.8	7.2	6.5	6.8	---	---	---	13.6	9.6	10.1
4	7.0	6.6	6.8	8.3	6.5	7.1	---	---	---	11.4	10.9	11.2
5	7.4	6.7	7.0	8.4	7.6	8.0	---	---	---	---	---	---
6	7.6	6.8	7.1	8.8	8.0	8.4	---	---	---	---	---	---
7	7.6	7.0	7.3	9.1	8.5	8.8	---	---	---	14.4	11.1	11.4
8	7.8	7.1	7.4	8.8	8.3	8.5	---	---	---	14.2	10.9	11.8
9	7.8	6.8	7.2	9.3	8.4	8.7	---	---	---	13.8	10.8	11.3
10	7.9	7.0	7.4	9.2	8.5	8.7	---	---	---	12.6	10.7	11.2
11	7.9	7.4	7.7	9.8	8.6	9.2	---	---	---	12.0	10.8	11.3
12	8.4	7.6	7.9	10.0	9.5	9.8	10.9	10.6	10.8	---	---	---
13	8.0	7.4	7.7	11.3	9.7	10.1	11.6	10.6	11.0	---	---	---
14	7.8	7.2	7.5	---	---	---	11.4	10.6	10.9	---	---	---
15	7.7	7.3	7.5	---	---	---	10.9	10.6	10.8	---	---	---
16	8.0	7.1	7.5	---	---	---	11.0	10.6	10.8	---	---	---
17	7.4	6.5	7.0	---	---	---	11.0	10.7	10.9	12.0	10.2	11.4
18	6.8	5.9	6.4	---	---	---	11.0	10.7	10.9	11.4	9.4	10.8
19	6.4	5.6	6.0	---	---	---	11.4	10.8	11.1	11.5	11.0	11.2
20	6.2	5.3	5.7	---	---	---	11.3	10.9	11.1	11.5	10	11.1
21	7.0	5.5	5.9	---	---	---	11.3	10.9	11.1	11.6	10.7	11.2
22	---	---	---	---	---	---	11.6	10.8	11.1	12.1	9.2	11.2
23	6.7	5.9	6.2	---	---	---	11.3	10.9	11.1	11.9	8.9	11.5
24	7.2	6.4	6.8	---	---	---	12.2	11.0	11.5	---	---	---
25	7.7	6.8	7.2	10.3	9.7	9.9	12.4	12.0	12.2	---	---	---
26	8.7	7.0	7.3	10.5	9.7	10.1	12.1	10.9	11.5	---	---	---
27	7.7	7.1	7.5	10.4	9.8	10.1	11.1	10.4	10.7	---	---	---
28	8.1	7.3	7.8	10.0	9.4	9.7	11.2	10.5	10.9	---	---	---
29	---	---	---	9.7	9.1	9.4	11.3	10.3	10.9	---	---	---
30	8.2	7.1	7.5	10.3	9.2	9.8	11.2	10.7	11.0	---	---	---
31	7.9	7.2	7.6	---	---	---	11.3	10.7	11.0	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	12.6	11.1	11.9	11.4	8.5	10	---	---	---
2	---	---	---	12.5	11.5	12.0	10.7	9.9	10.3	---	---	---
3	---	---	---	12.4	11.5	11.9	10.5	9.2	10.2	---	---	---
4	---	---	---	12.2	11.2	11.5	9.4	8.4	8.7	---	---	---
5	---	---	---	11.9	11.2	11.6	9.6	8.5	9.1	---	---	---
6	---	---	---	11.9	10.9	11.3	---	---	---	9.7	9.0	9.4
7	---	---	---	11.8	11.1	11.4	---	---	---	9.3	8.7	9.0
8	12.1	11.6	11.9	11.8	11.1	11.4	---	---	---	8.9	8.3	8.6
9	15.1	11.8	12.5	12.1	10.9	11.5	9.4	8.9	9.2	8.7	8.0	8.5
10	12.8	12.1	12.4	12.2	11.4	11.8	9.4	8.4	8.9	10	7.9	8.5
11	13.3	12.3	12.5	12.1	11.4	11.8	10.2	8.4	8.8	10.2	8.5	8.8
12	13.4	12.0	12.5	12.1	11.2	11.7	8.7	7.2	8.1	10.1	8.3	8.8
13	15.2	12.6	13.0	12.5	11.5	12.0	10.8	7.2	8.3	11.8	8.5	8.9
14	13.8	12.9	13.2	12.6	11.6	12.1	8.7	7.7	8.2	10.3	8.2	8.8
15	13.9	12.5	12.9	12.5	11.3	12.0	9.2	8.6	8.9	10.5	8.0	8.5
16	---	---	---	12.4	10.9	11.6	10.0	8.9	9.4	11.6	8.1	8.7
17	---	---	---	12.2	11.0	11.4	10.3	9.5	9.9	10.2	7.7	8.4
18	12.7	12.4	12.6	12.2	11.0	11.7	10.2	9.5	9.8	9.8	7.7	8.1
19	13.7	12.4	12.7	12.8	12.0	12.4	10	9.4	9.7	8.4	7.5	7.8
20	---	---	---	13.1	12.1	12.5	9.9	9.2	9.6	8.2	7.6	7.8
21	---	---	---	13.2	11.7	12.4	9.9	9.2	9.6	8.5	7.6	8.0
22	---	---	---	13.2	11.5	12.5	10.0	9.0	9.6	8.9	7.6	8.2
23	---	---	---	13.4	12.0	12.8	9.7	8.8	9.4	9.7	7.8	8.4
24	---	---	---	13.9	11.8	12.9	9.5	8.8	9.1	8.4	7.8	8.2
25	---	---	---	13.6	11.9	12.7	10	9.2	9.7	8.3	7.6	7.9
26	---	---	---	12.4	9.4	11.1	10.1	9.5	9.8	8.3	7.2	7.6
27	12.6	10.8	11.6	12.6	9.2	10.5	---	---	---	7.6	7.1	7.3
28	12.6	11.0	12.1	12.2	9.2	10.0	---	---	---	7.5	6.9	7.2
29	---	---	---	12.1	8.9	9.6	---	---	---	7.2	6.4	6.8
30	---	---	---	9.2	8.1	8.8	---	---	---	7.1	6.3	6.7
31	---	---	---	10.4	6.7	8.0	---	---	---	7.3	6.6	6.9
MONTH	---	---	---	13.9	6.7	11.5	---	---	---	---	---	---

DELAWARE RIVER BASIN

01482800 DELAWARE RIVER AT REEDY ISLAND JETTY, DE.--Continued

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	JUNE			JULY			AUGUST			SEPTEMBER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	7.4	6.5	6.8	4.5	3.3	3.9	7.0	5.9	6.3	7.1	6.3	6.7
2	7.1	5.9	6.5	---	---	---	6.9	6.1	6.6	7.1	6.0	6.6
3	6.8	5.8	6.3	---	---	---	7.8	5.9	6.5	7.1	6.2	6.8
4	6.1	5.5	5.8	---	---	---	7.4	5.7	6.3	7.3	6.5	6.9
5	5.8	5.3	5.5	---	---	---	6.5	5.1	5.8	7.6	6.5	7.0
6	6.0	5.2	5.6	---	---	---	5.9	4.9	5.3	7.2	6.2	6.8
7	5.7	5.0	5.4	---	---	---	6.0	4.6	5.3	6.6	6.2	6.4
8	7.7	4.8	5.5	---	---	---	5.8	4.6	5.1	6.8	6.2	6.5
9	8.3	5.0	5.7	---	---	---	5.6	4.6	5.0	7.2	6.7	6.9
10	9.2	5.4	6.4	---	---	---	8.4	4.7	5.7	6.8	6.2	6.5
11	8.8	6.0	6.5	---	---	---	6.7	5.6	6.0	6.7	5.8	6.2
12	8.8	5.8	6.2	---	---	---	6.4	5.5	6.0	6.7	6.0	6.3
13	8.4	5.8	6.2	---	---	---	6.6	5.8	6.1	6.6	6.1	6.3
14	7.9	5.3	5.9	---	---	---	6.7	5.6	6.0	7.0	5.9	6.3
15	8.7	5.0	6.0	---	---	---	6.7	5.7	6.2	6.4	5.5	5.9
16	---	---	---	5.8	5.1	5.5	7.1	6.1	6.6	6.2	5.1	5.5
17	---	---	---	5.9	5.1	5.6	7.8	6.6	7.0	5.6	4.6	5.2
18	---	---	---	6.3	5.3	5.7	8.0	6.1	6.8	5.8	4.5	5.1
19	---	---	---	6.4	5.5	5.8	6.9	5.5	6.2	6.0	4.9	5.5
20	---	---	---	6.3	5.3	5.8	6.0	4.9	5.5	5.9	5.1	5.6
21	---	---	---	6.7	5.2	5.9	6.2	4.5	5.2	5.8	5.4	5.6
22	---	---	---	7.2	5.1	5.8	5.5	4.6	5.0	6.0	5.4	5.7
23	---	---	---	6.9	5.0	5.7	8.3	4.7	6.1	6.1	5.3	5.8
24	---	---	---	6.2	4.9	5.7	7.6	6.0	6.6	6.4	5.7	6.0
25	6.5	5.2	6.0	6.2	5.1	5.7	10.0	5.5	6.4	7.0	6.1	6.4
26	6.4	5.4	5.8	7.6	5.2	5.7	9.0	5.2	6.1	7.4	6.4	6.8
27	6.4	5.4	5.8	6.9	4.8	5.7	8.4	5.0	6.4	7.3	6.7	7.0
28	6.1	4.9	5.4	6.2	4.9	5.4	7.2	6.0	6.6	7.0	6.1	6.5
29	5.0	4.2	4.6	7.0	5.1	5.9	9.0	4.9	6.3	6.4	5.7	6.0
30	4.8	4.0	4.4	7.2	5.5	6.2	---	---	---	6.2	5.4	5.7
31	---	---	---	6.8	5.7	6.1	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	7.6	4.5	6.22

## DELAWARE RIVER BASIN

01483200 BLACKBIRD CREEK AT BLACKBIRD, DE

LOCATION.--Lat 39°21'58", long 75°40'10", New Castle County, Hydrologic Unit 02040205, on left bank 15 ft downstream from highway culverts, 0.5 mi upstream from Barlow Branch, 0.6 mi southwest of Blackbird, 5.6 mi northwest of Smyrna, and 13.8 mi upstream from mouth.

DRAINAGE AREA.--3.85 mi<sup>2</sup>.

PERIOD OF RECORD.--Annual maximum, water years 1952-56, and occasional low-flow measurements, water years 1952-53, 1955-56. October 1956 to current year.

GAGE.--Water-stage recorder. Concrete control since May 23, 1968. Datum of gage is 17.89 ft above National Geodetic Vertical Datum of 1929. Mar. 5, 1951, to Oct. 16, 1956, nonrecording gage and crest-stage gage at site 15 ft upstream at datum 1.0 ft higher. Oct. 17, 1956, to June 16, 1986, recording gage at same site on right bank at datum 1.0 ft higher.

REMARKS.--No estimated daily discharges. Records good. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--31 years, 4.68 ft<sup>3</sup>/s, 16.51 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 712 ft<sup>3</sup>/s, June 22, 1972, gage height, 5.04 ft, from rating curve extended above 200 ft<sup>3</sup>/s on basis of Type III culvert measurement of peak flow; no flow at times during 1964, 1965, 1966, 1969.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 50 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 24	2315	111	3.14	Dec. 25	0030	*290	*4.16

Minimum discharge, 0.06 ft<sup>3</sup>/s, Aug. 2, gage height, 0.53 ft, result of regulation from unknown source; minimum daily discharge, 0.08 ft<sup>3</sup>/s, Aug. 31, Sept. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.37	.55	1.6	6.3	6.1	34	5.6	2.9	1.8	1.2	.10	.08
2	.42	1.3	4.2	26	6.9	27	4.6	3.0	1.6	1.2	.09	.09
3	.41	1.3	13	13	9.5	11	4.3	3.6	1.6	1.3	.10	.10
4	.37	.80	5.6	7.2	11	8.0	12	15	2.4	1.4	.12	.10
5	.41	3.5	2.4	6.1	8.7	7.1	8.0	11	4.2	1.3	.16	.09
6	.36	6.7	2.2	5.7	7.0	6.7	8.3	5.0	1.9	1.1	.45	.09
7	.33	1.9	2.0	5.7	7.2	6.7	6.7	4.0	1.5	.96	.46	.10
8	.21	5.5	1.9	5.0	7.7	6.5	5.7	3.5	1.4	.94	.43	.11
9	.17	3.2	6.6	4.8	8.2	6.4	5.1	3.1	1.3	.99	.48	.13
10	.20	1.3	13	5.5	6.6	6.1	4.8	2.8	1.4	1.1	.48	.18
11	.21	2.6	8.3	5.7	6.3	5.6	4.5	2.4	1.1	1.0	.47	.20
12	.20	3.7	10	4.8	6.5	5.8	4.4	2.4	1.3	.91	.45	.17
13	.26	1.7	5.1	4.7	6.5	5.7	4.4	2.3	1.8	.84	.41	.15
14	4.1	1.3	3.4	4.5	6.0	5.2	4.2	2.0	1.3	.79	.38	.44
15	2.1	1.2	3.1	4.6	5.3	5.1	4.2	3.4	1.1	.74	.38	.54
16	.77	1.2	2.9	4.5	4.4	4.9	4.4	3.5	1.0	.71	.38	.49
17	.61	.95	2.9	4.2	4.9	4.7	5.3	2.3	1.0	.68	.39	.41
18	.56	1.6	9.6	9.9	5.3	4.5	4.7	2.0	.96	.64	.36	1.5
19	.48	4.4	11	23	5.1	4.5	4.3	2.6	1.0	.62	.30	1.3
20	.43	3.1	5.3	22	4.9	4.5	4.2	8.3	1.1	.56	.29	.65
21	.46	5.8	3.9	8.4	5.2	4.5	4.1	6.1	1.4	.46	.26	.61
22	.40	3.1	3.4	6.8	5.4	4.5	3.8	3.5	2.0	.42	.18	.57
23	.44	1.6	3.2	7.5	5.3	4.3	3.7	2.9	1.2	.39	.12	.48
24	.40	1.8	15	6.6	7.3	4.3	4.4	2.6	1.2	.32	.12	.32
25	.40	1.8	85	5.7	6.8	4.3	6.5	2.5	1.1	.29	.11	.20
26	1.7	4.4	13	5.8	6.2	4.3	4.4	2.5	1.1	.25	.11	.17
27	1.7	7.3	7.1	5.9	5.9	4.1	3.7	2.6	1.4	.23	.10	.17
28	1.1	2.7	6.3	5.8	6.4	5.9	3.6	2.6	1.4	.17	.10	.17
29	.75	1.7	5.7	5.8	---	4.8	3.5	2.1	1.3	.13	.10	.32
30	.64	1.6	5.7	6.1	---	4.9	2.9	1.9	1.2	.10	.10	2.0
31	.56	---	5.8	6.4	---	7.3	---	1.7	---	.11	.08	---
TOTAL	21.52	79.60	268.2	244.0	182.6	223.2	150.3	116.1	44.06	21.85	8.06	11.93
MEAN	.69	2.65	8.65	7.87	6.52	7.20	5.01	3.75	1.47	.70	.26	.40
MAX	4.1	7.3	85	26	11	34	12	15	4.2	1.4	.48	2.0
MIN	.17	.55	1.6	4.2	4.4	4.1	2.9	1.7	.96	.10	.08	.08
CFSM	.18	.69	2.25	2.04	1.69	1.87	1.30	.97	.38	.18	.07	.10
IN.	.21	.77	2.59	2.36	1.76	2.16	1.45	1.12	.43	.21	.08	.12

CAL YR 1986 TOTAL 1222.49 MEAN 3.35 MAX 85 MIN .17 CFSM .87 IN 11.81  
WTR YR 1987 TOTAL 1371.42 MEAN 3.76 MAX 85 MIN .08 CFSM .98 IN 13.25

ST. JONES RIVER BASIN

01483700 ST. JONES RIVER AT DOVER, DE

LOCATION.--Lat 39°09'49", long 75°31'10", Kent County, Hydrologic Unit 02040207, on left bank 150 ft upstream from Division Street Bridge in Dover, 1,950 ft downstream from Silver Lake, and 12.5 mi upstream from mouth.

DRAINAGE AREA.--31.9 mi<sup>2</sup>.

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 0.00 ft above National Geodetic Vertical Datum of 1929. Prior to June 1973, at datum 0.50 ft higher.

REMARKS.--Estimated daily discharges: Oct. 10-12, Dec. 2, 3, Jan. 2, 26-30, Apr. 17, 18, 26, July 12-14, Aug. 10-14, Sept. 12, 19-21. Records good except those for Oct. 10-12, Dec. 2,3, Jan. 2, Apr. 17, 18, 26, July 12-14, Aug. 10-14, Sept. 12, 19-21, and period of ice effect, Jan. 26-30, which are fair. Flow affected by Silver Lake. Flow occasionally affected by tide and wind effect. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--29 years, 36.6 ft<sup>3</sup>/s, 15.58 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,900 ft<sup>3</sup>/s, Sept. 13, 1960, gage height, 9.45 ft, from flood-mark; no flow at times in 1959, 1961, 1962.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 408 ft<sup>3</sup>/s, Dec. 25, gage height, 4.30 ft; minimum daily discharge, 1.2 ft<sup>3</sup>/s, Oct. 7-9, 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.8	2.3	8.0	60	55	143	72	20	11	5.3	1.5	3.1
2	3.9	6.7	25	175	58	310	58	19	9.2	33	1.5	2.0
3	2.5	4.8	65	232	73	225	44	20	7.8	16	1.3	1.8
4	2.6	3.7	49	151	97	142	70	58	15	8.4	1.4	1.5
5	2.5	13	31	92	108	96	84	90	35	5.7	21	1.4
6	2.7	28	18	65	92	74	72	79	22	3.7	30	1.5
7	1.2	18	13	55	78	64	61	51	13	5.0	13	1.9
8	1.2	18	10	50	78	60	51	36	9.3	7.2	7.0	6.7
9	1.2	14	30	46	96	59	45	27	8.7	6.1	4.5	8.1
10	1.4	9.1	49	52	86	56	40	22	8.3	4.9	3.6	3.8
11	1.3	12	61	60	74	51	37	19	5.9	4.5	2.2	2.8
12	1.2	13	59	57	68	48	36	17	5.7	3.9	1.9	2.8
13	2.4	11	52	49	68	47	34	17	7.1	3.0	1.8	9.2
14	22	5.7	34	43	67	45	30	17	7.0	4.0	1.7	6.1
15	11	5.5	23	41	60	43	28	21	6.4	4.8	2.0	4.5
16	5.5	5.2	19	41	46	43	27	23	5.3	3.1	2.2	7.5
17	3.8	4.8	17	38	46	41	31	19	4.7	2.8	1.9	5.6
18	3.2	7.5	37	57	45	39	34	16	4.0	2.7	2.2	21
19	2.6	21	54	125	45	38	32	17	3.6	2.6	1.7	12
20	2.4	16	52	211	44	38	29	47	4.5	2.2	1.9	6.9
21	2.5	26	37	173	43	38	30	57	7.1	2.3	1.6	4.8
22	2.3	16	26	118	44	38	28	42	8.0	2.1	1.9	4.7
23	2.4	11	22	85	51	38	26	27	7.7	2.0	2.9	4.1
24	2.2	10	51	68	59	35	35	20	5.8	1.9	1.7	3.0
25	2.0	7.1	287	60	65	33	70	17	5.0	2.0	2.0	2.9
26	8.7	31	297	48	62	33	61	17	4.4	2.4	3.6	1.9
27	6.6	51	152	45	58	32	47	16	5.7	1.8	2.1	1.9
28	6.0	42	89	45	58	42	36	16	4.6	2.3	2.7	1.8
29	4.1	24	58	46	---	41	28	15	3.0	1.7	3.4	1.8
30	3.7	13	50	49	---	42	25	14	3.0	1.4	2.0	6.9
31	2.0	---	47	53	---	66	---	12	---	1.5	1.4	---
TOTAL	119.9	450.4	1822.0	2490	1824	2100	1301	888	247.8	150.3	129.6	144.0
MEAN	3.87	15.0	58.8	80.3	65.1	67.7	43.4	28.6	8.26	4.85	4.18	4.80
MAX	22	51	297	232	108	310	84	90	35	33	30	21
MIN	1.2	2.3	8.0	38	43	32	25	12	3.0	1.4	1.3	1.4
CFSM	.12	.47	1.84	2.52	2.04	2.12	1.36	.90	.26	.15	.13	.15
IN.	.14	.53	2.12	2.90	2.13	2.45	1.52	1.04	.29	.18	.15	.17

CAL YR 1986 TOTAL 8794.8 MEAN 24.1 MAX 297 MIN 1.2 CFSM .76 IN 10.26  
WTR YR 1987 TOTAL 11667.0 MEAN 32.0 MAX 310 MIN 1.2 CFSM 1.00 IN 13.60

MISPILLION RIVER BASIN

01484100 BEAVERDAM BRANCH AT HOUSTON, DE

LOCATION.--Lat 38°54'20", long 75°30'49", Kent County, Hydrologic Unit 02040207, on left bank 15 ft upstream from culverts on State Highway 384, 0.8 mi south of Houston, and 1.2 mi upstream from Blairs Pond and mouth.

DRAINAGE AREA.--2.83 mi<sup>2</sup>.

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

REVISED RECORDS.--WDR MD-DE-84-1: 1981, 1983 (M).

GAGE.--Water-stage recorder and concrete control; timber control prior to Nov. 8, 1979. Datum of gage is 35.67 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good except those for estimated daily discharges (missing record), which are fair. Diversion for irrigation of about 150 acres upstream from station during some years. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--29 years, 3.62 ft<sup>3</sup>/s, 17.37 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 176 ft<sup>3</sup>/s, Sept. 12, 1960, gage height, 5.55 ft, from rating curve extended above 75 ft<sup>3</sup>/s; no flow July 28, 1977 (result of pumpage for irrigation).

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 30 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 25	0500	*62	*3.90	Mar. 1	1830	33	3.33
Jan. 2	0845	33	3.33				

Minimum daily discharge, 0.04 ft<sup>3</sup>/s, Aug. 21, gage height, 2.19 ft, result of pumpage for irrigation; minimum daily discharge, 0.05 ft<sup>3</sup>/s, Aug. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.29	.35	.61	4.6	5.3	25	6.2	3.7	2.8	1.5	.48	.32
2	.25	.35	.89	21	5.8	16	5.3	3.6	2.7	1.6	.33	.14
3	.26	.35	1.9	8.5	6.7	9.7	5.0	3.6	2.7	1.6	.68	.44
4	.25	.33	1.1	6.1	7.7	7.7	7.5	7.1	3.2	1.4	.45	.46
5	.23	.44	.92	5.5	7.0	6.9	6.2	6.2	3.4	1.4	.96	.48
6	.24	.51	.86	5.3	6.3	6.3	5.6	4.9	2.9	1.1	1.1	.50
7	.28	.40	.86	5.3	6.5	6.3	5.3	4.5	2.7	1.3	.96	.49
8	.30	.46	.86	5.0	7.4	6.3	5.1	4.2	2.5	1.1	.90	1.1
9	.31	.39	3.2	4.7	8.5	6.4	4.8	4.0	2.4	1.3	.86	.80
10	.30	.36	2.8	6.2	6.2	6.3	4.7	3.8	2.4	1.0	.85	.60
11	.29	.44	2.4	6.0	5.9	5.7	4.6	3.7	2.3	1.1	.75	.56
12	.30	.47	3.1	4.9	6.2	5.7	4.6	3.7	2.3	1.1	.29	.56
13	.37	.39	1.9	4.5	6.8	5.6	4.6	4.1	2.4	1.6	.37	.65
14	.88	.35	1.8	4.4	6.5	5.5	4.3	3.7	2.3	1.8	.71	.58
15	.52	.35	1.8	4.4	5.6	5.3	4.4	3.8	2.2	1.4	.71	.54
16	.42	.35	1.8	4.2	5.0	5.3	4.4	3.5	2.2	1.3	.52	.54
17	.39	.35	1.8	4.0	5.0	5.1	4.6	3.3	2.0	1.1	.10	.54
18	.38	.36	2.6	6.4	5.0	5.0	4.3	3.2	1.9	.94	.30	.61
19	.37	.50	2.9	11	4.9	5.0	4.2	3.2	1.9	.88	.30	.57
20	.35	.43	2.2	12	4.8	4.9	4.1	4.3	1.9	.55	.17	.55
21	.34	.67	2.0	6.8	5.0	4.7	4.1	4.1	1.9	.75	.05	.54
22	.34	.49	1.9	7.1	5.1	4.7	4.0	3.5	1.9	1.3	.32	.55
23	.34	.43	1.9	8.8	7.5	4.6	3.9	3.3	1.8	1.2	.60	.49
24	.33	.45	5.0	6.7	9.1	4.4	4.5	3.2	1.7	.98	.10	.45
25	.35	.43	33	5.8	7.9	4.4	5.7	3.2	1.7	.93	.43	.42
26	.54	.71	6.2	5.9	6.6	4.4	5.0	3.2	1.7	.42	.56	.41
27	.47	1.7	5.0	5.5	6.4	4.4	4.3	3.2	1.8	.55	.59	.39
28	.53	.79	4.6	5.3	7.5	6.1	4.2	3.1	1.6	.28	.59	.37
29	.41	.69	4.4	5.3	---	5.1	4.0	3.0	1.5	.16	.54	.37
30	.39	.66	4.4	5.4	---	5.3	3.8	2.9	1.5	.39	.09	.42
31	.35	---	4.2	5.6	---	8.8	---	2.8	---	.58	.08	---
TOTAL	11.37	14.95	108.90	202.2	178.2	206.9	143.3	117.6	66.2	32.61	15.74	15.44
MEAN	.37	.50	3.51	6.52	6.36	6.67	4.78	3.79	2.21	1.05	.51	.51
MAX	.88	1.7	33	21	9.1	25	7.5	7.1	3.4	1.8	1.1	1.1
MIN	.23	.33	.61	4.0	4.8	4.4	3.8	2.8	1.5	.16	.05	.14
CFSM	.13	.18	1.24	2.30	2.25	2.36	1.69	1.34	.78	.37	.18	.18
IN.	.15	.20	1.43	2.66	2.34	2.72	1.88	1.55	.87	.43	.21	.20

CAL YR 1986 TOTAL 778.50 MEAN 2.13 MAX 33 MIN .23 CFSM .75 IN 10.23  
WTR YR 1987 TOTAL 1113.41 MEAN 3.05 MAX 33 MIN .05 CFSM 1.08 IN 14.63

INDIAN RIVER BASIN

01484500 STOCKLEY BRANCH AT STOCKLEY, DE

LOCATION.--Lat 38°38'19"ong 75°20'31", Sussex County, Hydrologic Unit 02060010, on left bank at highway bridge in Stockley, 1.6 mi upstream from mouth, and 4.4 mi southeast of Georgetown.

DRAINAGE AREA.--5.24 mi<sup>2</sup>.

PERIOD OF RECORD.--April 1943 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 24.54 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 16, 1950, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--44 years, 6.88 ft<sup>3</sup>/s, 17.83 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 217 ft<sup>3</sup>/s, Feb. 26, 1979, gage height, 5.01 ft, from rating curve extended above 130 ft<sup>3</sup>/s; minimum discharge observed, 0.13 ft<sup>3</sup>/s, Sept. 1-11, 1944.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 45 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Feb. 23	2215	*39	*2.92	No peak greater than base discharge.			

Minimum discharge, 0.39 ft<sup>3</sup>/s, Oct. 5, gage height, 1.71 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.59	.69	1.0	5.5	9.2	30	16	8.2	5.0	2.6	1.8	1.0
2	.63	.72	2.1	11	9.8	26	12	8.0	5.0	2.6	1.7	1.0
3	.70	.66	3.5	7.6	11	18	11	7.7	5.0	2.5	1.6	1.0
4	.65	.64	1.9	6.6	12	15	19	13	6.0	2.5	1.6	1.0
5	.55	.82	1.5	6.5	12	13	16	13	7.2	6.6	4.9	1.0
6	.60	.95	1.4	6.2	11	12	14	11	5.5	3.6	4.9	1.1
7	.64	.71	1.4	6.3	11	12	13	9.8	5.0	3.0	2.5	1.1
8	.67	.75	1.4	6.1	13	11	11	9.0	4.9	2.9	2.2	2.5
9	.79	.67	1.7	5.9	17	11	11	8.5	4.9	2.7	2.0	1.8
10	.78	.63	1.7	6.8	14	11	10	8.0	5.4	2.6	1.9	1.5
11	.72	.84	2.4	6.5	13	9.9	9.9	7.5	4.8	2.6	1.8	1.3
12	.80	.97	3.1	5.9	13	9.9	9.7	7.8	4.7	2.5	1.6	1.4
13	.84	.72	2.1	5.5	14	10	9.5	9.6	5.0	2.5	1.4	1.4
14	2.2	.72	1.8	5.4	13	9.7	8.9	7.8	4.8	2.6	1.3	1.2
15	1.1	.76	1.7	5.4	11	9.3	8.8	7.7	4.6	2.5	1.4	1.1
16	.88	.84	1.7	5.1	10	9.0	8.9	7.3	4.4	2.6	1.4	1.0
17	.81	.81	1.7	4.9	10	8.8	9.3	6.9	4.3	2.6	1.4	1.0
18	.78	.81	2.5	6.8	9.9	8.6	8.9	6.8	4.2	2.4	1.3	1.0
19	.85	.87	2.9	16	9.5	8.4	8.5	6.8	4.1	2.4	1.4	1.1
20	.80	.83	2.3	20	9.1	8.3	8.5	7.9	4.1	2.3	1.3	1.2
21	.72	1.3	2.1	11	9.1	8.1	8.7	7.9	4.2	2.2	1.2	1.1
22	.72	.91	2.1	14	9.3	8.0	8.2	7.0	4.0	2.5	1.3	1.1
23	.64	.81	2.1	20	30	7.7	8.0	6.9	3.7	2.1	1.1	1.1
24	.64	.89	5.3	13	28	7.5	9.0	6.7	3.4	1.9	1.1	1.1
25	.64	.90	22	10	20	7.3	12	6.6	3.2	1.8	1.0	1.0
26	.97	.96	6.6	11	16	7.3	13	6.4	3.0	1.8	1.1	.95
27	.83	1.9	5.6	10	15	7.2	10	6.3	3.5	1.7	1.1	.96
28	.75	1.2	5.4	9.3	15	11	9.9	6.1	3.0	1.8	1.1	.90
29	.71	1.1	5.4	9.0	---	8.9	9.3	5.6	2.8	1.7	1.1	.88
30	.69	1.0	5.4	9.6	---	9.3	8.8	5.5	2.7	1.6	1.1	.96
31	.68	---	5.2	9.9	---	20	---	5.2	---	1.7	1.1	---
TOTAL	24.37	26.38	107.0	276.8	374.9	353.2	320.8	242.5	132.4	77.4	51.7	34.75
MEAN	.79	.88	3.45	8.93	13.4	11.4	10.7	7.82	4.41	2.50	1.67	1.16
MAX	2.2	1.9	22	20	30	30	19	13	7.2	6.6	4.9	2.5
MIN	.55	.63	1.0	4.9	9.1	7.2	8.0	5.2	2.7	1.6	1.0	.88
CFSM	.15	.17	.66	1.70	2.56	2.18	2.04	1.49	.84	.48	.32	.22
IN.	.17	.19	.76	1.96	2.66	2.51	2.28	1.72	.94	.55	.37	.25

CAL YR 1986 TOTAL 1363.60 MEAN 3.74 MAX 23 MIN .55 CFSM .71 IN 9.68  
WTR YR 1987 TOTAL 2022.20 MEAN 5.54 MAX 30 MIN .55 CFSM 1.06 IN 14.35

## INDIAN RIVER BASIN

01484525 MILLSBORO POND OUTLET AT MILLSBORO, DE

LOCATION.--Lat 38°35'40", long 75°17'29", Sussex County, Hydrologic Unit 02060010, on right bank just upstream from Millsboro Pond Dam, 10 ft upstream from bridge on State Highway 24, at Millsboro.

DRAINAGE AREA.--66.0 mi<sup>2</sup>.

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1.98 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: May 1-8, 1986. Records fair except those for estimated daily discharges (no gage-height record), which are poor. Flow affected by Millsboro Pond and mill ponds on tributaries upstream. Several measurements of water temperature were made during the period.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 246 ft<sup>3</sup>/s, Mar. 2, 1987, gage height, 3.60 ft; minimum daily discharge, 13 ft<sup>3</sup>/s, Oct. 7, 1986.

EXTREMES FOR CURRENT PERIOD.--May to September 1986: Maximum discharge, 78 ft<sup>3</sup>/s, June 13, gage height, 3.09 ft; minimum daily discharge, 16 ft<sup>3</sup>/s, Sept. 17, 18.

Water year 1987: Maximum discharge, 246 ft<sup>3</sup>/s, Mar. 2, gage height 3.60 ft; minimum daily discharge, 13 ft<sup>3</sup>/s, Oct. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, MAY 1986 TO SEPTEMBER 1986  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								54	34	24	17	22
2								54	34	27	17	23
3								53	31	33	34	23
4								52	32	27	24	21
5								52	33	26	20	22
6								51	33	24	17	33
7								50	34	23	40	26
8								50	35	23	29	24
9								49	35	21	23	23
10								50	31	20	20	21
11								50	30	20	19	21
12								49	40	24	19	21
13								48	74	31	22	19
14								48	51	26	21	18
15								48	39	22	20	18
16								48	35	21	18	18
17								48	32	26	20	16
18								42	27	25	36	16
19								40	25	24	22	17
20								48	28	24	24	18
21								53	34	24	56	18
22								54	29	23	43	18
23								51	28	21	29	18
24								47	38	20	23	18
25								44	37	19	21	18
26								42	30	20	21	18
27								41	28	21	24	21
28								41	28	21	39	19
29								39	29	20	36	18
30								36	26	20	26	18
31								35	---	18	24	---
TOTAL								1467	1020	718	804	604
MEAN								47.3	34.0	23.2	25.9	20.1
MAX								54	74	33	56	33
MIN								35	25	18	17	16
CFSM								.72	.52	.35	.39	.31
IN.								.83	.57	.40	.45	.34

INDIAN RIVER BASIN

01484525 MILLSBORO POND OUTLET AT MILLSBORO, DE--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	24	21	71	120	179	176	126	75	37	32	20
2	18	24	32	116	116	226	171	123	74	37	29	18
3	16	23	70	112	120	206	154	121	70	37	28	18
4	17	21	50	94	125	179	166	136	73	35	27	18
5	16	26	42	85	128	165	178	153	92	105	40	18
6	15	30	41	82	128	157	177	151	88	96	69	18
7	13	27	41	79	128	150	167	141	76	62	46	18
8	14	26	41	77	130	146	152	127	70	51	37	31
9	15	25	40	74	147	146	144	122	67	48	33	37
10	16	24	41	87	148	145	140	114	84	41	31	27
11	16	28	44	96	138	139	135	112	77	40	28	23
12	16	30	53	84	137	138	131	111	68	40	27	26
13	17	25	33	77	137	142	130	133	70	38	27	32
14	31	21	31	74	136	141	128	120	67	39	27	31
15	31	21	31	74	133	138	139	110	63	38	27	25
16	24	21	32	74	127	136	128	105	58	36	27	24
17	21	21	34	71	124	132	128	102	52	37	27	21
18	21	22	41	83	123	129	128	99	45	34	27	21
19	19	25	51	116	122	128	125	93	44	34	27	21
20	19	22	44	148	119	127	124	111	46	33	25	21
21	18	30	40	148	116	124	128	122	48	34	23	21
22	20	24	37	139	116	112	126	113	49	49	23	21
23	21	24	37	148	158	115	123	105	49	40	24	21
24	21	26	51	146	217	116	130	97	45	36	20	19
25	21	24	126	134	209	116	146	90	43	34	20	19
26	31	24	128	118	181	118	155	89	41	33	22	19
27	32	27	91	125	164	129	156	87	49	32	23	18
28	28	27	75	125	156	143	147	86	45	31	24	18
29	31	26	71	121	---	143	137	85	40	29	23	18
30	26	23	69	120	---	135	129	83	38	27	20	20
31	24	---	67	120	---	152	---	78	---	29	19	---
TOTAL	646	741	1605	3218	3903	4452	4298	3445	1806	1292	882	662
MEAN	20.8	24.7	51.8	104	139	144	143	111	60.2	41.7	28.5	22.1
MAX	32	30	128	148	217	226	178	153	92	105	69	37
MIN	13	21	21	71	116	112	123	78	38	27	19	18
CFSM	.32	.37	.79	1.58	2.11	2.18	2.17	1.68	.91	.63	.43	.34
IN.	.36	.42	.90	1.81	2.20	2.51	2.42	1.94	1.02	.73	.50	.37
WTR YR 1987	TOTAL	26950	MEAN	73.8	MAX	226	MIN	13	CFSM	1.12	IN	15.19

## INDIAN RIVER BASIN

01484548 VINES CREEK AT OMAR, DE

LOCATION.--Lat 38°31'44", long 75°12'09", Sussex County, Hydrologic Unit 02060010, on right bank at downstream side of highway bridge, 0.1 mi northwest of Omar, 3.0 mi southeast of Dagsboro, and 6.2 mi upstream from the confluence with Indian River at Indian River Bay.

DRAINAGE AREA.--13.6 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1985 to current year.

GAGE.--Water-stage recorder and timber control. Elevation of gage is 4.50 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Several measurements of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 543 ft<sup>3</sup>/s, Aug. 19, 1985, gage height, 6.11 ft; minimum daily discharge, 0.17 ft<sup>3</sup>/s, Aug. 6, 11, 1986.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan. 2	0530	113	3.92	Feb. 23	1515	*240	*4.85
Jan. 19	2145	169	4.42	Mar. 1	2030	130	4.14
Jan. 22	2345	155	4.31	Apr. 4	1400	124	4.04

Minimum daily discharge, 0.18 ft<sup>3</sup>/s, Aug. 24, 25.

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.84	.91	1.3	12	30	89	55	25	5.7	1.6	1.1	.34
2	.68	1.2	3.3	81	32	102	41	23	5.6	1.6	.47	.34
3	.62	1.4	6.2	38	39	66	35	21	5.4	1.5	.35	.38
4	.66	1.5	3.7	25	47	50	89	36	5.3	1.4	.34	.38
5	.63	2.0	3.2	20	45	43	77	51	5.2	8.0	.30	.32
6	.69	2.8	2.9	17	39	38	56	42	4.9	2.9	.38	.29
7	.67	2.2	2.8	16	39	35	47	35	4.5	1.8	.47	.27
8	.57	2.1	2.8	15	44	32	41	29	4.3	1.7	.39	.52
9	.78	1.8	3.1	13	47	32	36	24	4.1	1.4	.35	.33
10	.91	1.5	3.5	21	36	33	32	21	4.1	1.2	.31	.20
11	.78	1.4	5.7	26	37	33	28	18	3.8	.93	.30	.24
12	.73	2.0	8.4	20	39	35	25	16	3.4	.91	.30	1.1
13	.68	1.3	5.4	17	42	48	23	18	3.7	.87	.23	1.3
14	1.4	.85	4.4	15	41	45	21	16	3.4	.72	.20	.86
15	.54	.83	4.3	14	36	38	19	16	3.3	.61	.22	.51
16	.38	1.1	3.9	13	30	34	19	15	3.1	.65	.20	.43
17	.33	.84	3.7	12	27	31	20	13	2.9	.73	.23	.39
18	.34	.81	5.2	21	25	28	19	11	2.7	.58	.23	.35
19	.40	1.5	7.0	79	24	26	18	10	2.4	.43	.21	.44
20	.40	1.2	5.7	109	24	24	20	17	2.2	.40	.24	.51
21	.40	2.1	4.9	50	23	23	30	26	2.2	.60	.25	.62
22	.44	1.7	4.3	68	24	22	29	21	2.2	1.5	.29	.65
23	.51	1.5	4.1	112	175	20	26	17	2.0	.83	.30	.62
24	.51	2.2	12	49	127	19	38	14	1.9	.52	.25	.58
25	.51	2.0	59	37	71	18	65	12	1.9	.35	.22	.47
26	2.1	2.0	26	29	54	18	76	11	1.9	.30	.30	.40
27	1.9	3.1	18	34	46	17	51	9.7	2.0	.30	.33	.40
28	1.2	2.0	15	31	42	31	42	8.9	1.8	.49	.49	.40
29	.84	1.7	13	29	---	31	36	7.8	1.6	.55	.36	.40
30	.69	1.4	12	30	---	29	30	6.9	1.4	.34	.30	.57
31	.72	---	11	32	---	56	---	6.2	---	1.2	.33	---
TOTAL	22.85	48.94	265.8	1085	1285	1146	1144	597.5	98.9	36.91	10.24	14.61
MEAN	.74	1.63	8.57	35.0	45.9	37.0	38.1	19.3	3.30	1.19	.33	.49
MAX	2.1	3.1	59	112	175	102	89	51	5.7	8.0	1.1	1.3
MIN	.33	.81	1.3	12	23	17	18	6.2	1.4	.30	.20	.20
CFSM	.05	.12	.63	2.57	3.38	2.72	2.80	1.42	.24	.09	.02	.04
IN.	.06	.13	.73	2.97	3.51	3.13	3.13	1.63	.27	.10	.03	.04

CAL YR 1986 TOTAL 2981.35 MEAN 8.17 MAX 113 MIN .17 CFSM .60 IN 8.15  
WTR YR 1987 TOTAL 5755.75 MEAN 15.8 MAX 175 MIN .20 CFSM 1.16 IN 15.74

POCOMOKE RIVER BASIN

01485000 POCOMOKE RIVER NEAR WILLARDS, MD

LOCATION.--Lat 38°23'20", long 75°19'30", Worcester County, Hydrologic Unit 02060009, on left bank 30 ft downstream from bridge on State Highway 346, 0.6 mi upstream from Burnt Mill Branch, 1.3 mi east of Willards, 1.3 mi west of Whaleysville, and 50.3 mi upstream from mouth.

DRAINAGE AREA.--60.5 mi<sup>2</sup>.

PERIOD OF RECORD.--December 1949 to current year.

GAGE.--Water-stage recorder. Datum of gage is 13.95 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--37 years (water years 1951-87), 71.0 ft<sup>3</sup>/s, 15.94 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,870 ft<sup>3</sup>/s, Feb. 26, 1979, gage height, 13.88 ft, from rating curve extended above 1,600 ft<sup>3</sup>/s; minimum discharge, 2.2 ft<sup>3</sup>/s, Aug. 18, 19, 1957, gage height, 1.91 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 25	0600	535	9.03	Jan. 23	0500	502	8.81
Jan. 20	0200	653	9.74	Feb. 23	2000	*662	*9.79

Minimum daily discharge, 3.0 ft<sup>3</sup>/s, Oct. 23, 24, 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.5	4.1	11	76	144	297	235	94	27	9.4	16	4.3
2	4.3	4.1	13	313	152	346	166	84	26	9.2	21	4.1
3	4.2	4.5	57	242	196	243	133	77	25	9.5	14	4.0
4	4.2	5.1	48	163	246	188	239	107	24	9.3	11	4.2
5	4.1	5.6	37	126	243	153	246	179	24	11	10	3.9
6	3.8	5.8	31	107	202	132	185	143	23	14	10	4.0
7	3.7	5.4	26	98	194	120	149	118	21	13	10	3.9
8	4.0	5.5	25	88	221	112	128	102	20	11	11	5.7
9	5.1	5.6	24	78	243	113	112	88	19	11	9.6	7.6
10	5.3	5.6	28	97	173	121	101	76	18	9.7	8.8	6.1
11	4.5	5.7	36	154	182	121	93	66	17	9.5	8.4	5.3
12	4.2	6.6	88	121	181	123	86	60	17	9.2	8.1	5.9
13	4.0	6.8	69	101	200	165	81	63	17	8.7	7.7	6.8
14	4.8	6.3	52	88	202	154	74	60	17	8.5	7.3	6.9
15	5.0	6.1	44	81	170	129	71	58	16	8.5	7.2	5.9
16	4.1	6.7	38	76	138	116	70	56	15	8.5	7.0	5.5
17	3.8	6.8	34	69	121	108	73	51	14	8.2	6.8	5.1
18	3.5	6.8	35	92	112	99	72	47	14	8.0	6.5	4.7
19	3.4	7.5	57	325	109	92	69	43	13	7.7	6.3	4.7
20	3.4	7.6	53	568	105	87	70	49	13	7.5	6.1	4.9
21	3.4	8.4	45	359	104	81	102	63	12	7.5	5.9	4.9
22	3.2	8.4	38	304	105	78	101	64	12	14	5.7	5.1
23	3.0	8.0	34	468	491	73	92	58	12	17	5.7	4.7
24	3.0	8.9	57	319	544	69	100	51	11	14	5.4	4.4
25	3.0	9.5	448	218	348	66	203	45	11	11	5.2	4.2
26	4.4	9.3	246	164	249	64	283	41	11	9.5	5.3	4.0
27	7.0	13	155	148	201	63	203	38	11	9.0	5.2	4.0
28	5.9	13	119	143	171	93	154	36	11	11	5.1	3.8
29	5.0	12	99	132	---	103	127	33	11	12	4.6	3.7
30	4.9	11	89	131	---	98	109	31	9.9	11	4.4	4.2
31	4.2	---	81	146	---	204	---	29	---	11	4.3	---
TOTAL	130.9	219.7	2217	5595	5747	4011	3927	2110	491.9	318.4	249.6	146.5
MEAN	4.22	7.32	71.5	180	205	129	131	68.1	16.4	10.3	8.05	4.88
MAX	7.0	13	448	568	544	346	283	179	27	17	21	7.6
MIN	3.0	4.1	11	69	104	63	69	29	9.9	7.5	4.3	3.7
CFSM	.07	.12	1.18	2.98	3.39	2.13	2.17	1.13	.27	.17	.13	.08
IN.	.08	.14	1.36	3.44	3.53	2.47	2.41	1.30	.30	.20	.15	.09

CAL YR 1986 TOTAL 14101.5 MEAN 38.6 MAX 519 MIN 3.0 CFSM .64 IN 8.67  
WTR YR 1987 TOTAL 25164.0 MEAN 68.9 MAX 568 MIN 3.0 CFSM 1.14 IN 15.47

POCOMOKE RIVER BASIN

01485500 NASSAWANGO CREEK NEAR SNOW HILL, MD

LOCATION.--Lat 38°13'44", long 75°28'19", Worcester County, Hydrologic Unit 02060009, on right bank 15 ft downstream from bridge on State Highway 12, 0.5 mi upstream from Furnace Branch, 0.6 mi downstream from Millville Creek, 5.5 mi northwest of Snow Hill, and 7.3 mi upstream from mouth.

DRAINAGE AREA.--44.9 mi<sup>2</sup>.

PERIOD OF RECORD.--December 1949 to current year.

REVISED RECORDS.--WSP 1332: 1953.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 12.29 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--37 years (water years 1951-86), 53.7 ft<sup>3</sup>/s, 16.24 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,940 ft<sup>3</sup>/s, Feb. 26, 1979, gage height, 7.95 ft, from rating curve extended above 1,300 ft<sup>3</sup>/s; minimum discharge, 0.80 ft<sup>3</sup>/s, Sept. 8, 9, 10, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 280 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan. 21	0100	*445	*6.29	Mar. 2	2100	295	5.70
Feb. 24	1900	400	6.16				

Minimum daily discharge, 1.6 ft<sup>3</sup>/s, Sept. 1, 2, 3, 4, 5, 6, 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	3.6	8.4	53	108	160	189	57	12	3.0	3.8	1.6
2	1.7	3.4	16	97	120	266	208	47	11	2.9	3.1	1.6
3	1.7	3.3	38	167	140	270	149	41	10	3.3	2.6	1.6
4	1.7	3.2	33	178	171	192	145	62	9.6	3.9	2.4	1.6
5	1.7	3.9	30	128	193	138	184	99	9.3	15	2.3	1.6
6	1.7	6.5	23	91	178	107	184	132	8.3	22	2.4	1.6
7	1.7	5.8	19	72	150	87	141	121	7.4	21	2.5	1.6
8	1.7	4.7	17	62	133	75	108	88	6.7	15	2.4	6.0
9	1.8	4.6	17	54	138	78	85	66	5.8	9.3	2.2	6.5
10	1.8	4.3	19	60	145	101	71	52	7.3	6.4	2.2	4.4
11	2.0	3.9	25	85	134	116	61	43	6.9	6.5	2.1	3.2
12	2.1	5.7	38	108	123	117	53	36	7.5	6.2	2.0	8.2
13	2.1	6.2	40	104	124	120	48	32	15	5.1	2.0	13
14	4.5	5.8	38	83	127	123	44	29	24	4.2	2.0	11
15	4.2	5.5	29	68	128	116	40	27	21	3.5	2.0	5.9
16	3.2	6.3	24	59	104	100	37	26	17	3.1	1.9	3.9
17	2.6	6.3	22	52	93	86	38	25	12	3.3	1.9	3.0
18	2.3	6.3	22	58	80	76	37	23	9.2	3.2	1.9	2.5
19	2.2	6.8	27	117	74	69	35	22	7.4	2.8	1.9	2.4
20	2.1	6.5	25	347	68	62	36	35	6.5	2.4	1.8	2.6
21	2.1	8.6	25	405	65	56	43	38	6.2	2.3	1.8	2.6
22	2.1	7.8	22	299	62	51	48	35	6.1	2.4	1.8	2.4
23	2.1	7.3	21	329	154	47	50	32	5.5	2.2	1.8	2.3
24	2.0	11	34	330	348	44	50	29	4.9	2.1	1.8	2.2
25	2.1	11	135	237	340	41	67	26	4.4	2.0	1.7	2.1
26	6.6	10	245	147	233	38	110	23	4.0	2.1	1.7	2.0
27	14	16	206	111	166	36	179	21	4.1	2.1	1.7	2.0
28	12	11	130	105	130	51	145	19	4.3	7.0	1.7	2.0
29	7.7	9.7	87	98	---	65	99	17	3.9	9.4	1.7	2.0
30	4.9	9.2	68	95	---	88	73	15	3.4	8.2	1.7	2.0
31	3.9	---	57	102	---	123	---	13	---	5.5	1.7	---

TOTAL	104.1	204.2	1540.4	4301	4029	3099	2757	1331	260.7	187.4	64.5	105.4
MEAN	3.36	6.81	49.7	139	144	100	91.9	42.9	8.69	6.05	2.08	3.51
MAX	14	16	245	405	348	270	208	132	24	22	3.8	13
MIN	1.7	3.2	8.4	52	62	36	35	13	3.4	2.0	1.7	1.6
CFSM	.08	.15	1.11	3.10	3.21	2.23	2.05	.96	.19	.14	.05	.08
IN.	.09	.17	1.28	3.56	3.34	2.57	2.28	1.10	.22	.16	.05	.09

CAL YR 1986	TOTAL	9984.2	MEAN	27.4	MAX	391	MIN	1.5	CFSM	.61	IN	8.27
WTR YR 1987	TOTAL	17983.7	MEAN	49.3	MAX	405	MIN	1.6	CFSM	1.10	IN	14.90

MANOKIN RIVER BASIN

01486000 MANOKIN BRANCH NEAR PRINCESS ANNE, MD

LOCATION.--Lat 38°12'50", long 75°40'18", Somerset County, Hydrologic Unit 02060009, on right bank 45 ft downstream from farm bridge, 1.4 mi northeast of Princess Anne, and 1.6 mi upstream from confluence with Loretto Branch.

DRAINAGE AREA.--4.80 mi<sup>2</sup>.

PERIOD OF RECORD.--April 1951 to September 1971, October 1974 to current year.

REVISED RECORDS.--WDR MD-DE-75-1: Drainage area. WDR MD-DE-85-1: 1983-84 (P).

GAGE.--Water-stage recorder. Datum of gage is 7.03 ft above National Geodetic Vertical Datum of 1929. Artificial control since Apr. 30, 1975. Nov. 26, 1968, to Sept. 30, 1971, water-stage recorder above and nonrecording gage below gage height 1.4 ft. Prior to Nov. 26, 1968, recording gage at datum 1.0 ft higher.

REMARKS.--No estimated daily discharges. Records good. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--33 years (water years 1952-71, 1975-87), 4.62 ft<sup>3</sup>/s, 13.07 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 547 ft<sup>3</sup>/s, Aug. 20, 1969, gage height, 5.44 ft, from rating curve extended above 27 ft<sup>3</sup>/s on basis of channel-conveyance study; maximum gage height, 7.08 ft, Aug. 19, 1985; no flow at times in 1954, 1963, 1964, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 50 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 24	2400	85	3.54	Jan. 22	1930	76	3.42
Jan. 2	0345	56	3.16	Feb. 23	0715	73	3.38
Jan. 19	1645	*90	*3.61				

Minimum daily discharge, 0.25 ft<sup>3</sup>/s, Sept. 26-29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	.76	1.2	8.9	11	32	15	5.1	1.9	1.2	1.3	.37
2	1.1	.78	1.6	39	14	23	11	4.4	1.8	1.2	1.2	.36
3	1.1	.76	4.2	19	19	14	9.2	4.1	1.7	1.2	1.2	.35
4	1.1	.76	3.6	14	22	11	15	16	1.7	1.2	1.1	.33
5	1.1	.80	3.0	13	18	9.7	13	16	2.7	6.0	1.0	.32
6	.97	.83	2.6	11	14	9.0	10	11	2.2	5.0	1.0	.32
7	.89	.80	2.4	10	14	7.9	8.8	8.4	1.9	2.9	.97	.32
8	.84	.84	2.3	8.8	14	7.8	7.7	6.9	1.7	2.3	.90	.34
9	.86	.86	2.3	7.7	14	9.1	7.0	5.3	1.6	2.0	.84	.34
10	.85	.82	2.6	15	12	13	6.3	4.5	1.5	1.7	.79	.29
11	.83	.85	4.1	18	12	11	5.7	3.9	1.4	1.7	.70	.27
12	.80	.93	7.7	11	13	11	5.3	3.6	3.3	3.0	.65	.39
13	.82	.96	5.4	9.0	15	12	4.8	3.2	6.0	1.9	.62	.51
14	.96	.93	4.2	7.7	14	10	4.3	3.0	13	1.7	.60	.44
15	.92	.99	3.8	7.1	11	8.7	4.2	3.0	4.8	1.5	.59	.33
16	.86	1.0	3.5	6.4	8.3	7.5	4.1	2.9	3.4	1.4	.59	.30
17	.79	.99	3.3	5.7	7.5	7.3	4.6	2.6	2.8	1.3	.59	.29
18	.75	.99	3.6	11	6.7	6.9	4.2	2.5	2.4	1.2	.55	.29
19	.72	1.0	4.9	51	6.4	6.4	3.9	2.5	2.2	1.1	.53	.29
20	.69	.93	4.2	43	5.9	6.1	4.1	3.3	2.0	1.1	.53	.30
21	.68	1.0	3.7	24	5.8	5.9	5.6	3.3	2.1	1.0	.47	.30
22	.68	1.0	3.3	38	5.8	5.1	5.0	3.0	1.9	.95	.47	.31
23	.68	.99	3.2	42	50	4.4	4.4	2.8	1.9	.93	.48	.30
24	.68	1.1	17	22	26	4.1	4.9	2.7	1.7	.89	.43	.28
25	.64	1.3	47	15	17	3.8	16	2.9	1.6	.84	.40	.27
26	.97	1.3	19	11	13	3.9	16	2.6	1.6	.85	.42	.25
27	1.3	1.5	14	11	11	4.1	11	2.5	2.2	1.0	.42	.25
28	1.2	1.5	12	10	10	10	8.8	2.3	1.7	11	.41	.25
29	.97	1.5	10	9.6	---	8.2	7.1	2.2	1.4	4.2	.39	.25
30	.90	1.3	9.3	10	---	8.3	6.1	2.0	1.2	2.0	.36	.28
31	.82	---	8.2	11	---	23	---	1.9	---	1.5	.36	---
TOTAL	27.57	30.07	217.2	519.9	390.4	304.2	233.1	140.4	77.3	65.76	20.86	9.49
MEAN	.89	1.00	7.01	16.8	13.9	9.81	7.77	4.53	2.58	2.12	.67	.32
MAX	1.3	1.5	47	51	50	32	16	16	13	11	1.3	.51
MIN	.64	.76	1.2	5.7	5.8	3.8	3.9	1.9	1.2	.84	.36	.25
CFSM	.19	.21	1.46	3.50	2.90	2.04	1.62	.94	.54	.44	.14	.07
IN.	.21	.23	1.68	4.03	3.02	2.36	1.81	1.09	.60	.51	.16	.07

CAL YR 1986	TOTAL	1270.15	MEAN 3.48	MAX 47	MIN .25	CFSM .73	IN 9.84
WTR YR 1987	TOTAL	2036.25	MEAN 5.58	MAX 51	MIN .25	CFSM 1.16	IN 15.78

NANTICOKE RIVER BASIN

01487000 NANTICOKE RIVER NEAR BRIDGEVILLE, DE

LOCATION.--Lat 38°43'42", long 75°33'44", Sussex County, Hydrologic Unit 02060008, on left bank at downstream side of highway bridge, 800 ft downstream from Gum Branch, 2.5 mi southeast of Bridgeville, and 50.5 mi upstream from mouth.

DRAINAGE AREA.--75.4 mi<sup>2</sup>.

PERIOD OF RECORD.--April 1943 to current year. Prior to October 1955, published as Gravelly Fork near Bridgeville.

REVISED RECORDS.--WSP 1111: 1947. WSP 1232: 1945-49.

GAGE.--Water-stage recorder. Datum of gage is 13.64 ft above National Geodetic Vertical Datum of 1929 (levels by Soil Conservation Service). Prior to Apr. 19, 1947, nonrecording gage, and Apr. 19, 1947, to Dec. 18, 1969, recording gage at present site and datum. Timber control Sept. 3, 1947, to Dec. 18, 1969. Feb. 18, 1970, to Oct. 1, 1973, recording gage at site 300 ft downstream at same datum.

REMARKS.--No estimated daily discharges. Records good. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--44 years, 90.6 ft<sup>3</sup>/s, 16.32 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,020 ft<sup>3</sup>/s, Feb. 26, 1979, gage height, 10.31 ft; minimum discharge observed, 6.3 ft<sup>3</sup>/s, Sept. 29, 1943.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, about 11.0 ft in September 1935, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 360 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 25	1100	*691	*7.28	Mar. 1	2100	400	6.47
Jan. 20	0300	393	6.45				

Minimum daily discharge, 16 ft<sup>3</sup>/s, Oct. 6, 21-24, Sept. 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	18	29	124	148	295	167	115	75	30	24	20
2	18	19	32	273	150	319	147	113	74	33	24	19
3	17	19	46	229	161	235	139	111	71	33	25	19
4	18	19	39	176	183	207	151	137	72	32	24	19
5	18	21	34	157	189	191	158	170	82	60	21	17
6	16	24	33	147	175	180	148	150	75	69	28	18
7	17	21	32	142	175	174	142	140	71	46	29	18
8	17	22	31	135	188	170	137	135	71	38	27	23
9	18	22	41	129	225	173	132	129	70	39	26	24
10	18	21	67	138	188	172	129	123	68	35	25	21
11	18	24	55	159	180	160	125	118	65	33	25	20
12	18	26	75	142	179	156	124	115	64	34	23	21
13	19	24	57	133	188	155	126	119	64	45	22	27
14	30	22	49	127	186	150	120	111	61	43	22	25
15	24	22	47	126	171	145	119	111	57	39	24	22
16	20	22	46	122	158	141	120	110	49	36	23	21
17	18	21	45	117	153	138	122	105	50	34	23	21
18	18	22	52	131	148	135	118	102	48	32	21	20
19	17	27	64	207	142	133	114	100	50	28	21	20
20	17	24	56	322	138	131	113	104	49	27	22	20
21	16	31	52	214	138	129	113	103	45	29	22	20
22	16	27	50	200	139	127	110	99	48	33	23	20
23	16	25	50	222	211	123	108	96	45	29	23	19
24	16	25	64	203	269	121	112	94	38	27	21	18
25	17	24	527	177	231	119	124	90	40	24	21	18
26	21	27	241	181	204	118	136	88	41	27	22	17
27	22	60	164	168	190	117	129	87	43	26	22	17
28	21	39	141	158	184	133	126	86	42	27	21	16
29	19	33	132	152	---	128	124	83	38	28	19	17
30	19	31	129	153	---	126	121	80	34	26	19	18
31	19	---	128	155	---	157	---	78	---	22	19	---
TOTAL	575	762	2608	5219	4991	4958	3854	3402	1700	1064	711	595
MEAN	18.5	25.4	84.1	168	178	160	128	110	56.7	34.3	22.9	19.8
MAX	30	60	527	322	269	319	167	170	82	69	29	27
MIN	16	18	29	117	138	117	108	78	34	22	19	16
CFSM	.25	.34	1.12	2.23	2.36	2.12	1.70	1.46	.75	.46	.30	.26
IN.	.28	.38	1.29	2.57	2.46	2.45	1.90	1.68	.84	.52	.35	.29

CAL YR 1986	TOTAL	19351	MEAN 53.0	MAX 527	MIN 15	CFSM .70	IN 9.55
WTR YR 1987	TOTAL	30439	MEAN 83.4	MAX 527	MIN 16	CFSM 1.11	IN 15.02

NANTICOKE RIVER BASIN

01488500 MARSHYOPE CREEK NEAR ADAMSVILLE, DE

LOCATION.--Lat 38°50'59", long 75°40'24", Kent County, Hydrologic Unit 02060008, on left bank 45 ft upstream from highway bridge, 1.4 mi upstream from Cattail Branch, 1.6 mi northeast of Adamsville, 4.9 mi northwest of Greenwood, and 33 mi upstream from mouth.

DRAINAGE AREA.--43.9 mi<sup>2</sup>.

PERIOD OF RECORD.--April 1943 to March 1969, October 1971 to current year.

REVISED RECORDS.--WSP 1141: 1948(P). WSP 1432: 1946(M), 1948, 1952.

GAGE.--Water-stage recorder. Datum of gage is 26.21 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 24, 1953, nonrecording gage and crest-stage gage, and Nov. 24, 1953, to March 1969, recording gage at site on old channel about 240 ft southeast of present site at datum 2.00 ft higher.

REMARKS.--No estimated daily discharges. Records good. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--41 years (water years 1944-68, 1972-87), 54.3 ft<sup>3</sup>/s, 16.80 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,700 ft<sup>3</sup>/s, July 13, 1975, gage height, 13.19 ft, from rating curve extended above 3,300 ft<sup>3</sup>/s; maximum gage height, 13.98 ft, Aug. 5, 1967, present datum; minimum discharge, 1.0 ft<sup>3</sup>/s, Sept. 9, 10, 1964, Aug. 20, 1965.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 16.5 ft, present datum, in September 1935, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 450 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 25	0430	*2,070	*9.83	Jan. 20	0030	857	6.36
Jan. 2	0715	1,120	7.20	Mar. 1	1345	761	6.04

Minimum discharge, 4.7 ft<sup>3</sup>/s, Oct. 2, 3, 5, 6, 7, gage height, 2.04 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.5	5.6	9.0	81	81	619	105	43	26	13	7.7	6.8
2	5.2	5.9	9.5	723	86	307	80	41	25	13	7.6	7.0
3	5.2	5.9	19	256	111	177	71	39	25	13	7.9	6.8
4	5.2	5.9	25	157	166	135	86	67	24	12	8.1	6.8
5	5.1	6.7	16	124	164	112	92	119	26	12	8.9	6.9
6	5.1	6.9	13	106	129	100	79	82	25	12	13	6.9
7	5.0	6.6	12	99	132	94	72	68	23	12	11	6.9
8	5.2	7.0	12	91	170	89	67	60	22	12	10	7.4
9	5.2	6.8	19	82	216	88	62	53	22	11	9.7	7.4
10	5.5	6.7	73	99	138	88	58	49	21	11	9.5	7.1
11	5.4	7.0	43	129	121	79	55	45	20	11	9.1	6.9
12	5.5	6.8	88	100	121	75	53	43	20	13	8.8	7.1
13	5.8	6.5	50	88	146	73	53	45	20	17	8.5	7.3
14	8.0	6.3	37	79	140	69	49	43	19	17	8.3	7.1
15	7.3	6.3	33	77	106	66	48	42	18	13	8.0	6.9
16	6.9	6.4	31	73	89	63	48	42	18	12	7.9	6.9
17	6.2	6.2	29	67	81	62	49	40	17	12	7.8	6.7
18	6.0	6.3	32	109	76	59	48	38	16	11	7.6	7.3
19	5.7	7.3	64	335	75	57	46	37	16	10	7.6	7.5
20	5.8	7.0	48	459	73	56	44	37	16	11	7.5	7.1
21	5.6	7.9	39	187	74	54	43	38	16	9.8	7.2	6.7
22	5.7	7.6	36	154	76	53	42	38	15	10	7.2	6.7
23	5.7	9.0	34	155	106	50	41	37	15	10	7.2	6.6
24	5.8	7.1	91	132	157	48	42	36	15	9.9	7.6	6.5
25	5.7	6.9	1290	104	163	47	53	34	14	9.5	7.6	6.3
26	6.5	7.9	221	95	135	47	69	33	15	9.0	7.4	6.2
27	6.2	12	140	90	121	46	58	32	15	9.6	7.5	6.1
28	6.5	14	112	84	129	52	53	31	14	9.4	7.6	6.1
29	6.1	11	97	79	---	53	50	30	13	8.8	7.2	6.1
30	5.8	9.6	90	81	---	54	48	29	13	8.3	7.1	6.3
31	5.7	---	84	84	---	106	---	28	---	7.6	7.0	---
TOTAL	180.1	223.1	2896.5	4579	3382	3078	1764	1399	564	349.9	255.1	204.4
MEAN	5.81	7.44	93.4	148	121	99.3	58.8	45.1	18.8	11.3	8.23	6.81
MAX	8.0	14	1290	723	216	619	105	119	26	17	13	7.5
MIN	5.0	5.6	9.0	67	73	46	41	28	13	7.6	7.0	6.1
CFSM	.13	.17	2.13	3.37	2.76	2.26	1.34	1.03	.43	.26	.19	.16
IN.	.15	.19	2.45	3.88	2.87	2.61	1.49	1.19	.48	.30	.22	.17
CAL YR 1986	TOTAL	14635.9	MEAN 40.1	MAX 1290	MIN 5.0	CFSM .91	IN 12.40					
WTR YR 1987	TOTAL	18875.1	MEAN 51.7	MAX 1290	MIN 5.0	CFSM 1.18	IN 15.99					

## NANTICOKE RIVER BASIN

01489000 FAULKNER BRANCH AT FEDERALSBURG, MD

LOCATION.--Lat 38°42'44", long 75°47'34", Caroline County, Hydrologic Unit 02060008, on right bank 25 ft downstream from bridge on Laurel Grove Road, 0.9 mi upstream from mouth, and 1.0 mi northwest of Federalsburg.

DRAINAGE AREA.--7.10 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1950 to current year.

REVISED RECORDS.--WSP 1552: 1952. WSP 2103: 1960(M).

GAGE.--Water-stage recorder and concrete contrl. Datum of gage is 16.70 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Diversion for irrigation of about 100 acres upstream from station during some years. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--37 years, 9.05 ft<sup>3</sup>/s, 17.31 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,680 ft<sup>3</sup>/s, July 13, 1975, gage height, 5.98 ft, from rating curve extended above 400 ft<sup>3</sup>/s on basis of contracted-opening measurement of peak flow; no flow at times during many years (result of pumpage for irrigation).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1935 is believed to have been higher than that of July 13, 1975, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 60 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 25	0015	*900	*5.11	Feb. 9	0030	61	2.32
Jan. 2	0215	169	3.22	Feb. 23	0615	89	2.65
Jan. 18	1515	61	2.32	Feb. 23	1745	95	2.71
Jan. 19	1700	167	3.21				

No flow for part of Aug. 4; minimum daily discharge, 0.14 ft<sup>3</sup>/s, Aug. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	1.6	3.0	18	17	36	11	7.4	3.7	.87	.28	1.0
2	1.0	1.7	3.5	80	18	28	11	7.2	2.3	.39	.46	.95
3	1.0	1.6	7.4	30	21	22	10	7.2	3.8	.67	.54	.96
4	1.1	1.6	5.5	23	25	19	11	14	7.0	.33	.14	.89
5	1.1	1.9	4.7	21	25	18	11	12	9.1	1.3	.57	.89
6	1.3	2.0	4.4	19	22	17	10	11	5.2	1.1	1.7	.92
7	1.4	1.6	4.3	19	24	16	10	10	4.6	.63	1.6	.89
8	1.3	1.7	4.2	17	32	16	9.6	9.7	4.5	.51	1.6	1.2
9	1.4	1.6	15	16	35	17	9.3	8.9	4.4	.32	1.5	1.1
10	1.4	1.6	12	22	24	16	9.1	8.5	3.9	.40	.89	.92
11	1.4	1.8	15	21	23	14	8.9	8.1	3.7	.29	.21	.88
12	1.4	1.9	16	18	25	14	9.2	8.0	2.2	1.3	.45	.97
13	1.7	1.9	10	16	26	14	8.9	8.3	2.3	3.4	.82	1.1
14	2.6	1.9	9.3	15	23	13	8.2	7.4	2.3	2.1	.21	1.1
15	1.9	2.0	8.9	15	20	13	8.3	7.7	3.1	1.8	.24	1.1
16	1.6	2.0	8.2	14	18	12	8.5	7.7	1.8	1.2	.93	.97
17	1.6	1.9	7.8	13	17	12	8.6	7.0	2.5	.31	1.4	1.1
18	1.5	1.9	9.0	28	16	12	8.1	6.9	1.8	.94	1.3	.99
19	1.4	2.3	10	70	15	12	7.8	6.6	.67	1.2	1.4	.93
20	1.4	2.3	9.0	48	15	11	7.6	6.8	1.4	.75	1.4	.00
21	1.4	2.7	8.4	28	15	11	7.6	6.5	1.8	.26	1.3	.93
22	1.4	2.5	8.1	28	15	10	7.3	6.0	1.5	.34	1.2	.92
23	1.4	2.4	7.9	28	62	10	7.1	5.9	.62	.24	1.1	.83
24	1.4	2.4	89	23	36	9.9	7.3	5.8	1.8	.24	.87	.77
25	1.4	2.4	196	21	27	9.6	9.2	5.5	.56	.27	.89	.73
26	1.7	3.2	32	20	23	9.6	9.5	5.4	.94	.54	.92	.72
27	1.6	8.7	24	19	21	9.5	8.7	5.3	.44	.76	.88	.73
28	1.9	3.8	21	18	20	10	8.5	5.2	1.9	.68	.87	.72
29	1.6	3.3	19	17	---	9.4	8.2	4.4	1.4	.71	.87	.72
30	1.6	3.0	18	18	---	10	7.9	3.6	.45	.20	.86	.85
31	1.6	---	17	18	---	14	---	3.2	---	.23	.90	---
TOTAL	45.6	71.2	607.6	761	660	445.0	267.4	227.2	81.68	24.28	28.30	26.78
MEAN	1.47	2.37	19.6	24.5	23.6	14.4	8.91	7.33	2.72	.78	.91	.89
MAX	2.6	8.7	196	80	62	36	11	14	9.1	3.4	1.7	1.2
MIN	1.0	1.6	3.0	13	15	9.4	7.1	3.2	.44	.20	.14	.00
CFSM	.21	.33	2.76	3.45	3.32	2.03	1.26	1.03	.38	.11	.13	.13
IN.	.24	.37	3.18	3.99	3.46	2.33	1.40	1.19	.43	.13	.15	.14

CAL YR 1986 TOTAL 2531.96 MEAN 6.94 MAX 196 MIN .28 CFSM .98 IN 13.26  
WTR YR 1987 TOTAL 3246.04 MEAN 8.89 MAX 196 MIN .00 CFSM 1.25 IN 17.01

01491000 CHOPTANK RIVER NEAR GREENSBORO, MD

LOCATION.--Lat 38°59'50", long 75°47'09", Caroline County, Hydrologic Unit 02060005, on left bank at highway bridge, 0.1 mi upstream from Gravelly Branch, 2.0 mi northeast of Greensboro, and 60 mi upstream from mouth.

DRAINAGE AREA.--113 mi<sup>2</sup>.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1948 to current year.

REVISED RECORDS.--WSP 1622: 1948. WDR MD-DE-79-1: 1961(P).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 3.51 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Jan. 19, 20, 26-29, Aug. 16-20, Sept. 26-28. Water-discharge records good except for Jan. 19, 20 (backwater from tributary inflow), Jan. 26-29 (ice effect), and those for periods of backwater from rocks on the control, Aug. 16-20, Sept. 26-28 which, are fair. Diversions for irrigation of about 500 acres upstream from station.

AVERAGE DISCHARGE.--39 years, 130 ft<sup>3</sup>/s, 15.62 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,970 ft<sup>3</sup>/s, Aug. 4, 1967, gage height, 14.47 ft, from rating curve extended above 3,600 ft<sup>3</sup>/s; minimum discharge, 1.2 ft<sup>3</sup>/s, Aug. 29, 1966, and Sept. 3, 1987.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1935 is believed to have been higher than that of Aug. 4, 1967, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 25	2345	*2,060	*8.89	Mar. 2	0745	1,510	7.77
Jan. 3	0245	1,360	7.43				

Minimum discharge, 1.2 ft<sup>3</sup>/s, Sept. 3, gage height, 1.44 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.9	11	43	216	203	663	183	106	54	15	5.7	4.8
2	8.5	13	43	740	202	1350	183	98	52	26	6.7	4.1
3	8.6	16	73	1170	230	840	159	95	48	41	7.6	2.9
4	8.7	15	100	657	333	547	162	122	53	35	8.4	3.7
5	8.6	17	90	390	467	366	189	192	71	23	5.6	2.5
6	7.3	32	69	292	375	288	198	226	69	17	9.3	3.3
7	7.1	27	59	255	309	252	188	186	57	16	10	7.3
8	5.8	26	55	235	340	232	177	157	50	16	8.5	8.4
9	6.1	26	63	214	464	222	162	135	47	14	9.0	11
10	8.1	21	115	205	403	218	147	120	43	13	9.8	9.5
11	7.9	21	145	237	292	203	137	109	42	15	7.7	8.4
12	8.4	28	166	248	263	187	130	103	40	19	7.1	8.8
13	9.3	24	184	217	272	180	133	118	41	38	6.1	10
14	20	20	136	193	270	172	127	112	40	25	6.3	11
15	27	18	109	181	242	163	118	107	38	23	3.2	9.5
16	19	19	100	175	203	159	115	113	32	20	4.1	9.0
17	15	19	93	164	184	158	119	102	28	18	4.7	9.5
18	13	19	98	180	177	130	122	90	25	14	4.5	11
19	12	30	142	344	170	135	117	83	25	13	3.1	15
20	12	29	181	859	164	134	113	88	25	12	5.4	14
21	11	35	139	734	161	129	113	99	29	8.0	4.6	14
22	11	34	117	471	161	127	112	100	47	16	3.8	14
23	11	30	107	379	175	123	106	92	42	18	7.6	14
24	10	29	116	295	210	118	102	86	35	14	7.5	13
25	9.7	29	1330	260	213	115	112	81	29	9.9	5.2	13
26	13	35	1450	187	213	114	140	76	25	8.3	4.8	12
27	20	89	599	187	210	112	144	73	26	11	3.6	9.6
28	17	87	339	190	207	115	131	72	22	9.2	5.6	9.1
29	15	64	266	194	---	119	121	70	21	5.2	6.9	7.9
30	13	48	234	197	---	116	114	65	17	8.0	6.3	11
31	12	---	223	207	---	142	---	58	---	9.1	4.7	---
TOTAL	364.0	911	6984	10473	7113	7929	4174	3334	1173	529.7	194.4	281.3
MEAN	11.7	30.4	225	338	254	256	139	108	39.1	17.1	6.27	9.38
MAX	27	89	1450	1170	467	1350	198	226	71	41	10	15
MIN	5.8	11	43	164	161	112	102	58	17	5.2	3.1	2.5
CFSM	.10	.27	1.99	2.99	2.25	2.27	1.23	.96	.35	.15	.06	.08
IN.	.12	.30	2.30	3.45	2.34	2.61	1.37	1.10	.39	.17	.06	.09

CAL YR 1986 TOTAL 33619.5 MEAN 92.1 MAX 1450 MIN 3.3 CFSM .82 IN 11.07  
WTR YR 1987 TOTAL 43460.4 MEAN 119 MAX 1450 MIN 2.5 CFSM 1.05 IN 14.31

## CHOPTANK RIVER BASIN

01491000 CHOPTANK RIVER NEAR GREENSBORO, MD--Continued  
(National stream-quality accounting network station)

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1974 to September 1981, October 1984 to current year.

WATER TEMPERATURE: October 1974 to current year.

SUSPENDED-SEDIMENT DISCHARGE: October 1980 to current year.

REMARKS.--Water temperatures are measured daily in field by local observer at time of sampling.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE (water years 1975-81): Maximum daily, 184 microsiemens, Sept. 23, 1976; minimum daily, 40 microsiemens, Jan. 31, 1980.

WATER TEMPERATURE (water years 1975-81, 1985): Maximum daily, 28.0°C, July 23, 1978 and July 22, 1980; minimum daily, 0.0°C, on many days during winter periods.

SEDIMENT CONCENTRATION: Maximum daily mean, 107 mg/L, Dec. 26, 1986; minimum daily mean, 1 mg/L, on many days during water years 1982-87.

SEDIMENT LOAD: Maximum daily, 448 tons, Dec. 26, 1986; minimum daily, 0.02 ton, Aug. 30, Sept. 7, 1982, July 25, 1986.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATION: Maximum daily mean, 107 mg/L, Dec. 26; minimum daily mean, 1 mg/L, Nov. 3, 14-18.

SEDIMENT LOAD: Maximum daily, 448 tons, Dec. 26; minimum daily, 0.04 ton, Oct. 11, Nov. 3.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
NOV											
05...	0950	14	205	7.2	9.0	11.0	771	0.60	8.0	72	130
12...	0930	25	213	6.5	11.0	10.0	785	--	8.5	73	--
28...	1045	83	198	6.9	14.0	8.5	782	--	7.0	58	--
DEC											
04...	1015	89	192	6.5	8.5	8.5	778	--	8.2	69	--
04...	1020	89	192	6.5	8.5	8.5	778	--	8.2	69	--
17...	0930	91	164	6.8	12.0	4.0	782	--	11.4	85	--
29...	1130	263	126	6.6	6.0	4.0	780	--	11.1	83	--
JAN											
01-05	2400	--	90	6.8	--	--	--	35	--	--	--
02...	1230	726	105	6.4	3.0	4.0	766	--	11.1	84	--
03...	1315	1170	73	6.4	7.5	4.0	774	--	11.0	83	--
14...	1015	197	136	6.6	7.0	3.5	775	--	11.2	83	--
JAN											
19-22	1900	--	96	6.9	--	--	--	--	--	--	--
20...	1415	981	92	6.5	2.5	4.5	776	--	10.9	83	--
21...	1145	726	87	6.6	5.0	4.5	777	--	11.0	83	--
FEB											
11...	1030	296	121	6.7	7.0	3.0	771	8.6	13.1	96	28
19...	1145	173	149	6.5	9.5	3.5	771	--	12.3	92	--
MAR											
01-03	1100	--	83	6.8	--	--	--	--	--	--	--
04...	1315	768	88	6.5	2.0	5.5	775	--	--	--	--
26...	1100	115	130	6.1	19.0	13.0	761	--	9.2	87	--
31...	0930	138	134	6.3	20.5	14.0	745	--	8.0	79	--
APR											
13...	1130	135	123	5.8	15.0	14.0	762	--	8.9	86	--
21...	1130	113	130	7.3	21.0	17.0	767	--	8.2	84	--
27...	1145	149	122	5.9	15.0	12.5	769	--	9.0	84	--
27...	1150	149	122	5.0	15.0	12.5	769	--	9.0	84	--
MAY											
07...	1120	190	118	7.1	24.0	16.0	765	2.5	8.1	82	150
13...	1100	120	126	6.7	19.0	19.5	771	--	6.0	65	--
JUN											
12...	1030	39	139	6.7	25.0	20.5	760	--	6.7	75	--
25...	1100	28	133	6.8	26.0	23.0	772	--	6.5	75	--
AUG											
04...	1000	8.4	173	7.3	30.0	26.0	760	2.0	5.7	71	75
11...	1000	7.3	178	7.2	24.0	23.0	767	--	6.2	72	--
28...	1000	6.0	177	7.3	24.0	21.0	775	--	6.0	66	--
SEP											
11...	1345	7.6	187	7.6	29.0	22.5	778	--	9.2	104	--
11...	1350	7.6	187	7.6	29.0	22.5	778	--	9.2	104	--



## CHOPTANK RIVER BASIN

01491000 CHOPTANK RIVER NEAR GREENSBORO, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)
NOV											
05...	26	<0.10	14	141	120	0.539	0.001	0.00	--	0.540	0.020
12...	--	--	15	--	--	0.706	0.004	0.01	--	0.710	--
28...	--	--	--	--	--	0.763	0.007	0.02	--	0.770	--
DEC											
04...	--	--	17	--	--	0.994	0.006	0.02	--	1.00	--
04...	--	--	17	--	--	0.984	0.006	0.02	--	1.00	--
17...	--	--	21	--	--	--	<0.010	--	--	1.50	--
29...	--	--	18	--	--	--	<0.010	--	--	1.40	--
JAN											
01-05	9.1	<0.10	11	73	60	--	<0.010	--	--	1.00	--
02...	--	--	12	--	--	--	<0.010	--	--	1.30	--
03...	--	--	8.5	--	--	--	<0.010	--	--	0.770	--
14...	--	--	20	--	--	--	<0.010	--	--	1.60	--
JAN											
19-22	--	--	12	--	--	1.19	0.010	0.03	--	1.20	--
20...	--	--	11	--	--	1.09	0.010	0.03	--	1.10	--
21...	--	--	11	--	--	--	<0.010	--	--	1.10	--
FEB											
11...	9.9	<0.10	15	79	71	1.50	0.005	0.02	--	1.50	0.050
19...	--	--	18	--	--	--	<0.010	--	--	1.80	--
MAR											
01-03	--	--	7.4	--	--	0.960	0.010	0.03	--	0.970	--
04...	--	--	9.1	--	--	--	<0.010	--	--	1.10	--
26...	--	--	15	--	--	--	<0.010	--	--	1.20	--
31...	--	--	13	--	--	--	<0.010	--	--	0.900	--
APR											
13...	--	--	11	--	--	--	<0.010	--	--	0.860	--
21...	--	--	14	--	--	--	<0.010	--	--	0.970	--
27...	--	--	14	--	--	0.780	0.010	0.03	--	0.790	--
27...	--	--	15	--	--	0.790	0.010	0.03	--	0.800	--
MAY											
07...	12	0.10	14	85	75	0.661	0.009	0.03	--	0.670	0.040
13...	--	--	4.3	--	--	0.760	0.020	0.07	--	0.780	--
JUN											
12...	--	--	17	--	--	--	<0.010	--	--	0.840	--
25...	--	--	15	--	--	--	<0.010	--	--	0.930	--
AUG											
04...	19	0.10	11	100	91	--	<0.010	--	--	0.990	<0.010
11...	--	--	28	--	--	0.227	0.003	0.01	--	0.230	--
28...	--	--	11	--	--	--	<0.005	--	--	1.40	--
SEP											
11...	--	--	11	--	--	--	<0.007	--	--	1.10	--
11...	--	--	11	--	--	--	<0.003	--	1.10	1.10	--

CHOPTANK RIVER BASIN

01491000 CHOPTANK RIVER NEAR GREENSBORO, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)
NOV										
05...	0.010	0.01	1.2	0.40	1.2	0.020	0.020	0.008	0.02	20
12...	<0.010	--	--	0.70	0.40	0.030	0.020	0.011	0.03	<10
28...	0.020	0.03	0.48	0.40	0.50	0.120	0.030	0.013	0.04	120
DEC										
04...	0.020	0.03	0.68	0.80	0.70	0.050	0.030	0.017	0.05	60
04...	0.020	0.03	0.38	1.0	0.40	0.060	0.030	0.014	0.04	40
17...	0.020	0.03	0.68	0.40	0.70	0.020	<0.010	<0.010	--	40
29...	0.040	0.05	0.66	0.50	0.70	0.050	0.020	0.010	0.03	110
JAN										
01-05	0.050	0.06	0.65	0.70	0.70	0.043	0.043	0.035	0.11	280
02...	0.080	0.10	0.42	1.1	0.50	0.120	0.030	0.030	0.09	190
03...	0.050	0.06	0.65	1.0	0.70	0.180	0.030	0.020	0.06	310
14...	0.030	0.04	0.37	0.70	0.40	0.040	0.010	0.010	0.03	100
JAN										
19-22	0.060	0.08	1.4	1.0	1.5	0.080	0.030	0.010	0.03	300
20...	0.070	0.09	0.83	0.80	0.90	0.090	0.040	0.020	0.06	440
21...	0.060	0.08	1.1	1.1	1.2	0.090	0.040	0.020	0.06	410
FEB										
11...	0.050	0.06	0.25	1.2	0.30	0.020	0.040	0.004	0.01	120
19...	0.020	0.03	0.58	0.60	0.60	0.020	<0.010	0.020	0.06	60
MAR										
01-03	0.080	0.10	0.82	1.1	0.90	0.080	0.020	0.030	0.09	320
04...	0.010	0.01	0.69	1.5	0.70	0.050	0.020	0.020	0.06	260
26...	<0.010	--	--	0.50	0.80	0.030	0.010	<0.010	--	20
31...	0.040	0.05	0.16	0.70	0.20	0.060	0.010	<0.010	--	30
APR										
13...	0.010	0.01	0.89	1.0	0.90	0.040	0.010	<0.010	--	20
21...	0.060	0.08	0.64	0.80	0.70	0.050	0.010	<0.010	--	40
27...	0.040	0.05	0.96	2.6	1.0	0.070	0.030	0.010	0.03	40
27...	0.070	0.09	0.93	1.9	1.0	0.070	0.020	0.010	0.03	20
MAY										
07...	0.050	0.06	0.65	1.1	0.70	0.070	0.060	0.002	0.01	40
13...	0.120	0.15	0.48	2.8	0.60	0.070	0.010	<0.010	--	20
JUN										
12...	0.040	0.05	0.16	0.80	0.20	0.130	0.050	<0.010	--	20
25...	0.030	0.04	0.77	1.4	0.80	0.070	0.040	0.030	0.09	10
AUG										
04...	<0.010	--	--	0.80	0.80	0.030	<0.010	0.020	0.06	<10
11...	0.110	0.14	0.19	0.60	0.30	0.030	--	0.012	0.04	<10
28...	<0.010	--	--	0.30	0.50	0.020	--	0.009	0.03	<10
SEP										
11...	<0.010	--	--	0.70	0.30	0.030	--	0.010	0.03	<10
11...	0.010	0.01	0.29	0.60	0.30	0.030	--	0.010	0.03	<10





## CHOPTANK RIVER BASIN

01491000 CHOPTANK RIVER NEAR GREENSBORO, MD--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER .062 MM
OCT					
27...	1445	18	3	0.15	--
27...	1450	18	4	0.20	--
NOV					
05...	0950	14	1	0.04	50
12...	0930	25	2	0.13	--
12...	1045	25	4	0.27	--
12...	1050	25	4	0.27	--
28...	0900	83	20	4.5	--
28...	1045	83	20	4.5	--
28...	1155	83	20	4.5	--
DEC					
01...	0900	37	17	1.7	--
04...	1015	89	8	1.9	--
04...	1020	89	12	2.9	--
04...	1145	91	8	2.0	--
04...	1210	91	12	3.0	--
11...	0400	130	10	3.5	--
11...	0945	138	14	5.2	--
11...	1115	144	20	7.8	--
11...	1130	144	20	7.7	--
12...	0100	161	15	6.5	--
17...	0930	91	3	0.74	--
17...	1045	91	3	0.74	--
29...	1130	263	12	8.5	--
29...	1300	263	9	6.4	--
29...	1305	263	12	8.5	--
JAN					
02...	1030	900	42	102	--
02...	1210	719	38	74	--
02...	1300	743	38	76	--
02...	1345	765	35	73	--
02...	1730	997	37	99	--
02...	2200	1310	72	256	--
03...	0210	1420	63	242	--
03...	0600	1400	74	281	--
03...	1020	1250	53	179	--
03...	1230	1190	48	153	--
03...	1420	1130	47	142	--
03...	1945	1000	35	94	--
04...	0900	700	17	33	--
05...	0420	454	18	22	--
06...	1430	285	12	9.5	--
14...	1015	197	10	5.2	--
14...	1150	194	10	5.2	--
19...	2300	741	22	45	--
20...	0230	798	22	48	--
20...	0545	843	25	56	--
20...	1215	976	69	181	--
20...	1415	981	37	97	--
20...	1555	992	35	93	--
21...	0400	879	25	59	--
21...	1050	736	16	31	--
21...	1125	731	30	58	--
21...	1145	726	30	58	--
21...	1320	702	18	34	--
21...	1900	613	17	29	--
22...	0500	502	16	21	--
FEB					
09...	1645	489	10	13	--
09...	2215	502	10	14	--
10...	0345	483	18	24	--
10...	0950	420	10	11	--
10...	1715	344	12	11	--
11...	0200	318	8	6.9	--
11...	1030	296	10	8.0	70
19...	1145	173	3	1.4	--
19...	1300	173	3	1.4	--
25...	1215	216	3	1.7	--

## CHOPTANK RIVER BASIN

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01491000 CHOPTANK RIVER NEAR GREENSBORO, MD--Continued

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER .062 MM
<b>MAR</b>					
01...	1220	671	12	22	--
01...	1530	861	18	43	--
01...	1800	944	23	58	--
01...	2300	1160	20	63	--
02...	0500	1450	17	68	--
02...	1100	1470	22	88	--
02...	1630	1320	24	84	--
02...	2300	1130	35	107	--
03...	0500	961	30	78	--
03...	0830	884	18	42	--
03...	1300	805	28	62	--
04...	1100	550	12	17	--
04...	1315	768	13	27	--
26...	1100	115	3	0.93	--
26...	1230	115	4	1.2	--
26...	1235	115	7	2.2	--
31...	0930	138	8	3.0	--
31...	1050	141	6	2.3	--
<b>APR</b>					
02...	1150	187	9	4.5	91
02...	1155	187	7	3.5	--
13...	1300	135	5	1.8	--
13...	1310	135	5	1.8	--
13...	1315	135	4	1.5	--
21...	1130	113	6	1.8	--
27...	1245	146	8	3.2	--
27...	1250	146	10	3.9	--
<b>MAY</b>					
07...	1120	190	22	11	54
13...	1100	120	9	2.9	97

## CHOPTANK RIVER BASIN

01491000 CHOPTANK RIVER NEAR GREENSBORO, MD--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	227	194	---	137	---	129	133	131	---	---	---
2	221	207	---	104	138	74	131	---	---	145	---	---
3	---	212	---	78	141	69	---	---	---	---	---	---
4	---	212	195	90	140	94	133	128	151	140	173	---
5	---	205	---	102	134	105	134	---	---	138	---	---
6	225	---	---	121	121	131	129	118	152	---	161	183
7	---	---	---	---	127	121	125	116	147	153	---	---
8	---	---	---	132	129	123	126	---	142	---	---	---
9	220	212	---	130	120	156	126	---	150	168	---	---
10	220	233	---	132	114	246	134	124	143	---	---	---
11	---	221	175	132	123	129	130	136	143	---	181	197
12	---	221	171	131	128	---	131	127	139	---	---	---
13	---	216	---	133	133	---	135	137	---	---	---	---
14	---	219	---	133	133	132	129	130	142	---	181	215
15	210	---	---	135	132	136	134	---	---	---	---	---
16	237	---	---	137	133	135	134	127	---	---	183	206
17	228	213	166	140	---	138	137	136	153	---	---	207
18	210	217	---	134	137	136	143	135	154	---	---	---
19	---	---	---	126	137	143	141	131	149	---	174	210
20	---	---	---	93	---	138	139	---	---	---	177	212
21	---	210	---	89	132	---	130	---	150	---	180	---
22	---	---	---	101	136	138	---	131	---	---	---	213
23	---	---	---	111	125	206	132	129	---	---	---	214
24	---	214	---	120	125	---	---	132	---	---	178	214
25	---	219	---	126	124	---	135	140	146	---	---	---
26	217	---	---	135	141	141	129	136	154	---	188	---
27	205	---	---	135	---	215	129	---	---	---	---	---
28	---	203	---	141	125	143	---	137	---	---	177	---
29	220	---	125	145	---	156	133	---	---	---	180	---
30	---	---	---	140	---	---	128	150	---	---	---	---
31	225	---	---	138	---	138	---	133	---	---	---	---

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	12.0	6.0	---	1.5	---	11.0	16.5	25.5	---	---	---
2	22.5	13.0	---	4.0	2.0	---	11.5	---	---	25.0	---	---
3	---	8.5	---	4.0	2.5	---	---	---	---	---	---	---
4	---	9.0	8.5	---	4.0	6.0	11.5	14.5	22.0	25.0	26.0	---
5	---	11.0	---	---	3.0	6.0	11.0	---	---	---	---	---
6	11.0	---	---	4.0	3.5	6.5	9.5	15.0	22.0	---	24.0	24.0
7	---	---	---	---	4.5	8.0	9.5	17.5	21.5	25.0	---	---
8	---	---	---	4.5	3.5	11.0	---	---	23.5	---	---	---
9	18.0	11.0	---	4.0	---	12.0	---	---	22.0	25.5	---	---
10	16.5	11.0	8.5	5.0	1.0	4.5	16.0	17.5	21.0	---	---	---
11	---	10.5	8.5	5.0	2.5	6.0	16.0	21.0	21.0	---	23.0	22.5
12	---	10.5	---	4.5	3.5	---	15.5	19.0	20.5	---	---	---
13	---	9.5	---	4.5	4.0	---	14.0	19.0	---	---	---	---
14	---	6.0	---	3.5	3.0	5.5	14.0	17.0	24.0	---	---	18.0
15	15.0	---	---	7.0	2.5	7.0	14.0	---	---	---	---	---
16	13.0	---	---	7.0	1.0	7.5	13.0	18.5	---	---	24.5	---
17	11.0	7.0	4.0	5.5	---	7.0	13.0	19.5	23.0	---	---	24.0
18	10.5	8.0	---	4.5	4.5	8.5	14.0	21.5	23.0	---	26.0	---
19	---	---	---	4.5	3.5	7.5	16.0	19.0	23.0	---	26.0	24.0
20	---	---	---	4.5	---	9.5	17.5	---	---	---	21.5	25.0
21	---	7.5	---	4.5	4.5	---	---	---	25.0	---	22.5	---
22	---	---	---	2.0	4.5	10.5	---	19.5	---	---	---	19.0
23	---	---	---	1.0	3.5	10.5	15.5	24.5	---	---	---	18.5
24	---	8.0	---	.5	---	---	---	21.0	---	---	---	17.0
25	---	7.0	---	.5	4.0	---	13.5	20.0	24.0	---	---	---
26	13.5	---	---	---	---	14.5	14.0	18.0	24.0	---	20.0	---
27	15.0	---	---	.5	---	15.0	12.5	17.0	---	---	---	---
28	---	9.0	---	.5	---	15.5	---	19.0	---	25.0	21.0	17.5
29	14.0	---	4.0	.5	---	16.0	15.0	19.0	---	---	---	---
30	---	---	---	.5	---	---	16.0	24.0	---	---	---	---
31	12.0	---	---	1.0	---	14.0	---	25.0	---	---	---	---

CHOPTANK RIVER BASIN

01491000 CHOPTANK RIVER NEAR GREENSBORO, MD--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	MEAN CONCENTRATION (MG/L) LOADS (T/DAY)		MEAN CONCENTRATION (MG/L) LOADS (T/DAY)		MEAN CONCENTRATION (MG/L) LOADS (T/DAY)		MEAN CONCENTRATION (MG/L) LOADS (T/DAY)		MEAN CONCENTRATION (MG/L) LOADS (T/DAY)		MEAN CONCENTRATION (MG/L) LOADS (T/DAY)	
	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
1	7	.17	3	.09	17	2.0	8	4.7	5	2.7	31	63
2	9	.21	2	.07	15	1.7	41	102	5	2.7	45	167
3	9	.21	1	.04	12	2.4	54	178	9	5.6	28	26
4	7	.16	2	.08	11	3.0	20	36	8	7.0	18	27
5	5	.12	3	.16	10	2.4	17	18	8	10	13	13
6	5	.10	10	.86	10	1.9	14	11	12	12	13	10
7	6	.12	7	.51	10	1.6	11	7.6	7	5.8	13	6.8
8	7	.11	3	.21	10	1.5	9	5.7	7	6.9	11	6.9
9	8	.13	2	.14	11	1.9	8	4.6	10	13	11	6.6
10	4	.09	2	.11	12	3.7	7	3.9	11	12	10	5.9
11	2	.04	2	.11	14	5.5	9	5.8	8	6.3	10	5.5
12	2	.05	4	.30	16	7.2	10	6.7	5	3.6	10	5.0
13	4	.10	2	.13	16	7.9	11	6.4	5	3.7	10	4.9
14	8	.40	1	.05	11	4.0	9	4.7	3	2.2	10	4.6
15	7	.51	1	.05	7	2.1	7	3.4	3	2.0	11	4.8
16	9	.46	1	.05	5	1.4	5	2.4	5	2.7	18	7.7
17	4	.16	1	.05	4	1.0	4	1.8	6	3.0	8	3.4
18	2	.07	1	.05	3	.79	6	2.9	5	2.4	7	2.5
19	4	.13	2	.16	4	1.5	13	13	3	1.4	9	3.3
20	4	.13	2	.16	4	2.0	30	71	5	2.2	6	2.2
21	2	.06	2	.19	2	.75	22	44	9	3.9	6	2.1
22	2	.06	2	.18	2	.63	14	18	8	3.5	7	2.4
23	2	.06	2	.16	2	.58	7	7.2	8	3.8	7	2.3
24	2	.05	2	.16	3	1.3	3	2.4	10	5.7	6	1.9
25	2	.05	5	.39	84	353	6	4.2	10	5.8	6	1.9
26	3	.11	10	.94	107	448	7	3.5	11	6.3	6	1.8
27	4	.22	26	6.2	49	82	5	2.5	11	6.2	7	2.1
28	4	.18	21	4.9	24	22	6	3.1	11	6.1	8	2.5
29	3	.12	19	3.3	11	7.9	4	2.1	---	---	9	2.9
30	3	.11	18	2.3	9	5.7	3	1.6	---	---	8	2.5
31	2	.06	---	---	9	5.4	5	2.8	---	---	7	2.7
TOTAL	---	4.55	---	22.10	---	982.75	---	581.0	---	148.5	---	403.2
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	11	5.4	10	2.9	12	1.7	4	.16	6	.09	7	.09
2	8	4.0	10	2.6	11	1.5	4	.28	6	.11	7	.08
3	9	3.9	10	2.6	11	1.4	9	1.0	5	.10	7	.05
4	11	4.8	11	3.6	12	1.7	16	1.5	5	.11	7	.07
5	9	4.6	13	6.7	12	2.3	15	.93	5	.08	7	.05
6	9	4.8	20	12	13	2.4	10	.46	5	.13	7	.06
7	8	4.1	22	11	13	2.0	5	.22	6	.16	7	.14
8	9	4.3	17	7.2	13	1.8	6	.26	7	.18	6	.14
9	7	3.1	16	5.8	9	1.1	7	.26	7	.17	6	.18
10	7	2.8	15	4.9	6	.70	7	.25	7	.19	6	.15
11	8	3.0	12	3.5	7	.79	6	.24	7	.15	6	.14
12	7	2.5	10	2.8	8	.86	8	.41	6	.12	5	.12
13	7	2.5	10	3.2	6	.66	16	1.6	5	.08	5	.14
14	8	2.7	9	2.7	3	.32	9	.61	3	.05	5	.15
15	8	2.5	11	3.2	4	.41	4	.25	4	.03	5	.13
16	7	2.2	13	4.0	5	.43	3	.16	5	.06	4	.10
17	9	2.9	14	3.9	6	.45	3	.15	6	.08	5	.13
18	10	3.3	19	4.6	5	.34	3	.11	6	.07	4	.12
19	10	3.2	15	3.4	5	.34	3	.11	6	.05	4	.16
20	7	2.1	13	3.1	4	.27	3	.10	6	.09	4	.15
21	6	1.8	13	3.5	4	.31	3	.06	5	.06	4	.15
22	6	1.8	14	3.8	4	.51	9	.39	5	.05	4	.15
23	5	1.4	14	3.5	5	.57	9	.44	5	.10	7	.26
24	5	1.4	15	3.5	6	.57	8	.30	5	.10	5	.18
25	6	1.8	14	3.1	7	.55	7	.19	5	.07	7	.25
26	8	3.0	13	2.7	5	.34	6	.13	5	.06	11	.36
27	10	3.9	12	2.4	5	.35	6	.18	6	.06	5	.13
28	10	3.5	11	2.1	5	.30	7	.17	6	.09	4	.10
29	10	3.3	11	2.1	5	.28	7	.10	7	.13	4	.09
30	10	3.1	12	2.1	4	.18	7	.15	7	.12	5	.15
31	---	---	15	2.3	---	---	6	.15	7	.09	---	---
TOTAL	---	93.7	---	124.8	---	25.43	---	11.32	---	3.03	---	4.17
TOTAL LOAD FOR YEAR:	2404.55		TONS.									

## CHESTER RIVER BASIN

01493000 UNICORN BRANCH NEAR MILLINGTON, MD

LOCATION.--Lat 39°14'59", long 75°51'40", Queen Annes County, Hydrologic Unit 02060002, on right bank 20 ft upstream from bridge on State Highway 313, 0.9 mi upstream from mouth, and 1.4 mi southwest of Millington.

DRAINAGE AREA.--22.3 mi<sup>2</sup>.

PERIOD OF RECORD.--January 1948 to current year.

REVISED RECORDS.--WSP 1382: 1952(P).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 3.57 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Jan. 24-30. Records good except those for estimated daily discharges (doubtful gage-height record), which are fair. Occasional regulation at low and medium flow by Unicorn Lake Dam upstream from station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--39 years, 24.6 ft<sup>3</sup>/s, 14.98 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,060 ft<sup>3</sup>/s, Sept. 12, 1960, gage height, 7.17 ft, from rating curve extended above 600 ft<sup>3</sup>/s; no flow for part of each day June 13, 14, 1965, caused by regulation at Unicorn Lake Dam.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 180 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 25	1500	*220	*3.74	Mar. 2	0245	186	3.54

Minimum discharge, 0.15 ft<sup>3</sup>/s, Mar. 13, 14, gage height, 1.60 ft; minimum daily discharge, 4.2 ft<sup>3</sup>/s, Oct. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.1	6.3	15	32	32	56	27	16	11	9.3	6.4	14
2	6.1	9.6	20	65	32	154	24	16	11	14	6.6	7.8
3	4.6	8.2	21	90	33	82	22	17	11	12	8.0	6.6
4	4.6	6.6	23	55	39	57	29	30	13	9.9	6.9	6.5
5	4.7	11	19	44	45	50	30	41	17	9.4	6.8	6.7
6	4.6	13	19	38	45	48	31	30	14	7.9	7.9	7.4
7	4.5	9.3	18	37	43	46	29	24	12	8.9	7.6	7.4
8	4.2	12	18	36	43	44	26	21	11	8.5	6.9	10
9	4.8	11	19	36	49	42	24	19	11	7.8	6.5	8.9
10	5.8	8.7	20	34	47	37	22	17	11	6.3	6.0	7.1
11	5.4	11	21	34	45	30	21	16	10	12	7.3	6.8
12	5.6	12	29	34	44	30	21	16	9.1	11	5.4	7.1
13	6.9	9.0	25	33	41	9.8	21	16	11	15	5.3	13
14	14	8.2	21	21	36	4.9	20	16	9.9	9.9	5.5	10
15	11	7.7	21	21	36	27	20	19	9.4	13	5.9	8.2
16	7.6	7.9	20	20	35	26	20	19	8.8	9.8	6.6	14
17	6.8	8.0	19	30	31	26	22	17	8.6	9.6	8.0	10
18	6.4	8.3	19	30	27	25	21	16	8.8	9.6	6.7	23
19	6.3	11	22	39	25	24	21	16	8.0	10	6.1	14
20	6.1	10	25	98	25	23	20	25	11	7.7	6.7	9.8
21	5.9	14	21	66	25	23	19	26	33	6.9	6.0	9.1
22	5.8	11	20	52	26	23	19	21	16	8.1	6.9	11
23	5.8	9.3	19	46	31	22	19	18	12	6.3	7.0	8.7
24	5.8	9.5	22	36	39	22	20	17	11	5.5	6.7	7.8
25	5.9	8.9	142	28	37	22	21	16	9.9	4.5	6.2	7.2
26	8.5	12	98	27	37	21	21	16	9.4	10	6.2	6.9
27	8.2	19	51	27	38	21	20	16	12	7.4	6.1	7.0
28	8.1	14	39	27	39	23	19	15	10	13	7.3	6.6
29	6.7	11	36	27	---	22	18	14	9.5	7.9	6.6	7.1
30	6.2	10	34	29	---	22	16	13	9.0	6.6	5.7	11
31	6.4	---	32	32	---	28	---	13	---	5.7	6.1	---
TOTAL	198.4	307.5	928	1224	1025	1090.7	663	592	348.4	283.5	203.9	280.7
MEAN	6.40	10.3	29.9	39.5	36.6	35.2	22.1	19.1	11.6	9.15	6.58	9.36
MAX	14	19	142	98	49	154	31	41	33	15	8.0	23
MIN	4.2	6.3	15	20	25	4.9	16	13	8.0	4.5	5.3	6.5
CFSM	.29	.46	1.34	1.77	1.64	1.58	.99	.86	.52	.41	.30	.42
IN.	.33	.51	1.55	2.04	1.71	1.82	1.11	.99	.58	.47	.34	.47

CAL YR 1986 TOTAL 6147.7 MEAN 16.8 MAX 145 MIN 4.2 CFSM .75 IN 10.25  
WTR YR 1987 TOTAL 7145.1 MEAN 19.6 MAX 154 MIN 4.2 CFSM .88 IN 11.92

CHESTER RIVER BASIN

01493500 MORGAN CREEK NEAR KENNEDYVILLE, MD

LOCATION.--Lat 39°16'48", long 76°00'54", Kent County, Hydrologic Unit 02060002, on right bank 200 ft upstream from highway bridge, 2.0 mi southwest of Kennedyville, and 4.5 mi upstream from mouth.

DRAINAGE AREA.--12.7 mi<sup>2</sup>.

PERIOD OF RECORD.--May 1951 to current year.

REVISED RECORDS.--WSP 1552: 1952, 1953(P), 1954(M), 1955, 1956-57(M). WDR MD-DE-76-1: Drainage area. WDR MD-DE-79-1: 1961(M). WDR MD-DE-80-1: 1976(P).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1.76 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Nov. 6, 20, 21, 26, Dec. 2, 3, 18, Jan. 2, 3, 26-29, Mar. 31, Apr. 17, June 12, 25, and Sept. 8, 9, 20. Records good except those for periods of backwater from storm tides, Nov. 6, 20, 21, 26, Dec. 2, 3, 18, Jan. 2, 3, Mar. 31, Apr. 17, June 12, 25, and Sept. 8, 9, 20, period of ice effect, Jan. 26-29, and discharges above 50 ft<sup>3</sup>/s, which are fair. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--36 years, 10.5 ft<sup>3</sup>/s, 11.23 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,500 ft<sup>3</sup>/s, June 22, 1972, gage height, 13.07 ft, from rating curve extended above 640 ft<sup>3</sup>/s on basis of culvert and flow-over-road measurement of peak flow; minimum discharge, 0.60 ft<sup>3</sup>/s, Aug. 28, 29, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 25	0630	*297	*4.94	No other peak greater than base discharge.			

Minimum daily discharge, 2.5 ft<sup>3</sup>/s, Aug. 19, 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	3.4	3.9	8.3	8.1	91	12	5.3	4.1	3.7	2.8	6.3
2	4.9	7.4	6.3	43	9.5	84	7.4	5.6	3.8	8.4	2.8	3.3
3	3.2	5.8	50	31	13	16	6.5	5.9	4.1	8.4	2.8	3.0
4	3.4	3.6	18	10	16	9.3	13	15	6.2	4.5	2.8	2.8
5	3.2	11	6.0	7.5	12	8.1	9.4	14	12	3.7	2.7	2.8
6	2.9	19	5.0	7.0	9.2	7.7	10	7.1	6.1	3.4	2.8	3.1
7	2.8	6.2	4.8	7.1	9.5	7.6	8.6	6.1	4.7	3.3	3.0	3.5
8	2.9	8.9	5.0	6.9	11	7.6	7.6	5.7	4.6	5.2	3.0	9.7
9	3.0	6.9	9.2	6.7	15	7.6	6.7	5.5	4.4	4.0	3.0	16
10	3.7	4.3	19	7.6	8.7	7.1	6.3	5.2	5.0	3.4	2.8	5.1
11	3.1	5.8	13	7.8	8.3	6.3	6.3	4.9	4.0	3.4	2.7	3.4
12	3.0	9.0	21	6.7	8.5	6.7	6.3	4.8	3.8	3.3	2.7	3.4
13	4.3	5.2	8.9	6.4	8.4	6.7	6.2	5.2	8.2	3.3	2.7	8.7
14	9.3	4.2	5.5	6.3	7.7	6.7	5.9	4.6	5.3	4.9	2.7	8.4
15	7.0	4.1	5.5	6.5	6.3	6.7	6.5	9.4	4.1	7.1	2.8	5.9
16	3.4	4.6	5.5	6.4	5.2	7.3	6.6	8.8	3.7	3.4	2.8	9.2
17	3.1	4.6	5.5	6.0	6.3	6.4	8.6	5.7	3.6	3.2	2.7	5.2
18	3.1	5.1	14	13	7.0	6.6	7.2	5.3	3.4	3.1	2.6	19
19	3.1	11	28	41	6.9	6.4	6.7	5.7	3.4	3.1	2.5	8.8
20	3.1	6.3	8.7	59	6.3	6.3	6.7	15	3.4	3.1	2.7	5.5
21	3.1	17	6.2	15	6.4	6.3	6.3	10	3.5	3.0	2.5	4.8
22	3.1	8.2	5.6	7.2	6.6	6.3	6.2	6.5	3.8	3.0	2.9	6.4
23	3.1	5.0	5.4	12	7.3	6.3	5.9	6.0	4.0	3.0	3.2	5.0
24	3.1	5.8	20	9.0	12	6.3	8.9	5.9	4.1	3.0	2.7	3.5
25	3.2	5.5	197	6.7	9.6	6.1	18	5.9	3.5	3.0	2.7	3.2
26	6.6	12	24	6.6	8.3	6.3	8.6	6.4	3.6	3.0	2.8	3.0
27	6.3	27	8.9	6.6	8.2	6.2	6.3	6.3	5.6	3.0	2.8	3.0
28	4.7	9.0	7.4	6.5	9.0	8.5	6.0	6.1	4.0	3.0	2.8	3.0
29	3.6	5.4	6.8	6.6	---	7.4	5.9	5.7	3.4	2.8	3.0	3.0
30	3.3	4.6	7.9	7.5	---	7.6	5.5	4.8	3.2	2.7	2.8	3.5
31	3.2	---	8.1	8.3	---	13	---	4.2	---	2.7	2.8	---
TOTAL	118.8	235.9	540.1	386.2	250.3	392.4	232.1	212.6	136.6	118.1	86.4	171.5
MEAN	3.83	7.86	17.4	12.5	8.94	12.7	7.74	6.86	4.55	3.81	2.79	5.72
MAX	9.3	27	197	59	16	91	18	15	12	8.4	3.2	19
MIN	2.8	3.4	3.9	6.0	5.2	6.1	5.5	4.2	3.2	2.7	2.5	2.8
CFSM	.30	.62	1.37	.98	.70	1.00	.61	.54	.36	.30	.22	.45
IN.	.35	.69	1.58	1.13	.73	1.15	.68	.62	.40	.35	.25	.50

CAL YR 1986 TOTAL 2546.4 MEAN 6.98 MAX 197 MIN 2.4 CFMS .55 IN 7.46  
WTR YR 1987 TOTAL 2881.0 MEAN 7.89 MAX 197 MIN 2.5 CFMS .62 IN 8.44

ELK RIVER BASIN

01495000 BIG ELK CREEK AT ELK MILLS, MD

LOCATION.--Lat 39°39'26", long 75°49'20", Cecil County, Hydrologic Unit 02060002, on right bank 100 ft downstream from highway bridge at Elk Mills, 3.5 mi north of Elkton, and 7 mi upstream from confluence with Little Elk Creek.

DRAINAGE AREA.--52.6 mi<sup>2</sup>.

PERIOD OF RECORD.--April 1932 to current year. Monthly discharge only for some periods, published in WSP 1302.

REVISED RECORDS.--WSP 1432: 1932-33, 1934(M), 1935, 1936(M), 1938, 1919-40(M), 1942(M), 1943-51, 1952-53(P).

GAGE.--Water-stage recorder. Datum of gage is 68.5 ft above National Geodetic Vertical Datum of 1929. Prior to May 17, 1946, nonrecording gage at bridge 100 ft upstream at same datum.

REMARKS.--Estimated daily discharges: Dec. 14, 15, Jan. 23-30, Feb. 16, 17. Records good except those for estimated daily discharges (ice effect), which are fair. Slight diurnal fluctuation caused by mills upstream from station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--55 years, 68.9 ft<sup>3</sup>/s, 17.79 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,600 ft<sup>3</sup>/s, July 5, 1937, gage height, 14.5 ft, from floodmarks, from rating curve extended above 1,700 ft<sup>3</sup>/s on basis of velocity-area and conveyance studies; minimum discharge, 4.5 ft<sup>3</sup>/s, Jan. 21, 1955, (result of freezeup); minimum daily discharge, 4.8 ft<sup>3</sup>/s, Sept. 8-10, 1966; minimum gage height observed, 2.09 ft, Sept. 19, 22-24, 1932.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1884 reached a stage of about 19 ft, from information by local residents; discharge, about 18,000 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,700 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 25	0300	*2,180	*6.18	Sept. 9	0130	1,890	5.90

Minimum daily discharge, 13 ft<sup>3</sup>/s, Oct. 7, 8, 11, 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	19	41	58	82	702	96	49	39	41	21	58
2	87	26	112	141	90	212	68	52	37	53	21	27
3	24	27	383	107	102	116	62	67	37	47	20	21
4	19	24	87	82	102	93	243	144	53	33	19	19
5	17	43	62	67	87	82	130	110	90	38	26	18
6	15	129	53	62	75	76	220	70	44	30	45	22
7	13	41	48	61	77	75	134	61	39	29	26	32
8	13	90	47	61	80	73	95	56	38	40	24	199
9	14	61	101	59	78	71	82	52	41	33	22	400
10	14	75	114	68	77	65	76	50	42	30	27	45
11	13	197	73	89	70	62	71	48	36	30	23	30
12	13	135	79	66	67	63	68	48	36	131	20	26
13	16	48	63	59	64	63	67	58	38	54	19	122
14	30	36	48	57	62	61	64	46	36	40	18	57
15	25	32	47	60	61	62	65	51	34	43	18	34
16	17	30	46	59	56	60	65	50	44	32	18	29
17	16	29	46	53	58	58	75	45	34	30	17	27
18	16	30	188	96	58	56	69	43	31	28	16	142
19	15	123	131	305	58	56	65	51	31	27	15	210
20	14	59	69	175	57	56	62	87	31	27	15	57
21	14	342	59	102	57	55	61	76	31	26	14	43
22	14	66	53	87	58	55	58	55	45	25	17	55
23	14	46	50	80	73	53	55	69	59	24	23	42
24	15	49	152	76	68	53	62	84	34	24	17	35
25	14	50	598	70	64	52	87	52	31	23	16	32
26	22	263	104	69	62	52	66	49	30	28	16	29
27	33	254	79	68	63	51	57	48	32	41	17	28
28	23	71	70	66	66	55	55	48	29	27	19	27
29	20	55	64	70	---	52	54	44	28	23	29	27
30	19	46	62	80	---	58	51	41	29	22	25	28
31	19	---	60	86	---	185	---	40	---	22	21	---
TOTAL	622	2496	3189	2639	1972	2883	2483	1844	1159	1101	644	1921
MEAN	20.1	83.2	103	85.1	70.4	93.0	82.8	59.5	38.6	35.5	20.8	64.0
MAX	87	342	598	305	102	702	243	144	90	131	45	400
MIN	13	19	41	53	56	51	51	40	28	22	14	18
CFSM	.38	1.58	1.96	1.62	1.34	1.77	1.57	1.13	.73	.68	.40	1.22
IN.	.44	1.77	2.26	1.87	1.39	2.04	1.76	1.30	.82	.78	.46	1.36

CAL YR 1986 TOTAL 18833 MEAN 51.6 MAX 598 MIN 11 CFSM .98 IN 13.32  
WTR YR 1987 TOTAL 22953 MEAN 62.9 MAX 702 MIN 13 CFSM 1.20 IN 16.23

ELK RIVER BASIN

01495900 ELK RIVER NEAR TOWN POINT, MD

LOCATION.--Lat 39°30'09", long 75°54'58", Cecil County, Hydrologic Unit 02060001, at site of Old Town Point Wharf, at the Corps of Engineers substation, on left bank of Elk River, 0.7 mi west of Port Herman, 1.1 mi northwest of Town Point, and 1.8 mi downstream from mouth of Back Creek.

PERIOD OF RECORD.--Water years 1982 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1981 to November 1985, October 1986 to current year.

WATER TEMPERATURE: October 1981 to November 1985, October 1986 to current year.

INSTRUMENTATION.--Water-quality monitor since October 1981.

REMARKS.--Not operated Nov. 18, 1985 to Oct. 3, 1986, due to major improvements being made to Old Town Point Wharf.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE (water year 1982-85, 1987): Maximum, 19,900 microsiemens, Oct. 26, 1982; minimum, 117 microsiemens, July 21-23, 28, 1984.

WATER TEMPERATURE (water year 1982-85, 1987): Maximum, 32.5°C, July 20, 1983; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 13,200 microsiemens, Nov. 6; minimum, 277 microsiemens, Dec. 17.

WATER TEMPERATURE: Maximum, 31.5°C, July 11, 21-25, 27; minimum, 0.0°C, on many days during winter periods.

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	7330	6710	6900	1770	1480	1550	2660	2430	2550
2	---	---	---	6910	6460	6670	3890	1790	2520	3300	2390	2640
3	---	---	---	8630	6390	6960	3560	2690	3160	3200	1980	2490
4	6460	5360	5920	9540	7130	7840	2880	1760	2310	1980	1200	1470
5	6050	4340	5560	11400	7710	8460	1820	1240	1570	2070	1440	1730
6	5890	5120	5490	13200	9350	10600	1850	1180	1390	2180	1880	2050
7	5080	4350	4800	12200	10000	10800	1310	831	1140	2180	1540	2020
8	4630	4180	4410	12400	10500	11200	1140	740	880	1640	1460	1570
9	4280	3430	3840	11600	9570	10200	854	735	781	1460	1230	1360
10	7920	3480	4180	9370	8630	9010	853	772	797	1250	1190	1220
11	8540	6410	7340	9220	8770	8950	788	744	770	1280	1210	1250
12	10300	6770	8220	11100	8450	9300	843	720	772	1320	1160	1250
13	9490	6860	7750	11100	7270	8560	939	635	723	1300	1210	1260
14	7040	5600	6570	9120	4130	7000	1090	510	732	1230	1000	1130
15	6410	4950	6010	4820	3400	3980	527	404	495	1120	918	1030
16	6540	5070	5830	3590	2750	3240	522	299	402	962	897	936
17	5910	4860	5660	3550	2980	3270	357	277	307	2460	940	1230
18	8150	5640	6310	3640	2700	3150	1010	291	385	2200	1140	1500
19	11100	6620	8240	3330	3010	3120	589	344	442	4220	1580	2410
20	9590	6910	8070	9090	3210	7140	403	324	374	3720	2460	3170
21	8900	6240	7640	8210	4650	5730	436	338	381	3500	2760	3060
22	7400	6070	6560	4900	1870	2700	572	412	461	3780	2540	2880
23	6510	5100	6300	4010	2200	2520	668	430	515	4440	2980	3750
24	6040	4990	5740	3270	2580	2870	967	545	659	3240	1980	2810
25	6120	5240	5930	2820	1880	2300	6250	1010	3420	1980	1500	1670
26	5870	5000	5690	2130	1490	1700	3280	1990	2360	2580	1520	1820
27	6880	5880	6370	1890	1640	1790	2600	1850	2290	5770	1940	3830
28	6740	6310	6500	1970	1810	1890	2380	1950	2240	5380	4520	4970
29	7160	6810	6860	1930	1520	1760	3180	1910	2480	4980	4320	4560
30	6830	6660	6740	2020	1270	1610	2690	2010	2430	4540	3980	4210
31	6960	6720	6830	---	---	---	2640	2280	2480	4000	3780	3930
MONTH	---	---	---	13200	1270	5710	6250	277	1330	5770	897	2310

## ELK RIVER BASIN

01495900 ELK RIVER NEAR TOWN POINT, MD--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	MAX	MIN	MEAN									
1	4020	3760	3830	5750	4640	4990	3540	3020	3290	1440	1120	1320
2	3740	3300	3570	4880	4120	4540	3120	1660	2580	1460	1240	1370
3	3360	2960	3260	4480	3520	4140	2020	1520	1720	1380	1240	1320
4	3040	2760	2900	3940	3560	3770	3940	1940	3080	2280	1380	1640
5	2700	2140	2520	4140	3480	3880	3120	2620	2810	3240	2100	2770
6	2180	1170	1740	4500	2040	3540	2660	2280	2470	3220	2520	2790
7	1260	991	1140	2560	1320	2040	2340	1740	2070	2520	1900	2220
8	1460	1170	1270	2020	1340	1570	1820	1560	1690	2300	2100	2230
9	1440	1190	1290	2060	1540	1710	1920	1580	1700	2480	2200	2330
10	1660	1440	1550	7290	1920	2680	2040	1480	1630	2260	1700	2010
11	1600	1520	1560	8130	5850	6890	1740	1240	1510	1920	1600	1730
12	1520	1320	1410	6870	5610	6230	1520	1120	1270	1720	1380	1570
13	1440	1300	1380	6470	5040	5880	1460	1120	1200	1840	1440	1540
14	1420	1320	1360	9370	6150	7100	1460	1160	1210	4980	1860	3500
15	1360	1280	1320	9050	6470	7390	1600	1220	1370	3720	2100	2990
16	1380	1340	1360	7290	5530	6210	1420	1320	1360	2820	2140	2530
17	5420	1360	1900	6030	4780	5340	2360	1440	2000	2720	2060	2570
18	3480	1860	2510	5610	4340	4830	2240	1960	2140	2380	2080	2260
19	3320	2440	2780	5890	3880	4450	2120	1840	1990	3000	1940	2390
20	3460	2720	3090	4560	3700	4080	2020	1880	1970	6470	3060	5350
21	3540	3240	3400	4760	4040	4350	2140	1920	2040	7630	6370	6960
22	3680	3300	3490	5510	4140	4710	2040	1880	1970	7550	5770	6380
23	3540	3180	3400	7790	5160	6220	1960	1840	1920	6110	4680	5310
24	5240	3380	3990	7510	5830	6370	1960	1820	1890	5040	4380	4620
25	4420	3300	3830	6350	5460	5780	1840	1700	1780	6210	4740	5670
26	4100	3740	3950	5810	4540	4960	1880	1460	1710	6310	4960	5580
27	4960	3760	4260	4820	4400	4600	2520	1760	2180	5360	4500	4950
28	5300	4320	4600	5400	4480	4690	2980	2180	2680	5000	3640	4580
29	---	---	---	5690	4060	4610	2560	2180	2370	4240	3020	3930
30	---	---	---	4340	3920	4120	2180	1080	1700	3740	3320	3570
31	---	---	---	5120	3100	3890	---	---	---	3900	2780	3480
MONTH	5420	991	2600	9370	1320	4700	3940	1080	1980	7630	1120	3270
DAY	MAX	MIN	MEAN									
1	3200	2660	3050	1940	1600	1740	5610	2660	3410	7100	5790	6030
2	2980	2660	2830	1660	1580	1620	4840	3560	4040	5930	5790	5860
3	3460	2540	2990	1620	1420	1550	3840	3040	3310	5810	4660	5580
4	3360	2620	3040	1440	1180	1350	3180	2700	2970	5880	4990	5730
5	2840	2540	2720	1380	1060	1220	3220	2420	3020	5810	5700	5760
6	2940	2780	2880	1300	1180	1230	4020	2940	3350	5790	5690	5740
7	3120	2880	2980	2060	1400	1540	8750	4820	6300	5960	4820	5760
8	3060	2140	2550	1520	1340	1420	7830	4940	5950	5940	5530	5830
9	2500	1920	2190	1500	1300	1410	5610	4240	5240	6010	4930	5840
10	2160	1940	2030	1420	1320	1400	5120	4960	5040	6440	5550	5940
11	4020	2000	2630	1680	1420	1520	7910	4980	5720	8590	4550	6480
12	4340	2020	2640	3380	1500	2100	7730	6050	6730	9990	6920	8250
13	2200	1760	1990	4460	1900	2940	8650	4520	7210	9700	7030	7860
14	2080	1860	1970	4540	2460	3090	8110	6690	7580	7240	5480	6270
15	2000	1720	1920	4800	2360	2910	7770	7030	7370	6690	5120	5810
16	1880	1720	1800	4820	3220	3780	7570	4760	6560	5980	4510	5100
17	3280	1720	1980	5240	3420	4080	6770	5650	6280	5080	2770	4020
18	3240	2100	2530	4960	3460	3890	6330	5340	5790	3490	2540	3160
19	2600	2000	2160	3420	2640	2960	5770	5410	5620	4660	3160	3920
20	2040	1480	1740	3120	2660	2880	5650	4870	5390	5380	4440	5040
21	1720	1420	1540	2800	2180	2460	5480	3930	5200	4500	3170	4020
22	1700	1500	1580	2520	2280	2430	5500	4720	5260	3790	3030	3420
23	1620	1340	1470	3660	2480	2850	5080	4880	4960	3730	3110	3310
24	3440	1400	1930	2920	2060	2590	5150	4860	5050	3420	2620	3080
25	6270	2340	3550	2340	1580	2090	5050	4630	4900	2600	2270	2480
26	3600	2660	3170	2020	1460	1760	4770	4530	4680	2810	2190	2550
27	3620	2800	3270	1620	1520	1570	4740	3630	4610	2290	1610	2000
28	3020	2700	2860	1700	1620	1670	7520	4070	5060	2400	1920	2090
29	3060	2580	2870	4060	1660	2480	7290	5010	5890	2030	1660	1880
30	2620	1620	2210	5910	2580	3880	9540	5410	6150	1840	1220	1420
31	---	---	---	3140	2780	2950	7600	6190	6920	---	---	---
MONTH	6270	1340	2440	5910	1060	2300	9540	2420	5340	9990	1220	4670

ELK RIVER BASIN

01495900 ELK RIVER NEAR TOWN POINT, MD--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	14.0	13.0	13.5	5.5	3.5	4.5	3.5	2.5	3.0
2	---	---	---	15.0	13.5	14.0	8.0	5.0	6.0	4.0	3.0	3.5
3	---	---	---	14.0	11.0	12.5	8.5	7.5	8.0	3.5	2.5	3.0
4	23.0	22.5	23.0	14.0	13.5	13.5	7.5	6.0	6.5	3.0	1.5	2.5
5	23.0	21.5	22.5	13.0	9.5	11.0	6.0	4.0	5.0	2.5	.5	1.5
6	21.0	18.0	19.5	13.0	12.0	12.5	5.0	3.5	4.5	3.0	1.5	2.5
7	19.5	17.0	18.5	12.5	11.5	12.0	5.5	4.5	5.0	3.0	2.5	3.0
8	19.5	18.0	19.0	13.0	12.0	12.5	6.5	5.0	5.5	3.0	1.5	2.5
9	20.5	18.5	19.5	13.5	12.5	13.0	6.0	5.5	5.5	3.0	2.0	2.5
10	18.5	15.0	17.0	12.5	11.0	12.0	7.0	6.0	6.5	3.0	2.0	2.5
11	18.0	16.0	17.0	11.0	10.5	11.0	5.5	4.0	5.0	3.0	2.0	2.5
12	18.5	17.0	17.5	12.0	10.0	10.5	5.0	4.5	5.0	2.5	1.5	2.0
13	18.0	17.5	18.0	11.5	7.5	10.0	4.5	2.5	3.5	3.5	2.0	2.5
14	18.5	17.0	18.0	9.5	5.0	7.0	3.5	2.0	2.5	3.5	2.0	3.0
15	16.5	15.0	16.0	8.5	7.0	8.0	4.0	2.5	3.5	4.5	3.0	3.5
16	17.0	15.0	16.0	9.0	7.5	8.0	4.0	2.0	3.5	4.0	3.0	3.5
17	16.0	15.0	15.5	9.0	8.0	8.5	4.5	3.5	4.0	3.5	1.0	2.5
18	16.5	14.0	15.0	9.0	8.0	8.5	4.5	3.5	4.0	3.0	2.0	2.5
19	16.0	13.0	14.5	9.0	5.0	7.5	4.5	3.0	3.5	3.5	3.0	3.0
20	16.0	14.0	15.0	9.0	5.0	7.5	3.5	3.0	3.5	3.5	3.0	3.0
21	15.5	14.0	15.0	9.0	6.5	7.5	4.0	3.0	3.5	3.5	2.5	3.0
22	16.0	14.5	15.0	7.0	5.0	6.5	3.5	2.5	3.0	2.5	.0	1.0
23	16.0	15.0	15.5	7.5	5.5	6.5	3.5	3.0	3.0	1.5	.0	1.0
24	16.5	15.0	15.5	7.5	7.0	7.0	5.5	3.0	3.5	.5	.0	.0
25	14.5	14.0	14.5	7.5	6.0	6.5	5.0	4.5	5.0	.0	.0	.0
26	15.0	14.5	14.5	7.0	6.5	6.5	5.0	4.5	4.5	.5	.0	.0
27	15.5	14.5	15.0	8.0	7.0	7.5	4.5	3.5	4.0	.5	.0	.5
28	16.0	14.5	15.0	7.5	6.5	7.0	4.5	4.0	4.0	1.0	.0	.5
29	16.0	14.5	15.0	8.0	6.5	7.0	4.5	3.0	4.0	1.0	.0	.5
30	16.0	14.0	15.0	7.5	6.0	6.5	4.0	3.5	3.5	.5	.0	.5
31	14.0	11.5	13.0	---	---	---	4.0	3.0	3.5	.5	.0	.0
MONTH	---	---	---	15.0	5.0	9.5	8.5	2.0	4.5	4.5	.0	2.0
DAY	FEBRUARY			MARCH			APRIL			MAY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	.5	.0	.0	4.5	3.0	3.5	12.0	8.5	10.5	15.5	12.5	14.0
2	1.0	.0	.5	5.5	4.0	4.5	12.0	10.0	11.0	15.5	14.5	15.0
3	1.0	.0	.5	6.0	4.5	5.0	11.5	9.5	10.5	17.5	14.5	15.5
4	.5	.0	.5	5.0	3.5	4.0	12.0	10.5	11.5	14.5	11.5	13.5
5	2.0	.0	.5	6.0	1.5	4.0	11.5	10.0	10.5	14.5	11.5	13.0
6	2.5	.5	1.5	6.0	4.0	5.0	10.0	9.5	9.5	16.0	13.0	14.5
7	3.0	1.5	2.0	7.5	4.5	6.0	10.5	9.5	10.0	17.5	14.5	15.5
8	3.0	1.5	2.5	8.5	5.5	7.0	13.0	9.5	11.0	18.0	15.0	17.0
9	2.5	.0	1.0	8.0	6.0	7.5	13.0	10.5	12.0	18.5	15.5	16.5
10	.5	.0	.5	6.5	3.0	5.0	13.5	10.5	12.0	19.5	16.0	18.0
11	2.5	.5	1.5	6.5	3.5	4.5	14.0	11.5	13.0	21.0	18.0	19.5
12	1.5	1.0	1.0	6.0	4.5	5.0	14.0	12.0	13.0	21.0	19.0	20.0
13	3.0	.5	1.5	7.0	4.0	5.0	13.5	11.5	12.5	21.0	16.5	19.0
14	1.5	.5	1.0	6.5	4.0	5.5	14.0	11.5	13.0	20.5	16.5	18.5
15	1.0	.0	.5	5.5	5.0	5.5	13.5	12.5	13.0	19.5	18.5	19.0
16	.5	.0	.5	7.0	5.0	5.5	12.0	11.0	11.5	20.5	15.5	18.5
17	1.0	.0	.5	6.5	4.5	5.5	12.0	11.0	11.5	20.5	18.0	19.5
18	1.5	.5	1.0	7.5	4.5	6.0	13.5	12.0	12.5	21.5	19.5	20.5
19	2.0	.5	1.0	8.0	5.5	6.5	15.0	13.0	13.5	---	---	---
20	2.5	.5	1.5	8.5	6.0	7.0	15.0	13.5	14.0	16.5	15.0	16.0
21	3.5	1.0	2.0	8.5	6.5	7.5	16.0	14.0	14.5	19.0	15.0	17.0
22	3.5	.5	2.5	9.0	6.5	8.0	18.5	14.0	15.5	20.5	17.5	18.5
23	1.0	.0	.5	10.0	7.0	8.0	15.5	14.0	14.5	---	---	---
24	3.5	1.0	2.0	10.5	7.5	8.5	15.0	14.0	14.5	---	---	---
25	4.0	1.0	2.5	10.5	8.5	9.5	13.5	11.5	12.0	---	---	---
26	5.0	1.5	3.0	12.0	9.5	10.5	15.5	12.0	13.0	---	---	---
27	4.0	2.0	3.0	13.0	10.0	11.5	15.0	12.0	13.5	---	---	---
28	3.5	2.0	3.0	13.5	11.0	12.0	14.0	13.0	13.5	---	---	---
29	---	---	---	13.0	11.0	12.0	14.5	12.0	13.0	---	---	---
30	---	---	---	13.0	12.0	12.5	15.0	13.0	14.0	---	---	---
31	---	---	---	13.0	10.5	12.0	---	---	---	---	---	---
MONTH	5.0	.0	1.5	13.5	1.5	7.0	18.5	8.5	12.5	---	---	---

## ELK RIVER BASIN

01495900 ELK RIVER NEAR TOWN POINT, MD--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	MAX	JUNE			JULY			AUGUST			SEPTEMBER		
		MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	
1	---	---	---	---	---	---	29.0	27.0	28.5	25.0	23.5	24.0	
2	---	---	---	---	---	---	29.0	27.5	28.0	25.0	23.0	24.0	
3	---	---	---	---	---	---	29.5	27.5	28.5	25.5	22.5	23.5	
4	---	---	---	---	---	---	30.5	28.0	29.0	24.5	22.0	23.0	
5	---	---	---	---	---	---	30.5	27.5	29.0	23.0	22.0	22.5	
6	---	---	---	---	---	---	27.5	26.0	27.0	22.5	21.5	22.0	
7	---	---	---	27.0	26.5	26.5	28.0	26.5	27.0	24.5	22.0	23.0	
8	---	---	---	29.5	26.0	27.5	29.0	27.0	27.5	23.5	23.0	23.0	
9	---	---	---	29.5	27.5	28.5	29.5	27.5	28.5	25.0	22.5	23.5	
10	---	---	---	29.0	28.0	28.5	29.0	27.0	28.5	25.5	23.0	24.0	
11	25.0	21.5	23.5	31.0	27.5	29.0	28.5	25.0	27.0	25.0	23.5	24.0	
12	23.0	22.0	22.5	30.5	28.0	29.0	28.5	26.0	27.5	24.5	23.5	24.0	
13	23.5	21.5	22.5	30.5	28.0	29.0	28.0	25.5	27.0	24.5	24.0	24.0	
14	25.5	22.5	24.0	29.5	26.5	28.5	27.5	25.5	26.5	26.0	23.5	24.5	
15	26.0	24.0	25.0	28.0	24.0	26.5	29.0	26.5	27.0	26.0	23.5	24.5	
16	27.0	24.0	25.5	27.5	25.0	26.5	28.0	25.5	27.0	26.0	24.0	25.0	
17	27.5	25.0	26.0	28.0	25.5	27.0	29.5	25.0	27.5	25.5	24.5	25.0	
18	27.0	24.5	26.0	29.0	26.0	27.5	30.0	27.5	29.0	26.0	24.0	25.0	
19	27.5	25.5	26.5	30.0	26.5	28.0	28.5	27.0	28.0	23.5	22.0	22.5	
20	29.5	26.0	27.0	30.0	27.5	28.5	28.5	27.0	27.5	23.0	22.0	22.5	
21	28.5	26.5	27.5	31.5	28.0	29.5	28.5	25.5	27.0	23.5	22.0	22.5	
22	28.5	27.0	27.5	31.5	28.0	30.0	27.5	26.0	26.5	23.5	22.0	22.5	
23	28.5	26.5	27.5	31.5	28.5	30.0	26.5	24.0	25.5	22.5	20.5	22.0	
24	---	---	---	31.5	29.0	30.0	26.0	22.5	24.5	22.5	20.0	21.5	
25	---	---	---	31.5	29.0	30.5	25.0	23.5	24.5	21.5	19.5	20.5	
26	25.5	18.0	24.0	30.5	29.0	30.0	24.5	23.5	24.0	21.0	19.5	20.5	
27	---	---	---	31.5	28.0	29.5	25.5	23.5	24.5	22.0	19.5	21.0	
28	26.5	23.0	25.0	30.0	28.5	29.0	25.0	23.5	24.0	22.5	20.0	21.0	
29	---	---	---	30.0	26.0	28.0	25.0	23.5	24.5	22.5	20.5	21.5	
30	---	---	---	30.0	28.0	29.0	25.5	22.0	24.0	21.5	20.0	21.0	
31	---	---	---	30.0	28.0	29.0	25.0	23.5	24.0	---	---	---	
MONTH	---	---	---	---	---	---	30.5	22.0	26.5	26.0	19.5	23.0	

PRINCIPIO CREEK BASIN

01496200 PRINCIPIO CREEK NEAR PRINCIPIO FURNACE, MD

LOCATION.--Lat 39°37'34", long 76°02'27", Cecil County, Hydrologic Unit 02060002, on left bank, 55 ft downstream from bridge on Belvedere Road, 3.5 mi north of Principio Furnace, and 4.9 mi upstream from mouth.

DRAINAGE AREA.--9.03 mi<sup>2</sup>.

PERIOD OF RECORD.--June 1967 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 215 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Jan. 23-31, Feb. 10, 16. Records good except those for estimated daily discharges (ice effect), which are fair. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--20 years, 12.8 ft<sup>3</sup>/s, 18.80 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,060 ft<sup>3</sup>/s, Aug. 4, 1969, gage height, 9.26 ft, from rating curve extended above 600 ft<sup>3</sup>/s on basis of slope-area measurements at gage heights 8.89 ft and 9.26 ft; minimum discharge, 0.79 ft<sup>3</sup>/s, Sept. 16, 1986.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft<sup>3</sup>/s and maximum (\*):

		Discharge		Gage height				Discharge		Gage height	
Date	Time	(ft <sup>3</sup> /s)	(ft)	Date	Time	(ft <sup>3</sup> /s)	(ft)	Date	Time	(ft <sup>3</sup> /s)	(ft)
Nov. 20	2330	321	4.29	Mar. 1	1145	339				4.36	
Nov. 26	1915	477	4.83	Sept. 8	2200	*1,010				*6.21	
Dec. 24	2300	565	5.10								

Minimum discharge, 1.2 ft<sup>3</sup>/s, Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.5	3.3	5.8	8.9	9.9	164	10	6.5	5.0	8.4	1.7	7.2
2	14	6.9	37	32	12	32	8.7	7.0	4.8	17	1.7	1.8
3	2.1	5.0	56	19	18	18	8.5	7.2	4.9	5.7	1.6	1.5
4	2.0	4.7	11	13	21	14	27	23	15	4.2	1.5	1.4
5	1.9	14	8.4	10	15	13	15	12	11	3.8	14	1.4
6	1.9	17	7.4	9.5	12	12	32	8.4	5.8	3.5	6.6	2.0
7	1.6	4.5	6.8	9.7	14	11	17	7.4	5.2	3.6	2.7	2.7
8	1.8	17	6.6	9.6	14	11	12	7.0	5.0	3.7	2.3	156
9	1.6	6.3	26	9.2	13	11	10	6.5	5.2	3.2	2.2	40
10	1.6	5.0	19	14	10	9.6	9.5	6.3	5.0	8.2	3.4	4.9
11	1.5	27	13	13	10	9.2	9.0	6.0	4.6	5.3	2.1	3.4
12	1.7	11	15	9.9	10	9.4	8.8	6.3	4.6	7.3	2.0	3.1
13	2.4	5.2	9.7	9.0	9.8	9.3	8.6	6.2	4.9	5.6	1.8	18
14	4.1	4.2	7.8	8.5	9.3	9.1	8.1	5.8	4.7	3.7	1.8	11
15	2.2	3.9	7.5	9.1	8.5	9.3	8.3	6.7	4.1	3.8	1.9	4.5
16	1.7	3.7	7.3	8.6	8.0	8.8	8.2	6.1	4.0	3.1	1.7	3.8
17	1.6	3.4	7.2	8.1	8.5	8.4	9.2	5.6	3.7	2.9	1.6	3.6
18	1.7	4.4	51	24	8.7	8.3	8.4	5.4	3.6	2.7	1.5	29
19	1.7	14	17	73	8.4	8.1	8.2	6.5	3.5	2.5	1.4	13
20	1.6	26	10	26	8.2	8.1	8.4	27	3.5	2.4	1.5	5.7
21	1.6	45	8.9	16	8.4	8.1	7.7	13	6.8	2.3	1.3	4.7
22	1.6	7.8	8.0	14	8.6	8.2	7.5	8.2	7.4	2.1	2.1	4.2
23	1.8	6.0	7.7	12	13	7.9	7.3	7.5	4.7	2.0	2.2	3.8
24	2.0	7.4	63	11	9.6	7.7	12	7.0	3.7	2.0	1.7	3.5
25	2.3	6.9	70	10	9.3	7.5	12	6.5	3.5	1.9	1.4	3.2
26	4.6	84	14	10	9.0	7.7	8.5	7.2	3.4	1.9	1.5	3.0
27	4.4	24	11	9.7	9.2	7.5	7.5	7.1	3.6	1.9	1.6	3.1
28	3.8	9.5	10	9.4	11	8.1	7.5	6.6	3.2	1.8	1.8	3.0
29	3.4	7.7	9.2	9.6	---	7.6	7.2	6.0	3.0	1.7	2.1	2.8
30	3.3	6.6	9.2	11	---	8.7	6.8	5.5	4.4	1.7	1.5	3.1
31	3.2	---	8.7	10	---	19	---	5.2	---	1.7	1.6	---
TOTAL	85.0	391.4	549.2	446.8	306.4	481.6	318.9	252.7	151.8	121.6	73.8	348.4
MEAN	2.74	13.0	17.7	14.4	10.9	15.5	10.6	8.15	5.06	3.92	2.38	11.6
MAX	14	84	70	73	21	164	32	27	15	17	14	156
MIN	1.5	3.3	5.8	8.1	8.0	7.5	6.8	5.2	3.0	1.7	1.3	1.4
CFSM	.30	1.44	1.96	1.60	1.21	1.72	1.17	.90	.56	.43	.26	1.29
IN.	.35	1.61	2.26	1.84	1.26	1.98	1.31	1.04	.63	.50	.30	1.44

CAL YR 1986 TOTAL 2763.84 MEAN 7.57 MAX 84 MIN .86 CFSM .84 IN 11.38  
WTR YR 1987 TOTAL 3527.60 MEAN 9.66 MAX 164 MIN 1.3 CFSM 1.07 IN 14.53

## SUSQUEHANNA RIVER BASIN

01578310 SUSQUEHANNA RIVER AT CONOWINGO, MD

LOCATION.--Lat 39°39'31", long 76°10'28", Harford County, Hydrologic Unit 02050306, at downstream side of Conowingo Dam, 1.0 mi southwest of Conowingo, and 9.9 mi upstream from mouth.

DRAINAGE AREA.--27,100 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is 5.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharge. Water-discharge records good. Flow regulated by Conowingo Reservoir beginning October 1928, usable capacity, 55,070,000,000 gal; dead storage, 45,290,000,000 gal. Records do not include a small infrequent diversion upstream from station to augment municipal supply of city of Baltimore. Records of diversion available from Baltimore Department of Public Works. Gage-height telemeter at station.

AVERAGE DISCHARGE.--20 years, 36,140 ft<sup>3</sup>/s, 20.84 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,130,000 ft<sup>3</sup>/s, June 24, 1972, gage height, 36.83 ft; minimum discharge, 144 ft<sup>3</sup>/s, Mar. 2, 1969, gage height, 6.28 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 266,000 ft<sup>3</sup>/s, Apr. 7, gage height, 23.13 ft; minimum discharge, 809 ft<sup>3</sup>/s, Oct. 5, 6, Dec. 19, gage height, 7.37 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12200	1190	120000	46500	14800	22400	57100	36400	23200	20300	4780	14400
2	14500	938	93200	46600	28000	50300	78300	33300	24200	11800	4520	12300
3	15100	13300	92300	29900	26200	56800	91400	24500	17300	12200	7450	12800
4	5970	15400	103000	24700	30500	70400	86900	38900	17200	10700	9950	10500
5	5810	18200	100000	37300	42200	81800	97500	45900	18900	19900	7700	4890
6	27500	14700	94900	34100	39000	77200	207000	48100	13000	32800	11300	4900
7	26000	16700	81800	30600	19100	64300	236000	51300	10100	30800	5010	6820
8	31500	12400	80600	28300	15700	55800	206000	48500	27600	26700	4660	23400
9	43200	5460	69500	31200	35600	70100	187000	28500	22500	27600	4490	36500
10	26600	29300	62300	21100	29400	106000	154000	25600	18300	34500	6910	22900
11	14800	55300	65600	20800	28800	122000	121000	48700	18100	27200	14000	16100
12	5750	61100	67900	27700	26800	116000	98800	28900	16000	23000	14200	10400
13	19900	58300	60700	28600	31100	87900	98500	26000	8880	34100	4420	36500
14	22100	63500	57800	26800	17800	71000	86000	14300	6020	37500	4520	56000
15	19100	39700	49900	27400	7460	52900	87300	26600	23200	19000	4400	72200
16	19900	31700	46400	34700	25100	60400	87000	13800	17600	19200	4580	46800
17	23400	37800	40300	22100	20900	55600	78500	13800	18100	17900	17400	47200
18	7930	35200	46400	22200	15600	50400	68800	23400	22700	10100	4430	51400
19	7560	35200	42000	44800	18300	40500	66400	23700	14400	7860	5370	49100
20	16000	41300	45600	49800	25500	38900	74300	26200	5030	22000	4570	52400
21	14000	49700	36500	43500	9450	34000	64700	31900	5030	15000	5000	48600
22	13800	59400	46800	41800	5430	15700	54500	38500	16100	13100	5050	53700
23	13200	67500	40100	42100	26500	35800	48700	23800	22000	14200	5020	51300
24	15100	80700	34400	13000	23400	33400	50100	18000	18700	9730	5130	44200
25	6820	77800	52500	10300	20300	36500	42000	17000	11200	7660	5090	41700
26	2790	73200	72000	20200	19700	38100	37500	26800	17100	5170	5060	25000
27	17700	87500	70300	25900	24900	39900	44600	21900	5210	8320	4970	18700
28	15000	127000	69700	22100	7380	43300	43600	24800	5200	10700	4950	24500
29	14800	177000	70400	21200	---	36300	38600	27800	14700	11200	4930	25000
30	22000	135000	62000	23900	---	61500	37200	10700	22600	11300	4900	22300
31	14300	---	53000	15600	---	61300	---	6690	---	6900	10400	---
TOTAL	514330	1521488	2027900	914800	634920	1786500	2729300	874290	480170	558440	205160	942510
MEAN	16590	50720	65420	29510	22680	57630	90980	28200	16010	18010	6618	31420
MAX	43200	177000	120000	49800	42200	122000	236000	51300	27600	37500	17400	72200
MIN	2790	938	34400	10300	5430	15700	37200	6690	5030	5170	4400	4890
CFSM	.61	1.87	2.41	1.09	.84	2.13	3.36	1.04	.59	.67	.24	1.16
IN.	.71	2.09	2.78	1.26	.87	2.45	3.75	1.20	.66	.77	.28	1.29

CAL YR 1986 TOTAL 15053348 MEAN 41240 MAX 361000 MIN 938 CFSM 1.52 IN 20.66  
WTR YR 1987 TOTAL 13189808 MEAN 36140 MAX 236000 MIN 938 CFSM 1.33 IN 18.11

SUSQUEHANNA RIVER BASIN

01578310 SUSQUEHANNA RIVER AT CONOWINGO, MD--Continued  
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1978 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: June 1979 to April 1981, July 1984 to current year.

WATER TEMPERATURE: June 1979 to April 1981, July 1984 to current year.

SUSPENDED-SEDIMENT DISCHARGE: October 1979 to April 1981, July 1984 to current year.

REMARKS.--Water temperatures are measured daily in field by local observer at time of sampling.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 475 microsiemens, Nov. 13-15, 1980; minimum daily, 113 microsiemens, Mar. 17, 1986.

WATER TEMPERATURE (water years 1979-80, 1984-87): Maximum daily, 30.0°C, Jul. 11, 26-31 and Aug. 1, 2-4, 1987; minimum daily, 1.0°C, Feb. 5, 6, 9, 1980.

SEDIMENT CONCENTRATION: Maximum daily mean, 207 mg/L, Mar. 17, 1986; minimum daily mean, 1 mg/L, June 27, 1987.

SEDIMENT LOAD: Maximum daily, 197,000 tons, Mar. 16, 17, 1986; minimum daily, 4.4 tons, Feb. 10, 1985.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 462 microsiemens, Oct. 3; minimum daily, 126 microsiemens, Dec. 1.

WATER TEMPERATURE: Maximum daily, 30.0°C, Jul. 11, 26-31, Aug. 1, 2-4; minimum daily, 3.0°C, on many days during winter periods.

SEDIMENT CONCENTRATION: Maximum daily mean, 90 mg/L, Apr. 8; minimum daily mean, 1 mg/L, June 27.

SEDIMENT LOAD: Maximum daily, 50,100 tons, Apr. 8; minimum daily, 26 tons, Sept. 6.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE AIR (DEG C)	TEMPERATURE WATER (DEG C)	BAROMETRIC PRESSURE (MM HG)	TURBIDITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PERCENT SATURATION)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)
OCT											
08...	1130	26000	400	7.73	20.0	21.5	770	--	7.2	81	--
29...	1210	40400	276	7.66	21.0	17.0	769	--	8.2	84	--
NOV											
19...	1030	34500	196	7.54	6.0	8.0	771	3.2	12.1	101	25
DEC											
01...	1200	93000	130	6.82	4.0	7.0	781	--	13.4	108	--
04...	1300	108000	150	7.44	10.0	6.0	768	--	12.8	102	--
05...	1130	88100	166	7.28	6.5	7.0	776	21	13.1	106	--
08...	1115	81000	170	7.00	10.0	6.0	773	--	14.5	115	--
10...	1245	76300	178	7.51	13.0	6.0	761	--	13.4	107	--
JAN											
07...	1130	53500	210	7.29	9.0	3.0	760	2.6	12.5	93	21
FEB											
04...	1300	48000	270	7.65	5.0	3.0	770	--	14.4	106	--
12...	1115	65200	210	7.56	2.0	3.0	757	--	14.2	106	--
12...	1120	65200	210	7.55	2.0	3.0	757	--	14.2	106	--
17...	1230	48700	209	7.87	6.0	2.0	766	--	14.7	106	--
26...	1230	19100	290	7.85	7.0	9.5	780	--	14.3	122	--
27...	1600	1260	280	8.20	--	--	--	--	--	--	--
27...	1605	1260	280	8.20	--	--	--	--	--	--	--
MAR											
01...	1625	1310	265	8.20	--	--	--	--	--	--	--
01...	1630	1310	265	8.20	--	--	--	--	--	--	--
02...	1410	71900	282	8.20	--	--	--	--	--	--	--
02...	1415	71600	282	8.20	6.5	3.0	752	--	14.0	105	--
03...	1505	79700	290	8.20	--	--	--	--	--	--	--
04...	1045	80100	300	8.08	3.0	6.0	776	3.0	13.2	104	K85
05...	1345	80800	247	7.66	7.0	7.0	761	--	13.3	110	--
06...	1030	79600	213	7.88	7.0	6.0	779	--	13.4	105	--
07...	1150	73100	235	7.60	15.0	5.0	766	--	14.0	109	--
09...	0930	80500	215	7.91	15.0	8.0	760	--	13.9	117	--
11...	1230	143000	188	7.71	3.0	2.0	779	--	12.9	91	--
17...	1130	75000	155	7.58	8.0	6.0	770	--	13.3	106	--
17...	1135	75000	155	7.58	8.0	6.0	770	--	13.3	106	--
25...	1200	63500	197	7.67	19.0	10.0	769	--	11.3	99	--

K: Results based on colony count outside the accepted range (non-ideal colony).

## SUSQUEHANNA RIVER BASIN

01578310 SUSQUEHANNA RIVER AT CONOWINGO, MD--Continued

WATER QUALITY DATA, WATER OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE AIR (DEG C)	TEMPERATURE WATER (DEG C)	BAROMETRIC PRESSURE (MM OF HG)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, (PER-CENT SATURATION)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)
APR											
01...	1230	81600	220	7.60	--	14.0	--	--	--	--	--
04...	1030	86900	170	7.65	14.0	10.0	752	--	12.0	108	--
04...	1035	86900	170	7.60	14.0	10.0	752	--	12.0	108	--
05...	1400	87500	156	8.00	--	8.5	--	--	--	--	--
06...	1130	248000	164	7.29	5.0	8.0	756	--	13.1	111	--
07...	0700	244000	144	7.20	10.0	7.5	753	--	--	--	--
07...	0725	244000	139	7.50	10.0	7.5	753	--	--	--	--
07...	0730	244000	141	7.60	10.0	7.5	753	--	12.8	108	--
07...	0735	244000	140	7.50	--	7.5	753	--	--	--	--
07...	1300	247000	137	7.40	--	9.0	--	--	--	--	--
07...	1340	247000	130	7.50	15.5	8.0	754	--	--	--	--
07...	1345	247000	133	7.60	15.5	8.0	754	--	12.5	107	--
07...	1350	247000	131	7.60	15.5	8.0	754	--	--	--	--
08...	1110	230000	133	7.60	--	--	--	--	--	--	--
08...	1150	230000	132	7.60	--	--	--	--	--	--	--
08...	1200	230000	132	7.70	18.0	8.5	768	--	13.0	110	--
08...	1210	230000	132	7.70	18.0	8.0	768	--	--	--	--
09...	1050	198000	137	7.60	11.0	9.0	761	--	14.2	123	--
10...	0900	173000	137	7.51	12.0	10.0	762	--	12.4	110	--
12...	1020	98600	142	7.60	--	10.5	--	--	--	--	--
15...	1200	87300	164	7.50	11.0	12.0	769	--	10.9	100	--
22...	1040	77000	180	7.72	25.0	16.0	765	--	10.2	103	--
29...	1005	77700	205	7.85	14.0	15.5	761	--	10.9	109	--
MAY											
06...	1030	58400	220	8.02	20.0	16.0	766	1.0	10.4	105	250
20...	1055	60800	214	7.78	16.0	21.0	771	--	7.7	85	--
27...	1215	52600	237	7.84	18.0	20.0	774	--	8.0	87	--
JUN											
03...	1130	19900	259	7.69	23.0	23.0	768	--	5.8	67	--
09...	1215	59100	218	7.77	25.0	25.0	763	--	6.0	73	--
17...	1200	21900	280	7.80	28.0	25.0	766	--	4.5	54	--
JUL											
08...	0935	37400	307	7.61	28.0	28.0	766	2.5	10.4	132	K8
22...	1120	5100	244	7.57	31.0	27.0	768	--	4.4	55	--
AUG											
05...	1230	12000	250	7.44	31.0	29.0	760	--	3.1	40	--
19...	1000	4320	290	7.52	29.0	28.0	767	--	3.8	48	--
19...	1200	4200	295	7.41	27.0	28.0	--	--	3.2	--	--
19...	1400	4320	292	7.29	26.0	28.0	--	--	2.6	--	--
19...	1600	5050	295	7.18	26.0	28.0	--	--	2.4	--	--
19...	1800	4500	295	7.26	26.0	28.0	--	--	2.0	--	--
19...	2000	4500	300	7.38	24.0	26.0	--	--	1.9	--	--
19...	2005	4500	300	7.38	24.0	26.0	--	--	1.9	--	--
19...	2130	9850	288	7.51	24.0	26.0	--	--	4.9	--	--
19...	2131	9850	302	7.39	22.0	25.0	--	--	2.4	--	--
19...	2132	9850	302	7.52	23.0	25.0	--	--	--	--	--
19...	2135	9850	302	7.52	23.0	23.0	764	--	--	--	--
19...	2400	4450	300	7.24	23.0	25.0	--	--	--	--	--
20...	0200	4410	300	7.27	20.0	25.0	--	--	2.6	--	--
20...	0400	4370	294	7.10	20.0	27.0	--	--	2.4	--	--
20...	0600	4370	295	7.22	20.0	27.0	--	--	2.7	--	--
20...	0800	4370	296	7.25	22.0	25.0	--	--	2.7	--	--
20...	0805	4370	296	7.25	22.0	25.0	--	--	2.7	--	--
20...	1000	4320	294	7.17	27.0	27.0	--	--	2.9	--	--
20...	1005	4320	294	7.17	27.0	27.0	767	--	2.9	36	--
SEP											
03...	1100	4800	353	7.91	23.0	24.0	771	1.5	7.0	82	K10
09...	1420	66300	341	7.40	--	--	--	--	--	--	--
10...	0915	5050	364	7.40	--	--	--	--	--	--	--
10...	0820	5050	360	7.50	--	--	--	--	--	--	--
11...	1240	38100	361	7.60	--	--	--	--	--	--	--
11...	1250	38100	358	7.60	--	--	--	--	--	--	--
12...	0820	5050	349	7.70	--	--	--	--	--	--	--
14...	1300	72800	--	--	--	--	--	--	--	--	--
15...	1100	73300	--	--	--	--	--	--	--	--	--
16...	1130	60000	243	8.50	--	--	--	--	--	--	--
17...	1040	79000	232	7.80	--	--	--	--	--	--	--
18...	1030	79400	244	7.50	23.0	24.0	757	--	6.9	83	--
19...	1030	77400	228	8.00	--	--	--	--	--	--	--
21...	1030	43800	225	7.64	21.0	22.0	764	--	6.9	79	--
23...	1200	51500	223	7.74	23.0	21.0	763	--	6.8	76	--
25...	1045	51300	218	7.68	18.0	18.0	765	--	8.7	93	--

K: Results based on colony count outside the accepted range (non-ideal colony).





SUSQUEHANNA RIVER BASIN

01578310 SUSQUEHANNA RIVER AT CONOWINGO, MD--Continued

WATER QUALITY DATA, WATER OCTOBER 1986 TO SEPTEMBER 1987

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)
OCT											
08...	--	--	1.4	--	--	1.13	0.070	0.23	--	1.20	--
29...	--	--	2.3	--	--	0.880	0.020	0.07	--	0.900	--
NOV											
19...	10	<0.10	4.5	107	110	0.970	0.010	0.03	--	0.980	0.080
DEC											
01...	--	--	4.9	--	--	0.910	0.010	0.03	--	0.920	--
04...	--	--	4.9	--	--	--	<0.010	--	--	1.10	--
05...	7.8	<0.10	5.4	85	81	1.29	0.010	0.03	--	1.30	--
08...	--	--	5.4	--	--	--	<0.010	--	--	1.40	--
10...	--	--	5.4	--	--	1.29	0.010	0.03	--	1.30	--
JAN											
07...	11	0.10	5.4	115	110	--	<0.010	--	--	1.60	0.110
FEB											
04...	--	--	4.9	--	--	2.38	0.020	0.07	--	2.40	--
12...	--	--	--	--	--	--	--	--	1.98	1.98	0.080
12...	--	--	3.9	--	--	1.99	0.010	0.03	--	2.00	--
17...	--	--	3.4	--	--	1.98	0.020	0.07	--	2.00	--
26...	--	--	2.2	--	--	2.08	0.020	0.07	--	2.10	--
27...	--	--	--	--	--	--	--	--	1.96	1.88	0.075
27...	--	--	--	--	--	--	--	--	2.16	2.16	0.060
MAR											
01...	--	--	--	--	--	--	--	--	2.16	2.16	0.065
01...	--	--	--	--	--	--	--	--	1.88	1.84	0.080
02...	--	--	--	--	--	--	--	--	1.84	1.84	0.075
02...	--	--	1.7	--	--	1.98	0.020	0.07	--	2.00	--
03...	--	--	--	--	--	--	--	--	1.84	1.84	0.100
04...	18	<0.10	1.3	160	160	1.88	0.020	0.07	--	1.90	0.130
05...	--	--	3.4	--	--	2.28	0.020	0.07	--	2.30	--
06...	--	--	12	--	--	2.38	0.020	0.07	--	2.40	--
07...	--	--	3.7	--	--	2.19	0.010	0.03	--	2.20	--
09...	--	--	4.1	--	--	1.79	0.010	0.03	--	1.80	--
11...	--	--	4.1	--	--	1.49	0.010	0.03	--	1.50	--
17...	--	--	4.3	--	--	--	<0.010	--	--	1.20	--
17...	--	--	4.4	--	--	--	<0.010	--	--	1.20	--
25...	--	--	3.7	--	--	1.38	0.020	0.07	--	1.40	--
APR											
01...	--	--	--	--	--	--	--	--	0.760	0.760	0.100
04...	--	--	3.6	--	--	1.08	0.020	0.07	--	1.10	--
04...	--	--	--	--	--	--	--	--	1.02	1.02	0.190
05...	--	--	--	--	--	--	--	--	0.960	0.960	0.030
06...	--	--	4.4	--	--	0.960	0.010	0.03	--	0.970	--
07...	--	--	--	--	--	--	--	--	1.02	1.02	0.060
07...	--	--	--	--	--	--	--	--	1.10	1.10	0.050
07...	--	--	4.5	--	--	1.09	0.010	0.03	--	1.10	--
07...	--	--	--	--	--	--	--	--	1.08	1.08	0.100
07...	--	--	--	--	--	--	--	--	1.00	1.00	0.090
07...	--	--	--	--	--	--	--	--	1.08	1.08	0.110
07...	--	--	4.4	--	--	0.990	0.010	0.03	--	1.00	--
07...	--	--	--	--	--	--	--	--	1.06	1.06	0.105
08...	--	--	--	--	--	--	--	--	1.12	1.12	0.075
08...	--	--	--	--	--	--	--	--	1.10	1.10	0.075
08...	--	--	--	--	--	--	<0.010	--	--	1.10	--
08...	--	--	--	--	--	--	--	--	1.18	1.18	0.075
09...	--	--	4.8	--	--	1.09	0.010	0.03	--	1.10	--
10...	--	--	4.8	--	--	--	<0.010	--	--	1.00	--
12...	--	--	--	--	--	--	--	--	1.12	1.12	0.075
15...	--	--	4.9	--	--	1.19	0.010	0.03	--	1.20	--
22...	--	--	4.6	--	--	1.18	0.020	0.07	--	1.20	--
29...	--	--	3.2	--	--	1.18	0.020	0.07	--	1.20	--
MAY											
06...	11	<0.10	2.0	118	120	0.940	0.010	0.03	--	0.950	0.020
20...	--	--	0.9	--	--	0.760	0.010	0.03	--	0.770	--
27...	--	--	3.7	--	--	0.950	0.020	0.07	--	0.970	--
JUN											
03...	--	--	2.4	--	--	1.07	0.030	0.10	--	1.10	--
09...	--	--	2.0	--	--	0.890	0.030	0.10	--	0.920	--
17...	--	--	3.0	--	--	0.780	0.100	0.33	--	0.880	--
JUL											
08...	16	<0.10	2.7	183	170	0.890	0.030	0.10	--	0.920	0.150
22...	--	--	3.3	--	--	0.330	0.050	0.16	--	0.380	--

## SUSQUEHANNA RIVER BASIN

01578310 SUSQUEHANNA RIVER AT CONOWINGO, MD--Continued

WATER QUALITY DATA, WATER OCTOBER 1986 TO SEPTEMBER 1987

DATE	CHLORIDE, DIS- SOLVED (MG/L AS CL)	FLUORIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, NO2+NO3 DIS- SOLVED TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)
AUG											
05...	--	--	2.5	--	--	0.550	0.070	0.23	--	0.620	--
19...	--	--	--	--	--	--	--	--	0.620	0.620	0.115
19...	--	--	--	--	--	--	--	--	0.640	0.640	0.100
19...	--	--	--	--	--	--	--	--	0.620	0.620	0.170
19...	--	--	--	--	--	--	--	--	0.620	0.620	0.090
19...	--	--	--	--	--	--	--	--	0.620	0.620	0.150
19...	--	--	--	--	--	--	--	--	0.620	0.620	0.170
19...	--	--	--	--	--	--	--	--	0.620	0.600	0.110
19...	--	--	--	--	--	--	--	--	0.620	0.600	0.150
19...	--	--	--	--	--	--	--	--	0.600	0.600	0.130
19...	--	--	--	--	--	--	--	--	0.620	0.600	0.115
19...	--	--	1.3	--	--	0.500	0.030	0.10	--	0.530	--
19...	--	--	--	--	--	--	--	--	0.620	0.600	0.125
20...	--	--	--	--	--	--	--	--	0.620	0.620	0.120
20...	--	--	--	--	--	--	--	--	0.600	0.600	0.115
20...	--	--	--	--	--	--	--	--	0.600	0.600	0.115
20...	--	--	--	--	--	--	--	--	0.600	0.600	0.133
20...	--	--	--	--	--	--	--	--	0.600	0.600	0.160
20...	--	--	--	--	--	--	--	--	0.600	0.600	0.115
20...	--	--	1.4	--	--	0.500	0.030	0.10	--	0.530	--
SEP											
03...	21	0.10	1.1	207	200	0.510	0.040	0.13	--	0.550	0.060
09...	--	--	--	--	--	--	--	--	0.740	0.720	0.110
10...	--	--	--	--	--	--	--	--	0.580	0.580	0.140
10...	--	--	--	--	--	--	--	--	0.600	0.600	0.130
11...	--	--	--	--	--	--	--	--	0.640	0.640	0.120
11...	--	--	--	--	--	--	--	--	0.620	0.600	0.120
12...	--	--	--	--	--	--	--	--	0.620	0.620	0.200
14...	--	--	--	--	--	--	--	--	0.840	0.840	0.240
15...	--	--	--	--	--	--	--	--	0.960	0.960	0.120
16...	--	--	--	--	--	--	--	--	1.32	1.32	0.140
17...	--	--	--	--	--	--	--	--	1.74	1.66	0.130
18...	--	--	4.9	--	--	1.95	0.050	0.16	--	2.00	--
19...	--	--	--	--	--	--	--	--	2.16	2.16	0.100
21...	--	--	5.4	--	--	1.37	0.030	0.10	--	1.40	--
23...	--	--	5.4	--	--	1.58	0.020	0.07	--	1.60	--
25...	--	--	5.8	--	--	1.58	0.020	0.07	--	1.60	--

SUSQUEHANNA RIVER BASIN

01578310 SUSQUEHANNA RIVER AT CONOWINGO, MD--Continued

WATER QUALITY DATA, WATER OCTOBER 1986 TO SEPTEMBER 1987

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)
OCT										
08...	0.120	0.15	2.0	1.0	2.1	0.070	0.028	0.012	0.04	20
29...	0.110	0.14	0.59	0.80	0.70	0.040	<0.005	0.009	0.03	10
NOV										
19...	0.080	0.10	0.52	0.90	0.60	0.020	0.026	0.014	0.04	20
DEC										
01...	0.080	0.10	0.22	1.2	0.30	0.060	0.052	0.003	0.01	30
04...	0.090	0.12	0.51	0.70	0.60	0.040	<0.005	0.002	0.01	--
05...	0.100	0.13	0.50	0.40	0.60	0.129	0.013	0.014	0.04	--
08...	0.080	0.10	0.42	0.90	0.50	0.050	0.061	0.009	0.03	--
10...	0.080	0.10	0.12	0.30	0.20	1.50	<0.005	0.016	0.05	30
JAN										
07...	0.110	0.14	0.29	0.50	0.40	0.020	0.010	0.009	0.03	10
FEB										
04...	0.140	0.18	1.1	0.90	1.2	0.030	0.020	0.010	0.03	20
12...	EO.080	--	--	0.36	0.32	0.040	0.030	0.006	0.02	--
12...	0.120	0.15	1.1	1.4	1.2	0.030	0.040	0.020	0.06	20
17...	0.100	0.13	0.70	1.2	0.80	0.080	0.010	<0.010	--	40
26...	0.070	0.09	1.0	1.7	1.1	0.020	0.010	0.010	0.03	--
27...	0.065	0.08	0.39	0.50	0.45	0.020	0.020	0.017	0.05	--
27...	0.550	0.71	0.0	0.42	0.34	0.040	0.020	<0.002	--	--
MAR										
01...	0.060	0.08	0.34	0.40	0.40	0.040	0.020	0.005	0.02	--
01...	0.080	0.10	0.25	0.45	0.33	0.040	0.020	0.011	0.03	--
02...	0.075	0.10	0.31	0.41	0.38	0.040	0.030	0.004	0.01	--
02...	0.070	0.09	0.43	0.40	0.50	0.090	0.020	0.010	0.03	30
03...	0.100	0.13	0.35	0.56	0.45	0.050	0.020	0.014	0.04	--
04...	0.140	0.18	0.56	3.9	0.70	0.070	0.024	0.018	0.05	40
05...	0.110	0.14	1.2	1.1	1.3	0.060	0.010	0.030	0.09	40
06...	0.110	0.14	0.59	1.0	0.70	0.060	0.010	0.020	0.06	40
07...	0.080	0.10	0.42	1.1	0.50	0.050	<0.010	<0.010	--	30
09...	0.130	0.17	0.87	1.1	1.0	0.050	0.010	<0.010	--	20
11...	0.080	0.10	0.22	0.30	0.30	0.040	0.010	<0.010	--	30
17...	0.070	0.09	0.43	0.50	0.50	0.040	0.010	<0.010	--	30
17...	0.080	0.10	0.32	0.30	0.40	0.030	0.010	<0.010	--	20
25...	0.070	0.09	0.33	0.60	0.40	0.030	0.010	<0.010	--	30
APR										
01...	0.100	0.13	0.33	0.63	0.43	0.110	0.020	0.012	0.04	--
04...	0.100	0.13	0.30	0.70	0.40	0.020	0.020	0.010	0.03	20
04...	0.190	0.24	0.11	0.44	0.30	0.110	0.030	0.002	0.01	--
05...	0.030	0.04	0.27	0.33	0.30	0.100	0.030	0.002	0.01	--
06...	0.090	0.12	0.51	0.70	0.60	0.070	0.010	0.020	0.06	50
07...	0.060	0.08	0.34	0.80	0.40	0.160	0.040	0.002	0.01	--
07...	0.050	0.06	0.39	0.74	0.44	0.150	0.030	0.003	0.01	--
07...	0.100	0.13	0.40	1.3	0.50	0.130	0.020	0.010	0.03	70
07...	0.090	0.12	0.41	0.64	0.50	0.150	0.040	0.003	0.01	--
07...	0.065	0.08	0.36	0.92	0.42	0.150	0.030	0.002	0.01	--
07...	0.100	0.13	0.36	0.66	0.46	0.150	0.030	0.003	0.01	--
07...	0.090	0.12	0.31	1.9	0.40	0.070	0.020	0.010	0.03	90
07...	0.095	0.12	0.30	0.64	0.40	0.150	0.030	0.003	0.01	--
08...	0.055	0.07	0.31	0.64	0.36	0.100	0.030	<0.002	--	--
08...	0.060	0.08	0.32	0.62	0.38	0.170	0.030	<0.002	--	--
08...	0.080	0.10	0.32	1.10	0.40	0.040	0.020	<0.010	--	100
08...	0.060	0.08	0.20	0.44	0.26	0.150	0.040	<0.002	--	--
09...	0.030	0.04	0.67	0.90	0.70	0.130	0.010	<0.010	--	50
10...	0.030	0.04	0.47	0.50	0.50	0.070	0.010	<0.010	--	40
12...	0.060	0.08	0.34	0.60	0.40	0.070	0.040	0.004	0.01	--
15...	0.080	0.10	--	0.40	<0.20	0.050	0.010	0.020	0.06	40
22...	0.060	0.08	0.34	0.40	0.40	0.050	0.020	0.020	0.06	30
29...	0.040	0.05	0.56	0.70	0.60	0.030	0.020	<0.010	--	30
MAY										
06...	0.020	0.03	0.38	2.2	0.40	0.040	<0.005	0.003	0.01	50
20...	0.120	0.15	0.48	1.3	0.60	0.030	0.010	0.010	0.03	40
27...	0.110	0.14	0.39	1.1	0.50	0.050	0.010	<0.010	--	30
JUN										
03...	0.250	0.32	0.55	1.0	0.80	0.040	0.030	<0.010	--	40
09...	0.270	0.35	0.93	1.2	1.2	0.050	0.010	<0.010	--	20
17...	0.270	0.35	0.23	0.40	0.50	0.070	0.030	<0.010	--	30
JUL										
08...	0.120	0.15	0.28	0.70	0.40	0.040	0.008	0.009	0.03	20
22...	0.220	0.28	0.48	0.80	0.70	0.050	0.006	<0.001	--	10

## SUSQUEHANNA RIVER BASIN

01578310 SUSQUEHANNA RIVER AT CONOWINGO, MD--Continued

WATER QUALITY DATA, WATER OCTOBER 1986 TO SEPTEMBER 1987

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH <sub>4</sub> )	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, TOTAL (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO <sub>4</sub> )	ALUM- INUM, DIS- SOLVED (UG/L AS AL)
AUG											
05...	0.170	0.22	0.63	0.80	0.80	0.040	<0.005	<0.010	<0.001	--	10
19...	0.110	0.14	0.39	0.58	0.50	0.070	0.030	--	0.008	0.02	--
19...	0.050	0.06	0.35	0.72	0.40	0.060	0.020	--	0.002	0.01	--
19...	0.070	0.08	0.33	0.54	0.40	0.050	0.020	--	<0.002	--	--
19...	0.090	0.12	0.41	0.66	0.50	0.060	0.030	--	0.003	0.01	--
19...	0.100	0.13	0.20	0.40	0.30	0.060	0.030	--	0.002	0.01	--
19...	0.100	0.13	0.22	0.38	0.32	0.060	0.030	--	<0.002	--	--
19...	0.090	0.12	0.25	0.42	0.34	0.050	0.030	--	<0.002	--	--
19...	0.100	0.13	0.54	0.68	0.64	0.050	0.030	--	<0.002	--	--
19...	0.120	0.15	0.32	0.44	0.44	0.060	0.020	--	<0.002	--	--
19...	0.050	0.06	0.27	0.38	0.32	0.060	0.040	--	<0.002	--	--
19...	0.100	0.13	0.70	0.80	0.80	0.040	0.008	--	0.003	0.01	<10
19...	0.120	0.15	0.38	0.60	0.50	0.060	0.030	--	<0.002	--	--
20...	0.120	0.15	0.40	0.54	0.52	0.050	0.030	--	<0.002	--	--
20...	0.110	0.14	0.31	1.5	0.42	0.060	0.030	--	<0.002	--	--
20...	0.110	0.14	0.31	0.42	0.42	0.050	0.020	--	<0.002	--	--
20...	0.110	0.14	0.35	0.50	0.46	0.050	0.020	--	<0.002	--	--
20...	0.110	0.14	0.35	0.46	0.46	0.050	0.030	--	<0.002	--	--
20...	0.110	0.14	0.29	0.70	0.40	0.050	0.020	--	<0.002	--	--
20...	0.090	0.12	0.61	0.70	0.70	0.040	<0.005	--	0.003	0.01	10
SEP											
03...	0.040	0.05	0.56	2.0	0.60	0.030	0.010	--	0.002	0.01	20
09...	0.110	0.14	0.41	0.60	0.52	0.090	0.050	--	0.023	0.07	--
10...	0.100	0.13	0.50	0.92	0.60	0.080	0.080	--	0.023	0.07	--
10...	0.120	0.15	0.42	0.54	0.54	0.060	0.040	--	0.024	0.07	--
11...	0.100	0.13	0.36	0.54	0.46	0.060	0.040	--	0.010	0.03	--
11...	0.110	0.14	0.49	0.78	0.60	0.070	0.050	--	0.010	0.03	--
12...	0.190	0.24	0.51	0.78	0.70	0.090	0.060	--	0.016	0.05	--
14...	0.205	0.26	0.27	0.70	0.47	0.160	0.080	--	0.024	0.07	--
15...	0.085	0.11	0.32	0.50	0.40	0.120	0.050	--	0.010	0.03	--
16...	0.110	0.14	0.15	0.36	0.26	0.130	0.060	--	0.012	0.04	--
17...	0.120	0.15	0.48	0.70	0.60	0.140	0.040	--	0.017	0.05	--
18...	0.090	0.12	0.21	0.60	0.30	0.040	0.027	--	0.017	0.05	20
19...	0.100	0.13	0.38	0.70	0.48	0.120	0.040	--	0.021	0.06	--
21...	0.100	0.13	0.10	0.50	0.20	0.040	0.028	--	0.019	0.06	20
23...	0.060	0.08	0.34	0.60	0.40	0.060	0.026	--	0.019	0.06	30
25...	0.030	0.04	--	0.50	<0.20	0.050	0.026	--	0.021	0.06	10







## SUSQUEHANNA RIVER BASIN

01578310 SUSQUEHANNA RIVER AT CONOWINGO, MD--Continued

WATER QUALITY DATA, WATER OCTOBER 1986 TO SEPTEMBER 1987

DATE	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)
AUG										
05...	--	--	--	--	--	--	--	--	3.4	--
19...	--	--	--	--	--	--	--	--	2.6	--
19...	--	--	--	--	--	--	--	--	1.8	--
19...	--	--	--	--	--	--	--	--	2.2	--
19...	--	--	--	--	--	--	--	--	2.4	--
19...	--	--	--	--	--	--	--	--	2.4	--
19...	--	--	--	--	--	--	--	--	3.4	--
19...	--	--	--	--	--	--	--	--	3.5	--
19...	--	--	--	--	--	--	--	--	3.1	--
19...	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	2.3	--
19...	--	--	--	--	--	--	--	--	3.3	--
19...	--	--	--	--	--	--	--	--	1.5	--
20...	--	--	--	--	--	--	--	--	1.1	--
20...	--	--	--	--	--	--	--	--	2.5	--
20...	--	--	--	--	--	--	--	--	--	<0.0
20...	--	--	--	--	--	--	--	--	2.5	--
20...	--	--	--	--	--	--	--	--	1.9	--
20...	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	3.7	--
SEP										
03...	6	<10	1	<1	<1	200	<6	130	3.2	--
09...	--	--	--	--	--	--	--	--	2.8	--
10...	--	--	--	--	--	--	--	--	4.2	--
10...	--	--	--	--	--	--	--	--	3.1	--
11...	--	--	--	--	--	--	--	--	E3.0	--
11...	--	--	--	--	--	--	--	--	2.9	--
12...	--	--	--	--	--	--	--	--	3.6	--
14...	--	--	--	--	--	--	--	--	2.9	--
15...	--	--	--	--	--	--	--	--	4.5	--
16...	--	--	--	--	--	--	--	--	3.0	--
17...	--	--	--	--	--	--	--	--	5.0	--
18...	--	--	--	--	--	--	--	--	4.4	--
19...	--	--	--	--	--	--	--	--	4.0	--
21...	--	--	--	--	--	--	--	--	5.2	--
23...	--	--	--	--	--	--	--	--	4.7	--
25...	--	--	--	--	--	--	--	--	5.4	--

SUSQUEHANNA RIVER BASIN

01578310 SUSQUEHANNA RIVER AT CONOWINGO, MD--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SEDI-MENT, SUS-PENDE (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SEDI-MENT, SUS-PENDE (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT						AUG					
08...	1130	26000	12	841	--	05...	1230	12000	6	194	--
29...	1210	40400	6	611	--	19...	1000	4320	3	35	--
NOV						19...	1200	4200	2	23	--
19...	1030	34500	7	670	98	19...	1400	4320	2	23	--
DEC						19...	1600	5050	5	68	--
01...	1200	93000	53	13300	98	19...	1800	4500	5	61	--
04...	1300	108000	28	8200	--	19...	2000	4500	4	49	--
05...	1130	88100	30	7110	--	19...	2130	9850	15	399	--
08...	1115	81000	8	1730	--	19...	2131	9850	8	213	--
10...	1245	76300	10	2160	--	19...	2400	4450	5	60	--
JAN						20...	0200	4410	6	71	--
07...	1130	53500	6	867	95	20...	0400	4370	1	12	--
FEB						20...	0600	4370	3	35	--
04...	1300	48000	3	428	--	20...	0800	4370	3	35	--
12...	1120	65200	7	1140	--	20...	1005	4320	5	58	--
17...	1230	48700	5	631	--	SEP					
26...	1230	19100	6	331	--	03...	1100	4800	7	91	96
27...	1600	1260	18	63	--	09...	0930	93800	16	4050	--
MAR						10...	2320	149000	19	7640	--
01...	1625	1310	13	45	--	11...	0720	38100	14	1440	--
02...	1410	71900	16	3090	--	11...	1240	38100	13	1340	--
03...	1505	79700	17	3600	--	11...	1250	38100	11	1130	--
04...	1045	80100	16	3460	94	11...	2000	38100	13	1340	--
06...	1030	79600	20	4320	--	12...	0705	37500	12	1220	--
07...	1150	73100	20	3890	--	12...	0820	5050	14	191	--
09...	0930	80500	13	2760	--	12...	1605	37800	17	1740	--
11...	1230	143000	19	7390	--	13...	0200	37600	26	2640	--
17...	1135	75000	14	2870	--	13...	0705	37500	18	1820	--
25...	1200	63500	11	1890	--	13...	1700	126000	13	4430	--
APR						14...	0100	77600	19	3980	--
04...	1030	86900	31	7340	--	14...	0705	105000	18	5120	--
05...	1400	87500	18	4300	--	14...	1920	132000	18	6430	--
06...	1130	248000	31	20600	--	15...	0300	207000	14	7840	--
07...	0700	244000	62	40800	--	15...	0707	175000	12	5660	--
07...	0725	244000	85	56000	--	15...	1730	176000	17	8060	--
07...	0735	244000	104	68500	--	16...	0200	91800	15	3720	--
07...	1300	247000	92	61400	--	16...	0705	131000	22	7750	--
07...	1340	247000	89	59400	--	16...	1130	60000	24	3890	--
07...	1350	247000	73	48700	--	17...	1040	79000	18	3840	--
08...	1110	230000	91	56400	--	19...	1030	77400	16	3340	--
08...	1150	230000	87	53900	--						
09...	1050	198000	68	36200	--						
10...	0900	173000	47	21800	--						
12...	1020	98600	39	10400	--						
15...	1200	87300	14	3230	--						
22...	1040	77000	13	2740	--						
29...	1005	77700	16	3360	--						
MAY											
06...	1030	58400	13	2050	99						
20...	1055	60800	8	1310	--						
27...	1215	52600	13	1870	--						
JUL											
08...	0935	37400	13	1310	90						
22...	1120	5100	8	110	--						

## SUSQUEHANNA RIVER BASIN

01578310 SUSQUEHANNA RIVER AT CONOWINGO, MD--Continued

SPECIFIC CONDUCTANCE MICROSIEMENS/CM AT 25 DEG C, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	456	297	126	192	257	300	217	227	253	288	240	349
2	338	298	131	193	255	289	198	229	255	289	242	---
3	462	290	135	201	255	---	185	235	265	293	239	343
4	457	292	145	200	271	291	183	235	265	294	239	356
5	459	294	163	200	271	257	173	231	268	295	240	332
6	458	294	164	204	276	231	169	228	273	294	243	---
7	---	300	162	206	278	222	137	234	275	296	255	---
8	400	307	165	---	276	214	147	231	277	305	254	---
9	392	306	170	210	---	207	148	230	278	308	261	349
10	386	304	170	217	271	188	150	---	283	291	267	338
11	374	308	170	---	---	187	153	222	282	289	261	348
12	364	316	175	---	270	163	158	215	282	256	266	333
13	365	310	177	---	270	---	162	211	282	251	275	315
14	353	349	182	---	265	159	167	214	283	247	278	298
15	348	250	188	---	261	163	176	217	283	243	---	306
16	320	223	190	---	262	158	178	215	283	240	---	238
17	294	214	192	245	265	162	185	217	283	238	---	223
18	286	199	200	246	270	169	181	215	283	235	---	244
19	280	---	200	249	266	177	184	216	280	242	298	222
20	288	193	---	257	266	182	186	221	281	240	293	235
21	292	198	---	264	272	187	188	226	278	240	296	223
22	284	196	212	---	277	171	191	233	280	232	318	237
23	270	207	212	---	278	191	192	241	279	227	311	220
24	275	182	210	248	276	206	199	245	278	226	310	206
25	275	---	203	248	282	207	200	251	277	225	312	210
26	273	182	207	247	289	214	205	246	282	226	318	210
27	276	180	211	245	293	220	210	249	278	224	322	223
28	271	185	202	247	298	223	220	252	278	227	324	225
29	278	143	199	250	---	225	222	252	283	227	327	226
30	278	127	193	258	---	234	224	255	285	237	326	211
31	288	---	192	258	---	229	---	254	---	255	329	---

TEMPERATURE, WATER, DEGREES CENTIGRADE, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22.0	16.0	7.0	5.0	3.0	6.0	13.0	16.0	20.0	27.0	30.0	24.0
2	22.0	16.0	7.0	5.0	3.0	7.0	13.0	16.0	21.0	28.0	29.5	24.0
3	23.0	17.0	8.0	5.0	3.0	6.0	11.0	16.0	22.0	27.0	30.0	24.0
4	24.0	16.0	7.0	5.0	3.0	5.0	11.0	16.0	23.0	27.0	30.0	24.0
5	24.0	16.0	7.0	4.0	3.0	5.0	10.0	16.0	23.0	27.0	30.0	24.0
6	23.0	16.0	8.0	4.0	3.0	6.0	9.0	16.0	24.0	27.0	29.0	24.0
7	22.0	16.0	6.0	4.0	3.0	6.0	8.0	16.0	24.0	27.0	29.0	24.0
8	22.0	15.0	6.0	4.0	4.0	7.0	9.0	16.0	24.0	28.0	29.0	24.0
9	21.0	14.0	6.0	4.0	3.0	8.0	9.0	17.0	24.0	28.0	29.0	25.0
10	21.0	14.0	6.0	3.0	4.0	8.0	10.0	18.0	25.0	27.0	28.0	24.0
11	19.0	14.0	6.0	3.0	3.0	8.0	10.0	18.0	24.0	30.0	28.0	23.5
12	19.0	13.0	6.0	4.0	4.0	6.0	11.0	19.0	24.0	28.0	28.0	23.5
13	19.0	11.0	6.0	4.0	4.0	6.0	11.0	17.0	25.0	28.0	28.0	24.0
14	19.0	9.0	6.0	4.0	3.0	6.0	11.0	17.0	25.0	28.5	28.0	24.0
15	18.0	9.0	5.0	4.0	3.0	6.0	12.0	19.0	25.0	28.0	28.0	24.0
16	18.0	10.0	5.0	4.0	3.0	7.0	13.0	19.0	25.0	28.0	28.0	24.0
17	18.0	9.0	5.0	5.0	3.0	6.5	13.0	20.0	26.0	28.0	28.0	24.0
18	18.0	8.0	5.0	5.0	3.0	7.0	12.0	20.0	24.0	27.5	28.0	24.0
19	18.0	8.0	4.0	5.0	3.0	7.5	13.0	20.0	25.0	28.0	29.0	23.0
20	17.0	8.0	4.0	5.0	3.0	6.0	13.0	20.0	26.0	28.0	29.0	22.0
21	16.0	8.0	4.0	5.0	3.0	7.0	15.0	20.0	26.0	28.0	29.0	22.0
22	17.0	8.0	5.0	4.0	3.0	7.0	19.0	20.0	27.0	28.0	28.0	22.0
23	17.0	8.0	5.0	4.0	6.0	8.0	15.0	20.0	27.0	29.0	28.0	20.5
24	17.0	---	6.0	4.0	5.0	8.0	16.0	21.0	27.0	28.0	27.0	20.0
25	16.0	---	6.0	4.0	5.0	9.0	16.0	21.0	27.0	29.0	27.0	20.0
26	17.0	9.0	7.0	3.0	5.0	11.0	16.0	21.0	27.0	30.0	26.0	19.0
27	17.0	7.0	7.0	3.0	6.0	11.0	17.0	20.0	28.0	30.0	26.0	19.0
28	17.0	7.0	7.0	3.0	6.0	12.0	17.0	20.0	27.0	30.0	26.0	20.0
29	17.0	8.5	8.0	3.0	---	12.0	16.0	20.0	28.0	30.0	26.0	20.0
30	16.5	8.5	6.0	3.0	---	14.0	16.0	20.0	28.0	30.0	26.0	20.0
31	16.0	---	6.0	3.0	---	14.0	---	21.0	---	30.0	25.0	---

SUSQUEHANNA RIVER BASIN

01578310 SUSQUEHANNA RIVER AT CONOWINGO, MD--Continued

SEDIMENT, SUSPENDED CONCENTRATION (MG/L), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	MEAN CONCENTRATION (MG/L)		LOAD (TONS/DAY)		MEAN CONCENTRATION (MG/L)		LOAD (TONS/DAY)		MEAN CONCENTRATION (MG/L)		LOAD (TONS/DAY)		MEAN CONCENTRATION (MG/L)		LOAD (TONS/DAY)		MEAN CONCENTRATION (MG/L)		LOAD (TONS/DAY)					
	CONCENTRATION	LOAD	CONCENTRATION	LOAD	CONCENTRATION	LOAD	CONCENTRATION	LOAD	CONCENTRATION	LOAD	CONCENTRATION	LOAD	CONCENTRATION	LOAD	CONCENTRATION	LOAD	CONCENTRATION	LOAD	CONCENTRATION	LOAD				
	OCTOBER				NOVEMBER				DECEMBER				JANUARY				FEBRUARY				MARCH			
1	13	428	33	106	65	21100	12	1510	4	160	11	665												
2	12	470	18	46	40	10100	14	1760	4	302	15	2040												
3	11	448	7	251	27	6730	12	969	6	424	20	3070												
4	12	193	4	166	24	6670	14	934	5	412	28	5320												
5	11	173	5	246	36	9720	10	1010	4	456	27	5960												
6	13	965	5	198	28	7170	6	552	9	948	30	6250												
7	10	702	7	316	21	4640	8	661	7	361	17	2950												
8	8	680	8	268	19	4130	7	535	36	1530	17	2560												
9	4	467	11	162	16	3000	7	590	17	1630	14	2650												
10	8	575	3	237	17	2860	4	228	15	1190	23	6580												
11	8	320	8	1190	13	2300	5	281	13	1010	21	6920												
12	11	171	8	1320	13	2380	5	374	10	724	25	7830												
13	7	376	9	1420	11	1800	6	463	11	924	23	5460												
14	9	537	9	1540	10	1560	6	434	11	529	22	4220												
15	11	567	8	858	10	1350	6	444	10	201	18	2570												
16	7	376	8	685	8	1000	9	843	11	745	21	3420												
17	8	505	7	714	9	979	7	418	9	508	14	2100												
18	11	236	6	570	10	1250	9	539	8	337	12	1630												
19	10	204	9	855	8	907	6	726	15	741	13	1420												
20	3	130	11	1230	10	1230	7	941	14	964	9	945												
21	10	378	18	2420	14	1380	8	940	12	306	9	826												
22	5	186	7	1120	17	2150	10	1130	14	205	9	382												
23	5	178	13	2370	13	1410	10	1140	14	1000	9	870												
24	3	122	24	5230	10	929	12	421	15	948	10	902												
25	8	147	16	3360	19	2690	13	362	11	603	9	887												
26	10	75	16	3160	31	6030	10	545	9	479	11	1130												
27	4	191	19	4490	41	7780	10	699	10	672	10	1080												
28	7	283	24	8230	46	8660	10	597	14	279	10	1170												
29	5	200	42	20100	34	6460	8	458	---	---	12	1180												
30	5	297	46	16800	14	2340	10	645	---	---	13	2160												
31	6	232	---	---	18	2580	6	253	---	---	20	3310												
TOTAL	---	10812	---	79658	---	133285	---	21402	---	18588	---	88457												
	APRIL				MAY				JUNE				JULY				AUGUST				SEPTEMBER			
1	16	2470	11	1080	4	251	5	274	10	129	6	233												
2	19	4020	13	1170	5	327	3	96	9	110	8	266												
3	18	4440	12	794	10	467	5	165	19	382	10	346												
4	21	4930	13	1370	6	279	6	173	12	322	6	170												
5	18	4740	16	1980	10	510	7	376	7	146	2	26												
6	36	20100	13	1690	9	316	10	886	5	153	2	26												
7	48	30600	15	2080	11	300	9	748	7	95	2	37												
8	90	50100	14	1830	9	671	3	216	8	101	10	632												
9	64	32300	11	846	7	425	7	522	8	97	16	1580												
10	41	17000	9	622	5	247	2	186	6	112	19	1170												
11	43	14000	9	1180	10	489	3	220	5	189	14	609												
12	33	8800	11	858	8	346	6	373	3	115	16	449												
13	30	7980	8	562	9	216	5	460	5	60	18	1770												
14	23	5340	20	772	9	146	10	1010	4	49	18	2720												
15	20	4710	5	359	3	188	8	410	4	48	15	2920												
16	21	4930	5	186	9	428	9	467	4	49	21	2650												
17	22	4660	4	149	5	244	5	242	4	188	18	2290												
18	26	4830	2	126	5	306	6	164	4	48	16	2220												
19	19	3410	4	256	6	233	8	170	4	58	16	2120												
20	17	3410	3	212	10	136	6	356	5	62	16	2260												
21	15	2620	5	431	5	68	7	283	6	81	22	2890												
22	17	2500	3	312	5	217	7	248	10	136	20	2900												
23	15	1970	3	193	6	356	7	268	5	68	23	3190												
24	13	1760	7	340	9	454	7	184	8	111	22	2630												
25	12	1360	10	459	5	151	8	165	8	110	13	1460												
26	13	1320	3	217	2	92	4	56	9	123	15	1010												
27	13	1570	5	296	1	14	5	112	8	107	11	555												
28	16	1880	6	402	2	28	6	173	5	67	14	926												
29	13	1350	7	525	3	119	1	30	10	133	12	810												
30	12	1210	4	116	5	305	11	336	9	119	10	602												
31	---	---	4	72	---	---	51	950	6	168	---	---												
TOTAL	---	250310	---	21485	---	8329	---	10319	---	3736	---	41467												
YEAR	687848																							

SUSQUEHANNA RIVER BASIN

01580000 DEER CREEK AT ROCKS, MD

LOCATION.--Lat 39°37'49", long 76°24'13", Harford County, Hydrologic Unit 02050306, on right bank 0.3 mi upstream from bridge on Cherry Hill Road, 0.8 mi southeast of Rocks, 1.2 mi upstream from Stirrup Run, and 23.5 mi upstream from mouth.

DRAINAGE AREA.--94.4 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1926 to current year. Monthly discharge only for November and December 1926, published in WSP 1302.

REVISED RECORDS.--WSP 726: Drainage area. WSP 1502: 1927-36 (maximum and minimum only 1927-29, maximum only 1930-32, 1936).

GAGE.--Water-stage recorder. Concrete control since Sept. 7, 1938. Datum of gage is 250.40 ft above National Geodetic Vertical Datum of 1929 (Baltimore City bench mark).

REMARKS.--Estimated daily discharges: Jan. 6, Jan. 23 to Feb. 2, and Feb. 10, 11. Records good except those for period with ice effect, Jan. 23 to Feb. 2, which are fair. Some regulation at low flow by mills upstream from station. Several measurements of water temperature were made during the year. Water-quality records for some prior years have been collected at this location.

AVERAGE DISCHARGE.--61 years, 124 ft<sup>3</sup>/s, 17.84 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,600 ft<sup>3</sup>/s, Aug. 23, 1933, gage height, 17.7 ft, from flood-marks, from rating curve extended above 3,000 ft<sup>3</sup>/s, on basis of slope-area measurements at gage heights 13.3 ft and 17.7 ft; minimum discharge, 8 ft/s, Dec. 16, 1930, Jan. 26, 1939, result of regulation; minimum daily discharge, 8.6 ft<sup>3</sup>/s, Sept. 11, 12, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1888, that of Aug. 23, 1933.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,900 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft/s)	Gage height (ft)
Dec. 25	0030	*2,930	*7.45	Sept. 18	0500	2,330	6.56
Sept. 8	2100	2,760	7.20				

Minimum discharge, 25 ft<sup>3</sup>/s, Oct. 1, gage height, 1.88 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	30	54	92	110	622	157	93	76	111	51	129
2	78	41	85	116	110	351	120	96	74	194	51	58
3	39	40	334	109	125	224	113	101	74	180	51	49
4	36	36	126	97	140	186	163	160	82	87	49	45
5	34	53	93	89	123	160	150	145	95	78	100	45
6	29	118	81	90	112	148	197	113	77	69	109	54
7	26	55	75	86	113	146	193	104	73	68	63	70
8	27	64	71	86	116	146	156	102	72	98	59	664
9	27	57	104	83	114	142	141	97	83	73	58	605
10	27	47	116	92	105	130	132	94	88	73	79	114
11	26	91	90	105	100	122	125	92	72	67	58	85
12	27	117	91	93	100	120	123	95	72	250	54	101
13	31	59	84	88	98	118	122	97	76	305	52	619
14	40	48	79	88	95	114	115	89	72	174	50	210
15	37	45	78	101	90	113	112	97	68	140	51	111
16	31	43	70	105	89	112	113	100	65	95	49	95
17	30	41	68	92	92	107	135	89	63	86	49	86
18	30	43	133	108	88	105	122	89	61	79	47	737
19	30	105	133	241	86	103	115	99	60	74	45	164
20	29	79	94	232	88	103	112	215	60	71	46	128
21	29	236	84	162	85	101	109	135	79	68	44	112
22	29	82	77	137	87	100	106	108	110	65	54	103
23	29	63	77	130	107	98	103	97	75	63	61	93
24	28	62	237	125	99	98	109	92	65	61	48	86
25	29	59	863	120	92	96	126	88	60	60	46	82
26	35	106	204	120	90	96	107	88	60	59	47	77
27	41	155	146	120	91	94	101	91	66	58	48	74
28	36	81	123	120	92	101	100	89	63	56	48	72
29	33	67	109	110	---	98	99	84	58	54	58	71
30	32	59	102	110	---	99	96	79	69	53	48	71
31	31	---	97	110	---	197	---	77	---	52	46	---
TOTAL	1017	2182	4178	3557	2837	4550	3772	3195	2168	3021	1719	5010
MEAN	32.8	72.7	135	115	101	147	126	103	72.3	97.5	55.5	167
MAX	78	236	863	241	140	622	197	215	110	305	109	737
MIN	26	30	54	83	85	94	96	77	58	52	44	45
CFSM	.35	.77	1.43	1.22	1.07	1.56	1.34	1.09	.77	1.03	.59	1.77
IN.	.40	.86	1.65	1.40	1.12	1.79	1.49	1.26	.85	1.19	.68	1.97
CAL YR 1986	TOTAL	30071	MEAN	82.4	MAX	863	MIN	24	CFSM	.87	IN	11.85
WTR YR 1987	TOTAL	37206	MEAN	102	MAX	863	MIN	26	CFSM	1.08	IN	14.66

BUSH RIVER BASIN

01581657 CRANBERRY RUN AT ABERDEEN, MD

WATER-QUALITY RECORDS

LOCATION.--Lat 39°29'22", long 76°11'32", Harford County, Hydrologic Unit 02060003, on left bank at downstream side of bridge on U. S. Highway 40, 2.0 mi southwest of intersection with State Highway 132, and 2.1 mi upstream from mouth.

DRAINAGE AREA.--4.16 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1986 to September 1987.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE AIR (DEG C)	TEMPERATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARDNESS (MG/L AS CaCO3)	HARDNESS NONCARBONATE (MG/L AS CaCO3)	CALCIUM DIS-SOLVED (MG/L AS Ca)
AUG 26...	1515	0.19	212	7.1	23.5	17.5	9.6	49	37	8.5

DATE	MAGNESIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY (MG/L AS CaCO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)
AUG 26...	6.8	21	47	1	2.3	12	10	46	0.10	11

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DIS-SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)
AUG 26...	156	110	4.30	0.020	360	66	80	70	1.9

## BUSH RIVER BASIN

01581658 CRANBERRY RUN AT PERRYMAN, MD

## WATER-QUALITY RECORDS

LOCATION.--Lat 39°28'42", long 76°12'08", Harford County, Hydrologic Unit 02060003, on right bank 150 ft downstream from bridge on Mayberry Road, 0.5 mi north of Perryman, and 1.0 mi upstream from mouth.

DRAINAGE AREA.--5.22 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1986 to September 1987.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE AIR (DEG C)	TEMPERATURE WATER (DEG C)	BAROMETRIC PRESURE (MM OF HG)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, SATURATION (%)	HARDNESS AS CaCO <sub>3</sub> (MG/L)	HARDNESS NONCARBONATE (MG/L AS CaCO <sub>3</sub> )	CALCIUM DISSOLVED (MG/L AS Ca)
APR 30...	1230	2.2	210	7.0	17.0	14.0	761	12.0	116	49	30	9.9
AUG 26...	1300	0.56	153	7.8	22.0	17.0	--	8.9	--	45	30	8.6

DATE	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WH WAT TOTAL FIELD (MG/L AS CaCO <sub>3</sub> )	SULFATE DISSOLVED (MG/L AS SO <sub>4</sub> )	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SiO <sub>2</sub> )	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
APR 30...	5.8	15	39	1	1.8	19	11	32	<0.10	8.6	123	96
AUG 26...	5.6	13	37	0.9	2.8	15	9.5	22	0.10	8.8	105	80

DATE	NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	ALUMINUM, DISSOLVED (UG/L AS AL)	ANTIMONY, DISSOLVED (UG/L AS SB)	ARSENIC, DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	BERYLLIUM, DISSOLVED (UG/L AS BE)	CADMIUM, DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)
APR 30...	2.60	0.050	--	--	--	--	--	--	--	--	--	430
AUG 26...	4.70	<0.010	<10	<1	<1	74	<0.5	<1	40	<1	1	--

DATE	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY, DISSOLVED (UG/L AS HG)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	ZINC, DISSOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)
APR 30...	240	--	50	52	--	--	--	--	--	--	--	--
AUG 26...	36	<5	--	35	0.1	<1	6	<1	<1	70	75	1.8

BUSH RIVER BASIN

01581700 WINTERS RUN NEAR BENSON, MD

LOCATION.--Lat 39°31'12", long 76°22'24", Harford County, Hydrologic Unit 02060003, on left bank 30 ft downstream from bridge on U.S. Highway 1, 0.1 mi upstream from Heavenly Waters, 1.2 mi northeast of Benson, 1.8 mi southwest of Bel Air, and 10.5 mi upstream from mouth.

DRAINAGE AREA.--34.8 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1967 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 195 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 1, Nov. 6, 11, 20, 21, 26, Dec. 2, 3, 18, 24, 25, Jan. 19, 20, Jan. 23 to Feb. 1, Feb. 16, Mar. 1, 2, 31, May 4, 20, June 30, July 1, 2, 12, and Sept. 8, 9, 12-14. Records good below 100 ft/s and fair above, except those for period with ice effect, Jan. 23 to Feb. 1, which are also fair. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--20 years, 52.1 ft<sup>3</sup>/s, 20.33 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,600 ft<sup>3</sup>/s, June 22, 1972, gage height, 11.60 ft; minimum discharge, 3.0 ft<sup>3</sup>/s, Jan. 10, 1982, result of freezeup; minimum daily discharge, 6.7 ft/s, Aug. 28, 29, 1981.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 24	2330	2,390	6.55	Sept. 13	0015	1,700	5.58
Sept. 8	2000	*5,460	*9.81	Sept. 13	2245	1,950	5.95

Minimum discharge, 8.8 ft<sup>3</sup>/s, Oct. 1, 10, 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	12	27	41	50	570	69	36	28	90	13	19
2	59	31	135	86	59	190	52	35	28	85	13	13
3	15	21	280	66	76	96	47	36	27	50	13	11
4	12	16	62	52	78	71	83	100	52	30	13	10
5	12	47	43	44	61	59	62	62	44	24	19	9.9
6	10	95	36	42	51	57	78	48	31	23	24	15
7	9.7	36	32	40	53	57	68	41	28	23	17	21
8	10	69	30	39	55	57	55	39	27	40	15	750
9	10	43	56	39	53	56	48	35	33	27	15	190
10	9.7	33	65	49	47	50	45	34	33	22	17	37
11	9.7	140	51	51	43	48	43	34	27	24	16	26
12	9.9	82	54	44	42	47	41	34	26	90	13	140
13	14	41	43	39	42	47	40	37	28	46	13	650
14	26	28	33	38	41	46	39	33	27	53	13	270
15	15	23	32	39	39	46	38	35	26	32	13	59
16	12	22	32	39	40	44	40	35	23	23	12	41
17	11	21	32	38	40	43	51	33	23	22	12	34
18	11	26	115	68	40	41	44	32	23	21	11	119
19	11	68	67	240	38	41	41	44	22	20	11	49
20	11	125	43	120	37	40	42	120	22	19	13	37
21	11	190	38	67	39	40	41	64	25	17	10	34
22	11	47	33	56	38	40	41	47	30	16	15	31
23	11	33	32	55	54	39	40	41	26	16	17	27
24	11	34	350	55	45	40	46	39	22	16	13	24
25	11	31	420	52	41	39	47	35	21	16	11	23
26	17	130	88	50	41	39	41	36	20	15	11	22
27	17	92	64	50	41	39	38	36	23	15	12	21
28	17	43	54	50	44	40	38	35	20	15	13	20
29	13	35	47	50	---	40	37	33	19	13	15	19
30	13	31	46	50	---	46	36	31	40	14	12	20
31	12	---	42	50	---	140	---	29	---	14	11	---
TOTAL	464.0	1645	2482	1799	1328	2248	1431	1329	824	931	426	2741.9
MEAN	15.0	54.8	80.1	58.0	47.4	72.5	47.7	42.9	27.5	30.0	13.7	91.4
MAX	59	190	420	240	78	570	83	120	52	90	24	750
MIN	9.7	12	27	38	37	39	36	29	19	13	10	9.9
CFSM	.43	1.58	2.30	1.67	1.36	2.08	1.37	1.23	.79	.86	.39	2.63
IN.	.50	1.76	2.65	1.92	1.42	2.40	1.53	1.42	.88	1.00	.46	2.93

CAL YR 1986 TOTAL 13463.8 MEAN 36.9 MAX 420 MIN 7.4 CFSM 1.06 IN 14.39  
WTR YR 1987 TOTAL 17648.9 MEAN 48.4 MAX 750 MIN 9.7 CFSM 1.39 IN 18.87

GUNPOWDER RIVER BASIN

01582000 LITTLE FALLS AT BLUE MOUNT, MD

LOCATION.--Lat 39°36'16", long 76°37'16", Baltimore County, Hydrologic Unit 02060003, on left bank at downstream side of Pennsylvania Railroad bridge, 0.2 mi north of Blue Mount, 0.6 mi upstream from mouth, 0.9 mi downstream from First Mine Branch, and 1.2 mi south of White Hall.

DRAINAGE AREA.--52.9 mi<sup>2</sup>.

PERIOD OF RECORD.--June 1944 to current year.

REVISED RECORDS.--WSP 111: 1944(M), 1945-47(P). WDR MD-DE-85-1: 1984(P).

GAGE.--Water-stage recorder. Elevation of gage is 305 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Jan. 22 to Feb. 3. Records good except those for estimated daily discharges (ice effect), which are fair. Slight diurnal fluctuation at low flow caused by mill upstream from station. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--43 years, 67.8 ft<sup>3</sup>/s, 17.40 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,280 ft<sup>3</sup>/s, June 22, 1972, gage height, 18.54 ft, from rating curve extended above 1,300 ft<sup>3</sup>/s on basis of contracted-opening measurement of peak flow; minimum discharge, 1.9 ft<sup>3</sup>/s, Aug. 29, 1966; minimum daily discharge, 4.5 ft<sup>3</sup>/s, Sept. 11, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 25	0015	1,240	4.58	Sept. 8	2015	*2,700	*7.45
July 12	2030	1,950	6.00	Sept. 18	0400	1,700	5.53

Minimum discharge, 15 ft<sup>3</sup>/s, Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	20	33	45	55	314	85	55	45	75	26	58
2	48	32	47	58	55	168	70	57	44	115	26	25
3	20	25	162	53	60	120	66	58	45	113	26	22
4	20	24	59	47	70	100	91	98	52	51	25	21
5	21	40	45	44	61	86	81	74	55	44	41	21
6	17	68	40	47	57	81	108	64	45	41	37	34
7	16	31	37	42	57	80	100	61	44	42	29	36
8	17	40	35	42	58	80	84	60	42	62	28	587
9	17	32	60	41	57	79	77	56	48	43	29	165
10	16	27	57	50	54	73	72	55	46	41	41	70
11	16	85	46	53	52	68	68	53	42	40	27	54
12	17	60	47	46	52	67	68	58	43	317	26	51
13	20	35	42	44	50	66	67	56	45	137	25	156
14	27	30	37	44	48	64	63	52	42	111	24	72
15	20	28	40	54	45	64	62	55	40	70	24	56
16	18	27	35	54	52	63	64	52	39	52	23	50
17	18	26	34	47	47	61	78	50	38	45	23	45
18	18	27	83	58	45	61	68	49	37	41	22	333
19	18	69	63	144	44	61	64	60	37	39	22	74
20	18	53	48	115	44	60	63	106	41	37	22	63
21	18	122	42	84	44	59	62	69	46	35	21	57
22	18	45	39	70	44	58	60	61	42	33	32	50
23	18	37	37	65	65	57	59	57	39	32	27	45
24	18	38	134	62	53	56	73	55	37	31	23	41
25	18	34	300	60	50	56	73	53	36	30	22	39
26	25	82	92	60	49	56	63	53	37	30	22	37
27	24	79	70	60	47	55	60	57	40	29	23	36
28	23	46	59	58	48	60	60	54	38	28	23	35
29	21	39	54	55	---	56	59	50	35	27	28	34
30	20	35	51	55	---	58	57	47	60	26	22	36
31	20	---	47	55	---	141	---	46	---	26	23	---
TOTAL	625	1336	1975	1812	1463	2528	2125	1831	1280	1843	812	2403
MEAN	20.2	44.5	63.7	58.5	52.3	81.5	70.8	59.1	42.7	59.5	26.2	80.1
MAX	48	122	300	144	70	314	108	106	60	317	41	587
MIN	16	20	33	41	44	55	57	46	35	26	21	21
CFSM	.38	.84	1.20	1.11	.99	1.54	1.34	1.12	.81	1.13	.50	1.51
IN.	.44	.94	1.39	1.27	1.03	1.78	1.49	1.29	.90	1.30	.57	1.69

CAL YR 1986	TOTAL	16378	MEAN 44.9	MAX 300	MIN 12	CFSM .85	IN 11.52
WTR YR 1987	TOTAL	20033	MEAN 54.9	MAX 587	MIN 16	CFSM 1.04	IN 14.09

GUNPOWDER RIVER BASIN

01582500 GUNPOWDER FALLS AT GLENCOE, MD

LOCATION.--Lat 39°32'59", long 76°38'11", Baltimore County, Hydrologic Unit 02060003, on right downstream wingwall of bridge on Glencoe Road at intersection of Upper Glencoe Road and Lower Glencoe Road in Glencoe, and 0.7 mi upstream from Piney Creek.

DRAINAGE AREA.--160 mi<sup>2</sup>.

PERIOD OF RECORD.--December 1982 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 250 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Jan. 20 to Feb. 17. Records good except those for estimated daily discharges (missing record), which are fair. Flow regulated by Prettyboy Reservoir, 12 mi upstream, for water supply of Baltimore City. Several measurements of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,310 ft<sup>3</sup>/s, Feb. 12, 1985, gage height, 13.16 ft, from floodmarks; minimum discharge, 35 ft<sup>3</sup>/s, Jan. 4, 1983, result of freezeup; minimum daily discharge, 42 ft<sup>3</sup>/s, Sept. 17, 18, 1986.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,150 ft<sup>3</sup>/s, Sept. 8, gage height, 10.38 ft; minimum daily discharge, 46 ft<sup>3</sup>/s, Oct. 7, 8, 10, 11, 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47	53	74	91	110	435	155	98	116	297	69	111
2	91	72	86	113	110	276	126	101	112	318	69	70
3	53	62	249	107	130	195	119	105	112	391	69	65
4	51	58	119	96	150	169	154	160	121	233	68	62
5	51	72	96	89	130	147	146	138	157	174	95	62
6	48	137	87	93	120	138	173	116	143	141	99	74
7	46	74	82	85	120	136	173	110	130	125	77	86
8	46	86	80	84	120	137	149	107	123	164	74	781
9	47	75	105	83	120	135	137	103	127	136	73	1020
10	46	67	115	92	110	127	131	101	133	122	94	363
11	46	121	94	101	110	119	125	96	116	115	74	213
12	46	133	97	91	105	117	123	97	110	352	69	163
13	51	80	90	87	100	115	124	106	117	346	69	358
14	63	70	82	87	100	112	117	95	115	222	68	250
15	55	66	86	95	95	112	114	98	108	191	68	180
16	50	65	78	98	95	110	117	96	105	143	66	150
17	50	62	77	89	95	107	143	92	100	125	66	131
18	50	63	134	102	95	105	126	90	94	112	65	741
19	49	121	129	199	92	105	118	113	92	105	64	399
20	49	89	99	190	94	104	115	201	90	100	67	259
21	50	206	91	170	92	105	113	134	116	95	63	204
22	50	97	84	150	92	103	111	116	107	90	78	170
23	51	82	82	130	131	102	107	113	104	85	77	148
24	50	81	148	125	111	102	118	111	97	82	66	130
25	50	78	514	120	98	98	137	102	91	80	63	118
26	58	120	168	120	98	100	115	102	87	78	64	108
27	61	160	132	120	96	98	110	116	96	77	67	102
28	57	97	116	120	97	105	108	130	96	74	65	96
29	54	85	106	110	---	102	107	133	89	71	73	93
30	54	79	100	110	---	102	104	124	118	70	65	96
31	53	---	94	110	---	210	---	115	---	70	62	---
TOTAL	1623	2711	3694	3457	3016	4228	3815	3519	3322	4784	2206	6803
MEAN	52.4	90.4	119	112	108	136	127	114	111	154	71.2	227
MAX	91	206	514	199	150	435	173	201	157	391	99	1020
MIN	46	53	74	83	92	98	104	90	87	70	62	62
CFSM	.33	.57	.74	.70	.68	.85	.79	.71	.69	.96	.45	1.42
IN.	.38	.63	.86	.80	.70	.98	.89	.82	.77	1.11	.51	1.58

CAL YR 1986	TOTAL	56985	MEAN	156	MAX	514	MIN	42	CFSM	.98	IN	13.25
WTR YR 1987	TOTAL	43178	MEAN	118	MAX	1020	MIN	46	CFSM	.74	IN	10.04

*Dune*

GUNPOWDER RIVER BASIN

01583100 PINEY RUN AT DOVER, MD

LOCATION.--Lat 39°31'15", long 76°46'02", Baltimore County, Hydrologic Unit 02060003, on right bank 400 ft downstream from bridge on Maryland Route 128, 0.7 mi upstream from mouth, and 2.4 mi southwest of Butler.

DRAINAGE AREA.--12.3 mi<sup>2</sup>.

PERIOD OF RECORD.--May 1982 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 380 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Jan. 21 to Feb. 4. Records good except for period of no gage-height record, Jan. 21 to Feb. 4, which is fair. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--5 years, 14.2 ft<sup>3</sup>/s, 15.68 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,220 ft<sup>3</sup>/s, Sept. 8, 1987, gage height, 8.28 ft; minimum discharge, 2.4 ft<sup>3</sup>/s, Aug. 15, 1986.

EXTREMES FOR CURRENT PERIOD.--Peak discharges greater than base discharge of 300 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 24	2215	625	4.45	July 12	2015	559	4.27
May 23	1845	314	3.51	Sept. 8	1730	*3,220	*8.28
June 30	2200	717	4.68				

Minimum discharge, 3.4 ft<sup>3</sup>/s, Oct. 1.

REVISIONS.--The peak discharges above base of 300 ft<sup>3</sup>/s and annual maximum (\*) reported for water years 1984, 1985, and 1986 have been revised as shown in the following table. They supercede figures published in the reports for 1984, 1985, and 1986.

Water Year	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Water Year	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
1984	July 7, 1984	0100	*1,490	*6.15	1986	July 20, 1986	2030	*176	*2.84
1984	Aug. 14, 1984	2130	393	3.78					
1985	Oct. 22, 1984	2315	821	4.92					
1985	Feb. 12, 1985	1045	*1,500	*6.17					

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.4	4.6	8.1	10	12	93	18	13	12	43	7.0	6.8
2	9.8	9.3	18	13	12	36	15	13	12	27	7.1	5.7
3	4.4	5.9	51	12	14	25	14	13	12	16	6.9	5.5
4	4.6	5.6	15	11	16	21	27	25	16	12	6.6	5.3
5	4.6	9.9	12	9.8	14	18	23	18	14	11	7.9	5.4
6	4.0	15	10	9.6	13	17	25	15	12	10	7.7	8.5
7	3.8	7.4	9.5	9.6	13	17	21	14	11	11	7.0	8.4
8	3.9	9.8	9.1	9.4	13	16	18	13	11	16	7.0	276
9	4.0	7.8	13	9.3	13	16	17	13	13	10	7.0	33
10	3.8	6.8	14	11	12	14	16	12	11	9.9	7.6	15
11	3.8	26	12	12	11	14	15	12	10	9.8	6.2	12
12	3.9	13	12	11	11	14	15	12	11	42	6.1	11
13	4.8	8.6	11	10	11	13	15	12	11	20	6.0	38
14	6.2	7.3	9.5	9.9	11	13	14	11	11	14	5.8	15
15	4.7	6.9	9.1	12	10	13	14	12	10	12	5.8	13
16	4.4	6.7	8.7	11	9.6	13	15	12	9.8	10	5.7	12
17	4.4	6.4	8.6	10	10	12	26	11	9.4	9.5	5.7	11
18	4.4	6.7	21	13	9.8	12	19	11	9.1	9.0	5.4	37
19	4.3	12	15	42	9.4	12	16	17	8.9	8.7	6.2	14
20	4.3	14	12	25	9.2	12	15	54	9.1	8.3	6.0	13
21	4.4	22	11	19	9.4	12	15	22	9.9	7.9	5.4	12
22	4.4	10	9.8	15	9.7	12	14	18	9.3	7.6	12	11
23	4.3	8.6	9.3	14	13	11	13	41	8.9	7.4	7.1	10
24	4.2	8.5	83	13	11	11	21	25	8.6	7.3	5.9	9.6
25	4.2	8.0	63	13	10	11	17	18	8.3	7.2	5.8	9.8
26	5.4	24	21	13	10	11	15	17	9.0	7.0	6.0	9.0
27	5.3	17	16	13	10	11	14	16	9.7	7.1	6.8	8.5
28	5.4	11	13	12	11	12	14	15	8.4	7.2	6.2	8.3
29	4.8	9.8	12	12	---	11	14	14	8.0	7.1	7.2	8.1
30	4.6	8.7	11	12	---	12	13	13	71	7.2	5.8	8.2
31	4.6	---	11	12	---	31	---	13	---	7.0	5.7	---
TOTAL	145.1	317.3	538.7	408.6	318.1	546	508	525	374.4	389.2	204.6	640.1
MEAN	4.68	10.6	17.4	13.2	11.4	17.6	16.9	16.9	12.5	12.6	6.60	21.3
MAX	9.8	26	83	42	16	93	27	54	71	43	12	276
MIN	3.8	4.6	8.1	9.3	9.2	11	13	11	8.0	7.0	5.4	5.3
CFSM	.38	.86	1.42	1.07	.93	1.43	1.37	1.37	1.02	1.02	.54	1.73
IN.	.44	.96	1.63	1.24	.96	1.65	1.54	1.59	1.13	1.18	.62	1.94

CAL YR 1986	TOTAL	3569.4	MEAN	9.78	MAX	83	MIN	2.6	CFSM	.80	IN	10.79
WTR YR 1987	TOTAL	4915.1	MEAN	13.5	MAX	276	MIN	3.8	CFSM	1.10	IN	14.86

GUNPOWDER RIVER BASIN

01583500 WESTERN RUN AT WESTERN RUN, MD

LOCATION.--Lat 39°30'38", long 76°40'37", Baltimore County, Hydrologic Unit 02060003, on right bank 100 ft downstream from bridge on Western Run Road, 0.3 mi southeast of Western Run, 2.5 mi northwest of Cockeysville, 3.2 mi upstream from Beaverdam Run, and 5.0 mi upstream from mouth.

DRAINAGE AREA.--59.8 mi<sup>2</sup>.

PERIOD OF RECORD.--September 1944 to current year.

REVISED RECORDS.--WSP 1502: 1945-46, 1948(M).

GAGE.--Water-stage recorder. Datum of gage is 262.78 ft above National Geodetic Vertical Datum of 1929 (Baltimore County bench mark).

REMARKS.--Estimated daily discharges: Jan. 23-31, June 23 to July 7. Records good except those for period with ice effect, Jan. 23-31, and period of recorder malfunction, June 23 to July 7, which are fair. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--43 years, 68.4 ft<sup>3</sup>/s, 15.53 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 38,000 ft<sup>3</sup>/s, June 22, 1972, gage height, 26.0 ft, from flood-marks, from rating curve extended above 3,200 ft<sup>3</sup>/s, on basis of slope-area measurement and contracted-opening measurement of peak flow; minimum discharge, 2.4 ft<sup>3</sup>/s, Sept. 12, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 25	0045	1,910	5.75	Sept. 8	2200	*3,550	*7.91

Minimum discharge, 13 ft<sup>3</sup>/s, Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	22	32	49	58	364	87	54	50	150	26	24
2	39	34	48	66	60	203	66	55	48	130	26	21
3	17	25	212	60	70	129	60	56	50	60	25	21
4	17	22	65	54	80	104	110	111	75	50	24	20
5	18	32	49	49	71	88	103	82	56	46	35	20
6	15	63	43	47	64	82	114	66	49	44	35	29
7	14	29	40	47	65	81	99	60	47	44	28	33
8	15	36	37	47	67	81	82	58	44	58	27	844
9	15	31	49	45	66	77	75	55	54	42	26	191
10	15	28	59	53	58	69	70	53	45	40	30	59
11	15	73	48	58	57	65	66	51	43	40	25	45
12	16	62	51	51	57	64	65	51	47	93	25	44
13	19	34	45	48	56	63	65	52	47	106	24	155
14	26	28	40	47	54	60	61	49	43	48	22	63
15	20	27	38	53	51	60	59	57	40	46	22	60
16	18	26	37	50	50	58	63	51	41	39	23	98
17	19	25	36	46	50	56	114	48	38	37	24	51
18	18	24	79	60	49	55	83	47	37	36	22	136
19	18	43	66	167	48	55	72	65	37	34	23	61
20	18	36	50	128	47	54	68	241	43	34	25	56
21	18	99	45	85	48	53	64	106	43	31	21	55
22	18	41	41	72	48	52	62	79	40	30	37	50
23	18	34	39	70	61	51	59	113	38	29	32	45
24	18	34	170	68	55	50	88	112	37	29	24	42
25	18	31	452	65	51	50	82	75	36	29	23	41
26	22	64	102	65	50	51	67	72	37	28	24	38
27	23	83	77	65	50	49	62	67	40	28	26	36
28	25	44	66	62	51	55	60	64	38	26	25	35
29	21	37	58	60	---	51	59	59	36	26	28	35
30	21	34	55	60	---	52	56	54	70	26	23	35
31	21	---	51	60	---	148	---	52	---	26	22	---
TOTAL	590	1201	2280	1957	1592	2530	2241	2215	1349	1485	802	2443
MEAN	19.0	40.0	73.5	63.1	56.9	81.6	74.7	71.5	45.0	47.9	25.9	81.4
MAX	39	99	452	167	80	364	114	241	75	150	37	844
MIN	14	22	32	45	47	49	56	47	36	26	21	20
CFSM	.32	.67	1.23	1.06	.95	1.37	1.25	1.20	.75	.80	.43	1.36
IN.	.37	.75	1.42	1.22	.99	1.57	1.39	1.38	.84	.92	.50	1.52

CAL YR 1986 TOTAL 14917 MEAN 40.9 MAX 452 MIN 11 CFSM .68 IN 9.28  
WTR YR 1987 TOTAL 20685 MEAN 56.7 MAX 844 MIN 14 CFSM .95 IN 12.87

GUNPOWDER RIVER BASIN

01583600 BEAVERDAM RUN AT COCKEYSVILLE, MD

LOCATION.--Lat 39°29'13", long 76°38'42", Baltimore County, Hydrologic Unit 02060003, on left bank 50 ft upstream from bridge on Beaverdam Run Lane, 600 ft downstream from bridge on Maryland Route 45 at Cockeysville, and 0.45 mi upstream from mouth.

DRAINAGE AREA.--20.9 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1982 to current year.

GAGE.--Water-stage recorder. Datum of gage is 239.04 ft above National Geodetic Vertical Datum of 1929. Previously operated as a low-flow site during water years 1955-59 and 1962-64 at site 600 ft upstream.

REMARKS.--Estimated daily discharges: Dec. 25, Jan. 23, 24, 27, 28, and Sept. 8. Records good. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--5 years, 26.4 ft<sup>3</sup>/s, 17.15 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,360 ft<sup>3</sup>/s, July 1, 1984, gage height 12.10 ft, from flood-marks, from rating curve extended above 1,000 ft<sup>3</sup>/s; minimum discharge, 4.0 ft<sup>3</sup>/s, Aug. 14, 16, 1986.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 650 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 24	2200	*834	*6.13	Sept. 12	2130	793	5.97

Minimum discharge, 4.1 ft<sup>3</sup>/s, Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	9.0	13	22	19	177	34	19	19	49	11	8.8
2	23	28	68	50	29	60	29	21	19	44	10	8.4
3	10	11	73	28	39	42	31	20	19	21	8.8	7.8
4	10	14	24	25	36	35	56	75	47	17	9.1	8.0
5	9.7	57	20	20	27	31	44	31	25	17	43	8.3
6	8.0	30	18	21	25	30	49	24	20	14	16	25
7	9.1	18	18	21	26	29	34	22	21	15	12	11
8	7.5	30	15	20	27	30	30	20	19	19	12	250
9	7.1	17	37	20	23	26	28	20	26	14	13	78
10	7.1	12	23	26	22	25	27	20	20	13	14	22
11	7.9	90	32	22	21	23	25	17	17	13	11	18
12	7.0	24	24	21	21	24	24	21	17	52	9.6	105
13	16	17	20	19	21	23	22	18	19	22	7.6	116
14	22	16	18	18	20	23	22	16	19	34	8.6	26
15	9.1	13	16	20	19	23	22	39	16	18	9.6	69
16	8.6	13	16	18	17	21	37	22	20	14	9.6	40
17	7.9	11	15	18	18	21	48	19	16	14	8.0	28
18	8.0	28	62	42	19	21	28	20	14	14	8.2	51
19	7.3	22	26	91	18	21	30	37	14	14	8.5	25
20	7.6	62	20	42	18	20	24	124	27	12	8.7	29
21	8.6	39	18	29	18	21	24	40	27	11	7.8	24
22	7.8	18	16	23	18	19	23	30	19	11	32	34
23	7.7	16	16	23	29	19	22	62	16	11	11	19
24	8.6	19	187	22	27	20	30	39	15	11	9.1	18
25	8.8	16	125	22	23	20	25	31	15	10	9.5	16
26	18	58	36	21	21	20	24	28	16	10	9.4	16
27	16	27	29	21	22	20	21	27	16	9.8	10	17
28	13	18	25	20	32	27	20	24	15	8.5	12	15
29	9.9	17	22	20	---	21	21	22	12	9.8	11	14
30	9.0	15	22	22	---	29	20	22	23	9.7	9.6	14
31	8.8	---	22	21	---	88	---	22	---	9.6	8.4	---
TOTAL	359.1	765.0	1076	808	655	1009	874	952	588	541.4	368.1	1121.3
MEAN	11.6	25.5	34.7	26.1	23.4	32.5	29.1	30.7	19.6	17.5	11.9	37.4
MAX	50	90	187	91	39	177	56	124	47	52	43	250
MIN	7.0	9.0	13	18	17	19	20	16	12	8.5	7.6	7.8
CFSM	.56	1.22	1.66	1.25	1.12	1.56	1.39	1.47	.94	.84	.57	1.79
IN.	.64	1.36	1.92	1.44	1.17	1.80	1.56	1.69	1.05	.96	.66	2.00

CAL YR 1986	TOTAL	6554.8	MEAN 18.0	MAX 187	MIN 5.5	CFSM .86	IN 11.67
WTR YR 1987	TOTAL	9116.9	MEAN 25.0	MAX 250	MIN 7.0	CFSM 1.20	IN 16.23

GUNPOWDER RIVER BASIN

01584050 LONG GREEN CREEK AT GLEN ARM, MD

LOCATION.--Lat 39°27'17", long 76°28'45", Baltimore County, Hydrologic Unit 02060003, on right bank 0.5 mi downstream from bridge on Glen Arm Road, 0.6 mi upstream from State Highway 147 (Harford Road), 0.8 mi east of Glen Arm, and 1.6 mi upstream from mouth.

DRAINAGE AREA.--9.40 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1975 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 230 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Dec. 24, Jan. 24, and Sept. 15. Records good except those for periods of doubtful gage-height record, Dec. 24 and Sept. 15, which are fair. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--12 years, 11.2 ft<sup>3</sup>/s, 16.18 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,250 ft<sup>3</sup>/s, July 1, 1984, gage height, 6.70 ft, from rating curve extended above 1,300 ft<sup>3</sup>/s; minimum discharge, 1.0 ft<sup>3</sup>/s, Jan. 29, 1977, gage height, 0.79 ft, result of freezeup.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 24	Unknown	Unknown	Unknown	Sept. 12	2245	306	3.52
Sept. 8	2000	*551	*4.12	Sept. 15	2100	515	4.06

Minimum discharge, 1.9 ft<sup>3</sup>/s, Oct. 11, 12, 25, gage height, 0.94 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.2	2.5	6.3	11	10	125	12	7.7	6.9	20	3.4	2.5
2	9.9	5.5	43	24	12	29	11	7.8	6.5	14	3.4	2.3
3	2.7	3.3	42	16	15	19	10	8.0	6.3	7.9	3.3	2.4
4	2.7	3.0	12	12	19	16	18	16	15	6.3	3.1	2.3
5	2.6	9.7	9.6	11	14	14	13	10	10	5.7	5.1	2.2
6	2.2	11	8.6	11	13	13	16	9.0	7.4	5.3	4.7	3.3
7	2.1	5.0	8.0	10	15	14	13	8.5	6.7	5.3	3.9	3.3
8	2.1	8.8	7.5	10	14	13	12	8.1	6.3	5.7	3.6	77
9	2.1	5.8	11	9.9	13	13	11	7.6	7.2	5.1	3.5	12
10	2.1	4.9	11	12	11	12	10	7.3	6.9	5.0	3.6	5.2
11	1.9	21	12	11	11	11	10	7.0	6.1	5.0	3.5	4.4
12	2.0	9.1	11	9.9	10	11	10	7.3	6.1	4.7	3.3	26
13	3.0	6.1	9.2	9.6	10	11	9.8	7.3	6.4	4.6	3.3	45
14	4.3	5.0	8.1	9.3	10	11	9.5	6.6	6.1	21	3.2	9.8
15	2.7	4.7	8.0	9.3	9.6	11	9.4	12	5.7	6.9	3.2	65
16	2.6	4.6	7.7	8.9	9.2	11	11	8.1	10	5.4	3.0	16
17	2.4	4.3	7.5	8.7	9.3	10	12	7.3	6.4	4.9	3.0	8.5
18	2.3	5.2	21	15	9.3	10	10	7.0	5.5	4.5	2.8	15
19	2.3	8.4	12	50	9.3	10	10	10	5.3	4.4	2.8	7.9
20	2.3	27	9.7	19	9.1	10	10	32	5.3	4.2	2.7	7.1
21	2.3	22	8.9	14	9.0	10	9.8	14	6.2	4.0	2.3	6.8
22	2.3	8.4	8.1	13	9.0	9.9	9.2	11	6.5	3.7	4.4	6.9
23	2.3	7.0	7.7	13	9.9	9.9	8.7	10	5.7	3.6	3.1	6.0
24	2.1	7.1	95	12	8.2	9.8	9.2	9.4	5.2	3.6	2.6	5.5
25	2.0	6.6	54	11	7.7	9.6	9.2	9.0	5.0	3.8	2.5	5.0
26	3.2	23	17	11	7.6	9.5	8.9	9.8	5.0	3.7	2.6	4.7
27	3.1	13	14	11	7.5	9.3	8.6	8.7	5.6	3.8	2.7	4.7
28	3.5	8.7	13	11	8.4	9.7	8.5	8.4	4.8	3.6	3.4	4.5
29	2.7	7.6	11	10	---	9.5	8.3	7.6	4.4	3.4	3.0	4.5
30	2.7	6.8	11	10	---	11	8.1	7.2	5.6	3.5	2.5	4.6
31	2.5	---	11	10	---	21	---	7.1	---	3.3	2.5	---
TOTAL	92.2	265.1	515.9	403.6	300.1	493.2	316.2	296.8	196.1	185.9	100.0	370.4
MEAN	2.97	8.84	16.6	13.0	10.7	15.9	10.5	9.57	6.54	6.00	3.23	12.3
MAX	9.9	27	95	50	19	125	18	32	15	21	5.1	77
MIN	1.9	2.5	6.3	8.7	7.5	9.3	8.1	6.6	4.4	3.3	2.3	2.2
CFSM	.32	.94	1.77	1.38	1.14	1.69	1.12	1.02	.70	.64	.34	1.31
IN.	.36	1.05	2.04	1.60	1.19	1.95	1.25	1.17	.78	.74	.40	1.47

CAL YR 1986 TOTAL 2607.2 MEAN 7.14 MAX 95 MIN 1.5 CFSM .76 IN 10.32  
WTR YR 1987 TOTAL 3535.5 MEAN 9.69 MAX 125 MIN 1.9 CFSM 1.03 IN 13.99

GUNPOWDER RIVER BASIN

01585100 WHITEMARSH RUN AT WHITE MARSH, MD

LOCATION.--Lat 39°22'15", long 76°26'46", Baltimore County, Hydrologic Unit 02060003, on left bank at upstream side of bridge on State Highway 7, 1.0 mi southwest of White Marsh, and 3.0 mi upstream from mouth.

DRAINAGE AREA.--7.61 mi<sup>2</sup>.

PERIOD OF RECORD.--February 1959 to current year.

REVISED RECORDS.--WDR MD-DE-73-1: 1960(M), 1967-68, 1969(M). WDR MD-DE-79-1: 1965-66(M).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 38.96 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Oct. 18 to Nov. 1, Jan. 22-29, Feb. 6, 9-11, 15, and 24-26. Records good except those for period of backwater from unknown sources, Oct. 18 to Nov. 1, which are fair. Low flow affected by operations of sand and gravel plant in vicinity of gage. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--28 years, 11.3 ft<sup>3</sup>/s, 20.16 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,000 ft<sup>3</sup>/s, Aug. 1, 1971, gage height, 14.05 ft, from rating curve extended above 1,300 ft<sup>3</sup>/s on basis of a culvert measurement at gage height 10.04 ft and on basis of a culvert and flow-over-road measurement at gage height 14.05 ft; no flow for part of Mar. 20, 1965, caused by construction work upstream from station; minimum daily discharge, 0.10 ft<sup>3</sup>/s, Sept. 11, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 750 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 20	2200	925	5.00	Dec. 24	2245	1,880	9.37
Dec. 2	2030	767	4.40	Sept. 8	1915	*2,300	*10.21

Minimum discharge, 0.30 ft<sup>3</sup>/s, Aug. 21, Sept. 3, 4, 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.4	1.5	3.0	28	8.3	237	6.6	2.9	2.0	67	.55	.44
2	5.0	17	131	103	27	27	4.3	3.0	1.9	11	.64	.37
3	1.4	3.2	85	15	36	12	4.6	3.4	2.9	4.8	.60	.37
4	2.6	6.2	9.8	9.0	28	8.9	26	46	66	1.8	.60	.33
5	1.5	53	6.2	7.0	12	7.4	8.7	7.2	10	1.5	10	.37
6	.87	16	4.3	5.9	9.5	6.5	16	4.3	3.8	1.6	2.9	9.5
7	.48	5.1	3.7	5.6	10	5.8	7.0	3.6	3.0	1.8	1.6	3.5
8	.63	26	4.1	4.7	9.8	5.4	4.9	3.4	2.5	18	1.5	304
9	.66	4.9	23	4.3	8.0	4.9	4.1	2.9	4.7	2.0	1.2	20
10	.80	4.1	11	7.2	7.0	4.5	3.7	2.8	3.0	2.0	.75	6.7
11	.68	47	33	4.7	5.5	4.0	3.5	2.7	1.9	1.6	.88	3.7
12	.69	8.4	14	4.2	5.9	4.0	3.5	3.9	2.1	1.5	.55	33
13	9.2	4.2	5.7	3.6	5.1	3.8	3.4	3.5	2.7	1.4	.54	71
14	19	3.5	4.4	3.6	4.5	3.8	3.2	2.2	2.4	21	.71	8.8
15	2.8	2.9	3.9	4.3	4.2	3.8	3.2	5.2	1.9	3.4	.50	15
16	1.3	2.6	3.5	3.7	3.8	3.5	15	3.0	2.0	1.6	.50	6.9
17	1.2	2.5	3.2	2.9	4.1	3.5	13	2.2	1.7	1.4	.66	3.9
18	1.1	17	67	34	3.9	3.6	5.2	2.1	1.5	1.2	.44	25
19	1.1	12	11	115	4.0	3.5	3.9	7.7	1.6	1.1	.46	4.0
20	1.0	83	5.7	20	4.1	3.5	3.8	87	1.7	1.0	.44	3.3
21	1.0	36	4.5	9.5	3.5	3.3	3.6	10	4.9	1.2	.45	3.6
22	1.0	8.6	3.8	8.0	3.5	3.2	3.4	4.8	4.6	1.1	12	13
23	1.0	5.9	3.6	7.0	14	3.2	3.2	3.8	2.4	.71	1.7	2.6
24	1.0	11	255	6.5	15	3.2	6.5	3.8	1.6	.75	.58	1.9
25	1.0	6.3	95	6.5	11	3.3	4.9	2.9	1.5	6.6	.49	1.6
26	9.0	98	15	7.0	9.5	3.5	3.2	9.4	2.3	1.2	.49	1.5
27	4.5	15	9.8	7.0	8.2	3.3	2.9	3.0	3.4	.98	.51	1.4
28	6.0	6.3	7.8	6.5	23	5.4	3.0	2.6	1.4	.78	.99	1.3
29	3.0	4.5	6.9	7.5	---	3.3	3.0	2.3	1.4	.59	.78	1.1
30	2.0	3.5	6.0	8.7	---	9.0	2.9	2.2	7.6	.58	.42	3.1
31	1.5	---	4.8	10	---	30	---	2.1	---	.56	.48	---
TOTAL	86.41	515.2	844.7	469.9	288.4	427.1	180.2	245.9	150.4	161.75	44.91	551.28
MEAN	2.79	17.2	27.2	15.2	10.3	13.8	6.01	7.93	5.01	5.22	1.45	18.4
MAX	19	98	255	115	36	237	26	87	66	67	12	304
MIN	.48	1.5	3.0	2.9	3.5	3.2	2.9	2.1	1.4	.56	.42	.33
CF5M	.37	2.26	3.57	2.00	1.35	1.81	.79	1.04	.66	.69	.19	2.42
IN.	.42	2.52	4.13	2.30	1.41	2.09	.88	1.20	.74	.79	.22	2.69

CAL YR 1986	TOTAL	3169.29	MEAN	8.68	MAX	255	MIN	.39	CF5M	1.14	IN	15.49
WTR YR 1987	TOTAL	3966.15	MEAN	10.9	MAX	304	MIN	.33	CF5M	1.43	IN	19.39

BACK RIVER BASIN

01585200 WEST BRANCH HERRING RUN AT IDLEWYLDE, MD

LOCATION.--Lat 39°22'25", long 76°35'05", Baltimore County, Hydrologic Unit 02060003, on left bank 40 ft downstream from bridge on Register Avenue, at Idlewylde, 0.1 mi north of Baltimore city limits, 1 mi upstream from mouth, and 1.3 mi east of State Highway 45.

DRAINAGE AREA.--2.13 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1957 to May 1965, January 1966 to September 1987 (discontinued).

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 285 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to May 31, 1965, at site 40 ft upstream at datum 3.24 ft higher.

REMARKS.--Estimated daily discharges: Oct. 19-24 and Jan. 23. Records good except those for period affected by extensive regulation and possible backwater from unknown sources, Mar. 31 to Apr. 30, which are fair. Diurnal fluctuation (occasionally extensive) caused by ready-mixed concrete plant upstream from station. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--28 years (water years 1958-64, 1967-87), 2.59 ft<sup>3</sup>/s, 16.51 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,740 ft<sup>3</sup>/s, Sept. 11, 1971, gage height, 6.80 ft, from rating curve extended above 90 ft<sup>3</sup>/s on basis of slope-area measurement at gage height 6.37 ft; no flow Aug. 14-24, 1957.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 290 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
July 1	0100	395	3.85	Sept. 8	1730	*1,170	*5.83

Minimum discharge, 0.05 ft<sup>3</sup>/s, Oct. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	.24	.57	3.3	1.5	36	1.6	.82	.77	15	.38	.25
2	.46	6.6	22	11	5.3	4.4	1.2	.89	.73	2.8	.38	.21
3	.23	.30	8.4	2.4	5.3	2.8	4.0	1.8	1.5	1.7	.39	.21
4	.48	1.5	1.3	1.6	3.8	2.2	5.2	16	15	.93	.41	.21
5	.27	16	.98	1.4	2.2	2.0	4.0	1.2	1.7	.75	4.6	.24
6	.14	2.0	.83	1.5	2.1	1.9	4.3	.97	.97	.75	.53	4.7
7	.16	2.8	.77	1.3	2.2	1.9	2.1	.87	.99	.73	.41	.45
8	.17	4.0	.69	1.2	2.1	1.8	2.4	.84	.81	5.9	.38	53
9	.19	.49	5.9	1.2	1.6	1.7	2.5	.79	4.4	.69	.38	2.8
10	.17	.40	1.4	2.6	1.4	1.6	2.4	.78	.86	1.4	.33	.85
11	.15	14	6.0	1.2	1.4	1.4	1.6	.75	.71	.80	.31	.68
12	.18	1.0	1.6	1.0	1.7	1.4	1.2	2.9	.84	.91	.29	19
13	3.5	.51	.88	1.0	1.3	1.3	1.1	.79	.88	.72	.33	9.2
14	6.7	.49	.79	1.1	1.2	1.3	1.3	.75	.76	6.5	.54	1.1
15	.25	.46	.84	1.3	1.1	1.3	1.0	1.1	.69	.85	.29	3.2
16	.21	.43	.95	.98	1.1	1.2	6.6	.74	.69	.71	.30	.88
17	.27	.41	.95	.93	1.1	1.2	3.9	.69	.66	.57	.29	1.1
18	.22	5.9	14	9.7	1.1	1.1	1.2	.94	.67	.57	.24	7.4
19	.20	1.1	1.6	21	1.0	1.1	1.4	3.1	.68	.56	.26	1.0
20	.20	16	1.3	3.1	1.0	1.1	3.4	24	5.0	.51	.27	1.3
21	.20	2.4	1.3	2.5	1.1	1.0	5.1	2.0	1.1	.47	.23	2.9
22	.30	.80	1.3	1.7	1.1	1.0	1.5	1.1	.89	.43	7.1	3.7
23	.40	.62	1.1	1.6	4.6	.95	1.3	4.5	.66	.42	.38	.87
24	.20	2.1	36	1.6	3.6	.96	1.9	2.6	.60	.41	.27	.79
25	.23	.61	7.2	1.6	2.4	1.7	1.5	5.5	.65	.98	.27	.73
26	3.4	15	2.4	1.5	2.2	1.9	.92	1.8	1.1	.44	.29	.65
27	2.8	1.6	1.9	1.4	1.7	2.6	4.4	.90	.90	.44	.34	.50
28	.49	.88	1.6	1.4	7.0	2.1	3.3	.89	.65	.40	.60	.50
29	.27	.74	1.4	1.6	---	1.0	2.3	.84	.65	.35	.43	.54
30	.26	.65	1.3	1.9	---	6.0	1.7	2.5	16	.37	.27	1.1
31	.28	---	1.2	1.8	---	10	---	.87	---	.36	.28	---
TOTAL	24.38	100.03	128.45	87.41	63.2	97.91	76.32	84.22	62.51	48.42	21.77	120.06
MEAN	.79	3.33	4.14	2.82	2.26	3.16	2.54	2.72	2.08	1.56	.70	4.00
MAX	6.7	16	36	21	7.0	36	6.6	24	16	15	7.1	53
MIN	.14	.24	.57	.93	1.0	.95	.92	.69	.60	.35	.23	.21
CFSM	.37	1.56	1.94	1.32	1.06	1.48	1.19	1.28	.98	.73	.33	1.88
IN.	.43	1.75	2.24	1.53	1.10	1.71	1.33	1.47	1.09	.85	.38	2.10

CAL YR 1986 TOTAL 680.75 MEAN 1.87 MAX 36 MIN .14 CFSM .88 IN 11.88  
WTR YR 1987 TOTAL 914.68 MEAN 2.51 MAX 53 MIN .14 CFSM 1.18 IN 15.97

BACK RIVER BASIN

01585300 STEMERS RUN AT ROSSVILLE, MD

LOCATION.--Lat 39°20'28", long 76°29'17", Baltimore County, Hydrologic Unit 02060003, on left bank 500 ft upstream from bridge on State Highway 7, at Rossville, 0.9 mi upstream from Brien Run, and 2.1 mi upstream from mouth.

DRAINAGE AREA.--4.46 mi<sup>2</sup>.

PERIOD OF RECORD.--December 1958 to September 1972, October 1973 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 21.64 ft above National Geodetic Vertical Datum of 1929 (Baltimore County bench mark). Prior to Sept. 30, 1972, at site on old channel about 550 ft southeast of present site at datum 2.40 ft lower.

REMARKS.--Estimated daily discharges: Jan. 22-24 and Sept. 8-30. Records good except those for period of doubtful or no gage-height record, Sept. 8-30, which are fair. Slight diurnal fluctuation at times from unknown source. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--27 years (water years 1960-72, 1974-87), 6.51 ft<sup>3</sup>/s, 19.82 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,950 ft<sup>3</sup>/s, Aug. 1, 1971, gage height, 11.34 ft, from high-water mark in well, site and datum then in use, from rating curve extended above 1,100 ft<sup>3</sup>/s on basis of contracted-opening and flow-over-road measurement of peak flow; minimum discharge, 0.02 ft<sup>3</sup>/s, Aug. 21, 1987, gage height, 1.12 ft; minimum daily discharge, 0.03 ft<sup>3</sup>/s, Aug. 20, 21, Sept. 3, 4, 5, 1987.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 700 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 2	1930	765	3.63	June 4	1700	800	3.67
Dec. 24	2030	*1,900	4.99	Sept. 8	1800	Unknown	*a7.04

a Backwater.

Minimum discharge, 0.02 ft<sup>3</sup>/s, Aug. 21, gage height, 1.12 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.54	.33	1.2	15	4.5	120	2.4	1.0	.94	19	.28	.06
2	2.2	8.7	81	51	18	13	1.7	1.2	.85	3.5	.18	.04
3	.26	.76	39	7.9	21	6.4	2.4	1.4	1.6	2.1	.10	.03
4	.69	3.0	4.2	4.2	16	4.1	14	24	39	.71	.09	.03
5	.44	27	2.4	3.1	7.1	3.3	4.6	3.2	4.7	.58	7.2	.03
6	.33	6.4	1.9	2.7	5.3	3.3	8.6	1.7	1.6	.49	1.2	4.7
7	.80	1.6	1.6	2.6	5.6	2.9	3.2	1.4	1.2	.55	.39	1.4
8	.53	14	1.5	2.3	5.4	3.3	2.2	1.3	1.1	6.7	.28	100
9	.51	1.5	12	2.1	4.1	2.5	1.9	1.2	2.5	.69	.24	5.0
10	.51	.86	5.9	3.9	2.8	2.1	1.8	1.1	1.6	.56	.20	2.0
11	.20	22	18	2.4	2.7	2.0	1.6	1.0	.80	.51	.12	1.2
12	.13	3.2	7.8	2.0	3.1	1.9	1.5	3.6	1.3	.50	.10	10
13	5.2	1.2	3.1	1.8	2.6	1.8	1.5	1.5	1.2	.43	.07	18
14	11	.80	2.2	1.7	2.2	1.7	1.4	.93	.88	7.1	.05	3.0
15	1.0	.76	2.0	2.0	1.9	1.7	1.4	2.5	.79	1.1	.05	6.0
16	.33	.77	1.8	1.7	1.7	1.6	9.7	1.1	1.1	.44	.10	2.0
17	.26	.69	1.7	1.6	1.9	1.5	8.5	.93	.66	.37	.08	1.2
18	.25	8.2	36	19	1.8	1.6	2.6	.89	.54	.37	.05	8.0
19	.24	4.8	6.1	62	1.7	1.5	1.8	3.5	.52	.33	.04	1.5
20	.22	42	3.1	11	1.7	1.5	1.7	44	.62	.31	.03	1.0
21	.22	11	2.4	5.0	1.7	1.4	1.5	5.7	2.3	.27	.03	1.2
22	.20	2.1	2.0	3.4	1.7	1.4	1.4	2.3	4.3	.22	6.5	5.0
23	.19	1.4	1.8	3.2	8.2	1.4	1.3	2.7	1.2	.22	.73	1.0
24	.21	4.3	229	3.0	9.8	1.3	3.9	2.0	.55	.21	.19	.60
25	.21	1.9	33	2.8	6.9	1.3	2.3	1.4	.52	6.3	.12	.50
26	5.2	44	6.7	3.0	6.1	1.4	1.4	2.8	2.0	.44	.10	.45
27	2.5	6.9	4.2	3.0	4.8	1.3	1.2	1.4	2.3	.27	.12	.40
28	2.2	2.5	3.3	2.9	15	3.1	1.2	1.2	.56	.20	.15	.40
29	.44	1.8	2.7	3.3	---	1.5	1.1	1.2	.43	.22	.15	.40
30	.33	1.4	2.5	4.6	---	4.7	1.1	1.1	2.9	.22	.07	1.0
31	.30	---	2.3	5.4	---	15	---	1.1	---	.24	.08	---
TOTAL	37.64	225.87	522.4	239.6	165.3	211.5	90.9	120.35	80.56	55.15	19.09	176.14
MEAN	1.21	7.53	16.9	7.73	5.90	6.82	3.03	3.88	2.69	1.78	.62	5.87
MAX	11	44	229	62	21	120	14	44	39	19	7.2	100
MIN	.13	.33	1.2	1.6	1.7	1.3	1.1	.89	.43	.20	.03	.03
CFSM	.27	1.69	3.79	1.73	1.32	1.53	.68	.87	.60	.40	.14	1.32
IN.	.31	1.88	4.36	2.00	1.38	1.76	.76	1.00	.67	.46	.16	1.47

CAL YR 1986	TOTAL	1628.71	MEAN	4.46	MAX	229	MIN	.10	CFSM	1.00	IN	13.58
WTR YR 1987	TOTAL	1944.50	MEAN	5.33	MAX	229	MIN	.03	CFSM	1.20	IN	16.22

BACK RIVER BASIN

01585400 BRIEN RUN AT STEMMERS RUN, MD

LOCATION.--Lat 39°20'01", long 76°28'23", Baltimore County, Hydrologic Unit 02060003, on right bank 0.2 mi upstream from mouth and 0.3 mi north of Stemmers Run.

DRAINAGE AREA.--1.97 mi<sup>2</sup>.

PERIOD OF RECORD.--May 1958 to September 1987 (discontinued).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 8.80 ft above National Geodetic Vertical Datum of 1929 (Baltimore County bench mark).

REMARKS.--Estimated daily discharges: Oct. 23-25, Jan. 22-30, and July 30. Records good except those for periods of backwater from unknown sources, Oct. 23-25 and July 30, and period when the stilling well was frozen, Jan. 24 to Jan. 30, which are fair. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--29 years, 2.55 ft<sup>3</sup>/s, 17.58 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,500 ft<sup>3</sup>/s, Aug. 1, 1971, gage height, 10.75 ft from high-water mark in well, from rating curve extended above 180 ft<sup>3</sup>/s on basis of culvert and flow-over-road measurement of peak flow at site 0.8 mile upstream, adjusted for flow from intervening area; no flow at times many years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 150 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 24	2145	*805	*6.21	Sept. 8	1930	412	4.50

Minimum daily discharge, 0.30 ft<sup>3</sup>/s many days in October, July, August, and September.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	.36	.47	8.4	1.6	55	.96	.47	.71	3.8	.39	.35
2	.55	4.9	20	25	8.3	6.5	.69	.53	1.1	1.1	.36	.30
3	.30	.40	17	3.6	11	2.3	2.1	.87	1.2	.69	.40	.32
4	.50	1.6	2.0	1.7	9.0	1.6	6.1	13	16	.34	.40	.30
5	.34	16	1.4	1.3	3.4	.98	1.9	2.0	2.7	.30	3.1	.34
6	.30	3.8	.95	.85	2.4	.74	3.3	1.2	1.2	.30	.44	2.8
7	.31	2.1	.47	.75	2.5	.74	1.4	.81	.80	.43	.35	1.8
8	.30	6.7	.47	.74	2.4	.74	.72	.47	.43	1.8	.36	62
9	.30	1.4	5.9	.63	1.4	.73	.51	.47	1.3	.36	.36	4.8
10	.30	.98	2.4	1.3	.87	.67	.47	.43	.47	1.9	.37	.70
11	.30	9.5	9.8	.76	.81	.60	.43	.37	.36	.45	.39	.46
12	.30	2.1	4.2	.71	.96	.60	.38	1.0	2.8	.51	.30	3.2
13	3.6	1.2	1.7	.70	.78	.60	.41	.49	.63	.39	.30	12
14	7.0	.79	1.2	.60	.74	.60	.41	.47	.41	9.9	.32	1.8
15	1.1	.36	.57	.67	.60	.60	.41	.50	.57	1.3	.34	.53
16	.79	.36	.50	.55	.60	.60	4.1	.43	1.3	1.1	.31	.43
17	.40	.36	.47	.48	.65	.63	2.2	.40	1.1	.90	.32	.85
18	.30	3.4	16	10	.60	.53	.88	.39	.64	.36	.31	8.2
19	.30	1.4	3.3	30	.67	.49	.67	2.0	.98	.33	.30	1.3
20	.33	18	1.6	6.0	.68	.49	.60	25	.64	.30	.30	1.1
21	.38	8.4	1.2	2.1	.67	.47	.70	3.2	1.1	.34	.30	.63
22	.30	1.6	.51	1.3	.65	.50	.55	1.4	9.4	.30	2.7	1.7
23	.30	1.2	.52	1.1	3.3	.47	.47	1.2	2.0	.33	.36	.42
24	.30	2.4	112	1.0	4.3	.51	2.0	.58	1.8	.32	.32	.59
25	.30	.77	28	1.0	3.2	.47	.86	.51	1.4	.47	.36	.98
26	2.4	21	3.0	1.0	2.9	.47	.55	.70	2.8	.36	.36	.63
27	1.7	4.8	1.7	1.0	2.3	.47	.47	.47	1.5	.41	.34	.36
28	.77	1.6	1.4	1.0	8.4	.88	.53	.53	.54	.47	.36	.36
29	.30	1.3	.75	1.1	---	.48	.47	.63	.50	.36	.36	.40
30	.33	.58	.79	1.4	---	2.0	.47	.44	4.2	.30	.42	.70
31	.36	---	.65	1.9	---	5.6	---	.43	---	.36	.40	---
TOTAL	27.06	119.36	240.92	108.64	75.68	88.06	35.71	61.39	60.58	30.58	16.00	110.35
MEAN	.87	3.98	7.77	3.50	2.70	2.84	1.19	1.98	2.02	.99	.52	3.68
MAX	7.0	21	112	30	11	55	6.1	25	16	9.9	3.1	62
MIN	.30	.36	.47	.48	.60	.47	.38	.37	.36	.30	.30	.30
CFSM	.44	2.02	3.94	1.78	1.37	1.44	.60	1.01	1.03	.50	.26	1.87
IN.	.51	2.25	4.55	2.05	1.43	1.66	.67	1.16	1.14	.58	.30	2.08

CAL YR 1986 TOTAL 810.13 MEAN 2.22 MAX 112 MIN .26 CFSM 1.13 IN 15.29  
WTR YR 1987 TOTAL 974.33 MEAN 2.67 MAX 112 MIN .30 CFSM 1.36 IN 18.39

PATAFSCO RIVER BASIN

01585500 CRANBERRY BRANCH NEAR WESTMINSTER, MD

LOCATION.--Lat 39°35'35", long 76°58'05", Carroll County, Hydrologic Unit 02060003, on left bank 80 ft upstream from culvert, 0.7 mi upstream from mouth, and 1.8 mi northeast of Westminster.

DRAINAGE AREA.--3.29 mi<sup>2</sup>.

PERIOD OF RECORD.--September 1949 to current year.

REVISED RECORDS.--WSP 1432: Drainage area, 1954-55. WDR MD-DE-75-1: 1972(M). WDR MD-DE-79-1: 1973-78(P).

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 670 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good. Occasional small diversions to and releases from Cranberry Reservoir located offstream 1 mi upstream from station since August 1957, capacity, 113,700,000 gal. Beginning October 1972 occasional large diversions past the gaging station from the reservoir through a 30-inch pipe. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--38 years, 3.44 ft<sup>3</sup>/s, 14.20 in/yr, unadjusted for storage and diversions.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,220 ft<sup>3</sup>/s, Sept. 26, 1975, gage height, 7.47 ft, from rating curve extended above 200 ft<sup>3</sup>/s on the basis of culvert measurements at gage heights 5.54 ft and 7.47; minimum daily discharge, 0.16 ft<sup>3</sup>/s, Oct. 29, 30, 1986.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 80 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 24	2115	102	2.90	July 1	2030	111	2.95
June 30	2030	97	2.87	Sept. 8	1715	*371	*3.94

Minimum daily discharge, 0.16 ft<sup>3</sup>/s, Oct. 29, 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	.21	.33	.49	1.0	3.3	3.4	3.4	2.5	1.4	1.2	.37
2	1.1	.88	4.0	1.2	1.6	10	3.4	3.6	2.5	6.9	.86	.38
3	.39	.29	9.4	1.1	1.8	5.9	2.6	3.7	3.1	3.5	1.0	.56
4	.60	.19	1.8	.64	3.4	4.3	8.8	8.7	5.6	3.3	1.1	.46
5	.34	2.2	.76	.50	3.5	4.2	5.5	4.8	3.7	3.0	1.7	.61
6	.40	1.6	.51	.42	2.9	3.9	6.1	3.7	2.9	2.0	1.7	.84
7	.35	.35	.41	.46	2.6	3.8	3.9	2.6	3.2	2.4	1.4	1.5
8	.35	1.4	.37	.62	2.2	3.6	3.0	2.5	2.6	2.2	1.3	.42
9	.39	.77	3.0	.63	2.1	4.1	2.6	2.0	3.1	2.6	1.2	3.5
10	.40	.54	1.7	.67	1.6	4.2	2.2	1.4	2.6	2.8	1.3	.96
11	.30	6.7	1.1	.84	1.6	4.1	4.3	1.8	2.0	2.1	1.8	.79
12	.51	1.9	1.3	.63	2.5	4.2	4.7	1.8	2.7	2.3	1.4	1.4
13	.34	.68	.77	.46	2.3	4.0	2.6	2.3	3.5	2.2	1.3	1.8
14	.25	.52	.48	.45	1.3	3.9	2.1	2.7	3.4	3.8	.62	1.4
15	.24	.68	1.1	3.0	.88	3.9	2.8	3.1	2.7	2.3	.73	1.2
16	.35	.78	.39	1.5	.92	3.8	4.9	3.1	2.6	1.7	.63	1.9
17	.37	.51	.37	.63	.95	3.7	7.5	2.5	2.4	1.8	.49	1.4
18	.25	2.8	4.4	1.1	.88	3.6	5.2	3.0	2.6	2.4	.44	4.2
19	.35	3.0	1.7	1.3	1.2	3.5	4.7	4.4	1.9	1.7	.55	1.1
20	.26	5.5	.98	5.0	1.1	3.5	4.3	1.6	2.3	2.3	.43	2.2
21	.22	4.0	.58	3.1	1.1	3.4	4.2	5.3	2.3	2.2	.50	1.3
22	.27	1.8	.43	2.0	1.3	3.4	3.9	1.8	2.8	2.0	1.9	1.4
23	.24	1.5	.40	2.0	1.5	3.3	3.9	7.7	2.6	1.6	1.1	1.1
24	.31	1.5	1.8	1.8	1.4	3.3	6.7	4.1	2.3	1.7	.78	1.5
25	.35	.31	1.4	1.6	1.5	3.4	4.8	2.7	2.0	1.0	.38	1.2
26	.87	4.5	3.5	1.6	2.4	3.3	4.1	3.1	1.8	1.4	.78	1.1
27	.56	1.9	2.0	.93	3.7	2.5	3.9	2.8	2.0	1.8	1.1	1.0
28	.18	.75	1.3	.69	4.7	3.1	3.8	2.6	1.6	1.2	.95	.97
29	.16	.42	1.1	.66	---	2.4	3.7	2.3	1.5	.71	1.5	.92
30	.16	.33	.82	1.8	---	3.0	3.5	2.6	15	.83	1.0	.98
31	.19	---	.60	1.2	---	7.0	---	3.2	---	.80	.58	---
TOTAL	12.35	48.51	77.60	50.72	53.93	153.3	127.1	115.3	91.1	80.54	31.72	80.04
MEAN	.40	1.62	2.50	1.64	1.93	4.95	4.24	3.72	3.04	2.60	1.02	2.67
MAX	1.3	6.7	18	13	4.7	33	8.8	16	15	14	1.9	4.2
MIN	.16	.19	.33	.42	.88	2.4	2.1	1.4	1.5	.71	.38	.37
CFSM	.12	.49	.76	.50	.59	1.51	1.29	1.13	.92	.79	.31	.81
IN.	.14	.55	.88	.57	.61	1.73	1.44	1.30	1.03	.91	.36	.90

CAL YR 1986 TOTAL 564.67 MEAN 1.55 MAX 18 MIN .16 CFSM .47 IN 6.38  
WTR YR 1987 TOTAL 922.21 MEAN 2.53 MAX 42 MIN .16 CFSM .77 IN 10.42

PATAPSCO RIVER BASIN

01586000 NORTH BRANCH PATAPSCO RIVER AT CEDARHURST, MD

LOCATION.--Lat 39°30'00", long 76°53'00", Carroll County, Hydrologic Unit 02060003, on left bank at downstream side of private footbridge at Cedarhurst, 0.8 mi downstream from Roaring Run, 8 mi southeast of Westminster, and 16.5 mi upstream from confluence with South Branch.

DRAINAGE AREA.--56.6 mi<sup>2</sup>.

PERIOD OF RECORD.--September 1945 to current year.

REVISED RECORDS.--WSP 1903: 1959-60.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 425 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Jan. 23, 24. Records good. Slight diurnal fluctuation at low and medium flow caused by mill upstream from station. Low flow affected slightly by Cranberry Reservoir since August 1957, capacity, 113,700,000 gal. Records do not include a mean discharge of 2.90 ft<sup>3</sup>/s diverted upstream from station for municipal supply of Westminster; sewage effluent discharged into Little Pipe Creek in Monocacy River basin. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--42 years, 63.7 ft<sup>3</sup>/s, 15.28 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,800 ft<sup>3</sup>/s, June 22, 1972, gage height, 20.75 ft, from high-water mark in well, from rating curve extended above 4,100 ft<sup>3</sup>/s on basis of contracted-opening measurement of peak flow; minimum discharge, 1.3 ft<sup>3</sup>/s, Sept. 17, 1983 and Aug. 10, 1985, result of regulation; minimum daily discharge, 3.1 ft<sup>3</sup>/s, Sept. 10, 12, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 24	2400	2,300	6.49	June 30	2400	1,870	5.86
Mar. 01	1745	1,130	4.67	Sept. 8	1915	*4,320	*9.01

Minimum discharge, 3.9 ft<sup>3</sup>/s, Aug. 8, result of regulation, gage height, 1.19 ft; minimum daily discharge, 13 ft<sup>3</sup>/s, Oct. 7, 8, 10, 11, 12, 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	14	29	50	59	486	76	55	52	190	22	18
2	49	40	59	74	65	173	64	57	48	155	23	15
3	15	20	230	64	79	122	67	58	48	71	22	14
4	17	16	64	54	85	104	134	117	73	52	20	14
5	20	37	48	46	76	92	110	80	73	49	22	14
6	14	69	41	43	69	87	123	67	52	42	28	29
7	13	27	39	45	70	88	101	61	45	41	23	40
8	13	42	36	47	73	85	85	60	44	52	22	1030
9	14	31	61	45	71	82	76	54	52	38	22	151
10	13	24	62	58	60	75	72	51	45	38	28	51
11	13	122	48	61	60	72	69	48	42	41	20	38
12	13	65	53	53	61	72	70	51	44	65	19	40
13	16	34	45	48	59	70	69	54	59	66	18	144
14	25	27	39	51	57	68	60	45	59	63	17	55
15	16	25	37	77	52	68	59	50	45	58	17	48
16	14	25	36	68	46	66	68	48	40	41	17	47
17	14	22	35	58	50	64	120	47	39	38	16	38
18	14	24	89	71	50	64	80	46	37	35	14	103
19	15	71	66	218	48	63	72	67	37	34	15	50
20	14	51	49	128	47	62	69	327	39	31	17	49
21	14	122	44	96	48	61	65	109	45	29	14	51
22	14	44	39	80	50	60	62	83	40	28	38	39
23	14	36	38	73	62	58	60	105	39	27	28	35
24	13	37	273	66	58	58	92	95	39	26	18	32
25	14	32	513	64	54	58	79	73	34	26	17	30
26	19	83	108	66	52	59	67	70	36	26	17	29
27	19	78	83	60	52	56	62	66	40	25	19	29
28	20	44	72	56	57	63	60	63	40	23	18	27
29	15	38	62	61	---	55	59	59	34	22	22	26
30	14	34	58	63	---	56	57	55	209	22	18	28
31	14	---	55	63	---	125	---	54	---	22	16	---
TOTAL	509	1334	2511	2107	1670	2772	2307	2275	1529	1476	627	2314
MEAN	16.4	44.5	81.0	68.0	59.6	89.4	76.9	73.4	51.0	47.6	20.2	77.1
MAX	49	122	513	218	85	486	134	327	209	190	38	1030
MIN	13	14	29	43	46	55	57	45	34	22	14	14
CFSM	.29	.79	1.43	1.20	1.05	1.58	1.36	1.30	.90	.84	.36	1.36
IN.	.33	.88	1.65	1.38	1.10	1.82	1.52	1.50	1.00	.97	.41	1.52
CAL YR 1986	TOTAL	14786	MEAN	40.5	MAX	513	MIN	10	CFSM	.72	IN	9.72
WTR YR 1987	TOTAL	21431	MEAN	58.7	MAX	1030	MIN	13	CFSM	1.04	IN	14.09

## PATAPSCO RIVER BASIN

01586210 BEAVER RUN NEAR FINKSBURG, MD

LOCATION.--Lat 39°29'22", long 76°54'12", Carroll County, Hydrologic Unit 02060003, on downstream center line of bridge pier on Hughes Road, 0.25 mi northwest of intersection of Hughes Road and Maryland Route 91, and 0.75 mi southwest of Finksburg.

DRAINAGE AREA.--14.0 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1982 to current year.

GAGE.--Water-stage recorder. Datum of gage is 439.12 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Jan. 22 to Feb. 2 and Feb. 10, 16. Records good except those for estimated daily discharges (ice effect), which are fair. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--5 years, 15.6 ft<sup>3</sup>/s, 15.13 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,920 ft<sup>3</sup>/s, Feb. 12, 1985, gage height, 5.45 ft, from rating curve extended above 600 ft<sup>3</sup>/s; minimum discharge, 2.0 ft<sup>3</sup>/s, Sept. 12, 1983, Sept. 17, 18, 1986.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Sept. 8	1630	*744	*3.78	No other peak greater than base discharge.			

Minimum daily discharge, 2.3 ft<sup>3</sup>/s, Oct. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.7	3.3	7.6	15	16	106	18	15	14	32	5.1	4.2
2	15	9.8	16	18	19	47	16	15	13	27	5.4	4.5
3	3.3	5.2	52	16	21	35	17	15	13	13	5.2	4.3
4	3.2	4.5	16	15	21	29	31	33	21	11	4.7	4.2
5	3.4	11	12	14	18	25	23	20	17	12	5.0	3.7
6	2.8	17	10	14	17	24	28	17	14	9.5	5.8	7.6
7	2.7	7.1	9.7	13	17	23	24	16	13	9.4	5.3	11
8	2.7	9.6	9.5	13	18	22	21	16	12	12	5.4	136
9	2.7	7.6	14	13	18	21	19	15	13	9.2	5.3	20
10	2.5	6.3	14	15	17	19	18	14	12	8.5	5.8	8.6
11	2.3	32	12	15	16	18	17	14	12	8.5	5.2	7.2
12	2.4	14	13	14	16	18	18	14	12	17	5.2	10
13	3.8	9.0	11	14	15	17	17	14	13	16	4.8	34
14	6.0	7.5	9.6	14	15	17	16	13	14	17	4.5	10
15	3.9	6.9	9.4	19	14	17	15	14	11	13	4.1	19
16	3.2	6.6	9.2	17	14	17	17	13	12	9.7	3.6	16
17	3.1	6.0	9.1	16	14	16	28	13	11	9.3	3.8	9.5
18	3.1	6.9	23	19	14	15	20	13	10	8.5	3.3	20
19	3.0	15	15	55	14	15	18	19	9.9	7.7	3.3	9.7
20	2.7	16	12	34	14	15	17	92	10	7.5	4.2	9.0
21	2.7	24	11	26	13	15	17	30	12	7.1	3.5	9.3
22	2.7	11	9.8	24	13	14	16	23	11	6.9	6.8	7.9
23	2.7	8.8	9.7	21	33	14	16	27	11	6.6	5.3	7.2
24	2.7	8.5	75	20	15	14	23	22	10	6.4	4.0	7.0
25	2.7	7.8	82	18	14	14	18	19	9.5	6.2	3.8	6.9
26	4.5	24	28	19	15	14	17	18	10	6.0	4.1	6.2
27	5.3	18	22	17	14	13	15	17	11	5.9	4.6	6.2
28	5.7	11	19	16	15	15	15	17	9.3	5.6	5.0	5.9
29	3.9	9.3	17	16	---	14	15	16	8.8	5.4	5.7	5.9
30	3.8	8.5	16	16	---	14	15	15	19	5.3	4.3	6.0
31	3.5	---	16	16	---	31	---	14	---	5.1	4.2	---
TOTAL	115.7	332.2	589.6	572	460	688	565	613	368.5	324.3	146.3	417.0
MEAN	3.73	11.1	19.0	18.5	16.4	22.2	18.8	19.8	12.3	10.5	4.72	13.9
MAX	15	32	82	55	33	106	31	92	21	32	6.8	136
MIN	2.3	3.3	7.6	13	13	13	15	13	8.8	5.1	3.3	3.7
CFSM	.27	.79	1.36	1.32	1.17	1.59	1.34	1.41	.88	.75	.34	.99
IN.	.31	.88	1.57	1.52	1.22	1.83	1.50	1.63	.98	.86	.39	1.11

CAL YR 1986 TOTAL 3790.1 MEAN 10.4 MAX 82 MIN 2.1 CFSM .74 IN 10.07  
WTR YR 1987 TOTAL 5191.6 MEAN 14.2 MAX 136 MIN 2.3 CFSM 1.01 IN 13.79

PATAPSCO RIVER BASIN

01586610 MORGAN RUN NEAR LOUISVILLE, MD

LOCATION.--Lat 39°27'07", long 76°57'20", Carroll County, Hydrologic Unit 02060003, on right downstream wingwall of bridge on London Bridge Road, 1.4 mi southwest of Gamber, and 1.65 mi south of the intersection of Maryland Route 32, and 1.7 mi west of Louisville.

DRAINAGE AREA.--28.0 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1982 to current year.

REVISED RECORDS.--WRD MD-DE-84: 1983(F).

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 430 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Jan. 24 to Feb. 2. Records good except those for estimated daily discharges (frozen well), which are fair. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--5 years, 32.3 ft<sup>3</sup>/s, 15.67 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,350 ft<sup>3</sup>/s, Feb. 12, 1985, gage height, 8.26 ft, from floodmarks, from rating curve extended above 1,900 ft<sup>3</sup>/s; minimum daily discharge, 4.0 ft<sup>3</sup>/s, Sept. 18, 19, 20, 1986.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 750 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 24	2215	800	4.72	Sept. 8	1715	*1,050	*5.25

Minimum daily discharge, 4.2 ft<sup>3</sup>/s, Oct. 7, 10, 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.0	6.0	12	27	33	223	43	30	26	46	9.7	6.9
2	9.9	15	25	37	37	117	36	30	25	49	9.9	6.3
3	4.7	8.6	85	32	42	90	38	30	25	25	9.5	6.0
4	4.9	7.6	29	29	47	76	81	70	40	20	8.8	5.9
5	5.8	16	22	26	40	67	64	47	33	19	9.5	6.0
6	4.3	26	18	25	37	61	69	38	26	18	11	13
7	4.2	11	17	26	38	59	62	35	24	18	9.8	23
8	4.3	15	16	26	40	58	54	34	23	21	9.8	214
9	4.4	11	24	25	39	56	47	32	24	17	9.6	38
10	4.2	9.2	28	29	35	48	43	30	23	16	10	18
11	4.2	41	22	30	33	44	40	29	21	16	8.5	15
12	4.3	24	24	28	34	42	40	28	22	18	8.1	15
13	5.8	13	21	27	33	40	39	28	25	23	7.9	36
14	8.6	11	18	27	31	38	35	26	27	23	7.6	19
15	5.8	9.9	17	38	29	37	34	28	21	20	7.5	23
16	5.1	9.7	16	34	29	36	38	26	22	16	7.4	25
17	5.0	9.2	16	31	28	34	64	25	20	15	7.7	19
18	5.0	9.8	43	37	28	33	47	27	19	15	6.7	31
19	5.1	21	32	108	27	33	41	40	18	14	6.9	20
20	5.0	20	24	83	27	32	38	157	19	14	7.3	21
21	5.0	39	21	63	27	31	36	69	20	13	6.3	23
22	5.2	17	18	53	27	30	35	52	19	12	11	20
23	5.2	14	18	56	36	30	34	43	20	12	9.5	17
24	5.3	13	142	45	31	29	51	39	20	12	7.3	15
25	5.3	13	176	40	29	29	42	38	17	11	7.3	14
26	7.0	36	65	37	29	29	36	36	18	11	7.6	13
27	7.9	33	46	34	28	28	34	33	20	11	8.2	12
28	11	19	38	32	32	32	33	32	17	10	9.7	12
29	6.7	16	33	32	---	29	33	30	16	10	9.2	12
30	6.2	14	31	34	---	30	32	28	26	9.9	7.3	12
31	6.0	---	29	35	---	68	---	27	---	9.7	7.0	---

TOTAL	176.4	508.0	1126	1186	926	1589	1319	1217	676	544.6	263.6	711.1
MEAN	5.69	16.9	36.3	38.3	33.1	51.3	44.0	39.3	22.5	17.6	8.50	23.7
MAX	11	41	176	108	47	223	81	157	40	49	11	214
MIN	4.2	6.0	12	25	27	28	32	25	16	9.7	6.3	5.9
CFSM	.20	.60	1.30	1.37	1.18	1.83	1.57	1.40	.80	.63	.30	.85
IN.	.23	.67	1.50	1.58	1.23	2.11	1.75	1.62	.90	.72	.35	.94

CAL YR 1986	TOTAL	7256.5	MEAN	19.9	MAX	176	MIN	4.0	CFSM	.71	IN	9.64
WTR YR 1987	TOTAL	10242.7	MEAN	28.1	MAX	223	MIN	4.2	CFSM	1.00	IN	13.61

## PATAPSCO RIVER BASIN

01589000 PATAPSCO RIVER AT HOLLOFIELD, MD

LOCATION.--Lat 39°18'36", long 76°47'34", Baltimore County, Hydrologic Unit 0206003, on left bank at downstream side of highway bridge at Hollofield, 0.3 mi downstream from Dogwood Run, 3.0 mi north of Ellicott City and 28 mi upstream from mouth.

DRAINAGE AREA.--285 mi<sup>2</sup>.

PERIOD OF RECORD.--May 1944 to current year.

GAGE.--Water-stage recorder. Datum of gage is 187.7 ft above National Geodetic Vertical Datum of 1929. June 26 to Dec. 8, 1972, nonrecording gage at same site and datum. Prior to June 22, 1972, water-stage recorder at site on opposite bank at same datum.

REMARKS.--Estimated daily discharges: Jan. 23-27 and Sept. 30. Records good. Flow regulated by Liberty Reservoir, 11 mi upstream, beginning July 22, 1954, usable capacity, 42,070,000,000 gal; dead storage, 1,260,000,000 gal. Diversions upstream from station for municipal supply of Westminster (sewage effluent discharged into Little Pipe Creek), and from Liberty Reservoir beginning Feb. 26, 1953, for municipal supply of Baltimore, and beginning February 1970 for a small municipal supply for part of Carroll County. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 80,600 ft<sup>3</sup>/s, June 22, 1972, gage height, 31.3 ft, from flood-marks, from rating curve extended above 27,000 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; minimum discharge, 6 ft<sup>3</sup>/s, Sept. 6, 1944; minimum daily discharge, 7.9 ft<sup>3</sup>/s, Oct. 12, 1986.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,740 ft<sup>3</sup>/s, Sept. 8, gage height, 5.60 ft; minimum daily discharge, 7.9 ft<sup>3</sup>/s, Oct. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	22	52	89	115	939	204	100	87	511	37	27
2	13	44	117	130	120	606	136	100	84	639	38	25
3	13	42	429	131	149	323	129	100	82	220	40	24
4	13	30	125	107	182	248	427	237	158	133	38	24
5	13	55	88	98	161	201	326	198	199	107	62	24
6	12	101	75	89	129	177	250	133	97	96	49	39
7	10	45	70	88	130	168	225	114	87	87	42	67
8	9.1	52	67	89	140	163	184	108	82	156	40	914
9	9.6	44	76	88	141	154	161	102	80	92	39	540
10	10	36	106	93	114	138	151	100	82	78	52	104
11	9.5	121	96	106	112	126	141	96	75	74	42	76
12	7.9	177	109	95	112	123	133	94	75	77	35	139
13	13	50	89	88	111	118	130	94	80	109	33	287
14	23	38	77	84	108	114	120	89	84	120	32	97
15	19	36	72	87	102	113	115	95	76	92	30	70
16	14	34	70	92	89	110	123	92	69	69	31	157
17	11	33	68	83	99	106	216	88	68	63	32	146
18	11	33	142	110	94	105	176	85	66	60	31	196
19	11	51	159	414	93	105	140	98	62	57	74	97
20	11	68	98	364	90	115	131	283	123	54	68	92
21	12	150	85	193	91	186	121	164	92	51	35	104
22	12	69	79	148	91	99	114	120	91	50	36	76
23	13	53	71	140	120	94	110	286	83	47	42	70
24	14	51	356	140	141	93	175	184	69	44	31	66
25	14	51	1110	130	111	92	196	113	66	50	28	65
26	21	98	251	130	102	92	133	121	66	46	27	53
27	25	175	169	130	103	91	116	106	78	44	29	48
28	31	79	132	128	107	100	110	102	67	46	29	46
29	25	66	110	133	---	97	109	99	59	41	32	43
30	22	57	101	131	---	96	104	93	67	39	30	50
31	22	---	95	127	---	263	---	89	---	39	27	---
TOTAL	456.1	1961	4744	4055	3257	5555	4906	3883	2554	3391	1191	3766
MEAN	14.7	65.4	153	131	116	179	164	125	85.1	109	38.4	126
MAX	31	177	1110	414	182	939	427	286	199	639	74	914
MIN	7.9	22	52	83	89	91	104	85	59	39	27	24
(†)	22790	23110	26510	29440	31300	34440	37430	39320	38860	37610	34570	32140
(#)	88.7	71.3	75.8	76.5	85.0	104	88.2	158	233	247	222	227

CAL YR 1986 TOTAL 27218.1 MEAN 74.6 MAX 1110 MIN 7.9 # 123  
WTR YR 1987 TOTAL 39719.1 MEAN 109 MAX 1110 MIN 7.9 # 140

† Month-end contents, in millions of gallons in Liberty Reservoir (contents on Sept. 30, 1986, 22,830,000,000 gal). Records provided by Baltimore Department of Public Works.

# Diversions, in cubic feet per second, upstream from station for municipal supply of city of Westminster; and from Liberty Reservoir for municipal supply of city of Baltimore, and for part of Carroll County. Records provided by cities of Westminster and Baltimore, respectively.

PATAPSCO RIVER BASIN

01589100 EAST BRANCH HERBERT RUN AT ARBUTUS, MD

LOCATION.--Lat 39°14'24", long 76°41'33", Baltimore County, Hydrologic Unit 02060003, on left bank 50 ft upstream from bridge on Tom Day Boulevard at U.S. Route 1 in Arbutus, 0.5 mi upstream from mouth, and 2 mi south of Baltimore city limits.

DRAINAGE AREA.--2.47 mi<sup>2</sup>.

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

REVISED RECORDS.--WDR MD-DE-81: 1979.

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Elevation of gage is 45 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to August 1981 at site 100 ft downstream at same datum.

REMARKS.--Estimated daily discharges: Jan. 23, Mar. 12-26, and July 7-8. Records good except those for period of doubtful gage-height record, Mar. 12-26, which are fair. Slight regulation at low flow from unknown source upstream from station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--30 years, 3.27 ft<sup>3</sup>/s, 17.98 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,460 ft<sup>3</sup>/s, Sept. 6, 1979, gage height, 13.7 ft, present site, from floodmarks, from rating curve extended above 280 ft<sup>3</sup>/s on basis of culvert measurement at gage height 5.0 ft, present site, and culvert and flow-over-road measurement of peak flow at gage height 13.7 ft, present site, from floodmarks; minimum daily discharge, 0.30 ft<sup>3</sup>/s, July 24, Sept. 4, 11, 1966, Oct. 12, 1986.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 400 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 24	1945	*486	*4.67	July 14	1330	480	4.64

Minimum discharge, 0.30 ft<sup>3</sup>/s, Oct. 11, 12, 13, gage height, 0.90 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.65	.63	.72	7.9	2.1	34	1.6	1.5	1.3	22	2.8	1.3
2	.53	8.7	33	14	8.5	4.5	1.3	1.5	1.3	2.8	.68	.43
3	.43	.54	9.4	3.0	8.4	3.0	4.9	3.0	1.9	.98	.51	.46
4	.43	2.1	1.8	2.1	5.4	2.3	7.8	19	19	.84	.49	.43
5	.43	18	1.4	1.7	2.8	2.1	2.2	2.0	1.8	.72	5.4	.46
6	.39	2.0	1.2	1.7	2.5	2.0	3.2	1.7	.98	.72	.87	7.6
7	1.7	3.8	1.1	1.7	2.5	2.0	1.5	1.7	.84	.80	.59	.76
8	1.9	6.2	1.1	1.5	2.4	1.7	1.5	1.3	.84	1.5	.58	39
9	.36	.94	6.8	1.5	1.9	1.7	1.5	1.3	.98	.61	.51	2.0
10	.36	.72	2.3	2.3	1.6	1.6	1.1	1.3	.98	.76	.51	.58
11	.31	14	11	1.5	1.7	1.5	1.1	1.3	.98	.68	.51	.51
12	.30	1.4	2.7	1.6	2.0	1.4	1.1	1.4	1.1	3.6	.43	31
13	4.2	.86	1.4	1.3	1.6	1.3	1.1	1.2	.84	.79	.43	19
14	6.3	.84	1.3	1.3	1.5	1.3	1.1	1.1	.84	22	.43	1.5
15	.54	.84	1.3	1.6	1.5	1.3	1.1	3.0	.72	1.5	.43	2.7
16	.43	.84	1.2	1.2	1.4	1.3	8.4	1.2	.84	.94	1.5	1.6
17	.43	.84	1.1	1.1	1.5	1.3	6.5	.98	.72	.79	.43	8.5
18	.43	4.2	14	11	1.5	1.3	1.8	1.2	.61	.68	.43	18
19	.43	1.4	2.1	30	1.4	1.3	1.9	2.3	.72	.61	.43	1.5
20	.43	21	1.5	3.8	1.3	1.3	1.7	21	1.5	.69	.43	1.8
21	.43	3.0	1.3	2.3	1.3	1.3	1.7	2.2	1.3	.61	.43	.95
22	.43	1.3	1.3	2.0	1.4	1.3	1.5	1.5	9.3	.61	4.9	.89
23	.43	1.0	1.2	1.9	6.1	1.3	1.5	8.3	1.1	.58	.55	.74
24	.43	2.1	67	1.8	5.8	1.3	2.4	1.9	.72	.56	.43	.72
25	.43	.96	9.8	1.6	3.7	1.3	1.7	1.3	.72	3.4	.43	.72
26	4.0	19	3.3	1.7	3.0	1.3	1.5	1.5	6.4	.64	.43	.63
27	4.3	2.1	2.4	1.9	2.3	1.3	1.5	1.3	1.3	.61	.43	.61
28	.93	1.2	2.0	1.8	9.8	2.9	1.5	1.3	.61	.61	.47	.69
29	.51	.97	1.9	2.1	---	1.2	1.4	1.3	.51	.56	.48	.79
30	.56	.77	1.7	3.0	---	3.5	1.2	1.3	12	.47	.43	1.7
31	.66	---	1.5	3.0	---	10	---	1.3	---	.48	1.7	---
TOTAL	34.09	122.25	189.82	114.9	86.9	94.9	68.3	92.18	72.75	73.14	29.07	147.57
MEAN	1.10	4.08	6.12	3.71	3.10	3.06	2.28	2.97	2.43	2.36	.94	4.92
MAX	6.3	21	67	30	9.8	34	8.4	21	19	22	5.4	39
MIN	.30	.54	.72	1.1	1.3	1.2	1.1	.98	.51	.47	.43	.43
CFSM	.45	1.65	2.48	1.50	1.26	1.24	.92	1.20	.98	.96	.38	1.99
IN.	.51	1.84	2.86	1.73	1.31	1.43	1.03	1.39	1.10	1.10	.44	2.22

CAL YR 1986	TOTAL	913.09	MEAN	2.50	MAX	67	MIN	.30	CFSM	1.01	IN	13.75
WTR YR 1987	TOTAL	1125.87	MEAN	3.08	MAX	67	MIN	.30	CFSM	1.25	IN	16.95

## PATAPSCO RIVER BASIN

01589300 GWYNNS FALLS AT VILLA NOVA, MD

LOCATION.--Lat 39°20'45", long 76°44'01", Baltimore County, Hydrologic Unit 02060003, on right bank 300 ft downstream from bridge on Essex Road, 300 ft north of State Highway 26 (Liberty Road), in Villa Nova, 1.1 mi west of Baltimore city limits, and 11.5 mi upstream from mouth.

DRAINAGE AREA.--32.5 mi<sup>2</sup>.

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

REVISED RECORDS.--WDR MD-DE-83: 1981-82(P). WDR MD-DE-84: 1981(P).

GAGE.--Water-stage recorder. Datum of gage is 361.32 ft above National Geodetic Vertical Datum of 1929 (Baltimore County bench mark). Prior to Aug. 27, 1963 and Oct. 25, 1972, to Sept. 20, 1973, water-stage recorder, and June 26, 1972 to Oct. 24, 1972, nonrecording gage, at site 300 ft upstream at same datum.

REMARKS.--Estimated daily discharges: Jan. 22-31. Records good except those for estimated daily discharges (ice effect), which are fair. Slight diurnal fluctuation at times from unknown source upstream from station. Small diversion for irrigation upstream from station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--30 years, 38.6 ft<sup>3</sup>/s, 16.13 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,200 ft<sup>3</sup>/s, June 22, 1972, gage height, 21.5 ft, from flood-marks, from rating curve extended above 4,200 ft<sup>3</sup>/s on basis of contracted-opening measurement of peak flow; minimum discharge, 1.7 ft<sup>3</sup>/s, Sept. 7, 8, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 21, 1956, reached a stage of 12.6 ft, discharge, 5,270 ft<sup>3</sup>/s on basis of contracted-opening measurement.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 750 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 24	2145	1,580	6.58	Sept. 8	1715	*2,110	*7.75
May 23	1800	1,200	5.67	Sept. 12	2115	1,160	5.55
June 20	1915	935	4.95	Sept. 13	0015	1,330	6.00
July 1	0045	893	4.83				

Minimum discharge, 3.7 ft<sup>3</sup>/s, Oct. 6, 7, 8, 10, 11, 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.8	7.0	14	19	27	481	45	22	19	165	11	7.0
2	39	43	144	54	38	106	32	23	18	79	11	6.7
3	6.4	10	224	40	63	53	32	25	19	26	10	6.5
4	5.8	11	33	29	63	40	128	147	84	18	9.4	6.7
5	6.1	70	27	23	41	32	55	43	36	16	74	6.6
6	4.8	58	19	20	33	30	61	29	20	15	24	28
7	3.8	16	18	20	35	30	42	25	18	15	13	17
8	4.2	41	16	21	37	31	33	23	17	36	13	702
9	4.3	19	40	20	33	30	29	22	19	15	11	133
10	3.9	17	38	31	25	27	26	21	19	14	18	24
11	3.7	172	43	29	23	24	25	20	16	15	10	15
12	4.0	41	37	22	25	24	25	21	17	55	9.4	160
13	16	19	24	19	23	24	25	22	19	52	9.1	270
14	29	15	19	18	22	23	22	19	21	70	8.6	32
15	8.4	14	19	21	20	23	22	28	16	23	8.5	22
16	5.6	14	18	19	18	22	39	20	16	16	8.7	36
17	5.0	13	17	17	18	22	109	18	15	15	8.9	21
18	5.0	19	110	60	18	22	40	18	15	14	8.2	72
19	5.2	38	40	249	18	22	32	30	14	13	7.1	20
20	5.7	71	24	71	18	21	34	271	139	13	7.6	23
21	5.3	88	21	36	18	21	28	51	45	12	7.0	28
22	5.5	21	19	34	19	20	26	31	24	11	34	61
23	5.3	17	17	32	50	20	24	257	18	11	14	21
24	5.4	22	330	30	36	21	74	75	18	11	8.2	17
25	5.6	17	338	30	29	20	41	35	15	19	8.0	16
26	21	103	44	30	27	20	29	37	15	11	7.9	13
27	16	51	31	28	25	20	26	26	18	11	8.5	13
28	18	22	27	27	36	35	26	24	14	9.8	10	12
29	7.2	18	24	27	---	21	24	22	13	10	9.6	12
30	6.9	15	22	27	---	29	23	21	48	9.6	7.1	14
31	6.7	---	20	27	---	161	---	19	---	10	7.1	---
TOTAL	273.6	1082.0	1817	1130	838	1475	1177	1445	785	810.4	401.9	1815.5
MEAN	8.83	36.1	58.6	36.5	29.9	47.6	39.2	46.6	26.2	26.1	13.0	60.5
MAX	39	172	338	249	63	481	128	271	139	165	74	702
MIN	3.7	7.0	14	17	18	20	22	18	13	9.6	7.0	6.5
CFSM	.27	1.11	1.80	1.12	.92	1.47	1.21	1.43	.81	.80	.40	1.86
IN.	.31	1.24	2.08	1.29	.96	1.69	1.35	1.65	.90	.93	.46	2.08

CAL YR 1986 TOTAL 8907.7 MEAN 24.4 MAX 338 MIN 3.3 CFSM .75 IN 10.20  
WTR YR 1987 TOTAL 13050.4 MEAN 35.8 MAX 702 MIN 3.7 CFSM 1.10 IN 14.94

PATAPSCO RIVER BASIN

01589330 DEAD RUN AT FRANKLINTOWN, MD

LOCATION.--Lat 39°18'40", long 76°43'02", Baltimore County, Hydrologic Unit 02060003, on right bank at downstream side of bridge on Colonial Road at Security Boulevard at Franklinton, 0.3 mi west of Baltimore city limits, 1.2 mi southwest of Woodlawn, and 2.5 mi upstream from mouth.

DRAINAGE AREA.--5.52 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1959 to September 1987 (discontinued).

REVISED RECORDS.--WDR MD-DE-80-1: 1979(m).

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 310 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Jan. 23-30. Records good except for estimated daily discharges (stilling well frozen), which are fair. Occasional regulation at low flow from unknown source upstream from station. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--28 years, 7.93 ft<sup>3</sup>/s, 19.51 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,400 ft<sup>3</sup>/s, June 22, 1972, gage height, 12.5 ft, from flood-marks, from rating curve extended above 1,600 ft<sup>3</sup>/s on basis of contracted-opening measurement of peak flow at bridge 0.6 mi downstream, adjusted for flow from intervening area; minimum discharge, 0.10 ft<sup>3</sup>/s, Sept. 11-12, 1966, gage height, 0.57 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 650 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 24	2030	1,410	6.25	June 22	1630	885	4.85
Mar. 31	1145	704	4.30	June 30	2345	1,010	5.21
May 23	1515	683	4.23	Sept. 8	1600	1,170	5.62
June 4	1645	*1,650	*6.86	Sept. 12	2045	726	4.37
June 20	1800	711	4.32				

Minimum discharge, 0.50 ft<sup>3</sup>/s, Oct. 12, 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	.77	1.6	4.1	4.9	132	4.4	2.2	2.3	68	1.4	.75
2	2.0	21	96	39	17	13	3.4	2.5	2.3	6.8	1.2	.64
3	1.0	1.1	38	9.0	25	6.4	9.9	5.8	5.0	3.4	1.1	.73
4	1.1	6.5	4.0	4.4	22	4.6	42	46	130	2.3	1.1	.79
5	1.1	52	2.9	3.3	8.7	4.2	7.3	4.0	9.2	2.0	13	.66
6	.73	7.2	2.4	3.1	7.1	4.1	12	2.8	4.0	1.8	1.8	17
7	.77	7.3	2.1	2.8	9.7	4.0	4.2	2.4	3.0	1.9	1.3	2.5
8	.77	15	2.1	2.5	10	3.5	3.4	2.3	2.6	14	1.3	178
9	.77	1.8	21	2.4	5.8	3.4	3.1	2.0	5.8	2.0	1.3	4.5
10	.79	1.4	6.1	6.4	3.9	3.2	2.8	2.0	2.7	2.2	1.4	1.8
11	.75	49	25	2.6	3.9	2.6	2.7	2.1	2.1	1.8	1.3	1.5
12	.66	3.8	7.3	2.1	4.9	2.8	2.7	3.0	4.7	13	1.2	73
13	13	1.8	3.4	1.9	3.8	2.6	2.2	2.3	4.4	2.1	1.2	48
14	16	1.5	2.6	1.8	3.5	2.4	2.1	2.2	2.9	19	1.3	3.8
15	1.1	1.3	2.4	2.8	3.0	2.4	2.2	18	2.0	2.3	1.1	4.5
16	.79	1.3	2.3	1.9	2.8	2.4	21	2.2	1.8	1.7	1.6	2.8
17	.82	1.3	2.1	1.7	3.0	2.3	20	1.8	1.8	1.6	1.3	14
18	.77	10	40	28	2.8	2.2	3.8	2.2	1.7	1.4	1.2	42
19	.77	6.3	5.0	77	2.9	2.2	4.5	9.5	1.8	1.4	1.1	3.7
20	.77	51	3.2	10	2.7	2.5	3.1	63	62	1.3	1.1	5.1
21	.80	10	2.8	4.8	2.8	2.4	2.7	8.4	5.8	1.4	.92	2.9
22	1.2	2.4	2.4	4.3	3.0	2.2	2.7	3.1	44	1.4	10	3.9
23	.85	1.7	2.4	4.2	14	2.2	2.7	73	3.7	1.4	1.2	2.1
24	.89	8.7	192	4.0	13	2.2	19	8.0	2.1	1.4	.86	1.9
25	.77	2.5	24	3.8	8.3	2.2	5.7	11	1.9	2.3	.76	2.3
26	13	54	5.4	4.0	7.2	2.3	2.8	8.4	3.1	1.3	.93	1.5
27	19	6.2	3.9	4.0	5.4	2.3	2.7	3.5	2.6	1.2	1.1	1.5
28	3.2	2.6	3.4	3.8	22	15	2.7	2.6	1.5	1.7	1.0	1.5
29	.91	2.1	3.3	4.4	---	2.5	2.5	2.4	1.4	1.2	.81	1.5
30	.78	1.8	3.1	5.0	---	15	2.4	6.3	45	1.2	.67	2.8
31	.81	---	2.7	6.0	---	55	---	2.8	---	1.3	.68	---
TOTAL	87.97	333.37	514.9	255.1	223.1	306.1	202.7	307.8	363.2	165.8	56.23	427.67
MEAN	2.84	11.1	16.6	8.23	7.97	9.87	6.76	9.93	12.1	5.35	1.81	14.3
MAX	19	54	192	77	25	132	42	73	130	68	13	178
MIN	.66	.77	1.6	1.7	2.7	2.2	2.1	1.8	1.4	1.2	.67	.64
CFSM	.51	2.01	3.01	1.49	1.44	1.79	1.23	1.80	2.19	.97	.33	2.59
IN.	.59	2.25	3.47	1.72	1.50	2.06	1.37	2.07	2.45	1.12	.38	2.88

CAL YR 1986 TOTAL 2307.00 MEAN 6.32 MAX 192 MIN .58 CFSM 1.15 IN 15.54  
WTR YR 1987 TOTAL 3243.94 MEAN 8.89 MAX 192 MIN .64 CFSM 1.61 IN 21.86

PATAPSCO RIVER BASIN

01589440 JONES FALLS AT SORRENTO, MD

LOCATION.--Lat 39°23'30", long 76°39'42", Baltimore County, Hydrologic Unit 02060003, on right bank 0.3 mi downstream from bridge on State Highway 25 (Falls Road), 0.4 mi downstream from Slaughterhouse Branch and Sorrento, and 12.5 mi upstream from mouth.

DRAINAGE AREA.--25.2 mi<sup>2</sup>.

PERIOD OF RECORD.--Annual maximum, water years 1958-66. April 1966 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 240 ft above National Geodetic Vertical Datum of 1929, from topographic map. January 1958 to April 1966, non-recording gage at site 450 ft upstream at same datum.

REMARKS.--Estimated daily discharges: Jan. 22 to Feb. 2 and Feb. 15-16. Records good except those for period when stilling well was frozen, Jan. 24 to Feb. 2, which are fair. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--21 years, 32.4 ft<sup>3</sup>/s, 17.46 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,800 ft<sup>3</sup>/s, June 22, 1972, gage height, 18.11 ft, from flood-marks, from rating curve extended above 1,400 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; minimum discharge, 1.8 ft<sup>3</sup>/s, Sept. 7, 8, 1966, gage height, 1.16 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 600 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 24	2145	*898	*7.28	Sept. 13	0030	677	6.71
Sept. 8	2230	852	7.17				

Minimum daily discharge, 4.5 ft<sup>3</sup>/s, Oct. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.5	7.0	12	20	20	180	39	19	17	54	7.3	6.2
2	13	19	44	36	20	82	29	19	16	39	7.8	5.5
3	5.8	8.7	84	29	28	52	27	20	16	22	7.4	5.3
4	6.2	8.2	24	24	31	42	59	58	72	17	7.0	5.3
5	5.8	31	18	21	25	35	44	32	41	15	25	5.6
6	5.0	26	15	20	22	33	47	25	26	13	16	13
7	4.7	12	14	20	23	32	37	22	22	13	9.7	9.4
8	4.8	20	14	20	24	32	31	20	19	20	9.2	261
9	4.9	13	22	19	23	30	29	19	22	12	8.8	54
10	4.6	11	21	23	19	28	27	18	21	13	9.4	19
11	4.5	59	23	22	19	26	25	17	18	11	7.9	15
12	4.9	25	23	20	20	26	25	16	18	33	7.5	61
13	7.1	14	18	19	19	25	24	16	20	25	7.2	178
14	11	12	15	19	18	25	23	16	18	53	7.0	30
15	6.8	12	14	19	17	25	23	19	15	26	7.2	23
16	6.0	11	14	18	16	24	27	17	14	17	7.3	29
17	5.9	10	14	17	15	23	45	16	13	14	7.2	19
18	6.1	12	43	32	16	22	30	14	12	12	6.4	31
19	6.0	19	26	87	15	22	29	18	12	11	6.3	19
20	5.9	35	19	44	15	22	30	117	47	10	6.6	20
21	5.6	41	17	29	15	21	26	40	35	9.6	5.9	21
22	5.6	17	15	26	16	21	24	28	18	9.2	17	44
23	5.4	14	14	24	24	21	22	61	16	9.0	9.0	19
24	5.8	14	159	23	20	20	29	45	14	8.8	6.9	16
25	5.5	13	172	22	18	20	28	28	13	9.1	6.7	14
26	9.4	36	37	21	17	20	24	29	13	8.8	6.9	14
27	8.4	29	29	21	17	19	22	25	15	8.5	7.3	13
28	9.2	16	25	20	20	26	21	23	12	8.0	8.0	13
29	7.3	14	23	20	---	22	21	20	11	7.5	7.4	12
30	7.1	13	22	20	---	25	19	19	15	7.5	6.5	13
31	6.9	---	20	20	---	82	---	18	---	7.4	6.3	---
TOTAL	200.7	571.9	1010	775	552	1083	886	854	621	523.4	266.1	988.3
MEAN	6.47	19.1	32.6	25.0	19.7	34.9	29.5	27.5	20.7	16.9	8.58	32.9
MAX	13	59	172	87	31	180	59	117	72	54	25	261
MIN	4.5	7.0	12	17	15	19	19	14	11	7.4	5.9	5.3
CFSM	.26	.76	1.29	.99	.78	1.39	1.17	1.09	.82	.67	.34	1.31
IN.	.30	.84	1.49	1.14	.81	1.60	1.31	1.26	.92	.77	.39	1.46

CAL YR 1986	TOTAL	6276.9	MEAN	17.2	MAX	172	MIN	3.8	CFSM	.68	IN	9.27
WTR YR 1987	TOTAL	8331.4	MEAN	22.8	MAX	261	MIN	4.5	CFSM	.91	IN	12.30

PATAPSCO RIVER BASIN

01589500 SAWMILL CREEK AT GLEN BURNIE, MD

LOCATION.--Lat 39°10'12", long 76°37'51", Anne Arundel County, Hydrologic Unit 02060003, on left bank 300 ft upstream from bridge on State Highway 648, 0.25 mile southeast of State Highway 3, and 0.50 mile northwest of Glen Burnie.

DRAINAGE AREA.--4.97 mi<sup>2</sup>.

PERIOD OF RECORD.--May 1944 to September 1952. Annual maximum, water years 1965-70. October 1983 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 26.07 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Low flow affected by ground-water diversions from Anne Arundel County municipal well fields upstream from station. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--12 years (water years 1945-52, 1984-87), 5.99 ft<sup>3</sup>/s, 16.37 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 436 ft<sup>3</sup>/s, Sept. 27, 1985, gage height, 4.03 ft, from rating curve extended above 16.0 ft<sup>3</sup>/s; maximum gage height, 4.77 ft, Sept. 1, 1952; no flow for part of each day Sept. 6, 7, 1985, July 29, Aug. 2, 1986.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of August 1933 reached a stage of about 14 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 30 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 24	2315	165	3.27	Sept. 18	0545	*330	*3.78

Minimum discharge, 0.01 ft<sup>3</sup>/s part or all of each day Oct. 2-13, 15-25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.04	.02	.05	.65	.79	6.2	1.4	.57	.40	4.1	.04	.08
2	.02	.27	.70	2.9	1.2	4.9	1.0	.57	.33	9.2	.04	.13
3	.02	.02	3.0	2.0	1.9	2.3	1.1	.68	.36	1.8	.04	.04
4	.01	.03	1.1	1.1	2.2	1.6	2.8	3.7	3.8	.85	.04	.03
5	.02	.66	.38	.66	1.8	1.3	1.8	2.3	3.3	.54	2.3	.03
6	.04	.09	.14	.52	1.3	1.3	1.5	1.3	1.2	.40	3.7	.21
7	.01	.16	.07	.53	1.2	1.3	1.3	.96	.64	.35	.97	.30
8	.01	.24	.06	.48	1.2	1.2	1.2	.78	.47	.36	.33	2.1
9	.01	.05	.24	.42	1.2	1.3	1.1	.66	.38	.26	.15	2.6
10	.01	.04	.18	.50	.99	1.1	1.0	.55	.35	.20	.07	.51
11	.01	.34	.61	.54	.93	1.0	.96	.49	.26	.14	.05	.16
12	.01	.05	1.0	.44	1.0	1.1	.89	.43	.25	1.1	.04	.51
13	.04	.03	.49	.40	1.0	1.1	.86	.38	.32	1.2	.04	3.2
14	.20	.03	.18	.35	.88	1.1	.79	.37	.29	.47	.04	1.9
15	.02	.03	.08	.39	.77	1.1	.81	1.2	.20	.26	.03	.83
16	.01	.04	.06	.37	.61	1.1	1.3	.83	.13	.23	.06	1.3
17	.01	.03	.05	.30	.71	.97	3.0	.47	.10	.15	.03	1.1
18	.01	.11	.53	1.3	.76	.97	1.8	.37	.07	.09	.03	68
19	.01	.06	1.0	3.9	.69	.97	1.3	.48	.06	.07	.03	4.4
20	.02	.52	.40	3.5	.64	.97	1.1	1.8	.08	.06	.03	2.3
21	.01	.18	.19	1.7	.70	.93	1.0	1.5	.09	.05	.03	1.5
22	.01	.33	.09	1.1	.72	.88	.92	.87	1.1	.04	.13	1.1
23	.02	.08	.07	.92	.90	.88	.82	6.0	2.5	.04	.03	.76
24	.01	.07	19	.80	1.9	.88	.92	6.7	.58	.04	.03	.53
25	.02	.05	22	.55	1.5	.91	1.3	2.2	.24	2.5	.03	.43
26	.10	.56	2.9	.52	1.2	.88	.96	1.3	.35	.69	.03	.38
27	.12	.88	1.5	.57	1.2	.85	.81	1.0	.85	.18	.03	.37
28	.03	.41	.96	.55	1.3	1.1	.77	.83	.38	.16	.03	.35
29	.03	.12	.62	.59	---	.96	.71	.64	.14	.13	.03	.36
30	.03	.06	.51	.73	---	1.1	.66	.51	.15	.05	.03	.41
31	.03	---	.43	.89	---	2.1	---	.44	---	.04	.11	---
TOTAL	.94	5.56	58.59	30.17	31.19	44.35	35.88	40.88	19.37	25.75	8.57	95.92
MEAN	.030	.19	1.89	.97	1.11	1.43	1.20	1.32	.65	.83	.28	3.20
MAX	.20	.88	22	3.9	2.2	6.2	3.0	6.7	3.8	9.2	3.7	68
MIN	.01	.02	.05	.30	.61	.85	.66	.37	.06	.04	.03	.03
CFSM	.006	.04	.38	.20	.22	.29	.24	.27	.13	.17	.06	.64
IN.	.01	.04	.44	.23	.23	.33	.27	.31	.14	.19	.06	.72

CAL YR 1986	TOTAL	176.45	MEAN	.48	MAX	22	MIN	.01	CFSM	.10	IN	1.32
WTR YR 1987	TOTAL	397.17	MEAN	1.09	MAX	68	MIN	.01	CFSM	.22	IN	2.97

SOUTH RIVER BASIN

01590500 BACON RIDGE BRANCH AT CHESTERFIELD, MD

LOCATION.--Lat 39°00'07", long 76°36'53", Anne Arundel County, Hydrologic Unit 02060004, on left bank 50 ft downstream from highway bridge, 0.5 mi east of Chesterfield, 1.4 mi upstream from confluence with North River, and 6.8 mi northwest of Annapolis.

DRAINAGE AREA.--6.92 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1942 to September 1952. Annual maximum, water years 1965-74. October 1974 to current year. Monthly discharge only October and November 1942, published in WSP 1302.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 15 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good. Records include sewage from Crownsville State Hospital, which obtains its water supply from wells. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--23 years (water years 1943-52, 1975-87), 8.98 ft<sup>3</sup>/s, 17.62 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,100 ft<sup>3</sup>/s, Aug. 2, 1944, gage height, 5.49 ft, from rating curve extended above 200 ft<sup>3</sup>/s on basis of contracted-opening measurement at gage height 4.43 ft; minimum discharge, 0.65 ft<sup>3</sup>/s, July 27, 28, Aug. 4, 5, 21, 22, 1987; minimum gage height, 1.71 ft, Feb. 11, 1983, result of freezeup.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 185 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 25	0030	*378	*4.29	May 24	0100	192	3.55

Minimum discharge, 0.65 ft<sup>3</sup>/s, July 27, 28, Aug. 4, 5, 21, 22, gage height, 1.75 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	1.7	3.7	5.8	6.5	32	6.1	3.6	3.4	1.3	.86	1.0
2	1.1	8.0	10	18	8.0	26	4.7	3.6	2.7	1.6	.88	.90
3	1.0	4.7	36	11	12	13	4.5	3.9	2.4	1.5	.84	.87
4	1.2	2.5	13	6.3	15	9.4	15	17	10	1.3	.77	.86
5	1.2	10	6.9	5.2	11	8.1	7.4	11	34	1.3	.99	.89
6	.96	17	5.2	4.6	8.1	7.4	5.9	5.9	6.5	1.2	1.2	3.3
7	.87	4.8	4.7	5.3	8.2	6.9	5.5	4.7	4.0	1.3	1.1	2.3
8	.87	11	4.5	4.8	9.0	6.4	4.9	4.2	3.2	1.3	.98	7.0
9	.96	5.8	8.0	4.2	8.7	6.4	4.5	3.7	2.8	1.2	1.2	15
10	.95	3.5	15	4.8	6.6	5.8	4.2	3.3	2.6	1.2	4.0	2.2
11	.95	7.6	11	4.7	6.2	4.9	4.2	3.1	2.2	1.2	1.2	1.6
12	1.0	13	16	4.0	7.0	5.1	4.2	4.4	2.5	1.4	1.0	3.4
13	1.7	4.8	7.2	3.7	7.0	5.0	4.1	5.1	3.4	1.3	.94	8.4
14	4.5	3.3	4.9	3.6	6.1	4.7	3.8	3.1	2.7	1.4	.89	5.5
15	2.6	3.1	4.8	4.1	5.1	4.7	4.1	4.6	2.2	1.4	.90	2.1
16	1.4	3.1	4.7	3.8	3.9	5.4	7.7	3.8	1.8	1.2	1.1	1.9
17	1.3	2.9	4.5	3.4	4.9	4.7	21	3.0	1.7	1.1	1.1	1.7
18	1.3	3.4	12	9.2	5.5	4.5	9.1	2.7	1.5	1.0	.90	12
19	1.3	11	13	19	5.0	4.4	6.5	2.9	1.5	.97	.84	5.4
20	1.5	6.8	6.2	21	4.7	4.2	6.0	6.6	1.5	.93	.87	4.2
21	1.6	25	5.0	8.1	5.3	4.2	5.3	6.1	1.6	.87	.76	3.2
22	1.6	8.9	4.3	5.7	5.1	4.2	5.1	3.8	2.8	.82	1.2	2.3
23	1.6	4.8	4.2	5.0	5.2	4.2	4.7	17	8.7	.80	1.1	1.9
24	1.6	4.8	35	4.8	9.4	4.2	5.3	65	2.4	.79	.85	1.7
25	1.6	4.2	124	4.6	9.9	4.2	8.9	11	1.8	.89	.85	1.5
26	4.5	14	23	5.0	7.9	4.2	6.5	6.7	1.8	.80	.94	1.4
27	3.1	23	11	5.0	7.1	4.2	4.9	5.2	3.7	.78	.96	1.4
28	8.3	7.8	7.7	5.5	7.1	4.8	4.6	4.5	2.0	2.3	2.0	1.3
29	2.4	5.3	6.3	5.5	---	4.2	4.5	4.0	1.6	1.0	1.3	1.4
30	1.9	4.2	5.9	6.0	---	5.2	4.0	3.3	1.4	.88	1.0	2.4
31	1.7	---	5.4	7.0	---	9.1	---	3.1	---	.85	1.0	---
TOTAL	57.56	230.0	423.1	208.7	205.5	221.7	187.2	229.9	120.4	35.88	34.52	99.02
MEAN	1.86	7.67	13.6	6.73	7.34	7.15	6.24	7.42	4.01	1.16	1.11	3.30
MAX	8.3	25	124	21	15	32	21	65	34	2.3	4.0	15
MIN	.87	1.7	3.7	3.4	3.9	4.2	3.8	2.7	1.4	.78	.76	.86
CFSM	.27	1.11	1.97	.97	1.06	1.03	.90	1.07	.58	.17	.16	.48
IN.	.31	1.24	2.27	1.12	1.10	1.19	1.01	1.24	.65	.19	.19	.53

CAL YR 1986	TOTAL	1807.06	MEAN 4.95	MAX 124	MIN .87	CFSM .72	IN 9.71
WTR YR 1987	TOTAL	2053.48	MEAN 5.63	MAX 124	MIN .76	CFSM .81	IN 11.04

PATUXENT RIVER BASIN

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01591000 PATUXENT RIVER NEAR UNITY, MD

LOCATION.--Lat 39°14'18", long 77°03'23", Montgomery County, Hydrologic Unit 02060006, on right bank at downstream side of bridge on State Highway 97, 0.6 mi upstream from Cattail Creek, 0.8 mi upstream from Triadelphia Reservoir, 1.1 mi northeast of Unity, and 97 mi upstream from mouth.

DRAINAGE AREA.--34.8 mi<sup>2</sup>.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1944 to current year.

REVISED RECORDS.--WSP 1111: 1947. WSP 1432: 1948.

GAGE.--Water stage recorder and concrete control. Datum of gage is 364.76 ft above National Geodetic Vertical Datum of 1929 (Washington Suburban Sanitary Commission bench mark). Prior to Aug. 14, 1946, non-recording gage at same site and datum.

REMARKS.--Estimated daily discharges: Jan. 23, 24 and Feb. 16, 23. Water-discharge records good. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--43 years, 38.9 ft<sup>3</sup>/s, 15.18 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,800 ft<sup>3</sup>/s, Sept. 11, 1981, gage height, 18.60 ft, from rating curve extended above 1,500 ft<sup>3</sup>/s on basis of slope-area measurement at gage height 13.00 ft; minimum discharge, 0.20 ft<sup>3</sup>/s, Sept 10, 11, 12, 1966, gage height, 1.66 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 770 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 25	0130	*1,200	*6.43	July 1	0400	1,170	6.36
Mar. 1	1930	865	5.67	Sept. 8	2000	822	5.56
Apr. 4	1700	1,150	6.32				

Minimum discharge, 2.4 ft/s, Oct. 1, 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.6	5.6	13	25	31	392	40	37	20	390	12	6.2
2	4.3	14	22	40	35	180	32	37	19	210	11	4.9
3	3.7	9.5	133	36	41	105	33	37	57	103	10	4.4
4	3.4	7.2	34	30	48	79	397	85	92	48	9.4	4.2
5	3.7	12	23	26	44	63	140	61	60	37	8.6	4.2
6	2.9	24	19	24	39	54	106	48	32	31	9.3	7.9
7	2.5	11	17	24	40	51	85	43	26	30	8.9	35
8	2.7	17	16	25	44	49	71	40	23	45	9.0	223
9	2.9	12	21	24	43	47	61	37	22	29	8.1	53
10	2.8	9.4	29	28	36	43	55	35	24	28	9.1	19
11	2.8	54	24	31	35	38	51	33	20	25	7.5	14
12	3.1	35	30	26	36	37	49	32	20	23	7.0	21
13	4.4	15	24	24	36	36	46	35	22	22	6.8	70
14	7.5	11	19	23	34	34	43	30	23	30	6.5	27
15	5.6	10	19	26	31	33	42	33	19	22	6.5	27
16	3.9	9.9	17	24	30	32	47	31	18	19	6.9	50
17	3.8	9.2	16	22	29	30	77	28	17	18	7.5	28
18	3.8	9.0	47	30	29	29	57	26	16	17	6.5	145
19	3.8	12	39	174	28	29	48	33	16	16	6.0	40
20	3.6	13	26	100	27	28	45	46	16	14	6.6	44
21	3.8	36	22	58	27	27	42	39	18	14	5.7	60
22	3.8	17	19	46	28	26	41	34	19	13	7.1	36
23	3.8	13	19	43	33	26	38	30	23	12	9.0	28
24	3.7	13	176	41	37	25	90	27	18	11	6.3	24
25	3.9	13	331	39	32	24	70	25	16	19	6.0	22
26	5.8	32	65	38	30	25	53	26	17	13	6.3	19
27	6.4	40	45	35	30	24	47	25	20	12	6.9	18
28	6.7	20	37	33	33	28	45	24	16	12	6.8	17
29	6.8	17	32	33	---	25	43	23	14	10	7.4	17
30	6.0	14	29	36	---	25	40	21	45	9.7	6.1	17
31	5.5	---	27	34	---	60	---	21	---	9.9	5.8	---
TOTAL	130.0	514.8	1390	1198	966	1704	2034	1082	768	1292.6	236.6	1085.8
MEAN	4.19	17.2	44.8	38.6	34.5	55.0	67.8	34.9	25.6	41.7	7.63	36.2
MAX	7.5	54	331	174	48	392	397	85	92	390	12	223
MIN	2.5	5.6	13	22	27	24	32	21	14	9.7	5.7	4.2
CFSM	.12	.49	1.29	1.11	.99	1.58	1.95	1.00	.74	1.20	.22	1.04
IN.	.14	.55	1.49	1.28	1.03	1.82	2.17	1.16	.82	1.38	.25	1.16

CAL YR 1986 TOTAL 8028.2 MEAN 22.0 MAX 331 MIN 2.5 CFSM .63 IN 8.58  
WTR YR 1987 TOTAL 12401.8 MEAN 34.0 MAX 397 MIN 2.5 CFSM .98 IN 13.26

## PATUXENT RIVER BASIN

01591000 PATUXENT RIVER NEAR UNITY, MD--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1985 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)
OCT									
23...	1130	3.8	99	7.0	19.5	12.0	1.6	<10	1.4
NOV									
18...	1345	8.5	104	7.3	--	7.5	8.0	<10	2.0
DEC									
22...	0930	19	64	6.7	-4.0	0.0	--	<10	1.1
JAN									
12...	1100	26	125	7.5	4.0	1.0	8.2	14	1.7
12...	1105	26	--	--	--	--	7.6	<10	1.7
20...	1600	80	--	--	--	--	3.3	<10	--
20...	1625	80	--	--	--	--	--	<10	--
20...	1645	78	--	--	--	--	12	64	--
FEB									
19...	1200	25	--	--	--	--	4.8	<10	1.6
MAR									
17...	1100	30	107	6.8	5.0	4.0	6.9	<10	3.2
17...	1105	30	--	--	--	--	--	--	--
APR									
21...	1000	43	99	7.7	19.5	15.0	8.3	<10	1.9
21...	1005	43	--	--	--	--	9.0	<10	1.5
MAY									
05...	0800	62	--	--	--	--	28	17	--
JUN									
03...	1200	20	98	7.2	26.0	23.0	18	--	0.6
JUN									
30-30	2200-2359	--	--	--	--	--	1000	20	--
JUN 30-									
JUL 01	2400-1100	--	--	--	--	--	640	39	--
14...	0955	20	107	7.1	28.5	23.5	--	--	--
AUG									
13...	0845	6.9	100	7.6	18.5	19.0	7.4	<10	1.6
13...	0915	6.9	100	7.6	19.0	20.0	6.0	<10	1.4
SEP									
13...	1145	64	119	7.2	23.5	20.0	100	30	--
13...	1245	61	385	6.3	24.0	20.0	23	<10	--
SEP									
15-15	2230-2329	--	--	--	--	--	56	<10	--
SEP									
15-16	2330-0029	--	--	--	--	--	21	<10	--
SEP									
16-16	0030-0130	--	--	--	--	--	15	<10	--
16...	1230	38	123	7.4	25.5	19.5	67	19	2.0
16...	1300	38	123	7.4	25.5	19.5	66	18	2.2

## PATUXENT RIVER BASIN

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01591000 PATUXENT RIVER NEAR UNITY, MD-Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	CHLOR-A PHYTO- PLANK- TON CHROMO FLUOROM (UG/L)	ALKA- LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SILICA, DIS- SOLVED (MG/L AS SIO2)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)
OCT									
23...	0.748	26	<0.2	1.39	0.006	0.02	1.40	0.024	0.03
NOV									
18...	0.299	24	10	1.80	0.004	0.01	1.80	0.016	0.02
DEC									
22...	--	17	--	2.19	0.009	0.03	2.20	0.072	0.09
JAN									
12...	0.077	15	7.6	2.49	0.007	0.02	2.50	0.024	0.03
12...	1.45	--	8.3	--	0.007	0.02	--	0.020	0.03
20...	--	--	13	1.22	0.028	0.09	1.25	0.108	0.14
20...	--	--	13	--	0.026	0.08	--	0.096	0.12
20...	--	--	12	0.722	0.018	0.06	0.740	0.076	0.10
FEB									
19...	1.07	--	7.3	2.99	0.009	0.03	3.00	0.008	0.01
MAR									
17...	1.68	12	7.3	3.00	0.005	0.02	3.00	<0.008	--
17...	1.76	--	--	--	--	--	--	--	--
APR									
21...	3.07	16	5.8	2.19	0.006	0.02	2.20	0.010	0.01
21...	3.06	--	5.8	2.29	0.007	0.02	2.30	0.012	0.02
MAY									
05...	--	--	14	1.40	0.004	0.01	1.40	0.016	0.02
JUN									
03...	2.74	18	8.4	2.09	0.012	0.04	2.10	0.032	0.04
JUN									
30-30	--	--	5.6	2.07	0.028	0.09	2.10	0.360	0.46
JUN 30-									
JUL 01	--	--	6.3	1.87	0.030	0.10	1.90	0.300	0.39
14...	1.96	21	--	--	--	--	--	--	--
AUG									
13...	2.80	24	7.7	1.90	0.005	0.02	1.90	0.008	0.01
13...	--	24	7.7	1.90	0.005	0.02	1.90	<0.008	--
SEP									
13...	6.43	25	5.3	1.58	0.020	0.07	1.60	0.144	0.19
13...	--	--	11	1.69	0.007	0.02	1.70	0.012	0.02
SEP									
15-15	--	--	9.8	1.79	0.006	0.02	1.80	0.024	0.03
SEP									
15-16	--	--	10	1.89	0.006	0.02	1.90	0.032	0.04
SEP									
16-16	--	--	10	1.89	0.012	0.04	1.90	0.040	0.05
16...	6.08	27	4.9	1.97	0.027	0.09	2.00	0.086	0.11
16...	--	27	4.9	1.98	0.025	0.08	2.00	0.088	0.11

PATUXENT RIVER BASIN

01591000 PATUXENT RIVER NEAR UNITY, MD-Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)
OCT 23...	0.13	0.25	0.15	0.080	0.050	<0.004	--	1.6	1.6
NOV 18...	0.18	0.25	0.20	0.040	0.040	0.007	0.02	1.9	2.0
DEC 22...	0.41	0.33	0.48	0.060	0.390	0.010	0.03	6.3	9.9
JAN 12...	--	0.20	<0.10	0.040	0.020	0.008	0.02	1.5	1.5
JAN 12...	0.13	0.23	0.15	0.040	0.030	0.008	0.02	1.5	1.4
JAN 20...	0.25	0.38	0.36	0.020	0.020	0.014	0.04	1.5	1.3
JAN 20...	0.20	0.44	0.30	0.040	0.010	<0.004	--	--	2.3
JAN 20...	0.32	1.0	0.40	0.060	0.040	<0.004	--	18	15
FEB 19...	0.14	0.15	0.15	0.040	0.030	<0.004	--	1.5	1.7
MAR 17...	--	0.10	0.15	0.050	0.010	0.006	0.02	1.6	1.3
MAR 17...	--	--	--	--	--	--	--	--	--
APR 21...	0.24	0.30	0.25	0.050	0.030	0.004	0.01	4.4	5.9
APR 21...	0.24	0.30	0.25	0.050	0.040	<0.004	--	1.8	1.8
MAY 05...	0.18	0.50	0.20	0.140	0.020	0.010	0.03	2.9	2.2
JUN 03...	0.22	0.45	0.25	0.050	0.040	<0.004	--	2.0	2.8
JUN 30-30	0.79	7.0	1.2	2.30	0.100	0.040	0.12	26	6.9
JUN 30-01	0.70	4.5	1.0	1.20	0.150	0.102	0.31	20	7.6
JUL 14...	--	--	--	--	--	--	--	--	--
AUG 13...	0.19	0.25	0.20	0.040	0.040	<0.004	--	<1.0	<1.0
AUG 13...	--	0.25	0.20	0.050	0.050	<0.004	--	1.2	<1.0
SEP 13...	0.76	1.7	0.90	0.500	0.500	0.200	0.61	10	8.0
SEP 13...	0.19	1.9	0.20	0.130	0.040	0.018	0.05	<1.0	<1.0
SEP 15-15	0.28	0.90	0.30	0.170	0.040	0.008	0.02	1.6	1.1
SEP 15-16	0.27	0.50	0.30	0.080	0.040	0.010	0.03	<1.0	<1.0
SEP 16-16	0.26	0.40	0.30	0.060	0.060	0.010	0.03	<1.0	<1.0
SEP 16...	0.66	1.2	0.75	0.310	0.180	0.150	0.46	6.6	5.9
SEP 16...	0.69	1.2	0.78	0.310	0.190	0.130	0.40	6.7	7.4

SUSPENDED SEDIMENT DISCHARGE

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
OCT 1986 23...	1130	3.8	35	0.36	JUN 1987 03...	1200	20	24	1.3
NOV 18...	1345	8.5	10	0.23	JUL 14...	0955	20	14	0.76
DEC 22...	0930	19	3	0.15	AUG 13...	0845	6.9	12	0.22
JAN 1987 12...	1100	26	3	0.21	SEP 13...	1145	64	117	20
JAN 20...	1645	78	15	3.2	SEP 15...	2230	116	140	44
MAR 17...	1100	30	4	0.32	SEP 15...	2330	123	32	11
APR 06...	0100	110	68	20	SEP 16...	0030	130	33	12
APR 06...	0200	107	696	201	SEP 16...	1230	38	57	5.9
APR 21...	1000	43	16	1.9	SEP 18...	0100	58	63	9.9
MAY 05...	0800	62	36	6.1	SEP 18...	0300	138	19	7.1

PATUXENT RIVER BASIN

01581400 CATTAIL CREEK NEAR GLENWOOD, MD

LOCATION (REVISED).--Lat 39°15'21", long 77°03'05", Howard County, Hydrologic Unit 02060006, on right bank at downstream side of bridge on State Highway 97, 1.2 mi upstream from mouth.

DRAINAGE AREA.--22.9 mi<sup>2</sup>.

PERIOD OF RECORD.--June 1978 to September 1983 (published as "at Roxbury Mills Road at Roxbury Mills, MD"), October 1983 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 400 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Dec. 28, 1983, at site 800 ft upstream at same datum.

REMARKS.--Estimated daily discharges: Jan. 23-31 and May 12 to June 3. Records good except those for period of ice effect, Jan. 23-31, and period of no gage-height record, May 12 to June 3, which are fair. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--10 years, 25.0 ft<sup>3</sup>/s, 14.83 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,040 ft<sup>3</sup>/s, Feb. 12, 1985, gage height, 8.12 ft, from rating curve extended above 1,800 ft<sup>3</sup>/s on basis of contracted-opening and flow-over-road measurement of peak flow; minimum discharge, 1.8 ft<sup>3</sup>/s, July 5, 1986.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 25	0115	2,090	6.39	July 1	0115	1,000	4.91
Mar. 1	1730	1,270	5.34	Sept. 8	1915	*2,100	*6.40
Apr. 4	1415	706	4.33				

Minimum discharge, 2.5 ft<sup>3</sup>/s, Oct. 7, 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.2	5.1	12	17	21	363	26	18	8.5	215	7.4	4.1
2	4.3	10	21	27	21	70	22	18	8.0	68	7.4	3.7
3	3.3	6.6	75	24	26	40	21	17	13	35	6.7	3.6
4	3.4	5.6	23	20	31	33	153	17	34	19	6.5	3.4
5	3.4	9.5	18	18	27	29	47	16	26	16	6.0	3.4
6	2.9	18	16	17	23	27	41	17	16	15	6.7	5.7
7	2.6	8.1	15	17	25	26	35	16	14	14	6.2	7.7
8	2.7	14	15	18	26	26	30	16	13	42	6.4	502
9	2.8	9.5	19	17	25	25	27	17	13	17	5.9	40
10	2.7	8.1	25	21	21	24	26	15	14	15	6.0	13
11	2.6	41	22	21	21	22	24	15	12	14	5.2	10
12	2.8	25	28	19	22	22	23	12	12	14	5.0	12
13	3.6	14	21	17	22	21	23	12	13	13	5.0	38
14	5.1	12	17	17	21	21	22	11	13	15	4.7	16
15	3.8	11	17	18	20	21	22	14	12	13	4.6	17
16	3.4	10	16	17	20	21	24	19	11	12	4.9	20
17	3.4	9.9	16	16	18	20	38	13	11	11	5.3	15
18	3.4	9.7	38	23	18	20	29	12	10	11	4.5	71
19	3.6	13	25	106	18	19	26	21	9.9	10	4.3	20
20	3.7	13	19	44	17	19	24	17	9.9	9.8	4.7	23
21	3.7	31	18	28	18	19	22	17	11	9.3	4.0	26
22	3.7	16	16	25	18	18	21	15	13	8.9	5.4	17
23	3.6	13	16	23	26	18	20	14	13	8.6	5.9	15
24	3.5	13	275	22	21	18	32	13	11	8.6	4.5	14
25	3.5	12	350	21	20	18	28	13	9.8	11	4.3	12
26	5.0	30	31	21	20	18	23	22	11	9.0	4.5	12
27	5.2	29	24	21	20	18	21	14	12	8.6	4.6	11
28	5.5	17	21	21	21	20	20	11	10	8.4	4.5	11
29	5.0	15	19	21	---	19	20	10	9.0	7.6	4.9	10
30	5.0	13	18	21	---	19	19	9.0	22	7.3	4.1	11
31	5.1	---	17	21	---	41	---	9.0	---	7.2	3.9	---
TOTAL	115.5	442.1	1263	739	607	1095	909	460.0	395.1	673.3	164.0	967.6
MEAN	3.73	14.7	40.7	23.8	21.7	35.3	30.3	14.8	13.2	21.7	5.29	32.3
MAX	5.5	41	350	106	31	363	153	22	34	215	7.4	502
MIN	2.6	5.1	12	16	17	18	19	9.0	8.0	7.2	3.9	3.4
CFSM	.16	.64	1.78	1.04	.95	1.54	1.32	.65	.58	.95	.23	1.41
IN.	.19	.72	2.05	1.20	.99	1.78	1.48	.75	.64	1.09	.27	1.57

CAL YR 1986 TOTAL 5404.9 MEAN 14.8 MAX 350 MIN 2.5 CFSM .65 IN 8.78  
WTR YR 1987 TOTAL 7830.6 MEAN 21.5 MAX 502 MIN 2.6 CFSM .94 IN 12.72

## PATUXENT RIVER BASIN

01591610 PATUXENT RIVER BELOW BRIGHTON DAM NEAR BRIGHTON, MD

LOCATION.--Lat 39°11'31", long 77°00'16", Montgomery County, Hydrologic Unit 02060006, on right bank at Brighton Dam, 500 ft downstream from Triadelphia Reservoir, 1.3 mi east of Brighton, and 92 mi upstream from mouth.

DRAINAGE AREA.--78.6 mi<sup>2</sup>.

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

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 310 ft above National Geodetic Vertical Datum of 1929, from topographic map. June 1978 to October 1980, nonrecording gage 300 ft upstream on left bank at different datum.

REMARKS.--Records good. Flow completely regulated by Triadelphia Reservoir, 500 ft upstream, usable capacity, 6,200,000,000 gal; no dead storage. Several measurements of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,280 ft<sup>3</sup>/s, Dec. 1, 1983, gage height, 6.02 ft; minimum discharge, 1.2 ft<sup>3</sup>/s, Dec. 3, 1985, gage height, 0.78 ft; minimum daily discharge, 2.1 ft<sup>3</sup>/s, Jan. 27, 28, 1983.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 22, 1972, reached a discharge of 17,800 ft<sup>3</sup>/s. Data provided by Washington Suburban Sanitary Commission.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 773 ft<sup>3</sup>/s, July 2, gage height, 4.14 ft; minimum discharge, 3.7 ft<sup>3</sup>/s, July 16, gage height, 0.98 ft; minimum daily discharge, 6.4 ft<sup>3</sup>/s, Nov. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.4	7.5	128	308	8.1	47	86	103	50	61	16	23
2	8.2	7.6	213	306	8.1	47	83	103	50	345	16	20
3	8.1	6.4	252	306	8.1	44	101	103	50	92	16	30
4	8.1	7.0	258	303	7.8	47	103	70	48	92	16	35
5	8.1	8.4	225	301	8.0	47	103	79	48	92	16	11
6	8.0	8.3	185	163	8.0	48	183	89	48	92	16	11
7	7.9	8.4	187	35	8.1	46	324	108	48	92	26	11
8	7.8	8.8	146	9.0	8.2	46	583	108	47	90	16	23
9	7.8	8.6	83	78	9.6	46	347	108	47	91	16	53
10	7.7	8.1	72	203	8.4	47	99	108	48	92	32	109
11	7.7	8.1	41	61	8.3	62	98	108	48	91	16	134
12	7.8	7.8	40	10	7.9	74	98	109	48	79	18	133
13	8.0	7.8	43	7.5	8.0	20	60	70	48	58	18	136
14	8.1	7.8	42	8.1	7.9	7.7	47	51	48	73	26	234
15	8.1	7.8	42	8.1	8.0	7.4	83	51	47	70	8.8	228
16	8.1	7.8	42	8.1	8.1	51	95	51	46	44	8.9	92
17	8.1	7.8	42	8.1	8.1	100	102	22	46	12	23	87
18	8.1	7.8	42	8.4	8.6	124	101	36	46	12	27	66
19	7.7	8.0	43	8.9	7.5	159	102	50	46	12	22	93
20	7.5	8.1	42	8.8	7.4	144	143	50	46	12	21	94
21	7.5	58	42	8.8	7.2	118	163	50	46	81	29	94
22	7.5	40	42	8.7	7.2	116	121	51	45	125	25	93
23	7.5	51	42	8.7	7.7	117	102	39	45	125	9.0	92
24	7.5	50	43	8.6	7.9	96	102	38	46	51	23	92
25	7.5	48	44	8.6	7.6	99	102	52	46	9.3	23	92
26	7.5	60	42	8.6	7.9	121	101	52	46	9.1	19	92
27	7.8	88	41	8.5	29	108	102	52	46	9.6	19	92
28	8.1	88	41	8.5	47	99	103	48	46	11	9.0	63
29	7.9	88	42	8.4	---	99	104	46	46	11	8.8	46
30	8.0	88	189	8.4	---	99	104	50	40	12	8.8	46
31	7.9	---	293	8.3	---	79	---	52	---	13	14	---
TOTAL	244.0	816.9	3029	2243.1	283.7	2365.1	4045	2107	1405	2059.0	562.3	2425
MEAN	7.87	27.2	97.7	72.4	10.1	76.3	135	68.0	46.8	66.4	18.1	80.8
MAX	8.4	88	293	308	47	159	583	109	50	345	32	234
MIN	7.5	6.4	40	7.5	7.2	7.4	47	22	40	9.1	8.8	11
(†)	2830	3250	3510	3840	5090	5960	6000	6090	6110	6190	6090	6140
CAL YR 1986	TOTAL	20448.8	MEAN	56.0	MAX	293	MIN	6.4	CFSM	.71	IN	9.65
WTR YR 1987	TOTAL	21585.1	MEAN	59.1	MAX	583	MIN	6.4	CFSM	.75	IN	10.19

† Month-end contents, in millions of gallons, in Triadelphia Reservoir (contents on Sept. 30, 1986, 2,760,000,000 gal). Records provided by Washington Suburban Sanitary Commission.

PATUXENT RIVER BASIN

01591700 HAWLINGS RIVER NEAR SANDY SPRING, MD

LOCATION.--Lat 39°10'29", long 77°01'22", Montgomery County, Hydrologic Unit 02060006, on right bank at downstream side of bridge on State Highway 650, 1.0 mi upstream from mouth, and 1.7 mi north of Sandy Spring.

DRAINAGE AREA.--27.0 mi<sup>2</sup>.

PERIOD OF RECORD.--June 1978 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 320 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 27 to Nov. 1, Jan. 22-27, Feb. 16-19. Records good except those for estimated daily discharges, which are fair. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--9 years, 29.4 ft<sup>3</sup>/s, 14.79 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,300 ft<sup>3</sup>/s, Sept. 6, 1979, gage height, 8.80 ft, from rating curve extended above 1,200 ft<sup>3</sup>/s on basis of contracted-opening and flow-over-road measurement of peak flow; minimum discharge, 0.75 ft<sup>3</sup>/s, Jan. 30, 1981, result of freezeup.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 700 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 25	0100	*1,200	*5.81	Apr. 4	1430	902	5.04
Mar. 1	1745	761	4.66	Sept. 8	1830	887	5.00

Minimum daily discharge, 2.0 ft<sup>3</sup>/s, Oct. 10, 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	3.0	12	17	22	417	35	21	13	113	5.2	20
2	2.7	19	29	31	22	145	27	20	12	50	5.7	5.6
3	2.7	6.7	123	29	29	55	25	21	49	75	5.3	4.0
4	2.6	4.7	31	24	35	40	354	61	76	21	4.7	3.3
5	2.6	14	21	20	37	32	78	42	80	16	4.1	3.2
6	2.4	24	17	18	31	30	55	29	34	14	4.5	6.7
7	2.3	7.5	15	18	29	29	43	24	22	13	4.5	7.3
8	2.2	24	15	20	31	28	34	21	17	13	4.5	201
9	2.2	11	18	18	35	27	30	19	15	11	4.2	61
10	2.1	9.3	25	19	28	25	28	19	14	10	5.0	16
11	2.0	37	27	20	25	24	26	18	13	9.9	4.0	10
12	2.0	32	35	18	24	24	25	17	13	11	3.6	19
13	2.4	15	23	17	24	23	25	17	14	11	3.6	75
14	3.5	10	17	16	23	22	24	16	13	16	3.5	25
15	3.0	9.0	16	17	22	22	23	23	12	16	3.3	14
16	2.6	8.9	15	17	21	22	26	31	11	11	3.8	14
17	2.5	8.9	15	16	20	21	55	19	11	9.9	4.9	24
18	2.5	8.7	45	25	19	20	37	18	9.9	9.3	3.7	167
19	2.4	17	34	196	19	20	29	36	9.9	8.4	3.2	31
20	2.4	22	22	89	19	20	27	27	9.7	8.1	3.5	22
21	2.5	40	19	41	18	20	25	26	11	7.4	3.2	31
22	2.5	17	17	30	18	19	24	22	11	7.0	3.5	24
23	2.5	13	16	27	23	19	22	19	12	6.6	4.7	17
24	2.6	12	218	25	28	19	50	18	9.9	6.3	3.5	14
25	2.7	11	450	24	25	19	53	16	9.1	7.5	3.2	13
26	3.4	34	44	23	23	19	32	21	9.5	6.4	3.3	11
27	4.0	43	29	22	22	19	27	17	12	6.3	3.6	11
28	3.7	20	23	22	23	22	25	16	9.7	5.9	3.3	10
29	3.3	15	20	22	---	20	24	15	8.5	5.3	3.4	10
30	3.1	13	19	22	---	20	22	14	15	5.3	3.1	11
31	3.0	---	18	22	---	86	---	14	---	5.1	3.7	---
TOTAL	83.1	509.7	1428	925	695	1328	1310	697	556.2	515.7	123.3	881.1
MEAN	2.68	17.0	46.1	29.8	24.8	42.8	43.7	22.5	18.5	16.6	3.98	29.4
MAX	4.0	43	450	196	37	417	354	61	80	113	5.7	201
MIN	2.0	3.0	12	16	18	19	22	14	8.5	5.1	3.1	3.2
CFSM	.10	.63	1.71	1.10	.92	1.59	1.62	.83	.69	.62	.15	1.09
IN.	.11	.70	1.97	1.27	.96	1.83	1.80	.96	.77	.71	.17	1.21

CAL YR 1986 TOTAL 6281.0 MEAN 17.2 MAX 450 MIN 2.0 CFSM .64 IN 8.65  
WTR YR 1987 TOTAL 9052.1 MEAN 24.8 MAX 450 MIN 2.0 CFSM .92 IN 12.47

## PATUXENT RIVER BASIN

01592500 PATUXENT RIVER NEAR LAUREL, MD

LOCATION.--Lat 39°06'56", long 76°52'27", Prince Georges County, Hydrologic Unit 02060006, on right bank at Rocky Gorge pumping station, 600 ft downstream from T. Howard Duckett Reservoir, 0.7 mi upstream from Walker Branch, 1.3 mi northwest of Laurel, and 81 mi upstream from mouth.

DRAINAGE AREA.--132 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1944 to current year.

REVISED RECORDS.--WDR MD-DE-78-1: 1976(M).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 153.5 ft above National Geodetic Vertical Datum of 1929 (Levels by Washington Suburban Sanitary Commission). Prior to Oct. 1, 1955, water-stage recorder and concrete control at site 0.3 mi downstream at different datum. Oct. 1, 1955, to Sept. 30, 1956, nonrecording gage at present site at datum 1.2 ft lower. Oct. 1, 1956, to Jan. 27, 1957, nonrecording gage at present site and datum. Jan. 28, 1957, to May 3, 1972, water-stage recorder and concrete control at present site and datum. May 4, 1972, to Sept. 4, 1973, nonrecording gage at present site and datum.

REMARKS.--No estimated daily discharges. Records good. Records do not include diversion at Patuxent (formerly Willis School) filtration plant for supply of Washington Suburban Sanitary District. Flow regulated by Triadelphia Reservoir, and since March 1954 by T. Howard Duckett Reservoir, combined usable capacity, 11,800,000,000 gal; dead storage, 80,000,000 gal. Several measurements of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 26,000 ft<sup>3</sup>/s, June 22, 1972, gage height, about 25 ft, from floodmarks, from rating curve extended above 6,600 ft<sup>3</sup>/s on basis of contracted-opening measurement of peak flow; minimum discharge, 0.05 ft<sup>3</sup>/s, July 18, 1985 (valve closed for repair); minimum daily discharge, 1.1 ft<sup>3</sup>/s, June 26, 1956.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 901 ft<sup>3</sup>/s, Apr. 7, gage height, 7.43 ft; minimum daily discharge, 14 ft<sup>3</sup>/s, Oct. 9, 12, 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	27	15	296	17	16	167	83	18	18	18	16
2	17	43	15	296	17	16	233	82	18	18	18	16
3	17	17	15	296	18	16	126	82	18	18	18	16
4	17	15	16	296	17	16	81	82	18	18	19	16
5	17	16	17	385	17	17	80	77	18	17	20	16
6	17	17	17	410	16	17	256	82	18	49	20	16
7	18	17	17	265	16	16	642	79	18	79	19	16
8	17	17	16	126	16	16	863	83	18	79	19	16
9	14	17	16	65	22	40	487	73	18	80	20	65
10	24	18	17	63	23	77	155	82	18	80	20	210
11	18	16	17	63	17	82	78	80	18	81	20	207
12	14	16	17	63	16	86	78	82	18	81	20	126
13	14	16	17	66	16	82	79	80	17	80	20	82
14	15	17	17	63	16	82	80	76	17	81	20	176
15	15	17	17	62	16	70	79	75	18	76	20	264
16	16	17	17	63	16	44	80	77	18	81	20	186
17	16	17	16	63	16	80	81	77	18	78	20	166
18	16	17	16	63	16	80	80	40	18	80	20	113
19	16	17	16	63	16	81	80	16	18	80	18	147
20	16	15	16	63	16	81	155	17	18	76	16	146
21	16	15	16	63	16	81	202	43	18	80	17	143
22	16	15	16	63	16	81	128	80	18	45	16	76
23	16	15	23	63	15	81	82	80	18	19	16	91
24	15	15	16	64	15	66	81	81	18	18	16	145
25	15	15	15	64	28	80	80	81	18	18	16	145
26	15	15	16	63	16	80	80	40	18	18	16	136
27	15	15	16	57	16	81	70	17	18	18	16	126
28	16	15	16	15	17	65	74	17	18	18	16	81
29	16	15	42	15	---	16	82	17	18	18	16	82
30	16	15	258	16	---	48	83	17	21	19	16	82
31	16	---	364	17	---	81	---	17	---	18	16	---
TOTAL	502	519	1125	3630	479	1775	4922	1915	541	1539	562	3123
MEAN	16.2	17.3	36.3	117	17.1	57.3	164	61.8	18.0	49.6	18.1	104
MAX	24	43	364	410	28	86	863	83	21	81	20	264
MIN	14	15	15	15	15	16	70	16	17	17	16	16
CFSM	.12	.13	.28	.89	.13	.43	1.24	.47	.14	.38	.14	.79
IN.	.14	.15	.32	1.02	.13	.50	1.39	.54	.15	.43	.16	.88
(†)	6760	7380	9210	8820	9890	11510	11460	11460	11550	11360	10240	9980
(*)	34.0	29.1	53.4	51.5	55.5	55.0	57.0	55.9	59.1	61.1	55.9	59.9

CAL YR 1986 TOTAL 11364.0 MEAN 31.1 MAX 501 MIN 14 \* 50.8  
WTR YR 1987 TOTAL 20632.0 MEAN 56.5 MAX 863 MIN 14 \* 52.3

† Combined month-end total contents, in millions of gallons, in Triadelphia and T. Howard Duckett Reservoirs (contents on Sept. 30, 1986, 7,480,000,000 gal). Records provided by Washington Suburban Sanitary Commission.

\* Diversions, in cubic feet per second, upstream from station at Patuxent (formerly Willis School) filtration plant for supply of Washington Suburban Sanitary District. Records provided by Washington Suburban Sanitary Commission.

PATUXENT RIVER BASIN

01593500 LITTLE PATUXENT RIVER AT GUILFORD, MD

LOCATION.--Lat 39°10'04", long 76°51'07", Howard County, Hydrologic Unit 02060006, on left bank 25 ft downstream from bridge on State Highway 32, 1 mi west of Guilford, 3 mi upstream from Middle Patuxent River, 4 mi north of Laurel, and 20.1 mi upstream from mouth.

DRAINAGE AREA.--38.0 mi<sup>2</sup>.

PERIOD OF RECORD.--April 1932 to current year. Monthly discharge only for April 1932, published in WSP 1302.

REVISED RECORDS.--WSP 1502: 1933, 1934(M), 1939(M), 1945(M), 1948(P).

GAGE.--Water-stage recorder. Concrete control since June 20, 1946. Datum of gage is 259.26 ft above National Geodetic Vertical Datum of 1929. Prior to June 25, 1946, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Jan. 23, 24, 25. Records good. Low flow affected by regulation from unknown source. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--55 years, 42.6 ft<sup>3</sup>/s, 15.23 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,400 ft<sup>3</sup>/s June 22, 1972, gage height, 18.38 ft, from high-water mark in well, from rating curve extended above 1,800 ft<sup>3</sup>/s on basis of contracted-opening measurement at gage height 13.26 ft and contracted-opening and flow-over-embankment measurement at gage height 18.38 ft; no flow Sept. 8, and parts of Sept. 6, 7, 9-12, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 800 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 24	2330	*1,230	*7.93	Sept. 13	1330	925	6.67
June 4	2000	843	6.30	Sept. 18	0500	1,060	7.23
Sept. 13	0130	980	6.91				

Minimum discharge, 2.0 ft<sup>3</sup>/s Oct. 10, 11, gage height, 2.39 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.3	7.0	13	28	32	605	62	24	17	346	8.2	19
2	4.9	52	107	94	45	170	36	24	15	212	7.5	8.2
3	3.6	17	287	62	70	66	33	28	17	36	8.1	7.0
4	3.7	12	50	42	81	50	190	182	224	22	6.9	6.0
5	3.6	81	33	34	57	40	71	64	135	17	8.9	5.9
6	3.1	79	26	30	46	37	55	38	32	16	16	29
7	2.8	19	23	28	48	35	46	32	22	15	9.3	20
8	2.7	66	21	25	52	33	37	28	19	18	8.7	306
9	2.3	19	34	24	51	34	33	25	17	14	7.9	117
10	2.2	12	39	27	37	29	31	24	17	14	7.4	20
11	2.1	97	59	27	35	27	29	23	15	13	6.2	18
12	2.5	63	60	25	37	27	28	22	15	62	5.5	102
13	11	19	33	28	35	27	28	23	17	33	5.1	577
14	30	12	24	26	32	26	26	21	17	18	4.9	56
15	12	11	19	27	29	26	25	35	15	25	5.1	40
16	6.6	9.9	17	25	34	26	40	26	14	17	7.0	61
17	4.9	9.5	16	23	27	25	114	22	12	13	7.6	43
18	4.2	9.8	91	67	26	24	51	21	11	11	5.7	391
19	3.9	23	51	308	25	24	38	33	11	10	5.0	43
20	3.8	50	29	122	24	23	35	94	12	9.1	6.0	38
21	3.8	137	21	56	25	23	31	44	33	8.3	5.0	28
22	3.6	26	18	45	25	23	29	30	17	7.5	17	24
23	3.6	16	16	50	44	22	27	29	27	7.3	13	19
24	3.8	17	256	45	54	22	75	37	15	7.4	8.6	17
25	3.8	16	503	40	45	22	66	25	12	86	7.5	15
26	17	96	68	36	39	22	37	29	12	16	7.4	13
27	16	84	46	36	36	21	31	22	18	12	7.8	12
28	25	26	37	31	44	39	28	21	12	8.9	6.8	11
29	10	18	32	32	---	29	27	20	11	7.7	7.3	11
30	7.5	14	30	35	---	32	26	18	21	6.7	6.3	13
31	6.8	---	28	36	---	191	---	18	---	6.9	6.3	---
TOTAL	214.1	1118.2	2087	1514	1135	1800	1385	1082	832	1095.8	240.0	2070.1
MEAN	6.91	37.3	67.3	48.8	40.5	58.1	46.2	34.9	27.7	35.3	7.74	69.0
MAX	30	137	503	308	81	605	190	182	224	346	17	577
MIN	2.1	7.0	13	23	24	21	25	18	11	6.7	4.9	5.9
CFSM	.18	.98	1.77	1.28	1.07	1.53	1.22	.92	.73	.93	.20	1.82
IN.	.21	1.09	2.04	1.48	1.11	1.76	1.36	1.06	.81	1.07	.23	2.03
CAL YR 1986	TOTAL	9834.8	MEAN	26.9	MAX	503	MIN	2.1	CFSM	.71	IN	9.63
WTR YR 1987	TOTAL	14573.2	MEAN	39.9	MAX	605	MIN	2.1	CFSM	1.05	IN	14.27

## PATUXENT RIVER BASIN

01594000 LITTLE PATUXENT RIVER AT SAVAGE, MD

LOCATION.--Lat 39°08'06", long 76°48'58", Howard County, Hydrologic Unit 02060006, on left bank 20 ft downstream from bridge on southbound lanes of U.S. Highway 1, 0.4 mi southeast of Savage, 0.9 mi downstream from Middle Patuxent River, and 16.2 mi upstream from mouth.

DRAINAGE AREA.--98.4 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1939 to September 1958. Annual maximums, water years 1959-66, 68, 72, 75. October 1975 to September 1980. May 1985 to current year. Prior to December 1939 monthly discharge only, published in WSP 1302.

GAGE.--Water-stage recorder. Elevation of gage is 140 ft above National Geodetic Vertical Datum of 1929, from topographic maps. Prior to October 1958, water-stage recorder at site 400 ft downstream at datum 15 ft lower. October 1958 to September 1972, crest-stage gage at site 400 ft downstream on right bank at datum 15 ft lower. October 1939 to September 1980, water-stage recorder at site 500 ft downstream at datum 15 ft lower.

REMARKS.--Estimated daily discharges: Dec. 19-22, 1985, Jan. 7-10, 14-16, 29-31, 1986, Feb. 1, 12-16, 1986, Dec. 12-16, 1986, Jan. 10-16, 22-31, 1987, Feb. 1, 1987. Water-discharge records good except those for periods of estimated daily discharges, which are fair. Some diurnal fluctuation at low flow caused by plant 0.5 mi upstream. Several observations of water temperature were made during the period.

AVERAGE DISCHARGE.--26 years (water years 1940-58, 1976-80, 1986-87), 107 ft<sup>3</sup>/s, 14.77 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 35,400 ft<sup>3</sup>/s, June 22, 1972, gage height, 25.4 ft, from floodmarks, from rating curve extended above 11,000 ft<sup>3</sup>/s on basis of contracted-opening measurement of peak flow; minimum daily discharge, 7.0 ft<sup>3</sup>/s, Sept. 19, 1943.

EXTREMES FOR CURRENT PERIOD.--Peak discharges greater than base discharge of 1,500 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Sept. 27, 1985	1230	1,990	9.20	Dec. 25, 1986	0130	*2,730	*10.59
Apr. 16, 1986	0500	*1,250	*7.49	Sept. 13, 1987	0030	1,520	8.15

May to September 1986: Minimum discharge, 12 ft<sup>3</sup>/s, Sept. 14, 15, 21, 22, gage height, 2.97 ft.

Water year 1986: Minimum discharge, 8.5 ft<sup>3</sup>/s, Sept. 18, 28, 29, gage height, 2.89 ft.

Water year 1987: Minimum discharge, 7.7 ft<sup>3</sup>/s, Oct. 8, gage height, 2.86.

## DISCHARGE, IN CUBIC FEET PER SECOND, MAY 1986 TO SEPTEMBER 1986

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								---	82	34	55	26
2								---	59	39	37	23
3								---	54	35	31	22
4								---	53	33	30	21
5								---	418	32	28	18
6								---	170	30	29	17
7								---	84	31	40	16
8								---	85	32	45	15
9								---	98	56	39	20
10								---	66	100	30	19
11								---	56	70	28	17
12								---	57	44	27	15
13								---	54	45	24	13
14								---	47	35	23	12
15								---	47	32	22	13
16								---	59	51	21	13
17								368	52	34	21	13
18								296	49	28	37	13
19								94	44	26	59	13
20								64	42	25	33	13
21								59	46	25	35	13
22								211	40	33	31	12
23								213	39	84	25	15
24								162	47	33	23	18
25								89	73	99	46	18
26								67	42	134	46	17
27								57	36	335	38	1000
28								130	34	80	32	132
29								172	35	45	23	48
30								78	33	40	27	35
31								95	---	37	38	---
TOTAL								---	2101	1757	1023	1640
MEAN								---	70.0	56.7	33.0	54.7
MAX								---	418	335	59	1000
MIN								---	33	25	21	12
CFSM								---	.71	.58	.34	.56
IN.								---	.79	.66	.39	.62

PATUXENT RIVER BASIN

01594000 LITTLE PATUXENT RIVER AT SAVAGE, MD--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	31	221	53	70	89	62	65	33	14	9.6	13
2	29	32	144	58	68	87	61	63	31	60	35	31
3	86	32	95	53	72	85	58	58	30	36	68	31
4	76	144	79	55	271	92	57	55	29	22	25	21
5	53	305	74	52	227	101	60	57	30	18	16	19
6	38	105	73	51	151	94	127	57	29	16	15	18
7	32	69	71	51	121	87	99	55	27	14	30	16
8	29	56	67	50	98	70	77	51	28	14	23	15
9	28	48	64	50	96	75	66	48	27	14	19	14
10	27	47	61	50	98	79	61	47	24	21	13	12
11	27	45	61	50	105	93	61	48	23	16	16	12
12	25	43	61	50	85	79	62	47	30	13	12	12
13	25	42	112	50	70	88	58	46	41	18	11	11
14	26	42	119	48	68	147	57	48	31	59	9.7	9.6
15	33	41	73	46	66	245	78	50	26	21	9.3	9.3
16	33	42	67	46	66	146	605	51	24	15	9.3	9.3
17	27	74	65	49	76	110	208	60	24	20	21	8.8
18	25	53	61	52	283	96	201	65	22	16	79	8.5
19	25	47	60	71	302	92	124	47	20	19	31	8.9
20	28	46	61	125	293	87	107	49	33	37	73	9.4
21	84	43	62	74	177	76	102	75	32	83	114	9.7
22	172	279	62	61	148	74	104	61	23	27	87	9.7
23	86	193	63	56	151	74	100	48	21	19	33	9.5
24	57	87	62	52	145	74	82	44	20	16	23	9.5
25	55	67	65	85	137	70	77	41	22	15	17	9.5
26	55	61	67	571	103	70	77	39	18	13	16	9.8
27	36	59	64	244	98	70	74	39	17	15	14	9.6
28	34	92	58	99	94	70	71	40	17	12	23	8.8
29	31	408	54	75	---	68	69	37	18	12	25	9.0
30	30	215	57	70	---	66	67	36	16	16	16	10
31	30	---	56	70	---	66	---	34	---	12	13	---
TOTAL	1372	2848	2359	2567	3739	2820	3112	1561	766	703	905.9	383.9
MEAN	44.3	94.8	76.1	82.8	134	91.0	104	50.4	25.5	22.7	29.2	12.8
MAX	172	408	221	571	302	245	605	75	41	83	114	31
MIN	25	31	54	46	66	66	57	34	16	12	9.3	8.5
CFSM	.45	.96	.77	.84	1.36	.93	1.06	.51	.26	.23	.30	.13
IN.	.52	1.08	.89	.97	1.41	1.07	1.18	.59	.29	.27	.34	.15

WTR YR 1986 TOTAL 23136.8 MEAN 63.4 MAX 605 MIN 8.5 CFSM .64 IN 8.75

## PATUXENT RIVER BASIN

01594000 LITTLE PATUXENT RIVER AT SAVAGE, MD--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	17	44	71	90	998	182	69	48	392	20	33
2	11	90	123	179	107	455	111	69	46	357	19	15
3	9.8	51	497	146	151	206	100	74	44	101	18	11
4	9.8	29	127	104	179	151	469	268	252	61	17	9.5
5	10	97	83	84	146	124	232	161	250	49	20	9.0
6	9.8	176	67	74	114	114	166	104	80	43	27	39
7	8.4	53	59	72	115	109	146	87	60	42	20	37
8	8.0	120	55	68	126	106	119	78	53	58	19	364
9	8.7	57	76	65	132	105	106	72	48	44	18	304
10	9.0	37	108	64	99	91	98	68	49	40	16	48
11	8.6	107	114	66	93	83	92	65	44	37	15	33
12	8.5	179	90	65	96	84	88	62	42	113	13	123
13	18	57	70	64	97	82	88	61	47	77	12	771
14	61	40	63	65	89	80	82	56	48	54	11	122
15	34	35	57	68	82	79	81	78	43	80	11	63
16	18	33	53	67	75	79	100	69	39	42	12	126
17	14	32	53	65	76	75	212	59	36	36	16	91
18	13	32	162	132	74	74	134	55	34	32	14	579
19	13	57	136	529	71	74	106	77	33	30	11	105
20	12	62	79	331	69	73	99	164	33	27	11	86
21	12	257	66	150	70	72	92	113	62	25	13	79
22	12	76	59	115	71	70	87	81	46	23	20	63
23	12	51	56	115	98	69	80	84	57	22	28	50
24	12	48	387	100	126	69	139	87	39	21	16	43
25	13	48	1090	115	104	68	148	65	34	127	12	39
26	28	126	178	115	94	67	101	75	33	36	12	35
27	34	205	121	110	90	68	86	65	46	27	13	34
28	49	79	100	105	95	97	82	60	35	24	13	32
29	26	58	85	100	---	84	78	58	31	21	12	31
30	20	49	79	100	---	80	74	53	33	19	11	33
31	17	---	73	95	---	350	---	51	---	18	11	---
TOTAL	529.6	2358	4410	3599	2829	4336	3778	2588	1745	2078	481	3407.5
MEAN	17.1	78.6	142	116	101	140	126	83.5	58.2	67.0	15.5	114
MAX	61	257	1090	529	179	998	469	268	252	392	28	771
MIN	8.0	17	44	64	69	67	74	51	31	18	11	9.0
CFSM	.17	.80	1.44	1.18	1.03	1.42	1.28	.85	.59	.68	.16	1.16
IN.	.20	.89	1.67	1.36	1.07	1.64	1.43	.98	.66	.79	.18	1.29
CAL YR 1986	TOTAL	23855.4	MEAN	65.4	MAX	1090	MIN	8.0	CFSM	.67	IN	9.02
WTR YR 1987	TOTAL	32139.1	MEAN	88.1	MAX	1090	MIN	8.0	CFSM	.90	IN	12.15

PATUXENT RIVER BASIN

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01594000 LITTLE PATUXENT RIVER AT SAVAGE, MD

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969, 1986 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE AIR (DEG C)	TEMPERATURE WATER (DEG C)	TURBIDITY (NTU)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L)	OXYGEN DEMAND, BIO-CHEMICAL, 5 DAY (MG/L)
OCT 23...	0900	12	245	7.8	18.0	11.0	2.9	<10	1.8
NOV 18...	1130	30	250	8.1	14.0	8.0	6.2	<10	8.4
NOV 18...	1131	30	--	--	--	--	5.7	<10	8.1
DEC 16...	1300	53	247	7.9	15.0	4.5	--	<10	--
JAN 12...	1345	63	265	7.9	9.0	3.0	6.1	<10	1.9
FEB 05...	1000	146	496	7.9	3.5	3.0	28	<10	2.5
FEB 18...	0930	74	270	7.3	8.0	2.0	4.3	<10	1.9
MAR 17...	1330	75	250	8.6	11.0	8.0	5.0	10	2.2
APR 21...	1530	92	224	8.4	24.5	18.0	5.6	<10	2.1
JUN 03...	1430	42	239	8.5	26.5	25.0	5.8	--	0.5
JUL 16...	1415	42	211	8.6	24.5	23.0	16	10	2.2
AUG 11...	1115	15	157	8.6	20.5	21.5	4.7	<10	1.0
SEP 14...	1100	114	181	7.9	25.5	22.5	42	17	0.8

DATE	CHLOROPHYTON CHROMO (UG/L)	ALKALINITY WH WAT TOTAL FIELD (MG/L AS CaCO3)	SILICA, DIS-SOLVED (MG/L AS SiO2)	NITROGEN, NITRATE DIS-SOLVED (MG/L AS N)	NITROGEN, NITRITE DIS-SOLVED (MG/L AS N)	NITROGEN, NITRITE DIS-SOLVED (MG/L AS NO2)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS NH4)
OCT 23...	2.69	70	10	1.09	0.005	0.02	1.10	0.024	0.03
NOV 18...	0.150	59	15	1.50	0.005	0.02	1.50	0.008	0.01
NOV 18...	0.599	--	15	1.59	0.005	0.02	1.60	0.012	0.02
DEC 16...	--	--	13	--	--	--	--	--	--
JAN 12...	1.20	46	15	--	0.007	0.02	--	<0.008	--
FEB 05...	3.58	42	--	0.489	0.011	0.04	0.500	0.108	0.14
FEB 18...	2.36	47	--	2.29	0.006	0.02	2.30	0.016	0.02
MAR 17...	5.13	44	13	2.19	0.007	0.02	2.20	<0.008	--
APR 21...	6.36	48	10	1.49	0.010	0.03	1.50	0.012	0.02
JUN 03...	1.74	55	15	1.48	0.016	0.05	1.50	0.045	0.06
JUL 16...	4.37	54	10	--	--	--	1.10	0.056	0.07
AUG 11...	3.13	65	9.4	0.916	0.014	0.05	0.930	0.008	0.01
SEP 14...	10.4	47	8.6	0.992	0.008	0.03	1.00	0.020	0.03

## PATUXENT RIVER BASIN

01594000 LITTLE PATUXENT RIVER AT SAVAGE, MD-Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)
OCT 23...	0.48	0.30	0.50	0.070	0.060	0.004	0.01	2.4	2.9
NOV 18...	0.24	0.30	0.25	0.040	0.030	0.005	0.02	3.5	4.9
18...	0.19	0.25	0.20	0.050	0.030	0.010	0.03	3.5	3.8
DEC 16...	--	0.20	0.20	--	0.030	--	--	2.8	3.1
JAN 12...	--	0.20	0.18	0.040	0.030	0.008	0.02	1.5	1.5
FEB 05...	0.34	0.90	0.45	0.100	0.030	0.018	0.05	3.3	2.9
18...	0.23	0.30	0.25	0.030	0.050	<0.004	--	--	--
MAR 17...	--	0.20	0.18	0.020	0.010	0.006	0.02	1.7	2.1
APR 21...	0.34	0.40	0.35	0.070	0.030	<0.004	--	2.4	2.7
JUN 03...	0.15	0.45	0.20	0.040	0.030	0.005	0.02	2.5	3.2
JUL 16...	0.34	0.58	0.40	0.080	0.060	0.032	0.10	3.3	4.2
AUG 11...	0.42	0.36	0.43	0.050	0.060	0.008	0.02	1.7	1.9
SEP 14...	0.63	1.6	0.65	0.480	0.420	0.026	0.08	3.9	3.6

## SUSPENDED SEDIMENT DISCHARGE

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDEDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (T/DAY)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDEDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (T/DAY)
OCT 1986 23...	0900	12	4	0.13	APR 1987 21...	1530	92	11	2.7
NOV 18...	1130	30	12	0.97	JUN 03...	1430	42	21	2.4
18...	1131	30	6	0.48	JUL 16...	1415	42	23	2.6
DEC 16...	1300	53	3	0.43	AUG 11...	1115	15	10	0.41
JAN 1987 12...	1345	63	8	1.4	SEP 14...	1100	114	39	12
FEB 05...	1000	146	26	10					
MAR 17...	1330	75	3	0.61					

PATUXENT RIVER BASIN

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01594440 PATUXENT RIVER NEAR BOWIE, MD

LOCATION.--Lat 38°57'21", long 76°41'36", Anne Arundel County, Hydrologic Unit 02060006, on left bank 45 ft upstream from bridge on U.S. Highway 50 (John Hanson Highway), 3.0 mi west of Bowie City Hall, 3.1 mi downstream from mouth of Little Patuxent River, 4.2 mi northwest of Davidsonville, and 60 mi upstream from mouth.

DRAINAGE AREA.--348 mi<sup>2</sup>.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1955 to June 1977 (gage heights and discharge measurements only), August 1977 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 13.10 ft above National Geodetic Vertical Datum of 1929. Prior to June 27, 1977, nonrecording gage at same site and datum.

REMARKS.--Water-discharge records good. Flow regulated by T. Howard Duckett Reservoir, usable capacity 5,600,000,000 gal, 21 mi upstream from station.

AVERAGE DISCHARGE.--10 years, 366 ft<sup>3</sup>/s, 14.28 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 31,100 ft<sup>3</sup>/s, June 22, 1972, gage height, 27.9 ft, from flood-marks, on basis of contracted-opening measurement of peak flow; minimum discharge observed, 32 ft<sup>3</sup>/s, Aug. 9, 1966; minimum daily discharge, 56 ft<sup>3</sup>/s Sept. 17, 18, 19, 1986.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,060 ft<sup>3</sup>/s, Dec. 25, gage height, 12.21 ft; minimum daily discharge, 57 ft<sup>3</sup>/s, Oct. 7, 8, 10, 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	59	82	152	520	254	943	735	220	163	292	78	127
2	64	159	200	753	259	2270	468	215	156	607	83	113
3	66	230	1110	958	453	830	437	218	149	300	80	82
4	63	121	846	652	591	436	588	436	217	177	78	75
5	63	175	274	544	516	327	1200	837	832	139	81	74
6	60	597	208	569	343	282	574	383	331	123	163	101
7	57	246	184	612	306	264	600	289	194	146	106	178
8	57	330	174	413	331	255	712	246	173	171	89	193
9	58	256	191	280	351	249	839	228	163	180	88	851
10	57	149	373	239	276	261	843	212	158	163	126	319
11	57	158	285	253	244	268	397	208	152	171	86	289
12	58	496	534	238	243	262	281	208	149	180	79	300
13	63	221	308	227	257	265	270	237	162	346	76	938
14	120	145	219	218	233	261	258	209	165	196	74	1520
15	164	126	192	219	218	258	252	232	162	270	75	413
16	93	123	183	220	193	256	284	271	151	184	80	410
17	77	119	177	212	202	231	616	215	144	169	85	363
18	73	114	259	268	198	250	619	204	141	157	81	850
19	71	181	569	652	194	249	370	181	138	149	75	1580
20	71	171	269	1520	188	246	313	228	137	148	75	422
21	70	705	212	637	187	243	375	344	148	142	75	346
22	70	400	189	387	190	240	388	239	171	141	79	286
23	71	187	177	356	213	235	284	246	340	112	102	195
24	71	161	400	325	361	231	277	1110	177	87	90	199
25	70	158	2500	302	368	219	492	441	146	124	76	224
26	84	270	2600	309	305	232	347	268	140	141	74	214
27	115	778	830	330	278	233	271	218	207	95	74	203
28	179	326	500	290	262	245	240	182	158	101	91	188
29	129	197	320	262	---	243	234	171	127	91	93	157
30	96	166	270	251	---	195	231	164	121	78	79	161
31	86	---	456	262	---	340	---	166	---	78	77	---
TOTAL	2492	7547	15161	13278	8014	11319	13795	9026	5772	5458	2868	11371
MEAN	80.4	252	489	428	286	365	460	291	192	176	86.1	379
MAX	179	778	2600	1520	591	2270	1200	1110	832	607	163	1580
MIN	57	82	152	212	187	195	231	164	121	78	74	74
CFSM	.23	.72	1.41	1.23	.82	1.05	1.32	.84	.55	.51	.25	1.09
IN.	.27	.81	1.62	1.42	.86	1.21	1.47	.96	.62	.58	.29	1.22
CAL YR 1986	TOTAL	78743	MEAN 216	MAX 2600	MIN 56	CFSM .62	IN 8.42					
WTR YR 1987	TOTAL	105901	MEAN 290	MAX 2600	MIN 57	CFSM .83	IN 11.32					

## PATUXENT RIVER BASIN

01594440 PATUXENT RIVER NEAR BOWIE, MD--Continued  
(National stream-quality accounting network station)

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1978-80, 1985 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Water years 1978-80, 1985 to current year.

WATER TEMPERATURE: Water years 1978-80, 1985 to current year.

SUSPENDED-SEDIMENT DISCHARGE: Water years 1985 to current year.

REMARKS.--Water temperatures are measured daily in field by local observer at time of sampling.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE (water years 1985-87): Maximum daily, 843 microsiemens, Feb. 1, 1987; minimum daily, 132 microsiemens, Sept. 18, 1987.

WATER TEMPERATURE (water years 1985-87): Maximum daily, 29.0°C, July 25, 1987; minimum daily, 0.0°C, on many days during winter periods.

SEDIMENT CONCENTRATION: Maximum daily mean, 700 mg/L, June 3, 1985; minimum daily mean, 2 mg/L, Dec. 4, 5, 1985.

SEDIMENT LOAD: Maximum daily, 3,720 tons, Feb. 13, 1985; minimum daily, 1.1 tons, Dec. 5, 1985.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 843 microsiemens, Feb. 1; minimum daily, 132 microsiemens, Sept. 18.

WATER TEMPERATURE: Maximum daily, 29.0°C, July 25; minimum daily, 0.0°C, Jan. 25, 29.

SEDIMENT CONCENTRATION: Maximum daily mean, 574 mg/L, Dec. 25; minimum daily mean, 7 mg/L, Dec. 23.

SEDIMENT LOAD: Maximum daily, 3,570 tons, Dec. 25; minimum daily, 3.2 tons, Aug. 28, Sept. 4.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)
OCT											
02...	1110	95	362	7.22	28.0	23.0	765	--	4.3	50	--
15...	1015	217	315	7.45	14.0	16.5	--	50	6.1	--	<10
15...	1055	217	315	7.45	14.0	16.5	768	--	6.1	62	--
28...	1035	214	272	7.34	20.0	16.0	769	--	6.1	61	--
NOV											
06...	1100	692	235	7.24	11.0	11.0	769	--	8.5	76	--
06...	1105	692	235	7.20	11.0	11.0	769	--	8.5	76	--
07...	0900	265	229	7.26	12.0	11.0	778	--	9.0	80	--
12...	1035	623	250	7.45	10.0	10.5	775	63	8.9	78	--
20...	0920	175	300	7.27	6.0	8.0	771	--	8.7	73	--
20...	0925	175	300	7.28	6.0	8.0	771	7.4	8.7	73	11
25...	1030	172	293	7.35	10.0	9.0	776	--	8.9	76	--
DEC											
03...	1230	1130	175	7.13	17.0	10.0	759	--	8.7	77	--
10...	0900	420	251	7.24	13.5	10.0	765	--	9.3	82	--
16...	1200	181	290	7.24	12.0	5.0	772	--	11.6	90	--
16...	1205	181	290	7.24	12.0	5.0	772	16	11.6	90	<10
19...	0930	680	207	7.27	9.0	6.0	765	--	10.5	84	--
23...	1100	172	300	7.32	8.0	4.0	774	--	11.5	86	--
30...	1130	257	248	7.19	5.0	5.0	762	--	11.5	90	--
JAN											
02...	1130	779	192	7.02	6.5	5.0	758	--	11.7	92	--
08...	1030	382	219	7.26	9.5	6.0	770	7.9	11.5	91	--
13...	1100	223	260	7.32	14.0	6.0	766	--	11.2	90	--
13...	1105	223	260	7.32	14.0	6.0	766	--	11.2	90	--
13...	1110	223	260	7.32	14.0	6.0	766	14	11.2	90	--
20...	1305	1930	173	7.13	9.0	5.0	769	--	11.8	92	--
20...	1745	1640	172	7.33	4.5	4.0	766	--	--	--	--
21...	0940	642	195	7.05	8.0	5.0	769	--	11.2	87	--
FEB											
03...	1200	506	760	7.21	13.0	4.0	760	--	12.6	97	--
10...	1120	265	330	7.37	10.0	3.0	769	--	12.4	91	--
24...	1230	414	318	7.28	13.0	4.0	773	--	12.7	96	--
MAR											
02...	1045	2530	204	7.00	10.5	7.0	759	--	10.0	83	--
02...	1800	2230	175	7.40	8.0	7.0	760	--	--	--	--
03...	1230	787	210	7.52	14.0	9.0	768	16	11.6	100	--
04...	0900	274	234	--	--	5.0	--	--	--	--	--
10...	1030	248	162	7.00	2.0	8.0	773	--	10.9	91	--
18...	0800	248	269	7.21	4.0	6.0	--	10	--	--	--
24...	1030	227	243	7.39	18.0	11.0	767	--	10.2	92	--
31...	1300	376	257	7.52	9.0	14.0	753	--	7.8	77	--
APR											
01...	1030	956	209	7.35	7.0	10.0	768	--	9.2	81	--
02...	1110	468	230	7.38	14.0	10.0	762	--	9.7	86	--
06...	1210	550	208	7.49	8.0	9.0	758	--	9.8	85	--
07...	1140	629	204	7.39	15.0	10.0	758	--	10.4	93	--
08...	1140	735	180	7.30	18.0	12.0	759	--	9.2	86	--
16...	1145	269	235	7.67	11.0	13.0	762	--	9.8	93	--
17...	1140	661	215	7.42	14.5	12.0	757	--	11.2	105	--
28...	1115	248	242	7.45	17.0	14.0	763	--	8.3	80	--
28...	1120	248	242	7.45	17.0	14.0	763	--	8.3	80	--

PATUXENT RIVER BASIN

01594440 PATUXENT RIVER AT BOWIE, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE AIR (DEG C)	TEMPERATURE WATER (DEG C)	BAROMETRIC PRESSURE (MM OF HG)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DIS-SOLVED (PERCENT SATURATION)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L)	OXYGEN DEMAND, BIO-CHEMICAL, 5 DAY (MG/L)
MAY												
05...	0940	1070	180	7.40	15.0	13.0	773	6.0	9.0	84	--	--
06...	1000	380	177	7.23	16.0	13.0	767	--	8.5	80	--	--
19...	1210	189	248	7.50	16.0	20.0	769	--	5.8	63	--	--
19...	1215	189	248	7.50	16.0	20.0	769	--	5.8	63	--	--
19...	1220	189	248	7.50	16.0	20.0	769	--	5.8	63	--	--
21...	1215	360	232	7.54	20.0	16.0	773	--	7.4	74	--	--
JUN												
04...	1035	183	306	7.47	23.0	22.0	767	18	4.5	51	--	2.6
05...	1140	990	187	7.33	27.0	21.0	769	300	6.2	69	--	--
06...	1040	322	218	7.26	25.0	20.0	770	--	5.9	64	--	--
16...	1120	169	313	7.45	28.0	24.0	763	21	4.7	56	13	3.5
JUL												
02...	1005	631	196	7.24	25.0	24.0	765	--	5.7	68	--	--
09...	1010	199	263	7.57	31.0	26.0	766	15	4.9	60	--	--
21...	1240	140	255	7.44	35.0	27.0	768	34	5.6	70	23	3.6
21...	1245	140	255	7.44	35.0	27.0	768	34	5.6	70	<10	2.9
AUG												
06...	1030	199	312	7.38	23.0	25.0	765	--	5.9	71	--	--
18...	1240	88	367	7.38	32.0	26.0	764	26	3.8	47	<10	3.5
SEP												
01...	1140	144	366	7.37	25.0	21.0	767	1.3	4.9	55	--	--
09...	1030	929	152	7.03	27.0	22.0	763	280	5.5	63	25	4.9
09...	1300	1040	152	7.12	27.0	22.5	764	320	5.9	68	21	5.5
10...	1200	261	200	7.23	28.0	22.0	768	66	6.5	74	15	2.2
16...	1010	393	186	7.47	26.0	24.0	766	50	7.4	88	14	2.7

DATE	CHLOR-A PHYTO-PLANKTON CHROMO FLUOROM (UG/L)	COLI-FORM, FECAL, UM-MF (COLS./100 ML)	STREP-TOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNESIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORPTION RATIO	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY WH WAT TOTAL FIELD MG/L AS CACO3
OCT												
02...	--	--	--	--	--	--	--	--	--	--	--	66
15...	--	--	--	--	--	--	--	--	--	--	--	66
15...	--	--	--	--	--	--	--	--	--	--	--	66
28...	--	--	--	--	--	--	--	--	--	--	--	58
NOV												
06...	--	--	--	--	--	--	--	--	--	--	--	44
06...	--	--	--	--	--	--	--	--	--	--	--	44
07...	--	--	--	--	--	--	--	--	--	--	--	42
12...	--	2500	K1	67	21	20	4.0	18	35	1	3.9	48
20...	--	--	--	--	--	--	--	--	--	--	--	57
20...	0.599	--	--	--	--	--	--	--	--	--	--	57
25...	--	--	--	--	--	--	--	--	--	--	--	55
DEC												
03...	--	--	--	--	--	--	--	--	--	--	--	32
10...	--	--	--	--	--	--	--	--	--	--	--	42
16...	--	--	--	--	--	--	--	--	--	--	--	52
16...	--	--	--	--	--	--	--	--	--	--	--	52
19...	--	--	--	--	--	--	--	--	--	--	--	36
23...	--	--	--	--	--	--	--	--	--	--	--	50
30...	--	--	--	--	--	--	--	--	--	--	--	41
JAN												
02...	--	--	--	--	--	--	--	--	--	--	--	34
08...	--	31	41	56	18	16	3.9	16	37	1	3.2	38
13...	--	--	--	--	--	--	--	--	--	--	--	47
13...	--	--	--	--	--	--	--	--	--	--	--	47
13...	--	--	--	--	--	--	--	--	--	--	--	47
20...	--	--	--	--	--	--	--	--	--	--	--	27
20...	--	--	--	--	--	--	--	--	--	--	--	32
21...	--	--	--	--	--	--	--	--	--	--	--	29
FEB												
03...	--	--	--	--	--	--	--	--	--	--	--	36
10...	--	--	--	--	--	--	--	--	--	--	--	42
24...	--	--	--	--	--	--	--	--	--	--	--	45
MAR												
02...	--	--	--	--	--	--	--	--	--	--	--	20
02...	--	--	--	--	--	--	--	--	--	--	--	23
03...	--	K80	110	49	19	14	3.3	18	43	1	2.8	30
04...	--	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--	46
18...	--	--	--	--	--	--	--	--	--	--	--	44
24...	--	--	--	--	--	--	--	--	--	--	--	45
31...	--	--	--	--	--	--	--	--	--	--	--	47

K: Results based on colony count outside the accepted range (non-ideal colony).

## PATUXENT RIVER BASIN

01594440 PATUXENT RIVER AT BOWIE, MD--Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	CHLOR-A PHYTO- PLANK- TON CHROMO FLUOROM (UG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WH WAT TOTAL FIELD MG/L AS CACO3
APR												
01...	--	--	--	--	--	--	--	--	--	--	--	38
02...	--	--	--	--	--	--	--	--	--	--	--	37
06...	--	--	--	--	--	--	--	--	--	--	--	36
07...	--	--	--	--	--	--	--	--	--	--	--	36
08...	--	--	--	--	--	--	--	--	--	--	--	30
16...	--	--	--	--	--	--	--	--	--	--	--	45
17...	--	--	--	--	--	--	--	--	--	--	--	39
28...	--	--	--	--	--	--	--	--	--	--	--	46
28...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
05...	--	5700	K4700	48	15	14	3.2	13	35	0.8	2.9	33
06...	--	--	--	--	--	--	--	--	--	--	--	34
19...	--	--	--	--	--	--	--	--	--	--	--	53
19...	--	--	--	--	--	--	--	--	--	--	--	53
19...	--	--	--	--	--	--	--	--	--	--	--	53
21...	--	--	--	--	--	--	--	--	--	--	--	50
JUN												
04...	2.55	--	--	--	--	--	--	--	--	--	--	60
05...	12.0	--	--	--	--	--	--	--	--	--	--	40
06...	2.25	--	--	--	--	--	--	--	--	--	--	44
16...	2.10	--	--	--	--	--	--	--	--	--	--	61
JUL												
02...	--	--	--	--	--	--	--	--	--	--	--	44
09...	--	160	590	64	12	19	4.0	20	38	1	4.7	52
21...	2.99	--	--	--	--	--	--	--	--	--	--	53
21...	--	--	--	--	--	--	--	--	--	--	--	53
AUG												
06...	7.78	--	--	--	--	--	--	--	--	--	--	57
18...	7.03	--	--	--	--	--	--	--	--	--	--	66
SEP												
01...	--	260	730	83	19	26	4.3	33	44	2	6.4	64
09...	13.5	--	--	--	--	--	--	--	--	--	--	33
09...	6.74	--	--	--	--	--	--	--	--	--	--	31
10...	4.49	--	--	--	--	--	--	--	--	--	--	36
16...	2.43	--	--	--	--	--	--	--	--	--	--	39

K: Results based on colony count outside the accepted range (non-ideal colony).

DATE	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)
OCT												
02...	--	--	--	7.8	--	--	5.89	0.410	1.3	--	6.30	--
15...	--	--	--	7.7	--	--	3.72	0.081	0.27	--	3.80	--
15...	--	--	--	7.7	--	--	3.22	0.080	0.26	--	3.30	--
28...	--	--	--	6.7	--	--	3.11	0.090	0.30	--	3.20	--
NOV												
06...	--	--	--	5.7	--	--	1.48	0.020	0.07	--	1.50	--
06...	--	--	--	6.0	--	--	1.48	0.020	0.07	--	1.50	--
07...	--	--	--	7.2	--	--	1.58	0.020	0.07	--	1.60	--
12...	24	26	0.20	7.2	139	130	--	<0.010	--	--	1.60	0.100
20...	--	--	--	8.8	--	--	2.74	0.060	0.20	--	2.80	--
20...	--	--	--	9.2	--	--	2.84	0.059	0.19	--	2.90	--
25...	--	--	--	10	--	--	2.94	0.060	0.20	--	3.00	--
DEC												
03...	--	--	--	6.5	--	--	0.960	0.020	0.07	--	0.980	--
10...	--	--	--	9.4	--	--	2.77	0.030	0.10	--	2.80	--
16...	--	--	--	11	--	--	2.75	0.050	0.16	--	2.80	--
16...	--	--	--	12	--	--	3.05	0.046	0.15	--	3.10	--
19...	--	--	--	7.6	--	--	1.38	0.020	0.07	--	1.40	--
23...	--	--	--	11	--	--	2.97	0.030	0.10	--	3.00	--
30...	--	--	--	11	--	--	2.18	0.020	0.07	--	2.20	--
JAN												
02...	--	--	--	7.0	--	--	1.48	0.020	0.07	1.50	1.50	0.320
08...	21	19	0.10	7.5	116	110	1.78	0.020	0.07	--	1.80	0.380
13...	--	--	--	9.6	--	--	2.37	0.030	0.10	--	2.40	--
13...	--	--	--	9.6	--	--	2.37	0.030	0.10	--	2.40	--
13...	--	--	--	9.2	--	--	2.67	0.027	0.09	--	2.70	--
20...	--	--	--	6.2	--	--	0.950	0.020	0.07	--	0.970	--
20...	--	--	--	6.1	--	--	0.980	0.020	0.07	--	1.00	--
21...	--	--	--	7.8	--	--	1.29	0.010	0.03	--	1.30	--
FEB												
03...	--	--	--	8.8	--	--	1.95	0.050	0.16	--	2.00	--
10...	--	--	--	9.7	--	--	1.86	0.040	0.13	--	1.90	--
24...	--	--	--	7.6	--	--	1.94	0.060	0.20	--	2.00	--

PATUXENT RIVER BASIN

01594440 PATUXENT RIVER AT BOWIE, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)
MAR												
02...	--	--	--	5.7	--	--	0.970	0.030	0.10	--	1.00	--
02...	--	--	--	6.0	--	--	1.08	0.020	0.07	--	1.10	--
03...	21	25	0.10	8.4	112	110	1.28	0.020	0.07	--	1.30	0.360
04...	--	--	--	9.4	--	--	1.57	0.028	0.09	--	1.60	--
10...	--	--	--	9.3	--	--	2.13	0.070	0.23	--	2.20	--
18...	--	--	--	6.9	--	--	2.34	0.056	0.18	--	2.40	--
24...	--	--	--	4.3	--	--	2.12	0.080	0.26	--	2.20	--
31...	--	--	--	4.7	--	--	2.29	0.110	0.36	--	2.40	--
APR												
01...	--	--	--	6.4	--	--	1.26	0.040	0.13	--	1.30	--
02...	--	--	--	6.8	--	--	1.96	0.040	0.13	--	2.00	--
06...	--	--	--	8.0	--	--	1.37	0.030	0.10	--	1.40	--
07...	--	--	--	6.8	--	--	1.57	0.030	0.10	--	1.60	--
08...	--	--	--	5.2	--	--	1.57	0.030	0.10	--	1.60	--
16...	--	--	--	6.4	--	--	2.24	0.060	0.20	--	2.30	--
17...	--	--	--	6.4	--	--	1.76	0.040	0.13	--	1.80	--
28...	--	--	--	7.6	--	--	2.22	0.080	0.26	--	2.30	--
28...	--	--	--	7.7	--	--	2.31	0.086	0.28	--	2.40	--
MAY												
05...	16	25	0.10	6.0	108	100	1.08	0.020	0.07	--	1.10	0.180
06...	--	--	--	7.5	--	--	1.67	0.030	0.10	--	1.70	--
19...	--	--	--	7.9	--	--	2.75	0.150	0.49	--	2.90	--
19...	--	--	--	8.1	--	--	3.14	0.165	0.54	--	3.30	--
19...	--	--	--	8.1	--	--	3.03	0.170	0.56	--	3.20	--
21...	--	--	--	--	--	--	--	--	--	--	--	--
JUN												
04...	--	--	--	9.8	--	--	3.67	0.330	1.1	--	4.00	--
05...	--	--	--	--	--	--	--	--	--	--	1.40	--
06...	--	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	9.7	--	--	3.89	0.310	1.0	--	4.20	--
JUL												
02...	--	--	--	--	--	--	--	--	--	--	--	--
09...	19	26	0.40	8.1	148	130	3.33	0.170	0.56	--	3.50	0.470
21...	--	--	--	6.8	--	--	3.55	0.150	0.49	--	3.70	--
21...	--	--	--	6.8	--	--	3.55	0.150	0.49	--	3.70	--
AUG												
06...	--	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	8.1	--	--	--	0.465	1.5	--	--	--
SEP												
01...	33	35	0.50	8.2	211	190	--	--	--	--	--	--
09...	--	--	--	4.7	--	--	0.820	0.020	0.07	--	0.840	--
09...	--	--	--	5.1	--	--	6.78	0.023	0.08	--	6.80	--
10...	--	--	--	6.0	--	--	1.66	0.042	0.14	--	1.70	--
16...	--	--	--	6.8	--	--	1.86	0.039	0.13	--	1.90	--

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, TOTAL (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)
OCT											
02...	0.630	0.81	0.97	2.1	1.6	0.720	0.220	--	0.200	0.61	30
15...	0.288	0.37	0.66	1.2	0.95	0.370	0.200	--	0.170	0.52	--
15...	0.300	0.39	0.80	1.8	1.1	<0.300	0.200	--	0.150	0.46	20
28...	0.280	0.36	0.62	1.7	0.90	0.460	0.150	--	0.140	0.43	60
NOV											
06...	0.130	0.17	0.37	0.90	0.50	0.440	0.060	--	0.060	0.18	40
06...	0.120	0.15	0.48	1.4	0.60	0.440	0.060	--	0.070	0.21	50
07...	0.260	0.33	0.44	1.1	0.70	0.190	0.060	--	0.060	0.18	60
12...	0.100	0.13	0.70	0.70	0.80	0.550	0.070	--	0.060	0.18	40
20...	0.830	1.1	0.87	1.5	1.7	0.210	0.090	--	0.060	0.18	<10
20...	0.800	1.0	0.55	1.3	1.3	0.250	0.120	--	0.090	0.28	--
25...	0.890	1.1	0.41	1.6	1.3	0.150	0.070	0.140	0.080	0.25	<10
DEC											
03...	0.250	0.32	0.55	1.6	0.80	0.310	0.030	--	0.020	0.06	70
10...	0.370	0.48	0.23	0.70	0.60	0.280	0.090	--	0.070	0.21	30
16...	1.20	1.5	0.70	2.1	1.9	0.120	0.040	--	0.020	0.06	<10
16...	0.800	1.0	0.65	1.6	1.5	0.240	0.060	--	0.042	0.13	--
19...	0.230	0.30	0.47	1.2	0.70	0.090	0.040	--	0.030	0.09	50
23...	1.10	1.4	0.20	1.3	1.3	0.180	0.080	--	0.080	0.25	<10
30...	0.680	0.88	0.52	0.90	1.2	0.160	0.040	--	0.020	0.06	--







## PATUXENT RIVER BASIN

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01594440 PATUXENT RIVER AT BOWIE, MD--Continued

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT					
02...	1110	95	8	2.1	--
15...	0410	221	56	33	--
15...	1015	217	31	18	--
15...	1055	217	94	55	--
28...	1030	214	108	62	--
28...	1035	214	98	57	--
28...	1415	214	71	41	--
NOV					
06...	1100	692	163	305	--
06...	1105	692	164	307	--
07...	0900	265	41	29	--
12...	1035	623	165	278	96
20...	0920	175	16	7.8	--
20...	0925	175	13	6.1	--
25...	1030	172	10	4.6	--
DEC					
03...	1230	1130	217	661	--
03...	2000	1570	335	1420	74
10...	0900	420	54	61	--
16...	1200	181	9	4.3	--
16...	1205	181	8	3.9	--
19...	0930	680	68	125	--
23...	1100	172	7	3.4	--
30...	1130	257	15	10	--
JAN					
02...	1130	779	82	174	--
08...	1030	382	20	21	97
13...	1100	223	12	7.5	--
13...	1105	223	12	7.2	--
13...	1110	223	6	3.6	--
20...	1245	1920	57	295	88
20...	1305	1930	97	504	92
20...	1745	1640	79	350	--
21...	0940	642	45	77	--
FEB					
03...	1200	506	73	99	--
10...	1120	265	24	17	--
24...	1230	414	27	30	--
MAR					
02...	1045	2530	113	772	--
02...	1800	2230	73	442	--
03...	1230	787	51	108	95
04...	0900	274	32	23	--
10...	1030	248	25	17	--
18...	0800	248	10	6.9	--
24...	1030	227	14	8.8	--
31...	1300	376	45	45	--
31...	1630	426	38	44	--
APR					
01...	1030	956	260	671	--
02...	1110	468	77	97	--
06...	1210	550	42	62	--
07...	1140	629	43	72	--
08...	1140	735	39	77	--
16...	1145	269	19	14	--
17...	1140	661	70	124	--
28...	1115	248	17	11	--
28...	1120	248	12	8.0	--
MAY					
05...	0940	1070	84	242	92
06...	1000	380	21	22	--
19...	1215	189	20	10	--
19...	1220	189	21	11	--
21...	1215	360	32	31	--
JUL					
02...	1005	631	450	767	--
09...	1010	199	39	21	97
21...	1240	140	28	11	--
21...	1245	140	30	11	--
SEP					
01...	1140	144	21	8.2	98
09...	1030	929	360	903	--
09...	1300	1040	391	1090	--
10...	1200	261	72	51	--
10...	1325	261	68	48	--
16...	1010	393	58	62	--

## PATUXENT RIVER BASIN

01594440 PATUXENT RIVER AT BOWIE, MD--Continued

SPECIFIC CONDUCTANCE MICROSIEMENS/CM AT 25 DEG C, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	354	340	296	191	843	287	216	249	278	245	329	388
2	356	272	304	215	664	188	211	243	300	177	349	311
3	364	243	278	337	740	225	225	253	303	211	331	302
4	350	285	213	243	548	250	218	202	283	250	342	357
5	351	271	265	225	460	261	235	187	179	277	323	352
6	354	229	278	200	403	267	217	217	226	279	274	317
7	373	253	285	196	362	270	191	232	256	285	289	280
8	365	290	304	235	336	272	184	238	275	246	318	226
9	367	250	271	242	321	275	162	244	290	264	332	159
10	380	283	232	252	312	276	176	256	298	239	285	219
11	386	304	231	258	317	260	223	254	297	260	322	176
12	383	230	204	267	303	257	273	243	299	222	332	214
13	364	272	228	264	304	253	238	236	299	181	344	142
14	348	302	259	267	314	252	241	246	290	222	347	164
15	278	328	276	265	307	254	243	247	294	201	355	179
16	278	325	297	263	297	253	243	238	302	233	342	217
17	315	334	293	256	317	258	219	241	302	242	347	217
18	353	339	261	245	313	254	215	243	302	239	342	132
19	361	326	207	210	305	253	225	266	309	240	340	167
20	365	304	233	173	300	253	237	255	314	248	352	204
21	364	203	257	206	297	252	213	226	314	243	371	207
22	354	236	276	---	305	250	211	249	285	242	364	210
23	365	266	282	230	279	248	238	238	208	274	---	236
24	355	219	278	335	373	251	245	145	262	308	364	231
25	361	315	116	417	477	257	227	208	284	327	338	220
26	340	253	156	358	422	251	238	226	288	252	---	215
27	351	207	208	324	375	251	245	239	279	274	364	205
28	276	240	230	381	342	255	254	261	264	309	334	225
29	267	271	247	371	---	269	248	272	281	301	---	240
30	291	285	250	448	---	287	242	281	293	312	346	237
31	323	---	186	702	---	261	---	281	---	333	353	---

TEMPERATURE, WATER, DEGREES CENTIGRADE, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24.0	13.0	7.0	4.0	2.5	6.5	11.5	16.5	24.0	24.5	25.5	21.0
2	23.5	14.0	8.5	4.5	4.0	8.0	11.0	16.5	24.0	24.0	25.5	20.5
3	23.0	13.0	---	4.5	4.0	7.5	10.0	18.0	24.0	26.0	27.0	20.5
4	23.5	13.0	8.0	4.0	4.0	6.0	11.0	14.0	21.0	26.0	27.5	20.0
5	22.5	11.0	6.5	3.5	3.0	6.0	9.5	13.5	23.0	26.0	26.0	19.5
6	19.0	11.0	5.0	3.5	4.0	7.0	9.0	16.0	22.0	24.5	25.0	20.5
7	16.5	11.0	5.5	5.0	5.0	9.5	10.5	17.5	21.5	24.5	24.5	21.5
8	16.0	13.0	8.0	5.5	5.0	10.5	13.0	8.0	23.5	27.0	26.0	22.0
9	18.0	15.0	10.0	5.5	4.0	12.0	13.0	18.5	22.5	27.0	27.0	22.5
10	16.5	13.0	10.5	5.5	4.0	8.5	15.0	19.5	21.0	27.0	26.0	22.5
11	15.0	11.0	8.0	5.0	4.5	6.5	15.0	21.0	21.0	27.0	25.0	23.0
12	15.5	10.5	7.0	5.5	4.5	7.0	14.5	21.0	21.0	27.0	24.0	23.5
13	17.0	7.5	5.0	5.5	5.0	7.5	14.0	19.0	22.0	26.5	24.0	23.0
14	18.5	6.0	3.5	5.5	4.0	7.0	14.0	18.0	24.0	25.5	23.5	23.0
15	16.0	6.0	4.0	7.5	3.0	7.0	13.5	19.0	25.0	23.5	25.0	23.0
16	14.0	8.5	5.0	7.5	1.5	8.0	12.0	18.5	24.5	22.5	24.5	23.0
17	13.0	9.5	6.0	6.0	3.5	8.0	12.5	19.5	24.5	23.0	26.0	23.0
18	13.0	10.5	7.0	5.0	5.0	9.0	14.0	21.0	23.5	23.5	26.5	22.0
19	13.0	9.0	6.5	4.5	4.5	9.5	16.0	18.5	24.5	25.0	24.5	20.5
20	12.0	8.0	5.5	---	4.5	10.0	16.5	16.0	25.0	26.5	24.5	19.5
21	12.0	7.5	4.0	5.5	5.5	11.0	17.5	17.5	25.0	27.5	23.5	20.0
22	13.5	7.0	3.5	---	5.0	11.5	19.0	18.5	25.0	28.0	23.0	20.0
23	15.0	7.5	5.5	1.0	2.5	11.5	16.0	20.0	25.5	28.0	23.0	19.0
24	15.5	---	5.5	.5	4.0	12.5	15.0	21.5	25.0	28.0	22.0	19.0
25	15.0	8.0	---	.0	4.5	12.0	13.0	19.5	25.0	29.0	20.0	19.0
26	15.5	10.0	5.5	.5	5.0	13.0	14.0	18.0	23.5	27.5	23.0	18.5
27	16.5	9.5	6.0	.5	5.0	13.5	14.5	18.5	24.5	27.0	23.0	19.0
28	16.0	8.5	5.5	.5	5.0	15.5	14.0	20.0	23.5	26.0	23.0	20.0
29	15.0	8.5	5.0	.0	---	15.5	15.5	22.5	23.5	25.0	22.0	19.5
30	14.5	8.5	4.5	2.0	---	14.5	16.5	23.0	25.0	25.5	22.0	19.5
31	13.5	---	5.0	2.5	---	12.5	---	24.0	---	26.0	22.0	---



PATUXENT RIVER BASIN

01594526 WESTERN BRANCH AT UPPER MARLBORO, MD

LOCATION.--Lat 38°48'52", long 76°44'53", Prince Georges County, Hydrologic Unit 02060006, on right bank 1000 ft upstream from bridge on Water Street, 0.2 mi south of Upper Marlboro, and 4.7 mi upstream from mouth.

DRAINAGE AREA.--89.7 mi<sup>2</sup>.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1985 to September 1987.

GAGE.--Water-stage recorder. Elevation of gage is 30 ft above National Geodetic Vertical Datum of 1929, from topographic maps.

REMARKS.--Estimated daily discharges: Dec. 19-23, 26, 27, 30, 31, 1985, Jan. 1, 8-12, 14-16, 28-31, 1986, Feb. 1, 7-16, 26, 1986, Mar. 8, 9, 1986, Jan. 22-29, 1987, July 15-22. Water-discharge records good except those for estimated daily discharges, which are fair. Several measurements of water temperature were made during the period.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,290 ft<sup>3</sup>/s, Dec. 25, 1986, gage height, 10.15 ft; minimum discharge, 2.6 ft<sup>3</sup>/s, June 19, 1986.

EXTREMES FOR CURRENT PERIOD.--Peak discharges greater than base discharge of 1,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct. 3, 1985	1730	*940	*8.57	Dec. 25, 1986	1715	*1,290	*10.15

Water year 1986: Minimum discharge, 2.6 ft<sup>3</sup>/s, June, 19, gage height, 0.80 ft.

Water year 1987: Minimum discharge, 2.7 ft<sup>3</sup>/s, Oct. 7, gage height, 0.81 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	28	371	31	55	86	45	36	9.3	6.1	6.8	13
2	33	27	165	32	63	81	45	32	12	19	5.9	24
3	665	26	100	34	66	80	42	28	6.6	144	227	21
4	263	210	77	35	229	85	41	27	5.9	25	77	16
5	85	321	67	33	208	87	44	28	6.0	10	32	13
6	52	131	61	30	124	81	78	27	5.9	6.8	19	12
7	39	76	56	33	115	75	95	27	5.4	4.7	92	9.9
8	31	55	51	30	92	58	71	26	5.7	3.9	30	20
9	27	46	48	26	90	63	59	24	6.0	4.0	30	13
10	25	39	45	25	87	67	50	23	5.0	9.3	23	9.1
11	22	36	44	25	90	65	49	23	3.6	5.6	12	8.8
12	21	33	47	25	80	58	48	20	4.4	4.3	13	8.1
13	20	33	79	28	70	68	43	17	30	26	10	7.0
14	20	32	89	24	70	120	42	22	17	23	13	6.3
15	30	32	55	23	65	175	42	21	8.9	5.4	9.2	6.3
16	27	29	48	22	60	194	191	27	5.6	3.7	6.0	5.4
17	21	64	46	23	74	106	121	22	10	6.4	60	4.9
18	19	43	44	28	276	84	115	18	3.8	8.1	88	6.1
19	19	36	34	41	312	79	88	15	3.2	43	43	6.7
20	19	34	33	70	195	72	67	40	7.5	36	48	7.3
21	93	31	32	45	133	62	66	48	29	231	163	6.2
22	217	247	32	35	114	58	64	38	8.5	55	272	5.6
23	106	266	31	31	144	59	71	24	7.1	25	60	5.6
24	63	102	39	27	148	59	59	22	22	15	30	5.6
25	53	68	41	41	147	53	54	16	14	9.9	16	5.2
26	39	55	36	278	120	54	50	13	7.2	7.8	12	6.6
27	32	52	31	265	120	54	47	12	6.7	7.5	13	9.7
28	28	60	31	125	96	52	43	15	7.8	9.0	51	6.0
29	26	293	31	95	---	50	40	12	9.8	9.5	31	6.2
30	24	351	30	70	---	49	38	10	8.6	29	20	5.9
31	23	---	30	60	---	47	---	9.5	---	10	17	---
TOTAL	2184	2856	1924	1690	3443	2381	1908	722.5	282.5	803.0	1529.9	280.5
MEAN	70.5	95.2	62.1	54.5	123	76.8	63.6	23.3	9.42	25.9	49.4	9.35
MAX	665	351	371	278	312	194	191	48	30	231	272	24
MIN	19	26	30	22	55	47	38	9.5	3.2	3.7	5.9	4.9
CFSM	.79	1.06	.69	.61	1.37	.86	.71	.26	.11	.29	.55	.10
IN.	.91	1.18	.80	.70	1.43	.99	.79	.30	.12	.33	.63	.12

WTR YR 1986 TOTAL 20004.4 MEAN 54.8 MAX 665 MIN 3.2 CFSM .61 IN 8.30

## PATUXENT RIVER BASIN

01594526 WESTERN BRANCH AT UPPER MARLBORO, MD--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.4	21	41	73	91	577	112	62	34	13	12	9.0
2	4.6	78	136	234	134	482	79	60	32	13	11	6.3
3	4.0	43	493	154	228	183	68	62	26	14	8.4	5.9
4	5.3	27	174	95	318	131	448	340	124	13	5.3	5.7
5	4.9	84	87	75	220	109	567	255	304	12	30	7.4
6	3.8	178	63	66	147	97	190	122	82	10	58	68
7	2.8	66	53	63	137	91	131	88	53	9.9	18	47
8	4.0	105	49	54	142	85	108	75	41	10	11	102
9	5.0	57	99	49	137	95	91	67	35	9.8	8.2	144
10	3.7	41	187	54	103	139	82	63	31	18	11	48
11	5.3	84	156	54	93	93	76	57	27	22	12	24
12	6.1	138	183	48	102	85	72	62	29	16	6.6	92
13	8.4	60	99	45	103	80	70	109	42	26	6.0	209
14	42	36	69	49	88	75	66	68	35	17	5.1	91
15	23	28	56	49	78	72	65	94	29	13	5.5	44
16	14	28	51	46	68	93	101	131	27	12	23	28
17	11	24	47	42	68	79	363	75	23	11	17	155
18	8.7	22	146	108	68	71	192	53	19	10	10	273
19	7.1	96	142	322	64	67	124	45	17	9.2	8.0	65
20	6.4	51	84	412	61	65	102	71	16	8.4	7.3	50
21	6.4	332	63	149	60	63	90	71	23	7.5	6.1	41
22	6.4	110	53	95	59	60	80	60	22	6.7	15	32
23	7.2	61	48	90	86	58	72	48	34	6.3	16	24
24	6.6	47	210	85	147	58	90	42	25	6.2	7.7	20
25	7.0	42	864	80	146	56	228	36	17	11	6.2	17
26	24	201	360	80	122	57	161	35	15	7.3	8.3	23
27	20	298	160	75	111	55	103	34	112	5.8	8.6	21
28	43	105	111	70	105	62	86	33	48	41	20	14
29	18	66	90	70	---	58	78	31	26	9.6	27	13
30	13	49	82	82	---	65	70	59	18	8.1	9.6	29
31	12	---	72	94	---	149	---	63	---	5.8	8.0	---
TOTAL	339.1	2578	4528	3062	3286	3510	4165	2471	1366	382.6	405.9	1708.3
MEAN	10.9	85.9	146	98.8	117	113	139	79.7	45.5	12.3	13.1	56.9
MAX	43	332	864	412	318	577	567	340	304	41	58	273
MIN	2.8	21	41	42	59	55	65	31	15	5.8	5.1	5.7
CFSM	.12	.96	1.63	1.10	1.30	1.26	1.55	.89	.51	.14	.15	.63
IN.	.14	1.07	1.88	1.27	1.36	1.46	1.73	1.02	.57	.16	.17	.71
CAL YR 1986	TOTAL	20485.5	MEAN	56.1	MAX	864	MIN	2.8	CFSM	.63	IN	8.50
WTR YR 1987	TOTAL	27801.9	MEAN	76.2	MAX	864	MIN	2.8	CFSM	.85	IN	11.53

## PATUXENT RIVER BASIN

01594526 WESTERN BRANCH AT UPPER MARLBORO, MD

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1986 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE AIR (DEG C)	TEMPERATURE WATER (DEG C)	TURBIDITY (NTU)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L)	OXYGEN DEMAND, BIO-CHEMICAL, 5 DAY (MG/L)
OCT									
21...	0845	5.9	340	7.6	8.5	9.0	15	10	2.4
21...	0846	5.9	--	--	--	--	15	12	3.4
DEC									
17...	1445	45	253	7.7	10.5	4.0	19	<10	1.7
JAN									
13...	1015	44	251	7.4	10.0	3.0	18	<10	1.2
FEB									
05...	1230	196	395	7.1	7.0	4.0	39	54	3.0
18...	1230	68	281	--	--	--	7.2	<10	1.4
MAR									
18...	0900	71	259	7.4	6.0	5.5	10	<10	1.9
APR									
22...	0945	82	240	7.6	20.0	15.5	8.9	<10	2.7
MAY									
05...	1130	239	158	7.9	14.0	13.0	48	21	1.1
JUN									
02...	0950	35	289	7.5	25.5	24.0	7.4	--	1.4
JUL									
22...	1100	6.7	340	7.5	30.5	28.0	13	16	1.6
22...	1105	6.7	341	7.6	31.5	29.0	12	11	2.7
AUG									
11...	1415	10	345	7.9	28.0	28.5	9.5	<10	1.6
SEP									
14...	1330	87	206	7.3	25.5	23.5	30	18	0.6

DATE	CHLOROPHYTON FLUOROM (UG/L)	ALKALINITY WH WAT TOTAL FIELD (MG/L AS CaCO3)	SILICA, DIS-SOLVED (MG/L AS SiO2)	NITROGEN, NITRATE DIS-SOLVED (MG/L AS N)	NITROGEN, NITRITE DIS-SOLVED (MG/L AS N)	NITROGEN, NITRITE DIS-SOLVED (MG/L AS NO2)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS NH4)
OCT									
21...	1.20	94	9.8	0.164	0.006	0.02	0.170	0.012	0.02
21...	0.748	--	10	0.164	0.006	0.02	0.170	0.030	0.04
DEC									
17...	--	41	6.8	0.613	0.007	0.02	0.620	0.072	0.09
JAN									
13...	1.21	37	14	--	0.005	0.02	--	0.084	0.11
FEB									
05...	2.48	24	--	0.046	0.004	0.01	0.050	0.140	0.18
18...	1.20	--	--	0.824	0.006	0.02	0.830	0.068	0.09
MAR									
18...	3.34	32	13	0.675	0.005	0.02	0.680	0.008	0.01
APR									
22...	4.09	33	12	0.474	0.006	0.02	0.480	0.020	0.03
MAY									
05...	6.79	30	8.6	0.344	0.006	0.02	0.350	0.076	0.10
JUN									
02...	1.23	56	16	0.413	0.017	0.06	0.430	0.092	0.12
JUL									
22...	4.79	85	10	--	0.009	0.03	--	0.200	0.26
22...	4.13	90	10	0.131	0.009	0.03	0.140	--	--
AUG									
11...	4.85	70	13	0.199	0.021	0.07	0.220	0.028	0.04
SEP									
14...	3.85	35	7.5	0.261	0.009	0.03	0.270	0.048	0.06

PATUXENT RIVER BASIN

01594526 WESTERN BRANCH AT UPPER MARLBORO, MD-Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)
OCT									
21...	0.54	0.58	0.55	0.080	0.040	0.044	0.13	4.2	7.3
21...	0.52	0.59	0.55	0.080	0.030	0.005	0.02	4.2	5.1
DEC									
17...	0.18	0.35	0.25	0.080	0.020	<0.004	--	3.5	3.4
JAN									
13...	0.15	0.33	0.23	0.060	0.020	<0.004	--	3.4	3.0
FEB									
05...	0.51	0.70	0.65	0.140	0.110	<0.004	--	4.0	4.1
18...	0.23	0.35	0.30	0.050	0.030	<0.004	--	--	--
MAR									
18...	0.27	0.35	0.28	0.050	0.020	0.016	0.05	2.7	2.6
APR									
22...	0.18	0.38	0.20	0.120	0.070	0.006	0.02	3.0	3.0
MAY									
05...	0.52	0.90	0.60	0.240	0.030	0.068	0.21	6.5	6.3
JUN									
02...	0.41	0.60	0.50	0.080	0.040	0.016	0.05	6.4	6.4
JUL									
22...	0.30	0.55	0.50	0.100	0.060	<0.004	--	4.3	4.8
22...	--	0.55	0.45	0.110	0.120	--	--	4.2	4.7
AUG									
11...	0.57	0.60	0.60	0.110	0.070	0.016	0.05	3.7	4.4
SEP									
14...	0.55	0.65	0.60	0.500	0.370	0.018	0.05	7.3	6.4

SUSPENDED SEDIMENT DISCHARGE

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
OCT 1986					MAY 1987				
21...	0845	5.9	8	0.13	05...	1130	239	87	56
DEC					JUN				
17...	1445	45	61	7.5	02...	0950	35	28	2.6
JAN 1987					JUL				
13...	1015	44	12	1.4	22...	1100	6.7	12	0.22
FEB					22...	1105	6.7	--	--
05...	1230	196	49	26	AUG				
18...	1230	68	11	2.0	11...	1415	10	12	0.33
MAR					SEP				
18...	0900	71	8	1.5	14...	1330	87	53	12
APR									
22...	0945	82	20	4.4					

## PATUXENT RIVER BASIN

01594710 KILLPECK CREEK AT HUNTERSVILLE, MD

## WATER-QUALITY RECORDS

LOCATION.--Lat 38°28'37", long 76°44'08", St Marys County, Hydrologic Unit 02060006, on left bank at private footbridge, 600 ft upstream from culvert on All Faith Church road, 0.65 mi north of Huntersville and 2.3 mi upstream from mouth.

DRAINAGE AREA.--3.54 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1986 to September 1987.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE AIR (DEG C)	TEMPERATURE WATER (DEG C)	TURBIDITY (NTU)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L)	OXYGEN DEMAND, BIO-CHEMICAL, 5 DAY (MG/L)
OCT 21...	1230	0.97	157	7.4	18.0	8.5	7.0	<10	2.7
DEC 17...	0900	2.2	152	7.2	4.0	4.5	19	<10	1.8
JAN 13...	1245	3.8	149	6.9	10.0	5.0	11	<10	1.0
FEB 18...	1430	4.4	--	--	--	--	4.8	<10	1.5
FEB 18...	1445	4.4	--	--	--	--	4.6	<10	1.7
MAR 18...	1130	4.8	147	7.2	13.0	7.0	7.2	<10	1.8
APR 22...	1430	5.0	136	7.2	28.0	19.5	14	<10	1.9
JUN 02...	1300	2.3	151	7.3	29.5	21.0	4.2	--	1.7
JUL 16...	1045	1.8	162	7.7	21.0	19.0	15	<10	1.3
AUG 12...	1000	0.80	180	7.6	28.5	21.0	6.3	<10	2.2
SEP 15...	1020	1.5	168	7.2	26.0	23.0	7.1	<10	1.1

DATE	CHLOROPHYTON CHROMO FLUOROM (UG/L)	ALKALINITY WH WAT TOTAL FIELD (MG/L AS CaCO3)	SILICA, DIS-SOLVED (MG/L AS SiO2)	NITROGEN, NITRATE DIS-SOLVED (MG/L AS N)	NITROGEN, NITRITE DIS-SOLVED (MG/L AS N)	NITROGEN, NITRITE DIS-SOLVED (MG/L AS NO2)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS NH4)
OCT 21...	0.299	35	11	1.49	0.006	0.02	1.50	0.048	0.06
DEC 17...	--	29	11	0.993	0.007	0.02	1.00	0.056	0.07
JAN 13...	0.499	25	9.8	1.30	0.003	0.01	1.30	0.056	0.07
FEB 18...	1.06	--	--	1.49	0.008	0.03	1.50	0.076	0.10
FEB 18...	1.12	--	--	1.49	0.008	0.03	1.50	0.066	0.08
MAR 18...	2.05	22	8.8	1.59	0.007	0.02	1.60	0.020	0.03
APR 22...	1.89	31	8.8	1.29	0.014	0.05	1.30	0.080	0.10
JUN 02...	0.974	31	2.8	1.29	0.006	0.02	1.30	0.024	0.03
JUL 16...	1.44	32	10	--	--	--	1.80	0.032	0.04
AUG 12...	2.10	28	10	1.99	0.007	0.02	2.00	0.012	0.02
SEP 15...	0.250	31	8.8	1.20	0.002	0.01	1.20	0.032	0.04

PATUXENT RIVER BASIN

01594710 KILLPECK CREEK AT HUNTERSVILLE, MD-Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)
OCT 21...	0.33	0.43	0.38	0.080	0.040	0.024	0.07	2.4	4.0
DEC 17...	0.14	0.25	0.20	0.080	0.050	0.014	0.04	3.3	3.0
JAN 13...	0.27	0.38	0.33	0.060	0.060	0.010	0.03	2.8	3.3
FEB 18...	0.17	0.35	0.25	0.060	0.030	0.008	0.02	--	--
FEB 18...	0.23	0.35	0.30	0.050	0.030	0.008	0.02	--	--
MAR 18...	0.33	0.40	0.35	0.040	0.030	0.042	0.13	2.1	2.3
APR 22...	0.12	0.35	0.20	0.090	0.070	0.012	0.04	2.8	2.6
JUN 02...	0.33	0.45	0.35	0.080	0.040	0.016	0.05	4.1	4.3
JUL 16...	0.27	0.43	0.30	0.110	0.070	0.038	0.12	2.5	2.4
AUG 12...	0.34	0.25	0.35	0.150	0.080	0.030	0.09	1.7	1.7
SEP 15...	0.42	0.68	0.45	0.090	0.060	0.022	0.07	3.4	3.7

SUSPENDED SEDIMENT DISCHARGE

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
OCT 1986					APR 1987				
21...	1230	0.97	<5	--	22...	1430	5.0	19	0.26
DEC 17...	0900	2.2	58	0.35	JUN 02...	1300	2.3	25	0.16
JAN 1987					JUL 16...	1045	1.8	18	0.09
13...	1245	3.8	23	0.23	AUG 12...	1000	0.80	7	0.02
FEB 18...	1430	4.4	9	0.11					
MAR 18...	1130	4.8	7	0.09					

## POTOMAC RIVER BASIN

01594930 LAUREL RUN AT DOBBIN ROAD NEAR WILSON, MD

LOCATION.--Lat 39°14'37", long 79°25'43", Garrett County, Hydrologic Unit 02070002, on left bank at downstream side of bridge (abandoned) on Dobbin Road, 0.6 mi south of intersection of Kempton Road, 1.2 mi from mouth, and 3.0 mi southwest of Wilson.

DRAINAGE AREA.--8.23 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 2,600 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Jan. 23 to Feb. 2. Water-discharge records good except those for period of ice effect, Jan. 23 to Feb. 2, which are fair. Natural flow of stream affected by inflow from deep coal mine dewatering process.

AVERAGE DISCHARGE.--7 years, 24.9 ft<sup>3</sup>/s, 41.09 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 863 ft<sup>3</sup>/s, Nov. 5, 1985, gage height, 10.10 ft, from rating curve extended above 450 ft<sup>3</sup>/s on basis of runoff comparisons with nearby stations; minimum discharge, 1.8 ft<sup>3</sup>/s, July 27, 28, 1987.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 170 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 6	0300	*208	*4.07	June 20	2145	200	4.00

Minimum discharge, 1.8 ft<sup>3</sup>/s, July 27, 28, gage height, 1.25 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	12	26	15	26	71	23	24	6.9	7.7	3.4	3.9
2	23	22	26	15	35	78	24	24	6.4	10	3.2	3.4
3	13	17	34	14	33	46	25	22	5.9	7.9	4.6	3.2
4	13	17	30	13	27	36	25	49	6.1	6.9	3.5	2.9
5	21	71	25	16	24	29	22	37	5.5	6.3	10	3.3
6	14	127	22	13	22	28	22	31	5.1	5.9	5.4	10
7	11	53	21	13	20	36	29	26	4.9	5.6	3.7	9.2
8	10	42	19	12	20	44	63	22	4.8	5.3	3.4	30
9	9.0	63	49	11	20	50	70	19	5.4	5.1	3.2	19
10	7.8	49	65	11	23	44	65	17	5.1	5.0	3.2	9.8
11	7.1	59	48	11	16	34	59	15	4.7	6.3	3.0	14
12	6.9	51	40	12	25	28	59	14	6.6	5.4	3.0	46
13	8.7	40	32	10	24	23	47	13	8.6	4.7	3.0	35
14	18	32	31	10	20	20	38	11	8.4	5.1	2.9	19
15	13	27	23	22	18	19	41	12	5.6	4.8	2.8	13
16	11	23	21	41	16	18	47	10	9.1	4.5	2.9	10
17	10	20	19	30	14	17	71	9.3	7.1	4.2	3.1	10
18	9.2	29	26	26	14	17	52	8.6	5.4	4.2	3.9	28
19	8.6	46	24	81	12	17	41	17	4.9	4.0	2.8	17
20	8.4	45	20	64	12	17	34	16	39	3.9	2.8	19
21	8.1	64	18	42	12	17	28	11	71	3.8	2.6	16
22	8.1	43	16	34	12	17	24	9.8	34	3.7	14	14
23	8.0	36	15	30	14	17	21	8.9	42	3.7	12	12
24	8.1	37	28	27	12	17	35	8.1	32	3.6	5.2	10
25	8.7	33	37	24	11	19	37	7.6	22	3.5	3.7	8.4
26	14	57	32	21	11	18	31	7.8	18	3.7	3.5	7.3
27	12	59	27	18	11	16	27	7.4	14	4.6	5.2	6.7
28	21	44	24	16	14	15	29	7.2	11	3.5	8.8	6.1
29	17	36	21	15	---	14	23	6.5	9.2	3.0	16	6.1
30	15	30	19	17	---	15	33	11	7.9	3.1	6.7	15
31	13	---	17	20	---	30	---	8.2	---	3.5	4.7	---
TOTAL	375.7	1284	855	704	518	867	1145	490.4	416.6	152.5	156.2	407.3
MEAN	12.1	42.8	27.6	22.7	18.5	28.0	38.2	15.8	13.9	4.92	5.04	13.6
MAX	23	127	65	81	35	78	71	49	71	10	16	46
MIN	6.9	12	15	10	11	14	21	6.5	4.7	3.0	2.6	2.9
CFSM	1.47	5.20	3.35	2.76	2.25	3.40	4.64	1.92	1.69	.60	.61	1.65
IN.	1.70	5.80	3.86	3.18	2.34	3.92	5.17	2.22	1.88	.69	.71	1.84

CAL YR 1986 TOTAL 8671.6 MEAN 23.8 MAX 242 MIN 4.1 CFSM 2.89 IN 39.19  
WTR YR 1987 TOTAL 7371.7 MEAN 20.2 MAX 127 MIN 2.6 CFSM 2.45 IN 33.32

POTOMAC RIVER BASIN

01594936 NORTH FORK SAND RUN NEAR WILSON, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1981 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1980 to current year.

pH: June 1985 to current year.

WATER TEMPERATURE: October 1980 to current year.

INSTRUMENTATION.--Water-quality monitor since October 1980.

REMARKS.--Periods of missing record due to monitor malfunction.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE (water years 1982-87): Maximum, 1,870 microsiemens, Aug. 17, 1987; minimum, 53 microsiemens, Nov. 5, 1985.

pH (water year 1986-87): Maximum, 7.2 units, Aug. 11, 12, 1987; minimum, 5.5 units, Nov. 5, 1986.

WATER TEMPERATURE (water years 1982-87): Maximum, 26.0°C, July 24, 1987; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1,870 microsiemens, Aug. 17; minimum, 114 microsiemens, Apr. 17.

pH: Maximum, 7.2 units, Aug. 11, 12; minimum, 5.8 units, June 20, Sept. 8.

WATER TEMPERATURE: Maximum, 26.0°C, July 24; minimum, 0.0°C, on many days during winter periods.

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	933	503	741	728	685	708	280	253	266	393	371	385
2	550	489	516	722	537	609	292	256	284	402	395	397
3	687	545	607	574	535	549	249	226	235	420	405	411
4	724	687	706	627	578	603	255	227	239	446	422	433
5	708	463	532	610	175	353	286	255	270	477	444	460
6	568	470	512	167	133	148	305	288	296	507	477	493
7	684	574	620	202	167	185	318	305	312	505	475	494
8	779	692	731	224	204	216	332	320	326	500	469	477
9	855	787	814	222	171	195	324	135	229	546	505	528
10	961	863	906	203	177	189	162	141	148	563	542	554
11	1030	955	989	208	155	187	186	162	174	607	563	581
12	1030	981	1010	192	159	176	214	184	197	676	607	638
13	1050	1010	1020	218	194	205	243	216	228	764	678	722
14	999	593	749	250	221	236	267	246	256	816	707	781
15	624	566	588	277	252	264	288	269	276	696	307	519
16	764	632	700	297	277	287	316	290	305	334	267	293
17	839	772	806	325	297	311	335	316	327	408	334	372
18	902	843	885	350	211	323	335	276	309	440	410	429
19	941	896	925	218	184	197	310	276	290	442	139	267
20	982	934	966	238	153	218	338	314	328	235	167	203
21	1010	973	998	172	148	157	364	340	351	287	237	260
22	1040	992	1020	202	175	188	388	366	378	325	289	307
23	1060	1040	1060	218	199	210	418	388	407	379	327	351
24	1100	1060	1090	222	214	219	414	282	358	441	381	413
25	1130	1100	1120	246	217	229	280	199	230	466	446	458
26	1090	695	900	246	156	211	237	203	221	476	464	467
27	693	582	657	187	158	174	257	237	248	525	474	503
28	578	449	499	205	189	196	278	259	268	564	527	549
29	534	464	493	226	205	214	300	278	289	586	564	578
30	619	540	581	252	228	239	330	302	317	578	345	431
31	697	628	664	---	---	---	369	332	348	420	349	385
MONTH	1130	449	787	728	133	273	418	135	281	816	139	456

## POTOMAC RIVER BASIN

01594936 NORTH FORK SAND RUN NEAR WILSON, MD--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	MAX	MIN	MEAN									
1	445	422	435	475	142	295	307	288	301	241	216	230
2	445	285	358	181	144	161	310	289	303	249	243	246
3	316	285	302	208	183	198	308	291	298	258	216	250
4	359	319	339	239	206	220	312	300	307	200	126	150
5	386	359	377	260	243	254	322	308	316	178	151	167
6	416	390	407	272	230	261	324	308	319	202	180	190
7	425	406	417	231	177	218	311	258	294	227	202	214
8	429	408	418	184	161	176	256	127	198	260	229	243
9	452	431	438	168	158	163	163	136	150	284	260	273
10	499	456	479	198	162	179	160	147	154	305	286	296
11	532	503	524	237	200	218	166	150	158	332	307	319
12	542	341	458	273	237	254	173	150	164	369	334	350
13	407	339	368	320	275	294	187	157	171	419	369	393
14	468	407	442	343	324	336	209	187	198	476	419	442
15	499	468	484	360	345	351	226	178	207	481	466	475
16	524	501	516	368	353	358	187	123	170	503	476	485
17	549	522	536	392	372	384	127	114	119	552	502	519
18	574	549	562	408	389	398	146	127	136	559	533	545
19	624	578	606	402	380	395	164	148	157	561	409	489
20	657	622	641	403	386	398	191	167	178	476	400	434
21	653	632	646	427	405	418	220	191	205	557	478	514
22	630	561	612	428	411	421	250	223	236	615	556	582
23	555	511	525	422	412	417	276	250	267	656	602	626
24	559	528	545	433	414	426	284	204	251	709	641	667
25	577	559	569	432	423	429	220	196	205	717	695	706
26	576	565	570	442	423	433	240	222	232	731	709	718
27	576	568	574	483	445	465	256	240	247	743	697	716
28	584	498	569	498	483	492	258	246	251	842	745	783
29	---	---	---	516	497	508	281	253	269	912	841	864
30	---	---	---	517	459	495	249	170	196	925	801	883
31	---	---	---	457	286	344	---	---	---	900	821	849
MONTH	657	285	490	517	142	334	324	114	222	925	126	472
DAY	MAX	MIN	MEAN									
1	931	890	910	953	905	928	1670	1590	1650	907	714	787
2	968	909	933	953	797	869	1630	1560	1610	1030	910	963
3	1000	935	970	902	837	878	1620	1220	1340	1090	1030	1060
4	1020	972	1000	956	892	917	1310	1200	1240	1180	1090	1130
5	1080	1030	1050	980	946	963	1380	686	1120	1170	1080	1140
6	1110	1070	1100	1040	961	997	958	802	851	1070	421	660
7	1130	1070	1110	1090	1020	1060	1050	866	966	413	307	373
8	1180	1120	1140	1130	1090	1100	1250	1060	1140	323	220	239
9	1140	1010	1090	1130	1090	1110	1560	1270	1410	297	241	268
10	1090	1010	1060	1170	1100	1130	1620	1560	1590	360	301	327
11	1130	1070	1110	1190	1150	1180	1680	1620	1650	392	338	367
12	1170	1050	1110	1200	1160	1180	1740	1650	1690	345	227	271
13	1070	999	1030	1230	1190	1210	1870	1680	1790	229	216	222
14	1090	1060	1080	1230	1160	1200	1820	1710	1770	254	229	240
15	1080	1030	1060	1230	1190	1210	1850	1780	1820	286	256	267
16	1090	831	948	1300	1230	1270	1850	1760	1820	316	287	300
17	977	845	940	1370	1300	1330	1870	1300	1790	346	319	330
18	1030	931	964	1420	1340	1390	1430	1290	1350	323	242	262
19	1100	1010	1060	1460	1400	1440	1570	1390	1470	254	242	248
20	1170	257	887	1500	1440	1480	1670	1580	1620	248	240	242
21	281	212	246	1520	1470	1510	1750	1680	1720	252	241	245
22	403	245	321	1560	1520	1540	1780	504	1410	265	252	256
23	430	405	421	1600	1550	1580	608	499	544	286	263	271
24	518	427	462	1640	1560	1610	806	611	704	309	286	293
25	648	522	584	1660	1580	1640	1010	814	887	332	307	316
26	697	646	673	1670	1440	1620	1240	1020	1150	357	332	341
27	750	687	718	1610	1490	1560	1260	534	774	386	359	370
28	821	750	779	1530	1470	1510	707	384	630	416	388	401
29	865	820	842	1550	1500	1530	437	365	395	446	417	431
30	910	863	882	1610	1530	1580	592	444	516	435	257	316
31	---	---	---	1640	1580	1620	710	594	648	---	---	---
MONTH	1180	212	883	1670	797	1290	1870	365	1260	1180	216	431

POTOMAC RIVER BASIN

01594936 NORTH FORK SAND RUN NEAR WILSON, MD--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	MAX	MIN	MEAN									
1	6.6	6.4	6.5	6.5	6.3	6.4	6.1	6.1	6.1	6.5	6.3	6.4
2	6.5	6.4	6.5	6.4	6.1	6.2	6.1	6.1	6.1	6.4	6.4	6.4
3	6.5	6.5	6.5	6.4	6.1	6.2	6.1	6.0	6.1	6.6	6.4	6.5
4	6.6	6.5	6.5	6.4	6.2	6.4	6.1	6.0	6.1	6.6	6.4	6.6
5	6.6	6.5	6.5	6.3	6.0	6.1	6.1	6.0	6.1	6.6	6.5	6.5
6	6.6	6.5	6.6	6.1	6.0	6.0	6.2	6.1	6.1	6.6	6.5	6.5
7	6.6	6.5	6.5	6.1	6.0	6.0	6.1	6.1	6.1	6.6	6.4	6.5
8	6.6	6.5	6.5	6.1	6.0	6.0	6.1	6.1	6.1	6.6	6.5	6.6
9	6.6	6.4	6.5	6.1	6.0	6.1	6.1	5.9	6.0	6.6	6.6	6.6
10	6.6	6.4	6.5	6.1	6.1	6.1	5.9	5.9	5.9	6.6	6.6	6.6
11	6.6	6.5	6.6	6.1	6.1	6.1	6.0	5.9	5.9	6.6	6.6	6.6
12	6.6	6.4	6.5	6.1	6.1	6.1	6.0	5.9	5.9	6.6	6.6	6.6
13	6.6	6.3	6.5	6.1	6.1	6.1	5.9	5.9	5.9	6.6	6.5	6.6
14	6.4	6.2	6.3	6.1	6.0	6.0	6.0	5.9	5.9	6.5	6.4	6.5
15	6.5	6.2	6.4	6.1	6.0	6.1	6.0	6.0	6.0	6.5	6.4	6.4
16	6.5	6.4	6.5	6.1	6.1	6.1	6.1	6.0	6.0	6.4	6.4	6.4
17	6.5	6.3	6.4	6.2	6.1	6.1	6.1	6.1	6.1	6.4	6.4	6.4
18	6.5	6.4	6.5	6.2	6.2	6.2	6.1	6.1	6.1	6.4	6.4	6.4
19	6.5	6.3	6.4	6.2	6.1	6.1	6.2	6.1	6.1	6.4	6.2	6.3
20	6.5	6.3	6.4	6.2	6.2	6.2	6.2	6.1	6.2	6.4	6.2	6.3
21	6.5	6.4	6.5	6.2	6.1	6.1	6.2	6.2	6.2	6.4	6.3	6.3
22	6.5	6.3	6.5	6.1	6.1	6.1	6.3	6.2	6.2	6.4	6.4	6.4
23	6.6	6.4	6.5	6.1	6.1	6.1	6.3	6.2	6.3	6.4	6.4	6.4
24	6.6	6.4	6.5	6.1	6.0	6.1	6.3	6.3	6.3	6.4	6.4	6.4
25	6.6	6.4	6.5	6.1	6.1	6.1	6.3	6.2	6.3	6.4	6.4	6.4
26	6.4	6.3	6.3	6.2	6.1	6.1	6.3	6.2	6.3	6.4	6.4	6.4
27	6.5	6.2	6.3	6.1	6.1	6.1	6.3	6.3	6.3	6.4	6.3	6.4
28	6.2	6.1	6.2	6.2	6.1	6.1	6.3	6.3	6.3	6.4	6.3	6.4
29	6.4	6.1	6.2	6.2	6.1	6.1	6.4	6.3	6.3	6.4	6.3	6.3
30	6.5	6.3	6.4	6.2	6.1	6.1	6.4	6.3	6.4	6.7	6.3	6.4
31	6.5	6.3	6.4	---	---	---	6.4	6.3	6.3	6.7	6.7	6.7
MONTH	6.6	6.1	6.5	6.5	6.0	6.1	6.4	5.9	6.1	6.7	6.2	6.5
DAY	MAX	MIN	MEAN									
1	6.7	6.7	6.7	6.5	6.2	6.4	6.8	6.6	6.6	6.3	6.2	6.3
2	6.7	6.5	6.6	6.2	6.2	6.2	6.9	6.7	6.8	6.3	6.2	6.2
3	6.6	6.5	6.5	6.3	6.2	6.2	6.8	6.7	6.8	6.3	6.1	6.3
4	6.6	6.4	6.5	6.2	6.2	6.2	6.8	6.7	6.8	6.3	6.0	6.1
5	6.6	6.5	6.6	6.4	6.1	6.3	6.8	6.7	6.8	6.1	6.0	6.1
6	6.6	6.5	6.6	6.4	6.2	6.3	6.8	6.6	6.7	6.2	6.1	6.1
7	6.6	6.6	6.6	6.3	6.1	6.2	6.6	6.5	6.5	6.2	6.1	6.2
8	6.6	6.6	6.6	6.2	6.0	6.1	6.8	6.2	6.5	6.2	6.1	6.2
9	6.6	6.5	6.6	6.1	6.0	6.1	6.5	6.4	6.5	6.2	6.1	6.2
10	6.6	6.5	6.6	6.2	6.0	6.1	6.4	6.4	6.4	6.2	6.2	6.2
11	6.6	6.5	6.5	6.3	6.1	6.2	6.4	6.3	6.4	6.3	6.2	6.2
12	6.5	6.4	6.5	6.4	6.2	6.3	6.4	6.4	6.4	6.3	6.2	6.3
13	6.5	6.4	6.5	6.4	6.3	6.4	6.4	6.4	6.4	6.3	6.3	6.3
14	6.5	6.4	6.5	6.5	6.4	6.4	6.5	6.4	6.4	6.3	6.2	6.2
15	6.5	6.4	6.4	6.5	6.4	6.4	6.6	6.5	6.5	6.3	6.2	6.3
16	6.4	6.3	6.4	6.5	6.4	6.4	6.8	6.4	6.5	6.3	6.2	6.3
17	6.4	6.3	6.3	6.5	6.4	6.5	6.4	6.3	6.3	6.3	6.3	6.3
18	6.4	6.3	6.4	6.6	6.4	6.5	6.3	6.3	6.3	6.3	6.2	6.3
19	6.5	6.3	6.4	6.5	6.4	6.5	6.4	6.3	6.4	6.3	6.1	6.2
20	6.5	6.4	6.5	6.5	6.4	6.4	6.5	6.3	6.4	6.2	6.1	6.2
21	6.5	6.5	6.5	6.4	6.4	6.4	6.5	6.3	6.4	6.2	6.2	6.2
22	6.5	6.5	6.5	6.4	6.4	6.4	6.5	6.4	6.5	6.2	6.2	6.2
23	6.5	6.5	6.5	6.4	6.4	6.4	6.5	6.5	6.5	6.3	6.2	6.2
24	6.5	6.5	6.5	6.4	6.4	6.4	6.5	6.5	6.5	6.3	6.2	6.3
25	6.5	6.4	6.5	6.4	6.4	6.4	6.5	6.4	6.4	6.4	6.3	6.3
26	6.5	6.4	6.5	6.5	6.4	6.4	6.4	6.4	6.4	6.4	6.3	6.4
27	6.5	6.5	6.5	6.5	6.4	6.5	6.4	6.3	6.4	6.4	6.4	6.4
28	6.5	6.4	6.5	6.5	6.4	6.4	6.3	6.3	6.3	6.4	6.4	6.4
29	---	---	---	6.5	6.4	6.5	6.4	6.2	6.3	6.5	6.4	6.4
30	---	---	---	6.6	6.5	6.5	6.5	6.1	6.3	6.4	6.3	6.4
31	---	---	---	6.6	6.4	6.5	---	---	---	6.5	6.3	6.4
MONTH	6.7	6.3	6.5	6.6	6.0	6.4	6.9	6.1	6.5	6.5	6.0	6.3

## POTOMAC RIVER BASIN

01594936 NORTH FORK SAND RUN NEAR WILSON, MD--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	JUNE			JULY			AUGUST			SEPTEMBER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	6.5	6.4	6.5	6.7	6.5	6.6	7.1	6.9	7.0	6.8	6.6	6.7
2	6.5	6.4	6.5	6.7	6.6	6.7	7.1	6.9	7.0	6.9	6.7	6.8
3	6.5	6.4	6.5	6.8	6.7	6.8	6.9	6.7	6.9	6.7	6.5	6.7
4	6.5	6.4	6.5	6.8	6.7	6.7	7.1	6.9	7.0	6.8	6.5	6.6
5	6.6	6.5	6.5	6.8	6.7	6.8	6.9	6.6	6.8	6.7	6.4	6.5
6	6.6	6.5	6.5	6.8	6.7	6.8	7.0	6.9	7.0	6.5	6.2	6.4
7	6.6	6.5	6.5	6.8	6.7	6.8	7.1	6.9	7.0	6.3	6.1	6.2
8	6.6	6.5	6.5	6.8	6.7	6.8	7.1	6.9	6.9	6.2	5.8	5.9
9	6.5	6.4	6.5	6.8	6.7	6.8	7.0	6.8	6.9	6.2	5.9	6.0
10	6.6	6.5	6.6	6.8	6.7	6.8	7.1	6.8	7.0	6.4	6.1	6.3
11	6.7	6.5	6.6	6.8	6.7	6.7	7.2	6.9	7.0	6.5	6.0	6.3
12	6.7	6.6	6.6	6.8	6.7	6.8	7.2	6.9	7.0	6.2	5.9	6.1
13	6.7	6.5	6.6	6.8	6.7	6.8	7.0	6.8	6.9	6.2	6.0	6.1
14	6.7	6.6	6.6	6.9	6.7	6.8	7.0	6.9	7.0	6.4	6.2	6.3
15	6.7	6.6	6.6	6.9	6.8	6.9	7.0	6.9	6.9	6.4	6.1	6.3
16	6.6	6.4	6.5	6.9	6.8	6.8	7.0	6.8	6.9	6.5	6.2	6.3
17	6.7	6.5	6.6	6.9	6.8	6.8	7.0	6.7	6.9	6.5	6.2	6.4
18	6.7	6.6	6.6	6.9	6.8	6.8	6.8	6.7	6.8	6.5	6.2	6.3
19	6.7	6.5	6.6	6.9	6.8	6.8	6.9	6.8	6.8	6.4	6.3	6.3
20	6.7	5.8	6.4	6.9	6.8	6.8	6.9	6.8	6.8	6.4	6.3	6.3
21	6.2	6.1	6.1	6.8	6.7	6.8	7.0	6.8	6.9	6.4	6.2	6.3
22	6.3	6.1	6.2	6.8	6.7	6.8	6.9	6.4	6.8	6.3	6.1	6.2
23	6.4	6.3	6.3	6.8	6.7	6.8	6.7	6.4	6.6	6.5	6.3	6.4
24	6.5	6.3	6.4	6.8	6.7	6.8	6.7	6.6	6.7	6.5	6.4	6.5
25	6.5	6.4	6.5	6.9	6.7	6.8	6.8	6.6	6.7	6.6	6.5	6.5
26	6.5	6.5	6.5	6.8	6.7	6.8	6.9	6.8	6.8	6.6	6.5	6.5
27	6.6	6.5	6.6	6.9	6.8	6.8	6.8	6.4	6.6	6.7	6.6	6.6
28	6.6	6.6	6.6	6.9	6.8	6.8	6.7	6.3	6.6	6.7	6.5	6.6
29	6.6	6.6	6.6	7.0	6.8	6.9	6.5	6.3	6.4	6.7	6.6	6.7
30	6.6	6.5	6.6	7.0	6.9	7.0	6.5	6.4	6.4	6.8	6.5	6.6
31	---	---	---	7.0	6.9	6.9	6.7	6.5	6.6	---	---	---
MONTH	6.7	5.8	6.5	7.0	6.5	6.8	7.2	6.3	6.8	6.9	5.8	6.4

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	20.5	17.5	19.0	8.5	6.5	7.5	4.5	2.5	3.5	1.5	.5	1.0
2	20.5	17.5	19.0	10.5	8.5	9.5	4.0	2.0	3.0	.5	.0	.5
3	19.5	17.0	18.5	9.0	7.5	8.0	5.0	3.5	4.5	.5	.0	.0
4	19.0	18.5	18.5	9.0	8.0	8.5	3.5	2.0	3.0	.5	.0	.5
5	18.5	15.0	16.5	8.5	7.5	8.0	3.5	2.0	2.5	.0	.0	.0
6	14.5	11.5	13.0	9.5	7.5	8.5	4.0	1.5	3.0	.0	.0	.0
7	11.5	8.5	10.5	9.5	8.5	9.0	5.0	3.0	4.0	1.0	.0	.5
8	12.0	7.5	10.0	12.0	9.5	10.5	5.5	4.5	5.0	1.0	.5	1.0
9	13.5	9.5	11.5	11.5	8.5	11.0	7.5	5.5	6.0	1.5	.5	1.0
10	13.0	10.5	12.0	8.5	6.5	7.5	8.0	5.0	7.0	2.0	1.0	1.5
11	11.5	8.5	10.0	7.0	6.5	6.5	5.0	4.0	4.5	1.5	.0	.5
12	13.0	8.0	10.5	8.0	6.5	7.0	5.0	2.5	4.0	.0	.0	.0
13	13.5	12.0	13.0	7.0	2.5	4.5	2.5	.5	1.5	1.0	.0	.5
14	13.5	10.0	12.5	3.5	1.0	2.0	2.0	.0	1.0	2.5	.0	1.5
15	10.0	8.0	9.0	5.0	2.0	3.5	3.5	2.0	3.0	3.0	2.5	2.5
16	9.0	6.5	8.0	5.5	4.5	5.0	3.5	1.5	2.5	3.0	2.5	2.5
17	9.0	7.5	8.5	7.0	5.5	6.0	4.5	3.5	4.0	3.0	2.0	2.5
18	9.0	7.0	7.5	7.0	5.5	6.0	4.5	2.5	4.0	3.0	2.0	2.5
19	8.0	4.5	6.5	6.0	4.5	5.5	2.5	2.0	2.0	3.0	2.0	2.5
20	7.5	4.0	6.0	5.5	4.0	4.5	3.0	1.5	2.0	2.0	1.5	2.0
21	8.0	4.0	6.5	5.5	4.0	4.5	2.0	1.0	2.0	2.0	1.5	2.0
22	10.5	7.0	8.5	5.5	3.5	4.5	1.0	.0	.5	1.5	.0	.5
23	10.5	8.5	9.5	6.5	3.5	5.0	1.5	.0	.5	.5	.0	.0
24	11.5	8.0	10.0	7.5	6.0	7.0	2.0	1.5	2.0	.0	.0	.0
25	11.5	9.5	10.0	6.0	4.0	5.5	3.0	2.0	2.5	.0	.0	.0
26	12.0	9.5	10.5	9.0	6.0	7.5	3.0	2.5	2.5	.0	.0	.0
27	12.0	10.5	11.5	8.5	6.0	7.5	3.5	2.0	2.5	.0	.0	.0
28	10.5	9.0	10.0	7.5	5.5	6.5	2.5	2.0	2.0	.0	.0	.0
29	10.0	7.0	8.5	7.5	5.5	6.0	2.0	.5	1.5	.5	.0	.0
30	11.0	9.5	10.0	6.0	4.0	5.0	2.0	1.5	1.5	1.0	.0	.5
31	9.5	6.5	8.0	---	---	---	2.0	1.0	1.5	.0	.0	.0
MONTH	20.5	4.0	11.0	12.0	1.0	6.5	8.0	.0	3.0	3.0	.0	1.0

POTOMAC RIVER BASIN

01594936 NORTH FORK SAND RUN NEAR WILSON, MD--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	FEBRUARY			MARCH			APRIL			MAY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	2.0	.0	1.0	3.0	1.5	2.0	7.0	4.0	5.5	15.0	8.0	11.5
2	2.5	1.5	2.0	2.5	1.0	1.5	6.5	5.0	6.0	15.5	10.0	12.5
3	2.5	2.0	2.0	4.5	2.0	3.0	5.0	3.0	4.0	16.0	11.5	13.5
4	3.0	1.0	2.0	2.5	.5	2.0	4.0	2.0	3.5	12.0	9.0	10.5
5	2.5	.5	1.5	8.0	.0	3.0	5.5	3.5	4.0	13.5	7.5	10.5
6	3.0	.0	1.5	10.0	5.5	7.5	4.0	2.5	3.5	16.0	8.0	12.0
7	3.0	1.0	2.0	10.5	5.5	7.5	5.5	4.0	4.5	16.5	9.0	12.5
8	2.5	.0	1.5	9.5	6.0	7.5	8.5	4.5	6.0	15.0	10.0	12.5
9	.0	.0	.0	9.5	7.5	8.5	9.0	4.0	6.5	17.5	8.5	13.0
10	.5	.0	.0	8.0	5.0	6.5	11.0	5.0	7.5	19.5	10.0	15.0
11	1.5	.0	1.0	7.5	4.0	5.5	8.5	5.5	7.0	19.5	12.0	16.0
12	1.5	1.0	1.5	8.5	5.0	6.5	8.0	6.0	7.0	19.5	13.5	16.5
13	2.5	.5	1.5	8.0	4.5	6.0	10.5	6.5	8.0	19.0	14.0	16.5
14	2.0	.0	1.0	7.0	3.5	5.0	12.0	6.5	9.0	21.0	13.5	17.5
15	2.5	.5	1.5	6.0	3.0	5.0	9.5	8.0	9.0	19.0	16.5	18.0
16	.0	.0	.0	7.5	3.0	5.0	7.5	6.5	7.0	20.0	11.5	16.0
17	1.0	.0	.5	7.5	2.5	5.0	7.5	6.5	7.0	21.0	12.0	17.0
18	2.0	.0	1.0	8.5	3.5	6.0	13.0	7.0	10.0	20.5	14.0	17.5
19	1.0	.0	.5	10.0	4.5	7.0	13.0	8.5	10.5	19.5	15.5	17.5
20	1.5	.0	.5	10.5	4.5	7.5	15.5	8.0	11.5	17.0	14.5	15.5
21	2.5	.5	2.0	11.0	6.0	8.0	16.0	9.0	12.5	21.0	13.5	17.0
22	3.5	1.0	2.0	10.5	5.5	8.0	16.0	10.5	13.5	22.0	15.0	19.0
23	1.0	.0	.5	12.0	5.5	8.5	15.0	12.5	13.5	23.0	17.5	20.5
24	2.5	.5	1.5	12.0	6.0	9.0	14.5	12.0	13.5	23.5	18.5	21.0
25	2.0	.0	1.0	11.5	9.0	10.0	12.5	9.5	11.0	21.0	17.5	19.5
26	1.5	.0	1.0	14.0	9.0	11.0	15.0	7.5	11.0	22.0	18.5	20.5
27	1.5	.5	1.5	13.0	8.0	10.5	15.5	8.0	11.5	22.0	18.5	20.5
28	2.5	1.5	2.0	14.5	10.5	12.0	11.5	8.5	9.5	24.0	18.5	21.5
29	---	---	---	15.5	9.0	12.5	15.5	7.0	11.0	24.5	18.5	21.5
30	---	---	---	13.5	12.0	12.5	15.0	9.5	12.0	23.0	20.0	21.5
31	---	---	---	12.5	4.5	8.0	---	---	---	22.0	19.0	20.5
MONTH	3.5	.0	1.0	15.5	.0	7.0	16.0	2.0	8.5	24.5	7.5	16.5
DAY	JUNE			JULY			AUGUST			SEPTEMBER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	23.5	18.5	21.0	20.0	17.0	18.5	20.5	16.5	19.0	18.0	14.5	16.0
2	23.5	19.0	21.5	20.5	17.0	19.0	23.0	18.0	20.0	16.5	11.0	14.0
3	22.0	19.0	21.0	22.5	18.0	20.0	21.0	18.0	19.5	17.0	12.5	15.0
4	21.0	19.0	20.0	22.0	18.5	20.5	22.0	18.0	20.0	17.0	12.5	15.0
5	20.0	15.0	18.0	22.0	18.0	20.5	20.5	17.5	19.0	15.0	13.0	14.0
6	20.0	15.0	18.5	22.5	18.5	21.0	20.0	15.0	17.5	15.0	12.5	13.5
7	21.5	16.0	19.0	23.5	20.0	22.0	21.0	17.0	19.0	15.0	14.5	15.0
8	23.0	19.0	21.5	24.0	20.5	22.5	21.0	17.0	19.5	17.0	14.0	15.5
9	22.0	18.0	20.0	23.0	20.0	21.5	21.5	18.0	19.5	19.0	16.0	17.5
10	18.0	12.5	16.0	22.5	19.5	21.0	21.0	19.5	20.0	19.5	16.0	17.5
11	18.0	12.0	16.0	21.5	18.0	20.0	20.0	17.0	18.5	18.0	15.5	16.5
12	17.0	15.5	16.5	21.5	18.5	20.0	20.5	15.5	17.5	17.0	14.5	16.0
13	21.5	16.0	18.5	21.5	18.0	20.0	23.0	15.0	19.0	17.5	15.5	16.5
14	22.5	17.0	20.0	20.5	16.5	18.5	21.5	15.5	18.5	17.5	14.0	16.0
15	23.0	17.0	20.5	17.0	13.0	15.5	21.5	15.5	18.5	17.0	13.5	15.5
16	21.5	17.5	19.0	17.5	14.5	16.0	22.5	18.0	20.0	17.0	14.5	15.5
17	22.5	17.0	20.0	18.0	13.5	16.0	24.5	19.5	22.0	18.0	15.5	16.5
18	22.0	17.0	20.0	20.0	14.5	17.5	23.0	19.5	21.0	17.0	16.0	16.5
19	23.0	17.5	20.5	21.0	15.5	18.5	22.5	17.5	20.0	16.5	15.5	16.0
20	23.5	16.5	20.0	23.0	16.5	20.0	21.5	17.0	19.0	16.0	14.5	15.5
21	19.5	17.0	18.0	25.0	20.0	22.5	20.0	14.5	17.5	15.0	13.0	14.5
22	20.0	17.0	18.5	25.5	20.5	23.0	18.5	16.5	17.5	14.0	12.5	13.5
23	18.5	17.5	18.0	25.0	20.0	22.5	19.0	16.0	17.5	19.5	12.0	15.5
24	21.0	16.5	18.5	26.0	21.0	23.5	16.0	13.0	14.5	20.5	17.0	18.5
25	20.0	15.5	18.0	24.5	19.5	22.5	14.5	11.5	13.0	19.5	16.5	18.0
26	20.5	16.5	18.0	23.0	20.0	21.5	16.0	13.0	14.5	18.0	13.0	15.5
27	18.5	14.5	17.0	24.5	19.5	21.5	19.0	15.0	17.0	18.5	13.0	16.0
28	17.5	13.0	15.5	23.5	17.5	20.5	18.0	16.0	17.5	19.0	13.5	16.5
29	19.0	12.5	16.0	22.0	16.0	19.0	17.0	15.0	16.5	19.0	15.0	17.5
30	21.5	16.5	19.0	22.5	16.5	19.5	17.5	12.5	15.0	19.0	16.5	18.0
31	---	---	---	21.5	18.5	19.5	17.0	13.5	15.5	---	---	---
MONTH	23.5	12.0	19.0	26.0	13.0	20.0	24.5	11.5	18.0	20.5	11.0	16.0

## POTOMAC RIVER BASIN

01595000 NORTH BRANCH POTOMAC RIVER AT STEYER, MD

LOCATION.--Lat 39°18'07", long 79°18'26", Garrett County, Hydrologic Unit 02070002, on left bank 0.3 mi southeast of Steyer, 0.4 mi downstream from Steyer Run, 2.0 mi northeast of Gorman, and at mile 81.8.

DRAINAGE AREA.--73.0 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1956 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,276.01 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Oct. 8 to Nov. 4 and Jan. 23-30. Records fair except those for period with ice effect, Jan. 23-30, and for period of backwater from unknown source, Oct. 8 to Nov. 4, which are poor. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--31 years, 174 ft<sup>3</sup>/s, 32.37 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,500 ft<sup>3</sup>/s, Nov. 5, 1985, gage height, 13.14 ft, from rating curve extended above 3,000 ft<sup>3</sup>/s on basis of slope-area measurement at gage height 10.30 ft; minimum discharge 2.9 ft<sup>3</sup>/s, Sept. 10, 1965, gage height, 2.03 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 15, 1954, reached a stage of 13.0 ft, from floodmarks; discharge, 11,300 ft<sup>3</sup>/s, from rating curve extended as explained above.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,200 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
APR. 16	2230	*1,440	*5.31	No peak greater than base discharge.			

Minimum discharge, 11 ft<sup>3</sup>/s, Aug. 17, gage height, 1.85 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	141	170	191	142	220	538	234	246	52	50	27	27
2	233	230	222	128	325	602	238	231	52	64	21	26
3	154	180	384	122	319	347	231	223	53	54	25	24
4	133	180	294	130	238	281	222	532	52	42	27	23
5	179	689	226	112	203	233	199	372	48	36	49	21
6	137	776	194	126	187	235	198	292	41	29	54	76
7	120	341	179	127	175	320	271	246	33	33	29	89
8	100	250	164	113	169	410	665	211	27	35	24	342
9	90	379	423	97	146	463	631	175	37	34	20	168
10	80	329	544	101	185	409	533	147	45	36	14	89
11	76	377	382	96	164	292	470	123	42	33	20	71
12	76	408	331	84	188	244	441	113	38	29	23	320
13	120	281	251	88	207	207	380	109	63	24	23	301
14	180	214	225	92	164	173	300	98	55	29	22	149
15	140	184	203	233	147	159	311	106	37	35	18	99
16	120	157	175	390	119	153	684	90	54	33	15	75
17	105	135	162	259	141	146	1050	69	52	28	12	81
18	96	157	204	212	126	156	585	59	41	26	26	223
19	88	467	205	696	132	165	412	116	38	21	20	136
20	85	345	167	519	123	170	327	203	158	16	15	139
21	83	586	152	321	105	157	271	118	373	20	16	112
22	82	360	138	244	100	149	235	95	185	30	67	92
23	82	287	177	210	117	145	211	81	328	27	133	87
24	82	288	230	190	99	150	288	71	212	25	35	74
25	120	263	423	180	98	162	353	58	136	21	24	65
26	150	422	318	160	102	162	265	76	106	20	24	53
27	130	478	252	150	101	135	232	104	94	22	37	47
28	220	331	219	150	103	127	260	95	64	24	39	41
29	180	266	192	160	---	112	225	80	49	28	106	44
30	160	223	176	180	---	129	329	74	54	27	43	110
31	140	---	158	311	---	272	---	74	---	27	29	---
TOTAL	3882	9753	7561	6123	4503	7403	11051	4687	2619	958	1037	3204
MEAN	125	325	244	198	161	239	368	151	87.3	30.9	33.5	107
MAX	233	776	544	696	325	602	1050	532	373	64	133	342
MIN	76	135	138	84	98	112	198	58	27	16	12	21
CFSM	1.71	4.45	3.34	2.71	2.21	3.27	5.04	2.07	1.20	.42	.46	1.47
IN.	1.98	4.97	3.85	3.12	2.29	3.77	5.63	2.39	1.33	.49	.53	1.63

CAL YR 1986	TOTAL	65503	MEAN 179	MAX 1420	MIN 17	CFSM 2.45	IN 33.38
WTR YR 1987	TOTAL	62781	MEAN 172	MAX 1050	MIN 12	CFSM 2.36	IN 31.99

POTOMAC RIVER BASIN

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01595200 STONY RIVER NEAR MOUNT STORM, WV

LOCATION.--Lat 39°16'10", long 79°15'45", Grant County, Hydrologic Unit 02070002, on left bank 100 ft downstream from highway bridge on U.S. Highway 50, 1.0 mi west of Mt. Storm, and at mile 6.4.

DRAINAGE AREA.--48.8 mi<sup>2</sup>.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1961 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,554.54 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Water-discharge records good. Flow regulated by Stony River Reservoir, 14.0 mi upstream from station, capacity, 1,948,000,000 gal, of which 1,681,000,000 gal is controlled above minimum pool. Regulation since 1963 by Virginia Electric and Power Company dam (Mount Storm Lake), 4.0 mi upstream from station. Reservoir no longer in use after June 1987.

AVERAGE DISCHARGE.--26 years, 101 ft<sup>3</sup>/s, 28.11 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,000 ft<sup>3</sup>/s, Nov. 5, 1985, gage height, 16.41 ft, from rating curve extended above 7,500 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; minimum discharge, 1.8 ft<sup>3</sup>/s, July 13, 1968, Sept. 25, 1985; minimum gage height, 1.73 ft, Sept. 25, 1985.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,810 ft<sup>3</sup>/s, Nov. 28, gage height, 6.82 ft; minimum discharge, 3.7 ft<sup>3</sup>/s, Oct. 12; minimum gage height, 1.88 ft, July 19-22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.7	5.1	42	124	162	212	409	241	149	19	6.8	6.0
2	13	12	82	114	122	199	381	230	130	21	6.4	6.4
3	5.0	7.4	345	97	75	155	328	223	122	19	8.9	6.2
4	4.4	6.1	326	80	46	142	304	491	112	15	7.1	8.6
5	5.7	56	174	61	39	132	147	528	102	11	11	9.0
6	4.8	85	74	38	36	140	194	186	95	10	7.4	18
7	5.4	35	74	29	34	173	340	165	36	11	6.1	34
8	5.9	28	81	26	35	202	208	108	18	10	5.3	119
9	5.5	43	118	24	36	237	256	92	22	9.0	5.0	48
10	5.5	47	121	24	38	297	453	50	21	8.6	5.2	17
11	4.3	116	96	24	30	293	480	41	21	8.1	5.4	21
12	3.7	148	80	25	42	252	338	40	24	6.2	5.1	76
13	4.0	127	65	22	45	224	92	47	59	5.8	4.8	82
14	6.0	109	54	22	40	169	178	55	50	6.9	5.1	26
15	5.0	96	48	40	33	53	468	59	47	7.5	5.2	19
16	5.2	87	47	72	34	59	1160	70	52	6.0	4.9	15
17	5.8	80	46	49	33	59	1140	147	50	6.3	5.6	15
18	4.7	91	52	45	27	82	609	83	45	6.0	9.1	36
19	3.9	149	50	199	36	115	237	114	42	5.4	7.9	20
20	4.0	119	45	196	35	104	395	207	41	5.3	6.1	16
21	4.2	155	43	167	24	93	324	231	63	5.3	5.3	15
22	4.0	138	46	162	24	94	178	122	67	6.1	26	16
23	4.0	161	52	162	54	98	607	44	78	11	24	13
24	4.9	141	156	156	65	103	405	34	263	7.6	6.5	12
25	5.8	122	291	149	135	112	281	33	151	6.5	6.6	12
26	6.2	148	223	145	47	114	543	48	17	8.0	6.5	9.8
27	5.9	200	192	141	46	119	109	110	15	7.1	7.2	9.3
28	9.2	555	130	138	58	130	134	192	12	6.6	7.4	10
29	9.3	39	119	133	---	137	144	200	14	6.4	11	15
30	9.1	41	110	135	---	165	277	184	19	6.3	6.2	18
31	6.3	---	116	185	---	403	---	170	---	7.3	5.6	---
TOTAL	175.4	3146.6	3498	2984	1431	4867	11119	4545	1937	275.3	240.7	728.3
MEAN	5.66	105	113	96.3	51.1	157	371	147	64.6	8.88	7.76	24.3
MAX	13	555	345	199	162	403	1160	528	263	21	26	119
MIN	3.7	5.1	42	22	24	53	92	33	12	5.3	4.8	6.0
(†)	1219	1091	1208	1263	1133	1241	712	196	---	---	---	---

CAL YR 1986 TOTAL 27606.7 MEAN 75.6 MAX 1130 MIN 3.1  
WTR YR 1987 TOTAL 34947.1 MEAN 95.7 MAX 1160 MIN 3.7

† Month-end contents, in millions of gallons, in Stony River Reservoir, provided by West Virginia Pulp and Paper Company. These values do not include changes in storage in Mount Storm Lake.

## POTOMAC RIVER BASIN

01595200 STONY RIVER NEAR MOUNT STORM, WV--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1962 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: December 1961 to March 1974, September 1974 to current year.

INSTRUMENTATION.--Temperature recorder (continuous ethyl alcohol - actuated thermograph) since December 1961.

REMARKS.--Upstream reservoir regulation stopped June 1987.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 27.5°C, Aug. 14, 1984; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 25.5°C, July 21; minimum, 1.5°C, Feb. 10-13, 19-24.

## TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	20.0	19.0	8.5	7.5	7.0	6.5	7.5	7.5	6.0	5.5	6.0	4.5
2	19.5	18.5	10.0	8.5	9.0	6.0	7.5	6.5	6.0	6.0	4.5	4.0
3	19.0	18.0	9.5	8.5	11.0	9.0	6.5	6.5	6.0	4.0	5.5	4.5
4	18.5	18.5	9.0	8.5	11.0	11.0	6.5	4.5	4.0	3.0	5.0	5.0
5	18.5	18.0	9.0	8.0	11.0	7.5	4.5	3.5	3.0	2.5	6.5	5.0
6	16.0	12.5	9.0	8.0	7.5	5.5	3.5	3.0	2.5	2.5	7.5	6.0
7	12.5	10.5	9.0	9.0	6.0	5.5	3.0	3.0	3.0	2.5	7.5	6.5
8	12.0	10.0	11.0	9.0	8.5	6.0	3.0	3.0	3.0	2.5	7.0	6.0
9	13.0	11.0	11.0	9.5	10.0	8.5	3.0	3.0	2.5	2.0	7.0	7.0
10	13.0	11.0	9.5	7.0	10.0	8.0	3.0	3.0	2.0	1.5	7.5	5.5
11	11.5	10.0	11.5	7.5	8.0	7.5	3.0	3.0	2.0	1.5	8.0	7.5
12	12.5	10.0	12.5	11.5	7.5	6.5	3.0	2.5	2.0	1.5	8.5	7.5
13	13.5	12.5	12.5	10.5	6.5	4.5	3.0	2.5	2.0	1.5	8.0	7.5
14	13.5	11.0	10.5	9.0	4.5	3.0	2.5	2.5	2.0	2.0	8.0	6.5
15	11.0	10.0	11.0	9.5	4.0	3.0	3.0	2.5	2.5	2.0	6.5	4.0
16	9.5	8.0	11.0	11.0	4.5	3.5	3.0	3.0	2.0	2.0	4.0	3.5
17	9.0	8.5	11.0	10.5	5.0	4.5	3.0	3.0	2.0	2.0	4.0	2.5
18	9.5	8.0	11.0	10.5	5.0	4.5	3.0	3.0	2.0	2.0	6.0	3.0
19	8.5	6.0	10.5	8.5	4.5	4.0	4.0	3.0	2.0	1.5	8.0	6.0
20	7.0	6.0	9.0	8.5	4.0	3.5	5.5	4.0	2.0	1.5	7.5	6.5
21	8.0	6.0	9.0	8.5	3.5	3.5	6.0	5.5	2.0	1.5	7.5	6.0
22	10.0	7.5	9.5	9.0	3.5	2.5	6.0	5.5	3.0	1.5	7.0	6.5
23	10.5	9.0	12.0	9.5	4.0	2.5	6.0	5.5	2.0	1.5	9.0	6.5
24	11.0	9.0	13.0	11.5	7.0	4.0	5.5	5.0	5.0	1.5	9.0	7.0
25	11.0	10.0	11.5	11.0	7.0	6.5	5.5	5.0	6.0	5.0	9.0	8.5
26	12.0	10.0	12.5	11.0	10.5	7.0	5.5	5.5	5.0	3.5	10.0	8.5
27	11.5	11.0	12.5	12.0	10.5	7.5	5.5	5.0	4.0	3.5	10.0	8.5
28	11.0	10.0	16.0	10.5	7.5	7.0	6.0	5.0	4.5	3.5	11.0	10.0
29	10.0	8.0	10.5	8.5	7.0	6.5	6.0	5.5	---	---	12.0	10.0
30	10.5	9.0	8.5	7.0	7.0	7.0	6.0	5.5	---	---	11.5	11.0
31	9.0	8.0	---	---	7.5	7.0	5.5	5.0	---	---	11.0	10.5
MONTH	20.0	6.0	16.0	7.0	11.0	2.5	7.5	2.5	6.0	1.5	12.0	2.5

## 01595200 STONY RIVER NEAR MOUNT STORM, WV--Continued

TEMPERATURE, WATER, DEGREES CENTIGRADE, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	11.0	10.5	14.0	11.5	22.0	21.0	21.5	19.0	21.5	19.0	19.0	16.5
2	11.0	11.0	14.5	13.0	22.0	21.0	21.5	20.0	22.0	19.5	18.0	15.0
3	11.0	10.0	15.0	13.5	21.5	20.5	22.5	20.5	22.5	20.5	18.5	16.0
4	10.0	9.5	13.5	12.0	21.0	20.0	22.5	21.5	23.5	20.0	18.0	15.5
5	9.5	8.0	15.0	12.5	20.0	18.0	23.0	20.5	23.0	19.5	17.0	15.5
6	9.5	7.0	14.5	11.5	20.5	18.0	24.0	20.5	21.5	18.5	17.0	16.0
7	10.0	9.5	15.0	12.5	20.5	18.0	24.0	21.5	22.5	19.5	17.0	17.0
8	9.5	6.0	14.0	11.5	20.0	17.5	24.5	22.0	23.5	19.5	17.5	17.0
9	9.0	6.0	15.0	11.5	19.5	17.5	24.5	22.5	24.0	20.5	18.5	17.5
10	11.5	9.0	15.5	12.0	17.5	15.0	24.5	21.5	23.0	21.5	19.0	17.5
11	11.0	11.0	15.5	12.5	17.5	14.5	23.5	21.0	22.0	19.5	19.0	18.0
12	12.0	9.0	16.0	13.0	17.0	16.0	24.0	21.5	23.0	19.5	19.0	18.5
13	9.0	8.0	15.0	13.5	20.5	16.5	24.0	20.5	23.5	19.5	18.5	18.0
14	11.5	8.5	16.0	13.5	21.5	19.0	23.0	19.5	23.0	18.5	18.0	17.5
15	12.5	11.0	16.0	15.5	22.0	19.5	20.5	16.0	23.0	18.5	18.0	17.0
16	11.5	10.0	16.0	12.5	22.0	21.0	18.5	16.5	24.0	20.0	18.0	17.5
17	11.0	10.0	19.5	16.0	22.0	19.0	19.0	16.0	24.5	21.5	18.5	17.5
18	12.0	11.0	19.0	17.0	22.0	19.5	23.0	17.0	24.0	21.5	18.5	18.0
19	11.0	10.5	19.0	15.0	22.5	20.5	22.5	18.0	23.0	19.5	18.0	18.0
20	13.0	11.0	16.0	14.5	22.0	21.0	24.0	18.5	22.5	19.0	18.0	17.0
21	14.0	13.0	19.0	16.0	22.0	20.5	25.5	21.5	21.0	17.0	17.0	16.0
22	15.0	11.5	19.0	18.0	22.0	21.0	24.5	21.0	20.0	19.0	16.5	15.5
23	15.0	14.5	19.0	17.0	22.0	21.5	24.0	20.5	19.0	17.0	15.5	15.0
24	15.0	12.0	19.0	17.0	24.0	21.5	25.0	21.5	17.5	15.0	15.5	14.5
25	12.0	10.0	18.5	16.0	24.0	23.5	24.0	20.5	16.5	15.0	15.5	15.0
26	14.0	12.0	17.5	16.5	23.5	21.5	23.0	21.0	16.5	15.0	14.5	12.5
27	13.0	10.0	18.0	16.5	21.5	19.0	23.0	20.0	19.0	16.5	14.5	13.0
28	11.0	10.0	21.0	17.5	19.5	17.0	23.0	19.0	19.0	18.5	14.5	13.0
29	13.0	10.0	22.0	20.5	19.5	16.0	22.0	18.0	19.0	17.0	15.0	14.0
30	13.0	11.0	22.0	21.5	22.0	18.5	22.5	18.5	18.5	15.0	15.0	15.0
31	---	---	21.5	21.0	---	---	22.0	20.0	18.5	15.5	---	---
MONTH	15.0	6.0	22.0	11.5	24.0	14.5	25.5	16.0	24.5	15.0	19.0	12.5
YEAR	MAXIMUM 25.5		MINIMUM 1.5									

## POTOMAC RIVER BASIN

01596500 SAVAGE RIVER NEAR BARTON, MD

LOCATION.--Lat 39°34'05", long 79°06'10", Garrett County, Hydrologic Unit 02070002, on right bank 0.9 mi upstream from Bear Pen Run, 1.5 mi downstream from Popular Lick Run, 5.4 mi northwest of Barton, and 10 mi upstream from mouth.

DRAINAGE AREA.--49.1 mi<sup>2</sup>.

PERIOD OF RECORD.--September 1948 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1603.88 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Jan. 4-8, 23-31, Feb. 3, 4, 10-11, 16-21. Records good except those for estimated daily discharges (ice effect), which are fair. U.S. Army Corps of Engineers satellite telemeter at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--39 years, 75.1 ft<sup>3</sup>/s, 20.77 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,510 ft<sup>3</sup>/s, Oct. 15, 1954, gage height, 8.45 ft, from rating curve extended above 1,600 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; minimum discharge, 0.40 ft<sup>3</sup>/s, Sept. 3, 4, 1966, gage height, 0.96 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 800 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Apr. 17	1030	*957	*3.51	No other peak greater than base discharge.			

Minimum daily discharge, 2.3 ft<sup>3</sup>/s, Aug. 20, 21, Sept. 3, 4, 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.0	10	78	59	70	84	345	49	42	9.9	2.6	2.5
2	20	11	108	55	65	212	253	47	35	21	2.7	2.4
3	12	11	353	48	100	168	192	48	29	22	2.8	2.3
4	118	11	283	38	80	135	276	83	24	14	2.8	2.3
5	90	51	187	37	71	109	334	104	20	9.7	3.3	2.3
6	52	169	129	36	70	98	279	102	16	7.3	4.1	6.8
7	32	113	99	35	71	143	358	90	13	6.3	3.5	11
8	22	82	82	34	74	262	528	77	11	5.6	2.9	36
9	17	79	151	30	66	336	507	65	11	4.8	2.9	20
10	14	73	233	29	60	281	332	56	9.6	4.4	3.0	8.1
11	12	95	195	29	55	177	231	49	8.3	4.2	2.9	9.4
12	10	133	146	26	51	128	192	43	7.6	3.9	2.9	24
13	10	106	105	25	51	98	170	37	7.9	3.9	2.7	25
14	18	77	87	26	47	80	146	31	8.7	4.0	2.7	13
15	16	61	74	41	44	71	135	41	6.9	4.1	2.7	7.9
16	12	52	60	86	43	61	241	36	6.2	3.7	2.6	6.0
17	11	43	54	89	42	55	749	29	5.7	3.4	2.5	6.8
18	10	45	59	84	40	52	457	27	5.1	3.3	2.5	7.9
19	9.2	138	59	190	36	51	320	66	4.7	3.0	2.4	8.8
20	7.9	137	52	250	34	53	204	142	19	3.0	2.3	23
21	7.2	300	50	178	30	55	147	113	61	3.0	2.3	24
22	7.0	209	46	132	28	55	112	91	31	3.0	3.8	16
23	6.7	141	59	100	32	56	90	71	23	2.9	5.5	13
24	6.4	107	62	75	29	57	82	57	17	3.1	3.6	9.5
25	6.3	85	173	60	31	62	74	47	12	3.0	2.6	8.3
26	11	139	264	55	36	67	62	41	10	3.5	2.5	7.7
27	15	262	190	50	29	60	53	82	9.6	5.9	2.9	6.5
28	13	193	138	50	30	55	55	96	7.8	3.8	2.6	5.7
29	13	137	104	55	---	51	54	77	6.6	2.8	2.7	5.2
30	12	100	86	60	---	145	53	62	6.7	2.7	2.6	13
31	11	---	70	75	---	360	---	52	---	2.5	2.5	---
TOTAL	606.7	3170	3836	2137	1415	3677	7031	2011	475.4	177.7	90.4	334.4
MEAN	19.6	106	124	68.9	50.5	119	234	64.9	15.8	5.73	2.92	11.1
MAX	118	300	353	250	100	360	749	142	61	22	5.5	36
MIN	5.0	10	46	25	28	51	53	27	4.7	2.5	2.3	2.3
CFSM	.40	2.16	2.53	1.40	1.03	2.42	4.77	1.32	.32	.12	.06	.23
IN.	.46	2.40	2.91	1.62	1.07	2.79	5.33	1.52	.36	.13	.07	.25

CAL YR 1986 TOTAL 26592.6 MEAN 72.9 MAX 981 MIN 2.5 CFSM 1.49 IN 20.15  
WTR YR 1987 TOTAL 24961.6 MEAN 68.4 MAX 749 MIN 2.3 CFSM 1.39 IN 18.91

POTOMAC RIVER BASIN

01597500 SAVAGE RIVER, BELOW SAVAGE RIVER DAM, NEAR BLOOMINGTON, MD

LOCATION.--Lat 39°30'05", long 79°07'25", Garrett County, Hydrologic Unit 02070002, on left bank 0.7 mi downstream from Savage River Dam, 1.1 mi downstream from Crabtree Creek, 3.2 mi northwest of Bloomington, and 3.7 mi upstream from mouth.

DRAINAGE AREA.--106 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1948 to current year.

REVISED RECORDS.--WSP 1432: 1955.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,276.40 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Diversions upstream from station by Baltimore and Ohio Railroad and by cities of Frostburg and Westernport for municipal supply. Flow regulated by Savage River Reservoir beginning December 1950, capacity 20,000 acre-ft. U.S. Army Corps of Engineers satellite telemeter at station. Upper Potomac River Commission gage height telemeter at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--39 years, 165 ft<sup>3</sup>/s, 21.14 in/yr, adjusted for storage since December 1950.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,550 ft<sup>3</sup>/s, Nov. 4, 1985, gage height, 7.81 ft; minimum discharge, 0.35 ft<sup>3</sup>/s, Oct. 27, 1966, gage height, 0.57 ft; minimum daily discharge, 0.6 ft<sup>3</sup>/s, July 27-31, Aug. 5, 6, 9, 10, 1951.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,460 ft<sup>3</sup>/s, Apr. 8, gage height, 3.97 ft; minimum discharge, 30 ft<sup>3</sup>/s, Aug. 28, gage height, 0.95 ft; minimum daily discharge, 32 ft<sup>3</sup>/s, Aug. 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51	48	276	202	196	103	121	102	114	51	48	42
2	51	48	277	200	138	105	183	95	111	51	48	42
3	51	48	280	199	104	106	245	95	99	51	49	42
4	51	48	280	199	104	108	265	95	93	51	48	42
5	51	50	281	196	152	108	265	95	72	51	49	42
6	51	50	280	196	180	108	266	151	53	51	48	43
7	51	93	280	196	180	109	342	177	53	51	48	43
8	51	210	280	167	180	113	993	177	53	51	48	44
9	51	209	283	119	224	166	1290	177	53	51	48	42
10	51	206	344	100	216	265	926	136	53	51	48	42
11	51	206	382	100	196	306	805	101	53	51	40	43
12	51	132	381	100	196	304	647	94	53	50	35	43
13	51	77	381	100	172	244	427	93	53	50	35	44
14	51	77	377	100	157	208	467	93	53	50	34	43
15	50	77	374	100	156	207	379	93	53	50	34	43
16	50	77	370	100	155	207	347	93	53	50	34	43
17	50	77	366	101	122	180	821	93	53	50	34	44
18	50	77	272	102	102	133	1190	93	53	50	35	44
19	50	78	215	105	102	111	968	78	458	50	35	137
20	50	79	213	108	102	111	740	136	377	50	161	97
21	50	81	213	108	102	111	467	217	282	50	252	44
22	50	81	144	109	102	111	305	208	51	50	313	44
23	50	81	102	108	102	111	197	190	51	49	222	81
24	50	82	202	108	102	111	174	190	51	49	44	44
25	134	82	270	108	102	111	179	141	51	48	44	44
26	105	84	202	169	102	111	177	103	50	49	37	43
27	50	85	203	207	102	111	136	89	50	48	32	43
28	50	192	204	367	102	111	115	149	50	48	39	43
29	49	279	202	422	---	111	116	153	50	48	43	43
30	48	276	202	199	---	114	116	115	51	48	42	43
31	48	---	202	196	---	119	---	115	---	48	42	---
TOTAL	1698	3290	8338	4891	3950	4534	13669	3947	2750	1546	2069	1477
MEAN	54.8	110	269	158	141	146	456	127	91.7	49.9	66.7	49.2
MAX	134	279	382	422	224	306	1290	217	458	51	313	137
MIN	48	48	102	100	102	103	115	78	50	48	32	42
(†)	6710	11680	10190	9640	8690	15320	18130	19460	16360	14090	10290	10360

CAL YR 1986 TOTAL 54252 MEAN 149 MAX 1780 MIN 43 CFSM 1.40 IN 19.03  
WTR YR 1987 TOTAL 52159 MEAN 143 MAX 1290 MIN 32 CFSM 1.35 IN 18.30

† Monthend contents, in acre-feet, in Savage River Reservoir (contents on Sept. 30, 1986, 8,030 acre-feet).  
Records provided by U.S. Army Corps of Engineers.

## POTOMAC RIVER BASIN

01598500 NORTH BRANCH POTOMAC RIVER AT LUKE, MD

LOCATION.--Lat 39°28'45", long 79°03'55", Mineral County, W. Va., Hydrologic Unit 02070002, on right bank 0.2 mi downstream from Savage River, 0.5 mi northwest of Luke, and at mile 53.3.

DRAINAGE AREA.--404 mi<sup>2</sup>.

PERIOD OF RECORD.--June 1899 to July 1906 (published as "at Piedmont, W. Va."), October 1949 to current year.

REVISED RECORDS.--WSP 192: 1899-1904. WSP 1432: 1905-6, drainage area at former site.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 944.22 ft above National Geodetic Vertical Datum of 1929. June 27, 1899, to July 15, 1906, nonrecording gage at bridge 1.1 mi downstream at datum about 35 ft lower.

REMARKS.--Estimated daily discharges: Apr. 22 to May 19. Records good except those for periods of partially plugged intakes, Apr. 22 to May 19, which are fair. Flow regulated prior to July 1981 by Stony River Reservoir, 45 mi upstream from station (see station 01597500), since December 1950 by Savage River Reservoir, 5 mi upstream from station (see station 01597500), and since July 1981 by Jennings Randolph Lake, 9 mi upstream from station (see station 01595800). Some regulation at low flow by West Virginia Pulp and Paper Company at site used 1899-1906. U.S. Army Corps of Engineers satellite telemeter at station. Upper Potomac River Commission gage height telemeter at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--44 years (water years 1900-05, 1950-87), 717 ft<sup>3</sup>/s, 24.10 in/yr, adjusted for storage since October 1949.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 39,400 ft<sup>3</sup>/s, Oct. 15, 1954, gage height, 17.15 ft, from rating curve extended above 25,000 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; minimum daily discharge, 6 ft<sup>3</sup>/s, Sept. 4, 1904.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,780 ft<sup>3</sup>/s, Apr. 18, gage height, 7.78 ft; minimum discharge, 140 ft<sup>3</sup>/s, Aug. 18, gage height, 1.54 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	308	448	1050	595	518	478	529	900	399	271	251	241
2	308	447	1080	593	493	514	570	930	392	277	251	241
3	306	443	1460	588	473	493	696	1000	377	272	253	241
4	312	441	1270	541	490	482	842	1100	370	268	250	240
5	319	465	687	496	590	472	833	1830	355	266	266	242
6	305	504	677	485	618	446	794	2200	332	266	251	261
7	303	643	671	486	619	402	978	1830	330	265	248	256
8	303	1440	667	462	620	419	2470	1170	305	260	248	283
9	298	1890	718	413	652	477	3730	900	280	256	247	256
10	295	2200	743	392	646	667	3140	680	277	257	248	249
11	295	2580	736	390	588	808	3160	500	277	259	242	254
12	295	1660	726	387	528	798	2720	450	279	257	235	303
13	296	507	715	386	506	744	1830	430	277	257	234	400
14	298	448	708	386	484	706	1440	420	276	259	233	351
15	294	444	700	391	480	626	1350	430	275	259	233	320
16	293	414	688	396	475	530	1310	410	274	257	233	318
17	292	331	684	394	448	502	1590	400	273	257	232	326
18	292	307	592	395	423	457	3450	410	266	679	242	324
19	290	323	506	492	420	433	5480	440	646	570	232	737
20	289	344	502	482	417	432	5000	704	603	255	349	615
21	288	373	499	456	416	430	3980	792	616	254	432	312
22	287	346	436	453	419	428	2500	702	325	253	513	306
23	292	341	384	443	425	427	900	621	281	253	418	337
24	298	339	499	434	419	426	1000	617	265	252	247	299
25	649	339	640	432	419	427	900	569	372	252	246	299
26	618	443	774	482	419	425	1100	461	462	256	242	297
27	358	698	1220	523	418	433	800	407	377	253	235	296
28	441	884	1160	730	428	445	680	445	267	252	239	295
29	454	1070	816	1330	---	443	700	451	267	252	243	297
30	452	1060	714	526	---	476	800	405	268	251	242	301
31	451	---	678	521	---	547	---	402	---	251	242	---
TOTAL	10579	22172	23400	15480	13851	15793	55272	23006	10363	8746	8277	9497
MEAN	341	739	755	499	495	509	1842	742	345	282	267	317
MAX	649	2580	1460	1330	652	808	5480	2200	646	679	513	737
MIN	287	307	384	386	416	402	529	400	265	251	232	240
CAL YR 1986	TOTAL	210141	MEAN 576	MAX 5770	MIN 225	CFSM 1.43	IN 19.35					
WTR YR 1987	TOTAL	216436	MEAN 593	MAX 5480	MIN 232	CFSM 1.47	IN 19.93					

POTOMAC RIVER BASIN

01599000 GEORGES CREEK AT FRANKLIN, MD

LOCATION.--Lat 39°29'38", long 79°02'42", Allegany County, Hydrologic Unit 02070002, on right bank at Franklin, and 1.2 mi upstream from Westernport and mouth.

DRAINAGE AREA.--72.4 mi<sup>2</sup>.

PERIOD OF RECORD.--May 1905 to July 1906 (published as "at Westernport"), October 1929 to current year.

REVISED RECORDS.--WSP 726: Drainage area. WSP 1502: 1940. WDR MD-DE-86-1: 1984(M).

GAGE.--Water-stage recorder. Datum of gage is 958.96 ft Westvaco Corporation datum. May 4, 1905, to July 15, 1906, nonrecording gage at bridge 0.8 mi downstream at different datum. Oct. 16, 1929, to Oct. 1, 1937, water-stage recorder at site 95 ft downstream at present datum.

REMARKS.--Estimated daily discharges: Jan. 26-29. Records fair except those for period of ice effect, Jan. 26-29, which are poor. Records include about 0.5 ft<sup>3</sup>/s of sewage from city of Frostburg, which obtains its water supply from Big Piney Run (Monongahela River basin) and Savage River. A negligible discharge is diverted upstream from station by Frostburg Water Co. for municipal supplies of Eckhart and Welch Hill. An undetermined amount of water is diverted from the upper third of basin into the Wills Creek basin by the Hoffman drainage tunnel (see station 01601500). Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--58 years (water years 1930-87), 81.7 ft<sup>3</sup>/s, 15.32 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,500 ft<sup>3</sup>/s, Mar. 17, 1936, gage height, 9.6 ft, site then in use, from rating curve extended above 2,000 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; minimum discharge, 1.6 ft<sup>3</sup>/s, Sept. 29 to Oct. 13, 1930.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 29, 1924, reached a stage of about 10 ft, from floodmarks, at site 95 ft downstream.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,200 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Apr. 17	0915	*1,170	*6.25	No peak greater than base discharge.			

Minimum discharge, 5.1 ft<sup>3</sup>/s, Aug. 18, 19, 20, 21, 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.1	6.2	35	60	56	137	301	85	52	16	6.8	6.8
2	9.6	7.5	76	60	83	196	224	85	68	23	7.0	6.2
3	9.0	7.1	210	53	114	145	175	86	49	24	7.9	6.2
4	30	7.0	110	45	101	129	446	148	45	20	7.9	5.7
5	32	29	81	37	87	108	389	127	40	19	8.8	6.0
6	14	73	66	39	82	102	406	109	35	18	11	23
7	9.8	35	60	44	84	131	531	101	33	18	9.3	18
8	7.6	28	55	45	85	178	535	90	31	17	12	44
9	6.5	27	122	40	76	205	436	85	30	16	8.2	31
10	5.7	25	117	42	68	176	314	79	29	15	8.1	13
11	5.6	33	86	41	66	138	235	74	27	15	7.9	10
12	5.6	48	75	37	72	117	212	70	26	15	7.4	36
13	7.2	32	65	36	71	101	181	67	26	19	7.0	38
14	13	25	54	36	65	90	153	62	25	15	6.5	21
15	11	23	56	50	60	86	170	70	21	15	6.1	15
16	8.1	21	48	63	49	83	536	61	20	13	6.2	13
17	7.2	19	44	55	55	79	969	56	19	12	5.9	16
18	6.8	21	55	53	52	78	666	51	19	11	5.2	18
19	6.3	66	57	220	46	77	429	68	18	10	5.1	17
20	6.1	51	45	179	43	73	311	91	20	9.5	5.1	32
21	5.8	104	40	126	44	69	236	74	32	9.5	5.1	21
22	5.7	60	35	104	44	67	188	68	25	8.7	9.4	16
23	5.7	45	33	95	53	65	162	62	24	8.1	13	14
24	5.7	37	78	68	48	62	157	59	21	8.1	8.1	12
25	5.9	31	195	64	46	63	142	55	19	8.1	7.4	12
26	13	75	156	58	46	64	120	55	17	8.2	7.9	11
27	12	94	113	53	46	60	106	65	17	8.7	8.8	10
28	9.2	64	93	51	51	59	111	76	16	8.1	8.1	9.5
29	7.8	56	80	53	---	56	98	63	15	7.8	8.0	9.7
30	7.0	44	72	62	---	149	100	60	15	7.4	7.4	16
31	6.4	---	65	63	---	416	---	53	---	7.1	7.2	---

TOTAL	291.4	1193.8	2477	2032	1793	3559	9039	2355	834	410.3	239.8	507.1
MEAN	9.40	39.8	79.9	65.5	64.0	115	301	76.0	27.8	13.2	7.74	16.9
MAX	32	104	210	220	114	416	969	148	68	24	13	44
MIN	5.6	6.2	33	36	43	56	98	51	15	7.1	5.1	5.7
CFSM	.13	.55	1.10	.91	.88	1.59	4.16	1.05	.38	.18	.11	.23
IN.	.15	.61	1.27	1.04	.92	1.83	4.64	1.21	.43	.21	.12	.26

CAL YR 1986	TOTAL	24703.5	MEAN	67.7	MAX	1030	MIN	3.4	CFSM	.94	IN	12.69
WTR YR 1987	TOTAL	24731.4	MEAN	67.8	MAX	969	MIN	5.1	CFSM	.94	IN	12.71

POTOMAC RIVER BASIN

01601500 WILLS CREEK NEAR CUMBERLAND, MD

LOCATION.--Lat 39°40'07", long 78°47'18", Allegany County, Hydrologic Unit 02070002, on right bank at downstream side of Western Maryland Railway bridge, 0.15 mi downstream from Braddock Run, 2.0 mi upstream from Cumberland, and mouth.

DRAINAGE AREA.--247 mi<sup>2</sup>.

PERIOD OF RECORD.--May 1905 to July 1906 (published as "at Cumberland"), October 1929 to current year.

REVISED RECORDS.--WSP 726: Drainage area. WSP 1432: 1906, 1930(M), 1933-34(M), 1936-37, 1945(M).

GAGE.--Water-stage recorder. Datum of gage is 640.89 ft above National Geodetic Vertical Datum of 1929. May 6, 1905, to July 14, 1906, nonrecording gage at highway bridge 700 ft upstream at different datum. Oct. 18, 1929, to Mar. 17, 1936, water-stage recorder, and Apr. 1, 1936, to Mar. 19, 1937, nonrecording gage at site 200 ft upstream at present datum.

REMARKS.--Estimated daily discharges: Jan. 25-27. Records good except those for period with ice effect, Jan. 25-27, which are fair. Records include drainage from numerous active and abandoned coal mines. An undetermined amount of water is diverted into the basin from Georges Creek basin by Hoffman drainage tunnel. Miscellaneous measurements of discharge from the Hoffman drainage tunnel have been made in the water years 1944, 1964-65, and 1967-82, 84 by the U.S. Geological Survey, and in the water years 1958 and 1959 by the Maryland Geological Survey. Slight diurnal fluctuation at low flow caused by quarry upstream. U.S. Army Corps of Engineers satellite telemeter at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

DISCHARGE.--58 years (water years 1930-87), 329 ft<sup>3</sup>/s, 18.09 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 38,100 ft<sup>3</sup>/s, Mar. 17, 1936, gage height, 20.2 ft, from flood-marks at present site, from rating curve extended above 11,000 ft<sup>3</sup>/s on basis of slope-area measurements at gage heights 13.45 ft and 20.2 ft; minimum discharge, 9 ft<sup>3</sup>/s, Oct. 14, 1930.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,500 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Apr. 4	1815	*6,450	*7.92	Apr. 17	1215	4,450	6.85

Minimum discharge, 21 ft<sup>3</sup>/s, Aug. 21, 22, gage height, 1.57 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	35	255	266	213	587	1800	336	220	63	26	27
2	47	35	371	252	315	1150	1190	330	264	74	26	25
3	60	34	1170	223	533	993	875	338	195	89	32	24
4	113	35	873	183	562	809	3310	616	174	65	39	24
5	156	88	600	147	535	657	3310	698	150	56	38	24
6	104	244	438	141	501	568	2270	691	132	51	35	50
7	68	178	344	178	499	602	2550	599	120	53	33	49
8	53	155	289	175	502	884	2190	511	108	49	32	134
9	45	188	539	148	446	1110	1540	428	101	46	29	115
10	39	217	733	149	361	920	1070	363	102	43	28	55
11	35	251	663	147	341	664	827	315	89	42	27	42
12	33	344	550	134	331	525	767	281	84	41	25	58
13	36	267	421	131	321	434	697	250	86	49	25	63
14	50	201	305	118	278	363	598	221	80	60	24	52
15	65	160	289	157	266	341	679	233	74	54	23	40
16	49	138	247	239	190	304	1380	202	65	46	23	35
17	42	118	222	267	244	282	3720	180	61	39	22	38
18	40	131	248	270	219	263	2700	167	58	37	22	52
19	38	329	271	699	182	248	1550	290	55	36	22	56
20	35	302	230	865	174	237	1080	294	65	34	22	97
21	34	613	216	698	183	230	838	256	214	33	21	88
22	33	505	188	588	170	223	687	234	131	31	25	63
23	32	370	173	510	207	216	580	233	102	28	26	54
24	32	291	355	322	197	210	605	207	89	28	26	48
25	32	234	849	260	180	213	522	186	74	28	28	42
26	42	397	941	200	186	220	443	180	71	28	27	38
27	50	732	770	190	205	206	403	285	97	29	28	35
28	47	587	588	195	215	203	432	277	69	28	29	32
29	41	436	462	240	---	194	396	260	58	29	30	31
30	38	325	379	222	---	403	377	235	56	28	30	49
31	36	---	315	234	---	1770	---	209	---	27	29	---
TOTAL	1556	7940	14294	8548	8556	16029	39386	9905	3244	1344	852	1540
MEAN	50.2	265	461	276	306	517	1313	320	108	43.4	27.5	51.3
MAX	156	732	1170	865	562	1770	3720	698	264	89	39	134
MIN	31	34	173	118	170	194	377	167	55	27	21	24
CFSM	.20	1.07	1.87	1.12	1.24	2.09	5.32	1.30	.44	.18	.11	.21
IN.	.23	1.20	2.15	1.29	1.29	2.41	5.93	1.49	.49	.20	.13	.23

CAL YR 1986 TOTAL 105011 MEAN 288 MAX 4800 MIN 19 CFSM 1.17 IN 15.82  
WTR YR 1987 TOTAL 113194 MEAN 310 MAX 3720 MIN 21 CFSM 1.26 IN 17.05

POTOMAC RIVER BASIN

01603000 NORTH BRANCH POTOMAC RIVER NEAR CUMBERLAND, MD

LOCATION.--Lat 39°37'16", Long 78°46'24", Allegany County, Hydrologic Unit 02070002, on left bank at downstream side of Wiley Ford Bridge, 2.0 mi south of Cumberland, 2.1 mi downstream from Wills Creek, and at mile 19.6.

DRAINAGE AREA.--875 mi<sup>2</sup>.

PERIOD OF RECORD.--May 1929 to current year. Gage-height records collected at various sites about 2.0 mi upstream from September 1901 to December 1932 and thereafter at present site, are contained in reports of National Weather Service.

REVISED RECORDS.--WSP 726: Drainage area. WSP 781: 1932(M).

GAGE.--Water-stage recorder. Datum of gage is 585.22 ft above National Geodetic Vertical Datum of 1929. Prior to June 18, 1929, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Jan. 23-28. Records good except those for period with ice effect, Jan. 23-28, which are fair. Prior to July 1981 some regulation at low flow by Stony River Reservoir, 79 mi upstream from station (see station 01595200). Low-flow regulation since December 1950 by Savage River Reservoir, 39 mi upstream from station (see station 01597500). Flow regulated by Jennings Randolph Lake, 43 mi upstream from station (see station 01595800) since July 1981. Prior to July 1957, small amount of inflow from industrial wastes and sewage from city of Cumberland from water diverted from Evitts Creek, mouth of which is downstream from station. Diversion to Chesapeake and Ohio Canal prior to 1935. National Weather Service gage height telemeter at station. U.S. Army Corps of Engineers satellite telemeter at gage. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--58 years, 1,275 ft<sup>3</sup>/s, 19.79 in/yr, adjusted for storage since October 1981.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 88,200 ft<sup>3</sup>/s, Mar. 17, 1936, gage height, 29.1 ft, from rating curve extended above 33,000 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; minimum discharge (river only), 12 ft<sup>3</sup>/s, Sept. 22, 1932, gage height, 2.38 ft; minimum daily discharge (including flow in canal), 38 ft<sup>3</sup>/s, Sept. 24, 1932.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 29.2 ft June 1, 1889, discharge, about 89,000 ft<sup>3</sup>/s. Flood of Mar. 29, 1924, reached a stage of 28.4 ft, discharge, about 82,000 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9,620 ft<sup>3</sup>/s, Apr. 17, gage height, 9.72 ft; minimum discharge, 264 ft<sup>3</sup>/s, Aug. 18, 19, gage height, 2.44 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	387	578	1580	1220	1020	1590	3700	1550	851	391	299	287
2	416	578	1730	1170	1190	2670	2730	1690	932	428	299	285
3	433	578	3350	1110	1710	2330	2270	1720	786	457	326	283
4	498	578	3100	1040	1700	1950	5300	2340	717	410	323	283
5	583	709	1850	878	1630	1660	6320	3300	672	386	333	285
6	483	1010	1470	834	1620	1480	4650	3680	602	373	405	412
7	430	940	1340	890	1580	1420	5020	3350	569	378	327	422
8	409	1380	1250	899	1560	1770	5570	2080	547	364	319	603
9	396	2350	1580	798	1480	2160	6770	1680	487	349	307	569
10	379	2490	2040	744	1400	2060	5350	1510	467	342	305	400
11	370	3150	1840	736	1320	2020	4860	1140	448	352	298	355
12	368	3040	1670	706	1210	1800	4520	993	444	382	286	485
13	386	1080	1480	690	1200	1660	3480	932	454	375	278	720
14	420	841	1310	667	1070	1460	2530	875	443	381	275	587
15	416	746	1300	709	1040	1420	2660	898	428	369	273	458
16	417	709	1220	839	916	1220	4090	845	419	351	275	423
17	382	570	1170	876	978	1160	8620	793	412	336	273	433
18	382	533	1210	873	879	1070	7600	773	402	342	271	468
19	382	821	1050	1670	815	995	8780	955	483	1180	279	496
20	375	785	966	2610	794	970	7370	1110	752	391	269	1350
21	368	1320	929	1850	798	947	6170	1380	1100	323	405	548
22	361	1140	884	1580	777	928	4100	1350	848	316	526	456
23	355	919	730	1350	889	912	2250	1150	515	312	675	430
24	368	805	1080	1050	873	894	2670	1100	472	312	502	449
25	388	725	2460	1000	855	896	2540	1060	424	308	300	399
26	1140	919	2510	950	860	912	2810	959	623	310	302	384
27	488	1780	2580	980	884	878	2640	906	684	322	298	375
28	528	1640	2500	1000	901	898	1530	972	465	311	290	368
29	586	1830	1850	1870	---	880	1280	978	390	307	293	370
30	578	1690	1520	1340	---	1170	1720	876	388	304	292	421
31	578	---	1390	1070	---	3360	---	808	---	300	292	---
TOTAL	14050	36234	50939	34099	31949	45540	129900	43753	17224	11762	10195	13804
MEAN	453	1208	1643	1100	1141	1469	4330	1411	574	379	329	460
MAX	1140	3150	3350	2610	1710	3360	8780	3680	1100	1180	675	1350
MIN	355	533	730	667	777	878	1280	773	388	300	269	283
CAL YR 1986	TOTAL	421008	MEAN	1153	MAX	13700	MIN	315	CFSM	1.32	IN	17.90
WTR YR 1987	TOTAL	439449	MEAN	1204	MAX	8780	MIN	269	CFSM	1.38	IN	18.68

01608500 SOUTH BRANCH POTOMAC RIVER NEAR SPRINGFIELD, WV

LOCATION.--Lat 39°26'49", long 78°39'16", Hampshire County, Hydrologic Unit 02070001, on left bank at highway bridge, 2.0 mi east of Springfield, and at mile 13.4.

DRAINAGE AREA.--1,471 mi<sup>2</sup>.

PERIOD OF RECORD.--June 1894 to February 1896 (fragmentary), June 1899 to February 1902, August 1903 to July 1906, August 1928 to current year.

GAGE.--Water-stage recorder. Datum of gage is 562.02 ft above National Geodetic Vertical Datum of 1929. June 1984 to February 1986, nonrecording gage at Baltimore & Ohio Railroad bridge 11.2 mi upstream at different datum. June 26, 1899, to Feb. 2, 1902, nonrecording gage at bridge 10.0 mi upstream at different datum. Aug. 28, 1903, to July 14, 1906, nonrecording gage at present site at different datum. Aug. 8, to Sept. 24, 1928, nonrecording gage at present site and datum.

REMARKS.-- Estimated daily discharges: Nov. 5-14, 1985, Jan. 10-19, 24-28, 30, 31, 1986, Feb. 1, 1986, Jan. 24 to Feb. 1, 1987. Records good except those for estimated daily discharges (ice affect or no gage-height record), which are fair. National Weather Service gage-height telemeter and U.S. Army Corps of Engineers satellite telemetry at station.

AVERAGE DISCHARGE.--63 years (water years 1900-01, 1904-05, 1929-87), 1,325 ft<sup>3</sup>/s, 12.23 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 240,000 ft<sup>3</sup>/s, Nov. 5, 1985, gage height, 44.22 ft, from floodmarks, from rating curve extended above 145,000 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; minimum discharge, 29 ft<sup>3</sup>/s, Jan. 28, 1956, result of freezeup, July 30, 1966, result of temporary dam; minimum gage height, 0.39 ft, July 30, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in November 1877 reached a stage of about 34 ft, from floodmarks, discharge, 140,000 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT PERIOD.--Peak discharges greater than base discharge of 10,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 5, 1985	unknown	*240,000	a*44.22	Jan. 20, 1987	1300	11,000	10.24
Nov. 29, 1985	1400	11,500	10.50	Mar. 2, 1987	1400	12,700	11.10
Mar. 15, 1986	1900	39,300	19.18	Apr. 17, 1987	1400	*39,300	*19.18

a From floodmarks

Water year 1986: Minimum discharge, 123 ft<sup>3</sup>/s, Oct. 1, gage height, 1.65 ft.

Water year 1987: Minimum discharge, 97 ft<sup>3</sup>/s, Aug. 21, 22, gage height, 1.72 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	123	392	4600	719	880	2000	1060	1080	684	635	210	191
2	131	345	3580	719	962	1840	1010	978	621	1130	207	185
3	134	2420	2730	691	986	1770	970	882	570	1910	176	182
4	139	12000	2190	663	1300	1760	930	834	534	1710	167	188
5	154	145000	1870	656	2890	1690	906	789	498	1170	164	298
6	175	80600	1740	642	3190	1650	914	733	480	890	170	288
7	175	29800	1620	594	2850	1650	1030	698	486	705	179	251
8	163	21800	1450	570	2530	1530	1380	677	504	582	167	228
9	154	16500	1320	564	2360	1400	1300	670	850	516	161	207
10	145	11900	1200	540	2340	1510	1500	621	768	474	173	191
11	142	8360	1130	520	2330	2620	1430	600	614	510	188	179
12	137	5050	1100	505	2190	4080	1360	594	546	510	185	170
13	134	3010	1540	495	1900	3250	1340	564	516	432	170	161
14	139	1990	3670	480	1660	4360	1490	588	522	390	160	152
15	148	1530	3260	465	1580	28100	1470	656	474	355	164	143
16	154	1320	2510	460	1530	17000	1900	614	444	350	164	140
17	145	1390	2060	450	1520	8300	2810	570	504	345	164	135
18	142	1220	1860	450	2930	5350	3280	540	390	302	224	130
19	142	1090	1630	540	7610	3900	2760	576	345	275	221	130
20	151	994	1360	866	7390	3210	2440	826	330	267	228	132
21	1350	922	1290	2020	6000	2640	2190	4110	320	267	239	135
22	3070	1430	1200	1710	3910	2250	1990	3680	320	251	235	138
23	3040	5050	1130	1590	3290	2000	1750	2410	340	247	239	140
24	2000	3850	1120	1500	2940	1820	1550	1820	330	247	255	143
25	1340	2710	1080	1400	2710	1660	1410	1470	306	271	275	146
26	966	2130	874	1280	2460	1520	1320	1220	306	275	280	143
27	748	1850	842	1180	2350	1420	1240	1050	360	251	275	143
28	617	3540	834	1050	2240	1340	1150	978	330	231	232	143
29	524	10000	834	914	---	1270	1080	954	320	284	214	146
30	459	7440	768	850	---	1190	1110	842	426	271	204	158
31	415	---	740	830	---	1120	---	768	---	232	197	---
TOTAL	17456	385633	53132	25913	76828	115200	46070	33392	14038	16285	6287	5116
MEAN	563	12850	1714	836	2744	3716	1536	1077	468	525	203	171
MAX	3070	145000	4600	2020	7610	28100	3280	4110	850	1910	280	298
MIN	123	345	740	450	880	1120	906	540	306	231	160	130
CFSM	.38	8.74	1.17	.57	1.87	2.53	1.04	.73	.32	.36	.14	.12
IN.	.44	9.75	1.34	.66	1.94	2.91	1.17	.84	.36	.41	.16	.13

CAL YR 1985 TOTAL 842143 MEAN 2307 MAX 145000 MIN 118 CFSM 1.57 IN 21.30  
WTR YR 1986 TOTAL 795350 MEAN 2179 MAX 145000 MIN 123 CFSM 1.48 IN 20.11

POTOMAC RIVER BASIN

01608500 SOUTH BRANCH POTOMAC RIVER NEAR SPRINGFIELD WV-Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	194	192	742	1060	1450	2440	4110	2090	1040	254	136	144
2	186	201	697	954	1830	10100	3580	1820	985	245	153	137
3	168	215	1190	871	4300	7390	2710	1670	1040	269	144	127
4	165	358	1970	788	3560	4330	3410	3050	948	271	135	121
5	166	394	1660	700	2820	3090	4040	5670	844	284	136	117
6	153	458	1300	618	2290	2430	4050	3960	812	338	146	133
7	143	956	1050	570	1960	2070	5770	2980	742	283	146	156
8	157	842	893	598	1760	2130	8130	2410	662	264	146	282
9	162	842	805	622	1640	2650	9110	2010	593	237	139	2810
10	153	750	773	608	1450	3500	6940	1710	547	215	137	1680
11	145	693	931	594	1250	3270	4970	1500	514	203	132	1010
12	140	632	1000	592	1190	2380	3950	1340	503	239	123	987
13	141	712	1080	580	1230	1900	3210	1200	483	276	118	2160
14	157	721	1070	559	1540	1590	2610	1090	513	254	114	1130
15	161	612	944	545	1400	1390	2190	1000	524	310	111	806
16	162	536	869	533	1250	1310	6500	947	471	255	106	644
17	167	488	784	589	1110	1250	33700	948	429	223	106	575
18	183	459	732	655	1020	1130	26300	857	405	203	108	809
19	173	469	682	925	984	1130	12700	846	425	190	108	894
20	165	483	640	8450	883	1110	7860	3350	475	181	102	1080
21	158	611	594	5710	810	1090	5390	4980	707	171	99	2100
22	153	657	548	3390	789	1080	4020	2960	532	164	103	1410
23	150	686	497	2560	852	1060	3090	2180	439	156	113	1060
24	148	641	512	1870	925	1040	2530	1750	415	148	190	818
25	149	596	3280	1340	967	1030	3790	1460	368	146	196	668
26	160	611	5790	1220	1100	1080	5400	1360	338	147	221	559
27	167	757	3640	1090	1250	1160	4120	1340	320	159	187	480
28	170	986	2410	900	1280	1180	3290	1460	294	154	164	419
29	173	982	1800	970	---	1150	2760	1580	285	145	155	375
30	182	859	1450	1030	---	1160	2390	1360	269	140	157	399
31	187	---	1230	1080	---	1880	---	1200	---	136	151	---
TOTAL	5038	18399	41563	42571	42890	69500	192620	62078	16922	6660	4282	24090
MEAN	163	613	1341	1373	1532	2242	6421	2003	564	215	138	803
MAX	194	986	5790	8450	4300	10100	33700	5670	1040	338	221	2810
MIN	140	192	497	533	789	1030	2190	846	269	136	99	117
CFSM	.11	.42	.91	.93	1.04	1.52	4.36	1.36	.38	.15	.09	.55
IN.	.13	.47	1.05	1.08	1.08	1.76	4.87	1.57	.43	.17	.11	.61
CAL YR 1986	TOTAL 404129	MEAN 1107	MAX 28100	MIN 130	CFSM .75	IN. 10.2						
WTR YR 1987	TOTAL 526613	MEAN 1443	MAX 33700	MIN 99	CFSM .98	IN. 13.3						

POTOMAC RIVER BASIN

01610000 POTOMAC RIVER AT PAW PAW, WV

LOCATION.--Lat 39°32'13", long 78°27'28", Allegany County, Md., Hydrologic Unit 02070003, on left bank 250 ft upstream from bridge on Maryland State Highway 51 at Paw Paw, 3.3 mi downstream from Little Cacapon River, and at mile 277.

DRAINAGE AREA.--3,109 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1938 to current year.

GAGE.--Water-stage recorder. Datum of gage is 487.88 ft above National Geodetic Vertical Datum of 1929. Prior to Mar. 25, 1939, nonrecording gage at bridge 250 ft downstream at same datum.

REMARKS.--No estimated daily discharges. Records good. Low flow affected by Stony River Reservoir prior to July 1981 (see station 01595200), since December 1950 by Savage River Reservoir (see station 01597500), and since July 1981 by Jennings Randolph Lake (see station 01595800). National Weather Service gage height telemeter at station. U.S. Army Corps of Engineers satellite telemeter at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--49 years, 3,303 ft<sup>3</sup>/s, 14.43 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 235,000 ft<sup>3</sup>/s, Nov. 5, 1985, gage height, 53.58 ft, from rating curve extended above 85,000 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow at site 5.0 mi upstream at Okonoko, W. Va.; minimum discharge, 164 ft<sup>3</sup>/s, Sept. 10, 11, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 54.0 ft Mar. 18, 1936, discharge, 240,000 ft<sup>3</sup>/s, from rating curve extended above 85,000 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow at site 5.0 mi upstream at Okonoko, W. Va.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 20,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Apr. 5	0245	25,600	17.66	Apr. 17	1945	*53,000	*25.93

Minimum discharge, 390 ft<sup>3</sup>/s, Aug. 21, gage height, 3.39 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	541	660	2940	4000	2310	4540	9600	4570	1950	742	480	493
2	582	679	2790	3500	2680	11700	8290	4170	2160	755	489	473
3	587	674	4930	3200	6310	12000	6520	4040	2040	804	520	461
4	626	705	6040	2800	6540	8180	10400	5760	1890	814	521	447
5	686	902	4980	2500	5520	6330	17800	10500	1670	755	549	440
6	689	1310	3760	2290	4590	5090	12700	9110	1540	836	582	505
7	594	1620	3200	2100	4000	4360	14800	7790	1400	777	578	675
8	553	1680	2830	1960	3640	4240	16200	5960	1290	742	536	834
9	554	2410	2690	1830	3370	5060	17700	4780	1190	700	517	2780
10	541	2650	3550	1770	2970	5860	15000	4060	1070	644	507	2770
11	521	2970	3510	1760	2960	6060	11500	3420	1020	622	499	1760
12	511	3200	3440	1720	2900	4860	10000	2940	988	690	480	1550
13	524	2130	3220	1660	2760	4050	8450	2610	980	819	456	4620
14	563	1400	2990	1600	2970	3460	6450	2360	982	933	438	2790
15	577	1150	2720	1550	2820	3100	5800	2230	1000	886	426	1820
16	571	1020	2540	1590	2520	2890	10200	2090	963	797	419	1420
17	548	1030	2350	1690	2320	2690	43400	1970	911	700	417	1220
18	555	1020	2260	1780	2180	2480	42200	1830	870	647	413	1300
19	550	1190	2190	2650	2030	2370	25900	1920	859	914	403	1740
20	535	1440	1960	10500	1900	2310	18400	2980	1220	1090	410	1840
21	520	2080	1830	9710	1760	2250	14300	7270	1640	596	428	3320
22	506	2310	1750	6850	1700	2210	10600	5120	1770	556	635	2340
23	499	2150	1910	5600	1830	2160	7330	3920	1260	539	731	1900
24	492	1980	2360	4290	2020	2100	6210	3230	1070	523	724	1580
25	498	1770	7610	3370	2100	2070	7490	2790	966	515	598	1320
26	755	1740	10900	2990	2280	2120	9210	2500	923	511	556	1150
27	978	3120	8680	2650	2540	2160	8170	2380	1090	514	580	1030
28	577	3470	7100	2300	2610	2190	6600	2430	1060	536	546	937
29	657	3460	5830	2260	---	2180	5330	2750	797	510	510	870
30	659	3250	4890	2930	---	2250	4950	2430	762	501	505	894
31	654	---	4300	2130	---	4800	---	2160	---	494	506	---
TOTAL	18203	55170	122050	97530	84130	128120	391500	122070	37331	21462	15959	45279
MEAN	587	1839	3937	3146	3005	4133	13050	3938	1244	692	515	1509
MAX	978	3470	10900	10500	6540	12000	43400	10500	2160	1090	731	4620
MIN	492	660	1750	1550	1700	2070	4950	1830	762	494	403	440

CAL YR 1986 TOTAL 942208 MEAN 2581 MAX 43600 MIN 443 CFSM .83 IN 11.27  
WTR YR 1987 TOTAL 1138804 MEAN 3120 MAX 43400 MIN 403 CFSM 1.00 IN 13.63

POTOMAC RIVER BASIN

01613000 POTOMAC RIVER AT HANCOCK, MD

LOCATION.--Lat 39°41'49", long 78°10'39", Washington County, Hydrologic Unit 02070004, on left bank, 0.2 mi downstream from Little Tonoloway Creek, 0.5 mi downstream from bridge on U.S. Highway 522 at Hancock, 1.1 mi upstream from Tonoloway Creek (formerly called Great or Big Tonoloway Creek), and at mile 239.

DRAINAGE AREA.--4,073 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1932 to current year. Gage-height records collected at same site since June 1925 are contained in reports of National Weather Service.

REVISED RECORDS.--WSP 781: 1933(M). WSP 801: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 383.68 ft above National Geodetic Vertical Datum of 1929. Oct. 1, 1932, to Jan. 5, 1935, Mar. 18, 1936, to Jan. 20, 1937, nonrecording gage, on former highway bridge just upstream at same datum.

REMARKS.--Estimated daily discharges: Jan. 29 to Feb. 1. Records good. Slight regulation at low flow from power plants upstream. Low flow affected slightly by Stony River Reservoir prior to July 1981 (see station 01595200), since December 1950 by Savage River Reservoir (see station 01597500), and since July 1981 by Jennings Randolph Lake (see station 01595800). National Weather Service gage height telemeter at station. U.S. Army Corps of Engineers satellite telemeter at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--55 years, 4,165 ft<sup>3</sup>/s, 13.89 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 340,000 ft<sup>3</sup>/s, Mar. 18, 1936, gage height, 47.6 ft, from rating curve extended above 120,000 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; minimum discharge observed, 180 ft<sup>3</sup>/s, Oct. 4, 1932, gage height, 2.01 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known prior to 1932, about 40 ft in May 1889, discharge, about 220,000 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 23,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Apr. 5	0845	36,500	18.88	Apr. 18	0015	*70,600	*24.07
Apr. 7	1130	25,400	13.85				

Minimum discharge, 445 ft<sup>3</sup>/s, Aug. 22, gage height, 2.58 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1110	870	3220	3870	3800	4800	11100	6610	2780	932	548	561
2	727	897	2960	3470	4510	13900	12000	5850	2680	920	542	547
3	740	915	3740	3190	7240	19500	9190	5530	2980	977	574	525
4	782	910	6770	2940	10900	12600	13100	5730	3140	1030	571	511
5	844	1010	6600	2660	9690	9230	31700	14900	2720	1020	621	499
6	865	1340	4740	2310	8070	7390	20100	13600	2330	927	653	531
7	873	1760	3800	2140	6930	6280	24400	10900	2100	1050	653	571
8	767	2240	3260	2180	6220	5640	21200	8950	1680	940	680	959
9	705	2540	3010	2290	5710	5950	20900	7020	1710	890	610	1200
10	696	3410	3410	2300	5100	6750	19200	5920	1540	842	597	3820
11	684	3500	4090	2240	4550	7300	14500	5190	1400	794	570	3000
12	660	4060	3930	2220	4200	6530	12300	4430	1340	810	557	2200
13	657	3910	3700	2180	3920	5450	10700	3960	1300	1070	541	3780
14	691	2410	3490	2090	3870	4760	8640	3590	1280	1900	510	4860
15	710	2070	3210	2000	3940	4230	7170	3310	1270	1470	492	3050
16	738	1750	3050	1990	3590	3970	7800	3140	1290	1180	481	2220
17	737	1580	2850	2060	3250	3690	41700	2900	1210	1020	474	1760
18	721	1460	2720	2130	3110	3540	59500	2780	1130	906	467	1610
19	719	1380	2670	2530	2880	3300	33800	2720	1070	812	459	1890
20	710	1680	2530	9680	2720	3240	23000	2980	1070	1140	454	2370
21	695	2110	2330	16000	2540	3170	17400	6040	1590	1160	460	3460
22	675	2950	2170	10200	2420	3090	13500	7420	2100	716	472	4570
23	656	2760	2010	7780	2480	3020	10200	5840	2010	652	699	3210
24	641	2420	1950	6180	2670	2940	8060	4630	1480	624	802	2530
25	632	2110	5540	4760	2850	2860	9110	3960	1280	598	806	2070
26	659	1960	12200	4080	3020	2860	12300	3520	1160	588	697	1690
27	1040	2390	10900	3900	3290	2900	11300	3280	1160	585	634	1460
28	1140	3740	8280	3690	3560	2950	9540	3160	1330	577	688	1290
29	754	3600	6630	3500	---	2950	8130	3440	1260	591	635	1160
30	857	3590	5240	4500	---	3020	7070	3570	988	569	580	1130
31	877	---	4400	3400	---	4590	---	3120	---	558	565	---
TOTAL	23762	67322	135400	124460	127030	172400	508610	167810	50578	27848	18092	59034
MEAN	767	2244	4368	4015	4537	5561	16950	5413	1686	898	584	1968
MAX	1140	4060	12200	16000	10900	19500	59500	14900	3140	1900	806	4860
MIN	632	870	1950	1990	2420	2860	7070	2720	988	558	454	499
CFSM	.19	.55	1.07	.99	1.11	1.37	4.16	1.33	.41	.22	.14	.48
IN.	.22	.61	1.24	1.14	1.16	1.57	4.65	1.53	.46	.25	.17	.54

CAL YR 1986	TOTAL	1242744	MEAN	3405	MAX	57600	MIN	568	CFSM	.84	IN	11.35
WTR YR 1987	TOTAL	1482346	MEAN	4061	MAX	59500	MIN	454	CFSM	1.00	IN	13.54

POTOMAC RIVER BASIN

01614500 CONOCOCHIEGUE CREEK AT FAIRVIEW, MD

LOCATION.--Lat 39°42'57", long 77°49'28", Washington County, Hydrologic Unit 02070004, on right bank 0.7 mi upstream from highway bridge in Fairview, 2.0 mi upstream from Rockdale Run, 6.5 mi northwest of Hagerstown, and 19.1 mi upstream from mouth.

DRAINAGE AREA.--494 mi<sup>2</sup>.

PERIOD OF RECORD.--June 1928 to current year.

REVISED RECORDS.--WSP 756: Drainage area. WSP 1432: 1929(M), 1930, 1931-32(M), 1935(M).

GAGE.--Water-stage recorder. Datum of gage is 391.85 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 6, 1932, nonrecording gage at highway bridge 0.7 mi downstream at datum 2.93 ft lower. Dec. 6, 1932, to Oct. 7, 1933, nonrecording gage 150 ft downstream from former site at datum 4.92 ft lower than present datum.

REMARKS.--Estimated daily discharges: Jan. 24-30. Records good except those for period with ice effect, Jan. 24-30, which are fair. Low flow partly regulated by small powerplants near Mercersburg, Pa. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--59 years, 590 ft<sup>3</sup>/s, 16.22 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 32,400 ft<sup>3</sup>/s, June 23, 1972, gage height, 24.5 ft, from floodmark, from rating curve extended above 15,000 ft<sup>3</sup>/s on basis of contracted-opening and flow-over-road measurement of peak flow; minimum discharge, 21 ft<sup>3</sup>/s, Aug. 8, Sept. 12, 1966; minimum daily discharge, 25 ft<sup>3</sup>/s Nov. 28, 1930.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known prior to 1928, about 16.5 ft, present datum, sometime in 1889, from information by local residents, discharge, about 22,000 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,300 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Apr. 5	0045	*7,760	*10.18	No other peak greater than base discharge.			

Minimum discharge, 70 ft<sup>3</sup>/s, Aug. 17, gage height, 1.15 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	89	84	294	502	416	1630	762	466	232	162	99	89
2	115	86	276	491	410	1980	609	452	304	215	98	86
3	103	84	1030	467	563	1410	529	487	273	306	101	87
4	112	81	1040	424	737	1100	2800	656	436	221	103	83
5	108	95	657	376	829	912	5740	851	486	182	106	83
6	100	148	495	334	760	801	4020	664	344	173	128	91
7	95	156	410	354	726	727	3860	586	298	237	126	117
8	92	145	362	376	719	682	2670	538	272	232	119	151
9	87	136	488	371	652	665	2000	495	254	193	105	253
10	85	128	1020	376	542	619	1610	464	248	174	101	179
11	80	142	804	383	526	560	1360	426	226	169	97	137
12	79	192	650	364	502	526	1180	409	209	166	94	271
13	84	173	548	353	485	498	1120	387	271	204	91	850
14	107	150	437	371	451	467	970	367	494	572	89	530
15	121	131	388	412	407	457	860	359	289	280	96	315
16	110	122	376	481	346	442	884	347	246	217	85	238
17	102	117	350	477	354	414	1360	317	220	189	78	202
18	95	116	427	442	362	389	1510	315	206	172	81	219
19	89	264	639	821	331	372	1240	375	190	163	82	262
20	85	339	563	1730	306	357	1070	507	192	153	81	256
21	86	792	473	1210	302	343	951	549	352	146	84	257
22	85	680	407	961	297	332	859	427	285	137	90	251
23	83	421	360	838	331	320	780	374	246	127	106	250
24	82	330	433	650	367	308	753	369	222	123	95	217
25	81	286	2380	610	363	300	732	336	196	120	89	190
26	89	273	1580	570	368	322	645	314	185	116	89	169
27	100	646	1090	520	379	312	583	309	190	120	92	156
28	97	604	867	430	398	298	551	305	181	112	94	145
29	94	440	719	450	---	288	528	282	168	106	97	139
30	90	353	632	460	---	280	498	263	161	104	107	162
31	89	---	566	456	---	459	---	242	---	103	94	---
TOTAL	2914	7714	20761	17060	13229	18570	43034	13238	7876	5694	2997	6435
MEAN	94.0	257	670	550	472	599	1434	427	263	184	96.7	215
MAX	121	792	2380	1730	829	1980	5740	851	494	572	128	850
MIN	79	81	276	334	297	280	498	242	161	103	78	83
CFSM	.19	.52	1.36	1.11	.86	1.21	2.90	.86	.53	.37	.20	.44
IN.	.22	.58	1.56	1.28	1.00	1.40	3.24	1.00	.59	.43	.23	.48

CAL YR 1986 TOTAL 177243 MEAN 486 MAX 8450 MIN 78 CFSM .98 IN 13.35  
WTR YR 1987 TOTAL 159522 MEAN 437 MAX 5740 MIN 78 CFSM .89 IN 12.01

POTOMAC RIVER BASIN

01617800 MARSH RUN AT GRIMES, MD

LOCATION.--Lat 39°30'53", long 77°46'38", Washington County, Hydrologic Unit 02070004, on right bank 220 ft upstream from bridge on Sprecher Road, 0.1 mi downstream from unnamed tributary, 0.5 mi southwest of Grimes, 1.5 mi upstream from mouth, and 2.2 mi southwest of Fairplay.

DRAINAGE AREA.--18.9 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1963 to current year.

GAGE.--Water-stage recorder. Datum of gage is 354.72 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Jan. 25-29. Records good except those for period with ice effect, Jan. 25-29, which are fair. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--24 years, 12.5 ft<sup>3</sup>/s, 8.98 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 459 ft<sup>3</sup>/s, Feb. 12, 1985, gage height, 4.45 ft, from rating curve extended above 220 ft<sup>3</sup>/s; no flow Oct. 1, 1977, result of regulation caused by construction work upstream from station.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 60 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Apr. 4	2315	*47	*1.77	No peak greater than base discharge.			

Minimum discharge, 0.48 ft<sup>3</sup>/s, Oct. 31, gage height, 0.67 ft, result of regulation from unknown source.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.84	.86	1.9	6.4	7.0	21	9.4	12	7.7	4.2	2.5	1.1
2	.86	1.2	2.5	7.2	6.9	21	8.5	12	8.7	4.2	2.5	1.1
3	.84	1.0	6.4	7.0	8.7	16	9.8	12	7.8	5.5	2.4	1.1
4	.91	1.0	3.8	5.8	11	14	27	17	8.0	4.5	2.3	1.0
5	.88	1.5	3.0	4.8	11	14	30	16	7.6	4.0	2.3	.93
6	.84	1.9	2.5	4.6	10	13	25	14	7.2	3.9	2.4	1.0
7	.84	1.4	2.4	4.7	11	13	29	13	7.0	4.0	2.4	1.1
8	.84	2.1	2.3	5.7	11	13	24	12	7.0	12	2.2	3.7
9	.84	2.4	3.4	6.0	12	11	22	11	7.0	6.6	2.0	3.8
10	.70	2.1	4.1	6.2	11	10	21	10	6.1	6.3	2.0	2.1
11	.70	2.0	4.1	6.5	8.7	9.9	20	11	5.7	5.7	1.8	1.7
12	.70	2.4	6.7	6.3	8.7	10	19	11	5.9	5.3	1.7	1.7
13	.90	3.1	6.3	6.3	8.7	11	16	10	6.4	6.3	1.7	2.6
14	1.4	3.8	4.7	5.7	8.6	11	17	10	6.9	5.5	1.6	2.2
15	.93	3.9	1.9	5.0	8.7	10	17	10	6.2	5.6	1.4	1.7
16	.84	3.4	1.9	5.0	8.4	9.9	17	9.9	5.7	4.8	1.4	1.7
17	.84	1.3	1.9	5.7	8.4	9.7	19	9.4	5.6	4.7	1.5	1.7
18	.84	1.4	3.7	5.9	8.2	9.5	19	8.8	4.8	4.5	1.3	1.7
19	.79	2.4	5.7	9.2	7.5	9.5	18	9.8	4.8	4.3	1.3	1.6
20	.70	2.4	4.9	16	6.7	9.5	16	11	4.9	4.1	1.4	1.7
21	.70	6.5	4.6	12	6.6	9.8	15	12	5.5	3.9	1.3	1.8
22	.59	3.8	4.2	12	7.5	9.8	15	11	5.4	3.4	1.4	1.6
23	.57	1.6	4.1	8.7	9.2	8.8	15	9.6	4.9	3.2	1.5	1.6
24	.54	1.8	5.8	7.7	8.9	7.3	14	9.8	4.0	3.2	1.3	1.6
25	.45	1.6	18	7.6	8.4	7.5	14	9.1	4.7	3.3	1.4	1.5
26	.65	2.0	10	7.4	8.1	8.7	15	9.1	4.9	3.0	1.5	1.5
27	.67	2.3	10	7.0	8.3	8.6	13	9.1	5.4	2.6	1.6	1.5
28	.70	1.9	8.0	6.8	9.4	8.4	13	9.0	4.8	2.4	1.6	1.5
29	1.8	1.8	6.3	7.0	---	8.3	13	8.7	4.1	2.5	1.3	1.5
30	1.5	1.8	6.3	7.2	---	7.7	13	8.4	4.1	2.6	1.1	1.7
31	.54	---	6.3	7.6	---	8.9	---	8.0	---	2.5	1.1	---
TOTAL	25.74	66.66	157.7	221.0	248.6	339.8	525.7	333.7	178.8	138.6	53.2	51.03
MEAN	.83	2.22	5.09	7.13	8.88	11.0	17.5	10.8	5.96	4.47	1.72	1.70
MAX	1.8	6.5	18	16	12	21	30	17	8.7	12	2.5	3.8
MIN	.45	.86	1.9	4.6	6.6	7.3	8.5	8.0	4.0	2.4	1.1	.93
CFSM	.04	.12	.27	.38	.47	.58	.93	.57	.32	.24	.09	.09
IN.	.05	.13	.31	.43	.49	.67	1.03	.66	.35	.27	.10	.10
CAL YR 1986 TOTAL	3336.70	MEAN 9.14		MAX 62	MIN .45	CFSM .48	IN 6.57					
WTR YR 1987 TOTAL	2340.53	MEAN 6.41		MAX 30	MIN .45	CFSM .34	IN 4.61					

POTOMAC RIVER BASIN

01618000 POTOMAC RIVER AT SHEPHERDSTOWN, WV

LOCATION.--Lat 39°26'04", long 77°48'07", Jefferson County, Hydrologic Unit 02070004, on right bank, 0.1 mi downstream from Rumsey Bridge at Shepherdstown, 3.3 mi upstream from Antletam Creek, and at mile 184.

DRAINAGE AREA.--5,936 mi<sup>2</sup>.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1928 to September 1953. Annual maximums, water years 1954-64. July 1964 to current year. Gage-height record and estimated discharges October 1953 to June 1964 available in files of the Mid-Atlantic district office.

REVISED RECORDS.--WSP 756: Drainage area. WSP 781: 1929(M).

GAGE.--Water-stage recorder. Datum of gage is 281.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Jan. 25 to Feb. 1, Feb. 10-13. Water-discharge records good. Some regulation at low flow by power plants upstream from station, prior to July 1981 by Stony River Reservoir (see station 01595200), since December 1950 by Savage River Reservoir (see station 01597500), and since July 1981 by Jennings Randolph Lake (see station 01595800). National Weather Service gage height telemeter at station.

AVERAGE DISCHARGE.--48 years (water years 1929-53, 1965-87), 6,145 ft<sup>3</sup>/s, 14.06 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 335,000 ft<sup>3</sup>/s, Mar. 19, 1936, gage height, 42.1 ft, from floodmarks, from rating curve extended above 200,000 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; minimum discharge, 170 ft<sup>3</sup>/s, Aug. 1, 1966; minimum daily discharge, 185 ft<sup>3</sup>/s, July 31, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods in June 1889 and May 1924 reached stages of 39.2 ft and 29.8 ft respectively, from floodmarks, discharges, about 290,000 ft<sup>3</sup>/s and 168,000 ft<sup>3</sup>/s respectively, from rating curve extended as explained above.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 23,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Jan. 21	1330	24,800	9.26	Apr. 7	1700	41,800	12.85
Mar. 3	1300	30,300	10.48	Apr. 18	1100	*86,900	*20.44
Apr. 5	1530	62,100	16.53				

Minimum discharge, 654 ft<sup>3</sup>/s, Aug. 21, gage height, 1.61 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1470	1180	4550	6050	5550	7180	9200	8920	4120	1830	1210	943
2	1450	1340	4140	5520	5460	17400	16200	8370	3820	1960	1130	851
3	1160	1310	4900	5160	6740	28400	13700	7660	3980	2300	983	915
4	993	1370	8420	4830	14600	21900	15300	7770	4610	2590	948	867
5	1110	1490	9380	4490	16200	15500	53900	14800	4920	2180	1010	900
6	1080	1790	7750	4080	13500	12100	40700	20400	4240	1930	1190	1060
7	1260	1880	5900	3670	11200	10000	39200	16100	3640	1820	1180	1140
8	1100	2420	5010	3600	9840	8630	35700	13600	3220	2050	1090	1400
9	1080	2860	4610	3740	8730	8020	30300	10900	2930	2150	1140	2740
10	967	3140	4940	3630	7200	8440	27900	8960	2780	2050	1020	3190
11	925	3950	6120	3710	5650	9030	22600	7790	2570	2040	958	4610
12	839	4540	6120	3740	5050	9030	18100	6940	2420	2030	921	3650
13	1000	4910	5770	3680	5050	7850	15800	6170	2360	2090	963	3560
14	1150	4310	5340	3640	5760	6780	13600	5680	2380	2340	908	6360
15	1080	2970	4890	3590	5620	5910	11100	5330	2580	3560	875	5700
16	1050	2350	4580	3580	5470	5330	10200	4980	2410	2900	887	4060
17	1060	2320	4350	3660	5140	4980	28900	4630	2220	2510	845	3150
18	1050	2100	4260	3650	4870	4730	80700	4430	2070	2200	802	2760
19	1040	2130	4480	4050	4600	4620	54200	4720	1970	2040	753	3010
20	1010	2270	4770	10300	4300	4420	35700	5220	1900	1910	784	3030
21	994	3140	4390	22500	4080	4550	26100	5840	2110	1760	731	3600
22	1030	4370	3960	17700	3790	4410	20600	10600	2970	2200	768	5150
23	1020	4570	3650	13000	3860	4270	16200	8310	3300	1650	919	5220
24	943	3940	3440	9830	4090	4120	12600	6840	3130	1540	930	4110
25	925	3410	8140	7100	4460	4000	11600	5820	2490	1410	1130	3380
26	1110	3090	17900	5750	4610	3930	15100	5270	2210	1300	1160	2740
27	1180	3050	17500	4950	4820	3910	16200	4860	2370	1260	1160	2490
28	1220	4370	13400	4350	5150	4010	13900	4700	2310	1310	1080	1990
29	1740	5160	10500	4400	---	3970	11800	4520	2150	1300	1070	1870
30	1100	4790	8400	4600	---	3940	9890	4760	2140	1250	1080	1790
31	1130	---	6930	5750	---	4350	---	4550	---	1220	954	---
TOTAL	34266	90520	208490	188300	185390	245710	726990	239440	86320	60680	30579	86236
MEAN	1105	3017	6725	6074	6621	7926	24230	7724	2877	1957	986	2875
MAX	1740	5160	17900	22500	16200	28400	80700	20400	4920	3560	1210	6360
MIN	839	1180	3440	3580	3790	3910	9200	4430	1900	1220	731	851
CFSM	.19	.51	1.13	1.02	1.12	1.34	4.08	1.30	.49	.33	.17	.48
IN.	.21	.57	1.31	1.18	1.16	1.54	4.56	1.50	.54	.38	.19	.54

CAL YR 1986	TOTAL	1822753	MEAN	4994	MAX	87700	MIN	672	CFSM	.84	IN	11.42
WTR YR 1987	TOTAL	2182921	MEAN	5981	MAX	80700	MIN	731	CFSM	1.01	IN	13.68

POTOMAC RIVER BASIN

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01618000 POTOMAC RIVER AT SHEPHERDSTOWN, WV--Continued  
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1979 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1980 to September 1981 (discontinued).  
WATER TEMPERATURE: October 1980 to September 1981 (discontinued).

EXTREMES FOR PERIOD OF DAILY RECORD--

SPECIFIC CONDUCTANCE: Maximum, 670 microsiemens, Aug. 6, 10, 15, 30, Sept. 3, 1881; minimum, 160 microsiemens, Apr. 14-15, 1981.  
WATER TEMPERATURE: Maximum, 30.0°C, July 17, 21, 25, 1981; minimum, 1.0°C, Feb. 13, 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE AIR (DEG C)	TEMPERATURE WATER (DEG C)	BAROMETRIC PRESSURE (MM OF HG)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, (PERCENT SATURATION)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI, TOCOCCHI, KF AGAR (COLS. PER 100 ML)
NOV 17...	1015	2250	366	7.51	12.0	8.0	756	2.3	12.5	106	--	--
JAN 05...	1200	4270	260	7.67	4.0	3.0	767	2.4	14.4	106	K4	K5
MAR 05...	1130	15400	168	7.54	4.0	6.0	771	12	13.1	104	K95	K63
MAY 11...	1215	7750	210	7.94	27.0	19.0	759	1.5	11.0	119	61	K17
JUL 06...	1110	1910	405	7.99	24.0	27.0	760	3.2	7.9	100	61	1700
SEP 08...	1200	1190	524	8.02	22.0	22.0	752	0.60	7.7	89	K12000	K3300

DATE	HARDNESS (MG/L AS CaCO3)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CaCO3	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNESIUM, DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY WH WAT TOTAL FIELD (MG/L AS CaCO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS Cl)	FLUORIDE, DIS-SOLVED (MG/L AS F)
NOV 17...	150	100	48	8.3	7.8	10	0.3	2.2	54	94	12	0.10
JAN 05...	100	39	32	6.0	6.1	11	0.3	1.7	66	40	11	<0.10
MAR 05...	70	25	21	4.2	4.2	11	0.2	1.4	45	24	6.3	<0.10
MAY 11...	90	33	27	5.4	4.2	9	0.2	1.4	57	33	6.0	<0.10
JUL 06...	170	55	51	9.9	14	15	0.5	3.1	113	58	27	0.10
SEP 08...	210	110	66	11	26	21	0.8	3.4	104	94	35	0.20

DATE	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	NITROGEN, NITRATE DIS-SOLVED (MG/L AS N)	NITROGEN, NITRITE DIS-SOLVED (MG/L AS N)	NITROGEN, NITRITE DIS-SOLVED (MG/L AS NO2)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS NH4)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)
NOV 17...	4.8	237	210	--	<0.010	--	0.990	0.070	0.060	0.08	<0.20	0.050
JAN 05...	5.7	144	140	--	<0.010	--	1.70	0.070	0.060	0.08	0.30	0.030
MAR 05...	6.3	88	95	--	<0.010	--	1.40	0.050	0.080	0.10	1.1	0.060
MAY 11...	5.2	121	120	--	<0.010	--	0.870	0.020	<0.010	--	1.0	0.020
JUL 06...	5.0	236	240	1.48	0.020	0.07	1.50	0.040	0.040	0.05	0.80	0.070
SEP 08...	4.4	312	300	--	--	--	--	--	--	--	--	--

K: Results based on colony count outside the accepted range (non-ideal colony).

## POTOMAC RIVER BASIN

01618000 POTOMAC RIVER AT SHEPHERDSTOWN, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC, DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	CADMIUM, DIS-SOLVED (UG/L AS CD)	CHROMIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
NOV 17...	0.040	0.030	0.09	<10	<1	44	<0.5	<1	<1	<3	3	16
JAN 05...	0.020	0.020	0.06	--	--	--	--	--	--	--	--	--
MAR 05...	0.010	0.010	0.03	40	<1	30	<0.5	<1	<1	<3	2	38
MAY 11...	0.020	0.010	0.03	20	<1	37	<0.5	<1	<1	<3	1	16
JUL 06...	0.090	0.040	0.12	--	--	--	--	--	--	--	--	--
SEP 08...	--	--	--	<10	1	59	<0.5	<1	3	<3	2	14

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	LITHIUM, DIS-SOLVED (UG/L AS LI)	MANGANESE, DIS-SOLVED (UG/L AS MN)	MERCURY, DIS-SOLVED (UG/L AS HG)	MOLYBDENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELENIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRONTIUM, DIS-SOLVED (UG/L AS SR)	VANADIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)
NOV 17...	<5	11	66	<0.1	<10	5	<1	<1	200	<6	7
MAR 05...	<5	<4	15	<0.1	<10	4	<1	<1	98	<6	10
MAY 11...	<5	4	13	<0.1	<10	1	<1	<1	120	<6	11
SEP 08...	<5	11	7	<0.1	<10	2	<1	<1	300	<6	54

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV 17...	1015	2250	4	25	87
JAN 05...	1200	4270	4	46	78
MAR 05...	1130	15400	39	1620	95
MAY 11...	1215	7750	11	230	98
JUL 06...	1110	1910	10	52	78
SEP 08...	1200	1190	11	35	80

POTOMAC RIVER BASIN

01619500 ANTIETAM CREEK NEAR SHARPSBURG, MD

LOCATION.--Lat 39°27'01", long 77°43'52", Washington County, Hydrologic Unit 02070004, on left bank 400 ft downstream from Burnside Bridge, 1.0 mi southeast of Sharpsburg, and 4.0 mi upstream from mouth.

DRAINAGE AREA.--281 mi<sup>2</sup>.

PERIOD OF RECORD.--June 1897 to September 1905, August 1928 to current year. Monthly discharge only for some periods, published in WSP 1302.

REVISED RECORDS.--WSP 192: 1897-1905. WSP 726: Drainage area. WSP 1432: 1929-31(M), 1933, 1935(M), 1937(M), 1949(M), 1952(M).

GAGE.--Water-stage recorder. Concrete control since Mar. 29, 1934. Datum of gage is 311.05 ft above National Geodetic Vertical Datum of 1929. June 24, 1897, to Aug. 25, 1905, nonrecording gage a few hundred feet downstream from Middle Bridge, 1.2 mi upstream at datum 12 ft higher. Aug. 21, 1928, to July 13, 1933, nonrecording gage at Burnside Bridge, 0.1 mi upstream at present datum.

REMARKS.--Estimated daily discharges: Jan. 23-29. Records good. Some diurnal fluctuation caused by powerplant upstream from station. Since 1928 records include pumpage from the Potomac River for municipal supply of Hagerstown. This water later enters Antietam Creek upstream from station as sewage. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--64 years (water years 1898-1903, 1905, 1931-87), 276 ft<sup>3</sup>/s, 13.34 in/yr, adjusted for inflow since January 1930.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,600 ft<sup>3</sup>/s, July 20, 1956, gage height, 16.73 ft, from rating curve extended above 7,300 ft<sup>3</sup>/s on basis of contracted-opening measurement of peak flow; minimum discharge, 9.4 ft<sup>3</sup>/s, Nov. 22, 1957, result of regulation caused by construction work upstream from station; minimum daily discharge, 37 ft<sup>3</sup>/s, Jan. 30, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Apr. 5	0345	*2,810	*7.31	No other peak greater than base discharge.			

Minimum discharge, 80 ft<sup>3</sup>/s, Nov. 1, gage height, 2.26 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	95	84	121	226	231	542	314	329	210	165	136	115
2	112	102	131	233	228	726	259	317	218	169	134	108
3	115	91	354	230	262	573	261	325	214	318	131	97
4	102	87	287	213	287	491	978	416	255	221	129	94
5	108	101	186	201	288	445	1780	418	262	201	137	93
6	97	154	164	195	279	411	989	339	218	183	163	113
7	92	130	153	194	286	387	982	322	202	224	142	133
8	90	125	147	194	281	381	850	313	199	282	135	202
9	90	111	170	194	278	380	746	307	199	204	131	261
10	88	108	204	197	267	364	680	296	194	187	128	151
11	85	124	188	204	260	340	626	287	187	180	126	120
12	84	164	184	197	260	323	580	279	187	178	123	118
13	91	131	171	192	259	314	548	278	194	168	123	153
14	115	108	162	186	249	303	505	270	347	175	120	135
15	109	100	157	191	239	294	477	268	235	175	120	121
16	98	98	157	219	229	287	493	267	206	160	117	136
17	93	98	154	209	224	279	599	253	194	154	117	130
18	91	98	190	202	226	268	664	254	186	150	116	278
19	87	182	253	299	220	263	563	284	183	146	113	212
20	85	171	207	467	213	258	526	346	181	144	112	163
21	88	254	186	356	211	251	485	345	222	142	105	158
22	89	191	176	330	208	245	462	284	190	138	102	145
23	89	143	168	310	233	241	442	264	189	161	121	137
24	87	136	219	280	241	235	427	264	180	183	105	133
25	87	131	596	270	229	232	425	247	172	173	101	121
26	94	134	426	260	217	234	393	241	176	149	101	117
27	107	162	326	250	213	228	375	240	197	150	105	117
28	98	155	291	240	217	228	363	236	176	150	103	111
29	88	135	267	255	---	225	357	228	164	143	103	113
30	86	127	251	252	---	217	342	222	160	141	89	129
31	85	---	238	243	---	274	---	215	---	140	96	---
TOTAL	2925	3935	6884	7489	6835	10239	17491	8954	6097	5454	3694	4214
MEAN	94.4	131	222	242	244	330	583	289	203	176	119	140
MAX	115	254	596	467	288	726	1780	418	347	318	163	278
MIN	84	84	121	186	208	217	259	215	160	138	96	93
(†)	-15.4	-15.3	-15.3	-14.5	-13.5	-13.0	-12.8	-11.5	-14.0	-18.2	-18.2	-16.2
MEAN#	79.0	116	207	228	231	317	570	278	189	158	101	124
CFSM#	0.28	0.41	0.74	0.81	0.82	1.13	2.03	0.99	0.67	0.56	0.36	0.44
IN#	0.32	0.46	0.85	0.93	0.85	1.30	2.26	1.14	0.75	0.65	0.42	0.49

CAL YR	TOTAL	MEAN	MAX	MIN	MEAN#	CFSM#	IN#
1986	90204	247	1630	84	235	0.84	11.33
1987	84211	231	1780	84	216	0.77	10.43

† Pumpage in cubic feet per second, from Potomac River for municipal supply of Hagerstown.  
# Adjusted for pumpage.

POTOMAC RIVER BASIN

01636500 SHENANDOAH RIVER AT MILLVILLE, WV

LOCATION.--Lat 39°16'55", long 77°47'22", Jefferson County, Hydrologic Unit 02070007, on left bank 0.4 mi downstream from Cattail Run, 1.0 mi upstream from Millville, 5.0 mi upstream from Harpers Ferry, and at mile 5.0.  
DRAINAGE AREA.--3,040 mi<sup>2</sup>.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1895 to March 1909, August 1928 to current year.

REVISED RECORDS.--WSP 951: 1936(M). WSP 1432: Drainage area at former site, 1895-99, 1901-02, 1905, 1907-08, 1932(M), 1935(M).

GAGE.--Water-stage recorder. Datum of gage is 293.00 ft above National Geodetic Vertical Datum of 1929. Apr. 15, 1895, to Mar. 31, 1909, nonrecording gage at site 0.8 mi downstream at datum 0.32 ft higher.

REMARKS.--No estimated daily discharges. Water-discharge records good. Regulation by hydroelectric plants, particularly that of Potomac Light and Power Company, 0.5 mi upstream from station. National Weather Service gage-height telemeter and U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--72 years (water years 1896-1908, 1929-87), 2,703 ft<sup>3</sup>/s, 12.07 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 230,000 ft<sup>3</sup>/s, Oct. 16, 1942, gage height, 32.4 ft, from flood-marks; minimum discharge, 59 ft<sup>3</sup>/s, Oct. 4, 1930, gage height, 0.39 ft; minimum daily discharge, 194 ft<sup>3</sup>/s, July 24, 1930.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of 1870 reached practically same stage as flood of Mar. 18, 1936, 26.36 ft, discharge, 151,000 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 15,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Mar. 3	0730	16,900	8.93	Apr. 27	0200	15,800	8.64
Apr. 18	1600	*64,500	*17.44				

Minimum discharge, 242 ft<sup>3</sup>/s, Oct. 14, gage height, 0.94 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	429	435	795	2220	3130	3890	2330	5980	2520	1820	621	527
2	437	483	844	2070	2770	8150	4020	5290	2300	1780	633	530
3	433	491	1460	1880	3610	15600	5540	4710	2390	2380	611	449
4	438	474	1960	1750	4510	11200	7070	4790	2690	1300	596	450
5	439	489	2290	1640	5750	8000	10900	8350	2880	1150	619	486
6	384	587	2320	1480	5920	6300	10200	9690	3040	1080	683	511
7	419	647	1810	1390	5090	5290	11000	7400	2850	1070	614	578
8	406	750	1600	1330	4520	4610	10300	6170	2340	1060	590	776
9	406	690	1310	1340	4190	4210	9710	5340	2130	1110	696	4890
10	405	799	1340	1310	3890	4030	9070	4690	1770	1210	703	9140
11	388	793	1250	1310	3560	4230	7630	4190	1720	1010	634	5740
12	378	989	1260	1280	3170	4530	6450	3800	1570	1090	557	5710
13	392	1130	1410	1230	2940	4340	5570	3510	1600	1510	528	5860
14	384	838	1370	1310	2750	3830	4830	3260	1530	1360	540	6900
15	430	725	1420	1130	2640	3430	4290	3080	1500	1230	529	4740
16	419	731	1370	1110	2520	3170	4380	2860	1420	1350	524	3640
17	468	677	1290	1160	2320	3000	29100	2720	1280	1110	530	2650
18	453	645	1300	1130	2240	2830	61100	2550	1280	950	510	2420
19	430	617	1240	1300	2080	2710	43800	2550	1130	888	490	2460
20	439	659	1240	4430	2070	2510	21300	2740	1260	835	502	2180
21	435	647	1230	6430	1980	2360	15100	4320	1420	788	547	2490
22	434	692	1150	6510	1860	2280	11500	5850	1670	759	480	3820
23	430	723	1120	5230	1970	2200	8950	4830	1220	776	530	4400
24	425	741	1130	4240	2000	2120	7490	4280	1440	712	514	3370
25	422	664	3460	3500	2100	2020	8240	3920	1180	721	513	2700
26	431	669	5290	2500	2200	1980	11900	4580	1160	678	533	2250
27	441	694	7140	2290	2310	1880	14300	3690	1310	684	583	1960
28	499	759	5080	2050	2470	1820	10400	3310	1630	669	620	1610
29	438	766	3890	2090	---	1860	8240	3430	1240	654	548	1560
30	415	764	3150	2390	---	1810	6970	3160	1180	597	552	1490
31	428	---	2580	2780	---	2040	---	2770	---	567	551	---
TOTAL	13175	20768	64099	71810	86560	128230	371680	137810	52650	32898	17681	86287
MEAN	425	692	2068	2316	3091	4136	12390	4445	1755	1061	570	2876
MAX	499	1130	7140	6510	5920	15600	61100	9690	3040	2380	703	9140
MIN	378	435	795	1110	1860	1810	2330	2550	1130	567	480	449
CFSM	.14	.23	.68	.76	1.02	1.36	4.08	1.46	.58	.35	.19	.95
IN.	.18	.25	.78	.88	1.06	1.57	4.55	1.89	.64	.40	.22	1.06

CAL YR 1986 TOTAL 562491 MEAN 1541 MAX 16300 MIN 378 CFSM .51 IN. 6.88  
WTR YR 1987 TOTAL 1083650 MEAN 2969 MAX 61100 MIN 378 CFSM .98 IN. 13.3

POTOMAC RIVER BASIN

01636500 SHENANDOAH RIVER AT MILLVILLE, WV--Continued  
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960-63, 1965, 1969-71, 1979 to current year.

INSTRUMENTATION.--Water-quality monitor October 1980 to September 1983.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1980 to September 1983 (discontinued).

WATER TEMPERATURES: October 1980 to September 1983 (discontinued).

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE (water years 1981-82): Maximum, 778 microsiemens, Dec. 29, 1980; minimum, 212 microsiemens, Jan. 17, 1982.

WATER TEMPERATURE: Maximum, 30.0°C, July 20, 21, 1981; minimum, 0.0°C on many days during winter periods.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE AIR (DEG C)	TEMPERATURE WATER (DEG C)	BAROMETRIC PRESSURE (MM OF HG)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	COLIFORM, FECAL, UM-MF (COLS./100 ML)	STREPTOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML)
NOV 17...	1530	632	490	8.41	11.5	9.0	753	1.6	13.4	117	--	--
JAN 05...	1000	1660	257	8.01	2.0	1.0	768	1.9	15.3	107	K2	K3
MAR 05...	0930	8220	185	7.83	3.0	6.0	770	30	11.7	93	120	100
MAY 11...	1015	4260	272	8.01	26.0	20.0	758	3.3	8.7	96	43	50
JUL 06...	0845	368	435	8.28	24.5	26.0	760	1.5	6.5	80	160	930
SEP 08...	1015	271	575	8.20	24.0	22.0	753	3.5	7.4	86	K530	2100

DATE	HARDNESS (MG/L AS CaCO3)	HARDNESS NONCARBONATE (MG/L AS CaCO3)	CALCIUM DISSOLVED (MG/L AS Ca)	MAGNESIUM, DISSOLVED (MG/L AS Mg)	SODIUM, DISSOLVED (MG/L AS Na)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY (WH WAT TOTAL FIELD) (MG/L AS CaCO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS Cl)	FLUORIDE, DISSOLVED (MG/L AS F)
NOV 17...	180	24	48	14	34	29	1	3.2	155	69	35	0.20
JAN 05...	110	16	32	7.8	15	22	0.6	2.0	96	44	11	<0.10
MAR 05...	74	14	22	4.7	5.7	14	0.3	1.6	60	20	6.4	<0.10
MAY 11...	120	13	34	8.0	8.7	14	0.4	1.6	105	24	7.4	0.10
JUL 06...	170	14	45	13	25	24	0.9	2.9	152	55	23	0.10
SEP 08...	180	40	44	16	55	40	2	2.9	136	110	23	0.20

DATE	SILICA, DISSOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS NO2)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)
NOV 17...	1.8	301	300	--	<0.010	--	1.10	0.010	0.030	0.04	0.40	0.140
JAN 05...	5.1	172	170	--	<0.010	--	1.50	0.030	0.020	0.03	0.60	0.060
MAR 05...	6.4	99	100	1.19	0.010	0.03	1.20	0.100	0.110	0.14	0.90	0.130
MAY 11...	6.3	142	150	1.29	0.010	0.03	1.30	0.010	0.020	0.03	1.1	0.060
JUL 06...	4.3	254	260	1.09	0.010	0.03	1.10	0.030	0.030	0.04	0.90	0.100
SEP 08...	3.3	340	340	--	--	--	--	--	--	--	--	--

K: Results based on colony count outside the accepted range (non-ideal colony).

## POTOMAC RIVER BASIN

01636500 SHENANDOAH RIVER AT MILLVILLE, WV--Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	PHOS-PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
NOV 17...	0.140	0.100	0.31	<10	<1	34	<0.5	1	<1	<3	4	30
JAN 05...	0.050	0.040	0.12	--	--	--	--	--	--	--	--	--
MAR 05...	0.060	0.040	0.12	50	<1	25	<0.5	1	<1	<3	2	74
MAY 11...	0.050	0.040	0.12	10	<1	36	<0.5	<1	<1	<3	2	10
JUL 06...	0.110	0.040	0.12	--	--	--	--	--	--	--	--	--
SEP 08...	--	--	--	10	1	38	<0.5	<1	3	<3	3	12

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV 17...	<5	11	3	0.2	<10	<1	<1	<1	180	<6	14
JAN 05...	--	--	--	--	--	--	--	--	--	--	--
MAR 05...	<5	5	6	<0.1	<10	3	<1	<1	67	<6	4
MAY 11...	<5	4	5	<0.1	<10	<1	<1	<1	100	<6	56
JUL 06...	--	--	--	--	--	--	--	--	--	--	--
SEP 08...	<5	11	7	0.3	<10	2	<1	<1	170	<6	13

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV 17...	1530	632	4	7.3	90
JAN 05...	1000	1660	4	18	62
MAR 05...	0930	8220	72	1600	96
MAY 11...	1015	4260	23	265	95
JUL 06...	0845	368	40	40	93
SEP 08...	1015	271	22	16	92

POTOMAC RIVER BASIN

01637500 CATOCTIN CREEK NEAR MIDDLETOWN, MD

LOCATION.--Lat 39°25'35", long 77°33'25", Frederick County, Hydrologic Unit 02070008, on right bank 300 ft downstream from bridge on State Highway 17, 1.3 mi south of Middletown, 2.2 mi downstream from Little Catoctin Creek, and 14.8 mi upstream from mouth.

DRAINAGE AREA.--66.9 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1947 to current year.

REVISED RECORDS.--WSP 1432: 1947-48. WDR MD-DE-77-1: 1960(M), 1965(M), 1970(M), 1972(P), 1975(P).

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 385 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Dec. 12, 13, Jan. 23, 25, 26. Records good except those for estimated daily discharges (ice effect), which are fair. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--40 years, 75.5 ft<sup>3</sup>/s, 15.33 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,000 ft<sup>3</sup>/s, Oct. 9, 1976, gage height, 14.13 ft, from rating curve extended above 2,600 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; no flow Aug. 27 to Sept. 12, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,200 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Apr. 4	1900	*2,820	*6.64	No other peak greater than base discharge.			

Minimum daily discharge, 1.0 ft<sup>3</sup>/s, Aug. 21, Sept. 4, 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	3.8	13	47	51	368	86	65	26	16	3.9	1.6
2	1.6	8.4	40	56	55	315	60	63	33	55	3.7	1.3
3	3.0	11	211	49	79	215	76	67	27	116	3.0	1.1
4	6.0	6.9	65	42	102	172	1240	125	79	28	2.3	1.0
5	4.2	9.8	42	37	99	140	726	98	58	34	4.9	1.0
6	2.7	23	33	40	93	123	535	73	36	22	8.4	3.1
7	2.8	14	28	39	95	114	461	66	29	17	5.7	4.6
8	3.0	17	25	42	96	107	372	61	25	24	4.3	148
9	2.9	15	47	38	85	100	300	56	25	21	3.9	50
10	2.2	10	72	43	74	86	243	53	24	17	4.0	16
11	1.8	22	49	46	71	76	204	49	20	13	2.4	8.9
12	2.0	34	40	42	69	73	180	48	20	17	1.9	9.6
13	3.0	14	34	40	64	69	160	53	25	14	1.7	11
14	5.3	9.8	29	38	57	63	134	44	58	22	1.5	11
15	6.2	7.6	32	56	52	61	124	45	27	40	1.4	8.3
16	5.7	7.1	29	72	42	58	140	42	21	17	1.5	6.7
17	4.1	7.0	27	55	48	53	351	38	18	13	1.5	6.0
18	3.3	7.2	76	54	44	50	238	43	16	11	1.1	7.0
19	2.7	22	84	180	40	48	195	58	15	9.5	1.2	15
20	2.5	24	56	184	38	46	171	101	15	8.0	1.5	14
21	2.7	72	47	138	39	44	153	73	20	6.6	1.0	16
22	2.4	30	39	118	38	43	138	57	19	5.6	2.3	12
23	2.4	18	34	90	47	41	123	49	19	4.9	4.8	8.3
24	2.4	16	108	83	47	39	119	43	16	4.7	4.3	6.4
25	2.6	17	272	74	42	39	110	41	13	4.8	2.7	5.5
26	3.9	22	120	66	42	41	96	41	13	4.5	2.5	4.6
27	4.6	41	92	62	45	38	86	40	19	4.6	2.4	4.1
28	5.5	25	77	57	51	39	80	37	16	3.4	2.5	3.8
29	6.5	19	65	60	---	37	77	33	11	3.0	2.4	3.4
30	4.9	15	58	59	---	35	71	30	14	2.7	1.8	4.6
31	3.9	---	52	58	---	91	---	27	---	2.8	1.7	---
TOTAL	107.9	548.6	1996	2075	1705	2824	7049	1719	757	562.1	88.2	393.9
MEAN	3.48	18.3	64.4	66.9	60.9	91.1	235	55.5	25.2	18.1	2.85	13.1
MAX	6.5	72	272	194	102	368	1240	125	79	116	8.4	148
MIN	1.1	3.8	13	37	38	35	60	27	11	2.7	1.0	1.0
CFSM	.05	.27	.96	1.00	.91	1.36	3.51	.83	.38	.27	.04	.20
IN.	.06	.31	1.11	1.15	.95	1.57	3.92	.96	.42	.31	.05	.22

CAL YR 1986	TOTAL	19555.42	MEAN 53.6	MAX 815	MIN .50	CFSM .80	IN 10.87
WTR YR 1987	TOTAL	18625.70	MEAN 54.3	MAX 1240	MIN 1.0	CFSM .81	IN 11.02

POTOMAC RIVER BASIN

01638500 POTOMAC RIVER AT POINT OF ROCKS, MD

LOCATION.--Lat 39°16' 25", long 77°32' 35", Frederick County, Hydrologic Unit 02070008, on left bank at downstream side of bridge on U.S. Highway 15 at Point of Rocks, 0.3 mi downstream from Catoctin Creek (Virginia), 6 mi upstream from Monocacy River, and at mile 159.5.

DRAINAGE AREA.--9,651 mi<sup>2</sup>.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1895 to current year.

REVISED RECORDS.--WSP 192: 1895-1905. WSP 1432: 1899, 1901-2, 1904-5, 1912, 1914(M), 1915, 1917(M), 1918, 1919(M), 1920, 1921-23(M), 1924, 1925-28(M), 1930(M).

GAGE.--Water-stage recorder. Datum of gage is 200.63 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 28, 1929, nonrecording gage at same site. Prior to Sept. 2, 1902, at datum about 0.45 ft higher.

REMARKS.--No estimated daily discharges. Water-discharge records good. Low flow affected slightly from 1913 to July 1981 by Stony River Reservoir (see station 01592000), since December 1950 by Savage River Reservoir (see station 01597500), and since July 1981 by Jennings Randolph Lake (see station 01595800). Low flow affected extensively at times by run-of-the-river hydroelectric plants. National Weather Service gage height telemeter at station.

AVERAGE DISCHARGE.--92 years, 9,410 ft<sup>3</sup>/s, 13.24 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 480,000 ft<sup>3</sup>/s, Mar. 19, 1936, gage height, 41.03 ft, from rating curve extended above 300,000 ft<sup>3</sup>/s, on the basis of adjustment of figure of peak flow at station near Washington for inflow and storage, and slope-area measurement of peak flow; minimum discharge, 530 ft<sup>3</sup>/s, Sept. 11, 12, 1966, gage height, 0.27 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 2, 1889, reached a stage of 40.2 ft, from floodmarks, discharge, about 460,000 ft<sup>3</sup>/s from rating curve extended as explained above.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 35,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Mar. 3	1600	47,200	10.34	Apr. 18	2000	*153,000	*23.49
Apr. 5	2230	76,700	14.53				

Minimum discharge, 1,170 ft<sup>3</sup>/s, Oct. 12, 13, gage height, 0.67 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1780	1500	5600	9200	9730	12600	10100	16500	7330	9860	1680	1510
2	1930	1700	5500	8300	8670	24000	19600	15200	6710	5520	1650	1430
3	1820	1860	6560	7600	10000	42600	21200	13700	6520	13700	1640	1380
4	1520	1750	9900	6960	17400	37900	24400	13800	7850	5040	1630	1320
5	1470	1780	12500	6370	23800	27100	59200	19600	8670	3970	1620	1300
6	1480	2040	11700	5870	21300	21000	62400	31300	8090	3600	1820	1410
7	1500	2290	8750	5310	18100	17300	52300	26500	7170	3390	1830	1600
8	1540	2860	7150	4960	15900	14900	51900	21900	6180	3630	1770	2490
9	1480	3290	6370	5030	14400	13500	42900	18200	5510	3740	1790	4330
10	1410	3630	6310	5160	13100	13500	39500	15200	4880	3380	1900	15200
11	1340	4710	7450	5280	11800	14200	34000	13200	4530	3090	1720	10300
12	1230	5290	8130	5220	10700	15000	27300	11900	4230	2830	1610	10800
13	1280	6020	7650	5050	9880	13800	23700	10700	4140	3270	1490	8930
14	1440	5780	7200	5050	9290	12000	20600	9680	4180	3540	1480	13700
15	1380	4350	6640	4890	8840	10800	17400	9010	4440	4480	1440	12200
16	1410	3450	6250	4680	8640	9840	16000	8390	4030	4610	1410	8890
17	1450	3080	5870	4890	7930	9260	41000	7930	3790	3700	1400	6580
18	1480	2970	5820	4880	7520	8710	136000	7390	3550	3150	1380	6180
19	1430	2720	5910	5810	7070	8330	119000	7410	3360	2790	1340	5850
20	1410	2830	6140	11800	6710	7810	64500	8100	3190	2800	1290	5490
21	1380	3400	5850	27500	6440	7520	45600	9450	3780	2360	1350	6200
22	1380	4440	5250	27600	6110	7260	35700	16200	4600	2570	1320	8100
23	1400	5230	4900	20400	6250	7040	28400	15200	4660	2440	1330	11200
24	1380	4960	5470	16000	6430	6840	23100	12500	4710	2040	1410	8410
25	1310	4380	9840	12300	6620	6590	21000	10900	4140	2130	1480	6830
26	1340	4020	23000	9740	7010	6460	26300	10600	3530	1840	1650	5610
27	1410	3810	26500	8430	7410	6380	32200	9330	3470	1800	1710	4800
28	1490	4380	20900	7100	7950	6380	27000	8600	4260	1770	1750	4100
29	1780	6060	16100	7290	---	6380	22400	8350	3650	1740	1630	3740
30	1790	5850	13100	7690	---	6380	18900	8340	4300	1680	1580	3550
31	1390	---	10700	8720	---	6730	---	8150	---	1630	1540	---
TOTAL	45830	110230	289010	275080	295000	408110	1163600	403230	149450	111890	48640	183430
MEAN	1478	3674	9323	8874	10540	13160	36790	13010	4982	3609	1569	6114
MAX	1930	6060	26500	27600	23800	42600	136000	31300	8670	13700	1900	15200
MIN	1230	1500	4900	4680	6110	6380	10100	7390	3190	1630	1290	1300
CFSM	.15	.38	.97	.92	1.09	1.36	4.02	1.35	.52	.37	.16	.63
IN.	.18	.42	1.11	1.06	1.14	1.57	4.49	1.55	.58	.43	.19	.71

CAL YR 1986	TOTAL	2584870	MEAN	7082	MAX	110000	MIN	1170	CFSM	.73	IN	9.96
WTR YR 1987	TOTAL	3483500	MEAN	9544	MAX	136000	MIN	1230	CFSM	.99	IN	13.43

01638500 POTOMAC RIVER AT POINT OF ROCKS, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1961 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: October 1960 to current year.

SUSPENDED-SEDIMENT DISCHARGE: October 1960 to current year.

REMARKS.--Water temperatures are measured daily in field by local observer at time of sampling.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum daily, 33.5°C, Aug. 24, 1964, July 19, 1977; minimum daily, 0.0°C on many days during winter periods.

SEDIMENT CONCENTRATION: Maximum daily mean, 2,690 mg/L, Nov. 7, 1985; minimum daily mean, 1 mg/L, on many days most years.

SEDIMENT LOAD: Maximum daily, 1,930,000 tons, Nov. 7, 1985; minimum daily, 2.0 tons on many days during 1964, 1966-69.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum daily, 33.0°C, July 24; minimum daily, 0.0°C, Feb. 1.

SEDIMENT CONCENTRATION: Maximum daily mean, 755 mg/L, Apr. 18; minimum daily mean, 1 mg/L, Nov. 17, 18.

SEDIMENT LOAD: Maximum daily, 277,000 tons, Apr. 18; minimum daily, 7.5 tons, Oct. 15.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM
APR 06...	1015	63300	411	70200	49	95	98	99	100

TEMPERATURE, WATER, DEGREES CENTIGRADE, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987 ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24.0	12.0	5.0	---	.0	7.0	12.0	13.0	24.0	25.0	29.0	25.0
2	25.0	15.0	5.0	---	3.0	6.0	12.0	14.0	24.0	27.0	28.0	25.0
3	24.0	12.0	6.0	---	2.0	7.0	8.0	10.0	25.0	25.0	31.0	25.0
4	23.0	12.0	6.0	---	2.0	5.0	8.0	12.0	24.0	27.0	31.0	24.0
5	23.0	10.0	5.0	---	2.0	6.0	7.0	13.0	22.0	28.0	29.0	23.0
6	18.0	11.0	5.0	---	3.0	5.0	6.0	13.0	23.0	27.0	26.0	21.0
7	15.0	11.0	8.0	---	4.0	5.0	6.0	16.0	25.0	28.0	26.0	22.0
8	16.0	13.0	5.0	---	3.0	9.0	7.0	14.0	27.0	27.0	26.0	21.0
9	17.0	13.0	---	---	3.0	9.0	10.0	17.0	24.0	30.0	30.0	23.0
10	18.0	10.0	---	---	4.0	6.0	9.0	18.0	24.0	29.0	28.0	24.0
11	16.0	10.0	---	---	8.0	7.0	10.0	20.0	20.0	30.0	27.0	24.0
12	16.0	9.0	---	---	6.0	7.0	11.0	19.0	21.0	30.0	29.0	23.0
13	21.0	7.0	---	4.0	3.0	7.0	11.0	18.0	23.0	28.0	30.0	24.0
14	18.0	6.0	---	4.0	2.0	7.0	12.0	19.0	25.0	28.0	28.0	25.0
15	15.0	5.0	---	4.0	2.0	6.0	10.0	19.0	25.0	28.0	27.0	24.0
16	15.0	8.0	---	5.0	1.0	5.0	10.0	18.0	25.0	32.0	27.0	22.0
17	24.0	7.0	---	---	2.0	6.0	10.0	22.0	25.0	28.0	27.0	23.0
18	14.0	6.0	---	2.0	3.0	7.0	10.0	20.0	25.0	25.0	29.0	23.0
19	15.0	6.0	---	3.0	2.0	9.0	12.0	20.0	28.0	30.0	27.0	21.0
20	14.0	5.0	---	4.0	2.0	10.0	12.0	18.0	29.0	28.0	27.0	20.0
21	15.0	8.0	---	3.0	4.0	10.0	13.0	19.0	28.0	31.0	28.0	20.0
22	13.0	5.0	---	---	5.0	10.0	13.0	19.0	28.0	29.0	26.0	22.0
23	14.0	5.0	---	---	3.0	9.0	14.0	19.0	27.0	30.0	25.0	20.0
24	16.0	6.0	---	---	3.0	12.0	15.0	22.0	25.0	33.0	24.0	21.0
25	14.0	5.0	---	---	1.0	10.0	14.0	20.0	25.0	30.0	23.0	22.0
26	14.0	6.0	---	---	4.0	13.0	14.0	19.0	25.0	30.0	22.0	21.0
27	14.0	7.0	---	---	4.0	12.0	13.0	19.0	27.0	30.0	25.0	20.0
28	15.0	6.0	---	---	4.0	13.0	13.0	23.0	25.0	28.0	25.0	22.0
29	16.0	6.0	---	---	---	13.0	15.0	21.0	27.0	27.0	25.0	22.0
30	13.0	6.0	---	2.0	---	13.0	14.0	22.0	25.0	30.0	25.0	20.0
31	12.0	---	---	---	---	13.0	---	25.0	---	28.0	25.0	---



POTOMAC RIVER BASIN

01639000 MONOCACY RIVER AT BRIDGEPORT, MD

LOCATION.--Lat 39°40'43", long 77°14'06", Frederick County, Hydrologic Unit 02070009, on right bank 60 ft downstream from bridge on State Highway 140 at Bridgeport, 0.9 mi upstream from Cattail Branch, 3.4 mi northwest of Taneytown, 4.8 mi downstream from confluence of Rock and Marsh Creeks at Pennsylvania-Maryland State line, and 52 mi upstream from mouth.

DRAINAGE AREA.--173 mi<sup>2</sup>.

PERIOD OF RECORD.--May 1942 to current year.

REVISED RECORDS.--WSP 1382: 1944(M).

GAGE.--Water-stage recorder. Concrete control since Sept. 15, 1947. Datum of gage is 340.83 ft above National Geodetic Vertical datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to May 3, 1946, nonrecording gage and crest-stage gages at site 0.3 mi downstream at datum 0.98 ft lower.

REMARKS.--Estimated daily discharges: Aug. 15-19. Records good. Occasional regulation at low flow from unknown source upstream from station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--45 years, 204 ft<sup>3</sup>/s, 16.01 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,300 ft<sup>3</sup>/s, June 22, 1972, gage height, 24.05 ft, from rating curve extended above 7,000 ft<sup>3</sup>/s on basis of slope-conveyance study; no flow July 24-29, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 24, 1933, reached a stage of about 25 ft, present site and datum, from floodmarks, discharge, about 23,000 ft<sup>3</sup>/s. Stage exceeded that of June 1889, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,800 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 3	0530	7,220	12.46	Mar. 1	1730	5,230	10.56
Dec. 25	0430	*8,110	*13.24				

Minimum discharge, 2.4 ft<sup>3</sup>/s, Aug. 20, 21, 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.1	7.7	88	154	146	3620	325	81	42	38	6.5	17
2	69	7.9	538	175	148	1430	149	78	37	75	6.2	20
3	32	7.2	3990	210	271	569	206	102	38	184	6.0	6.6
4	18	9.9	507	201	678	359	1090	416	151	80	5.6	6.2
5	13	21	263	154	597	260	1070	426	159	95	6.3	6.2
6	9.2	78	182	130	359	229	1660	191	82	41	8.8	7.6
7	8.4	65	153	141	397	208	937	137	61	56	10	25
8	7.9	51	135	213	440	191	484	113	51	104	13	363
9	7.7	58	405	205	317	177	335	96	44	61	10	526
10	6.9	49	639	223	183	147	264	85	40	69	8.0	91
11	6.5	49	284	239	173	122	216	75	36	79	6.8	44
12	6.7	168	294	211	167	117	191	68	32	328	6.6	440
13	6.2	77	259	192	155	113	248	80	37	123	5.9	1310
14	7.1	48	148	255	149	105	184	64	49	108	5.3	268
15	9.9	37	130	444	112	101	154	61	34	96	4.8	112
16	11	32	126	387	87	99	162	81	26	51	4.3	157
17	11	31	121	227	96	89	596	58	23	35	3.9	93
18	9.9	30	689	192	91	82	463	52	21	27	3.3	1180
19	8.7	401	590	1500	79	77	296	55	20	23	3.0	288
20	7.9	145	256	1250	77	74	232	311	20	20	2.7	348
21	7.1	1140	193	497	79	70	194	265	77	17	2.4	283
22	6.6	224	149	297	79	66	167	181	56	14	3.5	173
23	5.9	131	119	254	96	62	144	293	36	12	6.0	112
24	5.3	118	642	218	140	60	172	382	30	11	9.7	79
25	5.3	120	4280	219	146	58	248	131	24	11	8.5	59
26	6.4	183	631	187	137	63	154	99	22	9.8	7.4	43
27	13	614	372	174	169	62	123	87	46	11	6.6	34
28	12	202	288	166	181	61	108	82	39	9.4	6.1	29
29	12	137	224	152	---	68	101	69	24	7.9	8.5	25
30	9.5	108	197	144	---	59	92	57	20	7.5	11	23
31	7.8	---	178	156	---	190	---	48	---	7.1	9.6	---
TOTAL	353.0	4349.7	17070	9167	5749	8988	10765	4324	1377	1810.7	206.3	6168.6
MEAN	11.4	145	551	296	205	290	359	139	45.9	58.4	6.65	206
MAX	69	1140	4280	1500	678	3620	1660	426	159	328	13	1310
MIN	5.1	7.2	88	130	77	58	92	48	20	7.1	2.4	6.2
CFSM	.07	.84	3.19	1.71	1.19	1.68	2.08	.80	.27	.34	.04	1.19
IN.	.08	.94	3.67	1.97	1.24	1.93	2.31	.93	.30	.39	.04	1.33

CAL YR 1986 TOTAL 63172.4 MEAN 173 MAX 4570 MIN 2.4 CFSM 1.00 IN 13.58  
WTR YR 1987 TOTAL 70328.3 MEAN 193 MAX 4280 MIN 2.4 CFSM 1.12 IN 15.12

## POTOMAC RIVER BASIN

01639375 TOMS CREEK AT EMMITSBURG, MD

LOCATION.--Lat 39°42'13", long 77°20'41", Frederick County, Hydrologic Unit 02070009, on upstream face of left abutment of old bridge site, 80 ft upstream from new bridge on Hampton Valley Road, 0.5 mi west of Emmitsburg, 1.7 mi downstream from confluence with Friends Creek, and 8.0 mi upstream from mouth.

DRAINAGE AREA.--41.3 mi<sup>2</sup>.

PERIOD OF RECORD.--March 1986 to September 1987.

GAGE.--Water-stage recorder. Elevation of gage is 408 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Mar. 1-6, 1986 and Sept. 11-19, 1986. Records good except those for estimated daily discharges (missing record), which are fair. Several measurements of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,130 ft<sup>3</sup>/s, May 20, 1986, gage height, 6.33 ft; minimum daily discharge, 1.7 ft<sup>3</sup>/s, Aug. 20, 1987.

EXTREMES FOR CURRENT PERIOD.--Peak discharges greater than base discharge of 800 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Mar. 15, 1986	0015	879	5.47	Dec. 24, 1986	2130	912	5.59
May 20, 1986	2000	*1,130	*6.33	Apr. 4, 1987	1130	*971	*5.82

March to September 1986: Minimum daily discharge, 3.0 ft<sup>3</sup>/s, Sept. 12, 13, 14, 15.

Water year 1987: Minimum daily discharge, 1.7 ft<sup>3</sup>/s, Aug. 20.

DISCHARGE, IN CUBIC FEET PER SECOND, MARCH 1986 TO SEPTEMBER 1986  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						90	46	46	29	8.3	4.9	3.6
2						85	44	43	26	23	6.2	4.9
3						80	41	39	23	13	10	7.1
4						78	39	37	22	11	8.2	8.0
5						75	39	36	21	8.7	5.9	6.4
6						73	47	34	78	7.7	5.4	5.4
7						68	44	35	132	7.1	9.5	4.6
8						57	38	31	55	6.3	22	4.2
9						61	35	28	41	8.1	9.5	3.7
10						75	33	27	34	9.4	6.1	3.4
11						106	32	26	31	6.8	6.5	3.2
12						81	31	23	39	6.8	5.4	3.0
13						114	29	23	55	6.4	5.0	3.0
14						234	28	23	32	5.7	4.8	3.0
15						455	35	24	27	5.1	4.8	3.0
16						247	208	23	24	4.9	5.0	3.1
17						189	212	25	31	6.4	15	3.1
18						156	175	19	21	5.7	26	3.2
19						141	140	16	18	5.1	9.8	3.3
20						121	121	198	17	73	9.9	3.4
21						102	110	156	15	52	24	3.5
22						91	100	103	13	14	14	3.7
23						86	88	75	13	9.8	7.4	3.9
24						79	77	65	27	9.5	5.6	4.8
25						72	71	55	16	7.7	4.6	5.1
26						69	66	49	12	7.3	4.0	4.4
27						65	60	46	11	6.9	4.3	4.1
28						60	55	46	11	5.8	6.0	3.9
29						56	53	40	11	5.5	5.0	4.0
30						52	48	35	8.3	5.0	4.2	4.0
31						50	---	32	---	4.8	3.9	---
TOTAL						3368	2145	1458	893.3	356.8	262.9	124.0
MEAN						109	71.5	47.0	29.8	11.5	8.48	4.13
MAX						455	212	198	132	73	26	8.0
MIN						50	28	16	8.3	4.8	3.9	3.0
CFSM						2.64	1.73	1.14	.72	.28	.21	.10
IN.						3.03	1.93	1.31	.80	.32	.24	.11

POTOMAC RIVER BASIN

01639375 TOMS CREEK AT EMMITSBURG, MD--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.3	3.9	15	58	45	338	116	57	31	13	5.5	17
2	7.5	4.0	228	63	51	267	98	59	29	30	8.6	5.2
3	4.6	4.1	317	56	78	197	117	60	30	50	6.2	3.6
4	4.4	4.1	121	50	91	154	516	116	68	23	5.5	2.3
5	4.2	9.9	83	42	76	126	340	85	43	27	5.8	2.2
6	4.0	32	62	40	71	112	341	72	31	18	8.8	8.5
7	3.6	9.1	52	42	76	108	278	67	28	50	6.5	14
8	3.5	11	45	47	74	108	223	64	25	36	6.1	57
9	3.4	9.7	102	41	64	101	184	59	22	21	5.4	30
10	3.4	9.8	95	44	57	86	155	55	21	17	4.7	12
11	3.4	23	70	43	52	76	135	50	19	19	3.9	8.2
12	3.4	29	65	38	53	72	125	49	19	26	3.1	47
13	3.6	11	53	36	50	67	113	47	34	24	2.6	60
14	4.9	7.4	42	38	43	61	98	41	41	24	2.4	23
15	4.5	6.2	38	70	39	59	90	46	24	24	3.0	18
16	4.0	5.8	37	66	32	55	107	39	20	16	2.4	26
17	3.8	5.5	36	56	39	49	279	35	17	14	2.5	22
18	3.7	17	108	56	33	45	205	33	15	12	2.6	205
19	3.9	76	81	163	31	43	167	41	14	10	2.0	44
20	3.9	54	59	141	29	41	144	177	15	9.6	1.7	49
21	3.9	106	50	104	28	39	129	102	20	9.0	2.1	34
22	3.8	37	44	99	29	36	116	84	16	8.5	4.4	22
23	3.8	23	40	115	40	34	106	71	15	6.8	7.3	16
24	3.8	22	188	70	36	32	104	62	15	6.6	3.8	14
25	3.8	17	300	76	35	31	94	55	13	6.2	3.0	13
26	4.6	41	154	68	36	33	82	52	28	6.3	2.8	11
27	5.1	52	118	64	35	29	75	49	33	8.3	3.6	10
28	4.1	31	97	65	50	32	71	45	17	6.3	4.0	9.1
29	4.0	23	81	60	---	29	67	39	12	5.6	4.5	8.4
30	3.9	18	73	60	---	34	62	35	12	5.8	3.3	9.8
31	3.9	---	65	52	---	185	---	32	---	5.5	4.3	---
TOTAL	126.7	702.5	2919	2023	1373	2679	4737	1878	727	538.5	132.4	801.3
MEAN	4.09	23.4	94.2	65.3	49.0	86.4	158	60.6	24.2	17.4	4.27	26.7
MAX	7.5	106	317	163	91	338	516	177	68	50	8.8	205
MIN	3.4	3.9	15	36	28	29	62	32	12	5.5	1.7	2.2
CFSM	.10	.57	2.28	1.58	1.19	2.09	3.83	1.47	.59	.42	.10	.65
IN.	.11	.63	2.63	1.82	1.24	2.41	4.27	1.69	.65	.49	.12	.72

WTR YR 1987 TOTAL 18637.4 MEAN 51.1 MAX 516 MIN 1.7 CFSM 1.24 IN 16.79

## POTOMAC RIVER BASIN

01639500 BIG PIPE CREEK AT BRUCEVILLE, MD

LOCATION.--Lat 39°36'45", long 77°14'10", Carroll County, Hydrologic Unit 02070009, on left bank 300 ft downstream from bridge on State Highway 194, 800 ft downstream from Bruceville, 3.5 mi upstream from Detour, and confluence with Little Pipe Creek.

DRAINAGE AREA.--102 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1947 to current year. Prior to December 1947, monthly discharge only, published in WSP 1302.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 340 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Dec. 15, 16, Jan. 23, 25, 27-29, Feb. 17. Records good. Occasional diversion for irrigation upstream from station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--40 years, 110 ft<sup>3</sup>/s, 14.65 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,000 ft<sup>3</sup>/s, Sept. 26, 1975, gage height, 18.98 ft, from rating curve extended above 3,900 ft<sup>3</sup>/s on the basis of contracted-opening measurement at gage height 17.86 ft; minimum daily discharge, 1.0 ft<sup>3</sup>/s, Sept. 12, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,600 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 24	2200	*2,360	*6.63	Mar. 1	1630	1,850	5.60

Minimum discharge, 7.9 ft<sup>3</sup>/s, Oct. 7, 12, gage height, 0.72 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	18	40	81	119	1130	121	78	68	241	22	36
2	35	22	64	111	102	525	82	78	65	308	22	25
3	27	31	510	113	161	274	101	84	63	208	22	19
4	19	24	125	96	232	205	218	206	121	79	20	18
5	18	25	85	90	177	168	209	159	150	63	20	17
6	19	92	67	85	146	152	279	109	79	54	30	21
7	13	38	60	78	166	141	253	96	69	57	26	37
8	16	40	56	86	170	132	176	91	63	132	24	482
9	15	38	123	86	150	125	147	83	62	64	23	636
10	14	31	145	104	113	111	129	77	64	54	21	77
11	14	76	95	128	111	101	117	73	56	91	20	52
12	14	131	103	106	112	100	112	74	55	90	17	45
13	15	45	86	104	107	97	117	82	77	86	19	105
14	21	32	67	110	99	92	100	68	112	80	18	71
15	25	29	60	183	89	91	94	69	61	81	14	50
16	19	28	56	161	82	88	99	70	55	55	16	48
17	17	27	56	120	80	82	162	63	50	49	16	43
18	17	27	175	129	77	79	133	65	45	44	16	448
19	16	107	157	632	73	77	109	75	44	42	13	109
20	16	64	96	420	70	76	99	487	44	39	16	86
21	16	238	81	224	72	74	94	183	52	37	16	93
22	17	72	69	168	73	72	89	132	49	36	15	68
23	17	50	72	150	89	69	83	135	44	31	39	57
24	16	48	433	139	92	67	171	190	47	31	21	50
25	17	46	964	130	84	67	173	110	38	29	19	46
26	18	67	224	124	81	70	112	101	37	29	19	42
27	21	132	157	115	85	65	98	94	52	30	20	39
28	21	68	128	110	98	72	93	92	57	26	21	37
29	18	53	107	105	---	70	90	83	38	25	20	35
30	19	46	99	103	---	64	84	75	53	24	21	37
31	18	---	90	107	---	112	---	70	---	23	19	---
TOTAL	565	1745	4650	4498	3110	4648	3944	3452	1870	2238	625	2929
MEAN	18.2	58.2	150	145	111	150	131	111	62.3	72.2	20.2	97.6
MAX	35	238	964	632	232	1130	279	487	150	308	39	636
MIN	13	18	40	78	70	64	82	63	37	23	13	17
CFSM	.18	.57	1.47	1.42	1.09	1.47	1.28	1.09	.61	.71	.20	.96
IN.	.21	.64	1.70	1.64	1.13	1.70	1.44	1.26	.68	.82	.23	1.07

CAL YR 1986	TOTAL	27111	MEAN 74.3	MAX 964	MIN 11	CFSM .73	IN 9.89
WTR YR 1987	TOTAL	34274	MEAN 93.9	MAX 1130	MIN 13	CFSM .92	IN 12.50

POTOMAC RIVER BASIN

01640456 OWENS CREEK NEAR FOXVILLE, MD

LOCATION.--Lat 39°39'13", long 77°29'18", Frederick County, Hydrologic Unit 02070009, on right, downstream wingwall of box culvert on Deerfield Roar, 1.5 mi north of Foxville, 4.0 mi west of Thurmont, and 14.7 mi upstream from mouth.

DRAINAGE AREA.--1.01 mi<sup>2</sup>.

PERIOD OF RECORD.--May 1986 to September 1987 (discontinued).

GAGE.--Water-stage recorder. Elevation of gage is 1310 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Jan. 23-27, 1987 and Sept. 29, 30, 1987. Records good. Several measurements of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 221 ft<sup>3</sup>/s, Apr. 4, 1987, gage height, 2.74 ft; minimum discharge, 0.01 ft<sup>3</sup>/s, Sept. 30 and Oct. 1, 1986.

EXTREMES FOR CURRENT PERIOD.--June to September 1986: Maximum discharge during period, 69 ft<sup>3</sup>/s, June 6, gage height, 2.15 ft; minimum discharge, 0.01 ft<sup>3</sup>/s, Sept. 30.

Water year 1987: Maximum discharge, 221 ft<sup>3</sup>/s, Apr. 4, gage height, 2.74 ft; minimum discharge, 0.01 ft<sup>3</sup>/s, Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, MAY 1986 TO SEPTEMBER 1986  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								---	.54	.46	.11	.07
2								---	.54	.90	.19	.20
3								---	.52	.49	.14	.28
4								---	.51	.43	.12	.25
5								---	.48	.43	.11	.16
6								---	7.9	.41	.34	.12
7								---	3.0	.39	.21	.09
8								---	1.1	.39	.19	.07
9								---	.88	.63	.11	.06
10								---	.81	.41	.10	.06
11								---	.78	.40	.09	.06
12								---	.76	.38	.08	.06
13								---	.73	.32	.09	.04
14								---	.69	.28	.08	.04
15								---	.65	.25	.08	.05
16								---	.62	.29	.08	.03
17								---	.81	.30	.15	.03
18								---	.63	.25	.14	.04
19								---	.59	.25	.08	.06
20								---	.66	.43	.11	.06
21								---	.57	.30	.52	.05
22								---	.54	.22	.15	.05
23								---	.51	.22	.10	.06
24								---	1.3	.21	.08	.06
25								---	.61	.20	.07	.05
26								---	.55	.19	.07	.04
27								---	.52	.15	.18	.02
28								.65	.54	.15	.22	.03
29								.64	.47	.14	.08	.06
30								.60	.43	.13	.07	.03
31								.58	---	.12	.07	---
TOTAL								---	29.24	10.12	4.21	2.28
MEAN								---	.97	.33	.14	.076
MAX								---	7.9	.90	.52	.28
MIN								---	.43	.12	.07	.02
CFSM								---	.96	.33	.14	.08
IN.								---	1.08	.37	.15	.08

## POTOMAC RIVER BASIN

01640456 OWENS C NR FOXVILLE, MD--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.48	.10	.27	.66	.67	5.7	1.3	2.2	.70	.33	.08	.04
2	.20	.28	6.2	.72	.81	3.4	1.1	2.3	.77	.47	.09	.02
3	.07	.15	3.2	.67	.98	2.3	1.4	2.3	.72	.48	.08	.02
4	.18	.11	.86	.63	.90	1.7	37	4.1	1.6	.32	.06	.02
5	.17	1.2	.61	.59	.79	1.3	9.6	2.5	.85	.26	.26	.02
6	.05	.56	.51	.62	.74	1.4	7.4	2.2	.55	.36	.16	.21
7	.03	.28	.47	.69	.76	2.1	6.7	2.1	.55	1.0	.12	.08
8	.03	.60	.43	.65	.76	2.2	5.2	2.0	.52	.92	.10	1.5
9	.03	.41	2.0	.60	.71	1.8	4.6	1.9	.64	.39	.07	.19
10	.03	.30	1.1	.62	.72	1.3	4.1	1.9	.52	.38	.06	.06
11	.03	1.4	.76	.60	.71	1.1	3.7	1.8	.51	.40	.04	.04
12	.05	.48	.69	.56	.69	1.1	3.6	2.1	.55	.37	.05	.19
13	.15	.27	.62	.54	.67	1.0	3.2	1.9	2.2	.42	.04	.30
14	.28	.23	.60	.64	.63	.98	2.9	1.8	1.2	1.1	.04	.09
15	.08	.22	.58	1.5	.63	.98	2.8	1.8	.54	.47	.04	.05
16	.06	.23	.55	1.0	.63	.94	4.1	1.7	.50	.37	.04	.05
17	.06	.22	.53	.82	.63	.89	7.9	1.6	.46	.32	.04	.59
18	.06	1.1	2.8	.77	.65	.86	4.4	1.7	.44	.27	.03	1.7
19	.06	.81	1.1	1.9	.66	.84	3.7	2.1	.42	.24	.04	.24
20	.06	1.5	.77	1.1	.64	.84	3.2	3.4	.54	.20	.03	.40
21	.05	1.2	.64	.90	.64	.82	3.1	2.2	.51	.17	.02	.25
22	.04	.48	.56	.81	.63	.79	2.9	1.9	.45	.15	.13	.15
23	.04	.35	.53	.75	.82	.75	2.8	1.7	.42	.15	.04	.14
24	.05	.51	4.1	.70	.63	.73	2.8	1.6	.37	.14	.03	.08
25	.06	.34	3.1	.65	.63	.76	2.6	1.6	.33	.13	.03	.07
26	.29	.84	1.2	.64	.62	.77	2.5	1.6	.74	.13	.03	.06
27	.15	.59	.94	.64	.60	.71	2.4	1.4	.47	.12	.05	.05
28	.12	.37	.83	.75	1.3	.78	2.4	1.1	.37	.10	.03	.05
29	.09	.33	.77	.64	---	.71	2.3	.83	.32	.08	.03	.06
30	.09	.29	.71	.62	---	1.2	2.3	.70	.30	.07	.02	.07
31	.09	---	.68	.71	---	3.1	---	.71	---	.07	.03	---
TOTAL	3.23	15.75	38.71	23.69	20.25	43.85	144.0	58.74	19.06	10.38	1.91	6.79
MEAN	.10	.53	1.25	.76	.72	1.41	4.80	1.89	.64	.33	.062	.23
MAX	.48	1.5	6.2	1.9	1.3	5.7	37	4.1	2.2	1.1	.26	1.7
MIN	.03	.10	.27	.54	.60	.71	1.1	.70	.30	.07	.02	.02
CFSM	.10	.53	1.24	.75	.71	1.40	4.75	1.87	.63	.33	.06	.23
IN.	.12	.58	1.42	.87	.75	1.61	5.30	2.16	.70	.38	.07	.25

WTR YR 1987 TOTAL 386.36 MEAN 1.06 MAX 37 MIN .02 CFSM 1.05 IN 14.22

POTOMAC RIVER BASIN

01640965 HUNTING CREEK NEAR FOXVILLE, MD

LOCATION.--Lat 39°37'10", long 77°28'00", Frederick County, Hydrologic Unit 02070008, on left downstream wingwall of culvert on park road in Cunningham Falls State Park, 0.25 mi upstream from Hunting Creek Lake, and 2.9 mi west of Thurmont.

DRAINAGE AREA.--2.14 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1981 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 1,030 ft above National Geodetic Vertical datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good except those above 20 ft<sup>3</sup>/s, which are fair. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--6 years, 3.29 ft<sup>3</sup>/s, 20.88 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 279 ft<sup>3</sup>/s, Apr. 4, 1987, gage height, 4.08 ft; minimum daily discharge, 0.03 ft<sup>3</sup>/s, Aug. 21, 25, Sept. 2, 3, 4, 1987.

EXTREMES FOR CURRENT PERIOD.--Peak discharges greater than base discharge of 40 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 2	1545	48	3.16	Apr. 4	1230	*279	*4.08
Dec. 24	1915	47	3.15	Apr. 17	0715	45	3.14
Mar. 1	1600	41	3.11				

Minimum daily discharge, 0.03 ft<sup>3</sup>/s, Aug. 21, 25, Sept. 2, 3, 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.18	.09	.54	2.3	2.2	32	7.4	3.4	1.5	.18	.05	.04
2	.22	.46	20	2.3	2.5	22	5.7	3.2	1.4	.41	.06	.03
3	.09	.33	17	2.1	3.4	12	6.1	3.1	1.3	.75	.05	.03
4	.12	.20	3.6	1.9	3.5	8.4	76	12	1.6	.27	.05	.03
5	.18	1.0	2.2	1.7	3.1	6.5	39	7.0	1.4	.25	.11	.03
6	.10	.98	1.6	1.7	2.9	6.1	31	5.5	1.1	.27	.09	.17
7	.06	.40	1.2	2.0	2.9	7.6	26	4.9	.95	.47	.07	.11
8	.06	1.0	1.1	2.0	3.1	9.1	16	4.4	.80	1.1	.07	2.3
9	.06	.57	6.2	1.8	2.8	7.6	11	3.9	.84	.34	.06	.46
10	.05	.43	4.4	1.7	2.4	5.7	8.5	3.5	.73	.25	.05	.15
11	.04	2.0	3.0	1.7	2.3	4.7	7.0	3.2	.59	.22	.04	.10
12	.04	1.3	2.4	1.6	2.3	4.5	6.7	3.2	.66	.26	.04	.14
13	.08	.55	1.9	1.4	2.2	4.1	5.8	3.0	1.5	.24	.04	.22
14	.20	.44	1.5	1.6	2.0	3.7	4.9	2.8	1.5	.99	.04	.17
15	.11	.39	1.5	5.2	1.8	3.4	4.5	2.7	.78	.67	.04	.11
16	.08	.36	1.4	5.0	1.9	3.1	8.1	2.4	.54	.29	.04	.09
17	.06	.32	1.4	3.7	1.8	2.9	35	2.2	.45	.22	.04	.29
18	.06	.92	9.3	3.3	1.7	2.7	22	2.0	.38	.17	.04	1.8
19	.06	2.7	4.8	8.6	1.6	2.5	15	2.3	.32	.14	.04	.39
20	.06	4.7	3.3	6.0	1.5	2.4	12	10	.38	.11	.04	.59
21	.05	6.7	2.6	4.5	1.5	2.2	9.8	5.3	.50	.10	.03	.57
22	.05	1.3	2.2	4.7	1.5	2.0	8.3	4.1	.41	.09	.12	.32
23	.05	.87	1.9	3.7	1.9	1.9	7.1	3.8	.34	.09	.06	.22
24	.05	.84	12	4.0	1.6	1.9	6.9	3.5	.28	.08	.04	.16
25	.05	.71	20	3.0	1.6	1.8	6.1	2.9	.24	.07	.03	.11
26	.19	2.3	7.1	2.9	1.6	1.9	5.3	2.9	.44	.08	.04	.09
27	.14	2.5	5.0	2.7	1.7	1.7	4.8	2.8	.45	.07	.05	.07
28	.11	1.1	4.2	2.5	3.2	1.8	4.4	2.5	.28	.06	.05	.06
29	.09	.81	3.5	2.3	---	1.6	4.1	2.1	.21	.05	.05	.06
30	.09	.64	3.0	2.3	---	2.8	3.7	1.8	.18	.05	.04	.15
31	.09	---	2.6	2.3	---	16	---	1.6	---	.05	.04	---
TOTAL	2.87	36.91	152.44	92.5	62.5	186.6	408.2	118.0	22.05	8.39	1.61	9.06
MEAN	.093	1.23	4.92	2.98	2.23	6.02	13.6	3.81	.74	.27	.052	.30
MAX	.22	6.7	20	8.6	3.5	32	76	12	1.6	1.1	.12	2.3
MIN	.04	.09	.54	1.4	1.5	1.6	3.7	1.6	.18	.05	.03	.03
CFSM	.04	.58	2.30	1.39	1.04	2.81	6.36	1.78	.35	.13	.02	.14
IN.	.05	.64	2.65	1.61	1.09	3.24	7.09	2.05	.38	.15	.03	.16

CAL YR 1986 TOTAL 992.41 MEAN 2.72 MAX 35 MIN .04 CFSM 1.27 IN 17.24  
WTR YR 1987 TOTAL 1101.13 MEAN 3.02 MAX 76 MIN .03 CFSM 1.41 IN 19.13

POTOMAC RIVER BASIN

01640970 HUNTING CREEK TRIBUTARY NEAR FOXVILLE, MD

LOCATION.--Lat 39°37'42", long 77°27'44", Frederick County, Hydrologic Unit 02070003, on left downstream wingwall of culvert of park road in Cunningham Falls State Park, 600 ft upstream from Hunting Creek Lake, and 2.7 mi west of Thurmont.

DRAINAGE AREA.--4.01 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1981 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 1,030 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Jan. 24-31 and Sept. 15, 16. Records good except those below 1.0 ft<sup>3</sup>/s and for periods of estimated daily discharges, which are fair. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--6 years, 6.67 ft<sup>3</sup>/s, 22.31 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 557 ft<sup>3</sup>/s, Apr. 4, 1987, gage height, 3.54 ft; minimum discharge, 0.12 ft<sup>3</sup>/s, Sept. 10, 11, 12, 20, 1983.

EXTREMES FOR CURRENT PERIOD.--Peak discharges greater than base discharge of 90 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 24	2030	110	2.14	Apr. 4	1230	*557	*3.54

Minimum daily discharge, 0.19 ft<sup>3</sup>/s, Oct. 8, 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.98	.69	1.9	4.5	4.1	50	12	6.6	3.4	.93	.29	.21
2	2.0	1.6	31	4.8	5.5	29	9.0	6.6	3.5	1.4	.34	.21
3	.52	1.1	25	4.4	7.7	18	10	6.7	3.2	2.1	.27	.21
4	.64	.79	6.7	4.2	7.2	14	160	19	4.3	1.0	.26	.21
5	.94	3.2	4.5	3.9	5.7	11	55	9.7	3.4	1.2	.59	.21
6	.42	3.3	3.6	3.9	5.3	11	45	8.0	2.6	1.2	.68	.89
7	.23	1.7	3.2	4.4	5.5	13	40	7.1	2.4	2.5	.37	.52
8	.19	2.9	3.0	4.4	5.6	15	28	6.8	2.1	3.2	.42	7.6
9	.21	2.1	14	4.0	4.8	13	21	6.4	2.5	1.1	.32	1.3
10	.20	1.9	8.5	4.0	4.5	9.9	18	6.0	2.1	.94	.29	.44
11	.19	4.5	5.7	4.0	4.5	8.5	16	5.6	1.8	.98	.26	.26
12	.24	2.9	4.9	3.7	4.5	8.3	14	5.7	2.1	1.1	.23	.56
13	.58	1.8	4.0	3.6	4.3	7.8	13	5.5	4.1	1.2	.23	2.1
14	1.4	1.5	3.4	4.0	4.0	7.2	11	5.2	3.7	2.7	.23	.63
15	.69	1.4	3.6	10	3.7	7.0	10	5.2	2.1	1.7	.23	.32
16	.44	1.4	3.6	7.8	3.3	6.7	17	4.8	1.7	.91	.23	.26
17	.41	1.4	3.6	5.6	3.4	6.3	45	4.5	1.5	.79	.23	.98
18	.40	3.0	18	5.3	3.6	6.0	24	4.4	1.3	.70	.23	11
19	.37	5.5	8.5	14	3.6	5.8	17	6.0	1.3	.60	.27	1.3
20	.34	6.4	6.1	9.4	3.6	5.6	15	17	1.4	.54	.23	1.9
21	.33	8.2	5.0	6.8	3.5	5.4	13	7.8	1.9	.48	.21	1.4
22	.32	3.0	4.3	5.4	3.5	5.3	12	6.2	1.5	.43	.70	.86
23	.37	2.3	4.1	6.7	4.4	5.3	11	6.5	1.6	.41	.40	.74
24	.42	2.7	24	6.0	3.8	5.1	11	6.3	1.3	.41	.21	.53
25	.44	2.3	27	5.6	3.7	5.2	9.8	5.2	1.1	.38	.21	.42
26	1.3	4.5	11	5.2	3.8	5.4	8.7	5.2	2.4	.37	.21	.34
27	.98	4.0	7.7	4.8	3.7	4.9	8.3	4.9	2.1	.38	.30	.31
28	.73	2.5	6.6	4.5	6.5	5.2	7.9	4.5	1.2	.31	.21	.27
29	.67	2.2	5.7	4.3	---	4.8	7.5	4.1	1.0	.28	.22	.26
30	.68	2.1	5.2	4.2	---	7.4	6.9	3.8	.90	.28	.21	.94
31	.70	---	4.8	4.2	---	28	---	3.6	---	.27	.21	---
TOTAL	18.33	82.88	268.2	167.6	127.3	335.1	676.1	204.9	65.50	30.79	9.29	37.18
MEAN	.59	2.76	8.65	5.41	4.55	10.8	22.5	6.61	2.18	.99	.30	1.24
MAX	2.0	8.2	31	14	7.7	50	160	19	4.3	3.2	.70	11
MIN	.19	.69	1.9	3.6	3.3	4.8	6.9	3.6	.90	.27	.21	.21
CFSM	.15	.69	2.16	1.35	1.14	2.69	5.61	1.65	.54	.25	.08	.31
IN.	.17	.77	2.49	1.55	1.18	3.11	6.27	1.90	.61	.29	.09	.34

CAL YR 1986	TOTAL	1869.31	MEAN	5.12	MAX	52	MIN	.18	CFSM	1.28	IN	17.34
WTR YR 1987	TOTAL	2023.17	MEAN	5.54	MAX	160	MIN	.19	CFSM	1.38	IN	18.76

POTOMAC RIVER BASIN

01641000 HUNTING CREEK AT JIMTOWN, MD

LOCATION.--Lat 39°35'40", long 77°23'50", Frederick County, Hydrologic Unit 02070009, on right bank just downstream from highway bridge, 0.4 mi southwest of Jimtown, about 2.2 mi southeast of Thurmont, 2.2 mi upstream from Little Hunting Creek, and 5.2 mi upstream from mouth.

DRAINAGE AREA.--18.4 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1949 to current year.

REVISED RECORDS.--WSP 1332: 1952.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 355 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Jan. 22, 24-26. Records good. Slight regulation at irregular intervals caused by pumpage at recreation camp near Foxville, and from occasional draining and refilling of pond near Thurmont by Maryland Game and Inland Fish Commission. Regulation since spring of 1970 at low flow by Hunting Creek Lake, 5.6 miles upstream from station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--38 years, 26.8 ft<sup>3</sup>/s, 19.78 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,670 ft<sup>3</sup>/s, Oct. 9, 1976, gage height, 6.32 ft; minimum discharge, 0.4 ft<sup>3</sup>/s, Sept. 9, 1966, gage height, 1.48 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 350 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 24	1930	488	3.53	July 12	1430	670	3.91
Apr. 4	1400	*1,670	*5.22	July 12	1930	1,620	5.18

Minimum discharge, 2.7 ft<sup>3</sup>/s, Oct. 7, 8, 9, gage height, 1.59 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.6	8.2	5.6	26	21	125	31	26	13	6.1	5.3	4.5
2	5.4	11	66	30	20	66	36	26	13	7.4	5.7	3.9
3	3.6	8.1	60	27	26	51	47	26	12	8.1	5.8	3.5
4	4.3	8.0	18	25	32	52	559	58	18	6.2	5.5	3.4
5	4.3	16	15	23	26	53	171	45	14	6.0	8.2	3.9
6	3.4	9.1	13	22	24	49	149	35	12	6.0	6.7	10
7	3.2	6.5	13	22	25	48	127	30	11	9.2	6.0	9.0
8	3.0	10	14	22	25	47	103	28	11	14	6.0	30
9	3.1	7.1	43	22	23	47	85	26	11	7.8	5.7	9.1
10	3.4	6.5	29	23	20	44	73	24	9.0	7.3	5.4	6.2
11	3.6	15	26	23	20	41	63	23	8.0	9.1	5.2	5.7
12	3.8	8.6	25	22	20	37	58	23	8.5	245	5.1	10
13	4.5	6.3	22	22	20	37	54	20	23	46	4.9	11
14	5.8	6.0	20	22	19	34	47	19	16	51	5.2	6.7
15	5.8	5.8	20	24	18	29	44	19	14	26	5.2	5.9
16	5.9	5.7	19	22	17	29	56	17	11	18	5.2	5.8
17	5.9	5.7	19	21	16	27	117	17	8.1	14	5.0	6.0
18	6.0	10	46	23	15	23	89	18	7.4	13	4.7	29
19	6.0	11	29	65	15	19	72	21	7.2	11	5.1	8.1
20	6.1	20	24	43	15	19	62	55	7.7	10	4.7	12
21	6.2	17	22	33	15	17	56	36	8.1	9.6	4.7	9.6
22	6.2	7.9	20	29	15	16	51	27	8.0	8.2	8.0	7.6
23	6.2	6.3	17	29	19	15	47	24	7.7	7.4	5.7	6.7
24	6.4	6.6	85	25	17	14	46	26	7.1	7.2	5.1	6.3
25	6.5	5.8	70	24	17	14	43	23	6.6	6.7	5.0	6.0
26	8.9	13	38	24	17	14	38	20	9.2	6.2	5.4	5.8
27	7.0	11	31	26	17	13	35	19	8.4	6.0	5.6	5.6
28	7.3	7.3	28	30	34	14	33	18	6.6	6.6	5.8	5.2
29	8.0	6.4	26	29	---	13	31	17	6.0	6.2	5.3	6.4
30	7.9	5.9	25	24	---	18	28	15	5.8	5.5	4.7	8.3
31	8.0	---	26	23	---	51	---	12	---	5.3	4.7	---
TOTAL	172.3	271.8	914.6	825	568	1076	2451	793	308.4	596.1	170.6	251.2
MEAN	5.56	9.06	29.5	26.6	20.3	34.7	81.7	25.6	10.3	19.2	5.50	8.37
MAX	8.9	20	85	65	34	125	559	58	23	245	8.2	30
MIN	3.0	5.7	5.6	21	15	13	28	12	5.8	5.3	4.7	3.4
CFSM	.30	.49	1.60	1.45	1.10	1.89	4.44	1.39	.56	1.04	.30	.46
IN.	.35	.55	1.85	1.67	1.15	2.18	4.96	1.60	.62	1.21	.34	.51

CAL YR 1986 TOTAL 6833.3 MEAN 18.7 MAX 173 MIN 2.1 CFSM 1.02 IN 13.81  
WTR YR 1987 TOTAL 8398.0 MEAN 23.0 MAX 559 MIN 3.0 CFSM 1.25 IN 16.98

POTOMAC RIVER BASIN

01643000 MONOCACY RIVER AT JUG BRIDGE NEAR FREDERICK, MD

LOCATION.--Lat 39°24'13", long 77°21'58", Frederick County, Hydrologic Unit 02070009, on right bank 0.2 mi upstream from Jug Bridge on U.S. Highway 40, 0.4 mi downstream from Linganore Creek, 2.0 mi east of Frederick, and 16.9 mi upstream from mouth.

DRAINAGE AREA.--817 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1929 to current year. Monthly discharge only for October, November 1929, published in WSP 1302.

REVISED RECORDS.--WSP 711: 1930.

GAGE.--Water-stage recorder. Nonrecording gage at site 0.2 mile downstream. Datum of gage is 231.92 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Jan. 27-30. Records good except those for estimated daily discharges (ice effected), which are fair. Occasional regulation at low and medium flows since September 1972 by Linganore Reservoir, total capacity, 883,200,000 gal, 2.8 mi upstrem from station. National Weather Service gage height telemeter at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--58 years, 929 ft<sup>3</sup>/s, 15.44 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 81,600 ft<sup>3</sup>/s, June 23, 1972, gage height, 35.9 ft, from floodmark; minimum daily, 19 ft<sup>3</sup>/s, Sept. 7-13, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in June 1889 reached a stage of 30 ft, from floodmarks, discharge, 56,000 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 8,800 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 3	1630	10,600	12.03	Mar. 2	0330	12,400	13.15
Dec. 25	1700	*13,900	*14.04	Apr. 4	2230	9,500	11.30

Minimum discharge, 64 ft<sup>3</sup>/s, Oct. 11, 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	89	90	383	828	801	6190	1450	612	410	801	107	87
2	92	128	441	888	845	8410	898	582	397	888	103	104
3	198	112	7590	1080	1120	3010	877	601	445	1630	103	119
4	177	126	2760	1010	2060	2100	4100	1000	609	785	104	99
5	116	145	1180	823	2240	1650	5880	1930	1420	440	114	86
6	95	207	838	677	1590	1440	4150	1090	706	433	130	113
7	82	407	671	693	1520	1320	4370	840	497	319	129	167
8	73	317	594	747	1680	1250	2610	733	428	475	124	836
9	70	247	822	848	1520	1190	1980	661	388	557	117	2600
10	68	236	2040	866	1070	1070	1620	602	370	359	117	792
11	67	340	1280	1040	983	923	1390	555	340	499	104	365
12	66	597	1140	1010	941	856	1240	516	314	1070	104	291
13	75	572	1040	879	927	822	1230	528	330	2360	95	1500
14	90	304	788	917	846	778	1140	505	583	726	95	1330
15	86	214	609	1100	752	733	978	465	474	1110	94	541
16	91	178	571	1480	578	710	1010	467	339	568	92	362
17	89	160	547	1070	599	663	1850	451	294	393	88	397
18	84	156	955	899	618	618	2450	449	263	317	87	1860
19	82	342	2490	2120	568	581	1620	781	245	274	87	1620
20	79	915	1230	5860	529	561	1340	1950	237	240	81	745
21	77	1810	906	2340	518	537	1180	2050	290	213	79	1060
22	78	1260	749	1690	517	513	1070	1260	332	190	91	717
23	79	593	626	1370	610	494	955	960	322	168	86	514
24	79	448	1140	1230	729	471	944	1300	270	154	101	391
25	80	427	11600	1070	731	458	1460	930	252	148	90	315
26	90	465	3550	1060	716	467	1040	735	230	135	87	265
27	105	1230	1860	980	740	461	851	656	244	131	88	231
28	103	981	1440	920	806	459	767	602	333	127	88	204
29	107	588	1190	860	---	469	721	559	278	122	89	190
30	102	461	1030	820	---	451	676	499	285	110	87	186
31	93	---	932	923	---	604	---	447	---	108	88	---
TOTAL	2862	14056	52992	38098	27154	40259	51847	25316	11925	15850	3049	18087
MEAN	92.3	469	1709	1229	970	1299	1728	817	398	511	98.4	603
MAX	198	1810	11600	5860	2240	8410	5880	2050	1420	2360	130	2600
MIN	66	90	383	677	517	451	676	447	230	108	79	86
CFSM	.11	.57	2.09	1.50	1.19	1.59	2.12	1.00	.49	.63	.12	.74
IN.	.13	.64	2.41	1.73	1.24	1.83	2.36	1.15	.54	.72	.14	.82

CAL YR 1986	TOTAL	251696	MEAN 690	MAX 11600	MIN 66	CFSM .85	IN 11.46
WTR YR 1987	TOTAL	301495	MEAN 826	MAX 11600	MIN 66	CFSM 1.01	IN 13.73

POTOMAC RIVER BASIN

01643020 MONOCACY RIVER AT REICH'S FORD BRIDGE NEAR FREDERICK, MD

LOCATION.--Lat 39°23'16", long 77°22'40", Frederick County, Hydrologic Unit 02070009, at Reich's Ford Bridge, 1.1 mi downstream from U.S. Highway 40, 1.2 mi downstream from gaging station, 2 mi southeast of Frederick, and 15.0 mi upstream from mouth.

PERIOD OF RECORD.--Water years 1961 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: October 1960 to current year.

SUSPENDED-SEDIMENT DISCHARGE: October 1960 to current year.

REMARKS.--Water temperatures are measured daily in field by local observer at time of sampling. Water-discharge records for Monocacy River at Jug bridge near Frederick (station 01643000) are used for computation of sediment loads. Prior to 1970, published as Monocacy River at Jug Bridge near Frederick (station 01643000).

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE (water years 1961-72, 1975, 1977, 1980-87): Maximum daily, 32.0°C, July 21, 1980; minimum, daily, 0.0°C on many days during winter periods.

SEDIMENT CONCENTRATION: Maximum daily mean, 2,000 mg/L, July 10, 1970; minimum daily mean, 1 mg/L on many days in water years 1961-67, 1970, 1972, 1982, 1985.

SEDIMENT LOAD: Maximum daily, 134,000 tons, June 22, 1972; minimum daily, 0.39 ton, Dec. 14, 1981.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum daily, 30.0°C, July 25, 31; minimum daily, 3.0°C, Jan. 4, 23, 24, Feb. 9, 10.

SEDIMENT CONCENTRATION: Maximum daily mean, 495 mg/L, Sept. 9; minimum daily mean, 4 mg/L, Feb. 19, Aug. 25, 26, 29, 30.

SEDIMENT LOAD: Maximum daily, 14,800 tons, Dec. 25; minimum daily, 0.94 ton, Aug. 26, 30.

TEMPERATURE, WATER, DEGREES CENTIGRADE, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25.0	16.0	7.0	8.0	5.0	7.0	13.0	17.0	25.0	25.0	27.0	22.0
2	25.0	16.0	9.0	4.0	5.0	7.0	10.0	19.0	24.0	26.0	27.0	23.0
3	24.0	14.0	10.0	5.0	6.0	7.0	9.0	16.0	26.0	25.0	29.0	21.0
4	24.0	14.0	10.0	3.0	7.0	6.0	11.0	15.0	23.0	25.0	29.0	22.0
5	22.0	12.0	7.0	4.0	5.0	---	11.0	15.0	22.0	26.0	26.0	21.0
6	19.0	13.0	5.0	6.0	4.0	7.0	12.0	---	24.0	25.0	26.0	20.0
7	17.0	15.0	6.0	4.0	5.0	9.0	12.0	---	23.0	27.0	27.0	22.0
8	18.0	13.0	8.0	6.0	4.0	11.0	14.0	---	25.0	27.0	28.0	23.0
9	19.0	14.0	10.0	6.0	3.0	11.0	15.0	---	23.0	28.0	28.0	23.0
10	16.0	12.0	9.0	5.0	3.0	7.0	14.0	---	21.0	28.0	27.0	23.0
11	16.0	10.0	10.0	7.0	6.0	11.0	15.0	---	22.0	27.0	26.0	22.0
12	18.0	12.0	9.0	6.0	5.0	9.0	14.0	---	23.0	25.0	26.0	24.0
13	18.0	9.0	4.0	7.0	5.0	10.0	14.0	20.0	22.0	26.0	25.0	23.0
14	17.0	7.0	4.0	9.0	5.0	7.0	15.0	20.0	25.0	25.0	26.0	22.0
15	14.0	10.0	7.0	8.0	4.0	7.0	15.0	20.0	26.0	23.0	26.0	24.0
16	15.0	10.0	8.0	7.0	5.0	8.0	15.0	20.0	25.0	24.0	28.0	25.0
17	15.0	12.0	10.0	6.0	4.0	9.0	14.0	21.0	25.0	24.0	29.0	24.0
18	16.0	12.0	9.0	7.0	6.0	11.0	16.0	22.0	26.0	27.0	27.0	22.0
19	14.0	8.0	8.0	5.0	5.0	11.0	16.0	19.0	27.0	27.0	26.0	21.0
20	13.0	8.0	5.0	8.0	7.0	10.0	19.0	16.0	26.0	28.0	25.0	20.0
21	19.0	5.0	5.0	7.0	6.0	11.0	19.0	18.0	26.0	30.0	25.0	20.0
22	17.0	9.0	5.0	4.0	7.0	12.0	20.0	20.0	26.0	29.0	25.0	20.0
23	18.0	10.0	4.0	3.0	8.0	14.0	20.0	21.0	26.0	29.0	23.0	20.0
24	16.0	11.0	7.0	3.0	6.0	14.0	17.0	22.0	25.0	29.0	22.0	20.0
25	15.0	9.0	9.0	4.0	5.0	14.0	15.0	21.0	27.0	30.0	23.0	18.0
26	16.0	10.0	6.0	---	6.0	15.0	15.0	20.0	25.0	27.0	22.0	19.0
27	17.0	9.0	9.0	---	5.0	15.0	17.0	20.0	24.0	27.0	23.0	19.0
28	16.0	10.0	6.0	---	7.0	13.0	15.0	22.0	24.0	26.0	24.0	20.0
29	15.0	8.0	6.0	---	---	16.0	17.0	25.0	25.0	28.0	23.0	20.0
30	14.0	10.0	6.0	---	---	10.0	18.0	25.0	25.0	27.0	23.0	21.0
31	15.0	---	7.0	4.0	---	14.0	---	25.0	---	30.0	24.0	---



POTOMAC RIVER BASIN

01643500 BENNETT CREEK AT PARK MILLS, MD

LOCATION.--Lat 39°17'40", long 77°24'30", Frederick County, Hydrologic Unit 02070009, on left bank 75 ft downstream from highway bridge, 0.2 mi south of Park Mills, 1.8 mi upstream from mouth, and 3.7 mi southwest of Urbana.

DRAINAGE AREA.--62.8 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1948 to September 1958. Annual maximum, water years 1960-66. August 1966 to current year.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 240 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Jan. 22-29 and Sept. 6-30. Records good except those for the period of doubtful or no gage-height record, Sept. 6-30, which are fair. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--31 years (water years 1949-58, 1967-87), 69.2 ft<sup>3</sup>/s, 14.96 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 32,200 ft<sup>3</sup>/s, June 21, 1972, gage height, 22.1 ft, from flood-mark, from rating curve extended above 2,700 ft<sup>3</sup>/s on basis of contracted-opening measurements at gage heights 11.15 ft, 14.33 ft, and 22.1 ft; minimum discharge, 0.30 ft<sup>3</sup>/s, Sept. 8, 1966, gage height, 0.80 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,200 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 24	2400	1,980	6.47	July 1	2000	1,950	6.41
Mar. 1	1800	1,320	5.32	July 3	0100	1,760	6.11
Apr. 4	1445	1,530	5.71	Sept. 8	Unknown	1,870	6.29
July 1	0245	*8,620	*12.04				

Minimum daily discharge, 4.5 ft<sup>3</sup>/s, Oct. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.5	8.9	22	60	88	740	72	61	30	2460	28	14
2	11	28	44	79	83	347	64	61	29	799	27	11
3	7.5	17	290	76	104	202	72	61	108	658	25	9.7
4	6.8	13	64	68	124	154	616	132	206	189	23	9.4
5	7.9	20	40	60	111	128	282	96	103	126	23	9.2
6	6.0	43	33	61	98	115	208	79	56	98	26	20
7	5.0	19	30	58	102	107	165	71	45	84	23	100
8	5.1	29	28	61	106	102	136	67	39	128	22	500
9	5.6	20	42	57	99	97	118	62	36	69	21	250
10	5.1	16	60	68	85	88	105	59	34	61	26	60
11	4.5	118	46	75	82	81	97	55	31	56	20	35
12	5.2	68	62	64	84	79	93	54	31	53	18	45
13	8.5	28	44	58	81	77	87	54	35	53	17	150
14	16	21	35	55	76	73	81	49	37	53	17	55
15	11	19	33	68	70	72	79	52	29	50	16	65
16	7.6	18	31	60	67	70	89	50	26	46	17	110
17	7.3	17	29	54	64	66	142	46	25	43	20	70
18	7.4	17	103	68	63	64	110	43	24	41	16	250
19	7.0	22	76	365	60	62	93	52	22	40	15	90
20	7.1	22	44	212	57	61	86	61	22	38	17	100
21	7.7	80	38	134	58	60	82	57	28	36	14	130
22	7.7	30	34	110	58	59	78	51	42	35	18	90
23	7.7	25	33	105	80	56	73	47	44	33	21	70
24	7.6	25	401	100	71	55	86	45	27	32	15	60
25	8.0	23	490	96	66	54	95	42	23	55	14	52
26	11	82	142	94	63	56	79	42	25	32	15	45
27	13	81	105	90	64	53	72	41	32	31	17	40
28	15	35	87	88	75	60	69	39	26	30	16	37
29	11	29	78	86	---	55	67	37	21	27	17	37
30	9.6	25	72	85	---	55	65	34	281	27	13	40
31	9.1	---	65	89	---	87	---	32	---	26	12	---
TOTAL	254.5	998.9	2701	2804	2239	3435	3561	1732	1517	5509	589	2554.3
MEAN	8.21	33.3	87.1	90.5	80.0	111	119	55.9	50.6	178	19.0	85.1
MAX	16	118	490	365	124	740	616	132	281	2460	28	500
MIN	4.5	8.9	22	54	57	53	64	32	21	26	12	9.2
CFSM	.13	.53	1.39	1.44	1.27	1.77	1.90	.89	.81	2.83	.30	1.36
IN.	.15	.59	1.60	1.66	1.33	2.03	2.11	1.03	.90	3.26	.35	1.51
CAL YR 1986	TOTAL	14896.7	MEAN 40.8	MAX 490	MIN 4.5	CFSM .65	IN 8.82					
WTR YR 1987	TOTAL	27894.7	MEAN 76.4	MAX 2460	MIN 4.5	CFSM 1.22	IN 16.52					

POTOMAC RIVER BASIN

01645000 SENECA CREEK AT DAWSONVILLE, MD

LOCATION.--Lat 39°07'41", long 77°20'13", Montgomery County, Hydrologic Unit 02070008, on right bank 60 ft downstream from bridge on State Highway 28, 150 ft downstream from mouth of Great Seneca Creek, 0.5 mi east of Dawsonville, and 5.8 mi upstream from mouth.

DRAINAGE AREA.--101 mi<sup>2</sup>.

PERIOD OF RECORD.--September 1930 to current year.

REVISED RECORDS.--WSP 726: Drainage area. WSP 1232: 1930. WSP 1272: 1933. WSP 1432: 1934-35(M), 1941(M). WDR MD-DE-74-1: 1970(M).

GAGE.--Water-stage recorder. Concrete control since Mar. 3, 1934. Datum of gage is 214.02 ft above National Geodetic Vertical Datum of 1929. Sept. 26 to Nov. 9, 1930, chain gage, and Nov. 10, 1930, to Apr. 6, 1934, water-stage recorder, at highway bridge 60 ft upstream at same datum.

REMARKS.--No estimated daily discharges. Records good. Small diversion at times for irrigation upstream from station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--57 years, 103 ft<sup>3</sup>/s, 13.85 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,100 ft<sup>3</sup>/s, June 22, 1972, gage height, 16.4 ft, from high-water mark in gage house, from rating curve extended above 3,000 ft<sup>3</sup>/s on basis of contracted-opening and flow over-road measurement at gage height 12.17 ft at gage; and contracted-opening and flow-over-road measurement at gage height 16.32 ft at site 5.0 mi downstream, adjusted for flow from intervening area; minimum discharge observed, 1.7 ft<sup>3</sup>/s, Sept. 28, 29, 1930, gage height, 0.56 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,300 ft<sup>3</sup>/s and maximum (\*):

Discharge				Gage height			
Date	Time	(ft <sup>3</sup> /s)	(ft)	Date	Time	(ft <sup>3</sup> /s)	(ft)
Dec. 24	2130	2,560	7.53	July 3	0030	1,360	5.71
Mar. 1	1645	1,900	6.77	Sept. 9	0245	*4,950	*8.96
Apr. 4	1700	1,490	6.03	Sept. 18	0700	1,370	5.73
July 1	1515	1,480	6.02				

Minimum discharge, 9.0 ft<sup>3</sup>/s, Oct. 1, gage height, 1.67 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	20	40	66	92	1320	116	82	55	1030	28	226
2	22	102	92	125	98	700	92	82	50	437	29	30
3	19	39	444	116	131	311	98	86	134	632	28	24
4	17	25	99	94	168	214	893	231	373	166	27	25
5	17	58	67	79	155	170	389	156	280	111	27	24
6	16	127	58	72	129	152	278	109	101	93	28	43
7	14	41	51	73	134	139	217	96	82	96	27	87
8	15	101	48	72	147	130	161	88	75	84	27	1220
9	15	45	65	67	144	124	134	82	73	77	29	1650
10	15	36	85	74	111	117	123	77	71	75	43	190
11	15	172	84	78	105	104	116	74	69	75	28	91
12	15	143	114	70	109	101	110	72	65	77	25	102
13	28	51	69	66	110	99	106	73	67	67	24	267
14	48	38	56	63	102	94	97	68	65	176	23	110
15	30	35	53	74	94	93	95	98	55	84	23	99
16	21	33	50	67	85	97	120	103	43	55	26	132
17	20	32	48	63	86	93	275	78	42	48	30	181
18	18	31	160	100	84	87	169	74	38	45	24	780
19	18	53	113	606	81	85	131	172	40	43	23	208
20	18	44	70	368	78	84	118	107	40	40	25	195
21	17	152	61	184	79	83	109	104	48	38	22	224
22	15	54	54	143	79	80	104	94	52	37	29	180
23	16	43	51	131	112	77	97	86	57	36	33	118
24	16	43	430	120	130	75	165	82	42	32	24	73
25	17	40	951	111	113	73	159	79	38	33	23	65
26	26	111	158	113	112	74	116	79	46	32	24	59
27	27	136	107	106	96	68	103	75	61	30	22	55
28	26	60	88	98	112	82	97	63	43	29	23	53
29	21	49	77	97	---	74	93	61	39	28	24	52
30	20	43	72	94	---	76	88	59	53	27	23	55
31	20	---	68	97	---	159	---	57	---	28	22	---
TOTAL	616	1957	3983	3687	3076	5235	4969	2847	2297	3861	813	6618
MEAN	19.9	65.2	128	119	110	169	166	91.8	76.6	125	26.2	221
MAX	48	172	951	606	168	1320	893	231	373	1030	43	1650
MIN	14	20	40	63	78	68	88	57	38	27	22	24
CFSM	.20	.65	1.27	1.18	1.09	1.67	1.64	.91	.76	1.24	.26	2.19
IN.	.23	.72	1.47	1.36	1.13	1.93	1.83	1.05	.85	1.42	.30	2.44
CAL YR 1986	TOTAL	23748	MEAN	65.1	MAX	951	MIN	14	CFSM	.65	IN	8.75
WTR YR 1987	TOTAL	39959	MEAN	109	MAX	1650	MIN	14	CFSM	1.08	IN	14.72

POTOMAC RIVER BASIN

01645200 WATTS BRANCH AT ROCKVILLE, MD

LOCATION.--Lat 39°05'03", long 77°10'38", Montgomery County, Hydrologic Unit 02070008, on left bank 0.2 mi south of State Highway 28, 1.3 mi west of post office in Rockville, and 9.4 mi upstream from mouth.

DRAINAGE AREA.--3.70 mi<sup>2</sup>.

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

REVISED RECORDS.--WSP 2103: 1965. WDR MD-DE-75-1: 1967-70.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 330 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except those for estimated daily discharges which are fair, and for those above 250 ft<sup>3</sup>/s, which are poor. Some regulation of low flow from unknown source upstream from station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--30 years, 4.11 ft<sup>3</sup>/s, 15.08 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,400 ft<sup>3</sup>/s, Sept. 26, 1975, gage height, 7.32 ft, from rating curve extended above 280 ft<sup>3</sup>/s on basis of combined computation of culvert and slope-area measurements of tributary inflow at gage height 7.22 ft, in well, 7.83 ft, from floodmarks; minimum discharge, 0.10 ft<sup>3</sup>/s Sept. 2, 1966, Oct. 10, 11, 1966; minimum gage height, 1.10 ft, Sept. 2, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 220 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct. 27	1915	288	4.48	June 4	1545	475	5.55
Dec 24	1900	533	5.74	Sept. 8	1545	*686	*6.12
Apr. 4	1045	246	4.14	Sept. 18	0230	579	5.88

Minimum discharge, 0.10 ft<sup>3</sup>/s, Oct. 10, 11, gage height, 1.11 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.85	.32	.85	2.2	2.5	50	2.7	1.8	1.2	13	.44	.19
2	.60	15	.85	13	5.4	6.4	2.2	1.8	1.1	2.9	.40	.25
3	.22	.62	1.3	3.0	7.7	4.2	5.4	5.0	6.8	1.6	.38	.24
4	.22	.48	14	2.6	8.9	3.4	45	20	46	.90	.36	.35
5	.54	19	4.0	2.2	4.6	3.2	4.6	3.0	3.5	.83	.34	.27
6	.17	3.8	1.6	2.0	4.2	3.0	7.1	2.8	1.8	.79	.34	4.8
7	.18	6.3	1.2	2.0	5.7	3.3	4.0	2.6	1.7	.78	.65	.82
8	.20	6.6	1.0	2.0	5.2	2.5	3.2	2.6	1.5	.74	.40	109
9	.55	.96	7.8	1.8	3.2	2.6	2.9	2.4	1.5	.64	7.4	5.1
10	.27	.93	2.4	2.4	2.6	2.9	2.6	2.4	1.3	.70	.92	1.4
11	.13	17	11	1.8	2.5	2.2	2.2	2.4	1.2	.92	.33	1.1
12	.13	1.9	3.0	1.6	3.6	2.2	2.3	3.4	1.8	1.9	.30	16
13	4.4	1.2	1.7	1.5	2.7	2.1	2.3	2.4	1.5	1.1	.35	14
14	5.3	1.0	1.4	1.7	2.4	2.1	2.2	2.2	1.3	4.9	.36	1.9
15	.46	.95	1.3	2.7	2.1	2.3	2.3	3.9	1.2	.79	.28	4.8
16	.26	.90	1.6	1.6	1.9	2.9	6.8	1.7	1.1	.58	4.7	10
17	.25	.85	1.2	1.6	2.0	1.9	16	1.7	1.0	.61	.60	6.0
18	.24	.80	15	10	2.0	1.8	3.2	4.9	.95	.53	.29	80
19	.25	.80	2.3	42	1.9	2.1	2.6	5.6	.95	.50	.33	4.8
20	.31	6.0	1.7	5.8	1.9	2.2	2.5	5.0	2.9	.48	.31	10
21	.29	2.6	1.4	3.2	1.9	1.8	2.3	2.4	1.4	.46	.21	4.8
22	.30	1.4	1.5	3.0	2.0	1.8	2.3	1.7	8.5	.44	3.3	4.9
23	.26	1.0	1.3	2.9	6.9	1.8	2.1	1.6	1.7	.44	.49	2.8
24	.30	.95	71	2.8	5.2	1.8	7.0	1.5	1.0	.70	.37	2.6
25	.32	.90	13	2.8	4.0	1.8	2.2	3.9	.90	1.8	.35	2.6
26	4.5	7.0	4.0	2.7	3.4	1.7	2.1	2.0	3.1	.50	.38	2.4
27	21	3.0	3.3	2.7	2.9	1.6	2.0	1.4	1.4	.42	.31	2.4
28	1.8	1.8	2.8	2.6	14	4.4	1.9	1.4	.85	.90	3.9	2.2
29	.44	1.0	2.5	2.6	---	1.7	2.2	1.3	.77	.36	.42	2.8
30	.38	.90	2.7	3.4	---	4.3	1.9	1.3	4.8	.37	.30	4.0
31	.32	---	2.2	3.3	---	18	---	1.2	---	.44	.24	---
TOTAL	45.44	105.96	180.90	135.5	113.3	144.0	148.1	97.3	104.72	42.02	29.75	302.52
MEAN	1.47	3.53	5.84	4.37	4.05	4.65	4.94	3.14	3.49	1.36	.96	10.1
MAX	21	19	71	42	14	50	45	20	46	13	7.4	109
MIN	.13	.32	.85	1.5	1.9	1.6	1.9	1.2	.77	.36	.21	.19
CFSM	.40	.95	1.58	1.18	1.10	1.26	1.34	.85	.94	.37	.26	2.73
IN.	.46	1.07	1.82	1.36	1.14	1.45	1.49	.98	1.05	.42	.30	3.04

CAL YR 1986 TOTAL 1100.28 MEAN 3.01 MAX 72 MIN .13 CFSM .81 IN 11.06  
WTR YR 1987 TOTAL 1449.51 MEAN 3.97 MAX 109 MIN .13 CFSM 1.07 IN 14.57

POTOMAC RIVER BASIN

01646500 POTOMAC RIVER NEAR WASHINGTON, DC

LOCATION.--Lat 38°56'58", long 77°07'40", Montgomery County, Md., Hydrologic Unit 02070008, on left bank just above Little Falls Dam, 1 mi upstream from District of Columbia boundary line, 1.2 mi upstream from Chain Bridge, 1.8 mi east of Langley, Fairfax County, Va., and at mile 117.4.

DRAINAGE AREA.--11,560 mi<sup>2</sup>.

PERIOD OF RECORD.--March 1930 to current year.

REVISED RECORDS.--WSP 726: Drainage area. WDR MD-DE-75-1: 1973-74(M).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 37.95 ft above National Geodetic Vertical Datum of 1929. Prior to June 7, 1930, nonrecording gage, and June 7, 1930, to Jan. 22, 1965, water-stage recorder at site 1 mi upstream on right bank at same datum.

REMARKS.--Estimated daily discharges: Oct. 1-7, Dec. 13-19, and May 27-29. Records good except those for estimated daily discharges (missing record), which are fair. Diversions at Great Falls through aqueducts, and since June 1959, from gage pool at Little Falls Dam, for municipal supply of Washington, D.C.; since October 1958, at Rockville Filtration Plant, for municipal supply of city of Rockville; since April 1961, at Potomac Filtration Plant for water supply of Washington Suburban Sanitary District; since October 1961, at Fairfax Water Treatment Plant for water supply of city of Fairfax (from Goose Creek); since April 1964, at Violets Lock to Chesapeake and Ohio Canal; and since October 1985, at Fairfax County Water Authority Treatment Plant for water supply of the county. Low flow affected slightly prior to July 1981 by Stony River Reservoir (see station 01595200), since December 1950, by Savage River Reservoir (see station 01597500), and since July 1981, by Jennings Randolph Lake (see station 01595800). Gage-height telemeter at station.

AVERAGE DISCHARGE.--57 years, 11,530 ft<sup>3</sup>/s, 13.55 in/yr, adjusted for diversions.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 484,000 ft<sup>3</sup>/s, Mar. 19, 1936, gage height, 28.1 ft, site then in use; minimum daily discharge observed at gaging station, 121 ft<sup>3</sup>/s, Sept. 9, 1966, does not include diversion of 489 ft<sup>3</sup> for municipal use; minimum daily discharge (adjusted), 601 ft<sup>3</sup>/s, Sept. 10, 1966, includes diversion of 449 ft<sup>3</sup> for municipal use.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 2, 1889, was of approximately the same magnitude as that of March 19, 1936.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 45,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Mar. 4	0215	56,400	7.02	Apr. 19	0330	*167,000	*11.41
Apr. 6	0415	92,700	8.58				

Minimum daily discharge, 757 ft<sup>3</sup>/s, Aug. 21, does not include diversion for municipal use; minimum daily

(adjusted) discharge, 1,480 ft<sup>3</sup>/s, Oct. 12, 13, Aug. 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	MEAN VALUES													
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	1020	1070	5840	11700	13000	18300	9150	19600	8250	14500	1190	1160		
2	1050	1420	6060	10800	11100	37800	16300	17700	7400	11500	1160	1170		
3	1470	1480	11400	10100	11100	47000	24200	16300	6880	17600	1140	959		
4	1510	1450	16700	9170	15400	50900	31400	16600	8750	10600	1120	944		
5	1250	1600	14000	8190	27700	36200	66100	19500	11600	6120	1040	890		
6	1090	2140	14000	7420	27200	27200	83800	32800	10400	4400	1120	1080		
7	950	1830	11700	6640	23300	22300	64900	33100	8600	3920	1290	1200		
8	985	2380	9040	6020	20800	19000	64700	26600	7290	3550	1400	3290		
9	1090	2780	7720	5790	18600	16500	52300	22400	6200	3710	1290	7960		
10	950	2900	7360	5960	16700	15600	47200	18600	5420	3780	1400	12000		
11	963	3590	8600	6290	14800	15700	41800	16000	4770	3360	1440	13200		
12	852	5630	9800	6320	13600	16400	33600	14200	4430	3230	1260	11900		
13	863	5620	9000	6280	12500	16500	28300	12900	4200	3730	1120	11300		
14	1030	6210	8200	5870	11600	14700	24900	12000	4160	5410	997	11900		
15	991	5430	7500	5850	10800	13000	21500	11100	4290	4220	937	15200		
16	993	3930	7200	5870	10200	11900	19000	10400	4370	5140	968	12300		
17	939	3100	6900	6260	9520	11000	33700	9350	3860	4680	1030	8840		
18	930	2790	6600	6250	8930	10400	129000	8770	3470	3620	965	11200		
19	984	2750	6500	8640	8530	9630	153000	8690	3220	3020	806	9530		
20	949	2620	7000	17300	7860	9170	87800	9290	3120	2590	827	8050		
21	955	3910	6500	27100	7410	8380	57500	11900	3590	2370	757	7300		
22	959	4730	6200	36300	7100	8240	43700	14600	3800	2030	799	8000		
23	889	5530	5800	27500	7460	7940	35000	19400	4860	2050	953	10300		
24	899	5490	7030	21000	7270	7670	28700	15900	4700	2090	872	10900		
25	978	4880	23900	16600	7680	7530	24600	14100	4510	1820	986	8310		
26	941	4640	30200	13000	7880	7270	26900	12300	4020	1810	974	6660		
27	964	4780	31400	10600	8300	6870	35000	11400	4340	1560	1100	5460		
28	1060	4600	27900	8820	8770	6930	33200	10700	3570	1350	1220	4540		
29	974	5470	21100	8120	---	7060	27100	10000	4060	1270	1320	3870		
30	1120	6400	16900	9630	---	7000	23000	9130	3480	1260	1210	3530		
31	1460	---	13900	10500	---	7520	---	8980	---	1160	1070	---		
TOTAL	32068	111150	371950	345890	355110	501710	1367350	474310	161610	137450	33761	212943		
MEAN	1034	3705	12000	11160	12680	16180	45580	15300	5387	4434	1089	7098		
MAX	1510	6400	31400	36300	27700	50900	153000	33100	11600	17600	1440	15200		
MIN	852	1070	5800	5790	7100	6930	9150	8690	3120	1160	757	890		
(†)	626	578	533	548	547	541	551	593	650	733	739	626		
MEAN#	1660	4283	12530	11700	13220	16720	46150	15910	6037	5168	1828	7717		
CFSM#	.14	.37	1.08	1.01	1.14	1.45	3.99	1.38	.52	.45	.16	.67		
IN#	.17	.41	1.25	1.19	1.19	1.67	4.46	1.59	.58	.52	.18	.75		
CAL YR 1986	TOTAL	2968286	MEAN	8133	MAX	122000	MIN	577	MEAN#	8741	CFSM#	.76	IN#	10.27
WTR YR 1987	TOTAL	4105303	MEAN	11250	MAX	153000	MIN	757	MEAN#	11850	CFSM#	1.03	IN#	13.92

† Diversions, in cubic feet per second, for municipal supply of Washington, D.C., Washington Suburban Sanitary District, city of Rockville, city of Fairfax (from Goose Creek), Fairfax County, and the Chesapeake and Ohio Canal (insignificant diversion to canal during current water year). Records provided by U.S. Army Corps of Engineers, Washington Suburban Sanitary Commission, city of Rockville, city of Fairfax, and Fairfax County Water Authority.

# Adjusted for diversion.

POTOMAC RIVER BASIN

01646580 POTOMAC RIVER AT CHAIN BRIDGE AT WASHINGTON, DC  
(National stream-quality accounting network station)

LOCATION.--Lat 38°55'46", long 77°07'02", Arlington County, Va., Hydrologic Unit 02070010, under right downstream side of bridge on Virginia State Highway 123, and at river mile 115.9.

DRAINAGE AREA.--11,570 mi<sup>2</sup>.

PERIOD OF RECORD.--Water years 1973 to current year. Prior to October 1977, published as "at Great Falls."

PERIOD OF DAILY RECORD.--

- SPECIFIC CONDUCTANCE: June 1978 to September 1981 (discontinued).
- pH: June 1978 to September 1981 (discontinued).
- WATER TEMPERATURE: June 1978 to September 1981 (discontinued).
- DISSOLVED OXYGEN: June 1978 to September 1981 (discontinued).
- SUSPENDED SEDIMENT DISCHARGE: October 1978 to September 1981 (discontinued).

INSTRUMENTATION.--Water-quality monitor June 1978 to September 1981.

REMARKS--High flows are sampled from the George Mason Memorial Bridge (14th Street) located 6 mi downstream from Chain Bridge.

EXTREMES FOR PERIOD OF DAILY RECORD--

- SPECIFIC CONDUCTANCE (water years 1979, 1981): Maximum, 598 microsiemens, Sept. 12, 1981; minimum, 116 microsiemens, Jan. 25, 1979.
- pH (water years 1979, 1981): Maximum, 9.3 units, Mar. 29, 1981; minimum, 6.7 units, June 2, 1981.
- WATER TEMPERATURE (water years 1979, 1981): Maximum, 31.0°C, July 23-24, 1978; minimum, 0.0°C on many days during winter periods.
- DISSOLVED OXYGEN (water years 1979, 1981): Maximum, 16.4 mg/L, on many days in 1979; minimum, 5.6 mg/L, June 2, 1981.
- SEDIMENT CONCENTRATION: Maximum daily mean, 812 mg/L, Sept. 6, 1979; minimum daily mean, 1 mg/L on many days during winter periods.
- SEDIMENT LOAD: Maximum daily, 281,000 tons, Feb. 27, 1979; minimum daily, 3.2 tons, Jan. 5, 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE AIR (DEG C)	TEMPERATURE WATER (DEG C)	BAROMETRIC PRESSURE (MM HG)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, SATURATION	COLIFORM, FECAL, UM-MF (COLS./100 ML)
NOV											
04...	1100	1650	492	8.34	14.0	14.0	768	1.2	11.4	110	--
04...	1105	1650	442	8.25	14.0	14.0	768	--	11.4	110	36
JAN											
06...	1110	7680	260	7.68	17.0	3.0	773	--	14.8	108	--
06...	1115	7680	266	7.81	7.0	3.0	773	4.1	14.8	108	K3
MAR											
02...	1115	3790	230	7.52	14.0	7.0	761	60	13.8	114	--
02...	1120	3790	224	7.86	14.0	7.0	761	--	13.8	114	K380
MAY											
14...	1015	12400	233	8.29	17.0	20.0	773	--	10.0	108	--
14...	1020	12400	235	8.39	17.0	20.0	773	0.60	10.0	108	20
JUL											
07...	1105	4100	284	7.88	25.0	26.0	766	--	6.8	83	--
07...	1110	4100	284	8.04	25.0	26.0	766	10	6.8	83	150
SEP											
09...	1025	7130	310	7.76	25.0	23.0	762	--	8.1	95	--
09...	1030	7130	306	7.72	25.0	23.0	762	54	8.1	95	K10000

DATE	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CaCO3)	HARDNESS NONCARB WH WAT TOT PLD (MG/L AS CaCO3)	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNESIUM, DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY WH WAT TOTAL FIELD (MG/L AS CaCO3)	SULFATE DIS-SOLVED (MG/L AS SO4)
NOV											
04...	--	190	72	56	12	28	24	0.9	3.2	120	96
04...	710	--	--	--	--	--	--	--	--	120	--
JAN											
06...	--	--	--	--	--	--	--	--	--	68	--
06...	K13	100	37	31	6.5	8.9	15	0.4	1.9	67	37
MAR											
02...	--	80	26	23	5.5	8.4	18	0.4	2.8	54	26
02...	K890	--	--	--	--	--	--	--	--	58	--
MAY											
14...	--	--	--	--	--	--	--	--	--	81	--
14...	360	110	19	31	6.7	6.3	11	0.3	1.8	86	29
JUL											
07...	--	--	--	--	--	--	--	--	--	92	--
07...	240	120	25	34	7.8	9.7	15	0.4	3.7	92	31
SEP											
09...	--	--	--	--	--	--	--	--	--	75	--
09...	K3300	110	36	30	7.6	18	26	0.8	3.7	70	44

K: Results based on colony count outside the accepted range (non-ideal colony).

## POTOMAC RIVER BASIN

01646580 POTOMAC RIVER AT CHAIN BRIDGE AT WASHINGTON, DC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)
NOV										
04...	29	0.20	0.5	309	300	--	<0.010	--	0.670	0.030
04...	--	--	0.6	--	--	0.677	0.003	0.01	0.680	--
JAN										
06...	--	--	6.3	--	--	2.09	0.007	0.02	2.10	--
06...	13	<0.10	6.5	150	150	2.09	0.010	0.03	2.10	0.060
MAR										
02...	26	<0.10	4.3	124	130	1.88	0.020	0.07	1.90	0.170
02...	--	--	4.1	--	--	1.88	0.018	0.06	1.90	--
MAY										
14...	--	--	3.9	--	--	0.953	0.007	0.02	0.960	--
14...	11	<0.10	3.9	139	140	0.970	0.030	0.10	1.00	<0.010
JUL										
07...	--	--	6.4	--	--	--	<0.001	--	1.60	--
07...	12	0.10	5.3	173	160	1.57	0.030	0.10	1.60	0.040
SEP										
09...	--	--	4.2	--	--	0.908	0.012	0.04	0.920	--
09...	19	0.20	4.1	179	170	0.920	0.010	0.03	0.930	0.100

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)
NOV										
04...	0.030	0.04	--	<0.20	--	0.030	0.040	0.010	0.03	<10
04...	0.030	0.04	0.17	0.40	0.20	0.030	0.020	0.010	0.03	20
JAN										
06...	0.060	0.08	0.44	1.0	0.50	0.050	0.070	0.030	0.09	10
06...	0.050	0.06	--	0.90	--	0.050	0.060	0.020	0.06	--
MAR										
02...	0.160	0.21	--	1.0	--	0.100	0.030	0.030	0.09	40
02...	0.150	0.19	0.45	1.0	0.60	0.110	0.020	0.030	0.09	80
MAY										
14...	0.020	0.03	0.28	0.90	0.30	0.050	0.010	<0.010	--	20
14...	0.040	0.05	--	0.90	--	0.050	0.010	0.030	0.09	<10
JUL										
07...	0.050	0.06	0.75	0.60	0.80	0.120	0.110	0.070	0.21	50
07...	0.040	0.05	--	0.60	--	0.130	0.090	0.070	0.21	--
SEP										
09...	0.080	0.10	0.22	0.70	0.30	0.150	0.040	0.020	0.06	70
09...	0.120	0.15	--	1.1	--	0.210	0.080	0.030	0.09	40

DATE	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)
NOV										
04...	<1	45	<0.5	<1	<1	<3	1	8	<5	11
04...	--	--	--	--	--	--	--	--	--	--
JAN										
06...	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--
MAR										
02...	<1	26	1	1	<1	<3	3	77	<5	5
02...	--	--	--	--	--	--	--	--	--	--
MAY										
14...	--	--	--	--	--	--	--	--	--	--
14...	<1	38	<0.5	<1	<1	<3	4	8	<5	6
JUL										
07...	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--
SEP										
09...	--	--	--	--	--	--	--	--	--	--
09...	<1	32	<0.5	<1	<1	<3	2	35	<5	<4

POTOMAC RIVER BASIN

01646580 POTOMAC RIVER AT CHAIN BRIDGE AT WASHINGTON, DC--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	MANGANESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	MOLYBDENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELENIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRONTIUM, DIS-SOLVED (UG/L AS SR)	VANADIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)
NOV 04...	12	<0.1	<10	<1	<1	<1	260	<6	11	--
NOV 04...	--	--	--	--	--	--	--	--	--	3.8
JAN 06...	--	--	--	--	--	--	--	--	--	4.0
JAN 06...	--	--	--	--	--	--	--	--	--	--
MAR 02...	21	<0.1	<10	3	<1	<1	91	<6	<3	--
MAR 02...	--	--	--	--	--	--	--	--	--	11
MAY 14...	--	--	--	--	--	--	--	--	--	3.4
MAY 14...	1	<0.1	<10	<1	<1	<1	120	<6	<3	--
JUL 07...	--	--	--	--	--	--	--	--	--	5.1
JUL 07...	--	--	--	--	--	--	--	--	--	--
SEP 09...	--	--	--	--	--	--	--	--	--	6.6
SEP 09...	21	<0.1	<10	2	<1	<1	140	<6	<3	--

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. ≥ FINER THAN .062 MM
NOV 04...	1100	1650	5	20	--
NOV 04...	1105	1650	7	31	--
JAN 06...	1110	7680	6	120	--
JAN 06...	1115	7680	12	240	69
MAR 02...	1115	3790	336	3440	96
MAR 02...	1120	3790	238	2440	--
MAY 14...	1015	12400	17	573	--
MAY 14...	1020	12400	18	636	97
JUL 07...	1105	4100	28	310	--
JUL 07...	1110	4100	33	365	90
SEP 09...	1025	7130	154	2970	--
SEP 09...	1030	7130	164	3160	99

RADIOCHEMICAL ANALYSES

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	GROSS ALPHA, DIS-SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS-SOLVED (PCI/L AS SR/ YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90)	RADIUM 226, DIS-SOLVED, RADON METHOD (PCI/L)	URANIUM DIS-SOLVED, EXTRACTION (UG/L)
MAR 02...	1115	3790	<0.4	4.3	3.9	2.9	3.1	2.6	0.06	0.02

POTOMAC RIVER BASIN

01648000 ROCK CREEK AT SHERRILL DRIVE, WASHINGTON, DC

LOCATION.--Lat 38°58' 21", long 77°02' 25", District of Columbia, Hydrologic Unit 02070010, on left bank 125 ft downstream from Sherrill Drive Bridge in Rock Creek Park in Washington, and 7.5 mi upstream from mouth.

DRAINAGE AREA.--82.2 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1929 to current year.

REVISED RECORDS.--WSP 1432: 1933(M).

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Datum of gage is 148.87 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Flow affected by two upstream reservoirs which control flow from about 25 mi<sup>2</sup>, Needwood Lake on Rock Creek since Sept. 1966 and Bernard Frank Lake on North Branch Rock Creek since February 1968. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--58 years, 62.1 ft<sup>3</sup>/s, 13.56 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,500 ft<sup>3</sup>/s, June 22, 1972, gage height, 16.2 ft, from flood-mark, from rating curve extended above 5,640 ft<sup>3</sup>/s on basis of contracted-opening measurements at gage heights 13.19 ft and 16.2 ft; minimum discharge, 0.5 ft<sup>3</sup>/s, Oct. 1-7, 1930, gage height, 1.04 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,200 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 24	2115	1,650	7.03	Sept. 12	2345	*1,800	*7.36
June 4	2045	1,390	6.28	Sept. 18	0700	1,420	6.39
Sept. 9	0115	1,480	6.57				

Minimum discharge, 1.9 ft<sup>3</sup>/s, Oct. 8, 11, 12, gage height, 1.11 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.5	5.3	15	44	52	438	100	39	31	43	9.1	6.6
2	18	138	158	185	76	201	70	38	32	121	9.2	6.7
3	4.0	23	272	79	103	156	59	52	115	41	9.0	7.0
4	2.5	14	77	60	123	127	457	306	478	35	8.6	6.9
5	2.6	123	52	47	91	97	181	98	181	27	13	12
6	2.3	100	37	39	71	73	166	69	87	21	9.7	99
7	2.3	33	32	36	71	59	115	54	59	21	8.7	21
8	2.2	110	30	34	73	52	88	46	43	21	9.3	522
9	2.9	31	104	33	70	49	69	40	35	23	30	409
10	2.4	21	75	36	55	49	59	38	32	18	40	127
11	2.2	129	107	33	49	41	65	37	29	19	11	81
12	2.0	72	70	31	59	40	51	40	31	188	7.7	385
13	21	67	37	29	51	39	48	36	42	57	7.7	624
14	98	58	28	28	45	37	43	33	38	67	8.4	76
15	28	35	25	34	42	37	43	64	25	32	8.6	45
16	6.3	30	23	29	38	53	77	55	24	35	52	55
17	4.2	29	23	27	37	38	220	40	23	19	18	65
18	3.5	32	135	115	36	37	80	36	21	15	10	657
19	4.2	62	63	357	36	35	61	82	20	14	8.4	138
20	3.3	99	43	183	35	35	54	87	37	13	8.4	126
21	3.4	139	34	115	34	35	49	59	52	12	7.7	81
22	3.4	31	30	86	35	35	48	43	74	11	33	60
23	3.7	20	27	70	91	34	43	39	59	11	18	46
24	3.7	21	430	60	99	34	135	35	24	11	8.1	33
25	3.5	16	593	55	72	34	80	34	21	20	6.5	28
26	40	131	184	45	59	34	60	39	44	11	6.6	23
27	19	74	141	44	52	34	51	34	61	10	7.4	21
28	84	32	102	45	69	63	46	33	22	17	24	20
29	11	23	74	48	---	39	43	31	19	10	15	19
30	6.3	18	54	55	---	63	40	88	17	9.9	7.6	33
31	5.2	---	42	62	---	293	---	49	---	9.1	7.2	---
TOTAL	399.6	1716.3	3117	2144	1724	2391	2701	1774	1776	962.0	427.9	3833.2
MEAN	12.9	57.2	101	69.2	61.6	77.1	90.0	57.2	59.2	31.0	13.8	128
MAX	98	139	593	357	123	438	457	306	478	188	52	657
MIN	2.0	5.3	15	27	34	34	40	31	17	9.1	6.5	6.6
CFSM	.21	.92	1.62	1.11	.99	1.24	1.45	.92	.95	.50	.22	2.06
IN.	.24	1.03	1.86	1.28	1.03	1.43	1.62	1.06	1.06	.58	.26	2.29

CAL YR 1986 TOTAL 15717.2 MEAN 43.1 MAX 593 MIN 2.0 CFSM .69 IN 9.40  
WTR YR 1987 TOTAL 22966.0 MEAN 62.9 MAX 657 MIN 2.0 CFSM 1.01 IN 13.74

POTOMAC RIVER BASIN

01649500 NORTHEAST BRANCH ANACOSTIA RIVER AT RIVERDALE, MD

LOCATION.--Lat 38°57'37", long 76°55'34", Prince Georges County, Hydrologic Unit 02070010, on right bank at downstream side of bridge on Riverdale Road, 1.8 mi downstream from Indian Creek, and 1.8 mi upstream from confluence with Northwest Branch.

DRAINAGE AREA.--72.8 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1938 to current year.

REVISED RECORDS.--WDR MD-DE-75-1: 1972(M).

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Datum of gage is 12.68 ft above National Geodetic Vertical Datum of 1929 (Washington Suburban Sanitary Commission bench mark). Prior to June 12, 1942, nonrecording gage; June 12, 1942, to Mar. 22, 1966, and Apr. 12, 1967, to Sept. 3, 1969, water-stage recorder, all at bridge at datum 14.00 ft above mean sea level. Mar. 23, 1966, to Apr. 11, 1967, nonrecording gage 600 ft downstream from bridge at datum 9.25 ft above mean sea level.

REMARKS.--Records fair. Some regulation at low flow by sand and gravel plants upstream from station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--49 years, 83.9 ft<sup>3</sup>/s, 15.65 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,000 ft<sup>3</sup>/s, June 22, 1972, gage height, 9.52 ft, from rating curve extended above 3,800 ft<sup>3</sup>/s on basis of the average of contracted-opening and slope-area measurements at gage height 9.52 ft; maximum gage height, 12.93 ft, prior to major channel improvements, Oct. 16, 1942; minimum daily discharge, 1.4 ft<sup>3</sup>/s Sept. 12, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 23 or 24, 1933, reached a stage of about 15.5 ft at datum 14.00 ft above mean sea level, from floodmarks, discharge, 10,500 ft<sup>3</sup>/s, from rating curve extended above 3,000 ft<sup>3</sup>/s on basis of velocity-area study.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 24	2015	*5,320	*8.01	Sept. 13	1230	2,360	5.42
Apr. 4	1115	2,980	6.03	Sept. 18	0315	2,570	5.63
Sept. 12	2200	2,640	5.70				

Minimum daily discharge, 5.1 ft<sup>3</sup>/s, Oct. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.9	12	36	95	70	491	147	36	34	28	10	16
2	15	148	266	302	141	240	44	34	32	47	9.6	14
3	9.1	26	483	119	215	60	51	56	33	21	9.5	13
4	9.1	21	86	64	233	71	951	423	357	19	9.0	11
5	9.4	236	51	49	133	59	240	137	99	17	25	12
6	7.3	129	42	43	86	54	160	66	34	16	16	111
7	5.5	47	38	43	87	51	120	47	27	15	12	74
8	5.4	161	37	39	92	49	95	39	24	18	11	405
9	5.8	37	127	37	85	50	80	35	24	16	48	96
10	5.7	25	105	40	58	49	70	33	23	15	28	28
11	5.1	189	177	38	51	41	65	31	22	27	13	20
12	5.8	86	135	34	61	41	60	85	27	191	12	500
13	22	32	63	32	56	40	50	49	50	50	12	830
14	109	25	47	31	49	38	48	31	43	22	12	94
15	32	23	42	34	44	38	46	188	24	20	13	38
16	15	23	40	33	40	50	89	95	22	19	21	35
17	13	22	38	31	40	40	250	46	21	19	18	31
18	12	45	221	144	39	37	96	35	22	15	16	705
19	11	79	95	618	36	36	62	37	21	14	15	67
20	10	247	54	255	34	36	53	80	29	13	15	81
21	9.9	238	42	88	35	35	48	56	26	12	14	45
22	9.5	57	37	60	35	35	44	40	61	11	38	33
23	9.5	41	35	55	107	33	40	36	53	9.9	22	28
24	11	43	1190	50	114	32	84	34	23	9.6	17	25
25	10	37	1020	46	74	32	72	30	21	15	15	24
26	53	323	135	44	48	30	48	29	138	12	15	23
27	52	153	75	44	44	30	41	27	82	11	15	23
28	67	57	59	42	72	40	39	27	26	12	27	21
29	19	44	51	42	---	32	38	26	21	10	22	21
30	15	39	47	65	---	50	37	36	20	9.4	17	29
31	12	---	42	81	---	400	---	51	---	9.4	16	---
TOTAL	585.0	2645	4916	2698	2179	2320	3268	1975	1439	723.3	543.1	3453
MEAN	18.9	88.2	159	87.0	77.8	74.8	109	63.7	48.0	23.3	17.5	115
MAX	109	323	1190	618	233	491	951	423	357	191	48	830
MIN	5.1	12	35	31	34	30	37	26	20	9.4	9.0	11
CFSM	.28	1.21	2.18	1.20	1.07	1.03	1.50	.88	.66	.32	.24	1.58
IN.	.30	1.35	2.51	1.38	1.11	1.19	1.67	1.01	.74	.37	.28	1.76

CAL YR 1986 TOTAL 21634.4 MEAN 59.3 MAX 1190 MIN 5.1 CFSM .82 IN 11.05  
WTR YR 1987 TOTAL 26744.4 MEAN 73.3 MAX 1190 MIN 5.1 CFSM 1.01 IN 13.67

POTOMAC RIVER BASIN

01651000 NORTHWEST BRANCH ANACOSTIA RIVER NEAR HYATTSVILLE, MD

LOCATION.--Lat 38°57'09", long 76°58'00", Prince Georges County, Hydrologic Unit 02070010, on right bank at downstream side of bridge on Queens Chapel Road (State Highway 500), 0.8 mi downstream from Sligo Branch, 1.0 mi west of Hyattsville, and 1.6 mi upstream from confluence with Northeast Branch.

DRAINAGE AREA.--49.4 mi<sup>2</sup>

PERIOD OF RECORD.--July 1938 to current year. Monthly discharge only for July 1938 published in WSP 1302.

REVISED RECORDS.--WSP 971: 1942(M).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 17.10 ft above National Geodetic Vertical Datum of 1929 (Washington Suburban Sanitary Commission bench mark). Prior to Oct. 22, 1938, nonrecording gage; Oct. 22, 1938, to Sept. 17, 1951, water-stage recorder; Sept. 17, 1951, to Aug. 29, 1952, nonrecording gage and crest-stage gage.

REMARKS.--Estimated daily discharges: Apr. 28 to May 20. Records fair except for period of estimated daily discharges, which is poor. Prior to June 1961, low flow regulated by storage at Burnt Mills Dam, 7.0 mi upstream from station. Inflow pumped from Patuxent River to augment water supply for Washington Suburban Sanitary District, August 1939 to August 1960. Small diversion since 1962 for irrigation of golf courses upstream from station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--49 years, 46.6 ft<sup>3</sup>/s, 12.81 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,000 ft<sup>3</sup>/s, June 22, 1972, gage height, 14.47 ft, from rating curve extended above 4,000 ft<sup>3</sup>/s on the basis of the average of slope-area and step-backwater measurements of peak flow 14.47 ft; minimum discharge, 0.2 ft<sup>3</sup>/s, Sept. 11, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,700 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 24	2100	*4,030	*5.86	Sept. 12	2045	2,400	4.85
June 4	1645	2,750	5.09	Sept. 13	1045	3,580	5.61
June 20	2000	2,140	4.66	Sept. 18	0230	2,570	4.97

Minimum discharge, 1.3 ft<sup>3</sup>/s Oct. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.1	5.9	15	55	38	601	65	25	20	36	7.0	3.6
2	15	122	217	170	82	124	37	24	23	48	6.6	3.7
3	5.9	22	358	58	111	57	39	80	45	14	6.6	3.7
4	4.4	13	45	34	110	43	609	350	483	10	6.6	3.0
5	4.3	151	28	26	70	37	111	70	89	9.2	31	2.9
6	3.8	90	23	25	50	35	79	40	27	8.7	9.5	84
7	3.0	28	21	33	53	34	55	31	20	8.8	5.2	13
8	3.2	105	20	21	59	33	43	26	17	12	5.1	392
9	4.9	23	84	20	57	33	38	22	15	10	32	88
10	5.6	16	57	23	37	32	34	24	16	10	18	13
11	4.5	138	122	22	35	26	33	22	15	33	6.1	9.2
12	4.4	63	81	19	45	26	32	70	18	74	4.4	435
13	13	22	35	18	39	26	31	30	39	58	3.9	829
14	83	15	25	18	35	26	29	22	27	27	3.5	43
15	27	14	22	22	31	27	29	150	15	20	3.5	20
16	7.4	14	22	21	27	37	80	60	14	21	14	24
17	5.9	13	21	19	30	25	245	30	13	12	11	38
18	4.7	30	162	109	29	24	80	23	13	8.9	5.9	689
19	4.6	54	54	441	27	24	42	40	12	7.7	4.9	44
20	4.4	151	29	122	26	24	35	70	94	7.7	4.3	55
21	3.9	133	24	49	26	26	30	33	30	7.5	4.4	30
22	3.8	26	22	39	27	24	28	24	54	8.1	25	24
23	4.7	17	20	36	93	24	26	22	35	7.0	11	19
24	4.8	21	914	32	83	24	89	19	14	6.7	4.7	15
25	5.5	17	660	30	54	24	63	18	12	11	3.5	14
26	38	192	63	29	44	24	37	20	53	7.3	3.2	13
27	21	83	39	29	40	22	31	19	31	6.1	3.1	12
28	64	26	29	28	80	41	29	18	12	7.1	15	11
29	13	19	27	28	---	25	27	19	10	8.7	9.1	11
30	8.3	17	29	45	---	41	26	67	10	6.6	4.9	23
31	7.3	---	25	53	---	351	---	37	---	6.3	3.6	---
TOTAL	389.4	1640.9	3293	1674	1438	1920	2132	1505	1276	518.4	276.6	2965.1
MEAN	12.6	54.7	106	54.0	51.4	61.9	71.1	48.5	42.5	16.7	8.92	98.8
MAX	83	192	914	441	111	601	609	350	483	74	32	829
MIN	3.0	5.9	15	18	26	22	26	18	10	6.1	3.1	2.9
CFSM	.26	1.11	2.15	1.09	1.04	1.25	1.44	.98	.86	.34	.18	2.00
IN.	.29	1.24	2.48	1.26	1.08	1.45	1.61	1.13	.96	.39	.21	2.23

CAL YR 1986	TOTAL	13874.0	MEAN 38.0	MAX 914	MIN 2.2	CFSM .77	IN 10.45
WTR YR 1987	TOTAL	19028.4	MEAN 52.1	MAX 914	MIN 2.9	CFSM 1.06	IN 14.33

POTOMAC RIVER BASIN

01653600 PISCATAWAY CREEK AT PISCATAWAY, MD

LOCATION.--Lat 38°42'20", long 76°58'00", Prince Georges County, Hydrologic Unit 02070010, on left bank 75 ft downstream from bridge on State Highway 223, at Piscataway, 0.4 mi upstream from Tinker Creek, and 4.8 mi upstream from mouth.

DRAINAGE AREA.--39.5 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1965 to current year.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 10 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--22 years, 45.5 ft<sup>3</sup>/s, 15.64 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,540 ft<sup>3</sup>/s, Sept. 6, 1979, gage height, 11.21 ft, from rating curve extended above 1,700 ft<sup>3</sup>/s on basis of contracted-opening measurement of peak flow at bridge 100 ft upstream; no flow at times in 1966, 1970, 1977, 1980-83, 1985, 1986, and 1987.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 450 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 25	1630	*821	*6.96	Sept. 13	0400	479	5.90
Mar. 1	1800	458	5.80				

No flow Oct. 10, 11, 12, 13, Aug. 27, 28, Sept. 2, 3, 4, 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.10	1.5	13	41	53	379	57	39	14	6.3	3.1	.02
2	.06	3.2	41	110	70	207	42	38	13	6.1	3.4	.00
3	.03	8.4	212	63	113	86	37	43	11	6.8	1.2	.00
4	.02	4.8	67	46	148	68	176	282	42	7.6	.50	.00
5	.02	10	36	40	102	59	129	154	82	13	8.0	.00
6	.28	37	27	36	75	55	66	73	24	7.0	13	3.4
7	.05	12	23	36	73	54	55	58	15	5.5	4.4	16
8	.02	21	22	33	79	54	51	52	12	5.7	2.9	6.4
9	.02	18	35	30	72	62	47	46	10	4.6	2.2	25
10	.00	12	83	32	55	80	44	42	9.8	5.7	5.3	5.1
11	.00	25	60	31	53	55	42	37	8.7	19	2.2	2.4
12	.00	48	85	27	56	51	40	36	12	42	.58	177
13	.00	17	44	25	58	48	40	67	31	29	.10	274
14	1.6	9.2	31	24	51	46	36	38	24	8.0	.04	38
15	5.9	7.7	28	25	47	45	36	54	12	6.8	.02	16
16	2.2	7.0	25	24	42	74	56	45	8.9	4.7	.79	10
17	.78	6.4	23	22	42	60	180	34	8.2	4.0	7.6	8.2
18	.40	6.1	53	49	41	50	80	29	6.6	3.1	1.7	21
19	.21	21	64	151	38	46	57	27	6.0	2.5	.41	8.5
20	.14	19	35	157	36	44	55	42	5.7	2.0	.11	14
21	.11	108	30	62	37	41	51	40	18	1.2	.12	16
22	.11	31	24	54	37	40	47	34	16	.60	.05	9.6
23	.12	16	22	59	50	38	42	29	16	.27	1.1	8.7
24	.09	14	138	50	67	36	55	28	8.1	.08	.43	6.4
25	.23	12	686	47	68	35	132	24	6.1	.59	.03	5.5
26	1.8	47	126	48	58	35	103	23	27	.49	.02	4.3
27	4.8	92	68	45	54	33	60	21	91	.21	.00	3.8
28	10	31	54	44	56	36	54	19	18	33	.00	3.6
29	6.0	20	48	44	---	34	50	17	10	7.6	1.4	3.2
30	2.7	16	44	50	---	36	44	15	7.7	2.9	1.1	13
31	2.7	---	41	55	---	74	---	14	---	1.5	.06	---
TOTAL	40.49	681.3	2288	1558	1731	2061	1964	1500	573.8	237.84	61.86	699.12
MEAN	1.31	22.7	73.8	50.3	61.8	66.5	65.5	48.4	19.1	7.67	2.00	23.3
MAX	10	108	686	157	148	379	180	282	91	42	13	274
MIN	.00	1.5	13	22	36	33	36	14	5.7	.08	.00	.00
CFSM	.03	.58	1.87	1.27	1.57	1.68	1.66	1.23	.48	.19	.05	.59
IN.	.04	.64	2.15	1.47	1.63	1.94	1.85	1.41	.54	.22	.06	.66

CAL YR 1986 TOTAL 8929.34 MEAN 24.5 MAX 686 MIN .00 CFSM .62 IN 8.41  
WTR YR 1987 TOTAL 13396.41 MEAN 36.7 MAX 686 MIN .00 CFSM .93 IN 12.62

01660920 ZEKIAH SWAMP RUN NEAR NEWTOWN, MD

LOCATION.--Lat 38°29'26", long 76°55'37", Charles County, Hydrologic Unit 02070011, on left-center downstream side of bridge on Maryland Route 6, 1.0 miles southeast of Newtown, and 1.7 miles downstream from Kerrick Swamp.

DRAINAGE AREA.--79.9 mi<sup>2</sup>.

PERIOD OF RECORD.--June 1983 to current year.

GAGE.--Water-stage recorder. Datum of gage is 34.88 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good above 75 ft<sup>3</sup>/s and poor below. Low flow affected by ground-water diversions from municipal well fields at Waldorf and St. Charles, and occasional farm irrigation upstream from station during summer months. Several measurements of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,740 ft<sup>3</sup>/s, Mar. 29, 1984, gage height, 4.71 ft; no flow for several days in 1983, 1985, 1986, and 1987.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 25	2130	*1,300	*4.41	Sept. 13	0900	562	3.67

No flow Oct. 8-13, July 20-27, Aug. 1-4, 14-31, Sept. 1-11.

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	15	46	102	150	295	137	91	24	12	.00	.00
2	1.6	17	60	242	160	442	106	85	21	11	.00	.00
3	1.1	19	216	282	235	347	85	90	23	13	.00	.00
4	.80	20	272	179	339	191	160	230	36	13	.00	.00
5	.59	23	169	127	339	146	245	409	126	11	.02	.00
6	.32	50	97	108	240	130	214	329	100	7.9	5.3	.00
7	.05	66	76	103	189	123	143	174	43	6.8	4.2	.00
8	.00	60	69	96	182	119	117	130	26	6.4	3.7	.00
9	.00	40	67	86	179	124	99	108	19	5.0	2.4	.00
10	.00	30	123	86	156	161	88	89	18	3.9	3.2	.00
11	.00	44	156	98	137	150	83	75	15	2.6	1.6	.00
12	.00	91	233	90	134	121	78	68	15	7.5	.63	56
13	.00	90	198	78	138	109	78	63	17	11	.11	406
14	4.5	55	120	72	131	101	72	56	24	12	.00	168
15	15	40	91	72	118	96	70	70	26	6.7	.00	49
16	16	36	80	74	111	125	95	108	21	3.2	.00	16
17	13	34	74	68	104	162	252	88	18	2.1	.00	9.5
18	12	34	92	85	100	144	292	65	13	1.3	.00	9.0
19	11	35	146	201	95	116	170	55	12	.25	.00	7.7
20	11	42	131	395	87	102	126	94	10	.00	.00	12
21	10	123	94	331	85	95	114	114	23	.00	.00	21
22	9.5	141	77	171	84	89	101	87	69	.00	.00	19
23	9.0	99	68	150	129	83	91	73	50	.00	.00	12
24	9.0	65	163	130	208	79	102	132	22	.00	.00	8.2
25	12	50	1060	130	201	76	199	93	16	.00	.00	6.1
26	18	48	916	125	174	74	333	67	15	.00	.00	4.9
27	29	106	367	125	153	73	257	58	71	.00	.00	3.9
28	33	114	178	130	142	75	150	52	88	.69	.00	3.4
29	28	70	135	130	---	79	122	44	33	.85	.00	3.3
30	19	50	117	130	---	78	106	36	17	.25	.00	5.4
31	16	---	106	140	---	115	---	28	---	.04	.00	---
TOTAL	281.26	1707	5787	4336	4500	4220	4285	3261	1011	138.48	21.16	820.40
MEAN	9.07	56.9	187	140	161	136	143	105	33.7	4.47	.68	27.3
MAX	33	141	1060	395	339	442	333	409	126	13	5.3	406
MIN	.00	15	46	68	84	73	70	28	10	.00	.00	.00
CFSM	.11	.71	2.34	1.75	2.02	1.70	1.79	1.31	.42	.06	.009	.34
IN.	.13	.79	2.70	2.02	2.10	1.96	1.99	1.52	.47	.06	.01	.38
CAL YR 1986	TOTAL	21239.82	MEAN	58.2	MAX	1060	MIN	.00	CFSM	.73	IN	9.89
WTR YR 1987	TOTAL	30378.30	MEAN	83.2	MAX	1060	MIN	.00	CFSM	1.04	IN	14.14

POTOMAC RIVER BASIN

01661050 ST. CLEMENT CREEK NEAR CLEMENTS, MD

LOCATION.--Lat 38°20'00", long 76°43'31", St. Marys County, Hydrologic Unit 02070011, on left bank 60ft downstream from bridge on State Highway 242, 0.5 mi north of Clements, 2.3 mi upstream from mouth, and 5.7 mi northwest of Leonardtown.

DRAINAGE AREA.--18.5 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1968 to current year.

REVISED RECORDS.--WDR MD-DE-79-1: 1974(P).

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Elevation of gage is 8 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--19 years, 20.4 ft<sup>3</sup>/s, 14.98 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,500 ft<sup>3</sup>/s, Sept. 6, 1979, from rating curve extended above 480 ft<sup>3</sup>/s on basis of contracted-opening and flow-over-road measurement of peak flow; maximum gage height, 6.96 ft, Sept. 6, 1979 (backwater from tide); maximum gage height unaffected by backwater, 6.55 ft, June 22, 1972; no flow at times in 1977, 1980, 1981, 1983, 1985, 1986 and 1987.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 220 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 25	0100	*722	*5.18	No other peak greater than base discharge.			

No flow July 24, 25, Aug. 31, Sept. 1-9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	2.5	9.2	22	27	103	25	17	7.1	2.5	.19	.00
2	.57	2.8	17	86	37	47	18	16	7.5	2.4	.02	.00
3	.49	3.4	69	37	57	31	17	27	6.9	3.7	.32	.00
4	.45	3.4	34	24	61	26	60	119	15	4.1	.32	.00
5	.38	4.1	21	19	46	23	44	64	33	3.6	.46	.00
6	.37	7.0	13	17	34	23	27	34	14	2.5	4.5	.00
7	.30	6.0	12	16	35	23	24	27	8.6	2.6	5.2	.00
8	.17	5.0	12	16	37	23	20	22	6.6	2.7	2.3	.00
9	.17	4.8	33	14	34	25	18	19	5.1	2.0	1.4	.00
10	.41	6.5	42	18	25	27	17	17	4.6	1.5	1.0	.49
11	.45	8.3	56	22	23	22	17	15	4.2	1.2	.70	.51
12	.45	16	68	17	27	20	17	14	4.1	.93	.47	12
13	2.3	11	27	14	29	19	18	23	4.8	2.2	.33	14
14	21	6.9	17	14	23	18	16	17	4.7	4.3	.23	7.5
15	17	5.8	15	15	21	18	16	16	4.9	1.9	.23	5.2
16	6.2	5.4	14	15	17	29	33	17	4.2	1.8	.21	2.6
17	3.0	5.3	13	13	17	25	97	14	3.6	2.6	.20	6.1
18	2.6	5.3	20	39	18	20	40	13	3.2	2.5	.22	16
19	2.5	6.1	27	103	17	19	28	14	2.5	1.6	.23	4.7
20	1.6	6.9	18	100	16	18	24	27	2.4	1.1	.21	3.7
21	1.6	22	14	38	16	18	23	27	4.6	.81	.12	4.2
22	1.6	17	12	28	17	17	20	17	4.9	.65	.05	3.7
23	1.6	9.6	11	26	127	16	18	14	4.3	.34	.10	2.4
24	1.6	7.7	105	24	66	16	19	17	3.3	.00	.22	1.8
25	1.7	7.6	370	21	34	15	53	13	2.6	.00	.13	1.4
26	5.7	13	53	20	28	15	61	12	2.7	.18	.10	1.1
27	7.7	52	31	20	25	15	31	12	21	.20	.07	.99
28	5.8	23	24	21	25	22	25	11	11	.27	.07	.85
29	3.7	14	20	22	---	21	22	10	4.7	.97	.08	.80
30	3.1	11	18	24	---	18	19	9.1	3.2	.88	.03	1.5
31	2.6	---	17	28	---	29	---	8.0	---	.74	.00	---
TOTAL	98.21	299.4	1212.2	893	939	761	867	682.1	209.3	52.77	19.71	91.54
MEAN	3.17	9.98	39.1	28.8	33.5	24.5	28.9	22.0	6.98	1.70	.64	3.05
MAX	21	52	370	103	127	103	97	119	33	4.3	5.2	16
MIN	.17	2.5	9.2	13	16	15	16	8.0	2.4	.00	.00	.00
CFSM	.17	.54	2.11	1.56	1.81	1.32	1.56	1.19	.38	.09	.04	.17
IN.	.20	.60	2.44	1.80	1.89	1.53	1.74	1.37	.42	.11	.04	.18

CAL YR 1986	TOTAL	5193.98	MEAN 14.2	MAX 370	MIN .16	CFSM .77	IN 10.44
WTR YR 1987	TOTAL	6125.23	MEAN 16.8	MAX 370	MIN .00	CFSM .91	IN 12.32

## POTOMAC RIVER BASIN

01661500 ST. MARYS RIVER AT GREAT MILLS, MD

LOCATION.--Lat 38°14'36", long 76°30'13", St. Marys County, Hydrologic Unit 02070011, on left bank at downstream side of bridge on State Highway 471 in Great Mills, 0.3 mi downstream from Western Branch, and 12.0 mi upstream from mouth.

DRAINAGE AREA.--24.0 mi<sup>2</sup>.

PERIOD OF RECORD.--June 1946 to current year.

REVISED RECORDS.--WSP 1702: 1946, 1948-49, 1955, 1957-58. WBR MD-DE-83-1: 1981-82(M).

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 10 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good. Occasional regulation by reservoir on Western Branch of St. Marys River, 2.0 mi upstream since 1975, total capacity, 3,200 acre feet. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--41 years, 23.9 ft<sup>3</sup>/s, 13.52 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,950 ft<sup>3</sup>/s, Aug. 20, 1969, gage height, 13.34 ft, from rating curve extended above 1,500 ft<sup>3</sup>/s on basis of contracted-opening measurement at gage height 12.06 ft; minimum discharge, 0.2 ft<sup>3</sup>/s, Sept. 7, 1966, gage height, 1.13 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 400 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 25	0230	*877	*7.36	No other peak greater than base discharge.			

Minimum discharge, 1.0 ft<sup>3</sup>/s, Sept. 4, 5, gage height 1.22 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	3.2	7.3	21	19	166	24	23	9.4	5.6	9.8	1.7
2	1.4	3.6	15	124	27	95	20	21	27	5.5	5.9	1.4
3	1.5	3.8	47	35	31	60	16	36	16	8.3	4.0	1.4
4	1.4	3.3	21	20	65	43	141	246	25	7.1	2.9	1.2
5	1.3	4.5	14	15	47	34	106	163	46	6.6	2.6	1.1
6	1.2	8.4	11	12	31	29	61	68	24	6.5	3.6	1.8
7	1.2	6.4	9.4	12	35	25	44	54	17	8.0	3.3	1.9
8	1.2	7.9	8.5	10	46	23	35	38	13	6.6	3.7	3.2
9	1.4	7.5	37	9.7	54	29	28	30	11	5.9	2.7	5.2
10	3.0	7.5	98	18	40	38	24	25	14	4.9	2.1	3.2
11	2.9	8.6	184	18	34	27	22	21	11	4.2	1.8	2.3
12	2.1	15	180	13	33	24	20	30	9.1	4.6	1.8	22
13	2.7	9.8	153	11	34	22	19	72	10	5.8	1.7	48
14	27	7.1	141	9.9	31	20	17	32	15	3.6	1.7	15
15	17	5.9	96	10	27	20	17	28	12	3.3	1.8	5.8
16	8.2	5.7	53	10	24	29	32	24	9.6	3.8	1.7	3.8
17	5.2	5.4	27	9.0	22	25	82	19	8.2	3.9	1.7	3.3
18	4.0	5.1	11	40	21	21	55	17	6.5	3.2	1.5	17
19	3.2	9.3	15	143	19	20	41	19	5.8	2.9	1.5	11
20	2.9	7.4	9.9	107	18	18	33	25	5.4	2.6	1.5	9.3
21	2.6	15	8.0	38	18	17	29	25	14	2.2	1.5	9.0
22	2.4	10	7.0	27	17	17	25	20	8.8	2.2	2.0	7.0
23	2.5	8.0	21	29	218	16	21	17	7.4	2.1	2.4	4.9
24	2.5	7.6	165	23	140	16	21	16	5.9	1.9	1.7	3.5
25	2.5	7.3	430	16	78	15	162	14	5.1	1.9	1.5	2.9
26	9.1	8.0	156	16	51	15	143	14	5.4	2.0	1.7	2.6
27	8.6	25	81	16	39	15	74	13	28	2.1	1.7	2.5
28	8.3	14	59	16	33	23	49	12	14	2.5	1.9	2.7
29	6.0	10	35	15	---	20	37	11	8.8	2.2	2.7	2.4
30	4.6	8.7	25	16	---	21	29	10	6.4	2.1	1.8	3.7
31	3.7	---	10	20	---	29	---	9.3	---	2.7	1.6	---
TOTAL	143.1	249.0	2128.1	879.6	1272	972	1429	1174.3	398.8	127.0	77.8	200.8
MEAN	4.62	8.30	68.6	28.4	45.4	31.4	47.6	37.9	13.3	4.10	2.51	6.69
MAX	27	25	430	143	218	166	162	246	46	8.3	9.8	48
MIN	1.2	3.2	7.0	9.0	17	15	17	9.3	5.1	1.9	1.5	1.1
CFSM	.19	.35	2.86	1.18	1.89	1.31	1.98	1.56	.55	.17	.11	.28
IN.	.22	.39	3.30	1.36	1.87	1.51	2.21	1.82	.62	.20	.12	.31

CAL YR 1986	TOTAL	5756.00	MEAN 15.8	MAX 430	MIN .90	CFSM .66	IN 8.82
WTR YR 1987	TOTAL	9049.50	MEAN 24.8	MAX 430	MIN 1.1	CFSM 1.03	IN 14.03

MONONGAHELA RIVER BASIN

03075500 YOUGHIOGHENY RIVER NEAR OAKLAND, MD

LOCATION.--Lat 39°25'19", long 79°25'32", Garrett County, Hydrologic Unit 05020006, on left bank 200 ft downstream from Baltimore and Ohio Railroad bridge, 250 ft downstream from Little Youghiogheny River, 1.2 mi northwest of Oakland, and 1.5 mi upstream from Dunkard Lick Run.

DRAINAGE AREA.--134 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1941 to current year.

REVISED RECORDS.--WSP 1113: 1947(M).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 2,353.61 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 1, 1946, nonrecording gage at bridge 200 ft upstream at same datum.

REMARKS.--Estimated daily discharges: Jan. 22-29. Records good except those for period with ice effect, Jan. 22-29, which are fair. Town of Oakland diverted an average of 0.4 ft<sup>3</sup>/s for water supply. The diversion is returned upstream from station as sewage. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--46 years, 300 ft<sup>3</sup>/s, 30.40 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,800 ft<sup>3</sup>/s, Oct. 16, 1954, gage height, 12.16 ft, from rating curve extended above 7,000 ft<sup>3</sup>/s; minimum daily discharge, 2.5 ft<sup>3</sup>/s, Oct. 4, 1953.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1936 reached a stage of 15.3 ft, from floodmarks.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 9	2230	*2,210	*5.48	No other peak greater than base discharge.			

Minimum discharge, 8.4 ft<sup>3</sup>/s, Aug. 21, 22, gage height, 1.85 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	107	70	312	191	294	888	399	311	151	82	15	27
2	239	82	303	187	550	1310	431	298	130	126	16	24
3	121	90	545	170	773	737	425	296	113	169	47	20
4	110	81	488	180	587	544	406	525	103	99	43	17
5	309	447	379	133	447	407	362	486	85	77	69	19
6	189	1620	310	128	372	366	347	385	73	65	124	79
7	125	834	270	138	333	427	597	312	62	58	48	111
8	96	534	246	153	306	545	1250	264	55	51	30	261
9	78	787	1170	130	256	583	1570	221	63	46	23	173
10	65	753	1820	130	324	521	1080	189	64	43	22	96
11	53	733	1060	137	232	378	808	164	50	64	21	64
12	46	861	734	130	259	305	721	157	67	82	17	141
13	55	576	505	134	344	256	679	157	116	51	15	206
14	183	404	378	123	265	217	505	126	77	61	13	134
15	189	322	322	346	232	205	736	204	58	62	12	96
16	124	276	269	787	196	202	1080	162	48	45	11	73
17	102	232	241	538	182	190	1330	127	59	38	11	91
18	88	215	304	413	166	190	1040	117	44	33	12	261
19	74	463	317	1040	156	184	717	447	37	30	13	190
20	64	511	250	1320	149	179	536	999	75	27	10	228
21	59	1410	221	747	136	173	415	512	738	24	9.1	187
22	54	811	189	500	141	166	328	350	399	23	69	152
23	50	564	189	350	185	162	277	261	836	21	327	140
24	47	526	268	275	153	156	466	209	494	18	75	116
25	46	484	605	225	138	156	551	170	286	18	42	97
26	67	782	594	195	137	159	420	270	214	18	34	79
27	90	1190	448	170	134	145	348	288	173	34	30	67
28	121	760	361	160	135	140	358	229	133	26	35	58
29	131	546	311	155	---	130	298	178	109	20	66	54
30	97	407	257	308	---	156	405	157	93	16	48	133
31	81	---	221	403	---	379	---	195	---	15	31	---
TOTAL	3260	17371	13887	9996	7582	10558	18885	8766	5005	1542	1338.1	3394
MEAN	105	579	448	322	271	341	630	283	167	49.7	43.2	113
MAX	309	1620	1820	1320	773	1310	1570	999	836	169	327	261
MIN	46	70	189	123	134	130	277	117	37	15	9.1	17
CFSM	.78	4.32	3.34	2.40	2.02	2.55	4.70	2.11	1.25	.37	.32	.84
IN.	.91	4.82	3.86	2.77	2.10	2.93	5.24	2.43	1.39	.43	.37	.94

CAL YR 1986 TOTAL 114858.0 MEAN 315 MAX 3560 MIN 13 CFSM 2.35 IN 31.89  
WTR YR 1987 TOTAL 101584.1 MEAN 278 MAX 1820 MIN 9.1 CFSM 2.08 IN 28.20

## MONONGAHELA RIVER BASIN

03076000 DEEP CREEK RESERVOIR NEAR OAKLAND, MD

LOCATION.--Lat 39°30'34", long 79°23'28", Garrett County, Hydrologic Unit 05020006, on Deep Creek at dam, 1.8 mi upstream from mouth and 7.0 mi north of Oakland.

DRAINAGE AREA.--64.7 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1925 to current year. Prior to October 1950, monthend contents published in WSP 1305, and October 1950 to September 1955, monthend contents published in WSP 1385.

GAGE.--Water-stage recorder at right end of spillway. Datum of gage is at mean sea level, unadjusted.

REMARKS.--Reservoir is formed by an earthfill dam completed January 1925, with storage beginning at that time. Usable capacity, 92,975 acre-ft between elevations 2,425 ft, top of intake to outlet tunnel, and 2,462 ft, crest of spillway. Dead storage, 13,085 acre-ft. Figures given herein represent usable contents. Reservoir is used for hydroelectric power.

COOPERATION.--Elevations and capacity table furnished by Pennsylvania Electric Co.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 93,258 acre-ft, July 24, 25, 1949, elevation, 2,462.075 ft; minimum observed, 11,763 acre-ft, Sept. 30, 1925, elevation, 2,433.45 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 88,900 acre-ft, Apr. 21, elevation, 2,460.90 ft; minimum, 66,000 acre-ft, Oct. 1, elevation, 2,454.50 ft.

## MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTBER 1986 TO SEPTEMBER 1987

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30 . . . . .	2454.5	66000	
Oct. 31 . . . . .	2455.4	69100	+3100
Nov. 30 . . . . .	2458.7	80800	+11700
Dec. 31 . . . . .	2457.4	76100	-4700
CAL YR 1986 . . . . .			+5300
Jan. 31 . . . . .	2456.0	71100	-5000
Feb. 28 . . . . .	2456.0	71100	0
Mar. 31 . . . . .	2457.9	77900	+6800
Apr. 30 . . . . .	2460.8	88500	+10600
May 31 . . . . .	2460.4	87000	-1500
June 30 . . . . .	2460.2	86300	-700
July 31 . . . . .	2459.5	83700	-2600
Aug. 31 . . . . .	2458.5	80000	-3700
Sept. 30 . . . . .	2454.8	67000	-13000
WTR YR 1987 . . . . .			+1000

03076500 YOUGHIOGHENY RIVER AT FRIENDSVILLE, MD

LOCATION.--Lat 39°39'13", long 79°24'31", Garrett County, Hydrologic Unit 05020006, on left bank 0.7 mi upstream from bridge on State Highway 42 at Friendsville, and 1.5 mi upstream from Bear Creek.

DRAINAGE AREA.--295 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1898 to December 1904 and October 1940 to current year. Annual maximum, water years 1905, 1923-31, 1940, published in WSP 1675. October, November 1940 monthly discharge only, published in WSP 1305. September 1922 to September 1926 (gage heights only) in reports of Pennsylvania Department of Forests and Waters.

REVISED RECORDS.--WSP 1385: Drainage area at former site, 1898-1905, 1941(M), 1942, 1944-45, 1948-49, 1951(M). GAGE.--Water-stage recorder. Datum of gage is 1,487.33 ft above National Geodetic Vertical Datum of 1929. Aug. 17, 1898, to Dec. 31, 1904, and Sept. 1, 1922, to Sept. 30, 1926, nonrecording gages at bridge 0.7 mi downstream at datum 16.24 ft and 16.29 ft lower, respectively.

REMARKS.--Estimated daily discharges: Nov. 7 to Jan. 14. Records good except those for period of partially plugged intake, Nov. 7 to Jan. 14, which are fair. Low and medium flow regulated since July 1925 by Deep Creek Reservoir, 12 mi upstream from station (see station 03076000). U.S. Army Corps of Engineers satellite telemeter at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--53 years (water years 1899-1904, 1941-87), 646 ft<sup>3</sup>/s, 29.74 in/yr, adjusted for storage since October 1940.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,600 ft<sup>3</sup>/s, Mar. 29, 1924, gage height, 14.2 ft, from flood-marks, site and datum then in use or 10.2 ft, present site and datum, from rating curve extended above 5,800 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; minimum daily discharge, 8.2 ft<sup>3</sup>/s, Sept. 11, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,730 ft<sup>3</sup>/s, Dec. 10, gage height, 5.10 ft; minimum discharge, 30 ft<sup>3</sup>/s, Aug. 12, gage height, 1.88 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	176	154	750	479	472	864	699	714	353	156	61	201
2	532	154	612	785	949	2060	688	553	315	217	46	335
3	320	166	1110	786	1410	1190	710	566	276	355	99	210
4	505	172	1290	429	1130	897	746	843	253	212	93	292
5	1140	454	1030	691	910	676	619	900	236	156	83	174
6	645	2280	563	701	786	606	593	756	161	176	250	72
7	379	2350	491	694	561	690	898	654	143	121	173	334
8	279	1680	770	675	524	931	1910	592	181	106	84	410
9	224	1380	1920	651	615	1040	2770	452	177	141	63	521
10	178	1630	3380	325	599	991	2110	356	182	124	95	416
11	153	1420	2480	290	525	783	1460	367	163	94	63	526
12	140	1770	2080	526	508	640	1290	354	161	125	35	356
13	150	1580	1660	557	715	553	1460	406	202	156	76	364
14	349	1310	1400	529	450	431	1120	398	171	106	93	554
15	449	1060	1220	740	393	398	1560	394	174	109	53	469
16	308	900	1020	1470	333	435	2090	352	153	136	39	236
17	250	784	944	839	411	425	2190	252	145	132	109	290
18	223	627	1010	648	379	410	1720	275	147	76	62	541
19	194	789	1110	1530	336	393	1280	446	135	68	35	663
20	173	880	585	2380	319	391	1060	1560	88	107	147	628
21	167	2260	524	1420	262	330	997	857	458	65	79	607
22	144	1730	824	1070	246	318	868	610	703	60	109	640
23	131	1220	780	938	376	357	795	440	851	78	361	490
24	123	1030	889	522	328	348	1040	367	762	104	256	614
25	118	1030	1020	477	299	350	936	372	460	67	159	576
26	145	1150	1510	488	292	360	715	347	351	57	202	413
27	165	2550	989	341	243	333	892	559	278	70	170	393
28	181	1530	776	253	236	276	868	442	221	68	177	395
29	190	1110	927	251	---	263	770	457	224	58	129	217
30	195	905	1040	441	---	283	802	278	168	54	87	364
31	173	---	889	553	---	577	---	319	---	91	161	---
TOTAL	8499	36035	35593	22479	14607	18599	35656	16238	8292	3645	3649	12301
MEAN	274	1201	1148	725	522	600	1189	524	276	118	118	410
MAX	1140	2550	3380	2380	1410	2060	2770	1560	851	355	361	663
MIN	118	154	491	251	236	263	593	252	88	54	35	72
(†)	+50.4	+197	-76.6	-81.2	0	+110	+178	-24.4	-11.7	-42.3	-60.0	-218
MEAN*	324	1400	1071	644	522	710	1367	500	264	75.7	58.0	192
CFSM*	1.10	4.75	3.63	2.18	1.77	2.41	4.63	1.69	0.89	0.26	0.20	0.65
IN*	1.27	5.30	4.19	2.51	1.84	2.78	5.17	1.95	0.99	0.30	0.23	0.73

CAL YR 1986 TOTAL 248248 MEAN 680 MAX 6380 MIN 64 MEAN\* 687 CFSM\* 2.33 IN\* 31.63  
WTR YR 1987 TOTAL 215600 MEAN 591 MAX 3380 MIN 35 MEAN\* 592 CFSM\* 2.01 IN\* 27.28

† Change in contents, equivalent in cubic feet per second, in Deep Creek Reservoir, provided by Pennsylvania Electric Co.

\* Adjusted for change in contents.

## MONONGAHELA RIVER BASIN

03076600 BEAR CREEK AT FRIENDSVILLE, MD

LOCATION.--Lat 39°39'22", long 79°23'41", Garrett County, Hydrologic Unit 05020006, on right bank 0.2 mi downstream from bridge on Accident-Friendsville Road, 0.6 mi downstream from South Branch Bear Creek, 0.8 mi southeast of Friendsville, and 1.2 mi upstream from mouth.

DRAINAGE AREA.--48.9 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,551.34 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Jan. 5-7, 25-30. Records good except those for period of missing record, Jan. 5-7, and period with ice effect, Jan. 25-30, which are fair. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--23 years, 90.2 ft<sup>3</sup>/s, 25.05 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,650 ft<sup>3</sup>/s, Sept. 14, 1971, gage height, 9.6 ft, from flood-marks, from rating curve extended above 2,000 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; minimum discharge, 1.5 ft<sup>3</sup>/s, Sept. 12, 1966, gage height, 0.42 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 600 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct. 4	0700	*1,320	*4.48	Apr. 8	1915	1,110	4.14
Oct. 5	0215	963	3.89				

Minimum discharge, 3.0 ft<sup>3</sup>/s, Aug. 21, gage height, 0.57 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62	22	106	60	66	230	117	69	32	12	3.5	6.6
2	97	22	98	58	134	360	135	69	34	17	4.1	5.2
3	47	22	122	54	198	219	142	66	28	19	10	4.3
4	615	26	109	47	155	146	157	84	27	12	8.1	4.0
5	537	70	99	46	126	115	137	81	24	11	8.0	3.8
6	255	177	88	48	112	104	140	81	22	9.9	11	9.1
7	123	136	82	50	103	136	313	77	20	11	7.2	11
8	83	114	75	43	97	227	722	69	19	9.9	5.9	40
9	64	259	220	40	84	269	783	61	22	10	5.7	22
10	50	259	340	42	93	210	510	55	18	8.7	10	12
11	42	262	272	43	75	134	373	50	16	11	7.1	9.6
12	37	324	181	40	72	107	335	47	19	10	5.9	24
13	37	213	125	38	68	88	296	44	21	8.7	4.9	18
14	62	132	102	38	63	78	246	40	17	13	4.3	12
15	55	111	87	105	58	72	225	46	14	13	4.3	8.9
16	47	95	76	237	50	66	259	38	14	9.5	4.0	7.6
17	43	80	69	158	53	58	423	34	13	8.3	3.9	8.0
18	39	75	71	122	49	55	384	35	12	8.1	5.3	11
19	34	94	65	310	44	54	283	78	11	7.4	4.1	17
20	32	132	57	370	44	53	185	73	12	7.2	3.5	58
21	30	301	53	242	42	52	134	62	28	6.9	3.2	44
22	29	217	48	156	42	50	110	54	19	6.6	31	33
23	27	155	49	117	49	49	91	49	34	6.1	27	34
24	25	140	64	82	43	49	100	46	23	5.7	9.2	27
25	24	127	119	70	40	50	90	42	15	4.8	6.3	23
26	30	272	129	60	40	51	79	42	14	11	6.2	18
27	27	400	113	52	39	47	75	50	13	12	7.8	15
28	29	315	99	48	40	45	88	41	12	7.0	9.5	13
29	27	201	85	56	---	42	78	35	10	5.3	6.8	12
30	24	139	79	110	---	54	78	32	10	4.6	5.6	30
31	23	---	68	87	---	111	---	31	---	3.8	4.9	---
TOTAL	2656	4892	3350	3029	2079	3381	7088	1681	573	290.5	238.3	541.1
MEAN	85.7	163	108	97.7	74.3	109	236	54.2	19.1	9.37	7.69	18.0
MAX	615	400	340	370	198	360	783	84	34	19	31	58
MIN	23	22	48	38	39	42	75	31	10	3.8	3.2	3.8
CFSM	1.75	3.33	2.21	2.00	1.52	2.23	4.83	1.11	.39	.19	.16	.37
IN.	2.02	3.72	2.55	2.30	1.58	2.57	5.39	1.28	.44	.22	.18	.41

CAL YR 1986	TOTAL	39859.0	MEAN	109	MAX	1580	MIN	5.3	CFSM	2.23	IN	30.32
WTR YR 1987	TOTAL	29798.9	MEAN	81.6	MAX	783	MIN	3.2	CFSM	1.67	IN	22.67

03078000 CASSELMAN RIVER AT GRANTSVILLE, MD

LOCATION.--Lat 39°42'08", long 79°08'12", Garrett County, Hydrologic Unit 05020006, on left bank at downstream side of highway bridge, 0.3 mi upstream from Slaubaugh Run, 0.7 mi downstream from U.S. Highway 40, and 1.0 mi north-east of Grantsville.

DRAINAGE AREA.--62.5 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1947 to current year.

REVISED RECORDS.--WSP 1143: 1948.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 2,088.97 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Jan 4-9, 23-29, Feb. 5-27, July 21 to Aug. 4, Aug. 8-10, 12-22. Records good except those for periods with ice effect, Jan. 4-9, 23-29, Feb. 5-27, period of missing record, July 21-28, and periods of indeterminate stage-discharge relationship, July 29 to Aug. 4, Aug. 8-10, 12-22, which are fair. U.S. Army Corps of Engineers satellite telemeter at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--40 years, 119 ft<sup>3</sup>/s, 25.86 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,400 ft<sup>3</sup>/s, Oct. 15, 1954, gage height, 10.70 ft, from rating curve extended above 1,600 ft<sup>3</sup>/s on basis of contracted-opening measurement at gage height 8.13 ft; no flow Aug. 31, 1962, result of regulation from unknown source.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct. 4	1100	*1,460	*4.26	Apr. 8	2145	1,050	3.79

Minimum discharge, 3.5 ft<sup>3</sup>/s, Aug. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	59	35	131	77	102	222	306	98	47	15	4.4	5.5
2	167	36	176	76	147	309	259	94	47	29	4.4	5.7
3	66	36	368	68	208	169	223	101	42	34	5.0	4.7
4	774	41	248	60	155	139	264	207	39	20	5.3	3.8
5	468	239	177	55	120	113	258	169	36	14	6.0	3.9
6	196	383	143	54	105	131	260	129	30	11	7.2	18
7	118	196	125	53	90	247	473	108	26	11	6.9	28
8	84	154	117	52	80	349	721	97	22	8.2	5.7	100
9	65	234	386	52	72	387	674	85	23	6.8	5.3	55
10	51	197	355	52	70	323	467	76	24	6.5	5.3	23
11	43	283	225	50	68	214	366	68	19	6.1	7.7	19
12	39	301	183	48	66	172	389	63	20	7.4	5.3	64
13	43	196	149	48	64	150	367	60	24	6.1	4.5	70
14	129	148	132	50	62	130	265	52	27	6.0	4.3	33
15	93	129	116	129	60	122	234	83	19	8.1	4.1	19
16	61	118	98	239	58	115	368	72	15	6.4	4.0	14
17	49	103	91	144	56	110	660	52	14	5.3	3.9	13
18	45	107	122	109	55	110	418	50	12	5.0	3.8	17
19	40	230	129	338	53	115	293	178	11	4.9	3.7	35
20	37	195	94	266	51	119	234	192	17	4.8	3.6	117
21	35	406	80	164	50	117	194	120	44	4.7	3.5	85
22	33	224	73	131	48	114	165	95	33	4.6	7.0	50
23	31	179	107	110	50	112	142	80	39	4.5	28	66
24	29	177	115	95	50	108	152	70	30	4.4	14	40
25	29	160	324	80	55	111	151	59	19	4.4	7.4	34
26	55	341	238	70	50	109	120	56	15	4.8	6.1	26
27	53	429	156	60	46	94	104	129	13	5.5	7.0	23
28	56	242	127	55	40	86	148	102	12	8.5	7.8	19
29	52	191	108	60	---	78	119	68	11	6.0	7.4	18
30	42	157	97	91	---	200	116	59	10	5.0	6.0	73
31	37	---	85	128	---	452	---	54	---	4.8	5.2	---
TOTAL	3079	5867	5075	3064	2131	5327	8910	2926	740	272.8	199.8	1082.6
MEAN	99.3	196	164	98.8	76.1	172	297	94.4	24.7	8.80	6.45	36.1
MAX	774	429	386	338	208	452	721	207	47	34	28	117
MIN	29	35	73	48	40	78	104	50	10	4.4	3.5	3.8
CFSM	1.59	3.14	2.62	1.58	1.22	2.75	4.75	1.51	.40	.14	.10	.58
IN.	1.83	3.49	3.02	1.82	1.27	3.17	5.30	1.74	.44	.16	.12	.64

CAL YR 1986	TOTAL	45400.8	MEAN	124	MAX	1390	MIN	4.3	CFSM	1.98	IN	27.02
WTR YR 1987	TOTAL	38674.2	MEAN	106	MAX	774	MIN	3.5	CFSM	1.70	IN	23.02

## TEMPERATURE MEASUREMENTS AT GAGING STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)
DELAWARE RIVER BASIN									
01477800 SHELLPOT C AT WILMINGTON DE (LAT 39 45 39N LONG 075 31 10W)									
OCT 1986					MAR 1987				
10...	0930	0.55	10.5	12.5	25...	1015	1.9	16.5	10.0
NOV					MAY				
10...	1145	2.5	13.5	11.0	14...	1040	2.3	19.5	14.5
DEC					JUN				
15...	1130	2.9	10.5	2.0	30...	1300	0.93	31.0	25.5
JAN 1987					AUG				
12...	1030	3.5	4.0	3.0	18...	0930	0.86	27.5	24.5
FEB					SEP				
04...	1130	13	11.0	3.5	29...	1245	1.2	23.5	19.0
18...	1040	3.2	2.5	1.5					
01478000 CHRISTINA R AT COOCHS BRIDGE DE (LAT 39 38 16N LONG 075 43 46W)									
OCT 1986					MAR 1987				
01...	1110	3.4	30.0	21.5	27...	1040	12	21.0	13.0
NOV					31...	1300	300	21.0	13.0
13...	1030	5.9	8.5	9.5	MAY				
DEC					11...	1415	11	30.0	21.0
03...	1240	119	13.5	10.0	JUN				
05...	1220	18	6.0	6.0	29...	1450	4.7	28.0	23.5
15...	1315	12	11.5	2.5	JUL				
JAN 1987					02...	0955	72	24.0	23.0
16...	1025	14	7.0	5.5	AUG				
FEB					12...	1130	2.9	25.5	22.5
20...	1015	12	3.0	1.5	SEP				
					29...	1015	6.5	26.0	17.5
01479000 WHITE CLAY C NR NEWARK DE (LAT 39 42 00N LONG 075 41 10W)									
OCT 1986					MAR 1987				
01...	1300	25	27.5	23.0	30...	1025	88	15.0	13.5
09...	0930	23	26.0	16.5	MAY				
NOV					12...	0850	82	23.5	19.0
19...	1000	267	9.0	8.0	JUN				
DEC					30...	0815	45	26.0	21.5
05...	1240	106	3.5	4.5	AUG				
JAN 1987					14...	1020	29	23.5	22.0
13...	1025	96	5.0	3.5					
FEB									
20...	1400	83	6.0	3.5					
01480000 RED CLAY C AT WOODDALE DE (LAT 39 45 52N LONG 075 38 08W)									
OCT 1986					MAR 1987				
09...	1100	17	25.0	15.0	30...	1215	47	13.0	13.5
NOV					MAY				
19...	1200	78	4.5	8.0	12...	1100	46	27.5	19.0
JAN 1987					JUN				
13...	1215	53	8.5	4.5	30...	1130	27	30.0	23.0
FEB					AUG				
24...	1100	53	7.0	2.0	14...	1230	18	29.0	21.5
01481500 BRANDYWINE C AT WILMINGTON DE (LAT 39 46 09N LONG 075 34 25W)									
OCT 1986					MAY 1987				
01...	0955	112	27.5	23.5	01...	1235	405	17.0	13.0
NOV					JUN				
03...	1245	130	15.0	12.0	01...	1035	296	28.5	24.0
DEC					JUL				
01...	1105	329	2.0	4.5	01...	1150	176	30.0	26.0
JAN 1987					AUG				
02...	1035	791	4.0	2.5	03...	1140	108	31.5	28.0
MAR					20...	1230	92	29.0	26.5
02...	1030	2080	8.5	3.5	SEP				
APR					01...	1145	170	25.0	22.5
02...	1305	451	16.0	9.0					

TEMPERATURE MEASUREMENTS AT GAGING STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	TEMPERATURE AIR (DEG C)	TEMPERATURE WATER (DEG C)	DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	TEMPERATURE AIR (DEG C)	TEMPERATURE WATER (DEG C)	
DELAWARE RIVER BASIN--Continued										
		01483200	BLACKBIRD C AT BLACKBIRD DE (LAT 39 21 58N LONG 075 40 10W)							
OCT 1986					FEB 1987					
10...	1215	0.19	13.0	19.0	18...	1310	5.3	8.5	4.0	
14...	0700	3.8	23.0	17.5	MAR 25...	1335	4.7	21.0	14.5	
NOV 12...	1245	3.7	12.5	11.5	MAY 14...	1405	2.3	24.0	22.5	
DEC 03...	1050	14	11.5	8.0	JUL 06...	1340	0.99	26.5	28.5	
10...	1415	12	16.5	8.0	AUG 18...	1155	0.41	32.0	29.0	
12...	1020	10	6.5	7.0						
JAN 1987 12...	1310	4.6	4.0	3.5						
20...	1015	24	7.5	3.5						
ST. JONES RIVER BASIN										
		01483700	ST JONES R AT DOVER DE (LAT 39 09 49N LONG 075 31 10W)							
OCT 1986 01...	0800	2.4	27.5	23.0	MAR 1987 02...	1530	330	12.0	5.0	
NOV 03...	1025	5.2	11.0	13.0	APR 01...	1325	72	9.0	13.5	
DEC 03...	0900	54	11.5	9.0	JUN 01...	0930	11	29.0	26.5	
JAN 1987 02...	0950	134	2.5	4.0	JUL 01...	1045	3.0	32.5	27.0	
FEB 02...	1030	56	9.0	2.5	SEP 01...	1005	3.4	23.5	21.5	
MISPILLION RIVER BASIN										
		01484100	BEAVERDAM B AT HOUSTON DE (LAT 38 54 20N LONG 075 30 49W)							
OCT 1986 06...	1330	0.23	20.0	17.0	MAR 1987 31...	1340	10	14.5	13.0	
NOV 05...	1455	0.44	12.0	11.0	MAY 15...	1330	3.9	21.0	15.0	
DEC 08...	1350	0.89	12.5	10.0	JUL 10...	1505	0.83	30.5	20.0	
JAN 1987 21...	1330	6.9	5.5	8.5	29...	1335	0.15	29.5	21.5	
FEB 24...	1440	8.1	4.5	8.0	AUG 21...	1320	0.04	27.0	22.5	
INDIAN RIVER BASIN										
		01484500	STOCKLEY B AT STOCKLEY DE (LAT 38 38 19N LONG 075 20 31W)							
OCT 1986 02...	0905	0.62	25.0	20.0	MAR 1987 31...	1040	19	17.0	14.5	
NOV 13...	1440	0.71	4.5	10.0	MAY 06...	1355	10	19.5	14.5	
DEC 15...	1355	1.8	9.5	7.0	15...	1030	7.9	19.5	15.5	
JAN 1987 15...	1330	5.2	13.5	10.0	JUL 06...	1050	3.5	25.0	20.5	
FEB 17...	1200	11	1.5	5.0	AUG 28...	1055	1.1	25.0	18.5	
		01484525	MILLSBORO P OUTLET AT MILLSBORO, DE (LAT 38 35 40N LONG 075 17 29W)							
OCT 1986 15...	1240	29	15.5	17.5	APR 1987 07...	1030	179	10.0	10.0	
NOV 26...	0950	20	14.0	9.0	MAY 14...	1325	115	17.5	19.0	
DEC 16...	1455	31	14.0	4.5	JUN 02...	0850	74	24.0	26.0	
FEB 1987 06...	1125	127	4.5	4.0	JUL 09...	1215	46	33.0	30.0	
MAR 04...	1400	177	3.0	9.0	SEP 02...	1000	18	25.5	24.0	

## TEMPERATURE MEASUREMENTS AT GAGING STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)	
INDIAN RIVER BASIN--Continued										
		01484548	VINES C AT OMAR, DE (LAT 38 31 44N LONG 075 12 09W)							
OCT 1986					MAY 1987					
15...	1040	0.40	12.5	14.5	14...	1020	16	13.0	14.0	
NOV					JUN					
17...	1135	0.75	12.5	9.5	02...	0955	5.8	26.0	21.0	
DEC					JUL					
04...	1035	3.7	6.0	8.5	07...	1330	1.8	26.5	20.5	
12...	1405	7.3	5.5	8.0	AUG					
16...	1200	3.8	11.0	3.5	10...	1350	0.32	30.5	24.0	
FEB 1987					19...	1155	0.22	28.0	22.0	
05...	1230	43	1.5	3.0	SEP					
MAR					09...	1425	0.23	33.0	22.0	
04...	1010	48	5.0	6.0						
APR										
06...	1155	56	10.0	8.5						
POCOMOKE RIVER BASIN										
		01485000	POCOMOKE R NR WILLARDS, MD (LAT 38 23 20N LONG 075 19 30W)							
OCT 1986					MAY 1987					
07...	1230	3.6	18.5	14.5	21...	1150	65	23.0	15.0	
NOV					JUL					
07...	1250	5.3	15.0	13.0	10...	1140	10	33.0	25.0	
DEC					AUG					
15...	1120	42	7.5	5.0	05...	1425	9.7	32.5	26.0	
JAN 1987					31...	1120	4.2	25.0	18.5	
15...	1100	79	12.5	8.5	SEP					
FEB					28...	1305	3.9	28.5	18.5	
25...	1245	334	5.0	4.5						
APR										
01...	1240	229	6.5	9.0						
NASSAWANGO C NR SNOW HILL, MD (LAT 38 13 44N LONG 075 28 19W)										
		01485500								
OCT 1986					MAR 1987					
07...	0955	1.6	17.5	14.0	26...	1130	39	18.0	11.5	
NOV					MAY					
13...	1115	6.6	9.5	10.5	19...	1400	20	14.0	17.5	
DEC					JUL					
12...	1050	38	6.5	7.5	13...	1015	5.4	26.0	22.0	
JAN 1987					AUG					
14...	1150	82	10.5	2.5	05...	1120	2.2	30.5	22.5	
FEB					SEP					
24...	1035	364	4.5	3.5	08...	1105	1.2	24.0	21.0	
MANOKIN RIVER BASIN										
		01486000	MANOKIN B NR PRINCESS ANNE, MD (LAT 38 12 50N LONG 075 40 18W)							
OCT 1986					MAR 1987					
06...	1045	0.94	20.0	18.0	25...	1225	4.0	19.0	13.5	
NOV					MAY					
05...	1205	0.87	14.0	13.0	19...	1025	2.6	19.0	19.5	
20...	0955	0.93	6.0	6.0	JUL					
DEC					13...	1335	1.8	32.0	27.0	
11...	1225	3.4	5.5	9.0	SEP					
JAN 1987					09...	1100	0.34	29.0	22.0	
12...	1200	11	6.5	5.5						
FEB										
18...	1205	6.9	5.5	6.5						
NANTICOKE RIVER BASIN										
		01487000	NANTICOKE R NR BRIDGEVILLE, DE (LAT 38 43 45N LONG 075 33 41W)							
OCT 1986					JUN 1987					
02...	1120	18	25.5	22.5	03...	1325	69	29.5	21.0	
NOV					JUL					
04...	1125	18	15.5	12.5	06...	1345	63	28.0	24.0	
DEC					28...	1045	30	26.0	23.0	
02...	1135	29	12.0	9.0	AUG					
JAN 1987					04...	1105	25	30.5	24.0	
20...	1100	318	5.0	6.5	SEP					
MAR					02...	1340	19	26.0	20.0	
03...	1045	226	12.5	9.0						

TEMPERATURE MEASUREMENTS AT GAGING STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	TEMPERATURE AIR (DEG C)	TEMPERATURE WATER (DEG C)	DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	TEMPERATURE AIR (DEG C)	TEMPERATURE WATER (DEG C)
NANTICOKE RIVER BASIN--Continued									
		01488500 MARSHYHOPE C NR ADAMSVILLE DE (LAT 38 50 59N LONG 075 40 24W)							
OCT 1986					MAR 1987				
08...	1250	5.0	24.0	16.5	27...	1350	45	22.5	17.5
NOV					MAY				
12...	1325	6.8	11.5	12.5	12...	1355	42	30.5	24.0
DEC					JUN				
19...	1245	70	8.5	6.5	30...	1400	13	37.0	28.0
JAN 1987					AUG				
20...	1510	305	5.5	5.0	27...	1135	7.6	28.5	22.5
FEB									
20...	1255	72	4.0	6.5					
		01489000 FAULKNER B AT FEDERALSBURG, MD (LAT 38 42 44N LONG 075 47 34W)							
OCT 1986					MAR 1987				
08...	1000	1.2	19.5	13.5	27...	1040	9.3	19.0	12.5
NOV					MAY				
12...	1040	1.8	8.5	11.0	12...	1030	7.3	25.5	18.0
DEC					JUN				
19...	1035	9.8	8.5	7.5	30...	1100	0.45	27.0	23.0
29...	1050	19	3.5	5.5	AUG				
JAN 1987					24...	0935	0.89	22.0	20.0
16...	1035	14	7.0	8.5					
FEB									
20...	1015	15	2.0	4.5					
CHOPTANK RIVER BASIN									
		01491000 CHOPTANK R NR GREENSBORO, MD (LAT 38 59 50N LONG 075 47 10W)							
OCT 1986					MAY 1987				
31...	1000	12	10.5	12.0	29...	1055	68	27.0	19.0
NOV					JUN				
28...	1000	96	14.0	8.5	25...	0930	28	23.0	22.0
DEC					JUL				
10...	0915	118	15.5	8.5	28...	0935	9.9	25.0	25.0
JAN 1987					AUG				
03...	1300	1200	7.5	4.0	18...	1305	4.8	33.0	26.0
FEB					19...	1235	3.6	31.5	26.0
25...	1045	209	7.0	2.5	21...	1215	4.4	25.0	22.5
MAR					SEP				
26...	0920	113	17.5	13.0	28...	1250	9.3	29.0	17.5
APR									
27...	1045	144	15.0	12.5					
CHESTER RIVER BASIN									
		01493000 UNICORN B NR MILLINGTON, MD (LAT 39 14 59N LONG 075 51 40W)							
OCT 1986					FEB 1987				
14...	1205	16	24.5	18.0	19...	1335	26	6.0	5.0
NOV					MAR				
06...	1250	14	12.0	11.5	24...	1340	23	20.0	13.5
DEC					MAY				
10...	1245	22	13.5	9.0	11...	1335	15	31.0	23.0
JAN 1987					SEP				
13...	1400	34	11.5	5.0	23...	1335	8.7	22.5	21.5
		01493500 MORGAN C NR KENNEDYVILLE, MD (LAT 39 16 48N LONG 076 00 54W)							
OCT 1986					JAN 1987				
09...	1215	2.9	24.5	16.5	13...	1100	6.7	6.5	3.5
14...	0935	10	23.0	16.5	30...	1135	8.0	4.5	0.5
NOV					FEB				
06...	1010	17	9.0	9.5	19...	1030	7.4	0.0	0.5
21...	1110	18	9.0	6.5	MAR				
25...	1050	5.4	9.0	5.5	24...	1030	6.1	13.5	8.0
DEC					MAY				
03...	1010	55	10.5	10.0	11...	1020	4.8	25.0	17.0
10...	0915	23	14.5	9.5	JUN				
10...	1035	21	14.0	9.5	29...	1040	3.5	25.0	19.0
					AUG				
					17...	1140	2.7	30.0	22.5

TEMPERATURE MEASUREMENTS AT GAGING STATIONS  
WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)		
<b>ELK RIVER BASIN</b>											
		01495000	BIG ELK C AT ELK MILLS, MD (LAT 39 39 26N LONG 075 49 20W)								
OCT 1986					MAY 1987						
15...	1215	24	17.0	14.0	11...	1200	47	24.0	20.0		
NOV					JUN						
17...	1255	27	15.0	8.5	29...	1320	27	27.0	22.0		
DEC					AUG						
19...	1310	102	8.5	5.5	05...	1210	18	32.0	26.5		
JAN 1987					17...	1235	18	31.0	26.0		
15...	1240	60	14.0	7.0	SEP						
FEB					30...	1250	29	22.5	18.0		
26...	1300	69	5.5	4.5							
APR											
03...	1215	61	11.0	9.0							
<b>PRINCIPIO CREEK BASIN</b>											
		01496200	PRINCIPIO C NR PRINCIPIO FURNACE, MD (LAT 39 37 34N LONG 076 02 27W)								
OCT 1986					MAY 1987						
15...	1005	2.1	18.5	12.5	11...	0945	6.4	27.0	17.5		
NOV					JUN						
17...	1035	3.4	20.5	9.5	29...	1020	3.2	23.5	18.5		
DEC					AUG						
19...	1025	15	8.0	5.5	05...	1030	1.5	30.0	24.0		
JAN 1987					17...	1030	1.7	30.0	23.5		
15...	1015	9.2	11.5	6.5	SEP						
FEB					30...	1050	3.2	20.0	17.5		
26...	1050	8.7	7.0	2.5							
APR											
03...	1010	8.1	10.5	8.5							
<b>SUSQUEHANNA RIVER BASIN</b>											
		01580000	DEER C AT ROCKS, MD (LAT 39 37 49N LONG 076 24 13W)								
OCT 1986					JUL 1987						
10...	1230	27	11.0	15.0	16...	1250	91	22.0	21.0		
MAR 1987					SEP						
06...	1150	145	9.0	5.0	01...	1320	153	23.0	20.0		
APR											
20...	1410	113	20.0	15.0							
<b>BUSH RIVER BASIN</b>											
		01581658	CRANBERRY RN AT PERRYMAN, MD (LAT 39 28 42N LONG 076 12 08W)								
MAY 1987					JUL 1987						
04...	1430	55	10.0	11.5	16...	0900	1.0	19.0	18.0		
05...	0915	7.2	10.0	10.5	AUG						
JUN					21...	0945	0.56	21.0	19.0		
02...	1040	1.2	24.0	19.0							
		01581700	WINTERS RN NR BENSON, MD (LAT 39 31 12N LONG 076 22 24W)								
OCT 1986					JUN 1987						
10...	0855	10	9.0	13.0	03...	1020	27	20.0	20.0		
MAR 1987					JUL						
05...	1215	58	8.0	4.0	16...	1515	24	21.5	22.0		
APR					SEP						
20...	1100	41	20.0	14.0	01...	0940	26	21.0	19.0		
<b>GUNPOWDER RIVER BASIN</b>											
		01582000	LITTLE FALLS AT BLUE MOUNT, MD (LAT 39 36 16N LONG 076 37 16W)								
DEC 1986					MAY 1987						
02...	1010	32	5.0	4.0	21...	1210	72	17.0	13.0		
JAN 1987					JUL						
15...	1315	59	12.0	5.0	15...	1230	68	23.0	19.0		
FEB					AUG						
27...	1130	47	4.0	2.0	20...	1130	23	24.0	21.0		
APR											
17...	1200	78	11.0	10.0							

TEMPERATURE MEASUREMENTS AT GAGING STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	TEMPERATURE AIR (DEG C)	TEMPERATURE WATER (DEG C)	DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	TEMPERATURE AIR (DEG C)	TEMPERATURE WATER (DEG C)
GUNPOWDER RIVER BASIN--Continued									
01582500		GUNPOWDER FALLS AT GLENCOE MD (LAT 39 32 59N LONG 076 38 11W)							
DEC 1986					MAY 1987				
03...	1510	204	11.0	9.0	21...	1420	130	21.0	14.0
JAN 1987					JUL				
13...	1340	88	7.5	4.0	07...	1145	125	22.5	20.5
FEB					AUG				
27...	0940	96	2.0	2.0	19...	1430	60	23.0	20.0
APR									
07...	1215	162	13.0	8.0					
01583100		PINEY RN AT DOVER MD (LAT 39 31 15N LONG 076 46 02W)							
OCT 1986					MAY 1987				
02...	0915	7.9	22.0	20.0	18...	1415	10	28.0	22.0
DEC					20...	0910	105	11.0	12.0
03...	1250	29	12.0	9.0	JUN				
JAN 1987					02...	1550	12	28.0	24.0
13...	1140	9.5	7.5	4.5	JUL				
MAR					07...	0940	11	23.0	20.0
01...	0945	72	5.0	4.0	AUG				
APR					19...	0945	5.3	23.0	21.0
07...	0945	21	12.0	7.0	SEP				
					09...	1000	30	25.0	19.0
01583500		WESTERN RN AT WESTERN RUN, MD (LAT 39 30 38N LONG 076 40 37W)							
OCT 1986					APR 1987				
02...	1115	42	25.0	22.0	09...	0945	77	10.5	10.0
DEC					JUL				
02...	1420	35	8.0	5.0	07...	1500	44	27.0	22.0
FEB 1987					AUG				
27...	1440	48	4.5	4.0	19...	1150	21	21.0	22.0
01583600		BEAVERDAM RN AT COCKEYSVILLE MD (LAT 39 29 13N LONG 076 38 42W)							
OCT 1986					MAR 1987				
01...	1340	4.1	25.0	22.0	01...	1220	192	10.0	4.0
NOV					02...	1445	54	8.0	7.0
06...	1110	22	9.0	10.0	APR				
DEC					07...	1445	27	13.5	10.0
03...	0955	51	10.0	9.0	MAY				
JAN 1987					20...	1510	73	12.0	13.0
13...	1000	16	5.0	4.5	JUL				
29...	1340	18	5.0	3.0	06...	1530	12	26.0	22.0
FEB					AUG				
25...	1415	23	4.0	5.5	17...	1450	7.1	27.0	25.0
01584050		LONG GREEN C AT GLEN ARM, MD (LAT 39 27 17N LONG 076 28 45W)							
OCT 1986					MAR 1987				
02...	1350	4.3	25.0	22.0	05...	1010	15	5.0	4.0
DEC					JUN				
05...	1025	9.7	4.0	6.0	02...	1300	6.8	26.0	21.0
JAN 1987					AUG				
15...	1530	9.1	11.0	10.0	20...	1350	2.9	26.0	22.0
01585100		WHITEMARSH RN AT WHITE MARSH, MD (LAT 39 22 15N LONG 076 26 46W)							
OCT 1986					APR 1987				
09...	0825	0.72	20.0	16.0	16...	1020	4.1	10.0	10.0
DEC					MAY				
05...	1230	7.4	4.0	5.0	29...	1310	2.7	29.0	25.0
JAN 1987					JUL				
16...	1500	3.9	8.0	7.0	09...	1415	1.9	32.0	30.0
FEB					AUG				
26...	1015	7.6	3.0	1.5	21...	1140	0.47	27.0	23.0

TEMPERATURE MEASUREMENTS AT GAGING STATIONS  
 WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)
BACK RIVER BASIN									
		01585200      WB HERRING RN AT IDLEWYLDE, MD (LAT 39 22 25N LONG 076 35 35W)							
FEB 1987					JUL 1987				
26...	1515	3.5	7.5	6.0	15...	1610	0.81	25.0	24.0
APR					AUG				
16...	1330	1.0	9.0	10.0	20...	1545	0.27	25.0	27.0
MAY									
29...	1450	0.84	35.0	24.0					
		01585300      STEMMERS RN AT ROSSVILLE, MD (LAT 39 20 28N LONG 076 29 17W)							
OCT 1986					MAY 1987				
09...	1140	0.56	24.0	21.0	29...	0940	1.3	27.0	21.0
JAN 1987					JUL				
16...	1240	1.6	9.0	7.0	09...	1015	0.63	30.0	28.0
FEB					AUG				
26...	1330	3.8	8.0	5.0	21...	1515	0.02	29.0	26.0
APR									
16...	1150	1.8	9.0	11.0					
		01585400      BRIEN RN AT STEMMERS RUN, MD (LAT 39 20 01N LONG 076 28 23W)							
JAN 1987					MAY 1987				
16...	1030	0.54	7.0	7.0	29...	1110	0.44	25.0	18.0
FEB					JUL				
26...	1145	1.7	4.5	4.0	09...	1200	0.36	29.0	24.0
APR					AUG				
16...	0850	0.56	9.0	10.0	21...	1340	0.28	26.0	21.0
PATAPSCO RIVER BASIN									
		01585500      CRANBERRY B NR WESTMINSTER, MD (LAT 39 35 35N LONG 076 58 05W)							
OCT 1986					APR 1987				
03...	1105	0.44	25.0	19.0	17...	1250	8.1	10.5	9.5
NOV					JUN				
06...	1215	1.2	10.0	9.5	08...	1440	3.0	31.0	20.5
DEC					24...	1450	0.70	25.0	22.0
01...	1525	0.30	1.0	3.5	AUG				
JAN 1987					25...	0945	0.42	18.0	15.0
16...	1020	1.4	3.5	4.5					
FEB									
25...	1210	1.4	1.5	3.0					
		01586000      NB PATAPSCO R AT CEDARHURST, MD (LAT 39 30 00N LONG 076 53 00W)							
DEC 1986					JUN 1987				
01...	1020	27	1.0	3.5	01...	1045	56	28.0	19.5
JAN 1987					JUL				
15...	1330	95	13.0	6.0	06...	1030	45	23.5	21.0
FEB					AUG				
25...	1005	45	0.5	0.5	25...	1435	18	24.0	18.0
APR									
20...	0935	72	17.0	12.5					
		01586210      BEAVER RN NR FINKSBURG MD (LAT 39 29 22N LONG 076 54 12W)							
DEC 1986					JUN 1987				
01...	1220	7.1	1.5	3.0	01...	1240	13	24.0	21.0
JAN 1987					JUL				
15...	1505	20	11.0	6.5	06...	1210	9.7	23.0	20.5
FEB					AUG				
25...	1400	14	3.0	4.0	25...	1310	3.8	26.0	17.5
APR					SEP				
20...	1115	17	17.0	14.5	09...	1110	18	25.0	19.5

TEMPERATURE MEASUREMENTS AT GAGING STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)		
PATAPSCO RIVER BASIN--Continued											
		01586610	MORGAN RN NR LOUISVILLE MD (LAT 39 27 07N LONG 076 57 20W)								
OCT 1986					APR 1987						
02...	1315	8.6	25.0	22.0	20...	1225	38	20.0	14.5		
NOV					JUN						
06...	1030	21	10.0	8.0	01...	1440	27	28.0	21.5		
DEC					JUL						
01...	1355	13	2.0	3.5	06...	1420	20	29.0	20.5		
JAN 1987					AUG						
16...	1205	34	5.5	5.0	25...	1120	7.4	19.0	16.5		
MAR					SEP						
02...	1015	120	6.0	4.5	09...	0945	35	21.5	18.0		
		01589000	PATAPSCO R AT HOLLOFIELD, MD (LAT 39 18 36N LONG 076 47 34W)								
OCT 1986					APR 1987						
03...	1320	13	25.0	22.0	15...	1340	118	13.5	13.0		
NOV					MAY						
03...	1205	41	12.0	11.0	19...	1450	101	14.0	19.0		
DEC					JUL						
04...	1515	108	8.0	7.0	10...	1030	75	30.0	26.0		
JAN 1987					AUG						
14...	1445	81	12.0	4.0	18...	1440	31	31.0	30.0		
FEB											
25...	1145	107	4.0	3.0							
		01589100	EB HERBERT RN AT ARBUTUS, MD (LAT 39 14 24N LONG 076 41 33W)								
OCT 1986					APR 1987						
03...	0910	0.42	20.0	20.0	15...	0945	1.1	13.0	12.0		
DEC					MAY						
04...	1050	1.9	9.0	7.0	19...	1010	1.0	14.0	18.0		
JAN 1987					JUL						
14...	1015	1.2	6.5	4.0	08...	1100	0.89	27.0	24.0		
FEB					AUG						
24...	1200	5.3	6.0	6.0	18...	1000	0.39	27.0	25.0		
MAR											
10...	1500	1.4	2.0	9.0							
		01589300	GWYNNS FALLS AT VILLA NOVA, MD (LAT 39 20 45N LONG 076 44 01W)								
NOV 1986					APR 1987						
03...	1325	10	10.0	12.0	06...	1115	71	5.0	7.0		
DEC					MAY						
01...	1145	14	2.0	5.0	18...	1010	17	19.0	19.0		
FEB 1987					JUL						
25...	0930	27	0.0	1.5	06...	1115	15	25.0	23.0		
		01589330	DEAD RN AT FRANKLINTOWN, MD (LAT 39 18 40N LONG 076 43 02W)								
OCT 1986					APR 1987						
03...	1100	0.91	22.0	21.0	15...	1130	2.1	12.5	13.5		
DEC					MAY						
04...	1310	3.8	9.0	7.0	19...	1220	4.2	13.0	18.0		
JAN 1987					JUL						
14...	1210	1.8	10.0	4.0	08...	1300	3.6	30.0	26.0		
MAR					AUG						
02...	1200	11	7.5	6.0	18...	1205	1.1	30.0	27.0		
		01589440	JONES FALLS AT SORRENTO, MD (LAT 39 23 30N LONG 076 39 42W)								
OCT 1986					APR 1987						
01...	1130	4.2	26.0	21.0	06...	1440	50	6.0	7.5		
14...	0750	15	17.0	15.0	MAY						
NOV					18...	1200	17	25.0	18.0		
03...	0940	8.2	9.0	9.0	JUL						
06...	0915	25	9.0	9.0	06...	1330	13	22.0	20.0		
DEC					AUG						
01...	1350	12	2.0	5.0	17...	1300	7.9	28.0	23.5		
MAR 1987											
01...	1400	236	11.0	4.0							
02...	1015	76	6.0	5.0							

TEMPERATURE MEASUREMENTS AT GAGING STATIONS  
WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)		
PATAPSCO RIVER BASIN--Continued											
		01589500	SAWMILL C AT GLEN BURNIE, MD (LAT 39 10 12N LONG 076 37 51W)								
OCT 1986					JUN 1987						
08...	1020	0.01	18.0	13.0	02...	1350	0.37	25.0	23.0		
DEC					AUG						
02...	1240	0.55	8.5	8.0	18...	1435	0.02	27.0	24.5		
APR 1987											
13...	0845	0.84	14.0	13.0							
PATUXENT RIVER BASIN											
		01591000	PATUXENT R NR UNITY, MD (LAT 39 14 18N LONG 077 03 23W)								
OCT 1986					JUN 1987						
15...	1305	5.4	14.0	12.0	03...	1400	19	24.5	21.5		
DEC											
11...	1505	23	0.5	5.5							
		01591400	CATTAIL C NR GLENWOOD, MD (LAT 39 15 27N LONG 077 03 13W)								
OCT 1986					JUL 1987						
06...	1425	2.7	16.5	16.0	15...	0955	14	17.0	18.0		
		01591610	PATUXENT R BL BRIGHTON DAM NR BRIGHTON MD (LAT 39 11 31N LONG 077 00 16W)								
OCT 1986					JUL 1987						
08...	1430	8.1	19.0	21.5	22...	1040	128	37.5	21.0		
		01591700	HAWLINGS R NR SANDY SPRING, MD (LAT 39 10 29N LONG 077 01 22W)								
OCT 1986					SEP 1987						
15...	1425	2.8	12.0	14.0	01...	1055	15	18.0	18.0		
JUL 1987											
15...	1305	14	20.5	19.5							
		01592500	PATUXENT R NR LAUREL, MD (LAT 39 06 56N LONG 076 52 27W)								
OCT 1986					MAY 1987						
03...	1510	17	24.0	22.5	18...	1025	16	28.0	16.0		
		01593500	L PATUXENT R AT GUILFORD, MD (LAT 39 10 04N LONG 076 51 07W)								
OCT 1986					JUN 1987						
07...	1100	2.6	16.0	14.0	01...	1050	16	25.0	22.0		
DEC					JUL						
10...	1540	37	8.0	9.0	23...	1120	6.8	30.0	26.0		
POTOMAC RIVER BASIN											
		01594930	LAUREL RN AT DOBBIN RD NR WILSON, MD (LAT 39 14 37N LONG 079 25 43W)								
OCT 1986					MAY 1987						
08...	1300	8.9	21.5	10.5	19...	1100	14	21.5	17.0		
NOV					JUN						
06...	1430	94	9.5	10.5	11...	1110	4.7	23.0	15.0		
DEC					JUL						
04...	1300	28	0.0	2.5	02...	0945	10	20.5	19.5		
JAN 1987					21...	1315	3.9	28.5	22.0		
07...	1330	13	1.5	1.0	29...	1350	3.3	28.5	22.0		
29...	1100	--	-1.5	0.5	AUG						
MAR					12...	1300	3.0	26.0	21.0		
04...	1300	36	-1.0	2.0	27...	1140	5.5	24.0	18.0		
31...	1120	44	-2.0	4.5	SEP						
APR					03...	1340	3.2	21.5	16.0		
15...	1050	44	9.5	8.5	23...	0840	12	11.0	13.0		
24...	0900	34	11.0	12.0							

TEMPERATURE MEASUREMENTS AT GAGING STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	TEMPER-ATURE AIR (DEG C)	TEMPER-ATURE WATER (DEG C)	DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	TEMPER-ATURE AIR (DEG C)	TEMPER-ATURE WATER (DEG C)
POTOMAC RIVER BASIN--Continued									
01594936		NF SAND RN NR WILSON, MD (LAT 39 15 36N LONG 079 24 36W)							
OCT 1986					MAY 1987				
09...	1330	0.80	23.5	13.0	19...	1410	2.6	23.0	17.5
NOV					JUN				
05...	1415	11	6.5	8.0	11...	1430	0.80	25.0	16.5
06...	1600	14	10.0	9.5	JUL				
DEC					01...	1400	1.1	20.0	18.0
05...	1200	5.1	-3.0	2.0	20...	1330	0.50	28.0	22.0
JAN 1987					29...	1040	0.40	24.5	17.5
08...	1330	1.9	-2.5	1.0	AUG				
FEB					13...	0950	0.40	22.5	16.5
04...	1330	6.0	0.0	2.5	SEP				
MAR					03...	1100	0.40	22.5	14.0
05...	1350	5.4	4.5	3.0	23...	1245	2.4	13.5	12.5
APR									
01...	1130	4.8	-1.0	4.5					
02...	1300	5.4	20.0	6.5					
23...	1315	4.6	20.5	13.0					
01594950		MCMILLAN F NR FORT PENDLETON, MD (LAT 39 16 36N LONG 079 23 26W)							
NOV 1986					MAY 1987				
21...	1300	15	-2.0	5.0	14...	1350	2.8	27.5	13.0
DEC					JUN				
06...	0900	6.4	-4.0	2.5	11...	0905	0.50	15.5	10.5
09...	1245	20	8.0	5.5	JUL				
JAN 1987					02...	1150	3.7	25.5	20.0
07...	1420	3.1	0.0	0.5	09...	1030	0.48	26.0	18.0
08...	0940	2.7	-2.5	1.0	22...	1345	0.23	29.0	19.5
FEB					29...	1000	0.24	24.0	16.0
04...	0840	6.7	-2.0	2.0	AUG				
MAR					13...	1150	0.23	26.5	17.0
05...	0930	7.4	-4.0	0.5	27...	1100	1.6	23.5	15.5
26...	1115	5.0	10.0	6.0	SEP				
APR					02...	1320	0.42	20.5	13.0
17...	0945	35	8.0	6.0	24...	0845	2.8	15.0	12.0
24...	1000	8.4	11.5	10.0					
01595000		NB POTOMAC R AT STEYER, MD (LAT 39 18 07N LONG 079 18 26W)							
OCT 1986					MAY 1987				
02...	1400	209	20.5	18.0	05...	1130	362	8.0	9.5
NOV					12...	1025	111	18.0	14.0
19...	1100	426	2.0	6.0	JUN				
DEC					17...	1210	49	28.0	20.0
29...	1350	197	4.0	0.0	JUL				
MAR 1987					27...	1100	16	21.0	18.5
24...	1030	151	12.0	6.0	30...	1130	24	23.5	20.5
					SEP				
					10...	1345	80	24.0	17.0
01595500		NB POTOMAC R AT KITZMILLER, MD (LAT 39 23 38N LONG 079 10 55W)							
OCT 1986					APR 1987				
17...	0755	63	6.0	9.5	03...	0840	890	5.5	5.5
30...	1235	88	10.5	12.5	21...	1050	1330	13.5	12.5
NOV					MAY				
20...	1328	540	3.0	4.5	07...	0805	769	8.0	10.5
28...	1305	841	4.5	12.5	26...	1540	189	22.0	19.0
DEC					JUN				
18...	0920	334	-2.0	1.0	17...	0835	140	20.0	21.0
JAN 1987					JUL				
09...	0850	201	-3.0	0.5	08...	0820	58	22.0	23.0
28...	1240	--	-3.5	0.5	AUG				
FEB					05...	0850	35	24.0	23.0
19...	0855	--	-8.0	0.5	26...	1510	40	21.5	19.5
MAR					SEP				
17...	0858	353	1.5	2.5	16...	0810	168	18.5	17.0

TEMPERATURE MEASUREMENTS AT GAGING STATIONS  
WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)	
POTOMAC RIVER BASIN--Continued										
		01596500	SAVAGE R NR BARTON, MD (LAT 39 34 05N LONG 079 06 10W)							
OCT 1986					MAR 1987					
03...	1130	11	21.0	18.0	23...	1245	58	7.0	5.0	
NOV					MAY					
17...	1030	44	13.0	6.5	05...	1005	104	6.0	6.0	
DEC					JUN					
30...	1145	85	-2.0	0.0	15...	1220	9.4	27.0	19.0	
JAN 1987					JUL					
29...	1530	--	-5.0	0.5	29...	1145	2.6	24.0	19.5	
FEB					SEP					
06...	1000	75	-3.0	1.0	09...	1140	20	20.0	16.0	
		01597500	SAVAGE R BL SAVAGE R DAM NR BLOOMINGTON, MD (LAT 39 30 05N LONG 079 07 25W)							
OCT 1986					MAY 1987					
01...	1350	51	25.5	18.0	05...	1220	95	8.0	6.0	
NOV					JUN					
17...	1210	77	18.0	4.5	15...	1435	52	29.0	17.0	
DEC					SEP					
09...	1015	213	5.0	5.0	09...	1250	41	22.0	17.0	
30...	1400	213	-2.0	1.5						
MAR 1987										
23...	1400	112	8.0	4.0						
		01598500	NB POTOMAC R AT LUKE, MD (LAT 39 28 45N LONG 079 03 55W)							
OCT 1986					APR 1987					
01...	1100	318	25.0	15.5	03...	1035	516	1.0	6.0	
30...	1418	451	12.5	8.0	21...	0845	4080	10.0	6.5	
NOV					MAY					
17...	1315	331	20.5	5.5	06...	0910	2210	12.0	8.5	
28...	1640	857	3.5	7.0	06...	1110	2160	15.0	8.0	
DEC					26...	1350	314	24.0	17.5	
16...	1145	355	1.0	5.5	JUN					
31...	1100	737	4.0	2.0	16...	1110	282	25.0	18.0	
JAN 1987					17...	1145	252	29.5	19.0	
28...	1200	334	-7.0	2.5	JUL					
FEB					07...	1420	249	26.5	20.0	
10...	1455	692	0.0	2.0	31...	1000	265	24.5	21.5	
19...	1335	347	3.0	4.0	AUG					
MAR					05...	1140	235	23.5	17.0	
17...	1155	334	6.0	4.5	26...	1320	235	22.0	16.5	
23...	1200	454	22.0	7.0	SEP					
					09...	1335	268	23.0	18.0	
					15...	1415	302	26.0	19.5	
		01599000	GEORGES C AT FRANKLIN, MD (LAT 39 29 38N LONG 079 02 42W)							
OCT 1986					MAY 1987					
01...	1000	5.6	23.5	19.5	06...	1125	111	16.0	9.0	
NOV					JUN					
17...	1400	20	20.5	11.0	16...	1320	18	28.0	20.0	
JAN 1987					JUL					
05...	1000	15	-6.0	3.5	31...	1115	6.6	26.5	24.0	
FEB					SEP					
10...	1440	79	0.0	2.0	09...	1350	23	24.0	17.0	
MAR										
23...	1300	65	23.0	16.0						
		01600000	NB POTOMAC R AT PINTO, MD (LAT 39 33 59N LONG 078 50 25W)							
OCT 1986					MAY 1987					
20...	1055	343	6.0	12.5	07...	1150	2650	21.0	10.0	
DEC					26...	1050	660	21.0	17.5	
17...	0915	781	4.5	6.5	JUN					
JAN 1987					18...	1505	303	29.5	25.5	
05...	1510	591	3.0	4.0	JUL					
27...	0955	672	-10.0	0.5	07...	1040	274	27.5	25.5	
FEB					AUG					
20...	0815	530	-4.0	3.0	04...	1125	290	33.5	26.0	
MAR					26...	1025	246	20.5	19.0	
19...	1330	631	12.0	8.5	SEP					
APR					15...	0940	343	25.5	21.0	
03...	1325	1110	1.5	6.0						

TEMPERATURE MEASUREMENTS AT GAGING STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	TEMPERATURE AIR (DEG C)	TEMPERATURE WATER (DEG C)	DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	TEMPERATURE AIR (DEG C)	TEMPERATURE WATER (DEG C)
POTOMAC RIVER BASIN--Continued									
01601500 WILLS C NR CUMBERLAND, MD (LAT 39 40 07N LONG 078 47 18W)									
OCT 1986					APR 1987				
03...	0935	57	21.0	20.0	29...	1100	397	9.0	8.0
DEC 23...	1310	148	-2.0	1.0	JUN 10...	1110	104	18.0	16.0
FEB 1987					JUL 16...	0925	46	18.0	16.0
03...	0930	539	5.0	3.0	AUG 31...	1205	29	23.0	18.0
MAR 19...	1340	246	10.0	8.0					
01603000 NB POTOMAC R NR CUMBERLAND, MD (LAT 39 37 16N LONG 078 46 24W)									
OCT 1986					JUN 1987				
03...	1230	491	22.0	21.0	10...	1245	471	22.0	18.0
DEC 23...	1400	691	2.0	2.5	JUL 16...	1035	348	20.0	18.0
FEB 1987					AUG 12...	1300	284	29.0	25.0
03...	1210	1790	5.0	4.0	31...	1300	292	25.0	21.0
MAR 19...	1425	1000	12.0	9.0					
APR 29...	1135	1280	10.0	9.0					
01610000 POTOMAC R AT PAW PAW, WV (LAT 39 32 13N LONG 078 27 28W)									
OCT 1986					MAY 1987				
30...	1000	1890	14.0	12.0	29...	1040	3370	25.0	16.0
DEC 22...	1145	2960	0.0	3.0	JUN 29...	0920	858	22.0	20.0
JAN 1987					JUL 08...	1035	769	25.0	20.0
29...	0855	2830	-3.0	0.5	30...	1125	510	27.0	24.0
MAR 24...	1440	2150	14.0	8.0	AUG 13...	1130	473	27.0	25.0
26...	1040	2590	8.0	6.0	28...	1005	563	24.0	22.0
APR 27...	1130	8990	12.0	9.0					
01613000 POTOMAC R AT HANCOCK, MD (LAT 39 41 49N LONG 078 10 39W)									
OCT 1986					MAY 1987				
02...	1340	710	30.0	23.0	29...	0845	3240	19.0	14.0
30...	1055	851	17.0	14.0	JUN 09...	0925	1760	19.0	18.0
DEC 19...	0930	2650	4.0	4.0	29...	1020	1330	24.0	21.0
JAN 1987					JUL 30...	0925	568	18.0	23.0
29...	1000	--	-3.0	0.5	AUG 28...	1110	701	27.0	23.0
MAR 26...	0845	2860	6.0	7.0	SEP 02...	1355	576	22.0	20.0
APR 27...	0940	11600	8.0	7.0					
01614500 CONOCOCHIEGUE C AT FAIRVIEW, MD (LAT 39 42 29N LONG 077 50 00W)									
OCT 1986					APR 1987				
01...	1045	80	25.0	21.0	28...	1005	552	8.0	6.0
NOV 18...	1055	107	10.0	6.0	JUN 08...	1005	285	25.0	20.0
DEC 22...	0930	414	-5.0	3.0	JUL 15...	1125	285	22.0	17.0
FEB 1987					SEP 01...	1050	85	23.0	19.0
02...	1050	402	8.0	4.0					
MAR 16...	1125	461	8.0	6.0					

TEMPERATURE MEASUREMENTS AT GAGING STATIONS  
WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)	
POTOMAC RIVER BASIN--Continued										
		01617800	MARSH RUN AT GRIMES, MD (LAT 39 30 53N LONG 077 46 38W)							
OCT 1986					APR 1987					
01...	1225	0.82	28.0	22.0	28...	1300	13	12.0	8.0	
NOV					JUN					
18...	1250	1.2	10.0	8.0	08...	1205	7.0	28.0	21.0	
DEC					JUL					
19...	1435	5.5	6.0	5.0	15...	1300	6.1	22.0	16.0	
FEB 1987					SEP					
02...	1225	7.4	8.0	5.0	01...	1300	1.2	25.0	19.0	
MAR										
16...	1455	9.7	9.0	5.0						
		01618000	POTOMAC R AT SHEPHERDSTOWN, WV (LAT 39 26 04N LONG 077 48 07W)							
OCT 1986					APR 1987					
02...	1230	1460	28.0	23.0	28...	1200	13900	10.0	8.0	
NOV					JUN					
18...	1350	1990	10.0	9.0	09...	1140	2740	24.0	22.0	
DEC					JUL					
19...	1150	4320	5.0	3.0	15...	1330	3650	27.0	26.0	
FEB 1987					SEP					
02...	1330	5290	9.0	6.0	02...	1115	813	21.0	19.5	
		01619320	A. POWELL FISH HATCHERY SP. AT BEAVER CREEK, MD. (LAT 39 35 22N LONG 077 38 19)							
APR 1987					JUL 1987					
22...	1350	8.8	28.0	13.0	09...	1050	7.9	32.0	13.5	
MAY					AUG					
05...	1035	8.3	12.0	12.0	24...	1012	6.2	20.5	12.5	
JUN										
02...	1000	8.0	26.5	13.0						
25...	1050	7.3	26.5	13.0						
		01619500	ANTIETAM C NR SHARPSBURG, MD (LAT 39 27 01N LONG 077 43 52W)							
OCT 1986					APR 1987					
01...	1340	92	30.0	21.0	28...	1230	363	12.0	9.0	
NOV					JUN					
18...	1425	96	10.0	9.0	08...	1235	198	29.0	21.0	
DEC					JUL					
19...	1335	286	5.0	6.0	15...	1400	174	27.0	18.0	
FEB 1987					SEP					
02...	1250	224	9.0	5.0	01...	1405	119	24.0	19.0	
		01637500	CATOCTIN C NR MIDDLETOWN, MD (LAT 39 25 35N LONG 077 33 25W)							
NOV 1986					JUN 1987					
03...	1210	12	11.0	10.0	02...	1240	40	25.5	23.5	
19...	1345	14	4.5	6.0	JUL					
DEC					09...	1245	20	31.0	26.5	
04...	1150	64	7.5	5.5	AUG					
FEB 1987					24...	1205	4.1	19.0	18.0	
26...	1050	37	1.0	1.0						
APR										
13...	1145	157	13.0	9.5						
		01639000	MONOCACY R AT BRIDGEPORT, MD (LAT 39 40 43N LONG 077 14 06W)							
OCT 1986					JUN 1987					
06...	1310	9.1	13.5	18.0	24...	1310	31	25.0	27.0	
JAN 1987					AUG					
12...	1350	205	2.5	2.0	19...	1455	3.1	27.0	26.5	
APR										
14...	1400	180	16.0	13.0						

TEMPERATURE MEASUREMENTS AT GAGING STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)
POTOMAC RIVER BASIN--Continued									
01639375 TOMS C AT EMMITSBURG, MD (LAT 39 42 13N LONG 077 20 41W)									
DEC 1986					APR 1987				
03...	1140	255	10.5	7.5	14...	1545	94	16.5	14.5
12...	1155	59	3.0	3.5	JUN				
29...	1050	82	0.5	2.0	09...	1350	23	26.0	21.0
JAN 1987					24...	1105	14	23.5	23.0
12...	1530	38	0.5	3.0					
MAR									
03...	1050	194	5.0	4.5					
01639500 B PIPE C AT BRUCEVILLE, MD (LAT 39 36 45N LONG 077 14 10W)									
OCT 1986					APR 1987				
06...	1035	22	16.0	17.0	14...	1155	99	15.0	11.5
JAN 1987					JUL				
12...	1135	103	4.0	2.5	07...	1120	54	27.0	23.0
MAR					AUG				
02...	1305	420	6.5	5.0	19...	1300	12	22.5	23.0
01640965 HUNTING C NR FOXVILLE, MD (LAT 39 37 10N LONG 077 28 00W)									
OCT 1986					APR 1987				
07...	1142	0.05	11.0	11.0	15...	1145	4.8	8.0	8.5
DEC					JUN				
08...	1150	1.1	8.0	5.5	04...	1105	1.5	19.5	16.0
31...	1115	2.6	2.0	2.5	17...	1250	0.50	23.0	18.0
JAN 1987					JUL				
13...	0945	1.5	1.5	1.0	08...	0915	1.3	22.0	19.0
19...	1335	13	0.5	2.0	AUG				
MAR					20...	1205	0.04	22.0	17.5
03...	1505	12	6.0	5.0					
01640970 HUNTING C TR NR FOXVILLE, MD (LAT 39 37 42N LONG 077 27 44W)									
OCT 1986					JUN 1987				
07...	1230	0.18	11.5	11.0	04...	1310	4.1	19.0	17.0
DEC					17...	1140	1.7	25.0	19.0
23...	1245	3.2	5.0	2.0	JUL				
31...	1215	5.0	1.5	2.0	08...	1048	3.3	--	20.0
MAR 1987					AUG				
03...	1635	18	6.0	3.5	20...	1320	0.22	22.5	21.5
18...	1240	5.8	9.0	4.0					
01641000 HUNTING C AT JIMTOWN, MD (LAT 39 35 40N LONG 077 23 50W)									
OCT 1986					APR 1987				
07...	0930	2.8	10.5	11.5	15...	1000	41	11.0	10.5
DEC					JUN				
08...	1525	13	7.0	7.0	09...	1155	15	22.5	19.0
JAN 1987					17...	1410	8.2	25.5	22.0
13...	1345	21	6.5	4.0	AUG				
MAR					20...	0955	4.2	22.0	20.5
03...	1310	49	9.0	7.5					
01643000 MONOCACY R AT JUG BRIDGE NR FREDERICK, MD (LAT 39 23 16N LONG 077 22 48W)									
DEC 1986					AUG 1987				
16...	1205	554	4.5	2.0	21...	1205	79	25.0	22.5
JUN 1987									
03...	1420	389	26.5	25.0					
01643500 BENNETT C AT PARK MILLS, MD (LAT 39 17 40N LONG 077 24 30W)									
DEC 1986					APR 1987				
09...	1415	41	8.5	7.0	13...	1455	90	15.0	11.0
JAN 1987									
21...	1350	132	3.0	4.0					

TEMPERATURE MEASUREMENTS AT GAGING STATIONS  
WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)		
POTOMAC RIVER BASIN--Continued											
01645000      SENECA C AT DAWSONVILLE, MD (LAT 39 07 41N LONG 077 20 13W)											
OCT 1986	03...	1135	19	--	21.0	JUN 1987	26...	1345	39	21.0	21.5
01645200      WATTS B AT ROCKVILLE, MD (LAT 39 05 03N LONG 077 10 38W)											
OCT 1986	03...	0955	0.25	21.0	20.0	DEC 1986	09...	1000	3.5	8.5	7.5
01648000      ROCK C AT SHERRILL DR WASH, DC (LAT 38 58 21N LONG 077 02 25W)											
OCT 1986	02...	1100	31	26.0	22.0	AUG 1987	13...	1455	7.3	23.5	21.0
JUL 1987	17...	1410	19	25.0	22.5						
01649500      NE B ANACOSTIA R AT RIVERDALE, MD (LAT 38 57 37N LONG 076 55 34W)											
NOV 1986	06...	1115	108	10.0	10.0	JUL 1987	23...	0645	10	26.0	24.0
DEC	08...	1020	34	15.0	6.0						
01651000      NW B ANACOSTIA R NR HYATTSVILLE, MD (LAT 38 57 09N LONG 076 58 00W)											
JUL 1987	21...	1455	7.4	39.0	31.0						
01660920      ZEKIAH SWAMP RN NR NEWTON MD (LAT 38 29 26N LONG 076 55 37W)											
APR 1987	14...	1030	75	17.0	11.0	JUL 1987	14...	0920	13	25.0	24.0
01661050      ST CLEMENT C NR CLEMENTS, MD (LAT 38 20 00N LONG 076 43 31W)											
OCT 1986	07...	1610	0.25	16.0	17.0	APR 1987	13...	1610	17	16.0	15.0
JAN 1987	20...	1140	94	5.0	4.5	JUL	13...	1550	2.4	29.0	26.0
MAR	09...	1530	24	12.0	10.0	AUG	24...	1600	0.28	24.0	22.0
01661500      ST MARYS R AT GREAT MILLS, MD (LAT 38 14 36N LONG 076 30 13W)											
OCT 1986	07...	1245	1.3	15.0	15.0	APR 1987	13...	1300	18	18.0	15.0
JAN 1987	20...	1440	75	5.0	5.5	JUL	13...	1245	5.2	29.0	25.0
MAR	09...	1250	29	13.0	10.0	AUG	24...	1250	1.9	23.0	20.0
01653600      PISCATAWAY C AT PISCATAWAY, MD (LAT 38 42 20N LONG 076 58 00W)											
JAN 1987	21...	1430	63	6.0	5.0	JUL 1987	14...	1330	8.2	30.0	25.0
MAR	10...	1230	85	0.0	7.0	AUG	25...	1130	0.02	23.0	20.0
APR	14...	1430	35	20.0	13.0						

TEMPERATURE MEASUREMENTS AT GAGING STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	TEMPER-ATURE AIR (DEG C)	TEMPER-ATURE WATER (DEG C)	DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	TEMPER-ATURE AIR (DEG C)	TEMPER-ATURE WATER (DEG C)	
MONONGAHELA RIVER BASIN										
		03075500	YOUGHIOGHENY R NR OAKLAND, MD (LAT 39 25 19N LONG 079 25 32W)							
OCT 1986					MAY 1987					
02...	1115	286	19.5	17.5	05...	1300	478	11.5	9.0	
NOV					JUN					
19...	1200	507	3.5	6.0	17...	1355	62	28.0	23.0	
DEC					JUL					
29...	1600	315	3.5	1.0	27...	1300	38	24.0	21.5	
MAR 1987					SEP					
24...	1300	162	20.0	7.5	10...	1150	95	23.0	17.0	
		03076500	YOUGHIOGHENY R AT FRIENDSVILLE, MD (LAT 39 39 13N LONG 079 24 31W)							
OCT 1986					MAY 1987					
06...	1115	598	7.0	16.0	07...	1005	526	11.0	8.0	
NOV					JUN					
19...	1030	780	-3.0	5.0	18...	1105	105	25.0	19.0	
JAN 1987					JUL					
06...	1115	31	-6.5	0.0	28...	1125	68	26.0	24.0	
FEB					SEP					
10...	1040	450	-5.0	1.0	10...	0905	19	13.0	17.0	
MAR										
25...	1000	300	19.0	12.0						
		03076600	BEAR C AT FRIENDSVILLE, MD (LAT 39 39 22N LONG 079 23 41W)							
OCT 1986					JUN 1987					
06...	1235	238	8.5	16.0	18...	1300	12	23.0	19.0	
NOV					JUL					
18...	1230	73	12.0	6.0	28...	1300	6.6	27.0	21.0	
JAN 1987					31...	1005	3.6	21.0	19.5	
06...	1400	--	-1.0	0.0	SEP					
MAR					10...	1005	12	14.0	16.0	
25...	1230	48	15.0	7.0						
MAY										
07...	1130	80	12.0	8.0						
		03078000	CASSELMAN R AT GRANTSVILLE, MD (LAT 39 42 08N LONG 079 08 12W)							
OCT 1986					MAY 1987					
03...	1330	47	21.0	19.0	05...	0850	176	4.0	6.0	
NOV					JUN					
18...	1430	82	4.0	5.0	19...	0830	11	21.0	18.0	
JAN 1987					JUL					
05...	1300	50	-1.0	0.0	28...	1430	8.2	28.0	26.0	
FEB					SEP					
10...	1120	--	-2.0	0.5	09...	1015	55	20.0	17.0	
MAR										
23...	1055	--	7.0	4.0						

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low-flow or floodflow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Records collected at partial-record stations are presented in three tables. The first is a table of discharge measurements at low-flow partial-record stations, the second is a table of annual maximum stage and discharge at crest-stage stations, and the third is a table of annual maximum stage for tidal crest-stage stations.

#### Low-flow partial-record stations

Measurements of streamflow in the area covered by this report made at low-flow partial-record stations are given in the following table. These measurements were made during periods of base flow when streamflow is primarily from ground-water storage. These measurements, when correlated with the simultaneous discharge of a nearby stream when continuous records are available, will give a picture of the low-flow potentiality of a stream. The column headed "Period of record" shows the water years in which measurements were made at the same, or practically the same, site.

#### Discharge measurements made at low-flow partial-record stations during water year 1987

Station No.	Station Name	Location	Drainage area (mi <sup>2</sup> )	Period of record	Measurements	
					Date	Discharge (ft <sup>3</sup> /s)
INDIAN RIVER BASIN						
01484510	Sheep Pen Ditch near Shortly, De.	Lat 38°36'21", long 75°21'29", Sussex County, Hydrologic Unit 02060010 at bridge on road no. 432, 2.0 mi east of Shortly, and 3.8 mi upstream from mouth at Millsboro Pond.	5.4	1986-87	6- 2-87	5.85
01484530	Iron Branch at Millsboro, De.	Lat 38°34'40", long 75°17'19", Sussex County, Hydrologic Unit 02060010, at bridge on U.S. Highway 113, at Millsboro, 1.1 mi upstream from Whartons Branch, and 1.4 mi upstream from mouth.	8.0	1985-87	6- 2-87	4.71
01484531	Whartons Branch near Millsboro, De.	Lat 38°33'42", long 75°16'30", Sussex County, Hydrologic Unit 02060010, at bridge on U.S. Highway 113, 2.2 mi southeast of Millsboro, and 1.7 mi upstream from mouth.	5.8	1968-69, 1971, 1985-87	6- 2-87	2.66
01484535	Swan Creek near Warwick, De.	Lat 38°36'49", long 75°15'19", Sussex County, Hydrologic Unit 02060010, at bridge on road No. 304, 0.6 mi upstream from Waples Pond, 1.5 mi northwest of Warwick, and 2.3 miles upstream from mouth.	7.2	1985-87	6- 2-87	6.32
01484550	Pepper Creek at Dagsboro, De.	Lat 38°32'50", long 75°14'40", Sussex County, Hydrologic Unit 02060010, at bridge on State Highway 26, at Dagsboro, and 3.5 mi upstream from mouth.	8.78	1955-71, 1985-87	6- 2-87	5.37
01484600	Blackwater Creek near Clarksville, De.	Lat 38°32'43", long 75°09'49", Sussex County, Hydrologic Unit 02060010, at bridge on State Highway 54, 1.0 mi west of Clarksville, and 3.1 mi upstream from mouth.	3.5	1968-69*, 1971*, 1985-87	6- 3-87	1.42
01484655	Love Creek at Robinsonville, De.	Lat 38°43'03", long 75°11'14", Sussex County, Hydrologic Unit 02060010, at bridge on road No. 277, 0.4 mi northeast of Robinsonville, and about 2.8 mi upstream from mouth.	12	1985-87	6- 2-87	10.4

\* Drainage area was published as 4.5 sq mi.

## DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

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Discharge measurements made at low-flow partial-record stations during water year 1987

Station No.	Station Name	Location	Drainage area (mi <sup>2</sup> )	Period of record	Measurements	
					Date	Discharge (ft <sup>3</sup> /s)
INDIAN RIVER BASIN--Continued						
01484677	Chapel Branch at Angola, De.	Lat 38°40'18", long 75°11'10", Sussex County, Hydrologic Unit 02060010, at bridge on State Highway 24, at Angola, and 0.3 mi upstream from mouth.	8.0	1985-87	6- 2-87	7.75
DIRICKSON CREEK BASIN						
01484700	Bearhole Ditch at Bunting, De.	Lat 38°28'17", long 75°09'22", Sussex County, Hydrologic Unit 02060010, at culverts on road No. 390A, 0.6 mi north of Bunting, 3.7 mi east of Selbyville, and 1.6 mi upstream from mouth.	6.4	1968-71*, 1985-87	6- 2-87	4.16
CHOPTANK RIVER BASIN						
01490550	Choptank River near Choptank Mills, De.	Lat 39°03'15", long 75°44'05", Kent County, Hydrologic Unit 02060005, at bridge on road No. 211, near Choptank Mills, 2.2 mi southeast of Henderson, Md., 1.5 mi downstream from mud millpond, and about 66 mi upstream from mouth.	58	1985-87	6-15-87	18.7

\* Drainage area was published as 6.2 sq mi.

## DISCHARGE AT PARTIAL-RECORDS STATIONS AND MISCELLANEOUS SITES

## Crest-stage partial-record stations

The following table contains annual maximum discharges for crest-stage stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain, but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained, but is not published herein. The years given in the period of record represent water years for which the annual maximum has been determined.

Annual maximum discharge at crest-stage partial-record stations during water year 1987

Station No.	Station Name	Location	Drainage area (mi <sup>2</sup> )	Period of record	Annual Maximum		
					Date	Gage height (ft)	Dis-charge (ft <sup>3</sup> /s)
DELAWARE RIVER BASIN							
01478040	Christina River near Bear, DE	Lat 39°38'12", long 75°40'53", New Castle County, Hydrologic Unit 02040205, on right bank 500 ft upstream from highway bridge, 1.3 mi northwest of Bear, 1.6 mi downstream from Belltown Run, and 17.7 mi upstream from mouth.	40.6	1979-82#, 1983-87	12-25-86	9.25	1,700
INDIAN RIVER BASIN							
*01484531	Whartons Branch near Millsboro, De.	Lat 38°33'42", long 75°16'30", Sussex County, Hydrologic Unit 02060010, at bridge on U. S. Highway 113, 1.7 mi upstream from mouth, and 2.2 mi southeast on Millsboro.	5.8	1986-87	3- 1-87	3.50	113
*01484600	Blackwater Creek near Clarksville, De.	Lat 38°32'43", long 75°09'49", Sussex County, Hydrologic Unit 02060010, at bridge on State Highway 54, 1.0 mi west of Clarksville, and 3.1 mi upstream from mouth.	3.5	1986-87	2-23-87 <del>1-26-86</del>	3.84 <del>3.71</del>	76 <del>71</del>

*fixed*

≠ Operated as a continuous-record station.

\* Operated as a low-flow partial-record station

## Annual maximum discharge at crest-stage partial-record stations during water year 1987

## Tidal crest-stage partial-record stations

The following table contains annual maximum stages for tidal crest-stage stations. The information is obtained from a crest-stage gage or a water-stage recorder located at each site. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. All stages are elevations above National Geodetic Vertical Datum of 1929. Only the maximum stage is given. Information on some other high stages may have been obtained but is not published herein. The years given in the period of record represent water years for which the annual maximum has been determined.

## Annual maximum stage at tidal crest-stage partial-record stations during water year 1987

Station No.	Station Name	Location	Period of Record	Annual Maximum	
				Date	Elevation, in feet NGVD
SMYRNA RIVER BASIN					
01483335	Duck Creek at Smyrna, DE	Lat 39°18'31", long 75°36'34", Kent County, Hydrologic Unit 02040207, at bridge on U.S. Highway 13, at north edge of Smyrna, 2 mi north of intersection of State Highway 300 and U.S. Highway 13 on downstream right wingwall of bridge.	1966-87	12- 2-86	4.50
MURDERKILL RIVER BASIN					
01484085	Murderkill River at Bowers, DE	Lat 39°03'30", long 75°23'51", Kent County, Hydrologic Unit 02040207, at Faulkner's Landing in Bowers, on left bank 10 ft southeast of southeast corner of restaurant on Faulkner's Pier.	1966-87	12- 2-86	6.81
CEDAR CREEK BASIN					
01484235	Cedar Creek near Slaughter Beach, DE	Lat 38°56'06", long 75°19'26", Sussex County, Hydrologic Unit 02040207, at bridge No. S-164 on State Highway 36, 1.8 mi northwest of Slaughter Beach.	1966-87	12- 2-86	5.03
INDIAN RIVER BASIN					
01484549	Vines Creek near Dagsboro, DE	Lat 38°33'23", long 75°12'13", Sussex County, Hydrologic Unit 02060010, on right bank at upstream side of bridge on State Highway 26, 2.4 mi east of Dagsboro and 3.8 mi upstream from the confluence with Indian River at Indian River Bay.	1985-87	1- 1-87	4.16
01484595	Indian River at Oak Orchard, DE	Lat 38°35'45", long 75°10'24", Sussex County, Hydrologic Unit 02060010, at Hanes Landing, 2.0 mi southeast of intersection of State Highways 24 and 5, at Oak Orchard.	1966-87	1- 1-87	4.30
01484670	Rehoboth Bay at Dewey Beach, DE	Lat 38°41'40", long 75°05'05", Sussex County, Hydrologic Unit 02060010, on north shore of Rehoboth Bay at Head of Bay Cove, at Dewey Beach and at south end of Ventian Drive on bulkhead of a boat slip.	1985-87	1- 2-87	3.39

## STREAMS TRIBUTARY TO POTOMAC RIVER

## Potomac River basin low-flow investigations

Base-flow discharge measurements were made throughout Washington County as part of a water-availability study in cooperation with Washington County and the Maryland Geological Survey. The data collected in these measurements, along with that already collected, will provide the basis for determining the base-flow yields throughout the county.

Weather records at Hagerstown, in the eastern portion of the area, and Hancock, in the western part of the area, were used to check periods prior to measurements for rainfall. Measurements are considered to represent base flow except as indicated.

The measurements on each stream are listed in order proceeding downstream, and each tributary is inserted in the order in which it enters the main stream. Drainage areas were determined from recent U.S. Geological Survey topographic maps of a scale of 1:24,000 and contour interval of 10 to 20 ft. Previous series of measurements were made as indicated.

## Discharge measurements of tributaries to the Potomac River in Washington County, MD

Station No.	Station Name	Location	Drainage area (mi <sup>2</sup> )	Measured previously (water years)	Date of measurement	Measured discharge (ft <sup>3</sup> /s)	Cfs per square mile
01610150*	Bear Creek at Forest Park, Md.	Lat 39°42'07", long 78°19'02", Washington County, Hydrologic Unit 02070004, at upstream side of culvert on U.S. Highway 40, 0.2 mi upstream from mouth, and 0.9 mi west of Forest Park.	10.4	1985-86	10- 2-86 10-30-86	0.03 .09	0.003 .009
01610170	Potomac River Tributary at Woodmont, Md.	Lat 39°37'55", long 78°18'33", Washington County, Hydrologic Unit 02070004, upstream side of culvert on Pearre Road, 0.1 mi upstream from mouth, and 0.2 mi west of Woodmont Road intersection.	3.29	1985-86	10- 2-86 10-30-86	.03 .06	.009 .018
01613100	Tonoloway Creek at Hancock, Md.	Lat 39°41'55", long 78°09'15", Washington County, Hydrologic Unit 02070004, on Raylock Road directly under westbound Interstate 70 bridge at Hancock, and 0.6 mi upstream from mouth.	113	1985-86	10- 2-86 10-30-86	2.46 4.19	.022 .037
01613540	Lanes Run near Forsythe, Md.	Lat 39°39'50", long 78°00'08", Washington County, Hydrologic Unit 02070004, at bridge on Little Cove Road, 1.2 mi north of Indian Springs, and 2.4 mi upstream from mouth.	9.98	1980-82, 1985-86	10- 7-86 10-30-86	.45 .50	.045 .050
01613545	Licking Creek near Pecktonville, Md.	Lat 39°39'05", long 78°02'47", Washington County, Hydrologic Unit 02070004, at westbound Interstate 70 bridge, 0.3 mi upstream from mouth, and 1.25 mi south of Pecktonville.	212	1985-86	10- 7-86 10-30-86 3-24-87	18.2 13.7 111	.086 .065 .524
01614050	Little Conococheague Creek near Charlton, Md.	Lat 39°35'17", long 77°34'38", Washington County, Hydrologic Unit 02070004, at bridge on Dam #5 Road, 0.1 mi upstream from mouth, and 2.0 mi south of Charlton.	18.1	1985-86	10- 3-86 10-31-86 3-24-87	1.94 2.16 8.11	.107 .119 .448
01614525	Rockdale Run at Fairview, Md.	Lat 39°42'07", long 77°50'45", Washington County, Hydrologic Unit 02070004, at bridge on Rockdale Road, 0.7 mi south of Fairview, and 1.7 mi upstream from mouth.	9.67	1976-79, 1981-82, 1985-86	10- 7-86	2.08	.215
01614575	Rush Run near Huyett, Md.	Lat 39°40'23", long 77°47'37", Washington County, Hydrologic Unit 02070004, at bridge on State Highway 63, 1.5 mi north of Huyett, and 1.9 mi upstream from mouth.	5.20	1976-79, 1981-82, 1985-86	10- 7-86	.68	.131

\* Also a crest-stage partial-record station.

## Discharge measurements of tributaries to the Potomac River in Washington County, MD

Station No.	Station Name	Location	Drainage area (mi <sup>2</sup> )	Measured previously (water years)	Date of measurement	Measured discharge (ft <sup>3</sup> /s)	Cfs per square mile
01614625	Meadow Brook at Conococheague, Md.	Lat 39°38'55", long 77°51'19", Washington County, Hydrologic Unit 02070004, at bridge on Ridge Road, 0.7 mi southwest of Conococheague, and 2.1 mi upstream from mouth.	6.77	1976-79, 1981-82, 1985-86	10- 7-86 10-31-86	0.51 .35	0.075 .052
01614675	Conococheague Creek tributary near Huyett, Md.	Lat 39°37'39", long 77°48'43", Washington County, Hydrologic Unit 02070004, at bridge on light-duty road, 0.4 mi upstream from mouth, and 1.9 mi south of Huyett.	7.94	1977-79, 1981-82, 1985-86	10- 7-86	.056	.007
01614705	Conococheague Creek at Williamsport, Md.	Lat 39°36'29", long 77°49'09", Washington County, Hydrologic Unit 02070004, downstream side of Western Maryland Railroad bridge at Williamsport, 0.9 mi upstream from mouth.	564	1985-86	10- 3-86 10-31-86 3-24-87	117 91.0 384	.207 .161 .681
01617780	St. James Run at Spielman, Md.	Lat 39°33'03", long 77°45'52", Washington County, Hydrologic Unit 02070004, at bridge on Jordan Road, 0.9 mi north of Spielman, and 1.0 mi upstream from Marsh Run.	7.14	1977-79, 1981-82, 1985-86	10- 7-86 10-31-86	1.67 1.68	.234 .235
01619050	Little Antietam Creek at Leitersburg, Md.	Lat 39°40'57", long 77°37'44", Washington County, Hydrologic Unit 02070004, at bridge on State Highway 62, 0.4 mi upstream from mouth, and 0.8 mi southwest of Leitersburg.	24.5	1976-79, 1981-82, 1985-86	10- 8-86	5.54	.226
01619150	Marsh Run at Fiddlesburg, Md.	Lat 39°39'29", long 77°41'16", Washington County, Hydrologic Unit 02070004, at bridge on Old Forge Road at Fiddlesburg, 0.5 mi east of Hagerstown city limits, and 0.6 mi above mouth.	a31	1965-74, 1976-79, 1985-86	10- 8-86	1.49	.048
01619275	Landis Spring Branch near Benevola, Md.	Lat 39°34'17", long 77°41'23", Washington County, Hydrologic Unit 02070004, at bridge on U.S. Highway 40, 100 ft upstream from mouth, and 1.9 mi northwest of Benevola.	6.60	1976-79, 1981-82, 1985-86	10- 8-86	.76	.115
01619325	Beaver Creek at Benevola, Md.	Lat 39°33'04", long 77°40'55", Washington County, Hydrologic Unit 02070004, at bridge on light-duty road at Benevola, and 0.4 mi upstream from Little Beaver Creek.	22.9	1975-79, 1985-86	10- 8-86	11.1	.485
01619350	Little Beaver Creek at Benevola, Md.	Lat 39°32'48", long 77°40'39", Washington County, Hydrologic Unit 02070004, at bridge on U.S. Highway 40 (Alternate) at Benevola, and 0.2 mi upstream from Beaver Creek.	8.70	1975-79, 1985-86	10- 8-86	2.69	.309
01619480	Little Antietam Creek at Keedysville, Md.	Lat 39°29'10", long 77°42'05", Washington County, Hydrologic Unit 02070004, at bridge on Koffman Lane at Keedysville, and 1.2 mi upstream from mouth.	a24	1964-67, 1976-79, 1985-86	10- 8-86	4.51	.188
01636730	Israel Creek at Weverton, Md.	Lat 39°19'45", long 77°41'03", Washington County, Hydrologic Unit 02070004, at bridge on light-duty road at Weverton, and 0.1 mi upstream from mouth.	13.2	1975-79, 1985-86	10- 2-86 10-30-86	.42 .66	.032 .050

a Approximately.

## Laurel Run seepage investigations--Headwaters to mouth, Garrett County, MD

One series of discharge measurements was made during the 1987 water year, on July 21, on Laurel Run and its tributaries in Maryland, to study the effects of underground coal mining on channel gains and losses. The reach is 4.62 mi in length and extends from its mouth near Wilson, Md., to its headwaters. The measurements were made during a period of base flow; for 5 days before the investigation no measurable precipitation had fallen. Tributary flow was considered a contribution and not a gain. Indicated gains or losses may be substantially in error as affected by small inaccuracies in open-channel measurements. Previous series of measurements were made in the 1981, 1983, and 1984 water years.

Laurel Run mile	Stream	Location	Meas. discharge (ft <sup>3</sup> /s)	Gain or loss	Water temp. (°C)	pH (units)	Conduc- tivity (micro- siemens)
July 21, 1987							
4.62	Kempton mine bore hole	Lat 39°13'17", long 79°28'43", Garrett Co., 1.0 mi north- east of Kempton.	1.37	-	10.5	3.33	1040
4.54	Laurel Run	Lat 39°13'18", long 79°28'38", Garrett Co., 1.05 mi north- east of Kempton.	3.25	-	22.5	3.02	1100
3.69	Laurel Run	Lat 39°13'39", long 79°27'50", Garrett Co., 1.8 mi north- east of Kempton.	3.43	+0.18	27.5	3.03	1250
3.64	Laurel Run tributary	Lat 39°13'41", long 79°27'49", Garrett Co., at mouth.	.01	-	19.0	6.65	32
3.48	....do....	Lat 39°13'44", long 79°27'39", Garrett Co., at mouth.	.03	-	19.0	6.58	67
2.70	Laurel Run	Lat 39°14'14", long 79°27'02", Garrett Co., 2.8 mi north- east of Kempton.	3.21	-.26	22.5	2.80	1290
2.60	Chestnut Ridge Run	Lat 39°14'18", long 79°27'02", Garrett Co., at mouth.	.10	-	18.5	6.01	74
2.32	Laurel Run tributary	Lat 39°14'12", long 79°26'41", Garrett Co., at mouth.	.02	-	18.5	6.08	103
2.30	Laurel Run	Lat 39°14'14", long 79°26'38", Garrett Co., 3.0 mi north- east of Kempton.	3.99	+.66	22.5	2.80	1150
2.10	....do....	Lat 39°14'43", long 79°26'30", Garrett Co., 3.2 mi north- east of Kempton.	3.03	-.96	22.0	2.82	1270
1.67	Dutch Run	Lat 39°14'42", long 79°26'00", Garrett Co., at mouth.	< .01	-	20.5	5.60	260
1.67	Laurel Run	Lat 39°14'42", long 79°26'00", Garrett Co., below confluence with Dutch Run.	2.87	-.16	22.0	2.82	1280
1.18	Laurel Run	Gaging station near Wilson (01594930).	3.92	+1.05	22.0	2.87	1190
.63	....do....	Lat 39°14'52", long 79°25'09", Garrett Co., 4.6 mi north- east of Kempton.	3.29	-.63	25.5	2.84	1230
.10	....do....	Lat 39°14'47", long 79°24'42", Garrett Co., at mouth.	3.10	-.19	26.5	2.83	1230
		Overall net gain or loss		-.31			

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Sand Run seepage investigations--Headwaters to Wilson, MD

One series of discharge measurements was made during the 1987 water year, on July 20, on Sand Run and its tributaries in Maryland, to study the effects of underground coal mining on channel gains and losses. The reach is 2.60 mi in length along the North Fork of Sand Run and 2.40 mi in length along the South Fork of Sand Run and extends from the headwaters to .1 mi upstream from the mouth. The measurements were made during periods of base flow; for 4 days before the investigation no measurable precipitation had fallen. Tributary flow was considered a contribution and not a gain. Indicated gains or losses may be substantially in error as affected by small inaccuracies in open-channel measurements. Previous series of measurements were made in the 1981, 1983, and 1984 water years.

Run mile	Stream	Location	Meas. discharge (ft <sup>3</sup> /s)	Gain or loss	Water temp. (°C)	pH (units)	Conduc- tivity (micro- siemens)
July 20, 1987							
1.81	North Fork Sand Run	Lat 39°16'35", long 79°25'56", Garrett Co., 2.4 mi north- west of Wilson.	0.08	-	19.0	7.08	28
1.38	North Fork Sand Run tributary	Lat 39°16'19", long 79°25'27", Garrett Co., 1.9 mi north- west of Wilson.	.01	-	11.0	6.25	2600
1.38	North Fork Sand Run	Lat 39°16'19", long 79°25'36", Garrett Co., 1.9 mi north- west of Wilson.	.18	+ .09	16.5	6.40	1160
.43	....do....	Lat 39°15'55", long 79°24'42", Garrett Co., 1.1 mi north- west of Wilson.	.39	+ .21	21.5	6.56	1550
.05	....do....	Gaging station nr. Wilson (01594936).	.46	+ .07	22.0	6.71	1485
		Overall net gain or loss North Fork Sand Run		+ .37			
1.75	South Fork Sand Run	Lat 39°15'58", long 79°26'13", Garrett Co., 2.2 mi north- west of Wilson.	.01	-	19.0	8.07	275
1.15	....do....	Lat 39°15'34", long 79°25'44", Garrett Co., 1.6 mi north- west of Wilson.	.01	+ .00	19.0	8.57	330
.90	....do....	Lat 39°15'26", long 79°25'29", Garrett Co., 1.3 mi north- west of Wilson.	.02	+ .01	22.0	7.77	370
.48	....do....	Gaging station near Wilson (01594934).	.01	- .02	25.0	7.19	1575
		Overall net gain or loss South Fork Sand Run		- .01			
.75	Sand Run	Lat 39°15'30", long 79°24'34", Garrett Co., .65 mi north- west of Wilson.	.50	+ .04	21.3	6.78	1500
.45	....do....	Lat 39°15'21", long 79°24'25", Garrett Co., 0.4 mi north- west of Wilson (01594942).	.48	- .02	24.3	7.41	1540
.10	....do....	Lat 39°15'13", long 79°24'04", Garrett Co., 0.2 mi west of Wilson.	.52	+ .04	23.9	7.20	1560
		Overall net gain or loss		+ .43			

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## Shields Run and McMillan Fork seepage investigations--Headwaters to mouth, Garrett County, MD

One series of discharge measurements was made during the 1987 water year, on July 22, on Shields Run and McMillan Fork and their tributaries in Maryland, to document channel gains and losses. The reach on Shields Run is 1.95 mi in length and extends from its mouth near Wilson, Md., to its headwaters. The reach on McMillan Fork is 1.45 mi in length and extends from its mouth near Fort Pendleton, Md., to its headwaters. The measurements were made during a period of base flow; for 6 days before the investigation no measurable precipitation had fallen. Tributary flow was considered a contribution and not a gain. Indicated gains or losses may be substantially in error as affected by small inaccuracies in open-channel measurements. No seepage investigations had previously been conducted on this basin.

Run mile	Stream	Location	Meas. discharge (ft <sup>3</sup> /s)	Gain or loss	Water temp. (°C)	pH (units)	Conduc- tivity (micro- siemens)
July 22, 1987							
1.45	McMillan Fork	Lat 39°17'03", long 79°24'43", Garrett Co., 2.2 mi north of Wilson.	0.12	-	18.0	4.84	335
1.35	McMillan Fork tributary	Lat 39°16'55", long 79°24'40", Garrett Co., at mouth.	Dry				
1.30	McMillan Fork	Lat 39°16'54", long 79°24'38", Garrett Co., 2.0 mi north of Wilson.	.07	- .05	17.5	4.84	315
1.10	....do....	Lat 39°16'54", long 79°24'26", Garrett Co., 1.8 mi north of Wilson.	.17	+ .10	19.5	5.66	222
.95	McMillan Fork tributary	Lat 39°16'44", long 79°24'18", Garrett Co., 1.7 mi north of Wilson.	< .01	-	16.5	5.31	50
.80	....do....	Lat 39°16'37", long 79°24'14", Garrett Co., at mouth.	Dry				
.75	McMillan Fork	Lat 39°16'37", long 79°24'10", Garrett Co., 1.6 mi north of Wilson.	.17	+ .00	18.5	5.98	160
.60	....do....	Lat 39°16'35", long 79°23'55", Garrett Co., 1.5 mi north of Wilson.	.21	+ .04	18.5	6.09	145
.20	....do....	Lat 39°16'33", long 79°23'40", Garrett Co., 1.5 mi north of Wilson.	.22	+ .01	18.0	6.22	132
.05	....do....	Gaging station near Fort Pen- dleton (01594950).	.23	+ .01	19.5	6.47	128
		Overall net gain or loss McMillan Fork		+ .11			
1.95	Shields Run	Lat 39°17'36", long 79°24'04", Garrett Co., 2.5 mi north of Wilson.	.04	-	20.0	6.85	21
1.80	....do....	Lat 39°17'19", long 79°23'57", Garrett Co., 2.3 mi north of Wilson.	.05	+ .01	20.0	6.80	24
1.60	....do....	Lat 39°17'11", long 79°23'49", Garrett Co., 2.2 mi north of Wilson.	.10	+ .05	18.5	6.77	35
1.40	....do....	Lat 39°17'02", long 79°23'41", Garrett Co., 2.0 mi north of Wilson.	.11	+ .01	22.5	6.79	33
1.25	....do....	Lat 39°16'55", long 79°23'33", Garrett Co., 1.9 mi north of Wilson.	.07	- .04	25.0	6.80	60
1.20	Aronhalt Fork	Lat 39°16'53", long 79°23'31", Garrett Co., at mouth.	.15	-	21.0	6.67	240
1.00	Shields Run	Lat 39°16'45", long 79°23'26", Garrett Co., 1.8 mi north of Wilson.	.20	- .02	23.5	6.78	172

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## Shields Run and McMillan Fork seepage investigations--Headwaters to mouth, Garrett County, MD

Run mile	Stream	Location	Meas. discharge (ft <sup>3</sup> /s)	Gain or loss	Water temp. (°C)	pH (units)	Conduc- tivity (micro- siemens)
July 22, 1987							
.85	Shields Run	Lat 39°16'38", long 79°23'26", Garrett Co., 1.7 mi north of Wilson.	.14	- .06	25.0	6.81	173
		Overall net gain or loss upper Shields Run.		- .05			
.70	Shields Run main stem	Lat 39°16'35", long 79°23'21", Garrett Co., 1.6 mi north- east of Wilson.	.49	+ .12	20.5	6.96	162
.55	....do....	Lat 39°16'28", long 79°23'15", Garrett Co., 1.5 mi north- east of Wilson.	.36	- .13	20.5	7.00	165
.40	....do....	Lat 39°16'23", long 79°23'09", Garrett Co., 1.4 mi north- east of Wilson.	.61	+ .25	25.0	7.02	162
.25	....do....	Lat 39°16'18", long 79°22'58", Garrett Co., 1.6 mi north- east of Wilson.	.60	- .01	21.0	7.07	158
.05	....do....	Lat 39°16'18", long 79°22'47", Garrett Co., at mouth.	.51	- .09	20.5	7.02	156
		Overall net gain or loss Shields Run and McMillan Fork		+ .20			

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Water-quality partial-record stations are particular sites where chemical-quality, biological, and/or sediment data are collected systematically over a period of years for use in hydrologic analyses. The data are collected usually less than quarterly. Samples collected at sites other than gaging stations and partial-record stations to give better areal coverage in a river basin are referred to as miscellaneous sites.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

HERRING CREEK BASIN

383924075125501 - PHILLIPS B AT FAIRMOUNT, DE

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)	HARD- NESS AS (MG/L CACO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO
OCT 30...	1330	81	6.00	20.5	16.0	19	8	4.9	1.7	7.9	44	0.8

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)
OCT 30...	2.0	12	5.9	9.1	21	59	2.80	<0.010	0.20	<0.010	16

383930075123101 - PHILLIPS B NR FAIRMOUNT, DE

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)	HARD- NESS AS (MG/L CACO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
OCT 30...	1330	93	5.83	20.5	16.0	21	10	5.3	1.9

DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SIO2)
OCT 30...	7.9	42	0.8	1.8	12	6.7	9.6	21

DATE	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)
OCT 30...	61	3.10	0.030	0.04	0.27	0.30	<0.010	45

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

## CHESTER RIVER BASIN

## 392046075443401 - EPHEMERAL POND 1 NR VANDYKE, DE

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED SATUR- ATION (PER- CENT)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARE WH WAT TOT FLD MG/L AS CACO3
JUL 17...	1130	48	4.76	23.5	23.0	769	5.0	58	11	9

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
JUL 17...	2.6	1.1	1.6	20	0.2	2.3	28	4.4	2.3	45

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	IRON, DIS- SOLVED (UG/L AS FE)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)
JUL 17...	0.010	0.03	<0.100	0.050	0.06	2.4	2.4	390	830	42

## 392102075443801 - EPHEMERAL POND 2 NR VANDYKE, DE

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED SATUR- ATION (PER- CENT)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARE WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)
JUL 17...	1500	59	5.17	27.5	28.0	770	2.6	33	19	14	4.8

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)
JUL 17...	1.8	2.2	17	0.2	2.8	26	5.3	3.9	52	<0.010

DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	IRON, DIS- SOLVED (UG/L AS FE)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	ALA- CHLOR TOTAL RECOVER (UG/L)	AME- TRYNE TOTAL
JUL 17...	<0.100	0.070	0.09	2.4	2.5	310	1800	40	<0.10	<0.10

DATE	ATRA- ZINE, TOTAL (UG/L)	CYAN- AZINE TOTAL (UG/L)	METOLA- CHLOR WATER WHOLE TOT.REC (UG/L)	METRI- BUZIN WATER WHOLE TOT.REC (UG/L)	PROME- TONE TOTAL (UG/L)	PROME- TRYNE TOTAL (UG/L)	PRO- PAZINE TOTAL (UG/L)	SIMA- ZINE TOTAL (UG/L)	SIME- TRYNE TOTAL (UG/L)	TRI- FLURA- LIN TOTAL RECOVER (UG/L)
JUL 17...	<0.10	<0.10	<0.1	<0.1	<0.1	<0.1	<0.10	<0.10	<0.1	<0.10

## ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

## BUSH RIVER BASIN

01581650

- JAMES RUN AT BUSH, MD

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE AIR (DEG C)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
AUG 27...	1200	0.64	214	7.0	23.0	19.0	7.7	70	7	14

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
AUG 27...	8.5	14	29	0.7	2.6	63	20	16	0.10	20

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)
AUG 27...	126	130	0.900	0.030	290	21	90	3	2.7

01581651

- JAMES RUN AB BYNUM RUN AT BUSH, MD

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE AIR (DEG C)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
AUG 27...	1015	0.51	209	7.3	21.0	19.0	7.6	80	15	19

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
AUG 27...	7.9	12	24	0.6	2.6	65	19	16	0.10	10

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)
AUG 27...	136	130	0.800	0.030	500	72	100	86	2.6 /

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

## BUSH RIVER BASIN-Continued

01581671 - HAHA BRANCH NR ABINGDON, MD

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE AIR (DEG C)	TEMPERATURE WATER (DEG C)	BAROMETRIC PRESSURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED SATURATION (%)	HARDNESS AS CaCO3 (MG/L)	HARDNESS NONCARB WH WAT TOT FLD (MG/L AS CaCO3)
APR 30...	1400	0.62	119	6.8	19.0	14.0	761	10.8	105	19	12
AUG 26...	1100	17	102	6.5	21.5	17.5	--	8.5	--	23	8

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNESIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY WH WAT TOTAL FIELD (MG/L AS CaCO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)
APR 30...	4.4	2.0	12	56	1	1.2	7	13	20	<0.10
AUG 26...	5.8	2.1	9.7	45	0.9	2.4	15	17	13	0.20

DATE	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DIS-SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)
APR 30...	6.9	75	64	0.200	0.020	530	170	60	59	--
AUG 26...	6.9	60	66	0.200	0.030	2100	120	60	64	6.2

01581754 - WINTERS RUN NR EDGEWOOD, MD

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE AIR (DEG C)	TEMPERATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARDNESS AS CaCO3 (MG/L)	HARDNESS NONCARB WH WAT TOT FLD (MG/L AS CaCO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
AUG 27...	1430	8.5	136	8.3	29.0	23.0	9.6	46	10	10
AUG 27...	1500	8.5	136	8.3	30.0	23.0	9.3	49	13	11

DATE	MAGNESIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY WH WAT TOTAL FIELD (MG/L AS CaCO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)
AUG 27...	5.1	6.7	23	0.4	2.3	36	10	13	0.10	8.1
AUG 27...	5.3	7.0	23	0.4	2.4	36	9.5	12	0.10	8.5

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DIS-SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)
AUG 27...	88	77	1.30	0.010	250	26	30	18	2.6
AUG 27...	84	77	1.30	0.020	250	23	40	18	2.5

## ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

## BUSH RIVER BASIN-Continued

01581755

- WINTERS RUN AT MD RT 7 NR EDGEWOOD, MD

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE AIR (DEG C)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)
AUG 27...	1345	14	140	7.0	30.0	23.0	9.3	51	14	11

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
AUG 27...	5.6	7.0	22	0.4	2.5	36	10	13	0.10	8.3

DATE	SOLIDS, RESIDUE AT 180 DEG C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)
AUG 27...	89	79	1.30	0.020	340	15	40	31	2.6

## GUNPOWDER RIVER BASIN

01585072

- FOSTER BRANCH AT JOPPATOWNE, MD

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE AIR (DEG C)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, (PER-CENT SATUR-ATION)	HARD-NESS (MG/L AS CACO3)
APR 30...	1000	0.19	214	6.9	13.0	13.0	760	9.9	95	53

DATE	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
APR 30...	23	14	4.3	16	38	1	3.0	30	21	26

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
APR 30...	0.10	5.2	109	110	0.800	0.020	1000	530	100	100

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

PATAPSCO RIVER BASIN

393813076520701 - PRECIPITATION AT GREENMOUNT, MD

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	ARSENIC TOTAL (UG/L AS AS)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)
JUN 04...	1930	37	4.10	20.0	<1	<1	<1	<1	6	<5	<1	<10

01585680 - EAST BRANCH TR AT GREENMOUNT, MD

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)
JUN 04...	1600	125	7.3	20.5	45	20	17	0.70	2.7	11	0.2	1.9
SEP 10...	1100	320	6.6	--	140	77	53	2.5	7.9	10	0.3	5.9

DATE	TIME	ALKA- LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	IODIDE, DIS- SOLVED (MG/L AS I)	BROMIDE DIS- SOLVED (MG/L AS BR)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	ANTI- MONY, TOTAL (UG/L AS SB)	ANTI- MONY, DIS- SOLVED (UG/L AS SB)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)
JUN 04...	25	13	12	0.20	0.003	<0.010	1.2	65	--	<1	3	<1	
SEP 10...	66	66	16	0.20	--	--	2.6	200	1	2	3	4	

DATE	TIME	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS BA)	BORON, TOTAL RECOV- ERABLE (UG/L AS B)	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)
JUN 04...	--	--	--	30	3	<1	32	3	20	<1	3800	70	
SEP 10...	<100	29	160	170	1	1	20	<1	4	<1	250	190	

DATE	TIME	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM TOTAL RECOV- ERABLE (UG/L AS LI)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, TOTAL RECOV- ERABLE (UG/L AS MO)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)
JUN 04...	23	200	<5	--	--	170	<0.10	<0.1	--	5	18	4	
SEP 10...	--	18	5	<10	<4	--	--	--	3	3	26	22	

DATE	TIME	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, TOTAL RECOV- ERABLE (UG/L AS SR)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)	OIL AND GREASE, TOTAL RECOV- GRAVI- METRIC (MG/L)
JUN 04...	--	--	--	--	38	6	6000	1000	11	8.6	0.42	<1	
SEP 10...	<1	<1	<1	80	82	29	2100	2100	--	--	1.3	--	

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

PATAPSCO RIVER BASIN--Continued

01585680 - EAST BRANCH TR AT GREENMOUNT, MD--Continued

DATE	BENZENE TOTAL (UG/L)	BROMO-FORM TOTAL (UG/L)	CARBON-TETRA-CHLORIDE TOTAL (UG/L)	CHLORO-BENZENE TOTAL (UG/L)	CHLORO-DI-BROMO-METHANE TOTAL (UG/L)	CHLORO-ETHANE TOTAL (UG/L)	CHLORO-FORM TOTAL (UG/L)	CIS 1,3-DI-CHLORO-PROPENE TOTAL (UG/L)	DI-CHLORO-BROMO-METHANE TOTAL (UG/L)	DI-CHLORO-FLUORO-METHANE TOTAL (UG/L)	ETHYL-BENZENE TOTAL (UG/L)	METHYL-BROMIDE TOTAL (UG/L)
JUN 04...	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
DATE	METHYL-CHLORIDE TOTAL (UG/L)	METHYL-CHLORIDE TOTAL (UG/L)	STYRENE TOTAL (UG/L)	TETRA-CHLORO-ETHYL-ENE TOTAL (UG/L)	TOLUENE TOTAL (UG/L)	TRANS-1,3-DI-CHLORO-PROPENE TOTAL (UG/L)	TRI-CHLORO-ETHYL-ENE TOTAL (UG/L)	TRI-CHLORO-METHANE TOTAL (UG/L)	VINYL-CHLORIDE TOTAL (UG/L)	XYLENE WATER WHOLE TOT REC (UG/L)	1,1-DI-CHLORO-ETHANE TOTAL (UG/L)	1,1-DI-CHLORO-ETHYL-ENE TOTAL (UG/L)
JUN 04...	<0.20	<0.20	<0.2	0.60	<0.20	<0.20	<0.2	<0.20	<0.20	<0.2	<0.20	<0.20
DATE	1,1,1-TRI-CHLORO-ETHANE TOTAL (UG/L)	1,1,2-TRI-CHLORO-ETHANE TOTAL (UG/L)	1,1,2,2-TETRA-CHLORO-ETHANE TOTAL (UG/L)	1,2-DIBROMO-ETHYL-ENE TOTAL (UG/L)	1,2-DI-CHLORO-BENZENE TOTAL (UG/L)	1,2-DI-CHLORO-ETHANE TOTAL (UG/L)	1,2-DI-CHLORO-PROPANE TOTAL (UG/L)	1,2-TRANSDI-CHLORO-ETHYL-ENE TOTAL (UG/L)	1,3-DI-CHLORO-BENZENE TOTAL (UG/L)	1,3-DI-CHLORO-PROPANE TOTAL (UG/L)	1,4-DI-CHLORO-BENZENE TOTAL (UG/L)	2-CHLORO-ETHYL-VINYL-ETHER TOTAL (UG/L)
JUN 04...	<0.20	<0.20	<0.20	<0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20

01585681 - N CARROLL SHOP. CTR. RET. POND AT GREENMOUNT, MD

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE AIR (DEG C)	TEMPER-ATURE WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM
JUN 01...	1500	216	7.4	30.0	--	96	0	36	1.4	3.3	7
JUN 05...	1300	175	7.3	--	23.0	77	12	29	1.1	2.3	6
DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	IODIDE, DIS-SOLVED (MG/L AS I)	BROMIDE DIS-SOLVED (MG/L AS BR)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	ANTI-MONY, DIS-SOLVED (UG/L AS SB)	ARSENIC TOTAL (UG/L AS AS)
JUN 01...	0.2	2.5	6.6	6.5	<0.10	0.018	<0.010	0.7	120	<1	1
JUN 05...	0.1	1.9	13	6.0	0.20	0.011	<0.010	0.7	93	<1	3
DATE	ARSENIC DIS-SOLVED (UG/L AS AS)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
JUN 01...	<1	20	<1	<1	<1	4	2	1	13	3	20
JUN 05...	<1	<10	<1	<1	5	3	9	<1	63	11	--



WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

SEVERN RIVER BASIN--Continued

385925076321902 - SOIL SAMPLE NR ANNAPOLIS PLAZA POND, ANNAPOLIS, MD

DATE	TIME	OIL AND GREASE, TOT. IN BOT MAT GRAVI-METRIC (MG/KG)	2,4-DP, IN BOTTOM MAT. (UG/KG)	ACE-NAPHTH-ENE BOT.MAT (UG/KG)	ACE-NAPHTH-YLENE BOT.MAT (UG/KG)	ANTHRA-CENE BOT.MAT (UG/KG)	BENZO A ANTHRAC-ENE1,2-BENZANT HRACENE BOT.MAT (UG/KG)	BENZO-A-PYRENE BOT.MAT (UG/KG)	BENZO B FLUOR-AN-THENE BOT.MAT (UG/KG)	BENZOGH I PERYL-ENE1,12-BENZOP-ERYLENE BOT.MAT (UG/KG)	BENZO K FLUOR-AN-THENE BOT.MAT (UG/KG)	BIS (2-CHLORO-ETHOXY) METHANE BOT.MAT (UG/KG)
SEP 01...	1500	<1	<200	<200	<200	<200	<400	<400	<400	<400	<400	<200
DATE		BIS (2-CHLORO-ETHYL) ETHER BOT.MAT (UG/KG)	BIS (2-CHLORO-ISO-PROPYL) ETHER BOT.MAT (UG/KG)	BIS(2-ETHYL-HEXYL) PHTHAL-ATE BOT.MAT (UG/KG)	CHRY-SENE BOT.MAT (UG/KG)	DIETHYL PHTHAL-ATE BOT.MAT (UG/KG)	DI-METHYL PHTHAL-ATE BOT.MAT (UG/KG)	DI-N-BUTYL PHTHAL-ATE BOT.MAT (UG/KG)	DI-N-OCTYL PHTHAL-ATE BOT.MAT (UG/KG)	FLUOR-ANTHENE BOT.MAT (UG/KG)	FLUOR-ENE BOT.MAT (UG/L)	HEXA-CHLORO-BENZENE TOT. IN BOTTOM MATL. (UG/KG)
SEP 01...		<200	<200	<200	<400	<200	<200	<200	<400	<200	<200	<200
DATE		HEXA-CHLORO-BUT-ADIENE BOT.MAT (UG/KG)	HEXA-CHLORO-CYCLO-PENT-ADIENE BOT.MAT (UG/KG)	HEXA-CHLORO-ETHANE BOT.MAT (UG/KG)	INDENO (1,2,3-CD) PYRENE BOT.MAT (UG/KG)	ISO-PHORONE BOT.MAT (UG/KG)	NAPHTH-ALENE BOT.MAT (UG/KG)	N-BUTYL BENZYL PHTHAL-ATE BOT.MAT (UG/KG)	NITRO-BENZENE BOT.MAT (UG/KG)	N-NITRO-SODI-METHY-LAMINE BOT.MAT (UG/KG)	N-NITRO-SODI-N-PROPYL-AMINE BOT.MAT (UG/KG)	N-NITRO-SODI-PHENY-LAMINE BOT.MAT (UG/KG)
SEP 01...		<200	<200	<200	<400	<200	<200	<200	<200	<200	<200	<200
DATE		PARA-CHLORO-META-CRESOL BOT.MAT (UG/KG)	PENTA-CHLORO-PHENOL BOT.MAT (UG/KG)	PHENAN-THRENE BOT.MAT (UG/KG)	PHENOL (C6H-5OH) BOT.MAT (UG/KG)	PYRENE BOT.MAT (UG/KG)	1,2-DI-CHLORO-BENZENE BOT.MAT (UG/KG)	1,2,4-TRI-CHLORO-BENZENE BOT.MAT (UG/KG)	1,2,5,6-DIBENZ-ANTHRA-CENE BOT.MAT (UG/KG)	1,3-DI-CHLORO-BENZENE BOT.MAT (UG/KG)	1,4-DI-CHLORO-BENZENE BOT.MAT (UG/KG)	2-CHLORO-NAPHTH-ALENE BOT.MAT (UG/KG)
SEP 01...		<600	<600	<200	<200	<200	<200	<200	<400	<200	<200	<200
DATE		2-CHLORO-PHENOL BOT.MAT (UG/KG)	2-NITRO-PHENOL BOT.MAT (UG/KG)	2,4-DI-CHLORO-PHENOL BOT.MAT (UG/KG)	2,4-DI-NITRO-PHENOL BOT.MAT (UG/KG)	2,4-DI-NITRO-TOLUENE BOT.MAT (UG/KG)	2,4,6-TRI-CHLORO-PHENOL BOT.MAT (UG/KG)	2,6-DI-NITRO-TOLUENE BOT.MAT (UG/KG)	4-BROMO-PHENYL ETHER BOT.MAT (UG/KG)	4-CHLORO-PHENYL ETHER BOT.MAT (UG/L)	4-NITRO-PHENOL BOT.MAT (UG/KG)	4,6-DINITRO-ORTHO-CRESOL BOT.MAT (UG/KG)
SEP 01...		<200	<200	<200	<600	<200	<600	<200	<200	<200	<600	<600

01589902 - WEEMS C AT ANNAPOLIS, MD

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
AY 01...	1515	185	6.0	12.0	58	42	13	6.2	9.1	24	0.5	3.7
DATE		ALKA-LINITY WE WAT TOTAL FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L AS AS)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)
AY 01...	16	22	21	<0.10	17	100	<1	<0.5	30	<1	<1	<1



## WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

## SEVERN RIVER BASIN--Continued

385925076321902 - SOIL SAMPLE NR ANNAPOLIS PLAZA POND, ANNAPOLIS, MD

DATE	TIME	OIL AND GREASE, TOT. IN BOT.MAT (MG/KG)	2,4-DP, IN BOTTOM MAT. (UG/KG)	ACE-NAPHTHENE BOT.MAT (UG/KG)	ACE-NAPHTHYLENE BOT.MAT (UG/KG)	ANTHRA-CENE BOT.MAT (UG/KG)	BENZO A ANTHRACENE1,2-BENZANTHRACENE BOT.MAT (UG/KG)	BENZO-A-PYRENE BOT.MAT (UG/KG)	BENZO B FLUOR-ANTHENE BOT.MAT (UG/KG)	BENZOGH I PERYLENE1,12-BENZOPERYLENE BOT.MAT (UG/KG)	BENZO K FLUOR-ANTHENE BOT.MAT (UG/KG)	BIS (2-CHLORO-ETHOXY) METHANE BOT.MAT (UG/KG)
SEP 01...	1500	<1	<200	<200	<200	<200	<400	<400	<400	<400	<400	<200
DATE	TIME	BIS (2-CHLORO-ETHYL) ETHER BOT.MAT (UG/KG)	BIS (2-CHLORO-ISO-PROPYL) ETHER BOT.MAT (UG/KG)	BIS(2-ETHYLHEXYL) PHTHALATE BOT.MAT (UG/KG)	CHRYSENE BOT.MAT (UG/KG)	DIETHYL PHTHALATE BOT.MAT (UG/KG)	DI-METHYL PHTHALATE BOT.MAT (UG/KG)	DI-N-BUTYL PHTHALATE BOT.MAT (UG/KG)	DI-N-OCTYL PHTHALATE BOT.MAT (UG/KG)	FLUOR-ANTHENE BOT.MAT (UG/KG)	FLUOR-ENE BOT.MAT (UG/L)	HEXA-CHLORO-BENZENE TOT. IN BOTTOM MAT.L. (UG/KG)
SEP 01...		<200	<200	<200	<400	<200	<200	<200	<400	<200	<200	<200
DATE	TIME	HEXA-CHLORO-BUT-ADIENE BOT.MAT (UG/KG)	HEXA-CHLORO-CYCLO-PENT-ADIENE BOT.MAT (UG/KG)	HEXA-CHLORO-ETHANE BOT.MAT (UG/KG)	INDENO (1,2,3-CD) PYRENE BOT.MAT (UG/KG)	ISO-PHORONE BOT.MAT (UG/KG)	NAPHTH-ALENE BOT.MAT (UG/KG)	N-BUTYL BENZYL PHTHALATE BOT.MAT (UG/KG)	NITRO-BENZENE BOT.MAT (UG/KG)	N-NITRO-SODI-METHY-LAMINE BOT.MAT (UG/KG)	N-NITRO-SODI-N-PROPYL-AMINE BOT.MAT (UG/KG)	N-NITRO-SODI-PHENY-LAMINE BOT.MAT (UG/KG)
SEP 01...		<200	<200	<200	<400	<200	<200	<200	<200	<200	<200	<200
DATE	TIME	PARA-CHLORO-META-CRESOL BOT.MAT (UG/KG)	PENTA-CHLORO-PHENOL BOT.MAT (UG/KG)	PHENAN-THRENE BOT.MAT (UG/KG)	PHENOL (C6H-5OH) BOT.MAT (UG/KG)	PYRENE BOT.MAT (UG/KG)	1,2-DI-CHLORO-BENZENE BOT.MAT (UG/KG)	1,2,4-TRI-CHLORO-BENZENE BOT.MAT (UG/KG)	1,2,5,6-ANTHRA-CENE BOT.MAT (UG/KG)	1,3-DI-CHLORO-BENZENE BOT.MAT (UG/KG)	1,4-DI-CHLORO-BENZENE BOT.MAT (UG/KG)	2-CHLORO-NAPH-THALENE BOT.MAT (UG/KG)
SEP 01...		<600	<600	<200	<200	<200	<200	<200	<400	<200	<200	<200
DATE	TIME	2-CHLORO-PHENOL BOT.MAT (UG/KG)	2-NITRO-PHENOL BOT.MAT (UG/KG)	2,4-DI-CHLORO-PHENOL BOT.MAT (UG/KG)	2,4-DI-NITRO-PHENOL BOT.MAT (UG/KG)	2,4-DI-NITRO-TOLUENE BOT.MAT (UG/KG)	2,4,6-TRI-CHLORO-PHENOL BOT.MAT (UG/KG)	2,6-DI-NITRO-TOLUENE BOT.MAT (UG/KG)	4-BROMO-PHENYL ETHER BOT.MAT (UG/KG)	4-CHLORO-PHENYL ETHER TOTAL (UG/L)	4-NITRO-PHENOL BOT.MAT (UG/KG)	4,6-DINITRO-ORTHO-CRESOL BOT.MAT (UG/KG)
SEP 01...		<200	<200	<200	<600	<200	<600	<200	<200	<200	<600	<600

01589902

- WEEMS C AT ANNAPOLIS, MD

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	
AY 01...	1515	185	6.0	12.0	58	42	13	6.2	9.1	24	0.5	3.7	
DATE	TIME	ALKA-LINITY WH WAT TOTAL FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	ARSENIC DIS-SOLVED (UG/L AS AS)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)
AY 01...	16	22	21	<0.10	17	100	<1	<0.5	30	<1	<1	<1	

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

## SEVERN RIVER BASIN--Continued

01589902

- WEEMS C AT ANNAPOLIS, MD--Continued

DATE	COPPER, DIS- SOLVED (UG/L AS CU)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)
MAY 01...	6	<5	<4	<1	6	<1	<1	62	<6	35	0.03

01589903

- ANNAPOLIS PLAZA POND INLET AT ANNAPOLIS MD

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)
DEC 10...	0945	57	7.2	9.0	--	--	--	--	--	--	--	--
MAY 27...	1200	48	7.2	20.0	19	3	6.8	0.60	0.90	9	0.1	0.70
SEP 09...	1400	126	7.2	25.0	50	43	18	1.2	4.2	15	0.3	2.4

DATE	TIME	ALKA- LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	IODIDE, DIS- SOLVED (MG/L AS I)	BROMIDE DIS- SOLVED (MG/L AS BR)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	ANTI- MONY, DIS- SOLVED (UG/L AS SB)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)
DEC 10...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY 27...	--	5.0	1.1	<0.10	<0.001	<0.010	--	--	--	--	<1	--	--
SEP 09...	7	13	6.3	0.10	--	--	1.5	51	<1	--	1	<100	--

DATE	TIME	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, TOTAL RECOV- ERABLE (UG/L AS BE)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	BORON, TOTAL RECOV- ERABLE (UG/L AS B)	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)
DEC 10...	--	<10	--	--	--	<1	--	10	--	3	--	12	
MAY 27...	--	--	<0.5	--	10	1	<1	14	<1	<1	<1	24	
SEP 09...	19	--	--	40	30	<1	--	<10	<1	2	<1	18	

DATE	TIME	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM TOTAL RECOV- ERABLE (UG/L AS LI)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENUM, TOTAL RECOV- ERABLE (UG/L AS MO)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)
DEC 10...	--	--	5	--	<10	--	10	--	--	--	10	--	
MAY 27...	4	20	29	<5	--	--	--	2	--	<1	12	2	
SEP 09...	11	--	5	<5	<10	<4	--	--	1	1	10	9	

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

## SEVERN RIVER BASIN--Continued

## 01589903 - ANNAPOLIS PLAZA POND INLET AT ANNAPOLIS MD--Continued

DATE	SELENIUM, DIS-SOLVED (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	SILVER, DIS-SOLVED (UG/L AS AG)	STRONTIUM, TOTAL RECOVERABLE (UG/L AS SR)	STRONTIUM, DIS-SOLVED (UG/L AS SR)	VANADIUM, DIS-SOLVED (UG/L AS V)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)
DEC 10...	--	--	--	70	--	--	40	--	8.6	--	--
MAY 27...	--	--	--	--	19	2	250	61	--	--	0.10
SEP 09...	<1	<1	<1	60	47	19	160	110	72	64	0.93

## 01589906 - ANNAPOLIS PLAZA POND OUTLET AT ANNAPOLIS, MD

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARDNESS (MG/L AS CACO3)	HARDNESS NONCARB WH WAT TOT FLD (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNESIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM ADSORPTION RATIO
MAY 01...	1330	120	8.7	21.0	10.7	32	4	11	1.2	11	41	0.9
MAY 27...	1400	57	--	21.0	--	--	--	--	--	--	--	--
SEP 01...	1100	82	9.0	26.5	12.4	35	16	12	1.3	0.20	--	0.0
SEP 11...	1500	69	8.8	--	--	27	8	9.3	0.86	1.4	10	0.1
DATE	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY WH WAT TOTAL FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)	IODIDE, DIS-SOLVED (MG/L AS I)	BROMIDE, DIS-SOLVED (MG/L AS BR)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)
MAY 01...	1.3	--	12	11	0.10	0.005	<0.010	--	--	--	--	--
SEP 01...	--	19	16	1.5	0.10	--	--	2.7	--	--	--	--
SEP 11...	1.3	18	13	2.2	0.10	--	--	1.2	41	<0.100	<0.100	0.020
DATE	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS NH4)	NITROGEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS-SOLVED (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, DIS-SOLVED (MG/L AS P)	PHOSPHORUS, ORTHO, TOTAL (MG/L AS P)	PHOSPHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	ANTIMONY, DIS-SOLVED (UG/L AS SB)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)
SEP 01...	--	--	--	--	--	--	--	--	--	--	3	--
SEP 11...	0.040	0.05	0.46	0.30	0.50	0.040	0.010	<0.010	<0.010	1	--	1
DATE	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYLLIUM, DIS-SOLVED (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM, TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM, DIS-SOLVED (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, DIS-SOLVED (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
MAY 01...	--	--	<0.5	50	10	<1	<0	<10	<1	<1	<1	6
MAY 27...	--	--	--	50	--	<1	--	<10	--	<1	--	5
SEP 01...	<100	18	--	60	20	2	1	30	1	1	1	36
SEP 11...	--	8	--	--	10	--	<1	--	<1	--	<1	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

SEVERN RIVER BASIN--Continued

01589906

- ANNAPOLIS PLAZA POND OUTLET AT ANNAPOLIS MD--Continued

DATE	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	LITHIUM TOTAL RECOVERABLE (UG/L AS LI)	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGANESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO)	MOLYBDENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)
MAY 01...	2	65	<5	<5	--	--	<1	0.10	<0.1	<1	1	1
MAY 27...	--	--	<5	--	--	--	--	--	--	<10	--	2
SEP 01...	--	--	82	--	<10	<4	--	--	--	1	--	17
SEP 11...	5	--	--	<5	--	<4	--	--	--	--	<1	--

DATE	NICKEL, DIS-SOLVED (UG/L AS NI)	SELENIUM, DIS-SOLVED (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	SILVER, DIS-SOLVED (UG/L AS AG)	STRONTIUM, TOTAL RECOVERABLE (UG/L AS SR)	STRONTIUM, DIS-SOLVED (UG/L AS SR)	THALIUM, DIS-SOLVED (UG/L AS TL)	VANADIUM, DIS-SOLVED (UG/L AS V)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)
MAY 01...	<1	--	--	--	--	33	<1	1	30	33	7.5	7.4
MAY 27...	--	--	--	--	--	--	--	--	30	--	--	--
SEP 01...	--	--	1	--	60	32	--	3	790	110	27	15
SEP 11...	2	<1	--	<1	--	24	--	1	--	17	--	--

DATE	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)	OIL AND GREASE, TOTAL RECOVERABLE GRAVIMETRIC (MG/L)	OIL AND GREASE, TOT. IN BOT MAT GRAVIMETRIC (MG/KG)	2,4-DP, IN BOTTOM MAT. (UG/KG)	ACE-NAPHTHENE TOTAL (UG/L)	ACE-NAPHTHENE BOT. MAT (UG/KG)	ACE-NAPHTHYLENE TOTAL (UG/L)	ACE-NAPHTHYLENE BOT. MAT (UG/KG)	ANTHRACENE TOTAL (UG/L)	ANTHRACENE BOT. MAT (UG/KG)	BENZENE TOTAL (UG/L)	BENZO A ANTHRACENE 1,2-BENZANTHRACENE (UG/L)
MAY 01...	0.23	--	--	--	--	--	--	--	--	--	<0.20	--
SEP 01...	0.19	<1	<1	<200	<5.0	<200	<5.0	<200	<5.0	<200	<0.20	<5.0

DATE	BENZO A ANTHRACENE 1,2-BENZANTHRACENE BOT. MAT (UG/KG)	BENZO A-PYRENE TOTAL (UG/L)	BENZO A-PYRENE BOT. MAT (UG/KG)	BENZO B FLUORANTHENE TOTAL (UG/L)	BENZO B FLUORANTHENE BOT. MAT (UG/KG)	BENZOGH I PERYL -BENZOPERYLENE BOT. MAT (UG/KG)	BENZOGH I PERYL -BENZOPERYLENE BOT. MAT (UG/KG)	BENZO K FLUORANTHENE TOTAL (UG/L)	BENZO K FLUORANTHENE BOT. MAT (UG/KG)	BIS (2-CHLOROETHOXY) METHANE TOTAL (UG/L)	BIS (2-CHLOROETHOXY) METHANE BOT. MAT (UG/KG)	BIS 2-CHLOROETHYL ETHER TOTAL (UG/L)
SEP 01...	<400	<10.0	<400	<10.0	<400	<10.0	<400	<10.0	<400	<5.0	<200	<5.0

DATE	BIS (2-CHLOROETHYL) ETHER BOT. MAT (UG/KG)	BIS (2-CHLOROISOPROPYL) ETHER TOTAL (UG/L)	BIS (2-CHLOROISOPROPYL) ETHER BOT. MAT (UG/KG)	BIS(2-ETHYLHEXYL) PHTHALATE TOTAL (UG/L)	BIS(2-ETHYLHEXYL) PHTHALATE BOT. MAT (UG/KG)	BROMOFORM TOTAL (UG/L)	CARBON-TETRACHLORIDE TOTAL (UG/L)	CHLORO-BENZENE TOTAL (UG/L)	CHLORO-BROMOMETHANE TOTAL (UG/L)	CHLORO-ETHANE TOTAL (UG/L)	CHLOROFORM TOTAL (UG/L)	CHRYSENE TOTAL (UG/L)
MAY 01...	--	--	--	--	--	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	--
SEP 01...	<200	<5.0	<200	<5.0	<200	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<10.0

DATE	CHRYSENE BOT. MAT (UG/KG)	CIS 1,3-DICHLOROPROPENE TOTAL (UG/L)	DI-CHLOROBROMOMETHANE TOTAL (UG/L)	DI-CHLORO-DI-FLUOROMETHANE TOTAL (UG/L)	DIETHYL PHTHALATE TOTAL (UG/L)	DIETHYL PHTHALATE BOT. MAT (UG/KG)	DI-METHYL PHTHALATE TOTAL (UG/L)	DI-METHYL PHTHALATE BOT. MAT (UG/KG)	DI-N-BUTYL PHTHALATE TOTAL (UG/L)	DI-N-BUTYL PHTHALATE BOT. MAT (UG/KG)	DI-N-OCTYL PHTHALATE TOTAL (UG/L)	DI-N-OCTYL PHTHALATE BOT. MAT (UG/KG)
MAY 01...	--	<0.20	<0.20	<0.20	--	--	--	--	--	--	--	--
SEP 01...	<400	<0.20	<0.20	<0.20	<5.0	<200	<5.0	<200	<5.0	<200	<10.0	<400

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

## SEVERN RIVER BASIN--Continued

01589906

- ANNAPOLIS PLAZA POND OUTLET AT ANNAPOLIS MD--Continued

DATE	ETHYL-BENZENE TOTAL (UG/L)	FLUOR-ANTHENE TOTAL (UG/L)	FLUOR-ANTHENE BOT.MAT (UG/KG)	FLUOR-ENE TOTAL (UG/L)	FLUOR-ENE BOT.MAT (UG/L)	HEXA-CHLORO-BENZENE TOTAL (UG/L)	HEXA-CHLORO-BENZENE TOT. IN BOTTOM MATL. (UG/KG)	HEXA-CHLORO-BUT-ADIENE TOTAL (UG/L)	HEXA-CHLORO-BUT-ADIENE BOT.MAT (UG/KG)	HEXA-CHLORO-CYCLO-PENT-ADIENE TOTAL (UG/L)	HEXA-CHLORO-CYCLO-PENT-ADIENE BOT.MAT (UG/KG)	HEXA-CHLORO-ETHANE TOTAL (UG/L)
MAY 01...	<0.20	--	--	--	--	--	--	--	--	--	--	--
SEP 01...	<0.20	<5.0	<200	<5.0	<200	<5.0	<200	<5.0	<200	<5.0	<200	<5.0
DATE	HEXA-CHLORO-ETHANE BOT.MAT (UG/KG)	INDENO (1,2,3-CD) PYRENE TOTAL (UG/L)	INDENO (1,2,3-CD) PYRENE BOT.MAT (UG/KG)	ISO-PHORONE TOTAL (UG/L)	ISO-PHORONE BOT.MAT (UG/KG)	METHYL-BROMIDE TOTAL (UG/L)	METHYL-CHLORIDE TOTAL (UG/L)	METHYL-CHLORIDE TOTAL (UG/L)	NAPHTH-ALENE TOTAL (UG/L)	NAPHTH-ALENE BOT.MAT (UG/KG)	N-BUTYL BENZYL PHTHAL-ATE TOTAL (UG/L)	N-BUTYL BENZYL PHTHAL-ATE BOT.MAT (UG/KG)
MAY 01...	--	--	--	--	--	<0.20	<0.20	<0.50	--	--	--	--
SEP 01...	<200	<10.0	<400	<5.0	<200	<0.20	<0.20	<0.20	<5.0	<200	<5.0	<200
DATE	NITRO-BENZENE TOTAL (UG/L)	NITRO-BENZENE BOT.MAT (UG/KG)	N-NITRO-SODI-METHYLAMINE TOTAL (UG/L)	N-NITRO-SODI-METHYLAMINE BOT.MAT (UG/KG)	N-NITRO-SODI-N-PROPYLAMINE TOTAL (UG/L)	N-NITRO-SODI-N-PROPYLAMINE BOT.MAT (UG/KG)	N-NITRO-SODI-PHENYLAMINE TOTAL (UG/L)	N-NITRO-SODI-PHENYLAMINE BOT.MAT (UG/KG)	PARA-CHLORO-META-CRESOL TOTAL (UG/L)	PARA-CHLORO-META-CRESOL BOT.MAT (UG/KG)	PENTA-CHLORO-PHENOL TOTAL (UG/L)	PENTA-CHLORO-PHENOL BOT.MAT (UG/KG)
SEP 01...	<5.0	<200	<5.0	<200	<5.0	<200	<5.0	<200	<30.0	<600	<30.0	<600
DATE	PHENANTHRENE TOTAL (UG/L)	PHENANTHRENE BOT.MAT (UG/KG)	PHENOL (C6H-5OH) TOTAL (UG/L)	PHENOL (C6H-5OH) BOT.MAT (UG/KG)	PYRENE TOTAL (UG/L)	PYRENE BOT.MAT (UG/KG)	STYRENE TOTAL (UG/L)	TETRA-CHLORO-ETHYL-ENE TOTAL (UG/L)	TOLUENE TOTAL (UG/L)	TRANS-1,3-DI-CHLORO-PROPENE TOTAL (UG/L)	TRI-CHLORO-ETHYL-ENE TOTAL (UG/L)	TRI-CHLORO-FLUORO-METHANE TOTAL (UG/L)
MAY 01...	--	--	--	--	--	--	<0.2	<0.20	<0.20	<0.20	<0.2	<0.20
SEP 01...	<5.0	<200	<5.0	<200	<5.0	<200	<0.2	<0.20	<0.20	<0.20	<0.2	<0.20
DATE	VINYL CHLORIDE TOTAL (UG/L)	XYLENE WATER WHOLE TOT REC (UG/L)	1,1-DI-CHLORO-ETHANE TOTAL (UG/L)	1,1-DI-CHLORO-ETHYL-ENE TOTAL (UG/L)	1,1,1-TRI-CHLORO-ETHANE TOTAL (UG/L)	1,1,1,2-TRI-CHLORO-ETHANE TOTAL (UG/L)	1,1,1,2,2-TETRA-CHLORO-ETHANE TOTAL (UG/L)	1,2-DIBROMO-ETHYL-ENE TOTAL (UG/L)	1,2-DI-CHLORO-BENZENE TOTAL (UG/L)	1,2-DI-CHLORO-BENZENE BOT.MAT (UG/KG)	1,2-DI-CHLORO-ETHANE TOTAL (UG/L)	1,2-DI-CHLORO-PROPANE TOTAL (UG/L)
MAY 01...	<0.20	<0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.20	--	<0.20	<0.20
SEP 01...	<0.20	<0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<5.0	<200	<0.20	<0.20
DATE	1,2-TRANSDI-CHLORO-ETHYL-ENE TOTAL (UG/L)	1,2,4-TRI-CHLORO-BENZENE TOTAL (UG/L)	1,2,4-TRI-CHLORO-BENZENE BOT.MAT (UG/KG)	1,2,5,6-DIBENZ-ANTHRA-CENE TOTAL (UG/L)	1,2,5,6-DIBENZ-ANTHRA-CENE BOT.MAT (UG/KG)	1,3-DI-CHLORO-BENZENE TOTAL (UG/L)	1,3-DI-CHLORO-BENZENE BOT.MAT (UG/KG)	1,3-DI-CHLORO-PROPANE TOTAL (UG/L)	1,4-DI-CHLORO-BENZENE TOTAL (UG/L)	1,4-DI-CHLORO-BENZENE BOT.MAT (UG/KG)	2-CHLORO-ETHYL-VINYL-ETHER TOTAL (UG/L)	2-CHLORO-NAPH-THALENE TOTAL (UG/L)
MAY 01...	<0.20	--	--	--	--	<0.20	--	<0.20	<0.20	--	<0.20	--
SEP 01...	<0.20	<5.0	<200	<10.0	<400	<5.0	<200	<0.20	<5.0	<200	<0.20	<5.0
DATE	2-CHLORO-NAPH-THALENE BOT.MAT (UG/KG)	2-CHLORO-PHENOL TOTAL (UG/L)	2-CHLORO-PHENOL BOT.MAT (UG/KG)	2-NITRO-PHENOL TOTAL (UG/L)	2-NITRO-PHENOL BOT.MAT (UG/KG)	2,4-DI-CHLORO-PHENOL TOTAL (UG/L)	2,4-DI-CHLORO-PHENOL BOT.MAT (UG/KG)	2,4-DI-METHYL-PHENOL TOTAL (UG/L)	2,4-DI-NITRO-PHENOL TOTAL (UG/L)	2,4-DI-NITRO-PHENOL BOT.MAT (UG/KG)	2,4-DI-NITRO-TOLUENE TOTAL (UG/L)	2,4-DI-NITRO-TOLUENE BOT.MAT (UG/KG)
SEP 01...	<200	<5.0	<200	<5.0	<200	<5.0	<200	<5.0	<20.0	<600	<5.0	<200

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

SEVERN RIVER BASIN--Continued

01589906 - ANNAPOLIS PLAZA POND OUTLET AT ANNAPOLIS MD--Continued

DATE	2,4,6-TRI-CHLORO-PHENOL TOTAL (UG/L)	2,4,6-TRI-CHLORO-PHENOL BOT.MAT (UG/KG)	2,6-DI-NITRO-TOLUENE TOTAL (UG/L)	2,6-DI-NITRO-TOLUENE BOT.MAT (UG/KG)	4-BROMO-PHENYL ETHER TOTAL (UG/L)	4-BROMO-PHENYL ETHER BOT.MAT (UG/KG)	4-CHLORO-PHENYL ETHER TOTAL (UG/L)	4-NITRO-PHENOL TOTAL (UG/L)	4-NITRO-PHENOL BOT.MAT (UG/KG)	4,6-DINITRO-ORTHO-CRESOL TOTAL (UG/L)	4,6-DINITRO-ORTHO-CRESOL BOT.MAT (UG/KG)
SEP 01...	<20.0	<600	<5.0	<200	<5.0	<200	<200	<30.0	<600	<30.0	<600

01589907 - WEEMS C NR ANNAPOLIS, MD

DATE	TIME	SPE-CIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	HARDNESS (MG/L AS CACO3)	HARDNESS NONCARB WH TOT (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNESIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	POTASSIUM, DIS-SOLVED (MG/L AS K)
MAY 01...	1630	133	6.3	12.0	37	23	8.0	4.2	7.3	28	0.5	3.2

DATE	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	ARSENIC DIS-SOLVED (UG/L AS AS)	BERYLLIUM, DIS-SOLVED (UG/L AS BE)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM, DIS-SOLVED (UG/L AS CD)	CHROMIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)
MAY 01...	10	17	<0.10	16	74	<1	<0.5	20	<1	<1	<1

DATE	COPPER, DIS-SOLVED (UG/L AS CU)	LEAD, DIS-SOLVED (UG/L AS PB)	LITHIUM, DIS-SOLVED (UG/L AS LI)	MOLYBDENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELENIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRONTIUM, DIS-SOLVED (UG/L AS SR)	VANADIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)	METHYLENE BLUE SUBSTANCE (MG/L)
MAY 01...	<1	<5	<4	<1	4	<1	<1	39	<7	26	0.02

PATUXENT RIVER BASIN

01591510 - PATUXENT R TR NR DAYTON, MD

DATE	TIME	TURBIDITY (NTU)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L)	NITROGEN, NITRATE DIS-SOLVED (MG/L AS N)	NITROGEN, NITRITE DIS-SOLVED (MG/L AS N)	NITROGEN, NITRITE DIS-SOLVED (MG/L AS NO2)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS NH4)
NOV 12...	1255-1355	620	69	8.36	0.037	0.12	8.40	0.308	0.40
NOV 12...	1406-1703	290	81	22.0	0.034	0.11	22.0	0.124	0.16

DATE	NITROGEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS-SOLVED (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, DIS-SOLVED (MG/L AS P)	PHOSPHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	PHOSPHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)
NOV 12...	1.9	3.0	2.3	3.25	2.70	2.40	7.4	36	22
NOV 12...	3.3	4.0	3.5	3.70	3.20	2.90	8.9	32	29

SUSPENDED SEDIMENT DISCHARGE

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
NOV 1986 12...	1255-1355	--	163	--	JUL 1987 01...	1830	1.75	32700	154.5
NOV 1986 12...	1406-1703	--	90	--					
JUN 1987 04...	1529	0.10	2890	0.78					
JUN 1987 30...	2150-2245	--	25300	--					

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

PATUXENT RIVER BASIN--Continued

01594675 - AGRICULTURAL RUNOFF SITE NR HUNTINGTOWN, MD

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS NO2)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)
OCT 14...	0430-1015	--	--	--	1100	25	1.2	0.215	0.015	0.05	0.230
MAY 04...	2042-1050	360	6.5	12.0	260	33	0.9	0.143	0.007	0.02	0.150

DATE	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS NH4)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)
OCT 14...	1.80	2.3	1.2	6.8	3.0	3.00	0.700	0.550	1.7	30	13
MAY 04...	0.116	0.15	0.48	2.2	0.60	1.40	0.370	0.400	1.2	9.5	7.9

SUSPENDED SEDIMENT DISCHARGE

DATE	TIME	SEDI-MENT, SUS-PENDED (MG/L)
OCT 1986 14...	0430-1015	728

383218076351702 - PRECIPITATION AT PRINCE FREDERICK, MD

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS (MG/L AS CaCO3)	HARD-NESS NONCARB WH WAT TOT FLD (MG/L AS CaCO3)	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNE-SIUM, DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	SODIUM AD-SORP-TION RATIO	SULFATE DIS-SOLVED (MG/L AS SO4)
SEP 09...	0800	9	4.80	22.5	2	0	0.46	0.32	1.4	0.4	0.9
DATE	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	BROMIDE DIS-SOLVED (MG/L AS BR)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	CADMIUM, DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)
SEP 09...	0.41	0.06	0.030	0.9	0.090	<0.010	3	<0.5	4	70	<3
DATE	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)
SEP 09...	30	15	<10	<4	7	<10	<10	1	1	<6	370





WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

PATUXENT RIVER BASIN--Continued

01594780

- AGRICULTURAL RUNOFF SITE NR ST. LEONARD, MD

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	TEMPERATURE WATER (DEG C)	TURBIDITY (NTU)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L)	SILICA, DIS-SOLVED AS (MG/L SIO2)	NITROGEN, NITRATE DIS-SOLVED (MG/L AS N)	NITROGEN, NITRITE DIS-SOLVED (MG/L AS N)	NITROGEN, NITRITE DIS-SOLVED (MG/L AS NO2)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS N)
OCT 14...	0444	.06	--	540	28	1	0.456	0.034	0.11	0.490	0.048
DEC 11...	1400	--	--	--	17	2.8	--	--	--	--	--
DEC 11...	1425	--	--	--	16	2.6	--	--	--	--	--
JAN 19-20	1100-1200	--	6.0	1700	120	1.3	0.350	0.010	0.03	0.360	0.060

DATE	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS NH4)	NITROGEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, DIS-SOLVED (MG/L AS P)	PHOSPHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	PHOSPHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)
OCT 14...	0.06	1.2	2.9	1.3	1.00	0.340	0.200	0.61	23	18
DEC 11...	--	--	3.9	0.58	2.10	0.090	--	--	25	6.9
DEC 11...	--	--	3.6	0.55	1.90	0.100	--	--	22	7.5
JAN 19-20	0.08	0.29	8.6	0.35	3.60	0.050	0.028	0.09	24	5.2

SUSPENDED SEDIMENT DISCHARGE

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SEDI-MENT, SUSPENDED (MG/L)	SEDI-MENT, DISCHARGE, SUSPENDED (T/DAY)	DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SEDI-MENT, SUSPENDED (MG/L)	SEDI-MENT, DISCHARGE, SUSPENDED (T/DAY)
OCT 1986					MAY 1987				
OCT 14...	0444	.06	272	0.04	04...	0910	--	270	--
DEC 11...	1400	--	502	--	04...	0930	--	720	--
DEC 11...	1425	--	328	--					
DEC 12...	1400	--	1480	--					

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

PATUXENT RIVER BASIN--Continued

01594860 - AGRICULTURAL RUNOFF SITE 1 NR LEXINGTON PARK, MD

DATE	TIME	TUR- BID- ITY (NTU)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L)	SILICA, DIS- SOLVED (MG/L AS SIO2)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)
OCT									
14...	0215-0310	290	23	1.4	0.056	0.004	0.01	0.060	0.056
14...	0412	190	--	1.3	--	0.004	0.01	<0.020	0.076
14...	0444-0557	420	20	1.3	0.101	0.009	0.03	0.110	0.016

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)
OCT										
14...	0.07	0.44	2.0	0.50	0.700	0.430	0.300	0.92	19	15
14...	0.10	0.65	1.6	0.73	0.600	0.320	0.200	0.61	17	14
14...	0.02	0.41	1.7	0.43	0.700	0.340	0.250	0.77	18	14

SUSPENDED SEDIMENT DISCHARGE

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
OCT 1986					SEP 1987				
14...	0215-0310	--	182	--	12...	1905	0.30	2750	2.2
14...	0412	--	82	--	12...	1911	0.23	2470	1.5
14...	0444-0557	--	250	--	12...	1920	0.16	2050	0.89
JUN 1987					12...	1936	0.10	1490	0.40
17...	1400	--	10700	--	12...	1946	0.23	1160	0.72
JUL					12...	1951	0.47	1900	2.4
31...	1740	--	2040	--	12...	1954	0.63	3850	6.5
31...	1800	--	2550	--	12...	1956	0.67	4260	7.7
SEP					12...	1959	0.64	4580	7.9
12...	1837	0.22	875	0.52	12...	2001	0.58	4510	7.1
12...	1842	0.44	1080	1.3	12...	2004	0.51	4160	5.7
12...	1846	0.51	1520	2.1	12...	2008	0.43	3570	4.1
12...	1849	0.51	2410	3.3	12...	2013	0.35	3160	3.0
12...	1853	0.49	2960	3.9	12...	2018	0.27	2910	2.1
12...	1856	0.44	3240	3.8	12...	2026	0.19	2560	1.3
12...	1900	0.37	3120	3.1	12...	2037	0.12	1780	0.58

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

## POTOMAC RIVER BASIN

## 01613150 - DITCH RN NR HANCOCK, MD

DATE	TIME	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)
JUN 30...	1400	26	<1	140	6	9700	10	770	<0.10	30

## 01613500 - LICKING CREEK NEAR SYLVAN, PA.

DATE	TIME	PCB, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	PCN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ALDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	CHLOR- DANE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DDD, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DDE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DDT, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DI- AZINON, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DI- ELDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)
JUN 30...	1300	<1	<1.0	<0.1	<1.0	0.1	0.5	0.4	<0.1	<0.1

DATE	TIME	ENDO- SULFAN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ENDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ETHION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	HEPTA- CHLOR, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	HEPTA- CHLOR EPOXIDE TOT. IN BOT- TOM MA- TERIAL (UG/KG)	LINDANE TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	MALA- THION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	METH- OXY- CHLOR, TOT. IN BOT- TOM MA- TERIAL (UG/KG)	METHYL PARA- THION, TOT. IN BOT- TOM MA- TERIAL (UG/KG)	METHYL TRI- THION, TOT. IN BOT- TOM MA- TERIAL (UG/KG)
JUN 30...		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1

DATE	TIME	MIREX, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	PARA- THION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	PER- THANE IN BOT- TOM MA- TERIAL (UG/KG)	SILVEX, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	TOXA- PHENE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	TRI- THION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	2,4-D, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	2,4-DP, IN BOT- TOM MA- TERIAL (UG/KG)	2,4,5-T TOTAL IN BOT- TOM MA- TERIAL (UG/KG)
JUN 30...		<0.1	<0.1	<1.00	<0.1	<10	<0.1	<0.1	<0.1	<0.1

## 01613540 - LANES RN NR FORSYTHE, MD

DATE	TIME	PCB, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	PCN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ALDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	CHLOR- DANE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DDD, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DDE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DDT, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DI- AZINON, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DI- ELDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)
MAY 18...	1515	<1	<1.0	<0.1	<1.0	3.6	30	48	<0.1	0.6

DATE	TIME	ENDO- SULFAN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ENDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ETHION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	HEPTA- CHLOR, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	HEPTA- CHLOR EPOXIDE TOT. IN BOT- TOM MA- TERIAL (UG/KG)	LINDANE TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	MALA- THION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	METH- OXY- CHLOR, TOT. IN BOT- TOM MA- TERIAL (UG/KG)	METHYL PARA- THION, TOT. IN BOT- TOM MA- TERIAL (UG/KG)	METHYL TRI- THION, TOT. IN BOT- TOM MA- TERIAL (UG/KG)
MAY 18...	1.6	2.1	0.2	<0.1	<0.1	<0.1	<0.1	<1.0	<0.1	<0.1	

DATE	TIME	MIREX, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	PARA- THION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	PER- THANE IN BOT- TOM MA- TERIAL (UG/KG)	SILVEX, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	TOXA- PHENE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	TRI- THION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	2,4-D, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	2,4-DP, IN BOT- TOM MA- TERIAL (UG/KG)	2,4,5-T TOTAL IN BOT- TOM MA- TERIAL (UG/KG)
MAY 18...		<0.1	0.5	<1.00	<0.1	<10	<0.1	<0.1	<0.1	<0.1

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

POTOMAC RIVER BASIN-Continued

01613545 - LICKING C NR PECTONVILLE, MD

DATE	TIME	PCB, TOTAL IN BOT-TOM MATERIAL (UG/KG)	PCN, TOTAL IN BOT-TOM MATERIAL (UG/KG)	ALDRIN, TOTAL IN BOT-TOM MATERIAL (UG/KG)	CHLOR-DANE, TOTAL IN BOT-TOM MATERIAL (UG/KG)	DDD, TOTAL IN BOT-TOM MATERIAL (UG/KG)	DDE, TOTAL IN BOT-TOM MATERIAL (UG/KG)	DDT, TOTAL IN BOT-TOM MATERIAL (UG/KG)	DI-AZINON, TOTAL IN BOT-TOM MATERIAL (UG/KG)	DI-ELDRIN, TOTAL IN BOT-TOM MATERIAL (UG/KG)
JUN 30...	1130	<1	<1.0	<0.1	24	11	2.4	0.3	<0.1	0.1

DATE	TIME	ENDO-SULFAN, TOTAL IN BOT-TOM MATERIAL (UG/KG)	ENDRIN, TOTAL IN BOT-TOM MATERIAL (UG/KG)	ETHION, TOTAL IN BOT-TOM MATERIAL (UG/KG)	HEPTA-CHLOR, TOTAL IN BOT-TOM MATERIAL (UG/KG)	HEPTA-CHLOR EPOKIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL IN BOT-TOM MATERIAL (UG/KG)	MALA-THION, TOTAL IN BOT-TOM MATERIAL (UG/KG)	METH-OXY-CHLOR. TOT. IN BOTTOM MATL. (UG/KG)	METHYL-PARA-THION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL-TRI-THION, TOT. IN BOTTOM MATL. (UG/KG)
JUN 30...		<1.0	3.6	<0.1	0.3	1.1	0.3	<0.1	<0.1	<0.1	<0.1

DATE	TIME	MIREX, TOTAL IN BOT-TOM MATERIAL (UG/KG)	PARA-THION, TOTAL IN BOT-TOM MATERIAL (UG/KG)	PER-THANE IN BOT-TOM MATERIAL (UG/KG)	SILVEX, TOTAL IN BOT-TOM MATERIAL (UG/KG)	TOXA-PHENE, TOTAL IN BOT-TOM MATERIAL (UG/KG)	TRI-THION, TOTAL IN BOT-TOM MATERIAL (UG/KG)	2,4-D, TOTAL IN BOT-TOM MATERIAL (UG/KG)	2,4-DP, IN BOTTOM MAT. (UG/KG)	2,4,5-T TOTAL IN BOT-TOM MATERIAL (UG/KG)
JUN 30...		<0.1	<0.1	<1.00	<0.1	<100	<0.1	<0.1	<0.1	<0.1

01614625 - MEADOW BK AT CONOCOCHEAGUE, MD

DATE	TIME	ARSENIC TOTAL IN BOT-TOM MATERIAL (UG/G AS AS)	CADMIUM RECOV. FM BOT-TOM MATERIAL (UG/G AS CD)	CHROMIUM, RECOV. FM BOT-TOM MATERIAL (UG/G)	COPPER, RECOV. FM BOT-TOM MATERIAL (UG/G AS CU)	IRON, RECOV. FM BOT-TOM MATERIAL (UG/G AS FE)	LEAD, RECOV. FM BOT-TOM MATERIAL (UG/G AS PB)	MANGANESE, RECOV. FM BOT-TOM MATERIAL (UG/G)	MERCURY RECOV. FM BOT-TOM MATERIAL (UG/G AS HG)	ZINC, RECOV. FM BOT-TOM MATERIAL (UG/G AS ZN)
MAY 18...	1445	15	1	240	6	5400	30	980	0.60	30

GROUND-WATER RECORDS

GROUND-WATER LEVELS

DELAWARE

KENT COUNTY

WELL NUMBER.--Id 55-1. SITE ID.--391026075304901.

LOCATION.--Lat 39°10'26", long 75°30'49", Hydrologic Unit 02040207, White Oak Road at Dover.

Owner: City of Dover.

AQUIFER.--Piney Point.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 2.5 in., depth 349 ft, cased to 329 ft, screened 329 to 349 ft.

INSTRUMENTATION.--Water-level recorder--60-minute recording interval.

DATUM.--Elevation of land-surface datum is 20 ft above National Geodetic Vertical Datum of 1929. Measuring point:

Top of casing 1.0 ft above land-surface datum.

REMARKS.--Water level affected by pumping in the Dover area. Missing record from Oct. 1-15 and July 24 to Aug 4, water level was below orifice.

PERIOD OF RECORD.--August 1969 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 67.40 ft below land-surface datum, May 5, 1970; lowest recorded, 163.74 ft below land-surface datum, Aug. 23, 1987.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

NOON VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	-----	147.01	146.42	141.56	142.67	145.53	140.94	142.08	144.93	148.84	159.59	160.63
10	-----	147.39	146.51	141.63	143.22	144.76	141.08	142.67	144.84	149.27	160.29	159.02
15	149.87	146.94	146.45	141.53	144.01	143.49	141.13	143.43	145.60	151.80	161.24	158.17
20	149.19	146.50	145.63	141.34	144.31	142.40	141.66	143.43	147.77	153.44	162.61	158.41
25	147.96	146.57	144.26	141.86	144.27	141.78	141.96	143.21	147.82	-----	163.53	157.09
EOM	146.71	146.10	142.55	142.26	144.63	140.73	141.33	142.78	148.36	-----	162.37	155.75
WTR YEAR 1987	HIGHEST *140.47			APR 4, 1987			LOWEST *163.74			AUG 23, 1987		

\*Maximum and minimum water levels recorded.

WELL NUMBER.--Jd 42-3. STATION ID.--390607075331501.

LOCATION.--Lat 39°06'07", long 75°33'15", Hydrologic Unit 02040207, 1 mi south of Camden.

Owner: Delaware Department of Highways and Transportation.

AQUIFER.--Columbia Deposits.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 1.25 in., depth 11 ft, well point 8.5 to 11 ft.

INSTRUMENTATION.--Measurements with chalked tape.

DATUM.--Elevation of land-surface datum is about 44 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing at land-surface datum.

REMARKS.--This is a replacement well and is located 2 ft north of the original well. The measurements published in WSP 1782, for the years 1958-61 for the original well, are doubtful.

PERIOD OF RECORD.--October 1950 to December 1961, August 1971 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.69 ft below land-surface datum, July 18, 1975; lowest measured, 10.10 ft below land-surface datum, Nov. 28, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	10.09	JAN 5	7.69	FEB 25	6.53	MAY 29	6.43	AUG 24	7.86	SEP 28	8.51
NOV 28	10.10	29	6.88	MAR 26	5.97	JUN 25	6.72	28	7.93		
DEC 29	8.47	FEB 3	6.78	APR 27	6.11	JUL 28	7.34	SEP 17	8.26		

WELL NUMBER.--Mc 51-1. SITE ID.--385041075395601.

LOCATION.--Lat 38°50'41", long 75°39'56", Hydrologic Unit 02060008, 1.3 mi northeast of Adamsville.

Owner: Delaware Department of Highways and Transportation.

AQUIFER.--Columbia Deposits.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 2 in., depth 19 ft, well point 15 to 19 ft.

INSTRUMENTATION.--Measurements with chalked tape.

DATUM.--Elevation of land-surface datum is about 55 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing at land-surface datum.

REMARKS.--This is a replacement well and is located about 60 ft north of original well.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.28 ft below land-surface datum, May 31, 1984; lowest measured, 16.00 ft below land-surface datum, Dec. 2, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	15.70	JAN 5	13.18	MAR 3	9.61	MAY 19	11.52	JUL 27	13.34	SEP 17	14.60
DEC 2	16.00	FEB 3	11.41	APR 13	10.77	JUN 23	11.55	AUG 24	14.11		

## GROUND-WATER LEVELS

DELAWARE--Continued

KENT COUNTY--Continued

WELL NUMBER.--Md 22-1. SITE ID.--385310075331301.

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

Owner: Delaware Department of Highways and Transportation.

AQUIFER.--Columbia Deposits.

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

INSTRUMENTATION.--Measurements with chalked tape.

DATUM.--Elevation of land-surface datum is about 58 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing at land-surface datum.

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

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

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	10.50	NOV 19	10.71	DEC 16	7.30	FEB 3	2.60	MAR 31	2.93	MAY 19	4.15
30	10.53	26	10.55	JAN 5	2.83	26	2.39	APR 13	3.66	JUN 2	5.17
NOV 11	10.57	DEC 2	10.05	6	2.90	MAR 3	2.00	30	3.79		

\*No data July to September due to highway construction; well was replaced at same location and datum.

## NEW CASTLE COUNTY

WELL NUMBER.--Db 24-17. SITE ID.--393855075415402.

LOCATION.--Lat 39°38'55", long 75°41'54", Hydrologic Unit 02040205, 2 mi south of Ogletown.

Owner: Delaware Department of Highways and Transportation.

AQUIFER.--Columbia Deposits.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 2 in., depth 22 ft, screened 17 to 22 ft.

INSTRUMENTATION.--Measurements with chalked tape.

DATUM.--Elevation of land-surface datum is about 77 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casings, 0.55 ft above land-surface datum.

REMARKS.--This is a replacement well for Db 24-10, and is located 48 ft west of Db 24-10.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.82 ft below land-surface datum, Apr. 23, 1987; lowest measured, 15.58 ft below land-surface datum, Oct. 30, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	15.44	DEC 1	15.45	FEB 4	11.49	APR 1	11.10	JUN 1	11.24	AUG 31	13.85
30	15.58	16	14.48	27	11.24	23	10.82	29	12.04		
NOV 10	15.74	JAN 6	12.58	MAR 9	10.65	MAY 1	10.89	JUL 30	12.99		

WELL NUMBER.--Hb 14-1. SITE ID.--391949075410701.

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

Owner: Delaware Department of Highways and Transportation.

AQUIFER.--Columbia Deposits.

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

INSTRUMENTATION.--Measurements with chalked tape.

DATUM.--Elevation of land-surface datum is about 72 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing at land-surface datum.

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

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

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 1	9.71	DEC 1	9.60	FEB 2	5.62	MAR 31	4.95	JUN 2	6.49	AUG 24	8.67
NOV 3	10.11	16	9.05	3	5.83	APR 2	5.24	23	6.53	SEP 1	8.82
11	10.03	JAN 5	6.57	26	5.40	MAY 1	5.95	26	7.00	17	9.15
26	10.00	6	6.56	MAR 2	3.66	19	5.60	JUL 27	7.30		

## GROUND-WATER LEVELS

265

DELAWARE--Continued

## SUSSEX COUNTY

WELL NUMBER.--Nc 13-3. SITE ID.--384930075370201.

LOCATION.--Lat 38°49'30", long 75°37'02", Hydrologic Unit 02060008, 2.0 mi northwest of Greenwood.

Owner: University of Delaware.

AQUIFER.--Piney Point.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 630 ft, cased to 620 ft, screened 620 to 630 ft.

INSTRUMENTATION.--Digital water-level recorder--60-minute recording interval.

DATUM.--Land surface datum is 62.5 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 3.0 ft above land-surface datum.

PERIOD OF RECORD.--December 1970 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 69.70 ft below land-surface datum, Jan. 1, 1971; lowest recorded, 82.83 ft below land-surface datum, Sept. 28, 1987.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

## NOON VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	81.53	81.62	81.65	81.42	81.54	81.62	81.44	81.65	81.81	81.94	82.19	82.68
10	81.80	81.79	81.40	81.15	81.38	81.54	81.50	81.64	81.91	82.04	82.16	82.56
15	81.61	81.67	81.55	81.27	81.47	81.56	81.64	81.66	81.81	82.00	82.36	82.62
20	81.71	81.59	81.46	81.37	81.58	81.44	81.62	81.73	81.89	82.15	82.42	82.58
25	81.72	81.71	81.18	81.39	81.55	81.59	81.65	81.83	81.93	82.20	82.52	82.65
EOB	81.91	81.65	81.42	81.09	81.55	81.18	81.54	81.75	82.04	82.19	82.51	82.54

WTR YEAR 1987 HIGHEST 80.82 JAN 22, 1987 LOWEST 82.83 SEP 28, 1987

WELL NUMBER.--Nc 45-1. SITE ID.--384639075353101.

LOCATION.--Lat 38°46'39", long 75°35'31", Hydrologic Unit 02060008, 2.0 mi south of Greenwood.

Owner: P. H. Cannon.

AQUIFER.--Columbia Deposits.

WELL CHARACTERISTICS.--Driven observation water-table well, diameter 1 in., depth 15 ft, screened 14 to 15 ft.

INSTRUMENTATION.--Measurements with chalked tape.

DATUM.--Elevation of land-surface datum is about 43 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 1.00 ft above land-surface datum.

PERIOD OF RECORD.--October 1950 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.67 ft below land-surface datum, Jan. 30, 1952; lowest measured, 14.66 ft below land-surface datum, Dec. 11, 1978.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	13.69	JAN 5	11.23	MAR 3	10.68	MAY 19	11.73	JUL 27	12.37	SEP 17	13.78
DEC 2	11.98	FEB 3	10.92	APR 13	11.80	JUN 23	12.65	AUG 24	13.75		

WELL NUMBER.--Ng 11-1. SITE ID.--384955075192801.

LOCATION.--Lat 38°49'55", long 75°19'28", Hydrologic Unit 02040207, 1.2 mi east of Jefferson Crossroads.

Owner: Delaware Department of Highways and Transportation.

AQUIFER.--Columbia Deposits.

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

INSTRUMENTATION.--Measurements with chalked tape.

DATUM.--Elevation of land-surface datum is 24 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing at land-surface datum.

PERIOD OF RECORD.--September 1959 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.91 ft below land-surface datum, Apr. 10, 1984; lowest measured, 14.64 ft below land-surface datum, Jan. 7, 1966.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL										
OCT 28	13.80	JAN 05	10.86	MAR 03	8.73	MAY 19	9.50	JUL 27	11.00	SEP 17	12.78
DEC 02	13.49	FEB 03	9.88	APR 13	8.80	JUN 23	10.35	AUG 24	12.33		

## GROUND-WATER LEVELS

DELAWARE-- Continued

SUSSEX COUNTY--Continued

WELL NUMBER.--Qe 44-1. SITE ID.--383138075260201.

LOCATION.--Lat 38°31'38", long 75°26'02", Hydrologic Unit 02060008, 1.0 mi east of Whaleys Crossroads.

Owner: Delaware Department of Highways and Transportation.

AQUIFER.--Columbia Deposits.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 1 in., depth 25 ft, well point 22 to 25 ft.

INSTRUMENTATION.--Measurements with chalked tape.

DATUM.--Elevation of land-surface datum is about 50 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing at land-surface datum.

PERIOD OF RECORD.--September 1959 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.98 ft below land-surface datum, Mar. 16, 1979, and Mar. 15, 1984; lowest measured, 12.22 ft below land-surface datum, Dec. 2, 1981.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28	11.94	DEC 2	11.53	FEB 3	5.89	APR 13	6.70	JUN 2	8.04	SEP 17	11.44
30	11.91	16	9.75	26	5.50	23	6.71	23	8.28		
NOV 11	11.96	JAN 5	6.64	MAR 3	5.48	30	6.25	JUL 27	10.36		
26	11.72	6	6.75	31	6.08	MAY 19	6.50	AUG 24	11.00		

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.

WELL CHARACTERISTICS.--Drilled unused artesian well, reported depth 300 ft, measured depth 113 ft; casing diameter 8 in. to unknown depth; open hole.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface is 720 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of sanitary seal in casing, 0.3 ft above land-surface datum.

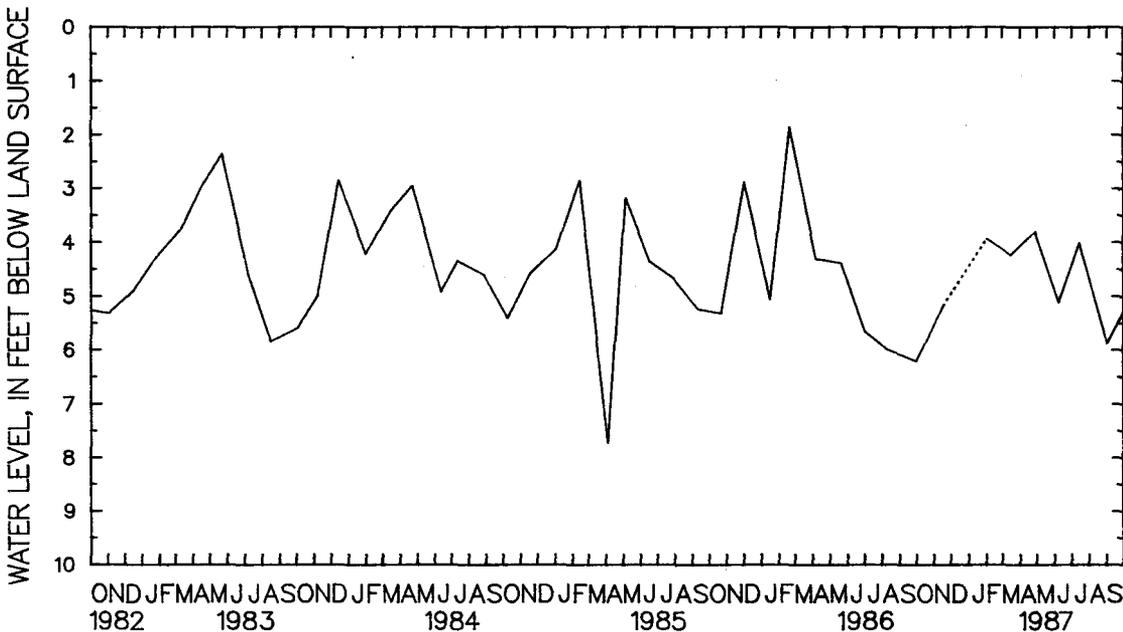
REMARKS.--Water level was deeper than 40 ft below land-surface datum on Nov. 19, 1969, and Feb. 12, 1970, when well was being pumped. Water levels may be affected by nearby pumping.

PERIOD OF RECORD.--December 1949 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.80 ft below land-surface datum, May 18, 1978; lowest measured 22.80 ft below land-surface datum, July 16, 1968.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL						
OCT 1	6.22	DEC 19	4.23	MAR 16	4.24	JUN 8	5.12	SEP 1	5.89
NOV 18	5.18	FEB 2	3.94	APR 28	3.81	JUL 15	4.02		



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

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: Cumberland Brewing Company.

AQUIFER.--Tonoloway Limestone.

WELL CHARACTERISTICS.--Drilled unused artesian well, depth 100 ft; casing diameter 6 in. to unknown depth; open hole.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 640 ft above National Geodetic Vertical Datum of 1929.

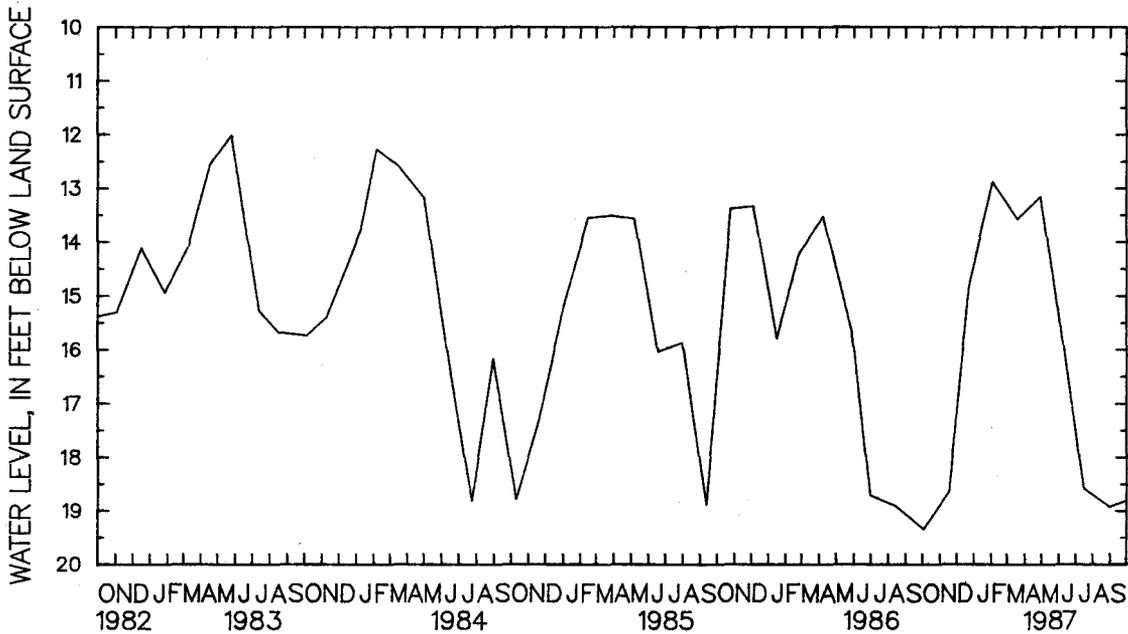
Measuring point: Top of casing at land-surface datum.

PERIOD OF RECORD.--October 1946 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.24 ft below land-surface datum, Feb. 8, 1973; lowest measured, 32.55 ft below land-surface datum, Sept. 7, 1966.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL								
OCT 3	19.35	DEC 23	14.82	MAR 19	13.58	JUN 10	15.97	AUG 31	18.93
NOV 17	18.65	FEB 3	12.88	APR 29	13.16	JUL 16	18.59		



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

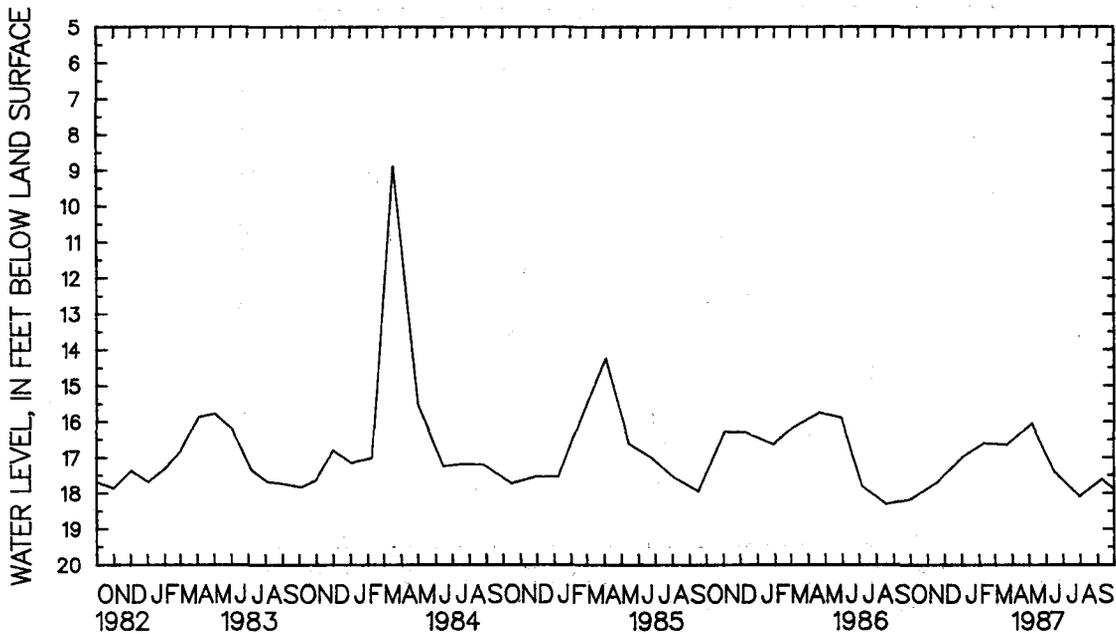
MARYLAND--Continued

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.  
 WELL CHARACTERISTICS.--Drilled unused water-table well, reported depth 93 ft, measured depth 84.5 ft;  
 casing diameter 6 in. with depth to 46 ft; open hole.  
 INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.  
 DATUM.--Elevation of land-surface datum is 1035 ft above National Geodetic Vertical Datum of 1929.  
 Measuring point: Top of casing, 2.0 ft above land-surface datum.  
 PERIOD OF RECORD.--July 1974 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.88 ft below land-surface datum, Mar. 19, 1984;  
 lowest measured, 19.30 ft below land-surface datum, Nov. 1, 1977.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL						
OCT 1	18.18	JAN 5	16.97	MAR 23	16.65	JUN 16	17.41	SEP 9	17.62
NOV 17	17.72	FEB 10	16.61	MAY 6	16.06	JUL 31	18.10		



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

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.

WELL CHARACTERISTICS.--Drilled unused artesian well, depth 320 ft; casing diameter 6 in. with depth to 312 ft; screened from 312 to 320 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 136.9 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of casing at land-surface datum.

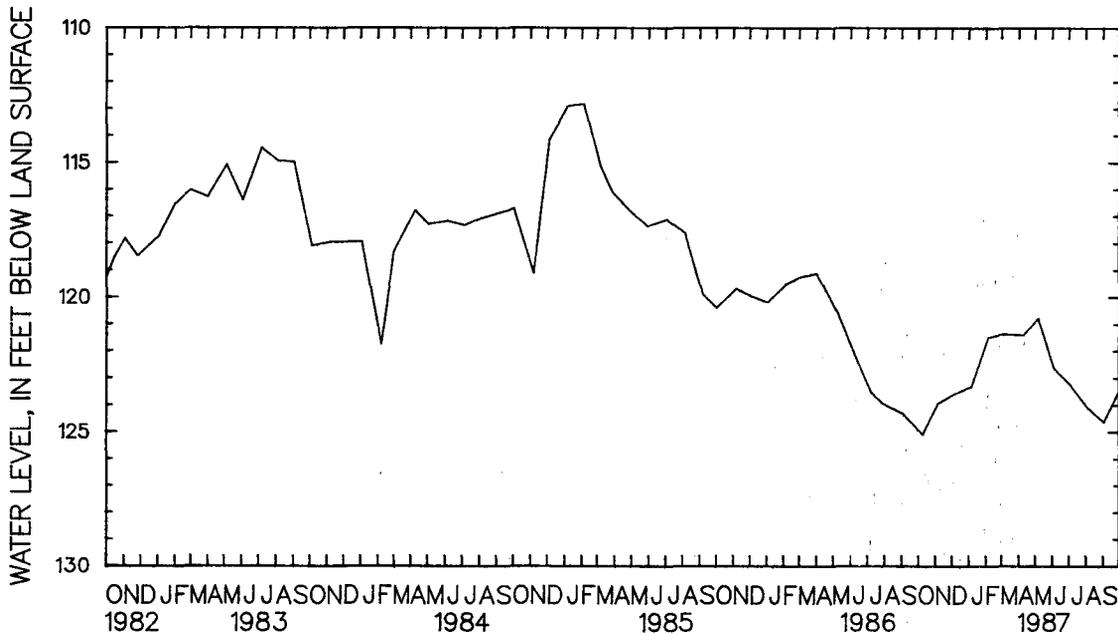
REMARKS.--Well used during construction of airport. Water level reported by driller 90 ft below land-surface datum, April 23, 1948.

PERIOD OF RECORD.--June 1959 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 86.60 ft below land-surface datum, Mar. 9, 1965; lowest measured, 125.12 ft below land-surface datum, Oct. 9, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL										
OCT 9	125.12	DEC 4	123.62	FEB 5	121.50	APR 9	121.42	JUN 4	122.66	AUG 5	124.13
NOV 6	123.95	JAN 6	123.33	MAR 4	121.38	MAY 6	120.79	JUL 2	123.22	SEP 3	124.65



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

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.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 500 ft; casing diameter 3 in. with depth 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.--Equipped with continuous strip chart recorder from July 19, 1948 to Jan. 18, 1968. Monthly measurements with chalk steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 37 ft above National Geodetic Vertical Datum of 1929.

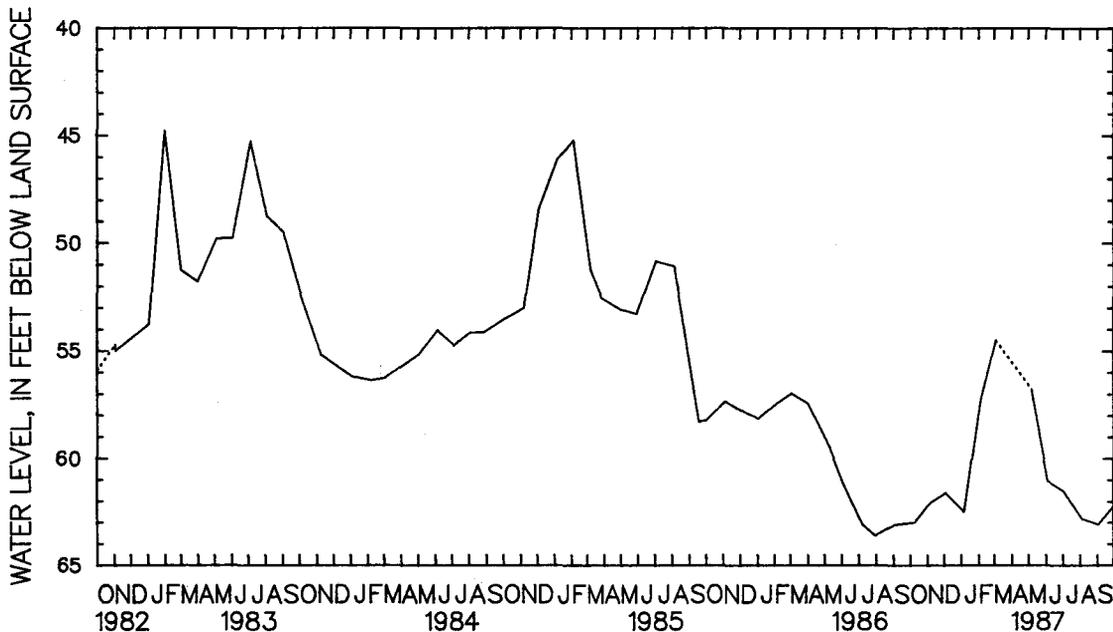
Measuring point: Top of casing, 1.47 ft above land-surface datum.

PERIOD OF RECORD.--June 1948 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 14.04 ft above land-surface datum, Sept. 2, 1952; lowest measured, 63.63 ft below land-surface datum, July 30, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL										
OCT 9	63.00	DEC 4	61.61	FEB 5	57.22	MAY 6	56.78	JUL 2	61.52	SEP 3	63.09
NOV 6	62.07	JAN 6	62.50	MAR 4	54.50	JUN 4	61.06	AUG 5	62.85		



5 YEAR HYDROGRAPH

OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

ANNE ARUNDEL COUNTY--Continued

WELL NUMBER.--AA Bf 3. SITE. ID.--390945076285601.

LOCATION.--Lat 39°09'45", long 76°28'56", Hydrologic Unit 02060003, 8 mi east of Glen Burnie at Fort Smallwood Park.

Owner: Baltimore City Department of Recreation and Parks.

AQUIFER.--Patapsco Formation.

WELL CHARACTERISTICS.--Dug brick-lined unused water-table well, diameter 48 in., depth 22.8 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 20 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Hole in concrete cover at land-surface datum.

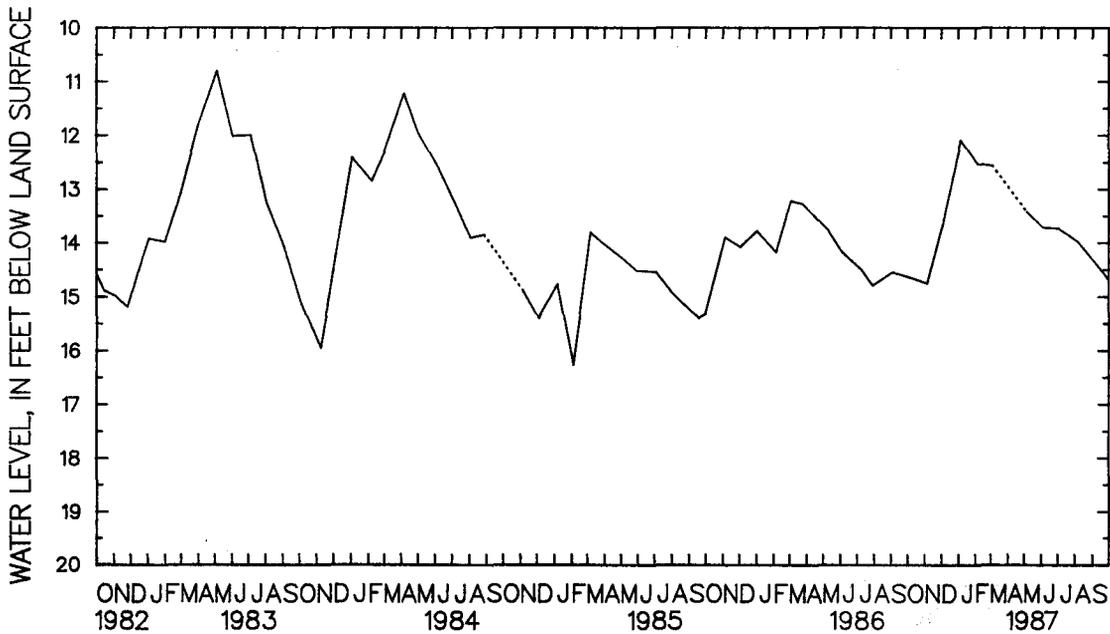
REMARKS.--Water level measured 14.10 ft below land-surface datum, Jan. 27, 1944.

PERIOD OF RECORD.--April 1956 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.40 ft below land-surface datum, Mar. 31, 1958; lowest measured, 19.09 ft below land-surface datum, Dec. 7, 1965.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL								
OCT 9	14.66	DEC 4	13.65	FEB 5	12.53	MAY 6	13.43	JUL 2	13.74	AUG 31	14.30
NOV 6	14.76	JAN 6	12.09	MAR 4	12.56	JUN 4	13.72	AUG 5	13.97		



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

ANNE ARUNDEL COUNTY--Continued

WELL NUMBER.--AA Cb 1. SITE ID.--390303076463201. PERMIT NUMBER.--AA-03-5695.

LOCATION.--Lat 39°03'03", Long 76°46'32", Hydrologic Unit 02060006, on Duvall Bridge Rd., Fort George G. Meade.

Owner: U.S. Army.

AQUIFER.--Patuxent Formation.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 505 ft; casing diameter 6 in. with depth to 485 ft; screened from 485 to 505 ft.

INSTRUMENTATION.--Prior to July 2, 1984, measured with chalked steel tape by USGS personnel. Digital recorder from July 2, 1984 to current year--60-minute punch.

DATUM.--Elevation of land-surface datum is 126 ft above National Geodetic Vertical Datum of 1929.

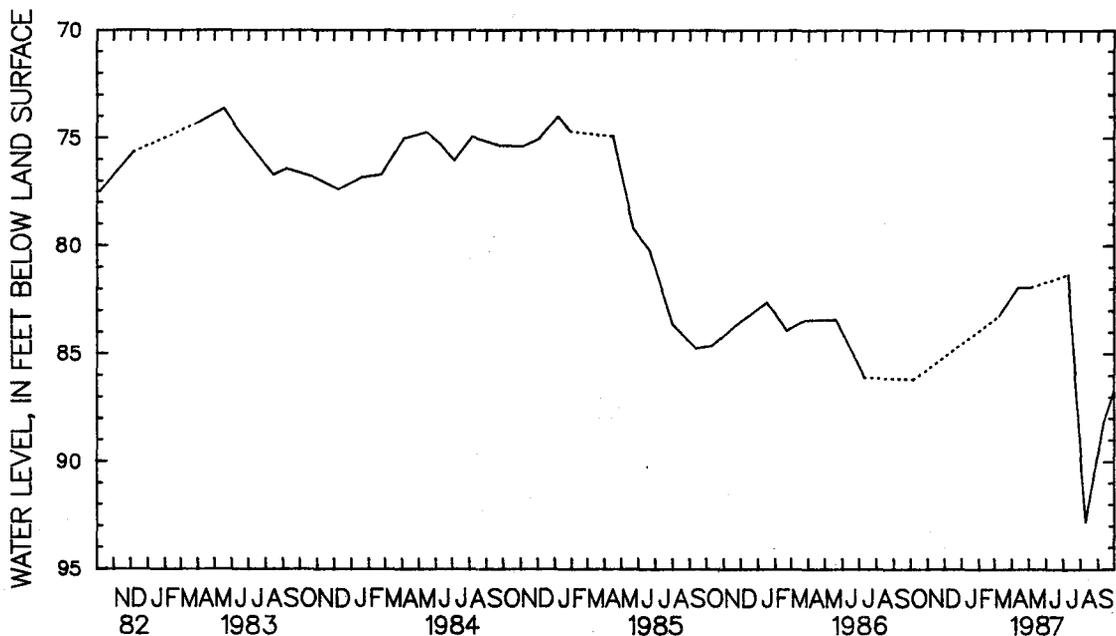
Measuring point: Top lip of 3 in. extension pipe, 3.35 ft above land-surface datum.

PERIOD OF RECORD.--March 1962 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 40.60 ft below land-surface datum, May 1, 1962; lowest measured, 92.84 ft below land-surface datum, Aug. 10, 1987.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL						
OCT 7	86.22	APR 13	81.95	JUL 10	81.34	SEP 11	88.17
MAR 10	83.25	MAY 6	81.93	AUG 10	92.84		



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

ANNE ARUNDEL COUNTY--Continued

WELL NUMBER.--AA Cc 40. SITE ID.--390423076432001. PERMIT NUMBER.--AA-03-5693.

LOCATION.--Lat 39°04'23", long 76°43'20", Hydrologic Unit 02060006, on Rifle Range Rd., Fort George G. Meade.

Owner: U.S. Army.

AQUIFER.--Patapsco Formation.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 238 ft; casing diameter 6 in. with depth to 208 ft; screened from 208 to 238 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel. Equipped with water level recorder Dec. 4, 1959 to July 21, 1960 and Jan. 12, 1978 to Dec. 1985.

DATUM.--Elevation of land-surface datum is 137 ft above National Geodetic Vertical Datum of 1929.

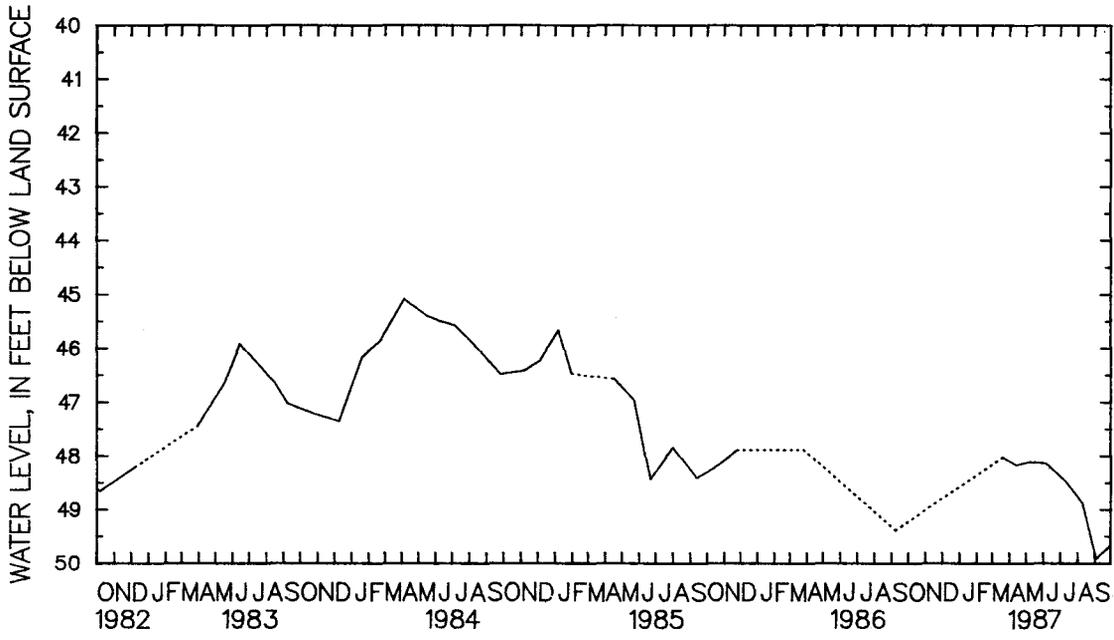
Measuring point: Top of recorder platform, 1.0 ft above land-surface datum.

PERIOD OF RECORD.--December 1959 to current year

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 42.58 ft below land-surface datum, Mar. 25, 1961; lowest measured, 50.09 ft below land-surface datum, Oct. 14, 1981.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAR 19	48.03	MAY 7	48.11	JUL 10	48.47	SEP 4	49.92
APR 13	48.17	JUN 5	48.14	AUG 10	48.89		



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

ANNE ARUNDEL COUNTY--Continued

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.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 220 ft; casing diameter 4 in. with depth to 147 ft;  
 screen diameter 2 in. from 147 to 157 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 100 ft above National Geodetic Vertical Datum of 1929.

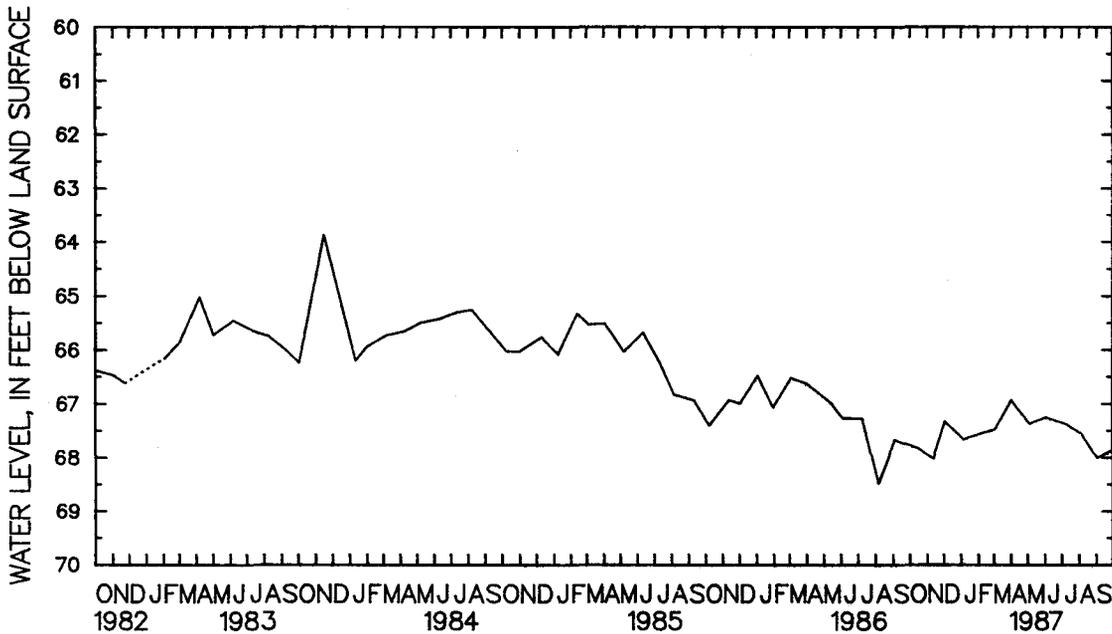
Measuring point: Top of coupling, 1.0 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 63.51 ft below land-surface datum, May 6, 1980;  
 lowest measured, 68.49 ft below land-surface datum, Aug. 6, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15	67.83	DEC 3	67.34	FEB 10	67.55	APR 2	66.94	JUN 3	67.26	AUG 5	67.56
NOV 12	68.03	JAN 6	67.67	MAR 4	67.48	MAY 5	67.38	JUL 8	67.38	SEP 2	68.01



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

ANNE ARUNDEL COUNTY--Continued

WELL NUMBER.--AA Fd 43. SITE ID.--384646076352401.

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.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 280 ft, casing diameter 4 in. with depth to 231 ft; casing diameter 2 in. from 231 to 270 ft; screen diameter 2 in. from 270 to 280 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 140 ft above National Geodetic Vertical Datum of 1929.

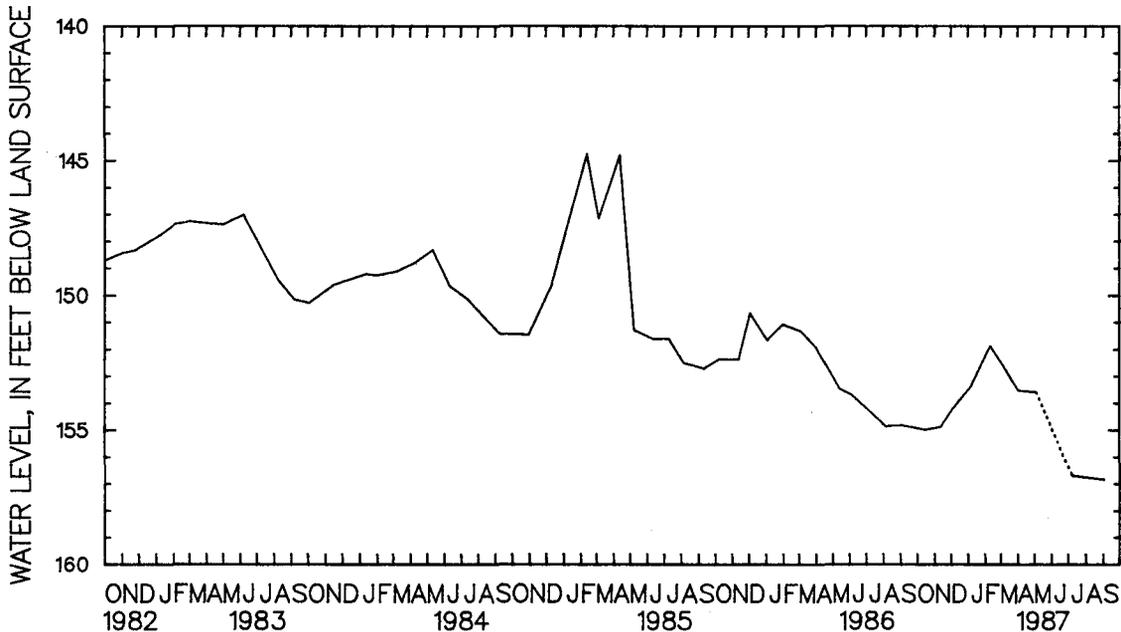
Measuring point: Top of coupling, 1.1 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 143.90 ft below land-surface datum, May 6, 1980; lowest measured, 156.85 ft below land-surface datum, Sept. 2, 1987.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15	155.01	DEC 3	154.25	FEB 10	151.88	APR 2	153.54	JUL 8	156.70
NOV 12	154.90	JAN 6	153.39	MAR 4	152.56	MAY 5	153.60	SEP 2	156.85



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

BALTIMORE CITY

WELL NUMBER.--2S5E- 1. SITE ID.--391617076322001.

LOCATION.--Lat 39°16'17", long 76°32'20", Hydrologic Unit 02060003, near Holabird Avenue and Pumphrey Street, at Holabird Industrial Park.

Owner: City of Baltimore.

AQUIFER.--Patuxent Formation.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 290 ft; casing diameter 13 in. to unknown depth.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 30 ft above National Geodetic Vertical Datum of 1929.

Measuring point: lip of discharge pipe, 2.0 ft above land-surface datum from April 1943 to April 1966;

top of casing extension, 1.8 ft above land-surface datum from April 1966 to current year.

REMARKS.--Water level reported 58 ft below land-surface datum in 1934.

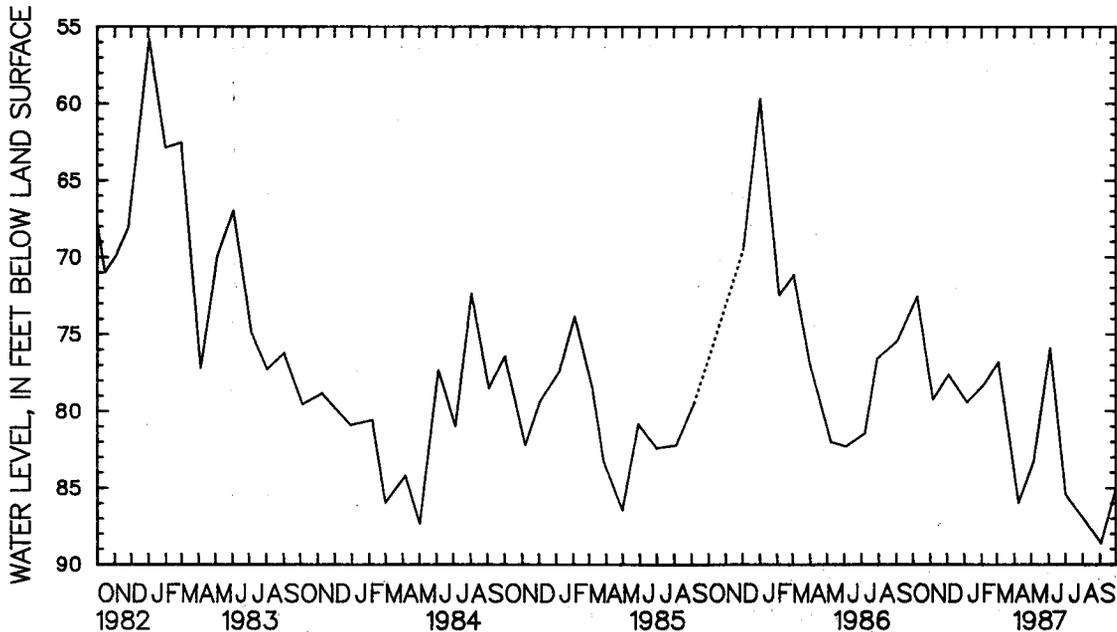
PERIOD OF RECORD.--April 1943 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 43.15 ft below land-surface datum, Sept. 27, 1976;

lowest measured, 103.70 ft below land-surface datum, Oct. 15, 1948.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL										
OCT 9	72.53	DEC 4	77.65	FEB 5	78.31	APR 9	85.98	JUN 4	75.91	AUG 5	87.15
NOV 6	79.26	JAN 6	79.43	MAR 4	76.82	MAY 6	83.25	JUL 2	85.46	SEP 3	88.63



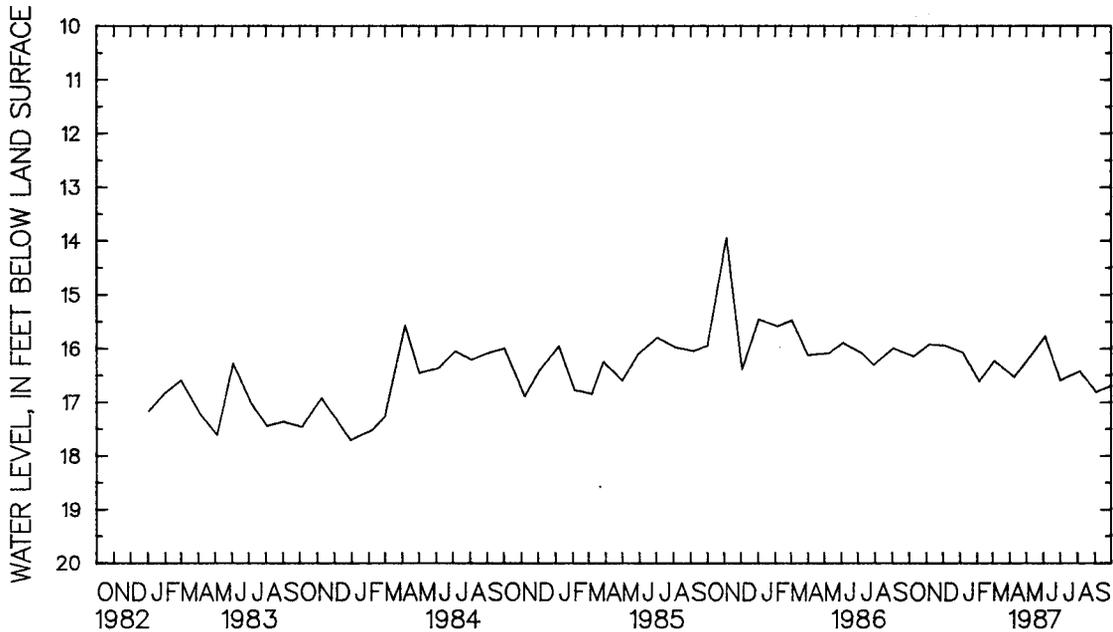
5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS  
 MARYLAND--Continued  
 BALTIMORE CITY--Continued

WELL NUMBER.--3S2E- 5. SITE ID.--391600076353301. PERMIT NUMBER.--BC-81-0087.  
 LOCATION.--Lat 39°16'00", long 76°35'33", Hydrologic Unit 02060003, at Latrobe Park.  
 Owner: U.S. Geological Survey.  
 AQUIFER.--Patuxent Formation.  
 WELL CHARACTERISTICS.--Drilled artesian observation well, depth 136 ft; casing diameter 4 in. with depth to 126 ft; screen diameter 4 in. from 126 to 136 ft.  
 INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.  
 DATUM.--Elevation of land-surface datum is 20 ft above National Geodetic Vertical Datum of 1929.  
 Measuring point: Top of casing, 0.5 ft above land-surface datum.  
 PERIOD OF RECORD.--January 1983 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 13.94 ft below land-surface datum, Nov. 5, 1985; lowest measured, 17.71 ft below land-surface datum, Dec. 30, 1983.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL										
OCT 9	16.15	DEC 4	15.95	FEB 5	16.62	APR 9	16.54	JUN 4	15.78	AUG 5	16.43
NOV 6	15.93	JAN 6	16.08	MAR 4	16.23	MAY 6	16.18	JUL 2	16.60	SEP 3	16.82



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

BALTIMORE CITY--Continued

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.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 75 ft; casing diameter 4 in. with depth to 63 ft; screen diameter 4 in. from 63 to 73 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 10 ft above National Geodetic Vertical Datum of 1929.

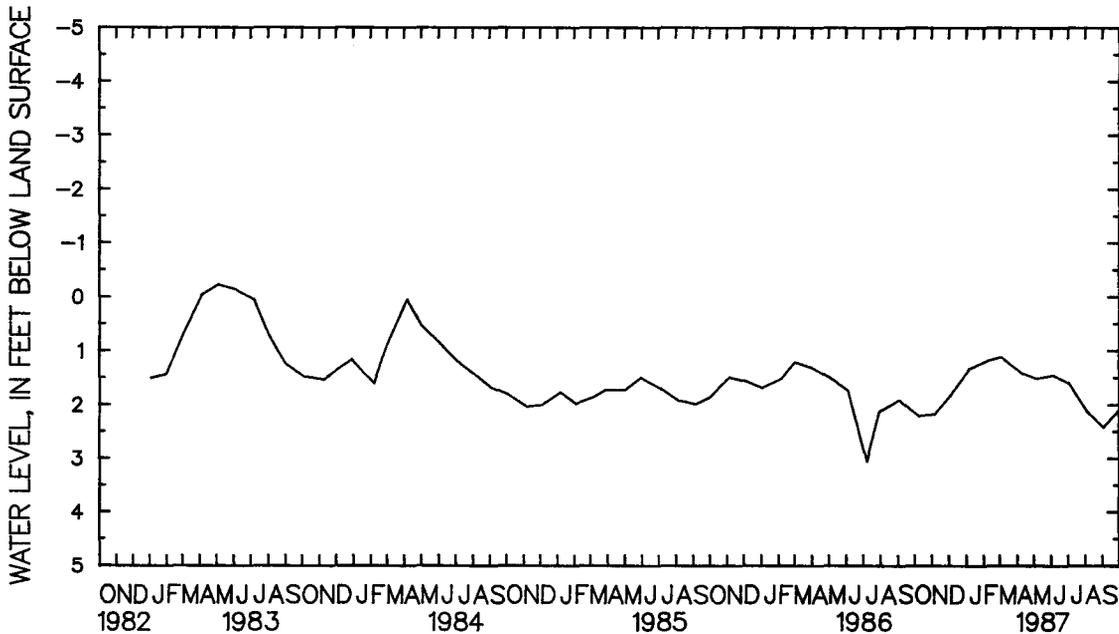
Measuring point: Top of casing, .7 ft above land-surface datum.

PERIOD OF RECORD.--January 1983 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, .22 ft above land-surface datum, May 5, 1983; lowest measured, 3.07 ft below land-surface datum, July 8, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL										
OCT 9	2.22	DEC 4	1.83	FEB 5	1.20	APR 9	1.42	JUN 4	1.46	AUG 5	2.14
NOV 8	2.19	JAN 6	1.34	MAR 4	1.12	MAY 6	1.52	JUL 2	1.60	SEP 3	2.43



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

BALTIMORE CITY--Continued

WELL NUMBER.--5S2E- 24. SITE ID.--391349076354501. PERMIT NUMBER.--BC-81-0089.  
 LOCATION.--Lat 39°13'49", long 76°35'45", Hydrologic Unit 02060003, at Farrington Park.  
 Owner: U.S. Geological Survey.

AQUIFER.--Patuxent Formation.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 272 ft; casing diameter 4 in. with depth to 262 ft; screen diameter 3 in. from 262 ft to 272 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 80 ft above National Geodetic Vertical Datum of 1929.

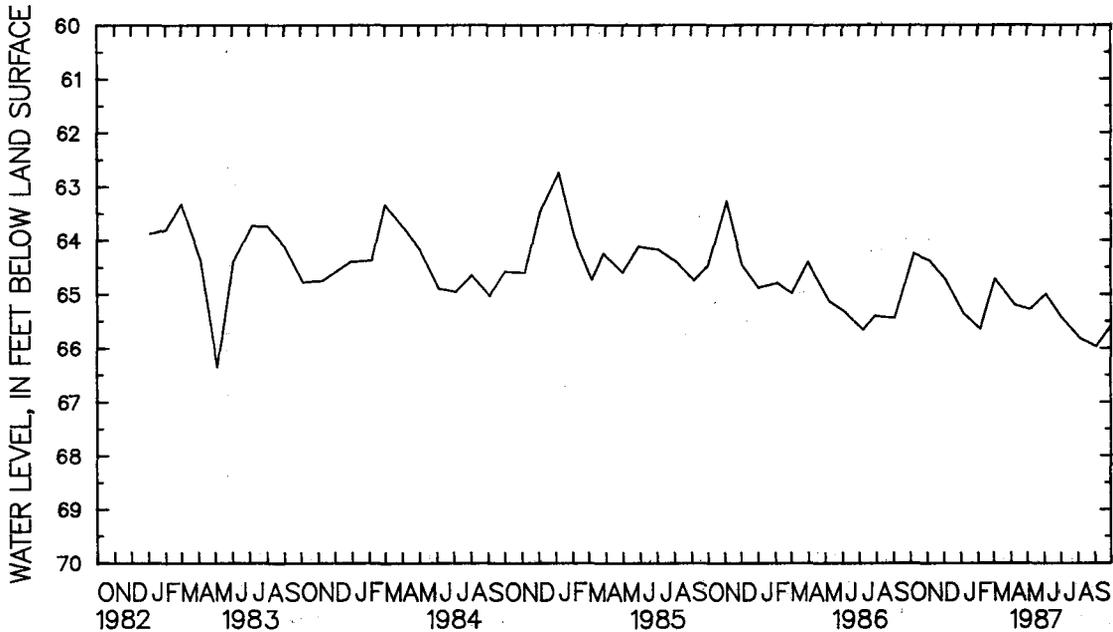
Measuring point: Top of casing, .25 ft above land-surface datum.

PERIOD OF RECORD.--January 1983 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 62.74 ft below land-surface datum, Jan. 7, 1985; lowest measured, 66.36 ft below land-surface datum, May 5, 1983.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL										
OCT 9	64.25	DEC 4	64.72	FEB 5	65.65	APR 9	65.21	JUN 4	65.00	AUG 5	65.83
NOV 6	64.38	JAN 6	65.36	MAR 4	64.72	MAY 6	65.29	JUL 2	65.43	SEP 3	65.98



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

BALTIMORE CITY--Continued

WELL NUMBER.--SS2E- 25. SITE ID.--391349076354502. PERMIT NUMBER.--BC-81-0090.  
 LOCATION.--Lat 39°13'49", long 76°35'45", Hydrologic Unit 02060003, at Farrington Park.  
 Owner: U.S. Geological Survey.

AQUIFER.--Patapsco Formation.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 115 ft; casing diameter 4 in. with depth to 105 ft; screen diameter 3 in. from 105 to 115 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 80 ft above National Geodetic Vertical Datum of 1929.

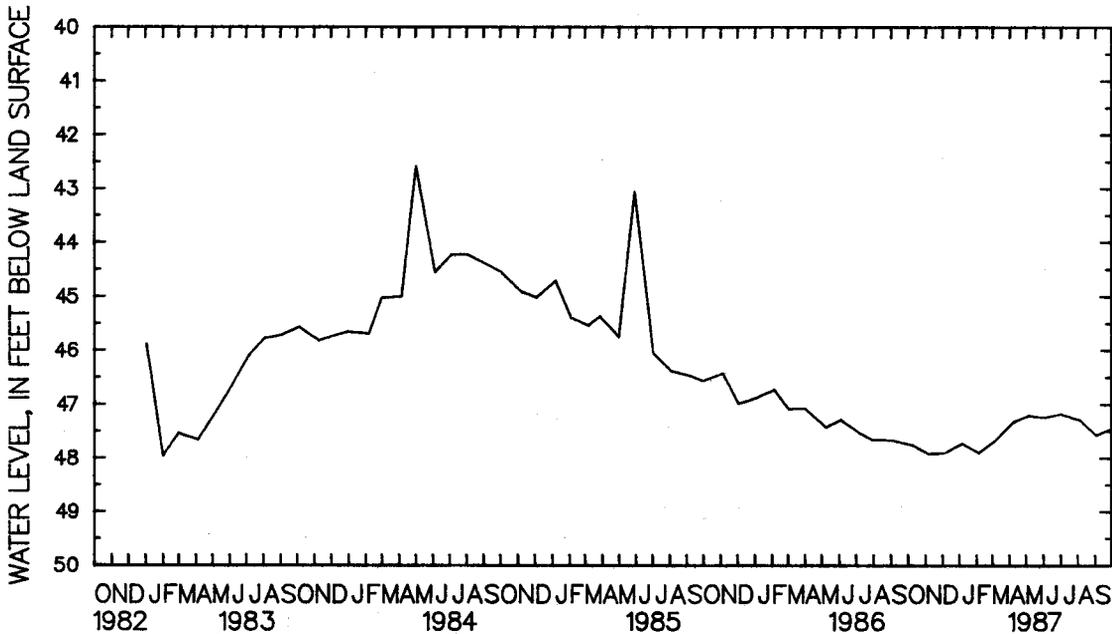
Measuring point: Top of casing, .2 ft above land-surface datum.

PERIOD OF RECORD.--January 1983 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 42.58 ft below land-surface datum, May 2, 1984;  
 lowest measured, 47.97 ft below land-surface datum, Feb. 1, 1983.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL										
OCT 9	47.77	DEC 4	47.92	FEB 5	47.91	APR 9	47.33	JUN 4	47.25	AUG 5	47.30
NOV 6	47.93	JAN 6	47.74	MAR 4	47.70	MAY 6	47.22	JUL 2	47.19	SEP 3	47.58



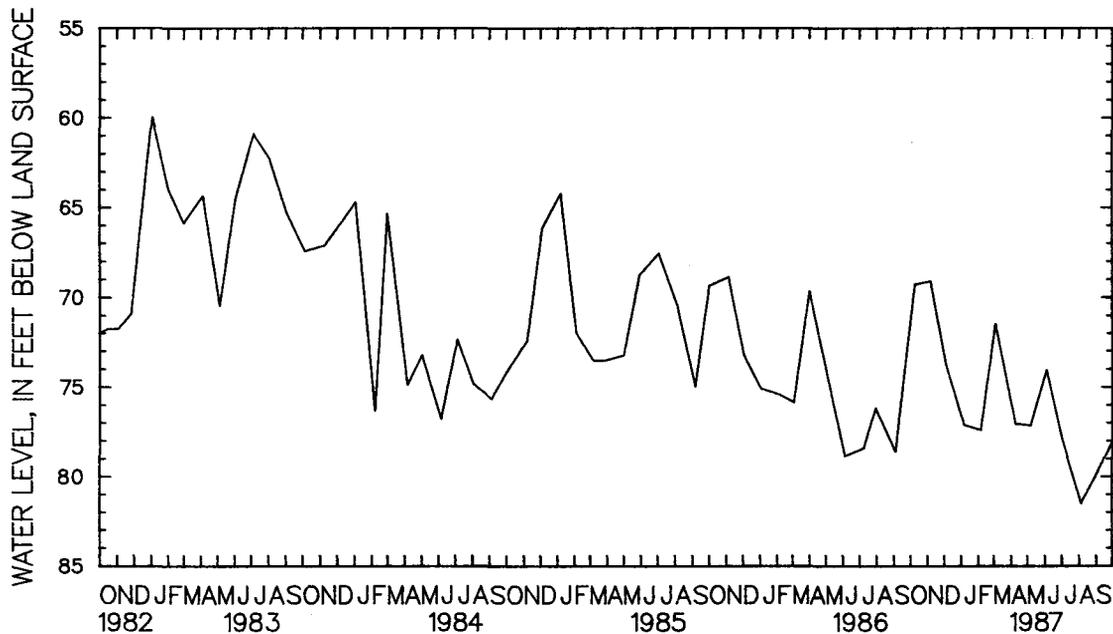
5 YEAR HYDROGRAPH  
 OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS  
 MARYLAND--Continued  
 BALTIMORE CITY--Continued

WELL NUMBER.--7S4E- 1. SITE ID.--391213076324401. PERMIT NUMBER.--BC-01-7129.  
 LOCATION.--Lat 39°12'13", long 76°32'44", Hydrologic Unit 02060003, near Hawkins Point, at SCM Plant.  
 Owner: SCM Pigments Corp.  
 AQUIFER.--Patuxent Formation.  
 WELL CHARACTERISTICS.--Drilled unused artesian well, depth 638 ft; casing diameter 2 in. with depth to 565 ft; screen diameter 2 in. from 565 to 575 ft.  
 INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.  
 DATUM.--Elevation of land-surface datum is 40 ft above National Geodetic Vertical Datum of 1929.  
 Measuring point: Top of casing, 1.55 ft above land-surface datum.  
 PERIOD OF RECORD.--September 1957 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 59.94 ft below land-surface datum, Jan. 3, 1983;  
 lowest measured, 98.17 ft below land-surface datum, Mar. 30, 1971.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL										
OCT 9	69.26	DEC 4	73.77	FEB 5	77.42	APR 9	77.08	JUN 4	74.07	AUG 5	81.53
NOV 6	69.10	JAN 6	77.14	MAR 4	71.48	MAY 6	77.16	JUL 2	77.98	SEP 3	79.79



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

BALTIMORE COUNTY

WELL NUMBER.--BA Cd 26. SITE ID.--393129076384201. PERMIT NUMBER.--BA-02-8527.

LOCATION.--Lat 39°31'29", long 76°38'42", Hydrologic Unit, 02060003, 1.4 mi south of Sparks near York Rd.

Owner: Diecraft, Inc.

AQUIFER.--Baltimore Gneiss.

WELL CHARACTERISTICS.--Drilled unused water-table well, depth 250 ft; casing diameter 6 in. with depth to 19 ft; open hole.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 480 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of casing, .3 ft above land-surface datum.

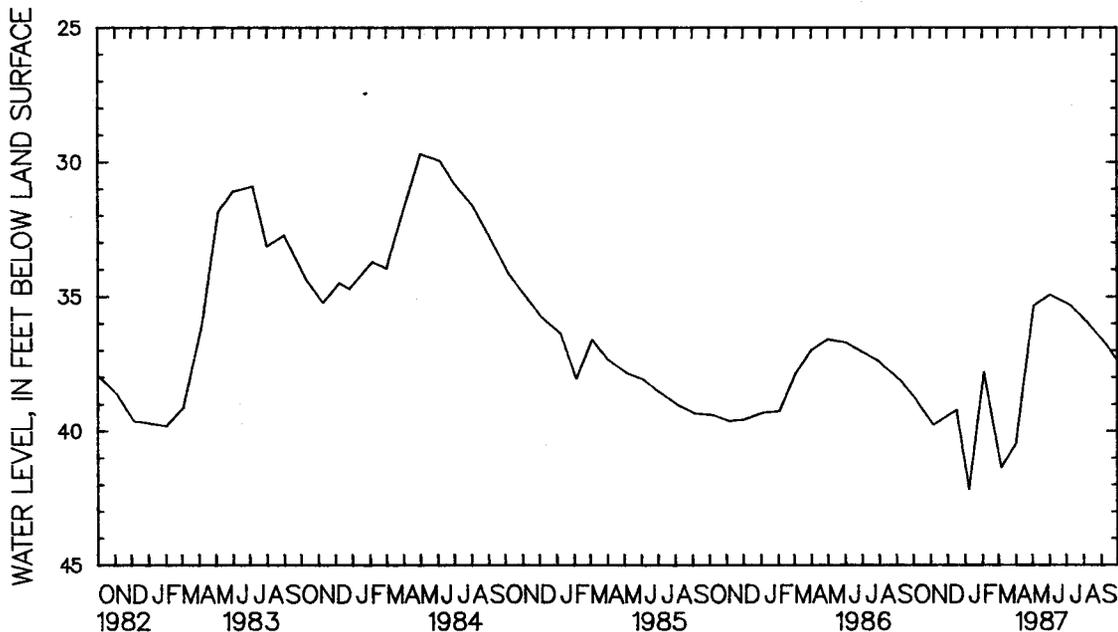
PERIOD OF RECORD.--January 1959 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 26.42 ft below land-surface datum, Sept. 9, 1975;

lowest measured, 80.20 ft below land-surface datum, Dec. 23, 1969.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 3	38.75	DEC 17	39.24	FEB 4	37.80	APR 1	40.50	JUN 2	34.93	AUG 5	35.90
NOV 6	39.80	JAN 8	42.19	MAR 6	41.37	MAY 4	35.33	JUL 8	35.31	SEP 10	36.78



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

## GROUND-WATER LEVELS

MARYLAND--Continued

BALTIMORE COUNTY--Continued

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.

WELL CHARACTERISTICS.--Drilled unused water-table well, depth 350 ft; casing diameter 10 in. with depth to 12.4 ft; casing diameter 6 in. from 0 to 33.1 ft; open hole.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 536 ft above National Geodetic Vertical Datum of 1929.

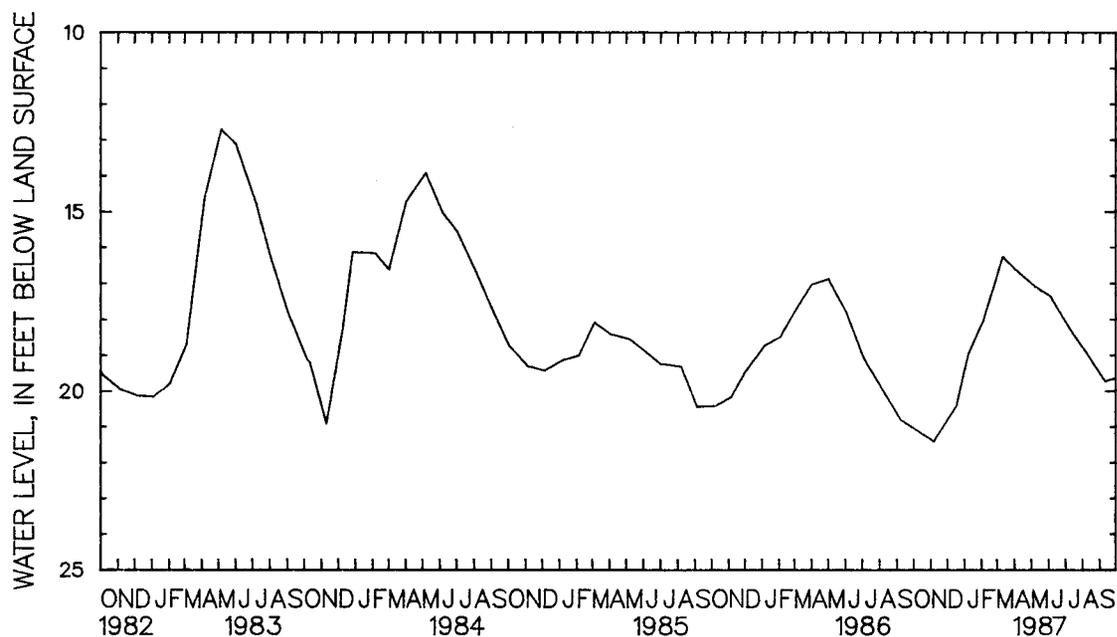
Measuring point: Top of casing, 2.0 ft above land-surface datum.

PERIOD OF RECORD.--November and December 1955, November 1956 through September 1975, July 1977 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 12.60 ft below land-surface datum, June 23, 1972; lowest measured, 21.54 ft below land-surface datum, Feb. 10, 1966.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 6	21.42	JAN 8	18.97	MAR 11	16.26	MAY 4	17.09	JUL 10	18.30	SEP 11	19.74
DEC 17	20.43	FEB 4	18.04	APR 1	16.60	JUN 3	17.35	AUG 5	18.87		



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

BALTIMORE COUNTY--Continued

WELL NUMBER.--BA Ea 18. SITE ID.--392045076512501. PERMIT NUMBER.--BA-01-8151.

LOCATION.--Lat 39°20'45", long 76°51'25", Hydrologic Unit 02060003, at Granite.

Owner: Maryland National Guard.

AQUIFER.--Woodstock Granite.

WELL CHARACTERISTICS.--Drilled unused water-table well, depth 250 ft; casing diameter 10 in. with depth to 50.7 ft; casing diameter 6 in. with depth to 71.3 ft; open hole.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 491 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of casing, 1.5 ft above land-surface datum.

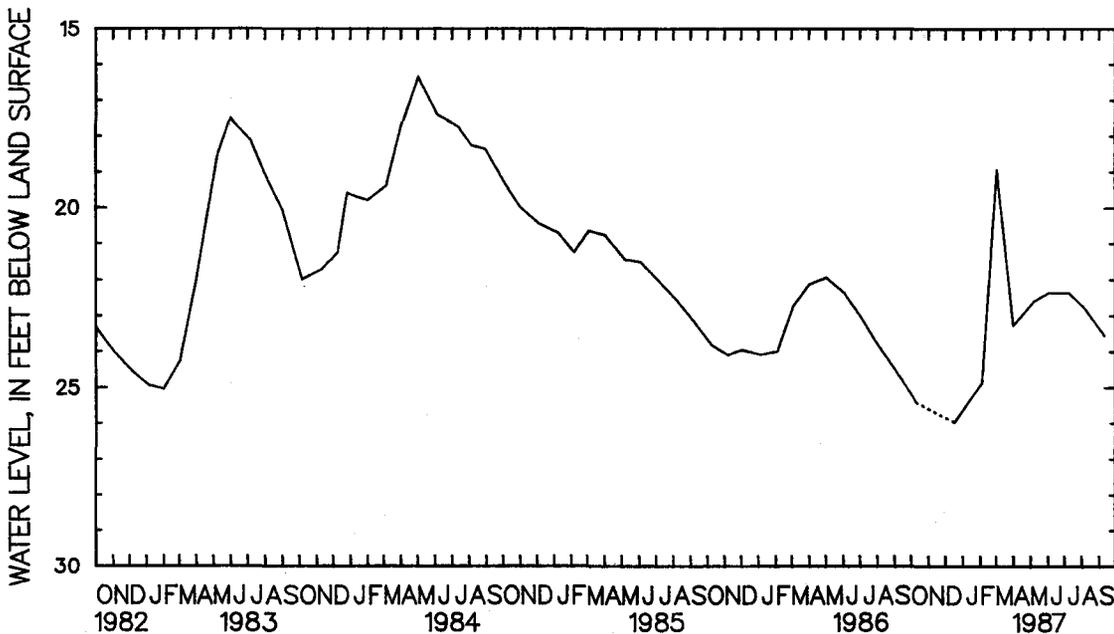
REMARKS.--Water level measured 24 ft below land-surface datum, Dec. 20, 1954.

PERIOD OF RECORD.-- November 1956 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 13.94 ft below land-surface datum, June 24, 1972; lowest measured, 27.57 ft below land-surface datum, Sept. 13, 1966.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 10	25.42	JAN 8	25.46	MAR 3	18.93	MAY 8	22.60	JUL 9	22.37	SEP 10	23.55
DEC 17	25.98	FEB 4	24.88	APR 1	23.28	JUN 3	22.37	AUG 6	22.79		



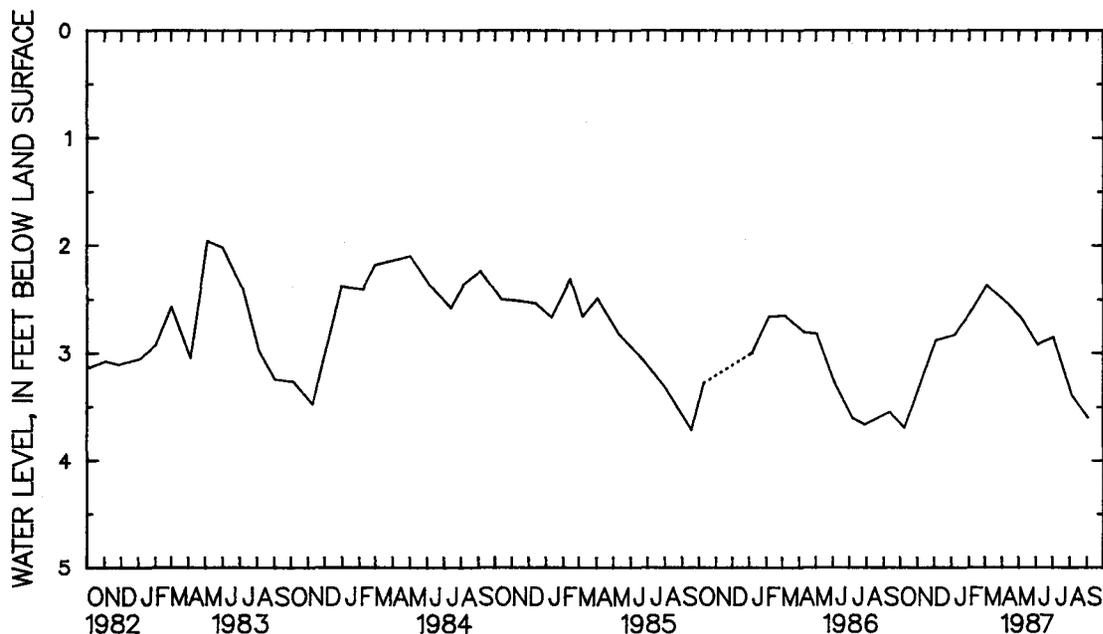
5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS  
MARYLAND--Continued  
BALTIMORE COUNTY--Continued

WELL NUMBER.--BA Ec 43. SITE ID.--392305076432001.  
 LOCATION.--Lat 39°23'05", long 76°43'20", Hydrologic Unit 02060003, near Pikesville at Druid Ridge Cemetery.  
 Owner: Druid Ridge Cemetery.  
 AQUIFER.--Baltimore Gneiss.  
 INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.  
 WELL CHARACTERISTICS.--Drilled unused water-table well, depth 111 ft; casing diameter 6 in. with depth to 40 ft; open hole.  
 DATUM.--Elevation of land-surface datum is 500 ft above National Geodetic Vertical Datum of 1929.  
 Measuring point: Top of casing, 1.0 ft above land-surface datum.  
 PERIOD OF RECORD.--March 1956 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.27 ft below land-surface datum, June 24, 1972; lowest measured, 4.69 ft below land-surface datum, Nov. 11, 1964.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL										
OCT 9	3.70	DEC 4	2.88	FEB 5	2.60	APR 9	2.53	JUN 4	2.92	AUG 5	3.40
NOV 6	3.29	JAN 6	2.83	MAR 4	2.37	MAY 6	2.68	JUL 2	2.85	SEP 3	3.60



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

BALTIMORE COUNTY--Continued

WELL NUMBER.--BA Fe 19. SITE ID.--391607076312901.

LOCATION.--Lat 39°16'07", long 76°31'29", Hydrologic Unit 02060003, 0.2 mi east of Willow Spring Rd., Dundalk.

Owner: Seagrams Distillery.

AQUIFER.--Patuxent Formation.

WELL CHARACTERISTICS.--Drilled unused artesian well, depth 402 ft; casing diameter 8 in. to unknown depth; screen length 35 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 30 ft above National Geodetic Vertical Datum of 1929.

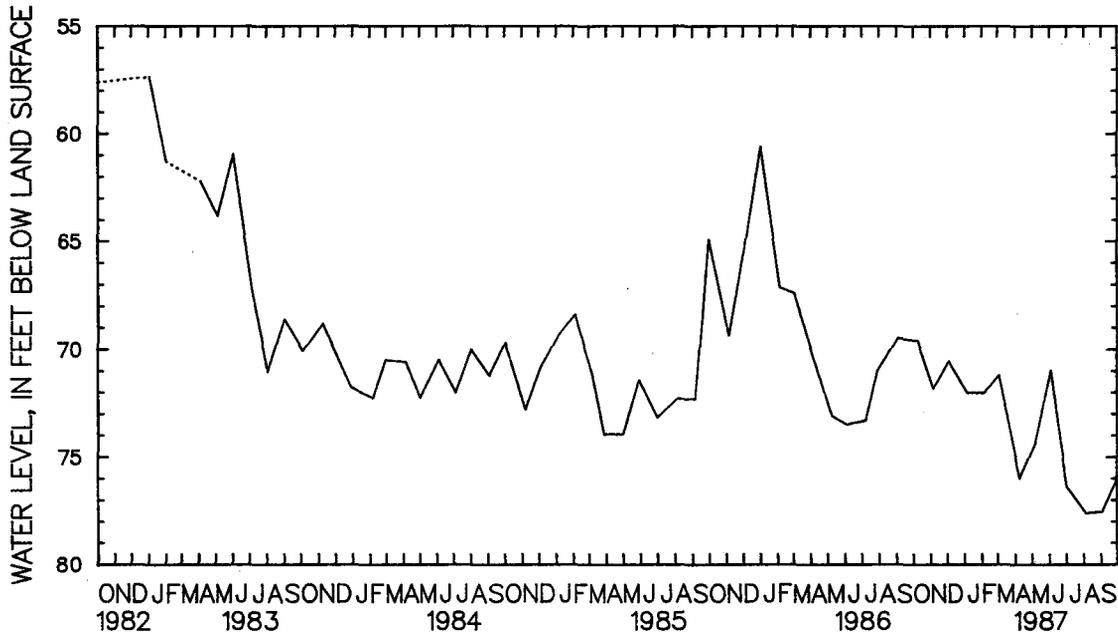
Measuring point: Top of casing, .5 ft above land-surface datum.

PERIOD OF RECORD.--January 1952 to March 1954, January 1983 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 57.34 ft below land-surface datum, Jan. 3, 1983; lowest measured, 85.88 ft below land-surface datum, Oct. 6, 1952.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL										
OCT 9	69.61	DEC 4	70.56	FEB 5	72.05	APR 9	76.02	JUN 4	70.97	AUG 5	77.63
NOV 6	71.84	JAN 6	72.04	MAR 4	71.21	MAY 6	74.41	JUL 2	76.39	SEP 3	77.56



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS  
MARYLAND--Continued  
BALTIMORE COUNTY--Continued

WELL NUMBER.--BA Gf 11. SITE ID.--391356076293501.

LOCATION.--Lat 39°13'56", long 76°29'35", Hydrologic Unit 02060003, near Tin Mill Rd., Sparrows Point.

Owner: Bethlehem Steel Co.

AQUIFER.-- Patuxent Formation.

WELL CHARACTERISTICS.--Drilled unused artesian well, depth 645 ft; casing diameter 14 in. to unknown depth.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 13.6 ft above National Geodetic Vertical Datum of 1929.

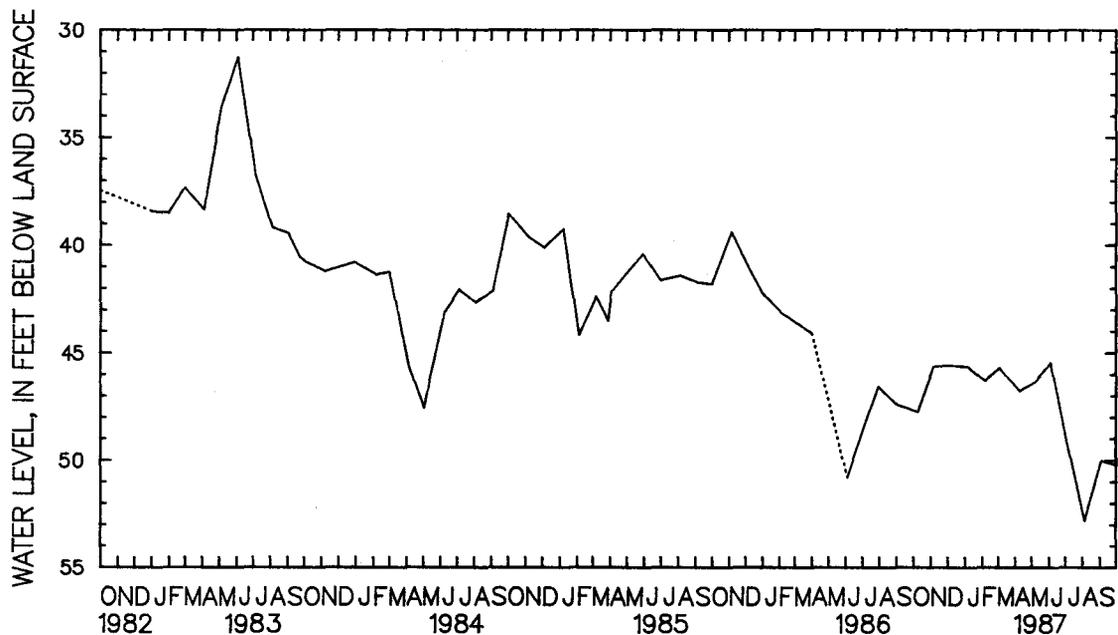
Measuring point: Top of casing 3.3 ft above land-surface datum.

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 datum, June 3, 1983;  
lowest measured, 52.83 ft below land-surface datum, Aug. 5, 1987.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL										
OCT 9	47.76	DEC 4	45.57	FEB 5	46.30	APR 9	46.78	JUN 4	45.46	AUG 5	52.83
NOV 6	45.63	JAN 6	45.64	MAR 4	45.71	MAY 6	46.37	JUL 2	48.91	SEP 3	50.02



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

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.

WELL CHARACTERISTICS.--Drilled unused artesian well, depth 308 ft; casing diameter 10 to 6 in. with depth to 283 ft; screened from 283 to 304 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 10 ft above National Geodetic Vertical Datum of 1929.

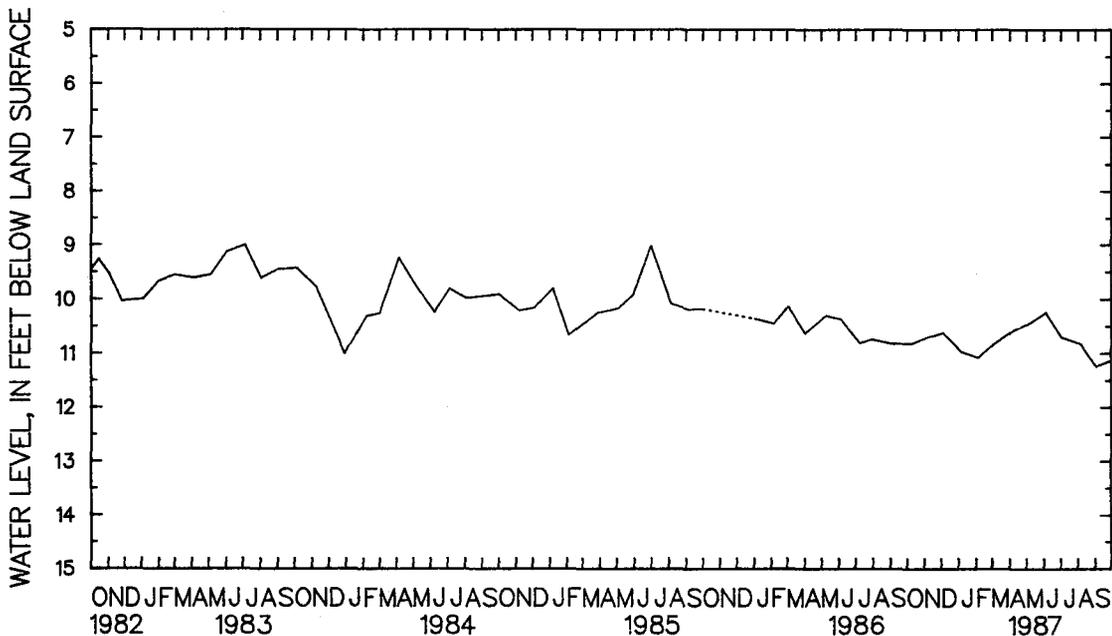
Measuring point: Top of casing, .6 ft above land-surface datum.

PERIOD OF RECORD.--September 1943 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.01 ft below land-surface datum, July 6, 1983; lowest measured, 109.54 ft below land-surface datum, July 18, 1955.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL										
OCT 9	10.83	DEC 4	10.63	FEB 5	11.09	APR 9	10.57	JUN 4	10.25	AUG 5	10.83
NOV 6	10.71	JAN 6	10.98	MAR 4	10.83	MAY 6	10.45	JUL 2	10.71	SEP 3	11.25



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

BALTIMORE COUNTY--Continued

WELL NUMBER.--BA Gf 169. SITE. ID.--391256076282501.

LOCATION.--Lat 39°12'56", long 76°28'25", Hydrologic Unit 02060003, at Sparrows Point.

Owner: Bethlehem Steel Co.

AQUIFER.--Patapsco Formation.

WELL CHARACTERISTICS.--Drilled unused artesian well, depth 224 ft; casing diameter 10 to 6 in. with depth to 202 ft; screened from 202 to 222 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 10 ft above National Geodetic Vertical Datum of 1929.

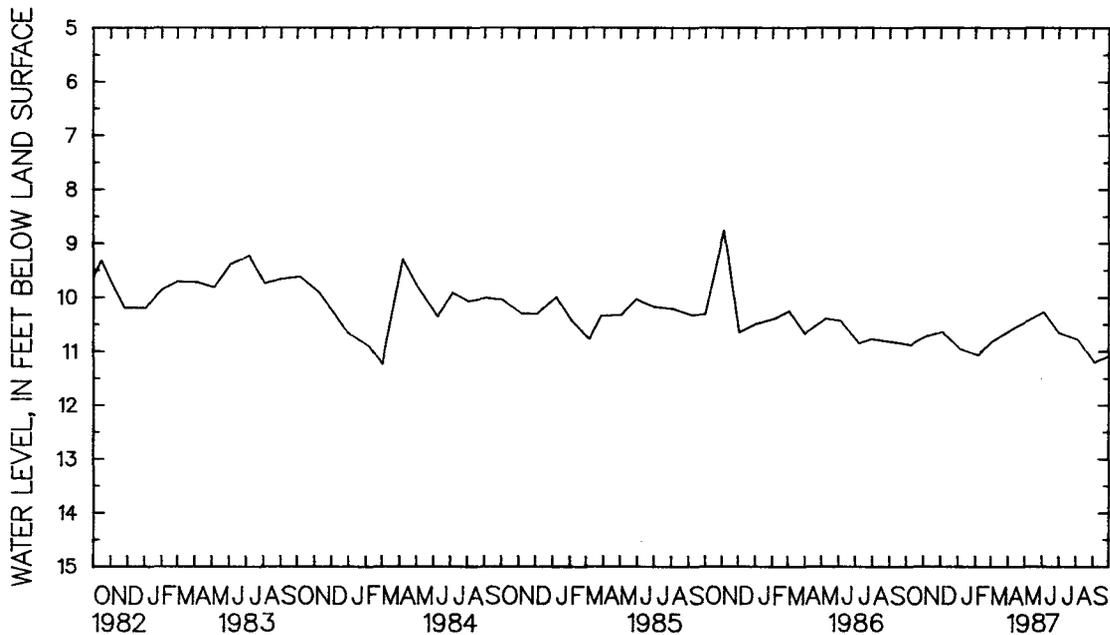
Measuring point: Top of casing, 1.0 ft above land-surface datum.

PERIOD OF RECORD.--August 1943 to September 1946, March 1948 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.76 ft below land-surface datum, Nov. 5, 1985; lowest measured, 85.19 ft below land-surface datum, Sept. 30, 1957.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL										
OCT 9	10.89	DEC 4	10.65	FEB 5	11.08	APR 9	10.59	JUN 4	10.28	AUG 5	10.79
NOV 6	10.73	JAN 6	10.97	MAR 4	10.82	MAY 6	10.44	JUL 2	10.67	SEP 3	11.21



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

BALTIMORE COUNTY--Continued

WELL NUMBER.--BA Gf 178. SITE ID.--391226076253401.

LOCATION.--Lat 39°12'26", long 76°25'34", Hydrologic Unit 02060003, at former Bay Shore Park.

Owner: Bethlehem Steel Co.

AQUIFER.--Patapsco Formation.

WELL CHARACTERISTICS.--Drilled unused artesian well, depth 339.5 ft; casing diameter 8 in. to unknown depth; screen at unknown depth.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 6 ft above National Geodetic Vertical Datum of 1929.

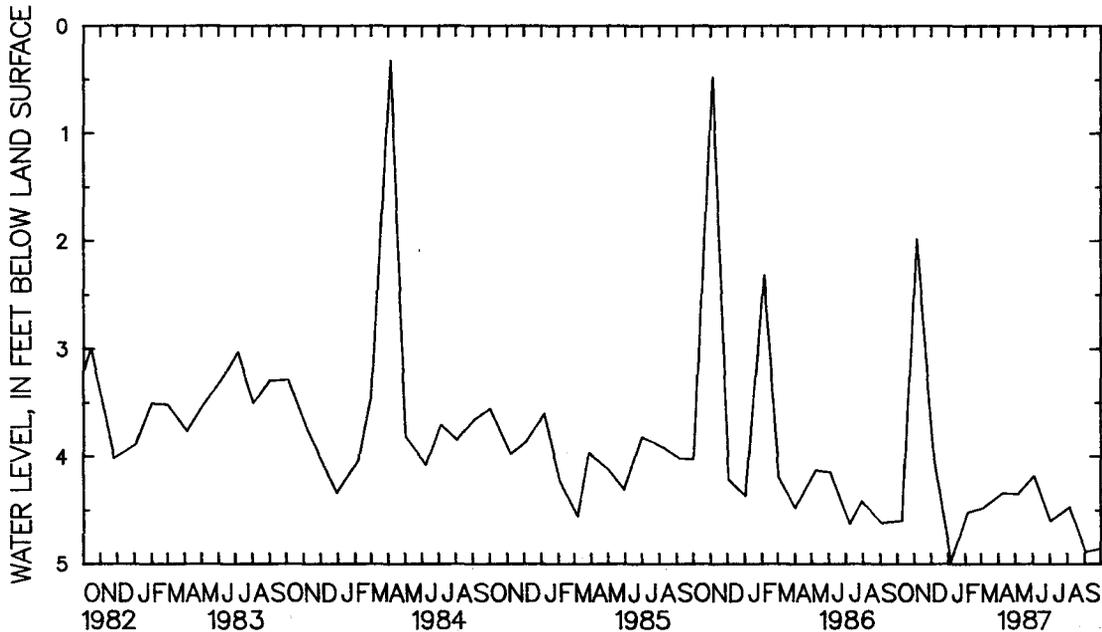
Measuring point: Top of casing, 1.0 ft above land-surface datum.

PERIOD OF RECORD.--October 1945 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, .32 ft below land-surface datum, April 6, 1984; lowest measured, 61.97 ft below land-surface datum, Dec. 2, 1957.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL										
OCT 9	4.60	DEC 4	3.94	FEB 5	4.52	APR 9	4.34	JUN 4	4.18	AUG 5	4.47
NOV 6	1.98	JAN 6	4.98	MAR 4	4.48	MAY 6	4.35	JUL 2	4.60	SEP 3	4.89



5 YEAR HYDROGRAPH

OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

CALVERT COUNTY

WELL NUMBER.--CA Bb 27. SITE ID.--384333076394701. PERMIT NUMBER.--CA-73-3303.  
 LOCATION.--Lat 38°43'33", long 76°39'47", Hydrologic Unit 02060006, at Dunkirk Regional Park, Dunkirk.  
 Owner: U.S. Geological Survey.

AQUIFER.--Aquia Formation.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 320 ft; casing diameter 4 in. with depth to 250 ft; casing diameter 2 in. from 250 to 310 ft; screen diameter 2 in. from 310 to 320 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 140 ft above National Geodetic Vertical Datum of 1929.

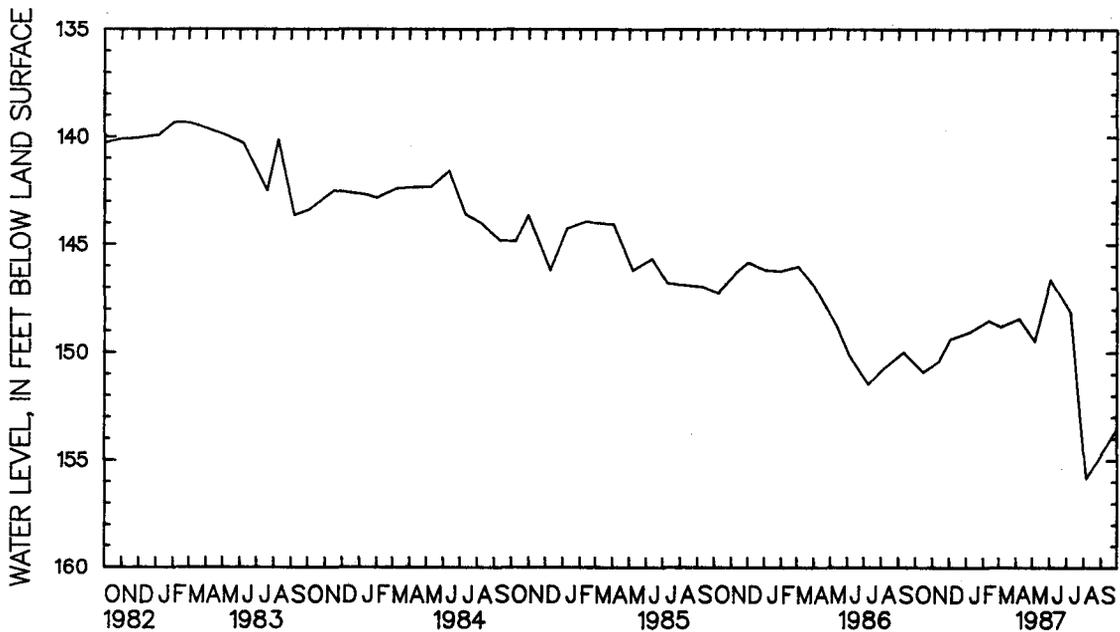
Measuring point: Top of casing, 2.3 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 133.82 ft below land-surface datum, May 6, 1980; lowest measured, 155.86 ft below land-surface datum, Aug. 5, 1987.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15	150.93	DEC 3	149.39	FEB 10	148.54	APR 7	148.45	JUN 3	146.64	AUG 5	155.86
NOV 12	150.43	JAN 6	149.08	MAR 4	148.83	MAY 5	149.51	JUL 8	148.13	SEP 11	154.35



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

CALVERT COUNTY--Continued

WELL NUMBER.--CA Bb 28. SITE ID.--384333076394702. PERMIT NUMBER.--CA-73-3721.  
 LOCATION.--Lat 38°43'33", long 76°39'47", Hydrologic Unit 02060006, at Dunkirk Regional Park, Dunkirk.  
 Owner: U.S. Geological Survey.

AQUIFER.--Nanjemoy Formation.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 170 ft; casing diameter 4 in. with depth to 147 ft; casing diameter 2 in. from 147 to 160 ft; screen diameter 2 in. from 160 to 170 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 140 ft above National Geodetic Vertical Datum of 1929.

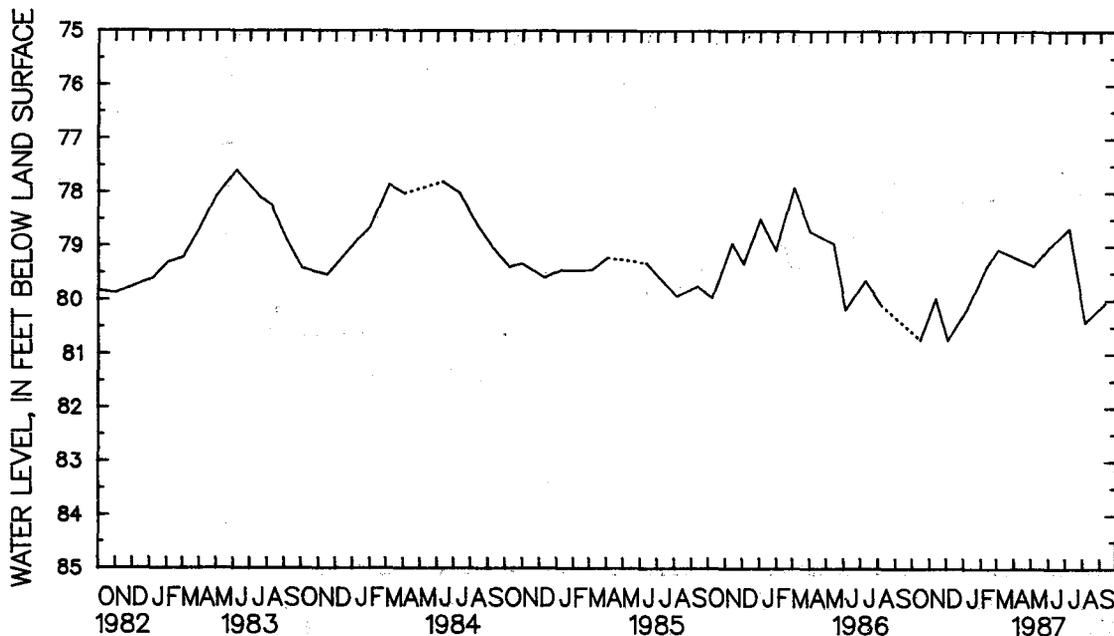
Measuring point: Top of casing, 2.05 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 77.60 ft below land-surface datum, June 7, 1983;  
 lowest measured, 81.18 ft below land-surface datum, Jan. 5, 1982.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15	80.74	DEC 3	80.75	FEB 10	79.40	MAY 5	79.37	JUL 8	78.67	SEP 11	80.06
NOV 12	79.98	JAN 6	80.19	MAR 4	79.07	JUN 3	79.02	AUG 5	80.42		



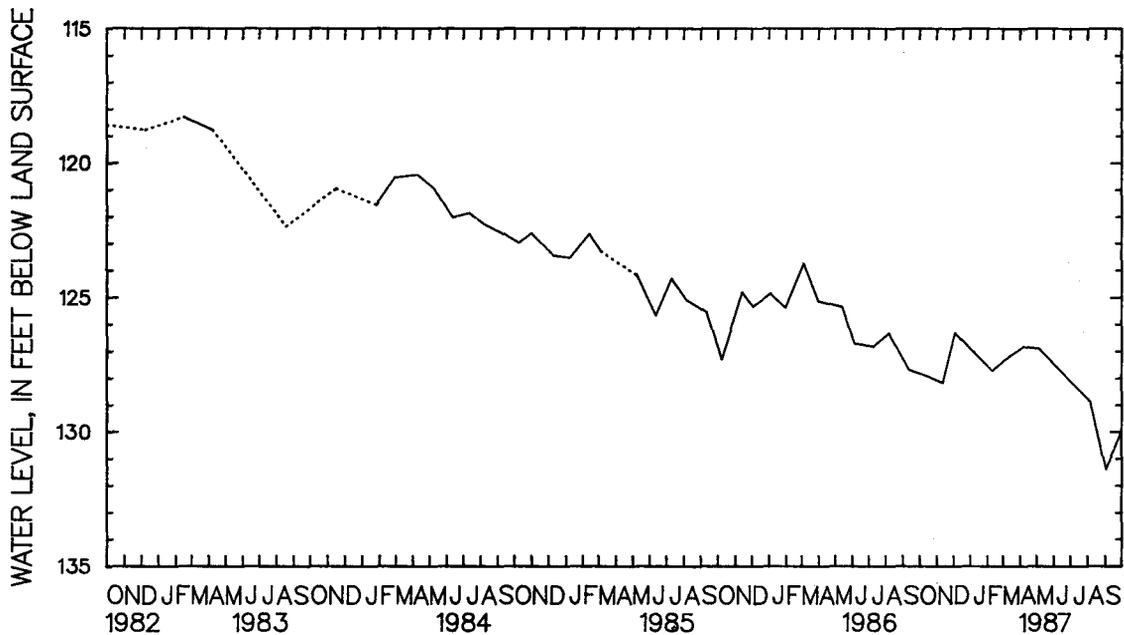
5 YEAR HYDROGRAPH  
 OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

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.  
 WELL CHARACTERISTICS.--Drilled artesian observation well, depth 476 ft; casing diameter 6 in., screened from 462 to 476 ft.  
 INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel. Equipped with water level recorder  
 Sept. 15, 1958 to Dec. 7, 1962.  
 DATUM.--Elevation of land-surface datum is 111.31 ft above National Geodetic Vertical Datum of 1929.  
 Measuring point: Top of casing, .3 ft above land-surface datum.  
 REMARKS.--Water level measured 76.88 ft below land-surface datum, Sept. 10, 1952.  
 PERIOD OF RECORD.--September 1958 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 103.63 ft below land-surface datum, May 14, 1961;  
 lowest measured, 131.40 ft below land-surface datum, Sept. 2, 1987.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15	127.94	DEC 3	126.32	FEB 10	127.74	APR 7	126.84	JUN 3	127.52	AUG 5	128.88
NOV 12	128.19	JAN 6	127.03	MAR 4	127.33	MAY 5	126.91	JUL 8	128.25	SEP 2	131.40



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

CALVERT COUNTY--Continued

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. nr MD Rt.263, Huntingtown.

Owner: U.S. Geological Survey.

AQUIFER.--Aquia Formation.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 579 ft; casing diameter 4 in. with depth 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.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 135 ft above National Geodetic Vertical Datum of 1929.

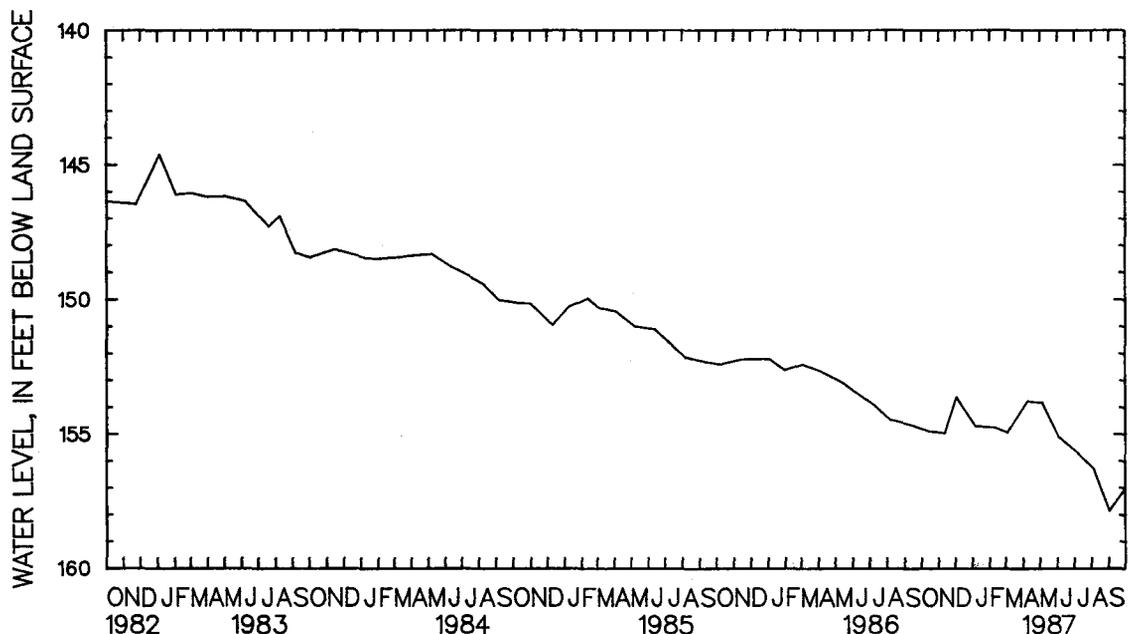
Measuring point: Top of casing, 1.8 ft above land-surface datum.

PERIOD OF RECORD.--December 1978 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 140.00 ft below land-surface datum, Mar. 7, 1979;  
lowest measured, 157.86 ft below land-surface datum, Sept. 2, 1987.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15	154.92	DEC 3	153.64	FEB 10	154.78	APR 9	153.79	JUN 3	155.13	AUG 5	156.30
NOV 12	154.99	JAN 6	154.73	MAR 4	154.97	MAY 5	153.84	JUL 8	155.74	SEP 2	157.86



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

CALVERT COUNTY--Continued

WELL NUMBER.--CA Db 47. SITE ID.--383239076354201. PERMIT NUMBER.--CA-73-3304.

LOCATION.--Lat 38°32'39", long 76°35'42", Hydrologic Unit 02060006, near Prince Frederick.

Owner: U.S. Geological Survey.

AQUIFER.--Aquia Formation.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 570 ft; casing diameter 4 in. with depth to 483 ft; casing diameter 2 in. from 483 to 560 ft; screen diameter 2 in. from 560 to 570 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 140 ft above National Geodetic Vertical Datum of 1929.

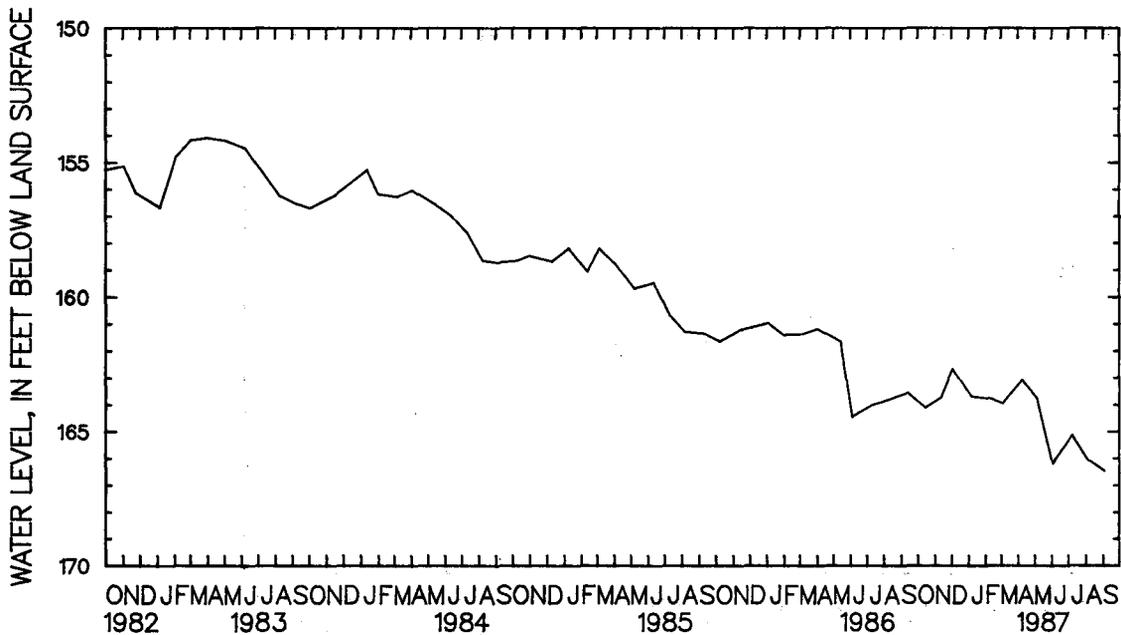
Measuring point: Top of casing, 1.46 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 148.54 ft below land-surface datum, July 31, 1979; lowest measured, 166.47 ft below land-surface datum, Sept. 3, 1987.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15	164.12	DEC 3	162.68	FEB 10	163.79	APR 8	163.09	JUN 3	166.20	AUG 5	166.07
NOV 12	163.75	JAN 6	163.71	MAR 4	163.97	MAY 5	163.77	JUL 8	165.15	SEP 3	166.47



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

CALVERT COUNTY--Continued

WELL NUMBER.--CA Fd 51. SITE ID.--382408076260401. PERMIT NUMBER.--CA-73-1449.

LOCATION.--Lat 38°24'08", long 76°26'04", Hydrologic Unit 02060004, at Calvert Cliffs State Park.

Owner: U.S. Geological Survey.

AQUIFER.--Piney Point Formation.

WELL CHARACTERISTICS.--Drilled unused artesian well, depth 352 ft; casing diameter 6 in. with depth to 140 ft; casing diameter 2 in. from 140 to 342 ft; screen diameter 2 in. from 342 to 352 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 120 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of casing, 3.0 ft above land-surface datum.

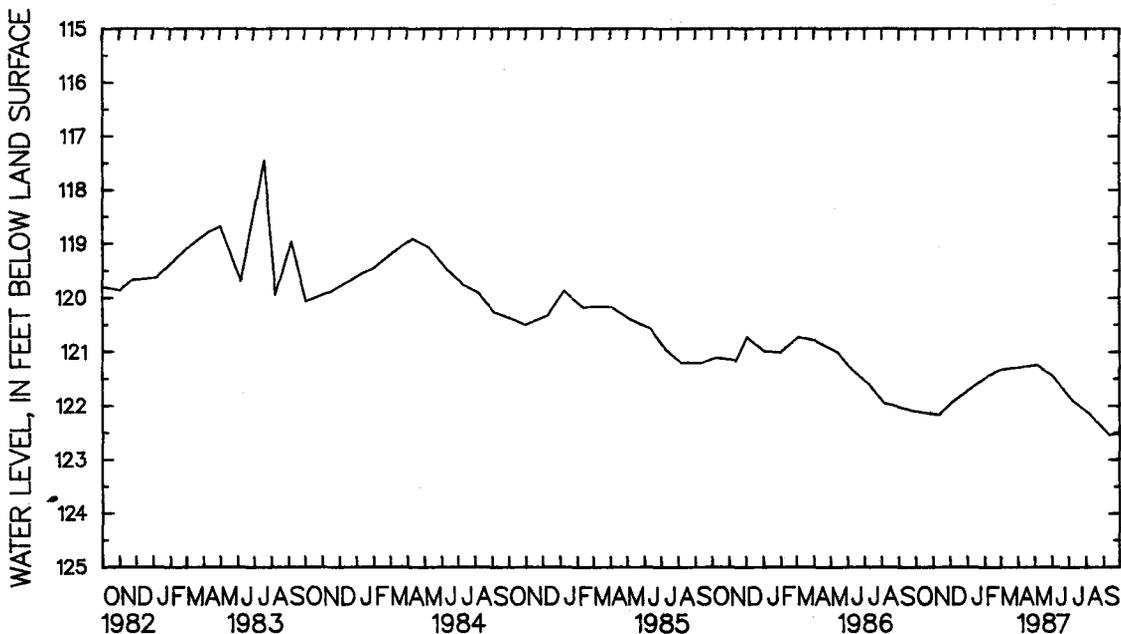
PERIOD OF RECORD.--February 1977 to current year.

EXTREMES FOR PERIOD.--Highest water level measured, 116.36 ft below land-surface datum, Jan. 8, 1980;

lowest measured, 123.00 ft below land-surface datum, Oct. 3, 1977.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15	122.14	DEC 3	121.96	FEB 10	121.44	MAY 5	121.25	JUL 8	121.91	SEP 11	122.55
NOV 12	122.18	JAN 6	121.70	MAR 4	121.33	JUN 3	121.46	AUG 5	122.14		



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

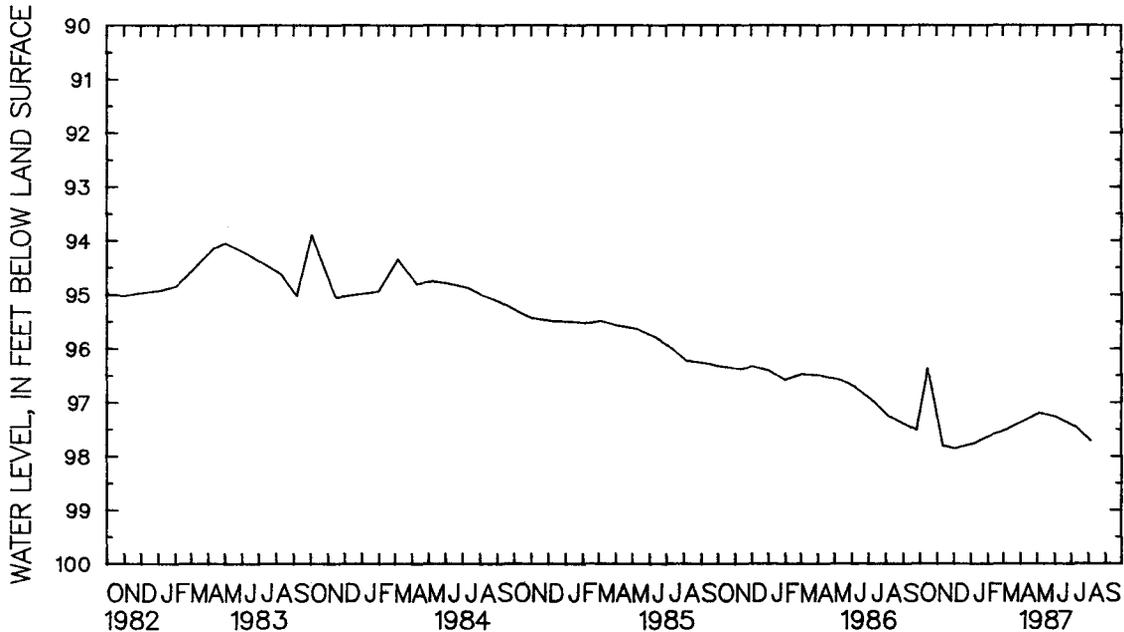
MARYLAND--Continued

CALVERT COUNTY--Continued

WELL NUMBER.--CA Fd 52. SITE ID.--382316076284801. PERMIT NUMBER.--CA-73-1450.  
 LOCATION.--Lat 38°23'16", long 76°28'48", Hydrologic Unit 02060006, 2 mi west of Lusby on Sollers Wharf Rd.  
 Owner: U.S. Geological Survey.  
 AQUIFER.--Piney Point Formation.  
 WELL CHARACTERISTICS.--Drilled artesian observation well, depth 318 ft; diameter of casing 6 in. with depth to 140 ft; casing diameter 2 in. from 140 to 308 ft; screen diameter 2 in. from 308 to 318 ft.  
 INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.  
 DATUM.--Elevation of land-surface datum is 101 ft above National Geodetic Vertical Datum of 1929.  
 Measuring point: Top of casing, 3.3 ft above land-surface datum.  
 PERIOD OF RECORD.--November 1976 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 91.47 ft below land-surface datum, May 1, 1980; lowest measured, 97.86 ft below land-surface datum, Dec. 3, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15	96.38	DEC 3	97.86	FEB 10	97.60	MAY 5	97.20	JUL 8	97.45
NOV 12	97.81	JAN 6	97.77	MAR 4	97.53	JUN 3	97.27	AUG 5	97.71



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

CALVERT COUNTY--Continued

WELL NUMBER.--CA Fd 54. SITE ID.--382407076260301. PERMIT NUMBER.--CA-73-2892.

LOCATION.--Lat 38°24'07", long 76°26'03", Hydrologic Unit 02060006, at Calvert Cliffs State Park.

Owner: U.S. Geological Survey.

AQUIFER.--Aquia Formation.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 698 ft; casing diameter 4 in. with depth 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.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 129 ft above National Geodetic Vertical Datum of 1929.

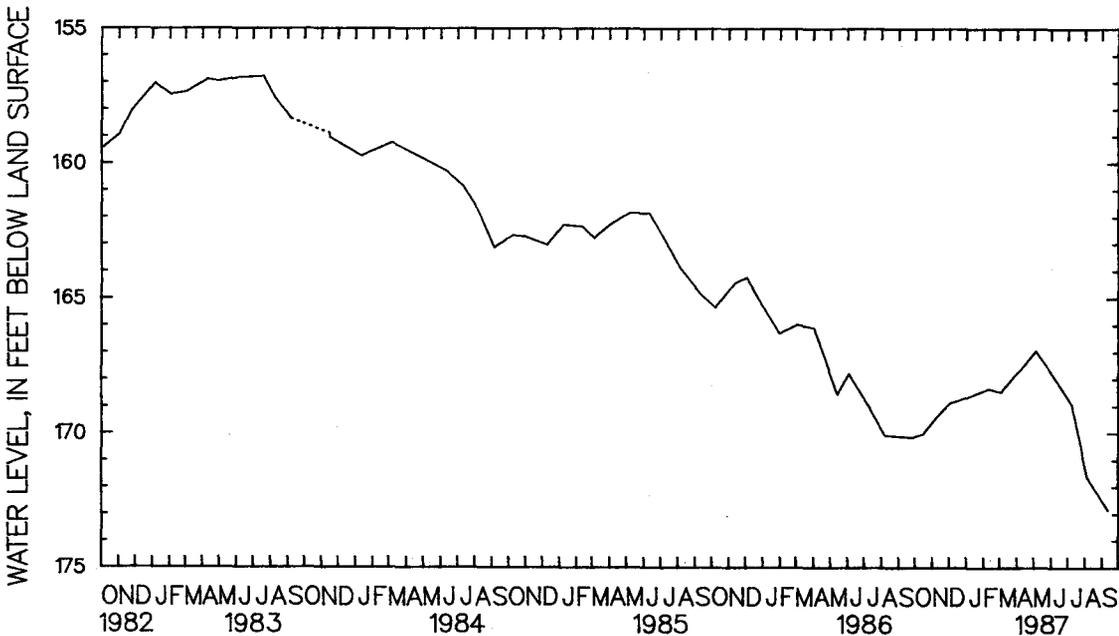
Measuring point: Top of casing, 1.93 ft above land-surface datum.

PERIOD OF RECORD.--October 1978 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 142.69 ft below land-surface datum, April 21, 1980; lowest measured, 172.84 ft below land-surface datum, Sept. 11, 1987.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15	170.05	DEC 3	168.89	FEB 10	168.36	MAY 5	166.94	JUL 8	168.93	SEP 11	172.84
NOV 12	169.35	JAN 6	168.65	MAR 4	168.48	JUN 3	167.79	AUG 5	171.64		



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS  
 MARYLAND--Continued  
 CALVERT COUNTY--Continued

WELL NUMBER.--CA Fe 22. SITE ID.--382318076242401. PERMIT NUMBER.--CA-73-1386.  
 LOCATION.--Lat 38°23'18", long 76°24'24", Hydrologic Unit 02060004, at Columbia LNG Plant, Cove Point.  
 Owner: U.S. Geological Survey.

AQUIFER.--Piney Point Formation.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 350 ft; casing diameter 6 in. with depth to 10 ft; casing diameter 2 in. from 10 to 340 ft; screen diameter 2 in. from 340 to 350 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 120 ft above National Geodetic Vertical Datum of 1929.

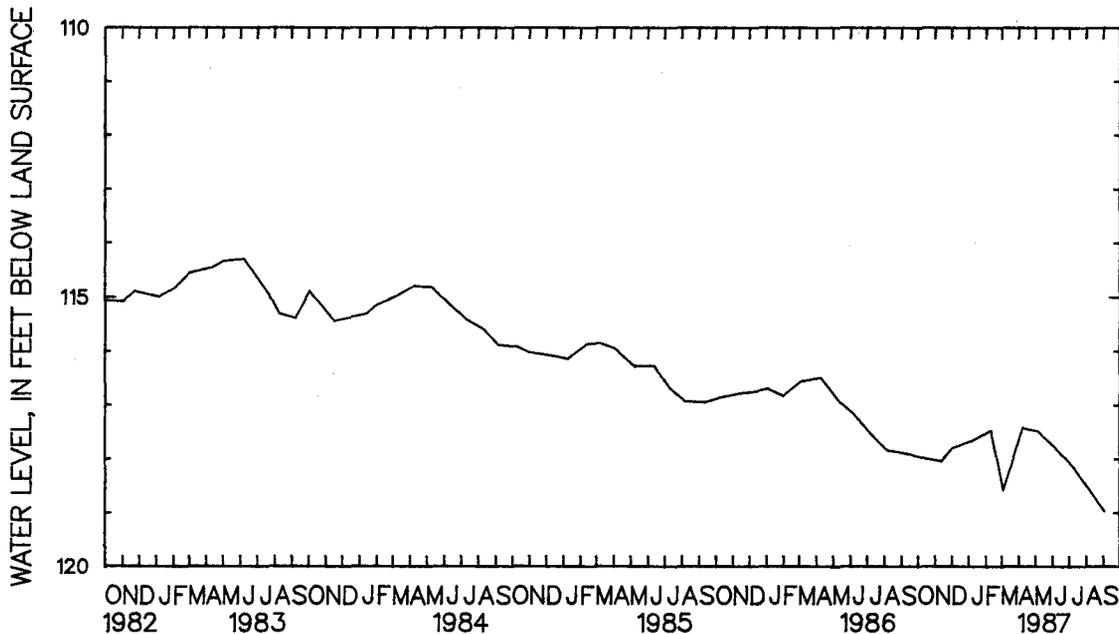
Measuring point: Top of casing, 3.4 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 111.50 ft below land-surface datum, Oct. 5, 1976; lowest measured, 118.97 ft below land-surface datum, Sept. 3, 1987.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15	118.00	DEC 3	117.80	FEB 10	117.48	APR 8	117.43	JUN 3	117.76	AUG 5	118.45
NOV 12	118.05	JAN 6	117.67	MAR 4	118.58	MAY 5	117.49	JUL 8	118.15	SEP 3	118.97



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS  
 MARYLAND--Continued  
 CALVERT COUNTY--Continued

WELL NUMBER.--CA Gd 6. SITE ID.--381952076270901.

LOCATION.--Lat 38°19'52", long 76°27'08", Hydrologic Unit 02060006, at the Lord Calvert Yacht Club, 0.5 mi northeast of Solomons.

Owner: Calvert Marina.

AQUIFER.--Aquia Formation.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 493 ft; casing diameter 8 in. with depth to 272 ft; casing diameter 6 in. with depth to 472 ft; screened from 469 to 493 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel. Equipped with water-level recorder Oct. 19, 1949 to Feb. 25, 1960.

DATUM.--Elevation of land-surface datum is 12.58 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of pump base, 10.0 ft above land-surface datum.

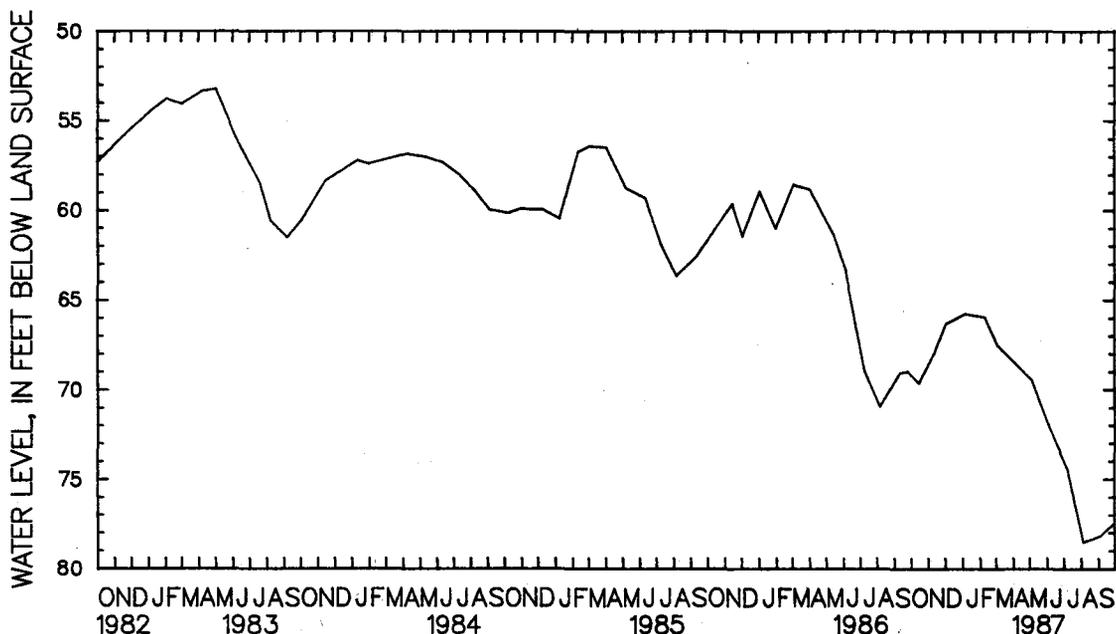
REMARKS.--Water level reported at land surface 1942; water level measured 58.9 ft below land-surface datum, Jan. 13, 1944.

PERIOD OF RECORD.--October 1949 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 26.15 ft below land-surface datum May 18, 1950; lowest measured, 78.54 ft below land-surface datum, Aug. 5, 1987.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15	69.70	DEC 3	66.33	FEB 10	65.98	MAY 5	69.51	JUL 8	74.46	SEP 3	78.21
NOV 12	67.98	JAN 6	65.78	MAR 4	67.57	JUN 3	71.97	AUG 5	78.54		



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

## GROUND-WATER LEVELS

MARYLAND--Continued

## CAROLINE COUNTY

WELL NUMBER.--CO Bc 1. SITE ID.--390333075504501.

LOCATION.--Lat 39°03'33", long 75°50'45", Hydrologic Unit 02060005, at Baltimore Corner.

Owner: Maryland State Highway Administration.

AQUIFER.--Pleistocene.

WELL CHARACTERISTICS.--Driven water-table observation well, depth 20.5 ft; casing diameter 1.25 in. with depth to 20.5 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

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

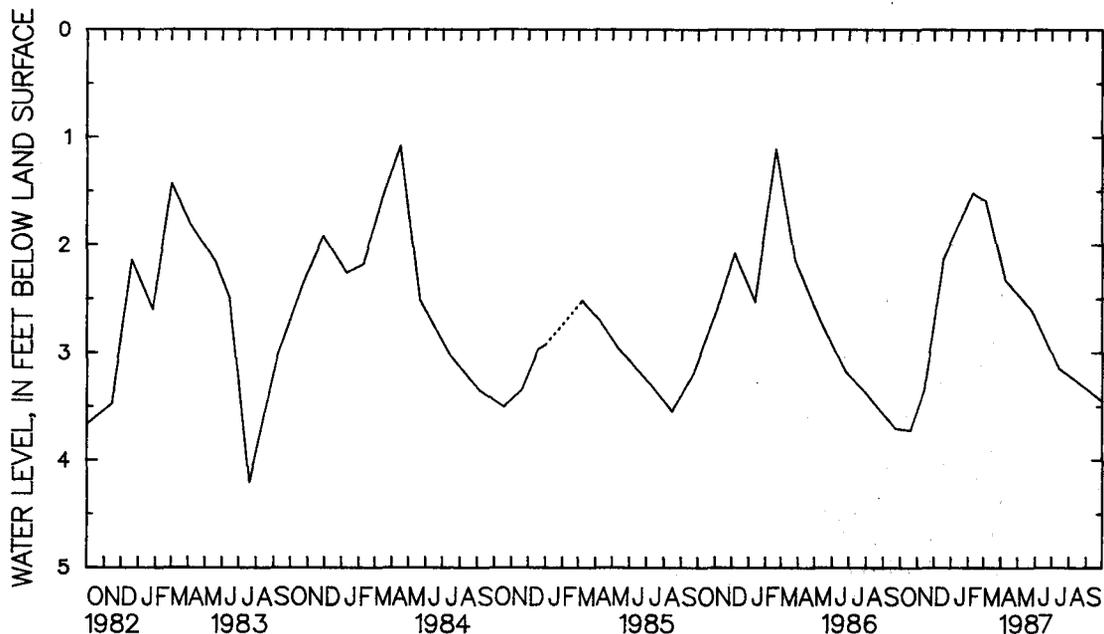
Measuring point: Top of casing, .25 above land-surface datum.

PERIOD OF RECORD.--August 1949 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, .25 ft above land-surface datum, Nov. 27, 1951; lowest measured, 4.37 ft below land-surface datum, Oct. 11, 1957.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	3.73	DEC 18	2.13	MAR 5	1.59	MAY 26	2.61	SEP 3	3.35
NOV 14	3.35	FEB 10	1.52	APR 9	2.33	JUL 14	3.15		



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

CAROLINE COUNTY--Continued

WELL NUMBER.--CO Bd 53, SITE ID.--390227075470201, PERMIT NUMBER.--CO-73-0541.

LOCATION.--Lat 39°02'27", long 75°47'02", Hydrologic Unit 02060005, near MD Rt. 311, Goldsboro.

Owner: U.S. Geological Survey.

AQUIFER.--Piney Point Formation.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 312 ft; casing diameter 6 in. with depth to 70 ft; casing diameter 2 in. from 70 to 300 ft; screen diameter 2 in. from 300 to 312 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 60 ft above National Geodetic Vertical Datum of 1929.

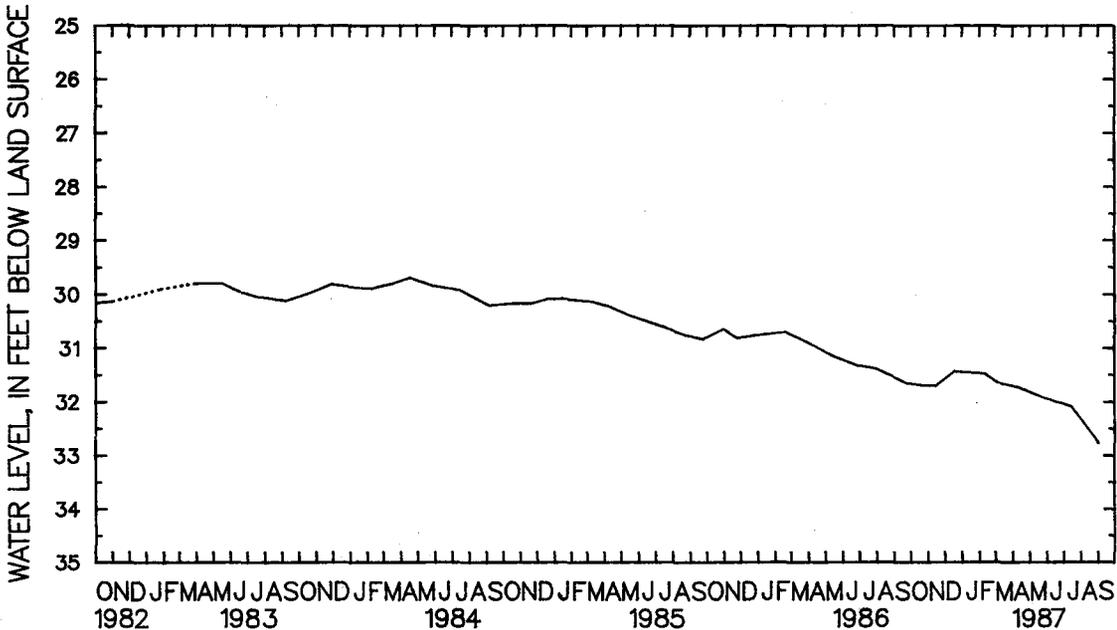
Measuring point: Top of casing, 2.6 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 28.64 ft below land-surface datum, Dec. 10, 1976; lowest measured, 32.78 ft below land-surface datum, Sept. 2, 1987.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	31.70	DEC 18	31.44	MAR 5	31.65	MAY 26	31.93	SEP 2	32.78
NOV 14	31.71	FEB 10	31.48	APR 9	31.73	JUL 14	32.09		



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

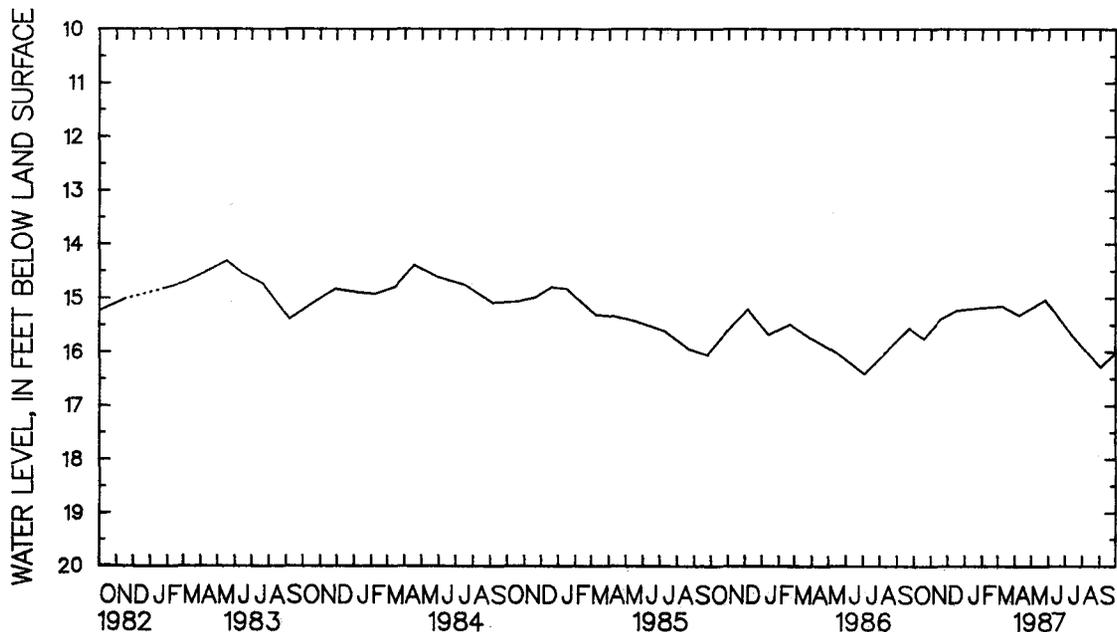
MARYLAND--Continued

CAROLINE COUNTY--Continued

WELL NUMBER.--CO Dc 129. SITE ID.--385310075503601. PERMIT NUMBER.--CO-02-3881.  
 LOCATION.--Lat 38°53'10", Long 75°50'36", Hydrologic Unit 02060005, at West Denton.  
 Owner: Wilson Laurel Farms, Inc.  
 AQUIFER.--Choptank Formation.  
 WELL CHARACTERISTICS.--Drilled unused artesian well, depth 229 ft; casing diameter 4 in. with depth to 137.4 ft.  
 INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.  
 DATUM.--Elevation of land-surface datum is 20 ft above National Geodetic Vertical Datum of 1929.  
 Measuring point: Top of casing, .4 ft below land-surface datum.  
 REMARKS.--Equipped with water level recorder Aug. 1, 1956 to June 8, 1957.  
 PERIOD OF RECORD.--August 1956 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 13.63 ft below land-surface datum, April 5, 1973;  
 lowest measured, 56.09 ft below land-surface datum, Nov. 5, 1965.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	15.77	DEC 18	15.24	MAR 9	15.16	MAY 26	15.04	SEP 2	16.29
NOV 19	15.40	JAN 29	15.19	APR 9	15.33	JUL 14	15.71		



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

CAROLINE COUNTY--Continued

WELL NUMBER.--CO Dd 47. SITE ID.--385217075490601. PERMIT NUMBER.--CO-73-0486.  
 LOCATION.--Lat 38°52'17", long 75°49'06", Hydrologic Unit 02060005, at Denton Sewage Lagoon.  
 Owner: U.S. Geological Survey.

AQUIFER.--Piney Point Formation.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 380 ft; casing diameter 4 in. with depth to 86 ft; casing diameter 2 in. from 86 to 365 ft; screen diameter 2 in. from 365 to 375 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 46 ft above National Geodetic Vertical Datum of 1929.

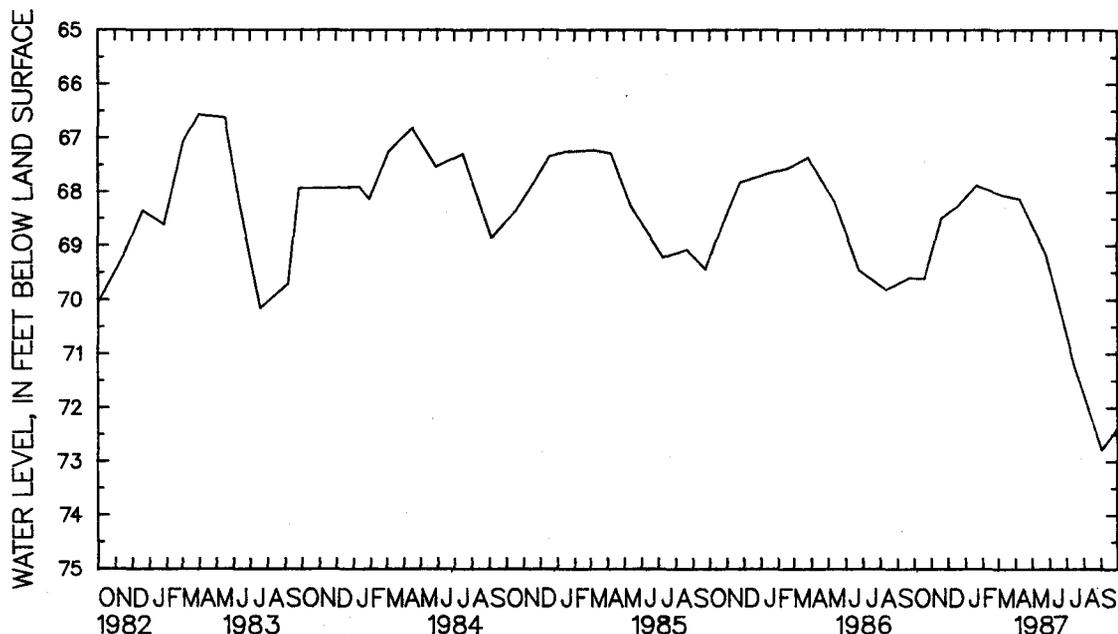
Measuring point: Top of casing, 2.4 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 62.78 ft below land-surface datum, May 27, 1976; lowest measured, 72.80 ft below land-surface datum, Sept. 2, 1987.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	69.62	DEC 18	68.28	MAR 9	68.07	MAY 26	69.17	SEP 2	72.80
NOV 19	68.49	JAN 21	67.89	APR 9	68.14	JUL 14	71.20		



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

CARROLL COUNTY

WELL NUMBER.--CL Ad 47. SITE ID.--394008077005601. PERMIT NUMBER.--CL-73-3178.

LOCATION.--Lat 39°40'08", long 77°00'56", Hydrologic Unit 02070009, at Union Mills Homestead Park.

Owner: U.S. Geological Survey.

AQUIFER.--Marburg Formation.

WELL CHARACTERISTICS.--Drilled water-table observation well, depth 310 ft; casing diameter 6 in. with depth to 35 ft; open hole.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 540 ft above National Geodetic Vertical Datum of 1929.

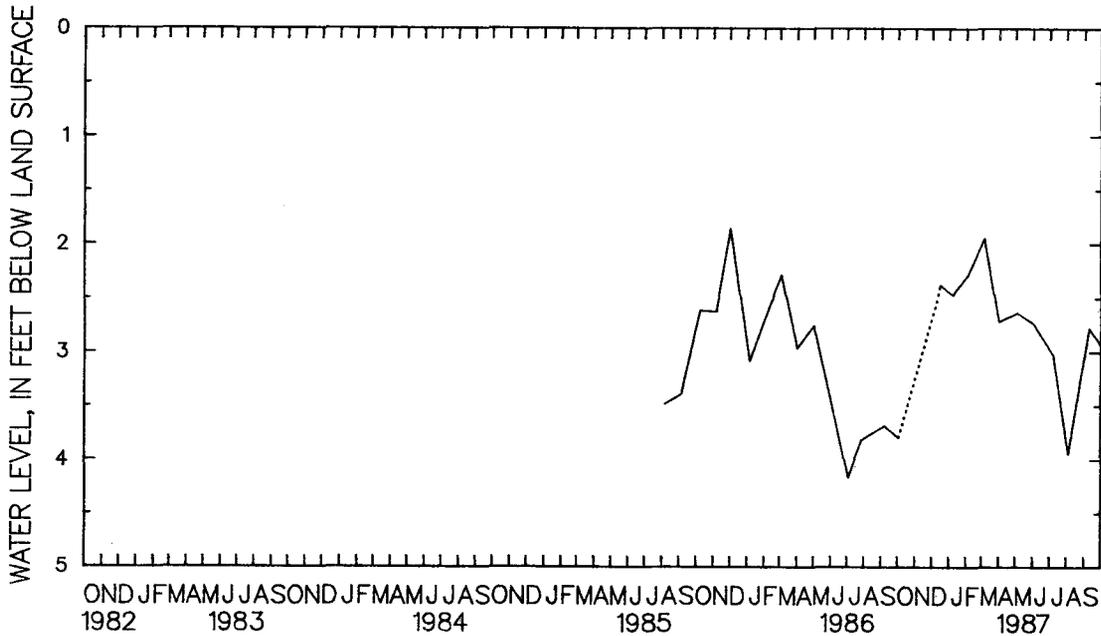
Measuring point: Top of casing 2.9 ft above land-surface datum.

PERIOD OF RECORD.--August 1985 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.86 ft below land-surface datum, Dec. 2, 1985; lowest measured, 4.17 ft below land-surface datum, July 3, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 3	3.80	JAN 8	2.47	MAR 6	1.95	MAY 4	2.64	JUL 8	3.03	SEP 10	2.78
DEC 17	2.38	FEB 4	2.29	APR 1	2.72	JUN 2	2.74	AUG 5	3.95		



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

CARROLL COUNTY-Continued

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.

WELL CHARACTERISTICS.--Drilled unused water-table well, depth 407 ft; casing diameter 8 in. with depth to approximately 65 ft; open hole.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel. Equipped with water level recorder July 1, 1952, to Nov. 7, 1962.

DATUM.--Elevation of land-surface datum is 933 ft above National Geodetic Vertical Datum of 1929.

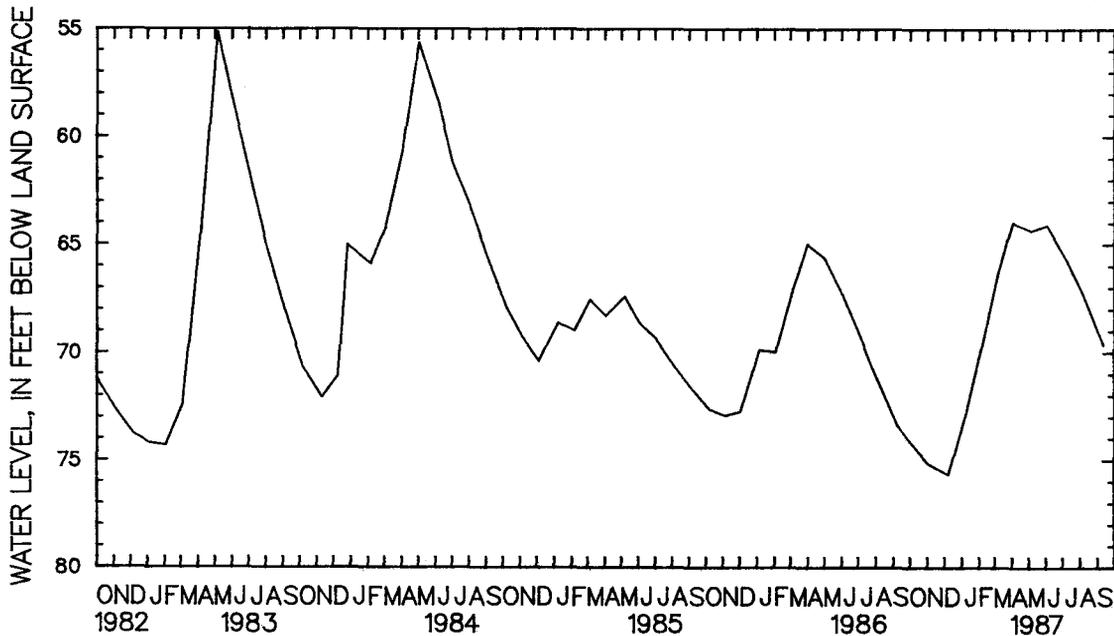
Measuring point: Top of 2 in. casing extension, 2.35 ft above land-surface datum.

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, 52.30 ft below land-surface datum, May 13, 1952; lowest measured, 76.26 ft below land-surface datum, Feb. 10, 1966.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL								
OCT 3	74.24	DEC 8	75.68	FEB 4	69.89	APR 2	63.97	JUN 2	64.09	AUG 5	67.26
NOV 3	75.18	JAN 8	72.84	MAR 6	66.46	MAY 4	64.36	JUL 8	65.70	SEP 10	69.64



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

## GROUND-WATER LEVELS

MARYLAND--Continued

CARROLL COUNTY--Continued

WELL NUMBER.--CL Bf 184. SITE ID.--393754076512401. PERMIT NUMBER.--CL-73-6466.

LOCATION.--Lat 39°37'54", long 76°51'24", Hydrologic Unit 02060003, near Utz Rd., Greenmount.

Owner: U.S. Geological Survey.

AQUIFER.--Prettyboy Schist.

WELL CHARACTERISTICS.--Drilled water-table observation well, depth 340 ft; casing diameter 6 in. with depth to 50 ft; open hole.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 790 ft above National Geodetic Vertical Datum of 1929.

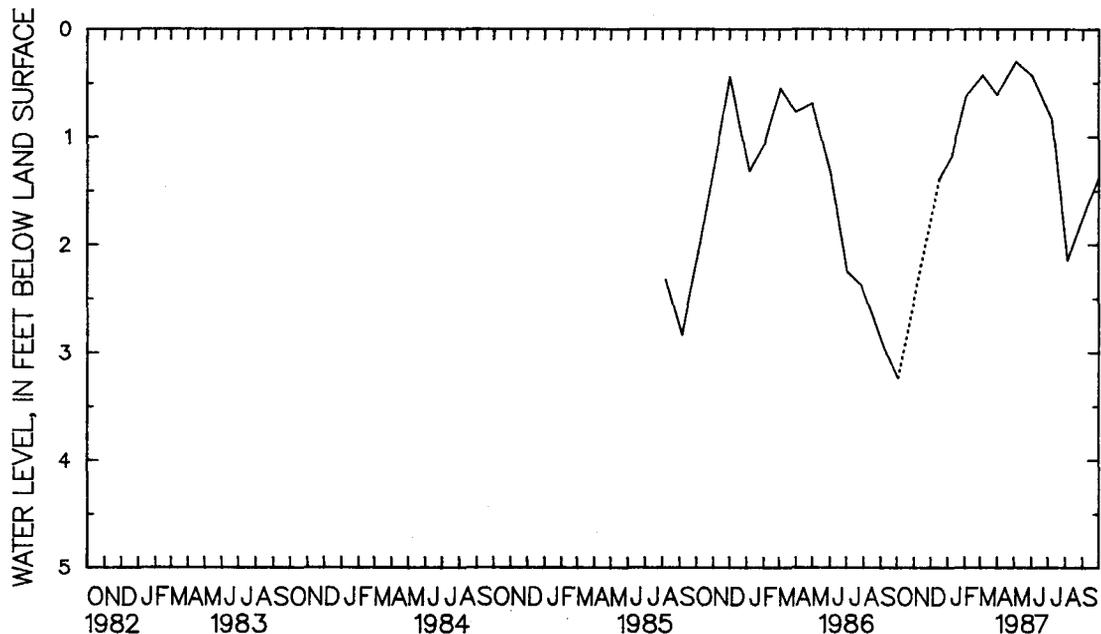
Measuring point: Top of casing 1.8 ft above land-surface datum.

PERIOD OF RECORD.--August 1985 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, .30 ft below land-surface datum, May 4, 1987; lowest measured, 3.24 ft below land-surface datum, Oct. 3, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 3	3.24	JAN 8	1.18	MAR 6	.43	MAY 4	.30	JUL 8	.83	SEP 10	1.63
DEC 17	1.39	FEB 4	.62	APR 1	.61	JUN 2	.43	AUG 5	2.15		



GROUND-WATER LEVELS

309

MARYLAND--Continued

CECIL COUNTY

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.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 125 ft; casing diameter 4 in. with depth to 120 ft; screen diameter 2 in. from 120 to 125 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel. Equipped with water level recorder July 1, 1983 to November 6, 1984.

DATUM.--Elevation of land-surface datum is 70 ft above National Geodetic Vertical Datum of 1929.

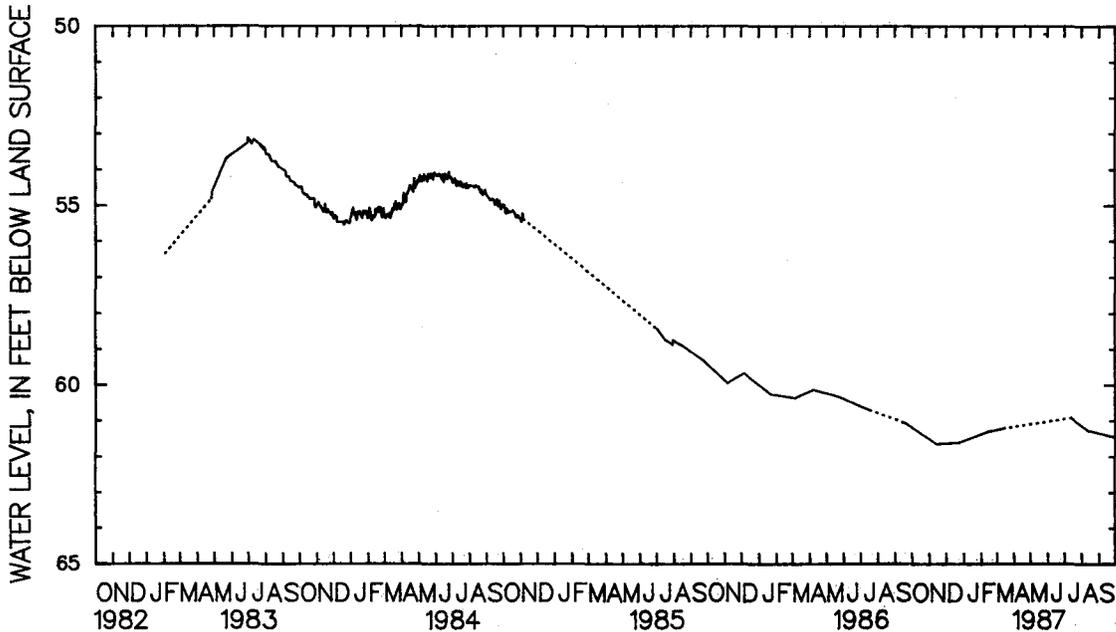
Measuring point: Top of casing, 1.6 ft above land-surface datum.

PERIOD OF RECORD.--February 1983 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 53.13 ft below land-surface datum, July 1, 1983; lowest measured, 61.66 ft below land-surface datum, Nov. 14, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 14	61.66	FEB 12	61.32	JUL 13	60.93	SEP 2	61.36
DEC 23	61.62	MAR 13	61.22	AUG 12	61.28		



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

## GROUND-WATER LEVELS

MARYLAND--Continued

CECIL COUNTY--Continued

WELL NUMBER.--CE Bf 142. SITE ID.--393603075471701. PERMIT NUMBER.--CE-05-5728.

LOCATION.--Lat 39°36'03", long 75°47'17", Hydrologic Unit 02060002, 0.3 mi south of intersection of Delancy Rd. and U.S. Rt. 40, Elkton.

Owner: Gary Davis.

AQUIFER.--Potomac Group.

WELL CHARACTERISTICS.--Drilled unused artesian well, depth 106 ft; casing diameter 4 in. with depth to 97.8 ft; screen from 97.8 ft to 102.8 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel. Equipped with water level recorder Aug. 19, 1986 to current year.

DATUM.--Elevation of land-surface datum is 80 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of casing 1.5 ft above land-surface datum.

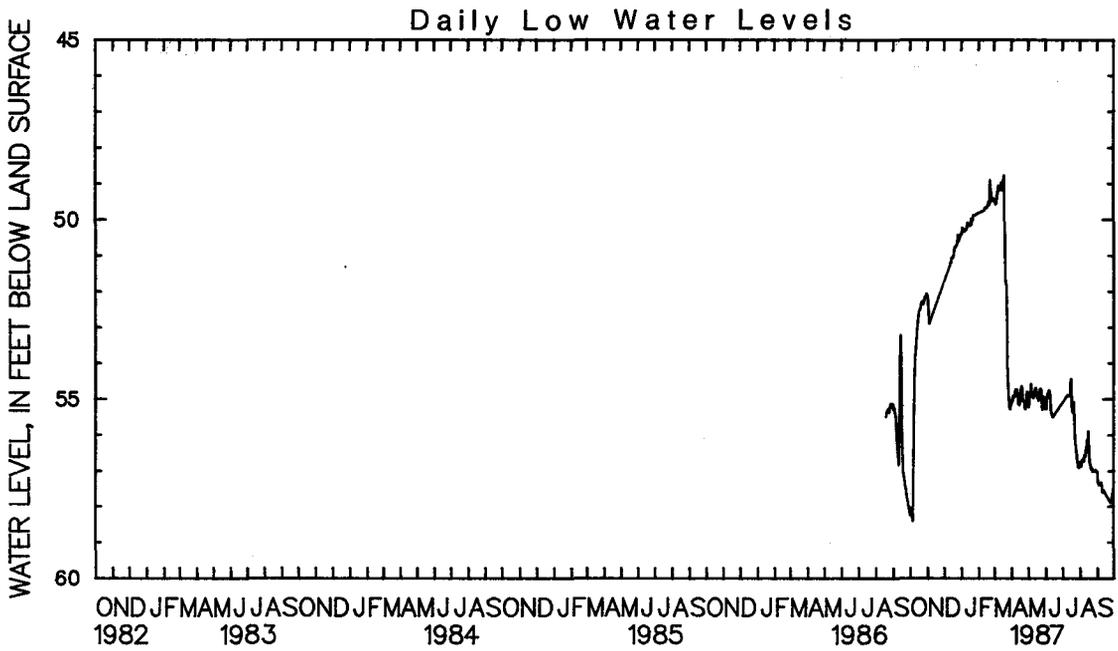
PERIOD OF RECORD.--August 1986 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 48.77 ft below land-surface datum, Mar. 19, 1987; lowest measured, 58.42 ft below land-surface datum, Oct. 6, 1986.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	58.26	52.13	---	50.40	---	49.42	55.12	55.23	55.29	---	56.78	57.04
2	58.05	---	---	50.23	---	49.49	55.04	55.23	55.29	---	56.88	57.32
3	58.18	---	---	50.24	---	49.52	55.06	54.95	54.95	---	56.88	57.35
4	58.19	52.90	---	50.28	---	49.58	54.93	54.95	54.93	---	56.75	57.40
5	58.32	---	---	50.31	---	49.54	54.96	54.79	54.84	---	56.70	57.39
6	58.42	---	---	50.33	---	49.43	54.95	54.60	54.84	---	56.70	57.36
7	56.67	---	---	50.29	---	49.29	54.93	54.90	54.77	---	56.74	57.34
8	55.22	---	---	50.30	---	49.20	54.75	54.94	54.91	---	56.74	57.34
9	54.24	---	---	50.28	---	49.06	54.86	54.95	54.91	---	56.59	57.43
10	53.81	---	51.31	50.25	---	49.17	54.87	54.98	55.32	54.90	56.60	57.60
11	53.59	---	51.24	50.10	---	49.17	54.76	54.98	55.38	---	56.60	57.60
12	53.34	---	51.19	50.13	49.74	49.17	54.88	54.81	55.45	---	56.38	57.55
13	53.06	---	51.20	50.14	49.68	49.05	55.15	54.76	55.51	54.92	56.34	---
14	52.88	---	51.07	50.15	49.67	48.97	55.08	54.71	55.51	54.92	56.15	---
15	52.73	---	51.07	50.11	49.67	49.12	55.18	---	55.48	54.62	56.15	---
16	52.66	---	51.05	50.17	49.67	49.16	55.02	---	---	54.45	55.90	---
17	52.55	---	51.02	50.16	49.65	49.05	54.90	---	---	55.00	56.44	---
18	52.51	---	50.94	50.14	49.60	48.87	54.75	55.02	---	55.33	56.72	---
19	52.47	---	50.77	49.99	49.51	48.77	54.66	55.05	---	55.37	56.83	---
20	52.35	---	50.78	50.01	49.58	50.83	54.72	54.90	---	55.40	56.83	---
21	52.31	---	50.78	50.01	49.56	51.72	55.08	54.84	---	55.11	56.95	---
22	52.29	---	50.74	50.01	48.91	51.81	55.08	54.74	---	55.70	56.97	---
23	52.32	---	50.71	49.89	49.14	51.84	55.08	54.73	---	56.07	56.94	---
24	52.35	---	50.65	---	49.28	---	55.09	54.77	---	56.27	57.03	---
25	52.30	---	50.44	---	49.41	54.35	55.29	55.08	---	56.39	57.00	57.90
26	52.22	---	50.52	---	49.47	54.60	55.29	55.30	---	56.55	57.02	57.89
27	52.14	---	50.58	---	49.47	54.97	55.09	55.17	---	56.67	57.02	57.79
28	52.14	---	50.48	---	49.42	55.20	54.93	54.95	---	56.75	57.02	57.66
29	52.16	---	50.48	---	---	55.26	54.82	55.08	---	56.90	56.98	57.60
30	52.06	---	50.42	---	---	55.30	54.91	55.14	---	56.93	57.00	57.51
31	52.16	---	50.42	---	---	55.18	---	55.12	---	56.90	57.02	---
MAX	58.42	52.90	51.31	50.40	49.74	55.30	55.29	55.30	55.51	56.93	57.03	57.90
MIN	52.06	52.13	50.42	49.89	48.91	48.77	54.66	54.60	54.77	54.45	55.90	57.04

GROUND-WATER LEVELS  
MARYLAND--Continued  
CECIL COUNTY--Continued  
CE Bf 142--Continued



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS  
MARYLAND--Continued  
CECIL COUNTY--Continued

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.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 250 ft; casing diameter 4 in. with depth to 245 ft; screen diameter 2 in. from 245 to 250 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel. Equipped with water level recorder July 21, 1983 to Nov. 6, 1984.

DATUM.--Elevation of land-surface datum is 180 ft above National Geodetic Vertical Datum of 1929.

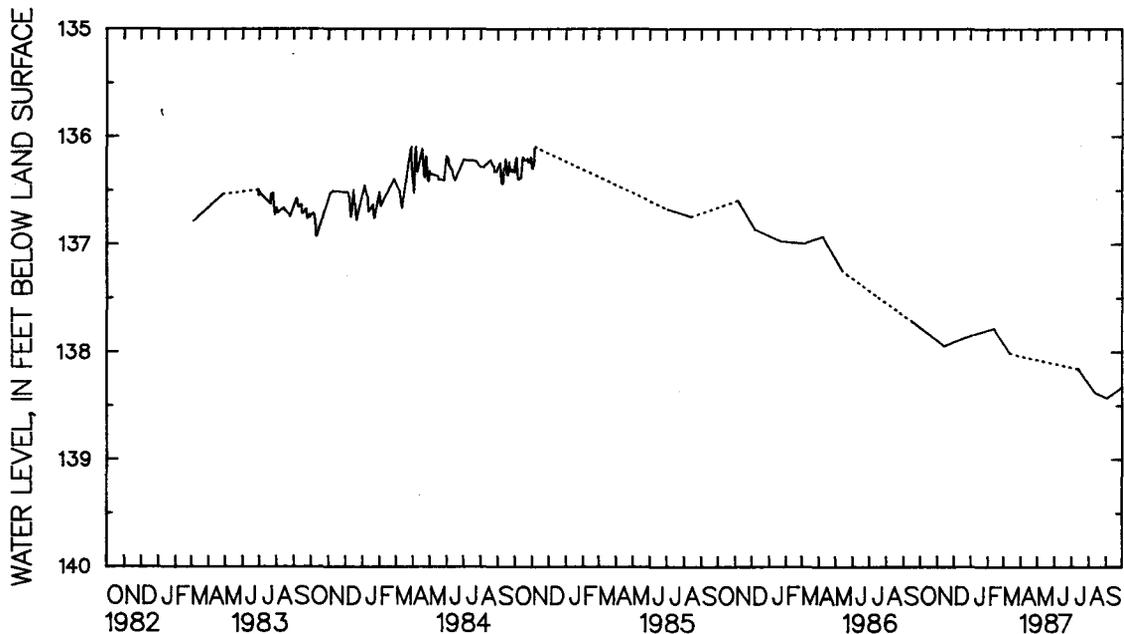
Measuring point: Top of casing 2.0 ft above land-surface datum.

PERIOD OF RECORD.--March 1983 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 136.10 ft below land-surface datum, Mar. 29, 1984, April 6, 1984 and Nov. 6, 1984; lowest measured, 138.43 ft below land-surface datum, Sept. 2, 1987.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 14	137.95	FEB 12	137.79	JUL 13	138.16	SEP 2	138.43
DEC 23	137.87	MAR 13	138.02	AUG 12	138.38		



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

CECIL COUNTY--Continued

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.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 375 ft; casing diameter 4 in. with depth to 370 ft; screen diameter 2 in. from 370 to 375 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel. Equipped with water level recorder July 21, 1983 to Nov. 6, 1984.

DATUM.--Elevation of land-surface datum is 60 ft above National Geodetic Vertical Datum of 1929.

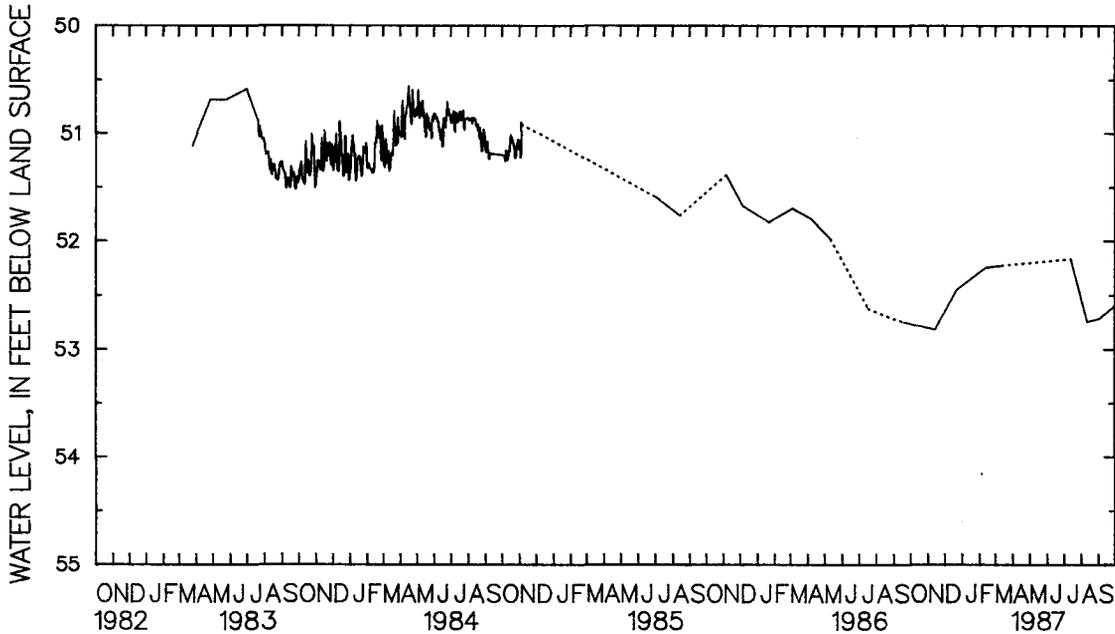
Measuring point: Top of casing 2.4 ft above land-surface datum.

PERIOD OF RECORD.--March 1983 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 50.56 ft below land-surface datum, April 17, 1984; lowest measured, 52.82 ft below land-surface datum, Nov. 14, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 14	52.82	FEB 12	52.25	JUL 13	52.17	SEP 2	52.72
DEC 23	52.45	MAR 13	52.23	AUG 12	52.75		



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

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.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 547 ft; casing diameter 10 in. with depth to  
 158 ft; casing diameter 4 in. from -2.35 to 515 ft and 525 to 547 ft; screen diameter 4 in. from 515 to 525 ft.  
 INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel. Equipped with water level recorder  
 Aug. 22, 1979 to Dec. 4, 1979.

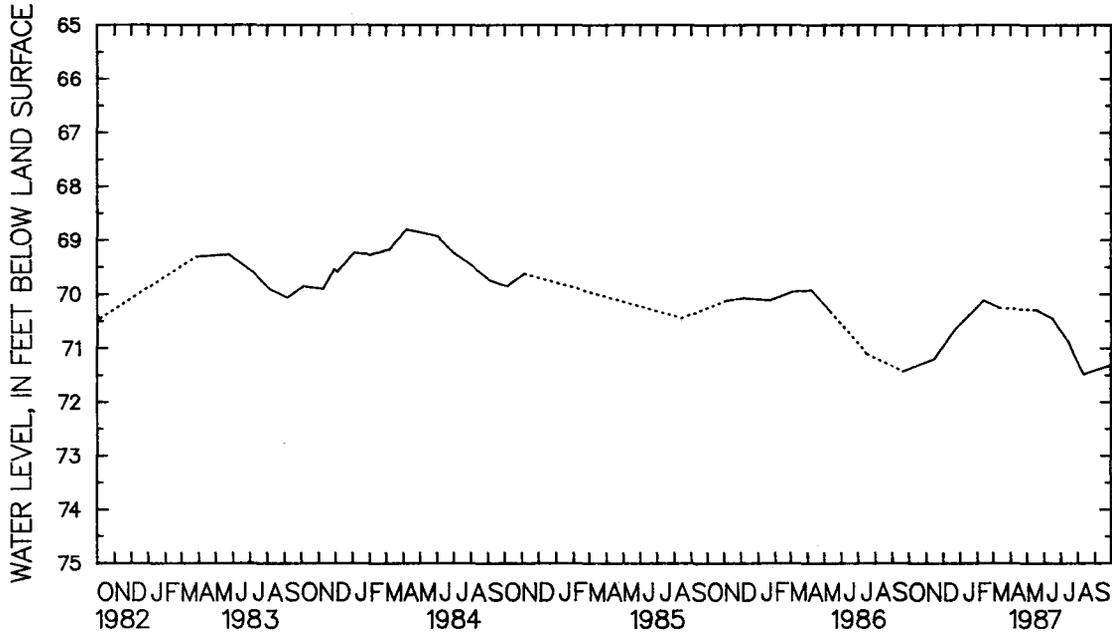
DATUM.--Elevation of land-surface datum is 80 ft above National Geodetic Vertical Datum of 1929.  
 Measuring point: Top of casing, 2.35 ft above land-surface datum.

PERIOD OF RECORD.--August 1978 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 67.99 ft below land-surface datum, Mar. 25, 1979;  
 lowest measured, 71.49 ft below land-surface datum, Aug. 12, 1987.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL						
NOV 14	71.21	FEB 12	70.12	MAY 18	70.30	JUL 13	70.87
DEC 23	70.65	MAR 13	70.26	JUN 15	70.45	AUG 12	71.49



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

CHARLES COUNTY

WELL NUMBER.--CH Bf 128. SITE ID.--383722076544001. PERMIT NUMBER.--CH-03-1306.

LOCATION.--Lat 38°37'22", long 76°54'40", Hydrologic Unit 02070011, 0.3 mi south of MD Rts. 5 & 925 near Washington Ave., Waldorf.

Owner: Southern Maryland Novelty Co.

AQUIFER.--Magothy Formation.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 430 ft; casing diameter 4 in. with depth to 420 ft; screen diameter 2.5 in. from 420 to 430 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 210 ft above National Geodetic Vertical Datum of 1929.

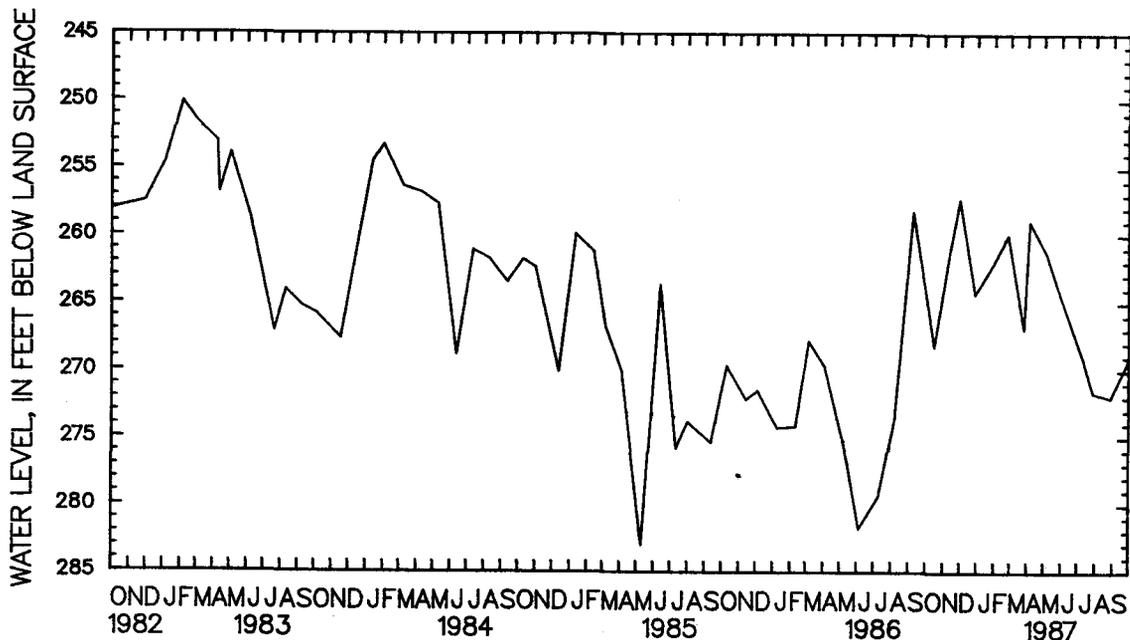
Measuring point: Top of casing, 2 ft above land-surface datum.

PERIOD OF RECORD.--September 1962 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 170.31 ft below land-surface datum, Mar. 6, 1963; lowest measured, 283.05 ft below land-surface datum, May 10, 1985.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL								
OCT 16	268.24	DEC 29	264.32	MAR 26	266.92	MAY 27	263.93	AUG 28	272.04
NOV 13	261.21	JAN 29	262.20	APR 6	258.93	JUL 10	269.08		
DEC 1	257.27	FEB 26	259.94	MAY 6	261.32	28	271.67		



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

## 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.

WELL CHARACTERISTICS.--Drilled water-table observation well, depth 24.5 ft; casing diameter 4 in. with depth to 13.5 ft; perforated casing diameter 2 in. from 13.5 to 18.5 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 150 ft above National Geodetic Vertical Datum of 1929.

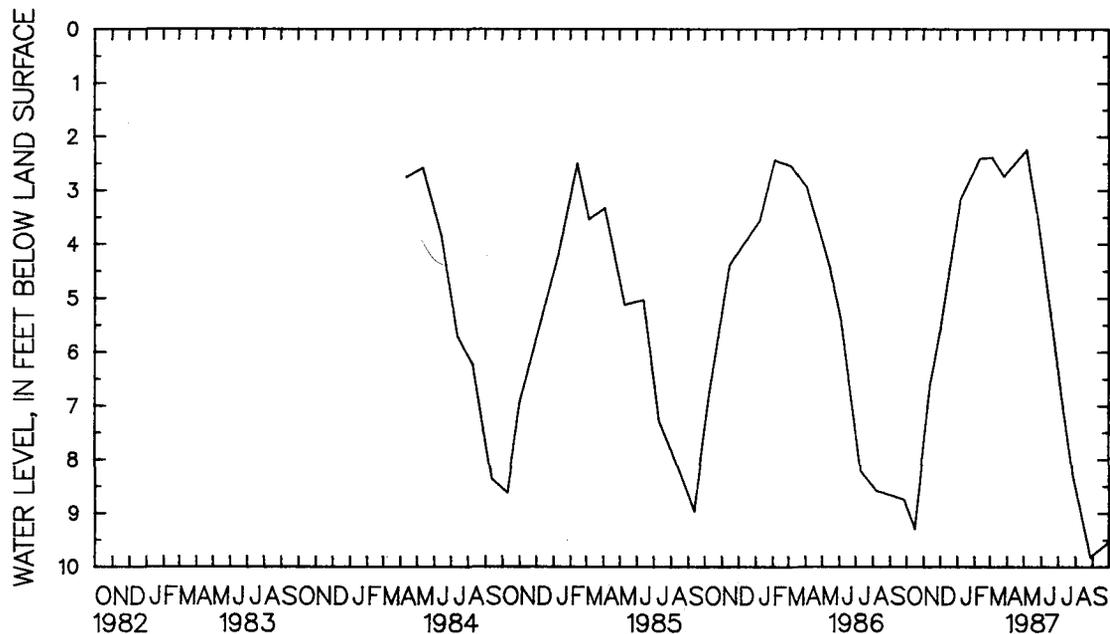
Measuring point: Top of casing 2.3 ft above land-surface datum.

PERIOD OF RECORD.--April 1984 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.25 ft below land-surface datum, May 6, 1987; lowest measured, 9.82 ft below land-surface datum, Aug. 28, 1987.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL								
OCT 16	9.30	JAN 7	3.16	MAR 26	2.74	JUL 9	6.97	SEP 29	9.55
NOV 13	6.61	FEB 11	2.41	MAY 6	2.25	28	8.35		
DEC 1	5.61	MAR 5	2.39	27	3.57	AUG 28	9.82		



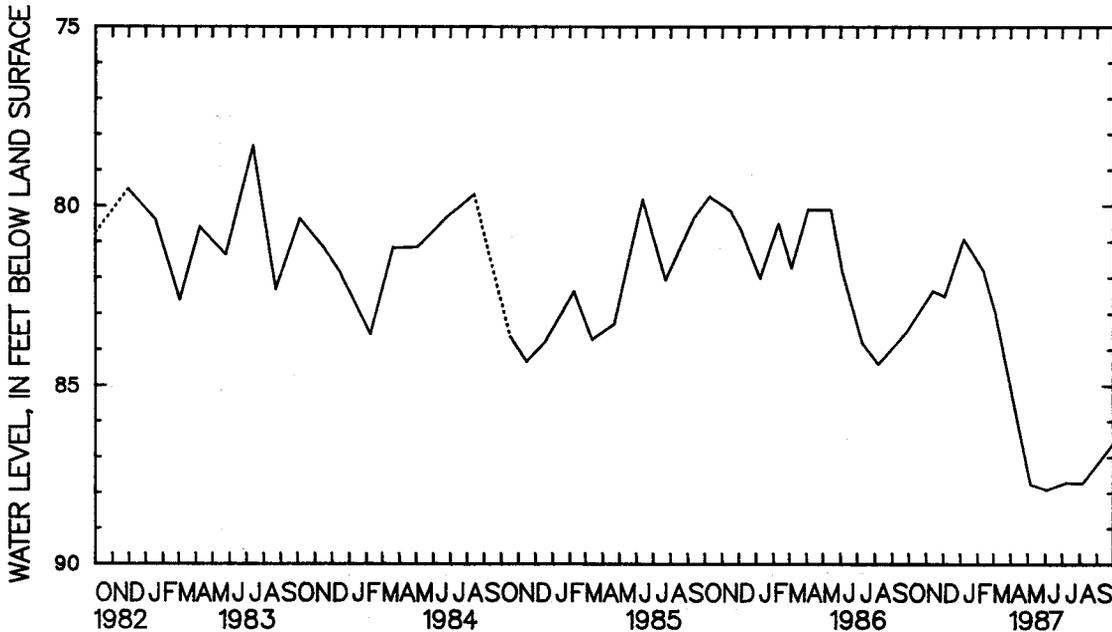
5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS  
MARYLAND--Continued  
CHARLES COUNTY--Continued

WELL NUMBER.--CH Cb 7. SITE ID.--383422077114601. PERMIT NUMBER.--CH-01-1908.  
 LOCATION.--Lat 38°34'22", long 77°11'46", Hydrologic Unit 02070011, at Caffee and Greenslade Rds.,  
 U.S. Naval Ordnance Station, about 2.5 mi southwest of Indian Head.  
 Owner: U.S. Navy.  
 AQUIFER.--Patapsco Formation.  
 WELL CHARACTERISTICS.--Drilled artesian observation well, depth 400 ft; casing diameter 8 in. with depth to  
 400 ft; screen diameter 6 in. from 154.1 to 167 ft.  
 INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel. Equipped with water level recorder  
 Sept. 21, 1953, to July 8, 1965.  
 DATUM.--Elevation of land-surface datum is 36 ft above National Geodetic Vertical Datum of 1929.  
 Measuring point: Top of casing at land-surface datum.  
 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 datum, April 18, 1952;  
 lowest measured, 88.58 ft below land-surface datum, Oct. 22, 1968.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	83.03	DEC 4	82.53	FEB 11	81.80	MAY 6	87.77	JUL 8	87.72
NOV 13	82.38	JAN 7	80.93	MAR 5	83.00	JUN 4	81.92	AUG 6	87.74



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

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 0207001, 1.8 mi southwest of Faulkner off Popes Creek Rd.

Owner: Jesuit Order (Loyola Retreat House).

AQUIFER.--Patapsco Formation.

WELL CHARACTERISTICS.--Drilled unused artesian well, depth 694 ft; casing diameter 6 in. with depth to 564 ft; casing diameter 4 in. from 532 to 688 ft; screen diameter 4 in. from 687 to 694 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 99.8 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of casing, 1 ft above land-surface datum.

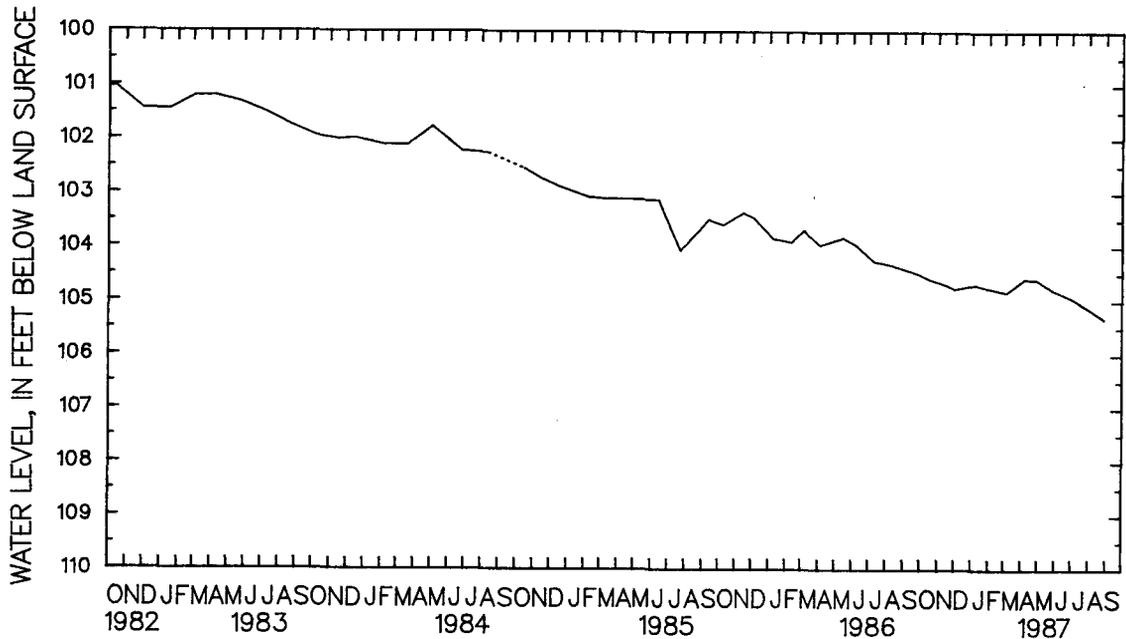
REMARKS.--Water level reported 104 ft below land-surface datum, June 27, 1957.

PERIOD OF RECORD.--March 1962 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 88.28 ft below land-surface datum, Mar. 14, 1962; lowest measured, 107.05 ft below land-surface datum, April 14, 1976.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	104.60	JAN 7	104.70	APR 6	104.59	JUN 30	104.94	SEP 29	105.36
NOV 13	104.69	29	104.76	28	104.60	JUL 28	105.11		
DEC 1	104.78	MAR 5	104.84	MAY 27	104.79	AUG 28	105.32		



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

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.--Talbot Formation.

WELL CHARACTERISTICS.--Dug unused water-table well, depth 23 ft, casing diameter 42 in.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel. Equipped with water level recorder

Mar. 29, 1966 to Oct. 11, 1967.

DATUM.--Elevation of land-surface datum is 40 ft above National Geodetic Vertical Datum of 1929, *from topo map*

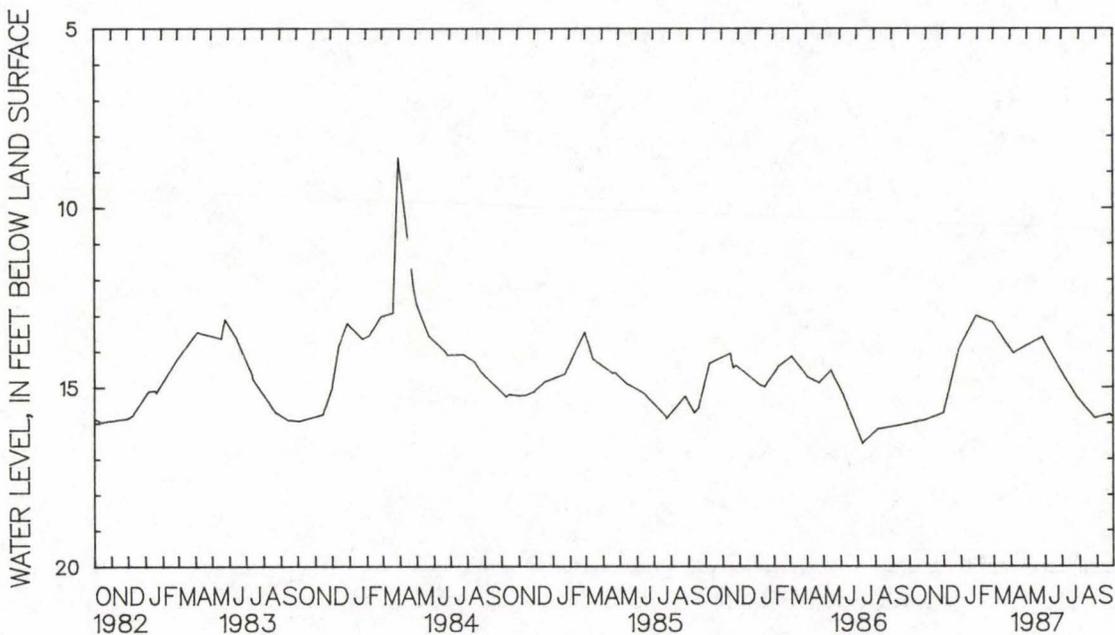
Measuring point: Top of casing, 1.8 ft above land-surface datum.

PERIOD OF RECORD.--May 1946, 1947, March 1949 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.60 ft below land-surface datum, Mar. 30, 1984;  
lowest measured, 20.65 ft below land-surface datum, Dec. 20, 1949.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL										
OCT 17	15.96	DEC 1	15.73	FEB 27	13.19	APR 28	13.85	JUL 28	15.29	SEP 29	15.83
29	15.93	29	13.93	MAR 26	13.82	MAY 27	13.61	AUG 28	15.87		
NOV 13	15.84	JAN 29	13.01	APR 6	14.05	JUN 30	14.57	SEP 24	15.77		



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

## 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.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 537 ft; casing diameter 6 in. with depth to 65 ft; casing diameter 2 in. from 65 to 527 ft; screen diameter 2 in. from 527 to 537 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

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

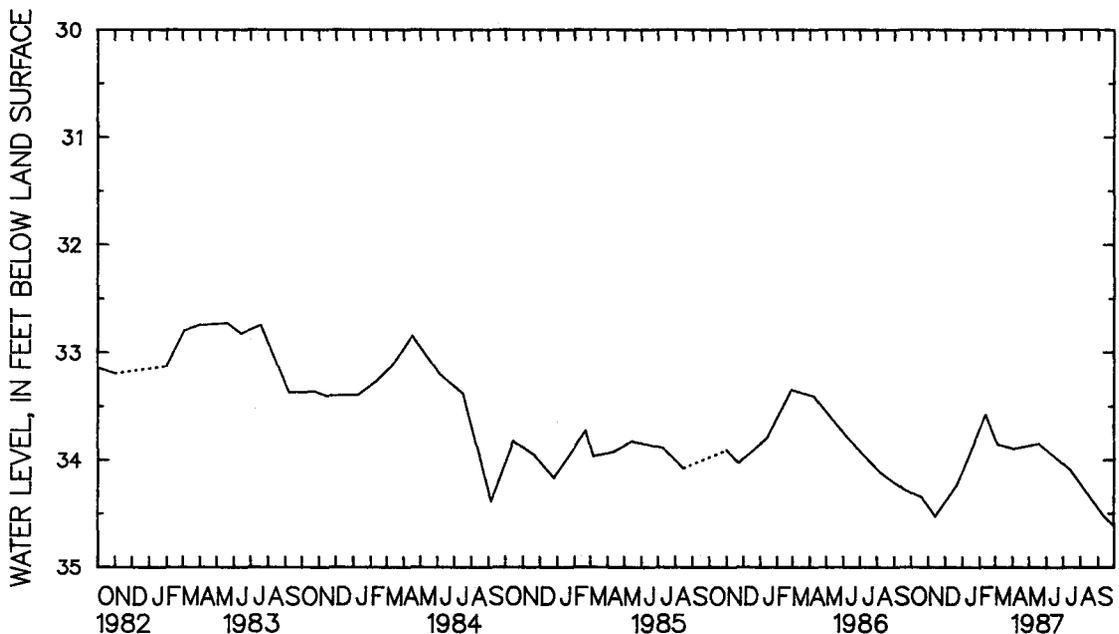
Measuring Point: Top of casing, 1.55 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 31.79 ft below land-surface datum, Aug. 2, 1978; lowest measured, 34.90 ft below land surface datum, Dec. 7, 1978.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	34.35	DEC 22	34.24	MAR 5	33.86	MAY 18	33.85	SEP 11	34.52
NOV 14	34.53	FEB 12	33.58	APR 3	33.90	JUL 13	34.09		



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

DORCHESTER COUNTY--Continued

WELL NUMBER.--DO Cd 1. SITE ID.--383151076080801.

LOCATION.--Lat 38°31'51", long 76°08'08", Hydrologic Unit 02060005, near Christs Rock.

Owner: Harold E. Fee.

AQUIFER.--Piney Point Formation.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 390 ft; casing diameter 2 in. to unknown depth.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 4 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of casing, .5 ft above land-surface datum.

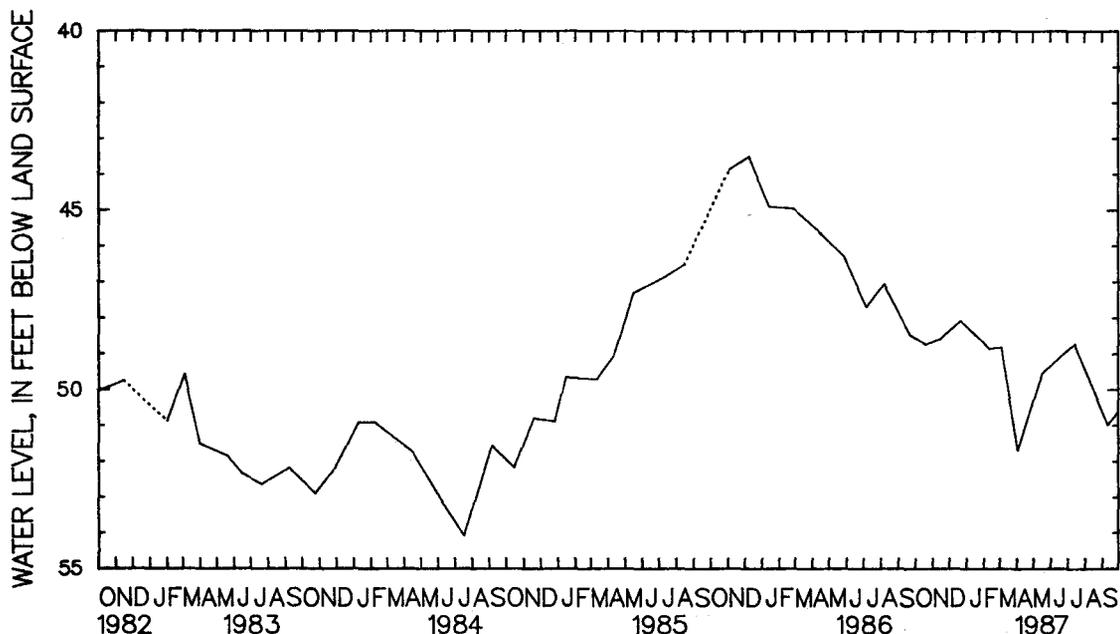
PERIOD OF RECORD.--October 1966 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 43.50 ft below land-surface datum, Dec. 9, 1985;

lowest measured, 80.32 ft below land-surface datum, Oct. 16, 1970.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	48.75	DEC 22	48.09	MAR 5	48.84	MAY 18	49.54	SEP 11	51.00
NOV 14	48.61	FEB 12	48.87	APR 3	51.71	JUL 14	48.73		



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

DORCHESTER COUNTY

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.

WELL CHARACTERISTICS.--Drilled unused artesian well, depth 405 ft; casing diameter 12 in. with depth to 385 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 18 ft above National Geodetic Vertical Datum of 1929.

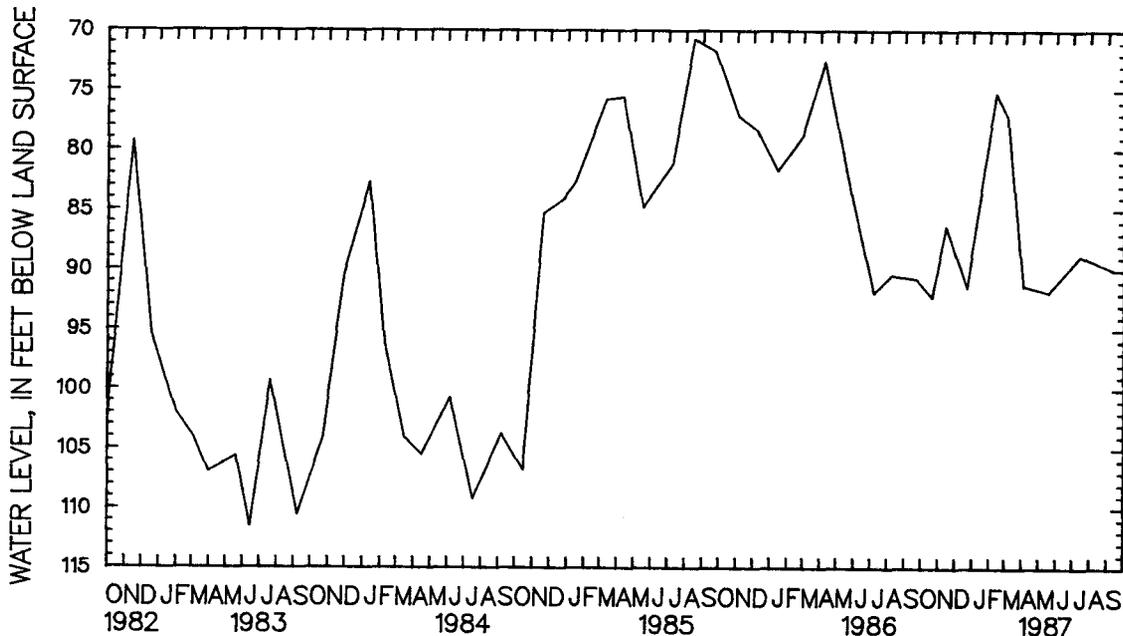
Measuring point: Top of casing, 4 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured 70.71 ft below land-surface datum, Aug. 16, 1985; lowest measured, 115.06 ft below land-surface datum, Aug. 29, 1978.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	92.32	DEC 22	91.50	MAR 5	77.10	MAY 18	91.91	SEP 11	90.03
NOV 14	86.39	FEB 12	75.20	APR 3	91.35	JUL 14	88.85		



5 YEAR HYDROGRAPH

OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

DORCHESTER COUNTY--Continued

WELL LOCATION.--DO Ce 15. SITE ID.--383408076042302. PERMIT NUMBER.--DO-00-1220.

LOCATION.--Lat 38°34'08", long 76°04'23", Hydrologic Unit 02060005, near Cambridge Creek off Trenton St., Cambridge.

Owner: Carroll W. Thomas & Sons., Inc.

AQUIFER.--Magothy Formation.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 973.7 ft; casing diameter 10 in. with depth 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 950.5 to 970.5 ft.

REMARKS--Water level reported 68 ft below land-surface datum Aug. 30, 1947.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 6 ft above National Geodetic Vertical Datum of 1929.

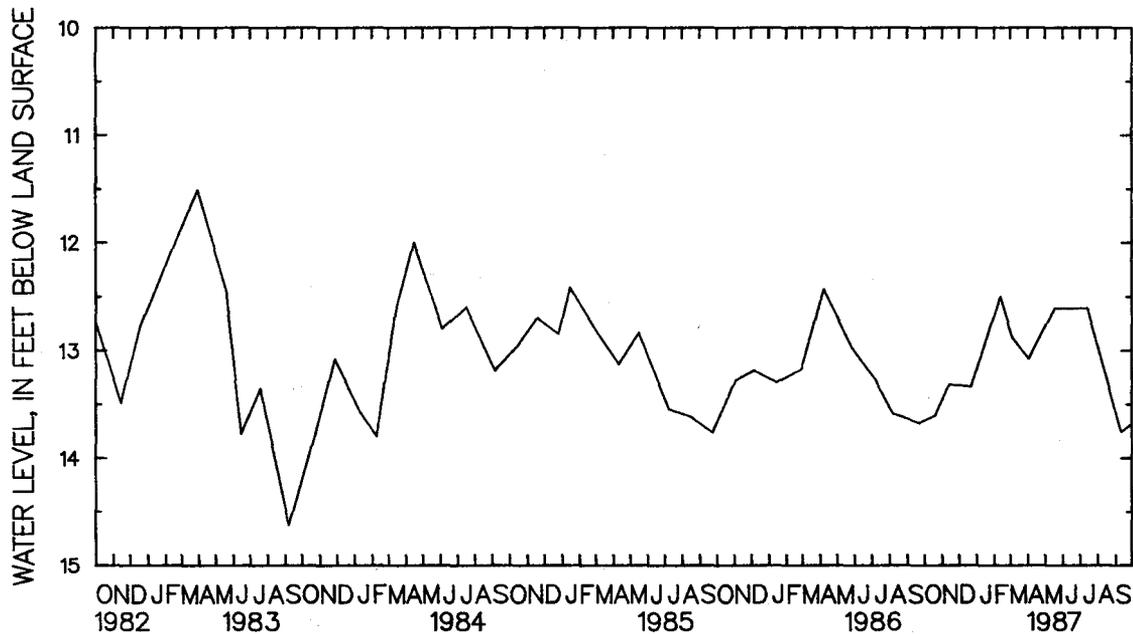
Measuring point: Top of casing, 1.5 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.41 ft below land-surface datum, Mar. 1, 1960; lowest measured, 41.12 ft below land-surface datum, Aug. 7, 1959.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL								
OCT 20	13.61	DEC 22	13.34	MAR 5	12.88	MAY 18	12.61	SEP 11	13.76
NOV 14	13.32	FEB 12	12.50	APR 03	13.08	JUL 14	12.61		



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

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.

WELL CHARACTERISTICS.--Drilled unused artesian well, depth 368.5 ft; casing diameter 8 in. with depth to 239 ft; casing diameter 4.5 in. with depth to 368.5 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel. Equipped with water level recorder Aug. 23, 1956 to Nov. 6, 1958, and Sept. 11, 1965 to Oct. 13, 1966.

DATUM.--Elevation of land-surface datum is 11.7 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of casing at land-surface datum.

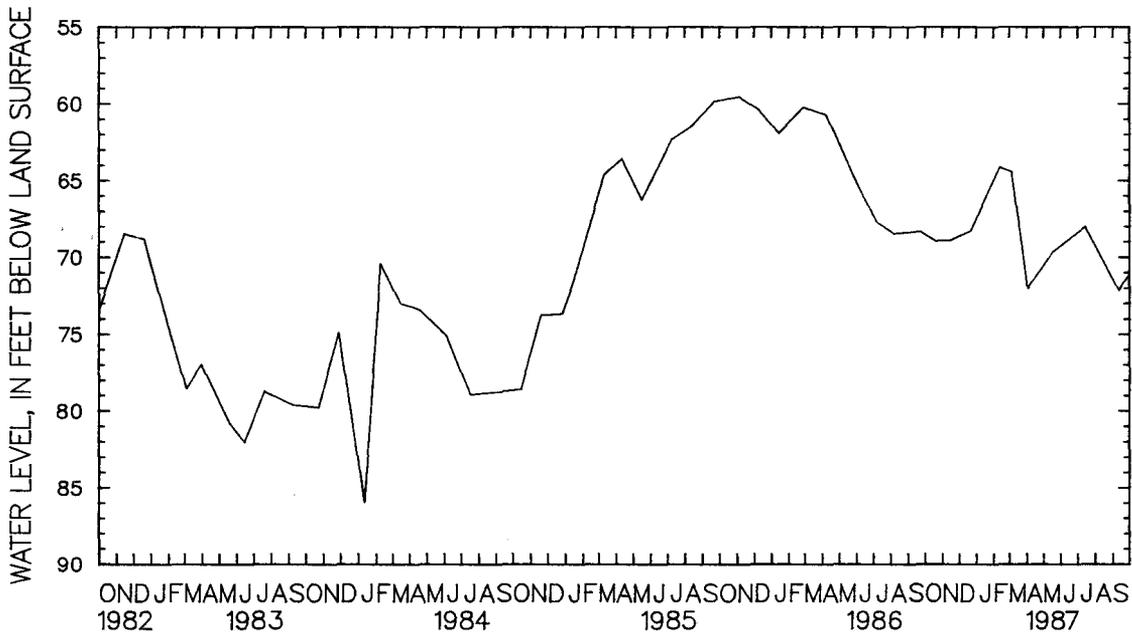
REMARKS.--Water level measured 73.77 ft below land-surface datum, Feb. 14, 1952. Water levels may be affected by nearby pumping.

PERIOD OF RECORD.--August 1956 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level reported, 14 ft below land-surface datum, August 1914; highest water level measured, 59.53 ft below land-surface datum, Nov. 4, 1985; lowest measured, 132.95 ft below land-surface datum, Sept. 6, 1956.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	68.99	DEC 22	68.32	MAR 5	64.43	MAY 18	69.69	SEP 11	72.17
NOV 14	68.95	FEB 12	64.15	APR 3	72.06	JUL 14	68.05		



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

DORCHESTER COUNTY--Continued

WELL NUMBER.--DO Ce 78. SITE ID.--383243076042301. PERMIT NUMBER.--DO-66-0026.

LOCATION.--Lat 38°32'43", long 76°04'23", Hydrologic Unit 02060005, at Stone Boundary Rd., Cambridge.

Owner: City of Cambridge.

AQUIFER.--Piney Point Formation.

WELL CHARACTERISTICS.--Drilled unused artesian well, depth 517 ft; casing diameter 12 in.; screen diameter 12 in. from 360.3 to 363.7 ft, 368 to 380 ft, 385 to 400 ft, 405 to 420 ft, 425 to 440 ft; 445 to 460 ft, 465 to 480 ft, and 485 to 500 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 15 ft above National Geodetic Vertical Datum of 1929.

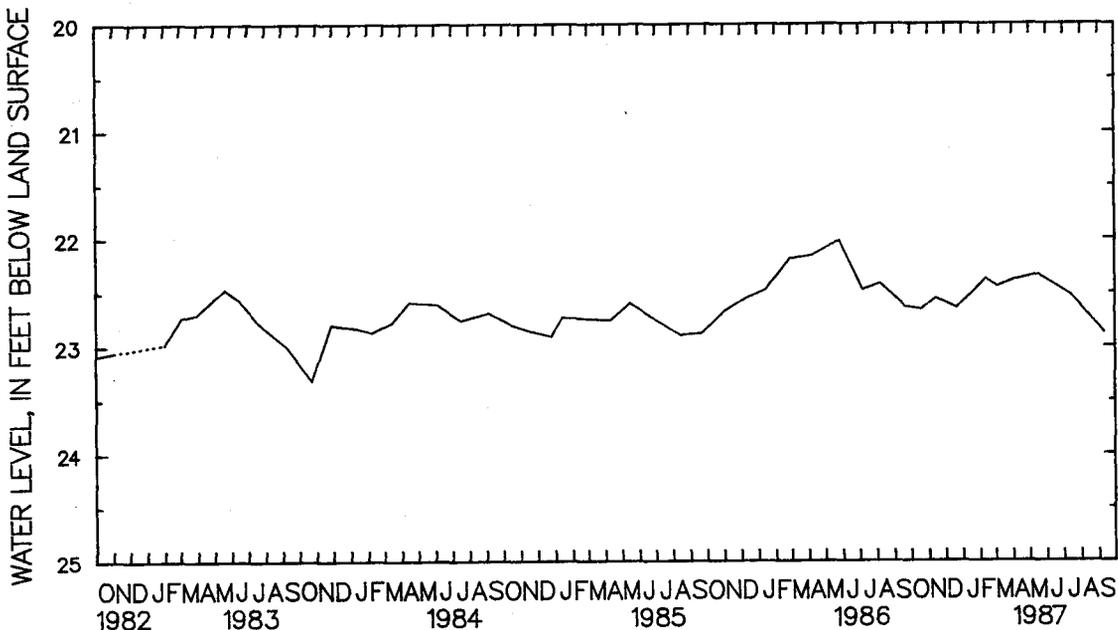
Measuring point: Top of casing, 1.1 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 22.02 ft below land-surface datum, May 28, 1986; lowest measured, 26.39 ft below land-surface datum, Oct. 4, 1977.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	22.66	DEC 22	22.65	MAR 5	22.45	MAY 18	22.34	SEP 11	22.88
NOV 14	22.56	FEB 12	22.38	APR 3	22.39	JUL 14	22.53		



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

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.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 1427.4 ft; casing diameter 12 in. with depth to 103 ft; casing diameter 4 in. with depth to 1427.4 ft; perforated casing diameter 4 in. from 1417.4 to 1427.4 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 4.4 ft above National Geodetic Vertical Datum of 1929.

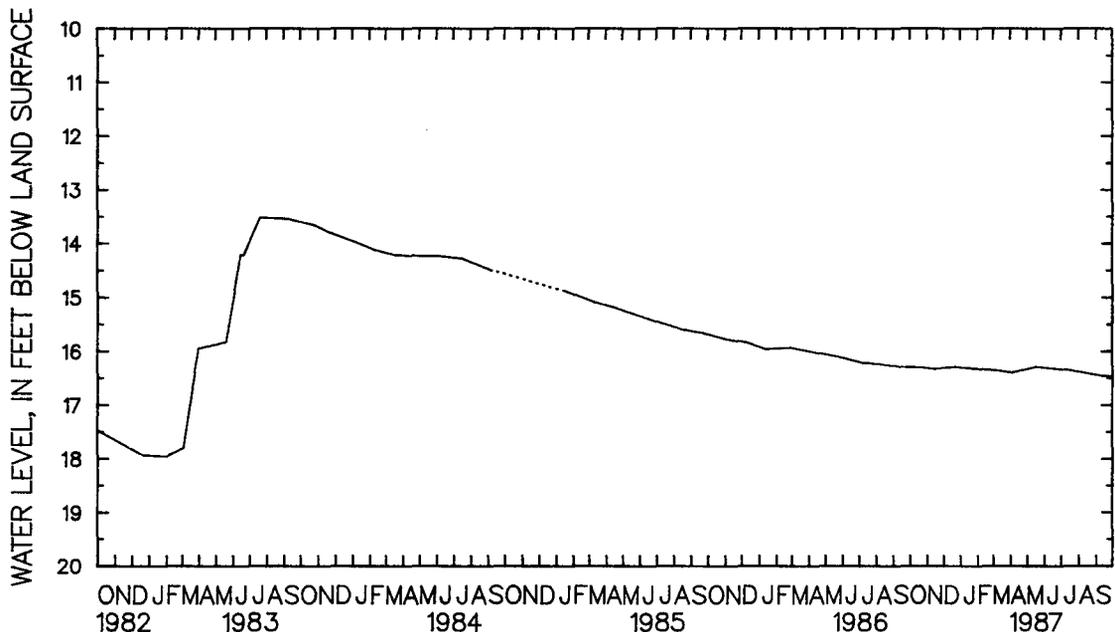
Measuring point: Top of casing, 1.18 ft above land-surface datum.

PERIOD OF RECORD.--October 1981 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 13.51 ft below land-surface datum, July 20, 1983; lowest measured, 22.22 ft below land-surface datum, Nov. 13, 1981.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	16.31	DEC 22	16.30	MAR 5	16.37	MAY 18	16.30	SEP 11	16.47
NOV 14	16.34	FEB 12	16.35	APR 3	16.41	JUL 14	16.36		



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

DORCHESTER COUNTY--Continued

WELL NUMBER.--DO Db 17. SITE ID.--382800076180701.

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.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 320 ft; casing diameter 6 in. with depth to 55 ft; casing diameter 2 in. from 55 to 270 ft; screen diameter 2 in. from 270 to 280 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 4 ft above National Geodetic Vertical Datum of 1929.

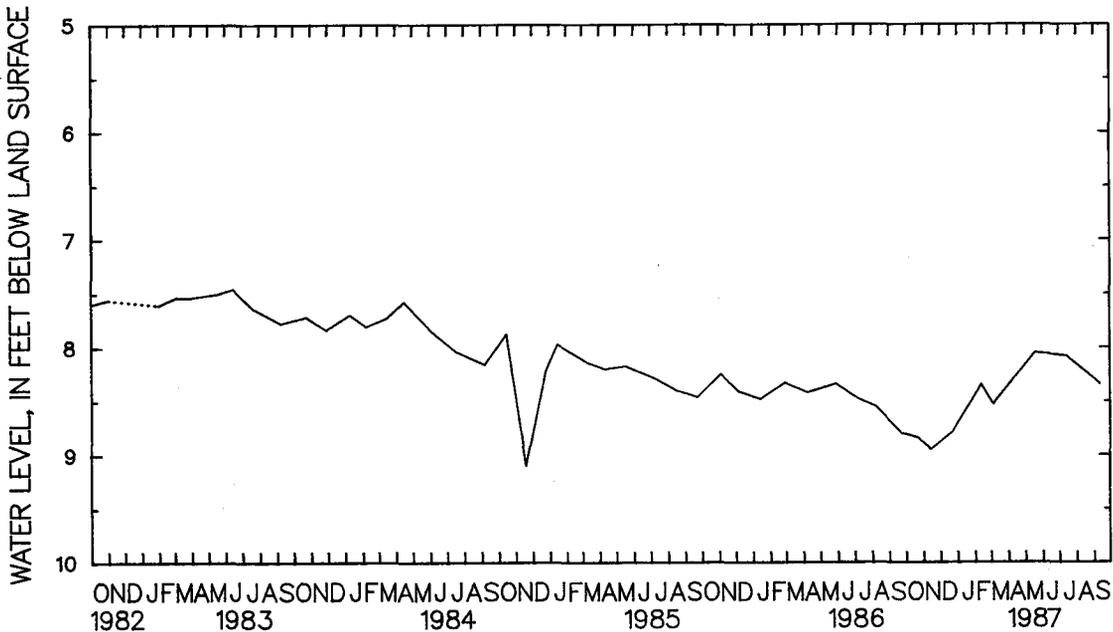
Measuring point: Top of casing, 2 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.77 ft below land-surface datum, Oct. 4, 1979; lowest measured, 9.10 ft below land-surface datum, Nov. 19, 1984.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	8.84	DEC 22	8.79	MAR 5	8.53	MAY 18	8.05	SEP 11	8.34
NOV 14	8.95	FEB 12	8.35	APR 3	8.34	JUL 14	8.08		



5 YEAR HYDROGRAPH

OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

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.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

WELL CHARACTERISTICS.--Drilled water-table observation well, depth 365 ft; casing diameter 6 in. with depth to 39 ft; open hole.

DATUM.--Elevation of land-surface datum is 390 ft above National Geodetic Vertical Datum of 1929.

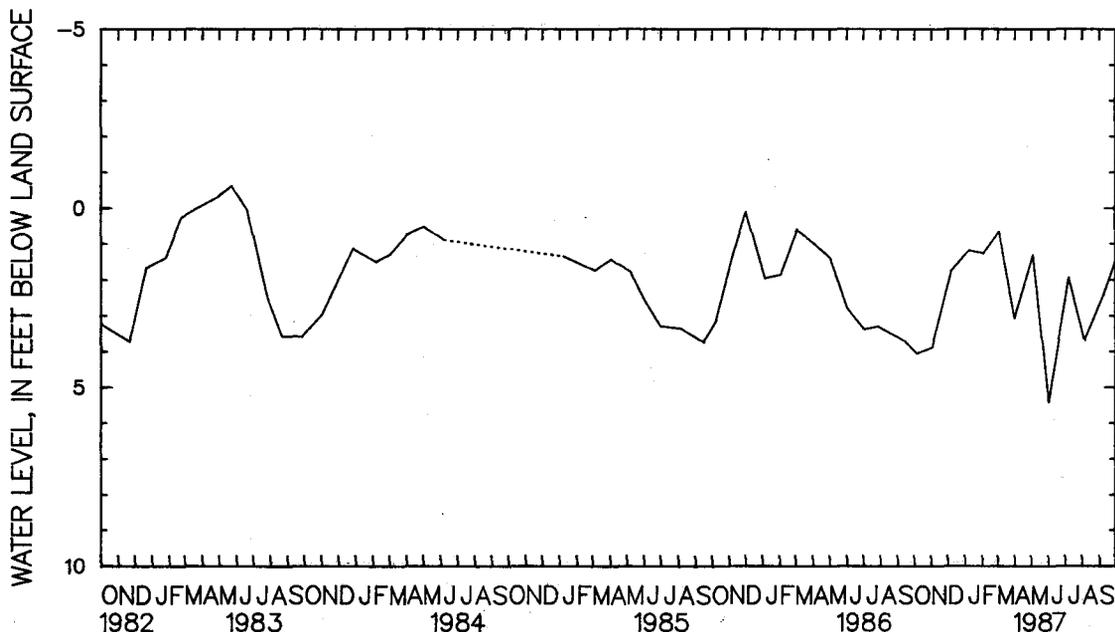
Measuring point: Top of casing, 1.0 ft above land-surface datum.

PERIOD OF RECORD.--April 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, .62 ft above land-surface datum, May 23, 1983; lowest measured, 5.43 ft below land-surface datum, June 2, 1987.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL										
OCT 6	4.07	DEC 8	1.74	FEB 3	1.27	APR 1	3.10	JUN 2	5.43	AUG 6	3.70
NOV 3	3.90	JAN 8	1.19	MAR 3	.66	MAY 4	1.31	JUL 8	1.94	SEP 9	2.43



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

FREDERICK COUNTY--Continued

WELL NUMBER.--FR Bd 96. SITE ID.--393733077274801.

LOCATION.--Lat 39°37'33", long 77°27'48", Hydrologic Unit 02070009, 0.4 mi west of Hunting Creek Lake, Cunningham Falls State Park.

Owner: Cunningham Falls State Park.

AQUIFER.--Catoclin Metabasalt.

WELL CHARACTERISTICS.--Drilled unused water-table well, depth 189 ft; casing diameter 6 in.; open hole.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel. Equipped with water level recorder Apr. 5, 1982 to Feb. 21, 1984.

DATUM--Elevation of land-surface datum is 1150 ft above National Geodetic Vertical Datum of 1929.

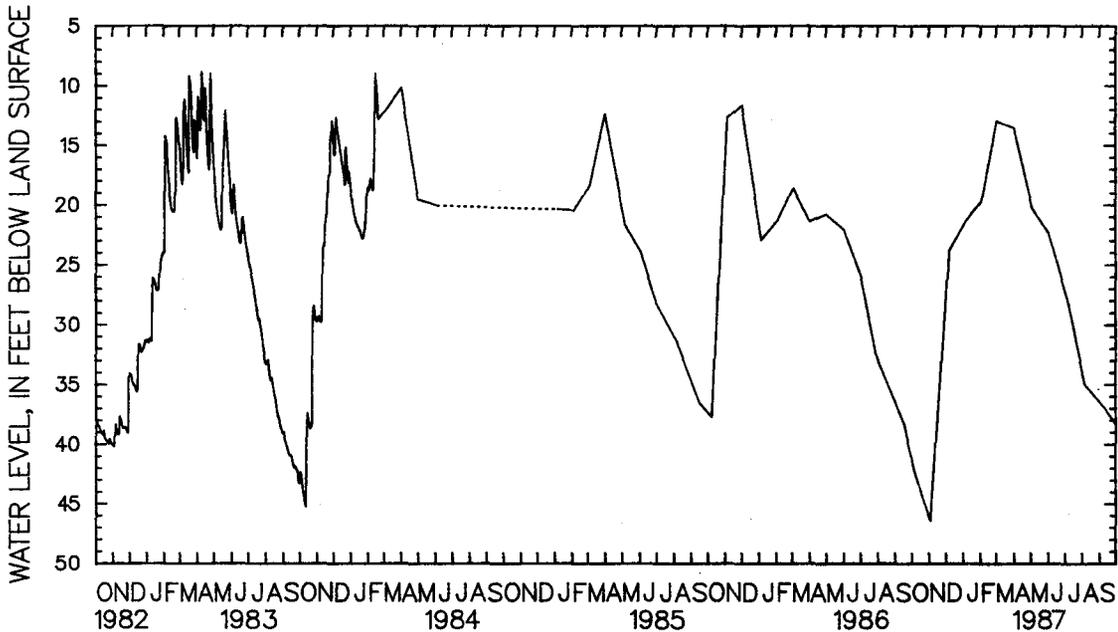
Measuring point: Top of casing at land-surface datum.

PERIOD OF RECORD.--April 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.80 ft below land-surface datum, Apr. 10, 1983; lowest measured, 46.46 ft below land-surface datum, Nov. 3, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL										
OCT 6	42.23	DEC 8	23.76	FEB 3	19.73	APR 2	13.50	JUN 2	22.38	AUG 6	35.04
NOV 3	46.46	JAN 8	21.23	MAR 3	12.95	MAY 4	20.30	JUL 8	28.28	SEP 9	36.92



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

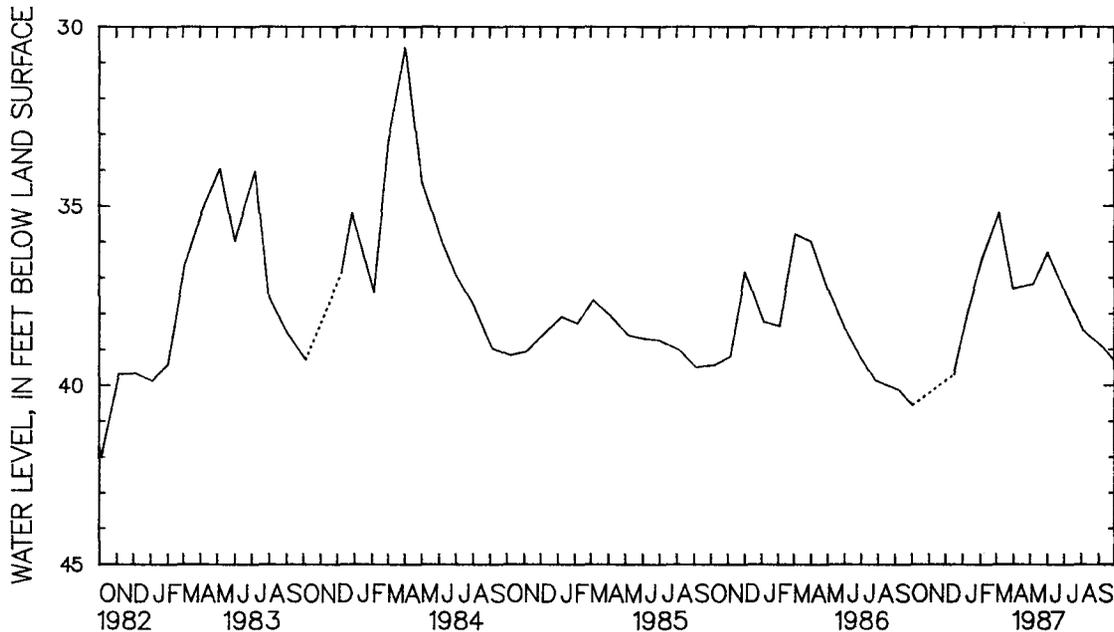
MARYLAND--Continued

FREDERICK COUNTY

WELL NUMBER.--FR Cg 1. SITE ID.--393156077135701.  
 LOCATION.--Lat 39°31'56", long 77°13'57", Hydrologic Unit 02070009, at Johnsville.  
 Owner: Michael Hutchison.  
 AQUIFER.--Ijamsville Formation.  
 WELL CHARACTERISTICS.--Dug stone-lined domestic water-table well, depth 43 ft; diameter 36 in.  
 INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.  
 DATUM.--Elevation of land-surface datum is 600 ft above National Geodetic Vertical Datum of 1929.  
 Measuring point: Top of wooden well cover, .6 ft above land-surface datum.  
 PERIOD OF RECORD.--July 1946 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 28.63 ft below land-surface datum, Sept. 29, 1975;  
 lowest measured, 42.02 ft below land-surface datum, Oct. 5, 1982.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 3	40.56	JAN 9	38.03	MAR 6	35.19	MAY 8	37.18	JUL 8	37.57	SEP 10	38.96
DEC 17	39.70	FEB 4	36.49	APR 1	37.31	JUN 2	36.30	AUG 5	38.49		



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

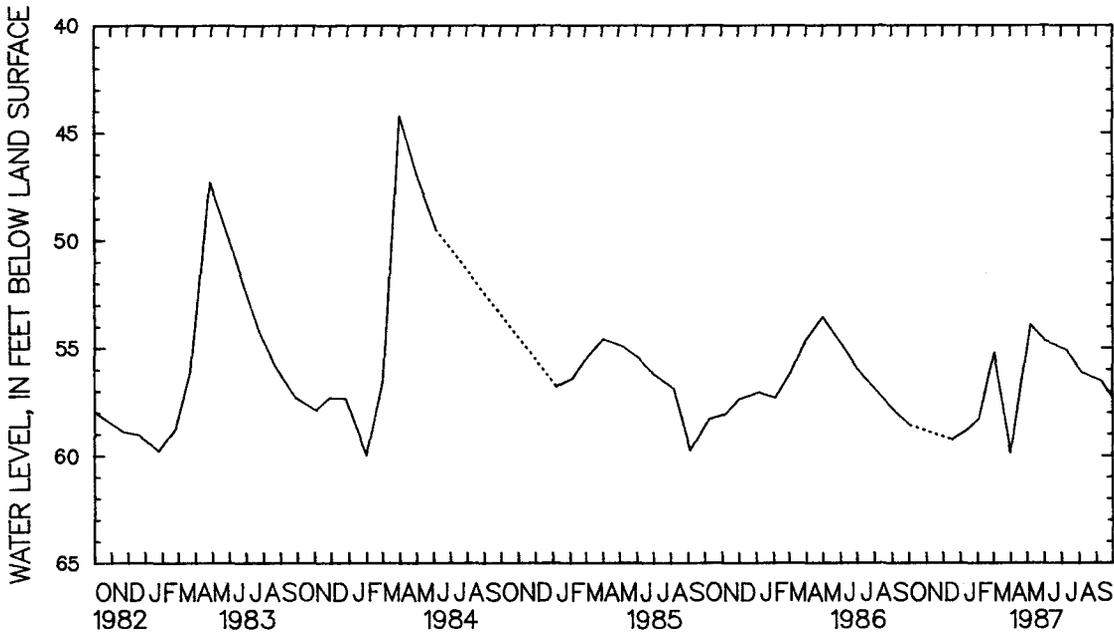
MARYLAND--Continued

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.  
 WELL CHARACTERISTICS.--Drilled unused water-table well, depth 302 ft, casing diameter 6 in. with depth to 26 ft, open hole.  
 INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.  
 DATUM.--Elevation of land-surface datum is 570 ft above National Geodetic Vertical Datum of 1929.  
 Measuring point: Top of casing 1.0 ft above land-surface datum.  
 PERIOD OF RECORD.--May 1982 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 44.20 ft below land-surface datum, April 2, 1984;  
 lowest measured, 59.98 ft below land-surface datum, Feb. 1, 1984.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 3	58.59	JAN 8	58.91	MAR 3	55.22	MAY 8	53.91	JUL 9	55.09	SEP 10	56.54
DEC 17	59.26	FEB 3	58.31	APR 1	59.87	JUN 3	54.65	AUG 6	56.13		



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

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.

WELL CHARACTERISTICS.--Drilled unused water table well, depth 103 ft; casing diameter 6 in. with depth to 24 ft; open hole.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.-- Elevation of land-surface datum is 650 ft above National Geodetic Vertical Datum of 1929.

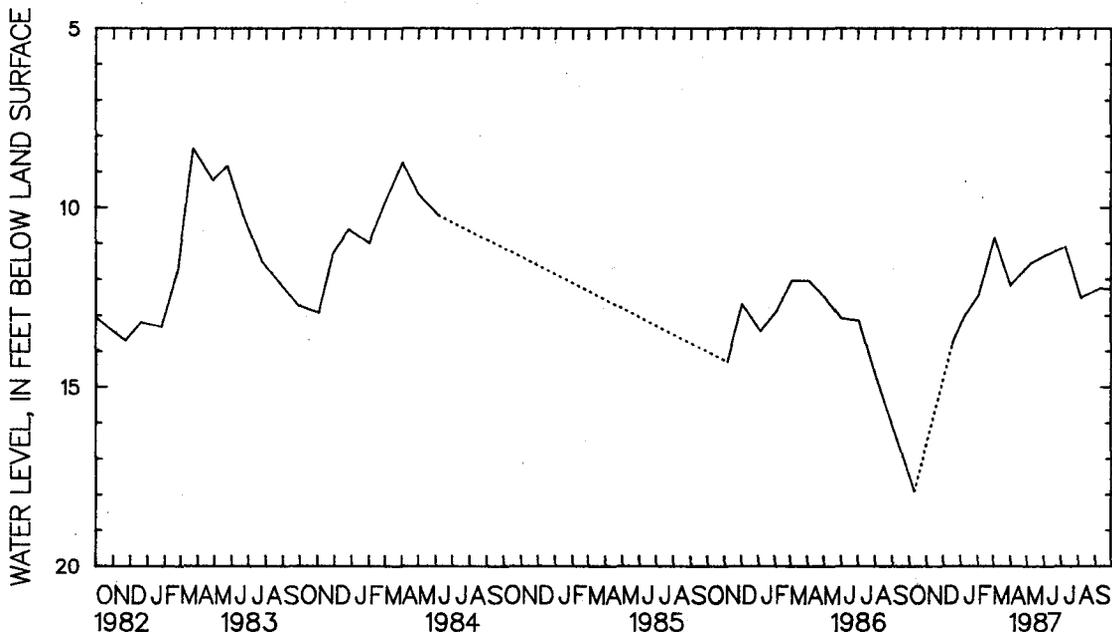
Measuring Point: Top of casing, 2.0 ft above land-surface datum.

PERIOD OF RECORD.-- November 1981 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.35 ft below land-surface datum, Mar. 23, 1983; lowest measured, 17.91 ft below land-surface datum, Oct. 10, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 10	17.91	JAN 8	13.04	MAR 3	10.84	MAY 8	11.55	JUL 9	11.10	SEP 10	12.25
DEC 17	13.80	FEB 3	12.44	APR 1	12.17	JUN 3	11.33	AUG 6	12.52		



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

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.

WELL CHARACTERISTICS.--Drilled unused water-table well, depth 30 ft; casing diameter 8 in. to unknown depth; open hole.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 2,530 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of casing at land-surface datum.

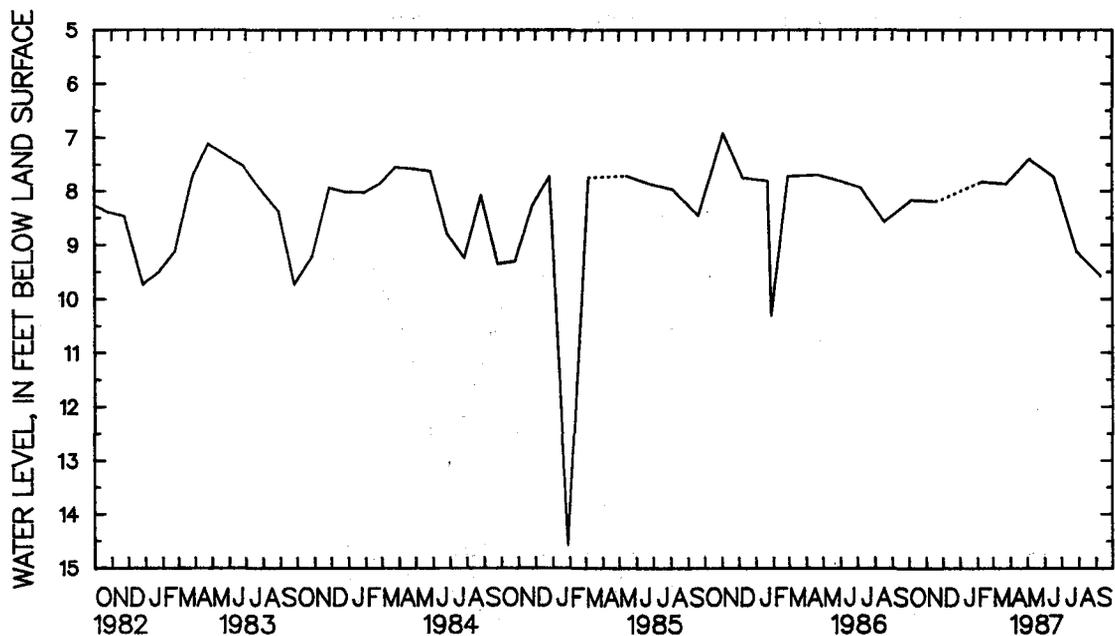
REMARKS.--Water level measured, 11.75 ft below land-surface datum, March 26, 1984; water levels affected by nearby pumping.

PERIOD OF RECORD.--October 1946 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.71 ft below land-surface datum, Jan. 14, 1950; lowest measured, 14.59 ft below land-surface datum, Jan. 28, 1985.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL						
OCT 6	8.18	DEC 30	7.92	MAR 25	7.86	JUN 18	7.73	SEP 9	9.58
NOV 19	8.21	FEB 10	7.82	MAY 5	7.40	JUL 28	9.13		



5 YEAR HYDROGRAPH

OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

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: E. H. Ault.

AQUIFER.--Hampshire Formation.

WELL CHARACTERISTICS.--Dug stone-lined domestic water-table well, depth 20 ft; diameter 36 in.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 2,415 ft above National Geodetic Vertical Datum of 1929.

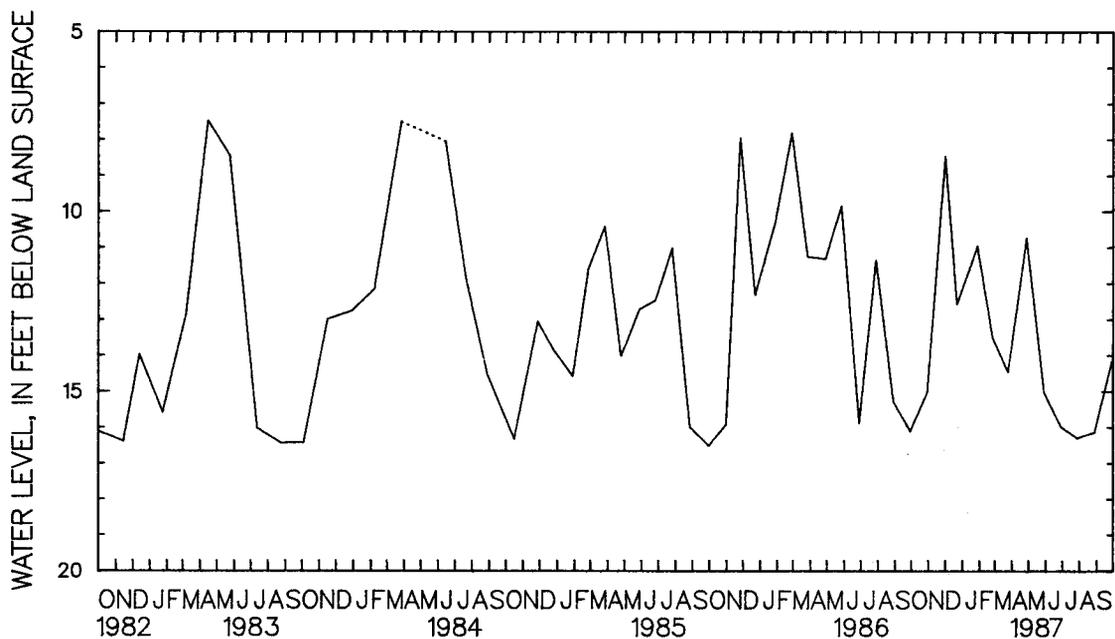
Measuring point: Top of 1 in. board cover, 2.3 ft above land-surface datum.

PERIOD OF RECORD.--August 1949 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.25 ft below land-surface datum, Mar. 6, 1979;  
lowest measured, 19.65 ft below land-surface datum, Dec. 9, 1953.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL										
OCT 30	15.04	DEC 22	12.58	FEB 25	13.52	APR 27	10.74	JUN 29	16.01	AUG 28	16.15
DEC 1	8.47	JAN 28	10.98	MAR 25	14.48	MAY 29	15.05	JUL 28	16.31	SEP 28	14.17



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

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.

WELL CHARACTERISTICS.--Dug stone-lined water-table well, measured depth 25.9 ft; diameter 36 in. (?)

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel. Equipped with water level recorder July 9, 1954 to Aug. 5, 1958.

DATUM.--Elevation of land-surface datum is 460 ft above National Geodetic Vertical Datum of 1929.

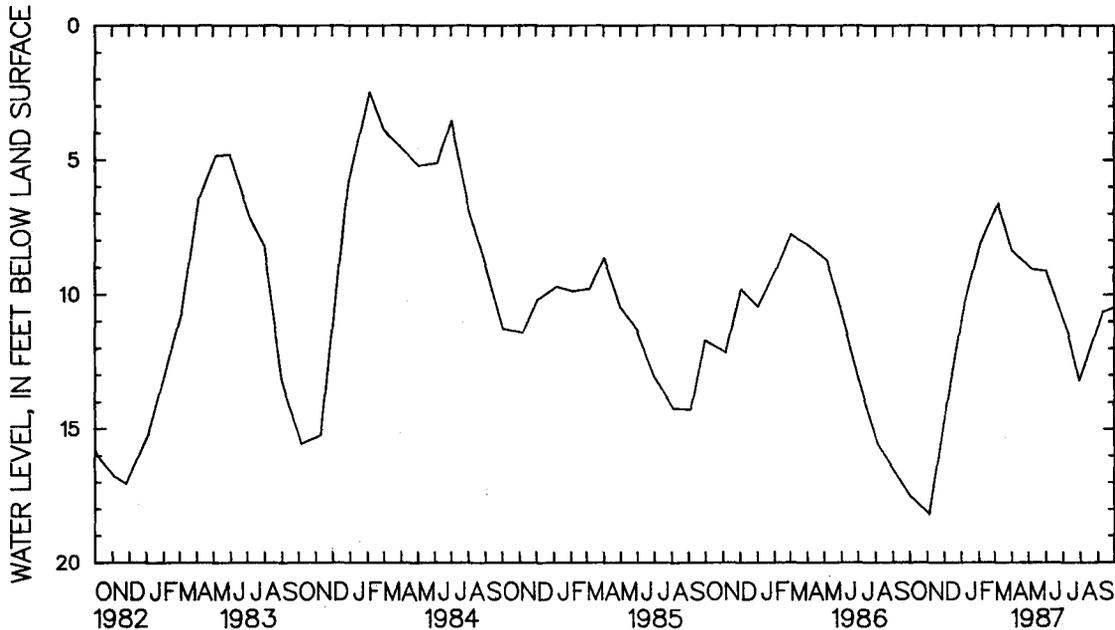
Measuring point: Top of wood floor, .1 ft above land-surface datum.

PERIOD OF RECORD.--May 1954 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.00 ft below land-surface datum, Mar. 8, 1979; lowest measured, 19.59 ft below land-surface datum, Feb. 7, 1966.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 1	17.50	DEC 17	12.73	FEB 4	8.11	APR 1	8.38	JUN 2	9.14	JUL 30	13.23
NOV 4	18.20	JAN 8	10.21	MAR 8	6.61	MAY 8	9.07	JUL 10	11.45	SEP 10	10.65



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS  
MARYLAND--Continued  
HARFORD COUNTY--Continued

WELL NUMBER.--HA Ca 23. SITE ID.--393158076302601.

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.

WELL CHARACTERISTICS.--Drilled water-table observation well, depth 200 ft; casing diameter 6 in. with depth to 24 ft; open hole.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel. Equipped with water level recorder July 10, 1974 to Sept. 13, 1976.

DATUM.--Elevation of land-surface datum is 470 ft above National Geodetic Vertical Datum of 1929.

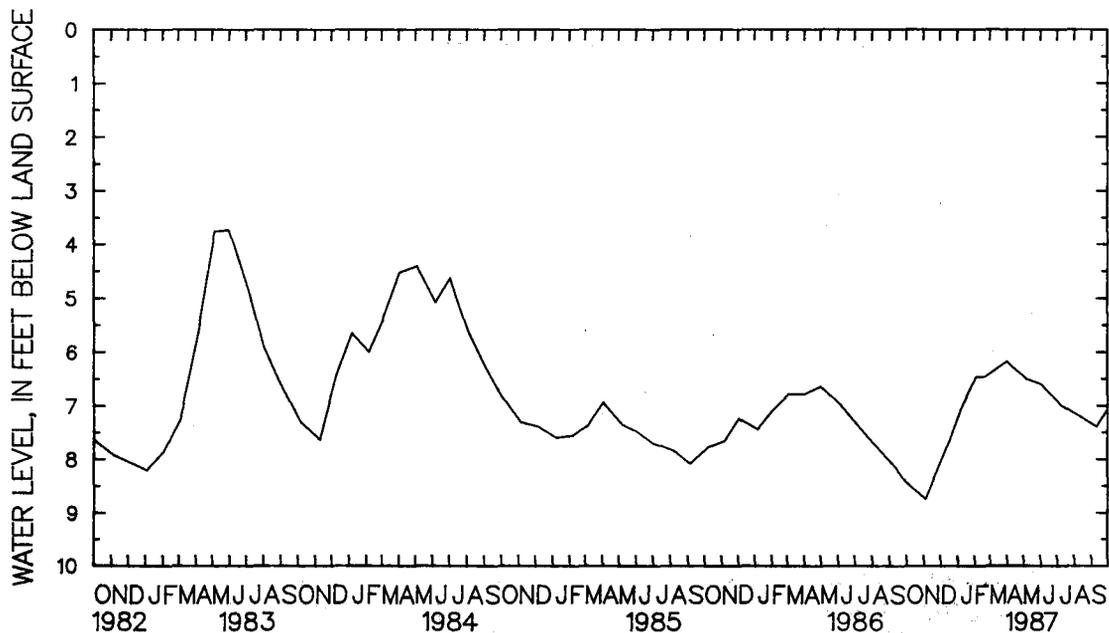
Measuring point: Top of casing, 1.6 ft above land-surface datum.

PERIOD OF RECORD.--July 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.59 ft below land-surface datum, Sept. 27, 1975; lowest measured, 9.03 ft below land-surface datum, Dec. 15, 1981.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 1	8.45	DEC 17	7.68	FEB 4	6.47	APR 1	6.18	JUN 2	6.60	AUG 5	7.17
NOV 4	8.75	JAN 8	7.04	FEB 21	6.46	MAY 8	6.51	JUL 8	7.00	SEP 10	7.40



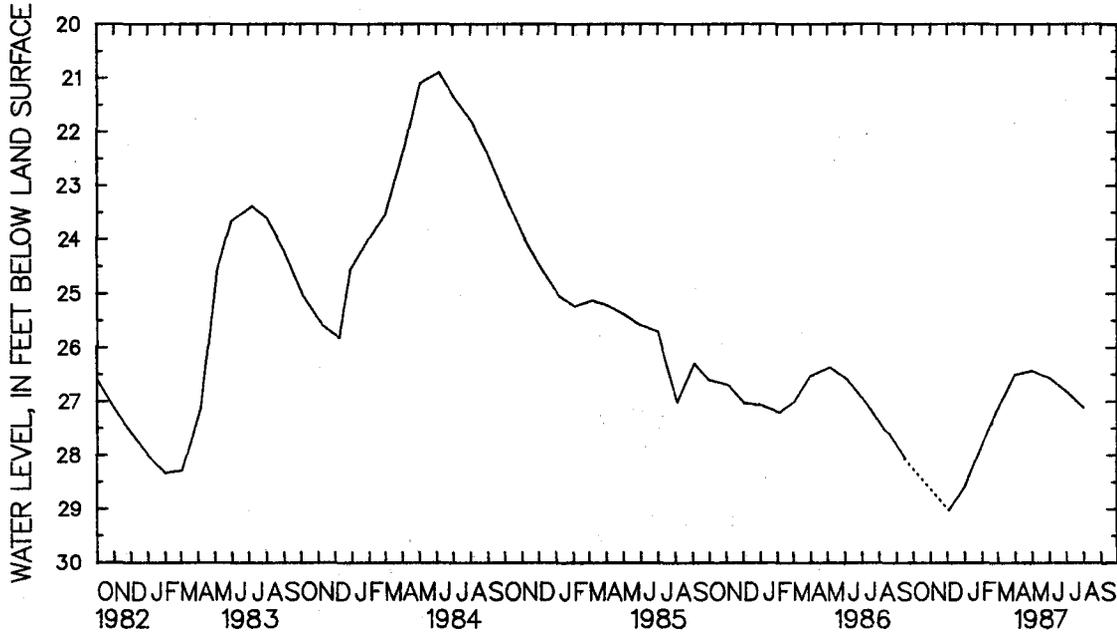
5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

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.  
 WELL CHARACTERISTICS.--Drilled unused artesian well, depth 135 ft; casing diameter 4 in. with depth to 45 ft; screen diameter 4 in. from 45 to 66 ft.  
 INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.  
 DATUM.--Elevation of land-surface datum is 65 ft above National Geodetic Vertical Datum of 1929.  
 Measuring point: Top of casing, 1.6 ft above land-surface datum.  
 PERIOD OF RECORD.--October 1973 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 18.31 ft below land-surface datum, July 28, 1975; lowest measured, 29.03 ft below land-surface datum, Dec. 4, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL								
DEC 4	29.03	FEB 5	27.71	APR 1	26.51	JUN 1	26.57	AUG 1	27.12
JAN 1	28.61	MAR 1	27.15	MAY 1	26.44	JUL 1	26.82		



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

HARFORD COUNTY--Continued

WELL NUMBER.--HA Ec 11. SITE ID.--392433076203301. PERMIT NUMBER.--HA-04-7211.  
 LOCATION.--Lat 39°24'33", long 76°20'33", Hydrologic Unit 02060003, off Trimble Rd., Joppatowne.  
 Owner: Joppatowne Utilities Corp.

AQUIFER.--Patuxent Formation.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 68 ft; diameter of casing 6 in. with depth to 63 ft; screen diameter 2 in. from 63 to 68 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel. Equipped with water level recorder May 23, 1962 to Dec. 17, 1983.

DATUM.--Elevation of land-surface datum is 10 ft above National Geodetic Vertical Datum of 1929.

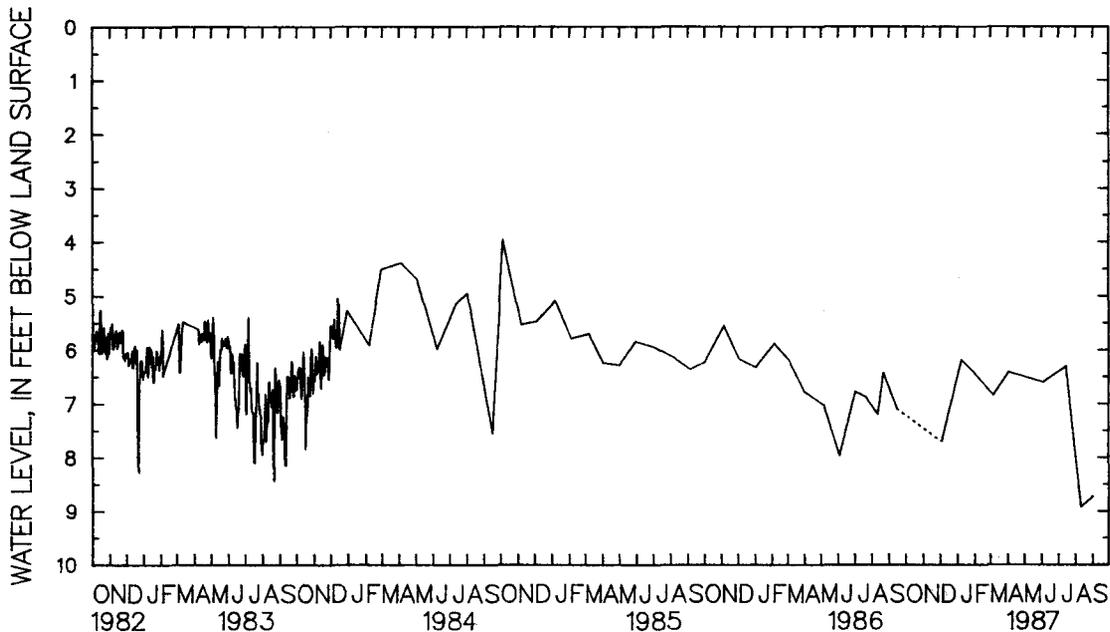
Measuring point: Top of casing, 3.5 ft above land-surface datum.

PERIOD OF RECORD.--May 1962 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, .13 ft at land-surface datum, May 24, 1962; lowest measured, 12.80 ft below land-surface datum, May 26, 1972.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 4	7.62	JAN 28	6.41	APR 3	6.42	JUL 15	6.31	SEP 2	8.74
JAN 8	6.20	MAR 6	6.85	JUN 4	6.61	AUG 12	8.93		



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

HARFORD COUNTY--Continued

WELL NUMBER.--HA Ed 24. SITE ID.--392343076161901.

LOCATION.--Lat 39°23'43", long 76°16'19", Hydrologic Unit 02060003, at Bush River Rd. and 29th St., about 2 mi southeast of Edgewood.

Owner: U.S. Army.

AQUIFER.--Patapsco Formation.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 149 ft; casing diameter 18 in. with depth to 73 ft; casing diameter 10 in. from 65 to 120 ft; screen diameter 10 in. from 120 to 135 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel. Equipped with water level recorder Jan. 24, 1950, to June 6, 1961.

DATUM.--Elevation of land-surface datum is 12.8 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of casing, 1.15 ft above land-surface datum.

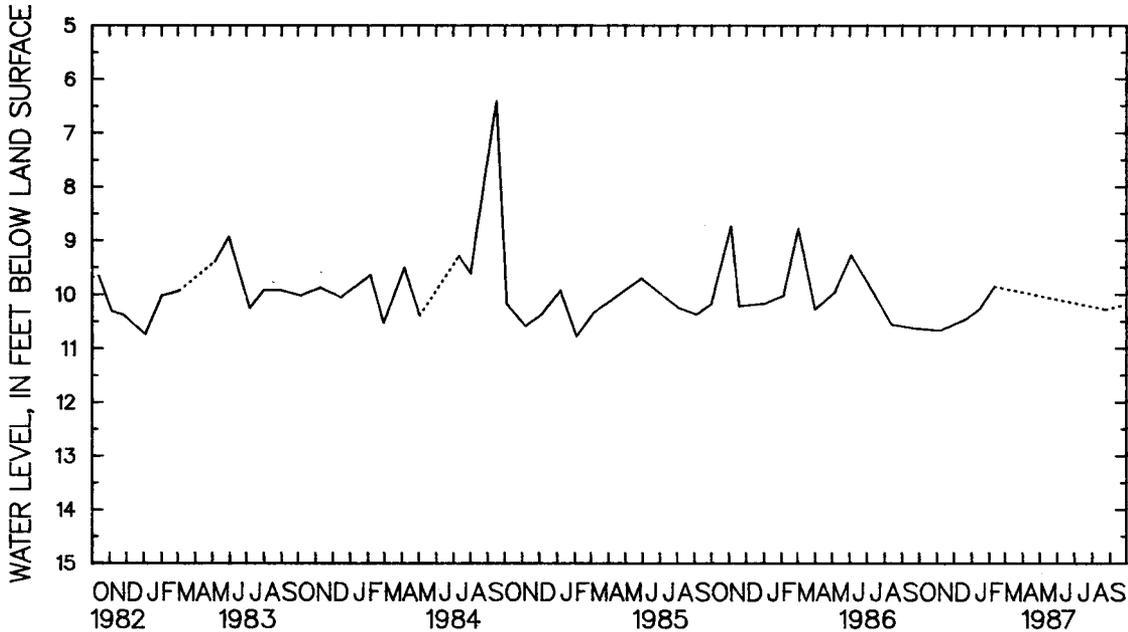
REMARKS.--Water level measured, 8.24 ft below land-surface datum, Apr. 13, 1944.

PERIOD OF RECORD.-- September 1949, January 1950 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.41 ft below land-surface datum, Sept. 17, 1984; lowest measured, 42.55 ft below land-surface datum, June 26, 1955.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 7	10.68	DEC 22	10.47	JAN 16	10.27	FEB 11	9.86	AUG 25	10.29



5 YEAR HYDROGRAPH

OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

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 Rts. 32 and 99.

Owner: Maryland State Highway Administration.

AQUIFER.--Loch Raven Schist.

WELL CHARACTERISTICS.--Dug stone-lined water-table observation well, diameter 60 in., measured depth 48 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 630 ft above National Geodetic Vertical Datum of 1929.

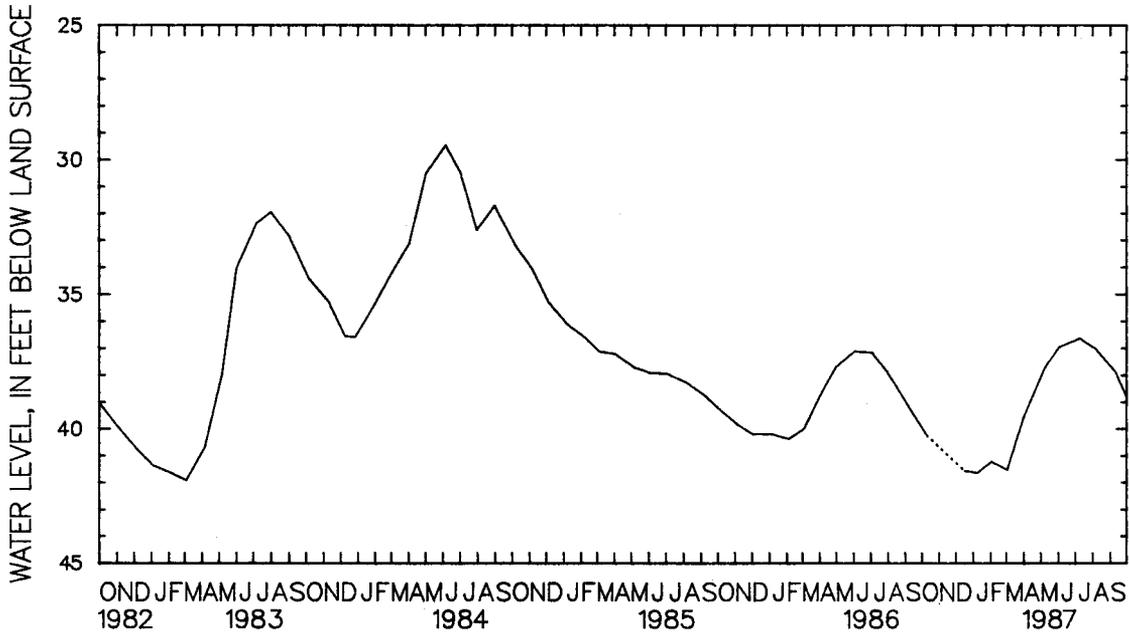
Measuring point: Hole in center of steel plate well cover, .4 ft above land-surface datum.

PERIOD OF RECORD.--October 1946 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 27.76 ft below land-surface datum, July 3, 1972; lowest measured, 46.88 ft below land-surface datum, Sept. 10, 1966.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 10	40.26	JAN 8	41.66	MAR 3	41.54	MAY 8	37.73	JUL 9	36.64	SEP 10	37.88
DEC 17	41.58	FEB 3	41.24	APR 1	39.59	JUN 3	36.95	AUG 6	37.02		



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

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.--Wissahickon Formation\*(oligoclase).

WELL CHARACTERISTICS.--Drilled unused water-table well, depth 125 ft; casing diameter 6 in. with depth to 51.4 ft; open hole.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 430 ft above National Geodetic Vertical Datum of 1929.

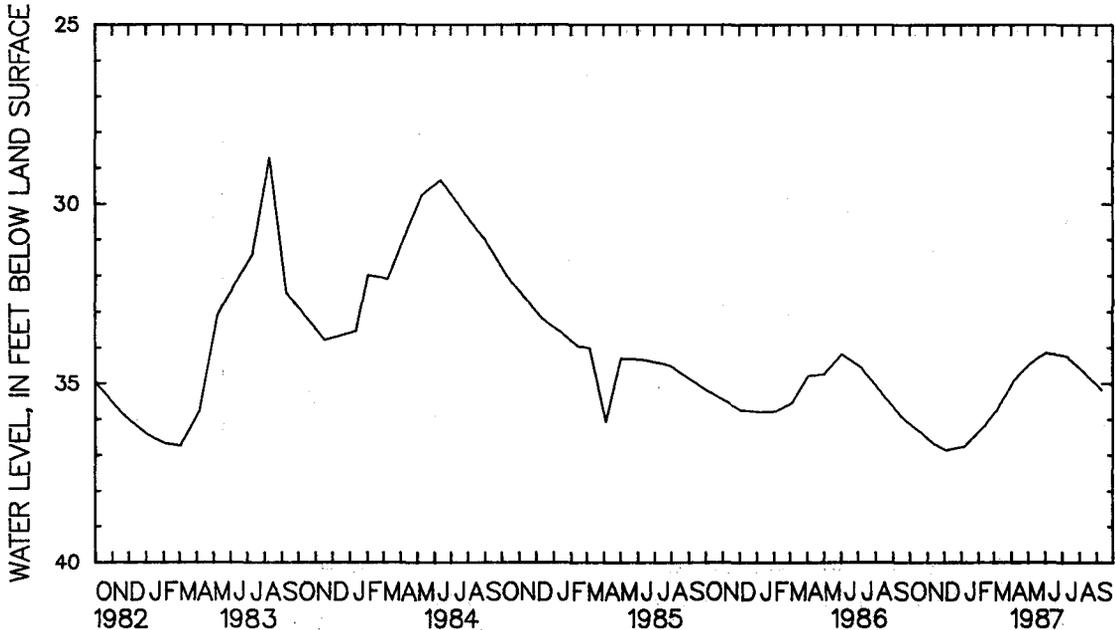
Measuring point: Top of casing, 1.8 ft above land-surface datum.

PERIOD OF RECORD.--May 1956 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 25.84 ft below land-surface datum, May 5, 1972; lowest measured, 36.87 ft below land-surface datum, Dec. 5, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	36.34	DEC 5	36.87	FEB 12	36.20	APR 7	34.90	JUN 4	34.14	AUG 7	34.65
NOV 14	36.71	JAN 7	36.76	MAR 6	35.76	MAY 7	34.42	JUL 10	34.24	SEP 10	35.18



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

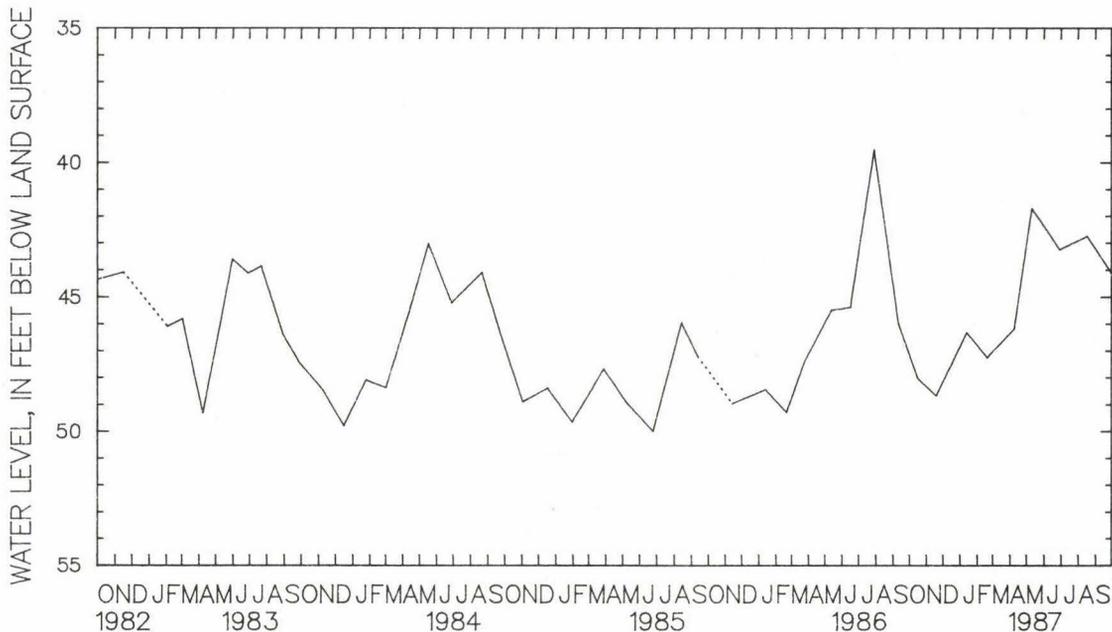
MARYLAND--Continued

KENT COUNTY

WELL NUMBER.--KE Cd 44. SITE ID.--391432076015501. PERMIT NUMBER.--KE-03-6139.  
 LOCATION.--Lat 39°14'32", long 76°01'55", Hydrologic Unit 02060002, MD Rt. 291, 2.6 mi northeast of Chestertown.  
 Owner: Campbell Soup Co.  
 AQUIFER.--Aquia Formation.  
 WELL CHARACTERISTICS.--Drilled unused artesian well, depth 84 ft; casing diameter 4 in.; with depth to 79 ft; screen diameter 5 in. from 79 to 84 ft. *case to*  
 INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.  
 DATUM.--Elevation of land-surface datum is 50 ft above National Geodetic Vertical Datum of 1929.  
 Measuring point: Top of casing, 2.0 ft above land-surface datum.  
 REMARKS.--Water levels measured by plant personnel with an electric tape, Sept. 18, 1959 to April 18, 1963.  
 PERIOD OF RECORD.--September 1959 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 25.00 ft below land-surface datum, Sept. 18, 1959; lowest measured, 54.46 ft below land-surface datum, Aug. 4, 1966.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL						
OCT 17	48.07	JAN 13	46.33	APR 9	46.20	JUN 29	43.25
NOV 19	48.70	FEB 19	47.26	MAY 11	41.71	AUG 17	42.75



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

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.  
 WELL CHARACTERISTICS.--Dug stone-lined unused water-table well, depth 46 ft; casing diameter 60 to 24 in.  
 INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 560 ft above National Geodetic Vertical Datum of 1929.

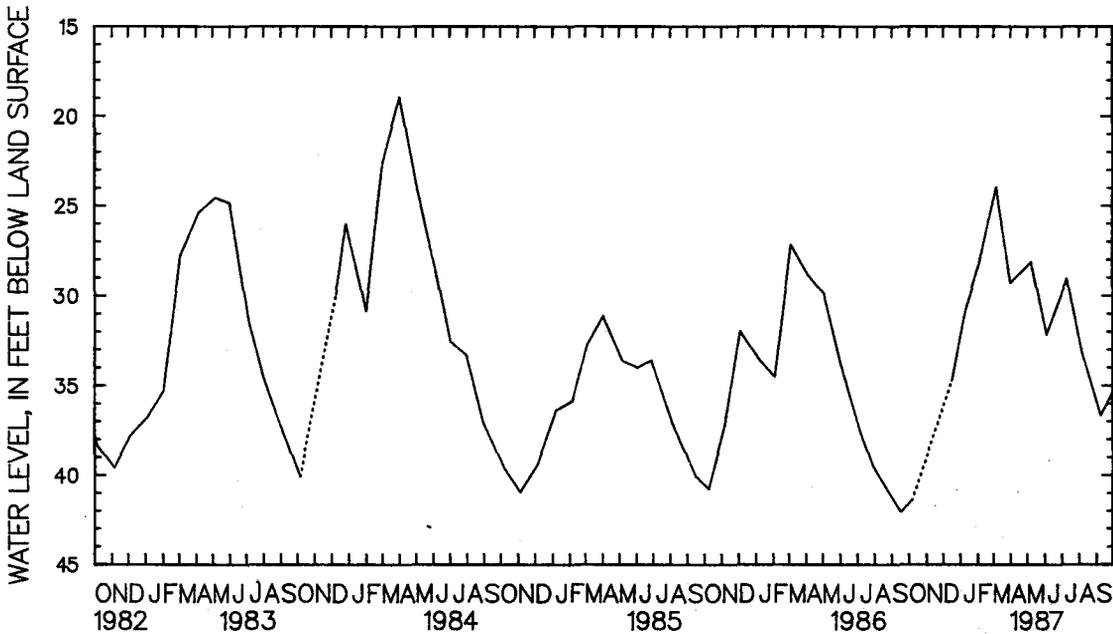
Measuring point: Top of wooden well cover, 3.0 ft above land-surface datum.

PERIOD OF RECORD.--November 1952 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 18.92 ft below land-surface datum, Apr. 2, 1984;  
 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 DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 6	41.43	JAN 9	30.91	MAR 6	23.95	MAY 8	28.15	JUL 10	29.09	SEP 9	36.70
DEC 17	34.74	FEB 4	28.18	APR 1	29.31	JUN 4	32.18	AUG 6	33.20		



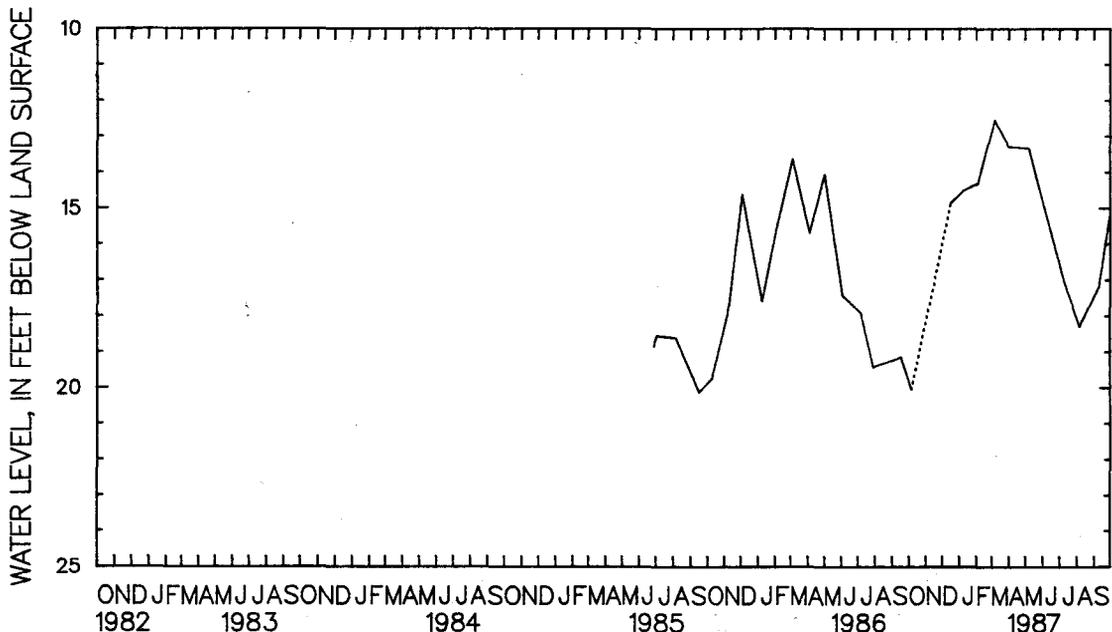
5 YEAR HYDROGRAPH  
 OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

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 National Institutes of Health Animal Center.  
 Owner: U.S. Geological Survey.  
 AQUIFER.--New Oxford Formation.  
 WELL CHARACTERISTICS.--Drilled water-table observation well, depth 250 ft; casing diameter 6 in. with depth to 40 ft; open hole.  
 INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.  
 DATUM.--Elevation of land-surface datum is 260 ft above National Geodetic Vertical Datum of 1929.  
 Measuring point: Top of casing, .8 ft above land-surface datum.  
 PERIOD OF RECORD.--May 1978 to August 1980, June 1985 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 12.40 ft below land-surface datum, May 30, 1978; lowest measured, 20.15 ft below land-surface datum, Sept. 16, 1985.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 6	20.07	JAN 9	14.50	MAR 6	12.55	MAY 8	13.33	JUL 10	17.12	SEP 9	17.21
DEC 17	14.85	FEB 4	14.31	APR 1	13.29	JUN 4	14.98	AUG 6	18.31	SEP 29	15.25



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

MONTGOMERY COUNTY--Continued

WELL NUMBER.--MO Dc 72. SITE ID.--390752077243101. PERMIT NUMBER.--MO-73-2284.  
 LOCATION.--Lat 39°07' 52", long 77°24' 31", Hydrologic Unit 02070008, 0.1 mi west of Hughes Rd., Poolesville.  
 Owner: U.S. Geological Survey.

AQUIFER.--New Oxford Formation.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 275 ft; casing diameter 6 in. with depth to 41 ft; open hole.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface is 330 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of casing, 4.42 ft above land-surface datum.

REMARKS.--Well flowing Dec. 4, 1985 through June 3, 1986. Water level affected by nearby pumping.

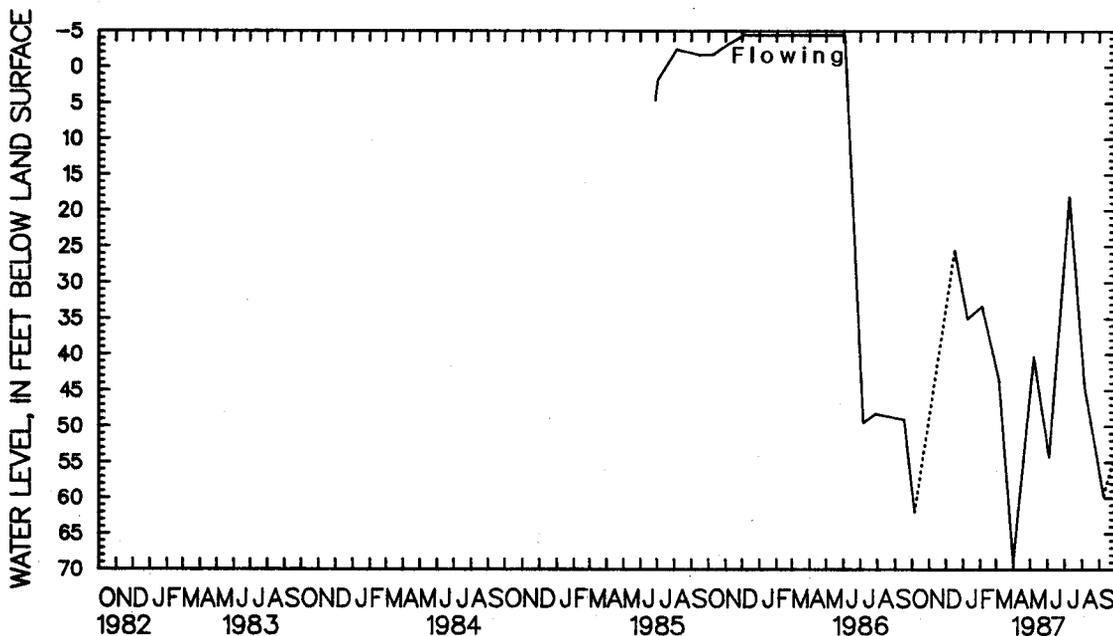
PERIOD OF RECORD.--June 1985 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.21 ft above land-surface datum, Nov. 7, 1985;

lowest measured, 68.99 ft below land-surface datum, Apr. 1, 1987.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 6	62.07	JAN 9	35.09	MAR 6	43.51	MAY 8	40.33	JUL 10	18.05	SEP 9	59.73
DEC 17	25.65	FEB 4	33.33	APR 1	68.99	JUN 4	54.31	AUG 6	44.61		



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

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).

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

WELL CHARACTERISTICS.--Drilled unused water-table well, depth 102.9 ft; casing diameter 6 in. with depth to 50 ft; open hole.

DATUM.--Elevation of land-surface datum is 410 ft above National Geodetic Vertical Datum of 1929.

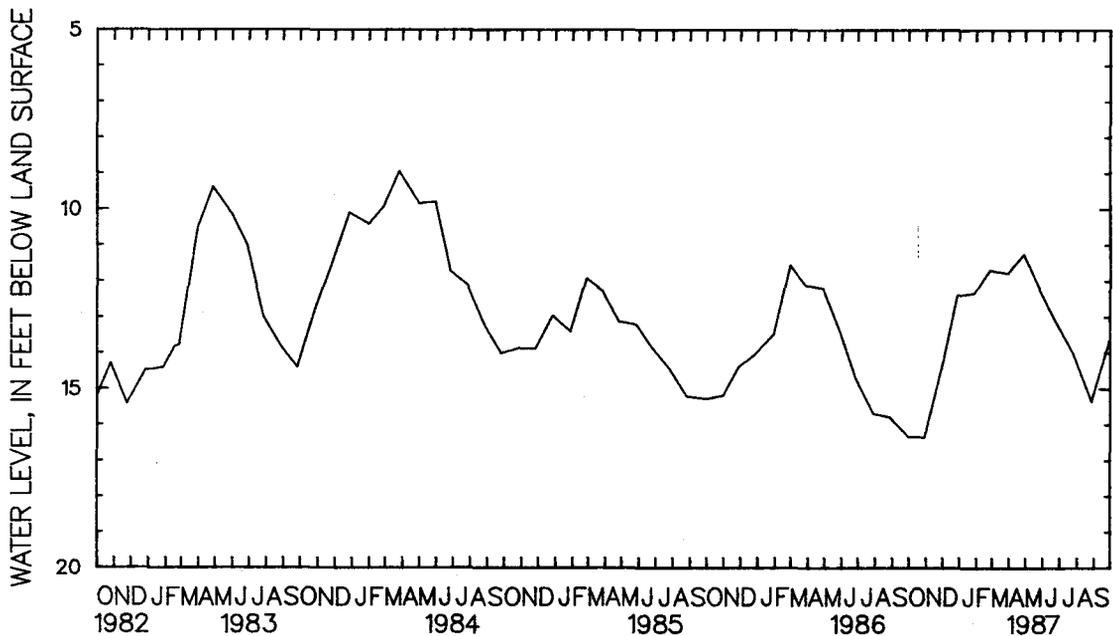
Measuring point: Top of casing at land-surface datum.

PERIOD OF RECORD.--March 1955 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.39 ft below land-surface datum, June 25, 1972; lowest measured, 16.36 ft below land-surface datum, Oct. 29, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL										
OCT 29	16.36	DEC 29	12.40	FEB 25	11.69	APR 28	11.25	JUN 25	13.14	AUG 27	15.36
DEC 3	14.22	JAN 29	12.33	MAR 30	11.78	MAY 27	12.23	JUL 24	13.98	SEP 29	13.67



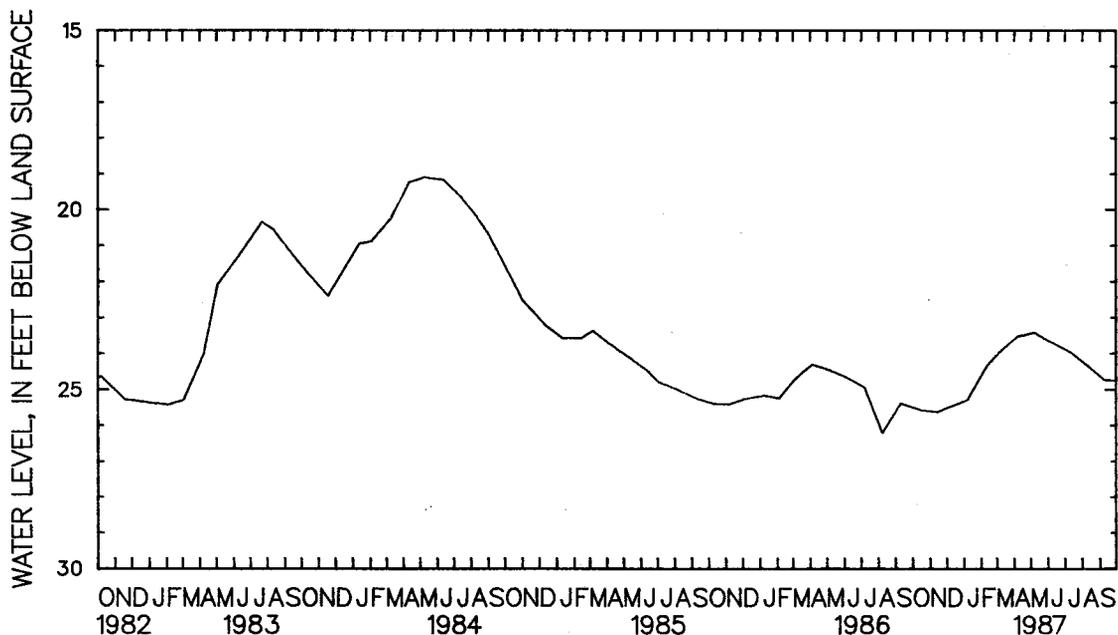
5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS  
 MARYLAND--Continued  
 PRINCE GEORGE'S 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.  
 WELL CHARACTERISTICS.--Dug brick-lined unused water-table well, measured depth 27.4 ft; casing diameter 40 in.  
 INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel. Equipped with water level recorder Oct. 31, 1962 to Feb. 9, 1965.  
 DATUM.--Elevation of land-surface datum is 190 ft above National Geodetic Vertical Datum of 1929.  
 Measuring point: Top of steel cover, .1 ft above land-surface datum.  
 PERIOD OF RECORD.--September 1962 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 17.26 ft below land-surface datum, July 6, 1972; lowest measured, 26.46 ft below land-surface datum, July 8, 1981.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	25.59	DEC 5	25.50	FEB 12	24.33	APR 7	23.53	JUN 4	23.67	AUG 7	24.31
NOV 14	25.64	JAN 7	25.30	MAR 6	23.96	MAY 7	23.42	JUL 10	23.97	SEP 9	24.74



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

PRINCE GEORGE'S COUNTY--Continued

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 & Educational Facility at Oak Grove.  
 Owner: University of Maryland.

AQUIFER.--Magothy Formation.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 155 ft; casing diameter 6 in. with depth to 150 ft; screen diameter 6 in. from 150 to 155 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel. Equipped with water level recorder  
 May 26, 1958 to Jan. 27, 1965.

DATUM.--Elevation of land-surface datum is 96 ft above National Geodetic Vertical Datum of 1929.

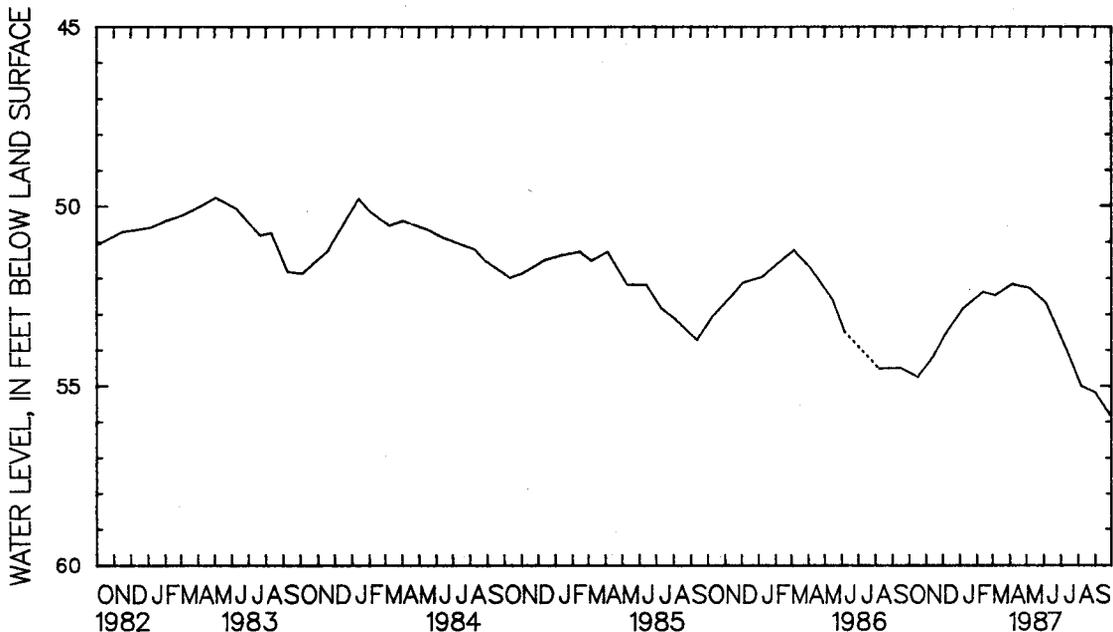
Measuring point: Top of casing, .9 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 38.39 ft below land-surface datum, May 29, 1958;  
 lowest measured, 55.85 ft below land-surface datum, Sept. 29, 1987.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	54.77	JAN 7	52.85	APR 6	52.17	JUL 10	53.94
NOV 14	54.20	FEB 12	52.39	MAY 7	52.28	AUG 7	55.02
DEC 5	53.59	MAR 6	52.48	JUN 5	52.69	SEP 1	55.20



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

PRINCE GEORGE'S 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.

WELL CHARACTERISTICS.--Dug unused artesian well, depth 81.5 ft; diameter of concrete-ring lining 48 in.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 145 ft above National Geodetic Vertical Datum of 1929.

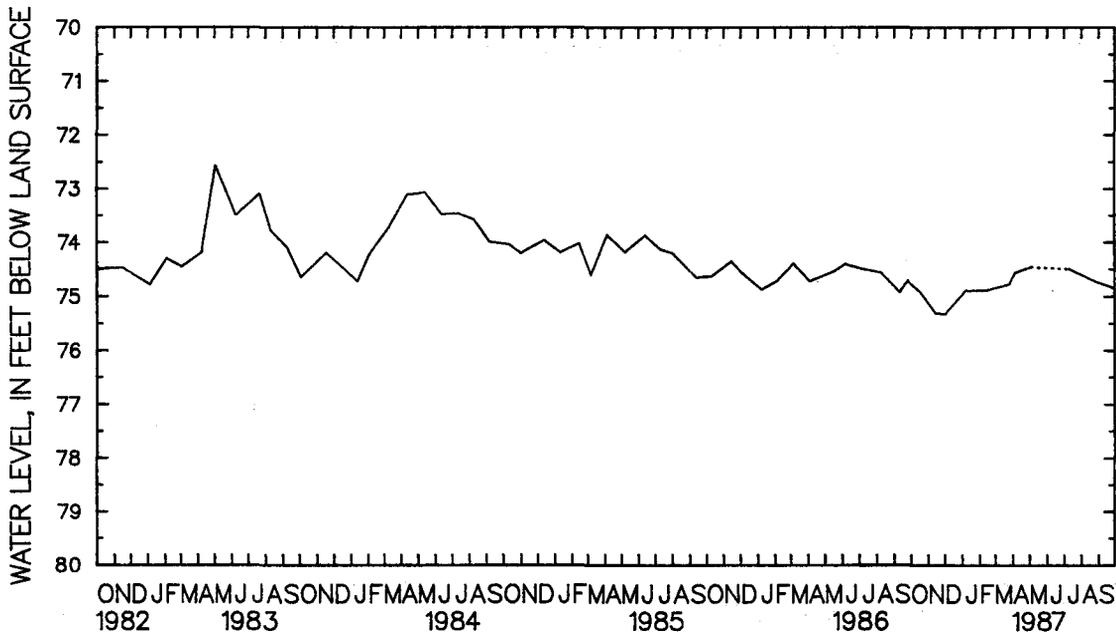
Measuring point: Edge of steel cover, 3.0 ft below land-surface datum.

PERIOD OF RECORD.--November 1948 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured 69.87 ft below land-surface datum, Dec. 17, 1979;  
lowest measured, 75.96 ft below land-surface datum, Nov. 19, 1951.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	74.92	DEC 1	75.34	FEB 12	74.90	APR 6	74.56	JUL 10	74.50
NOV 14	75.32	JAN 7	74.90	MAR 26	74.78	MAY 4	74.46	AUG 28	74.74



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

PRINCE GEORGE'S COUNTY--Continued

WELL NUMBER.--PG Fb 36. SITE ID.--384423077004501. PERMIT NUMBER.--PG-02-4834.  
 LOCATION.--Lat 38°44'23", long 77°00'45", Hydrologic Unit 02070010, at Broadwater Estates.

Owner: Broadwater Citizens Association.

AQUIFER.--Patapsco Formation.

WELL CHARACTERISTICS.--Drilled unused artesian well, depth 284 ft; casing diameter 8 in. with depth to 271.5 ft; screen diameter 8 in. from 267.5 to 284 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 78 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of casing, 3.5 ft above land-surface datum.

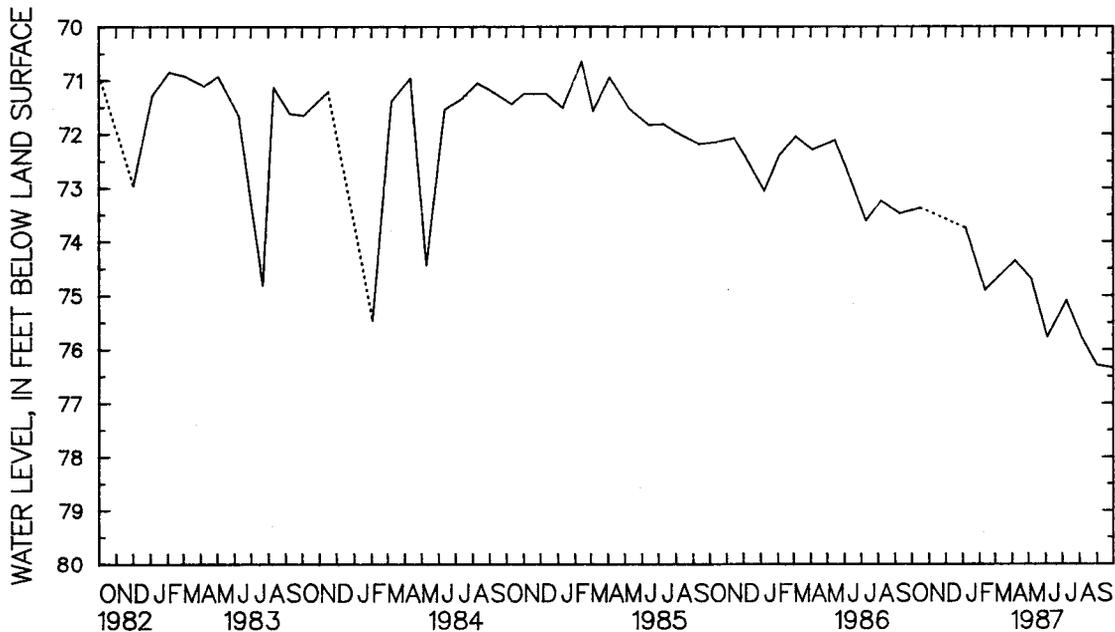
REMARKS.--Water level reported 62 ft below land-surface datum May 29, 1957; measured 84 ft below land-surface datum July 7, 1961.

PERIOD OF RECORD.--March 1962 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level reported, 62 ft below land-surface datum, May 29, 1957; highest level measured, 68.99 ft below land-surface datum, Oct. 3, 1979; lowest measured, 84.84 ft below land-surface datum, Feb. 14, 1963.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	73.38	FEB 11	74.91	MAY 6	74.69	JUL 9	75.10	SEP 1	76.30
JAN 7	73.76	APR 7	74.36	JUN 4	76	AUG 6	75.80		



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

PRINCE GEORGE'S COUNTY--Continued

WELL NUMBER.--PG Fc 17. SITE ID.--38423007655601.

LOCATION.--Lat 38°42'30", long 76°55'56", Hydrologic Unit 02070010, south of Floral Park Rd. and west of MD Rt. 5, Piscataway.

Owner: Washington Gas Light Co.

AQUIFER.--Patapsco Formation.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 750 ft; casing diameter 6 in.; casing perforated from 712 to 716 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel. Equipped with water level recorder Oct. 27, 1955 to Sept. 4, 1956.

DATUM.--Elevation of land-surface datum is 58.6 ft above National Geodetic Vertical Datum of 1929.

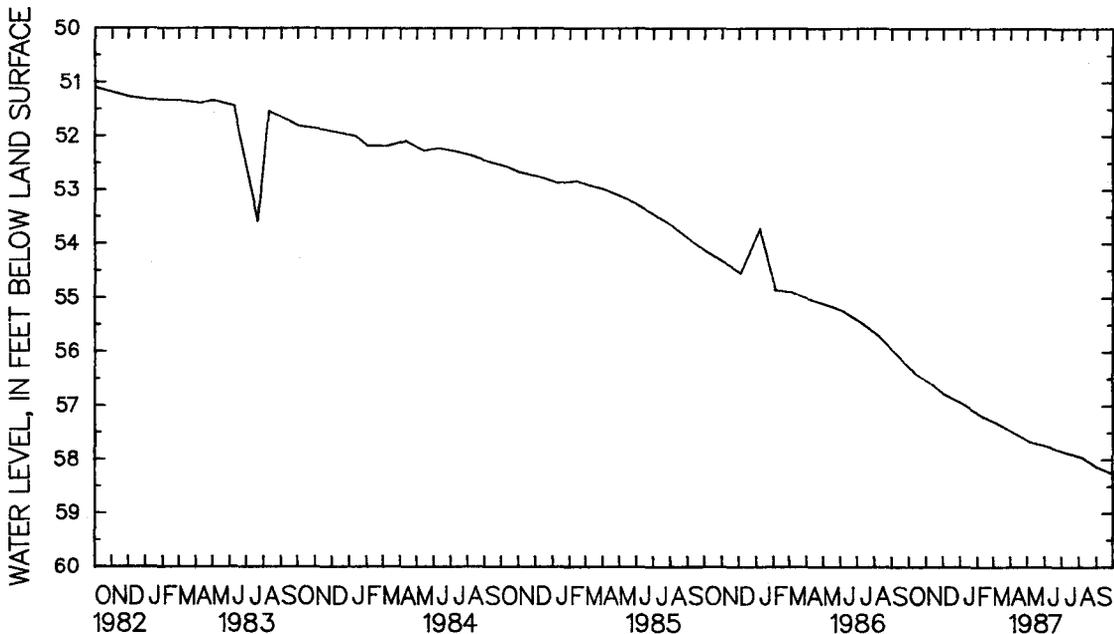
Measuring point: Top of casing, .5 ft above land-surface datum.

PERIOD OF RECORD.--October 1955 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 28.62 ft below land-surface datum, Oct. 27, 1955; lowest measured, 58.14 ft below land-surface datum, Sept. 1, 1987.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 16	56.44	DEC 4	56.80	FEB 11	57.22	APR 7	57.51	JUN 4	57.76	AUG 6	57.96
NOV 13	56.62	JAN 7	56.98	MAR 5	57.32	MAY 6	57.68	JUL 8	57.88	SEP 1	58.14



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

PRINCE GEORGE'S COUNTY--Continued

WELL NUMBER.--PG Fd 41. SITE ID.--384131076533301. PERMIT NUMBER.--PG-01-8058.  
 LOCATION.--Lat 38°41'31", long. 76°53'33", Hydrologic Unit 02070010, south side of MD Rt. 373, 1.14 mi west of intersection with MD Rt. 5, near T.B.  
 Owner: Colonial Investment Corp.

AQUIFER.--Magothy Formation.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 362 ft; casing diameter 4 in. with depth to 352 ft; screen diameter 2.5 in. from 352 to 362 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 198 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of casing, 2.8 ft above land-surface datum.

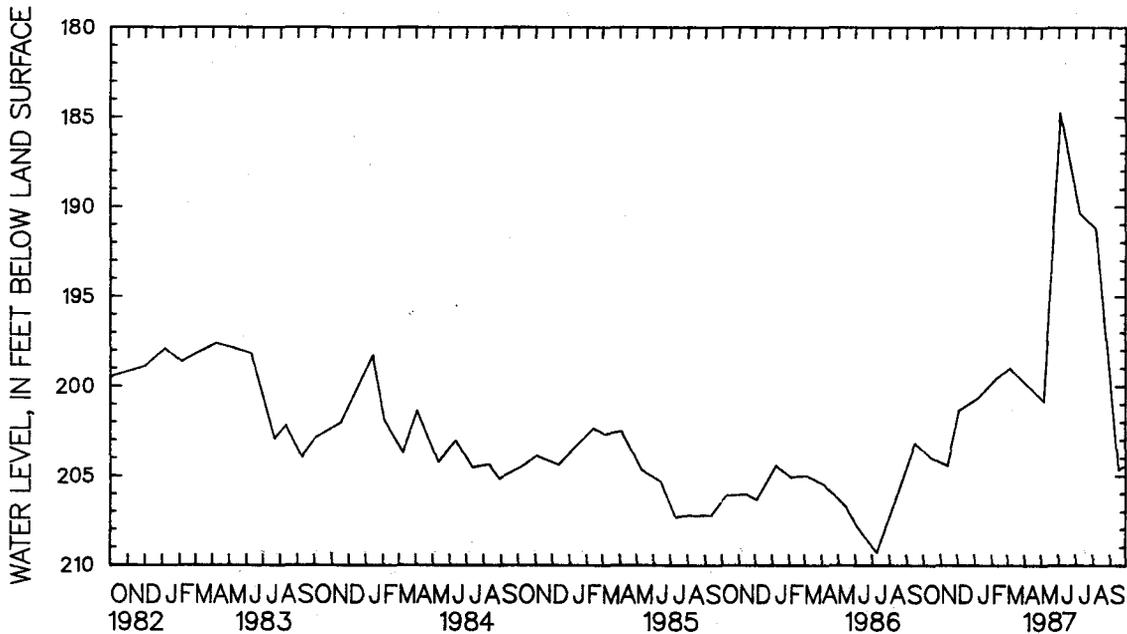
REMARKS.--Water level reported 146 ft below land-surface datum, March 11, 1955.

PERIOD OF RECORD.--May 1967 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 157.24 ft below land-surface datum, Mar. 4, 1968; lowest measured, 209.31 ft below land-surface datum, July 10, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 16	204.02	DEC 4	201.34	FEB 10	199.54	MAY 6	200.83	JUL 9	190.42	SEP 17	204.66
NOV 13	204.44	JAN 7	200.66	MAR 5	199.00	JUN 4	184.75	AUG 6	191.22		



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

QUEEN ANNE'S COUNTY

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.

WELL CHARACTERISTICS.--Drilled unused water-table well, reported depth 60 ft, measured depth 44 ft; casing diameter 4 in. with depth to 50 ft; screened from 50 to 60 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 69 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Lip of hose connector, 1.9 ft above land-surface datum.

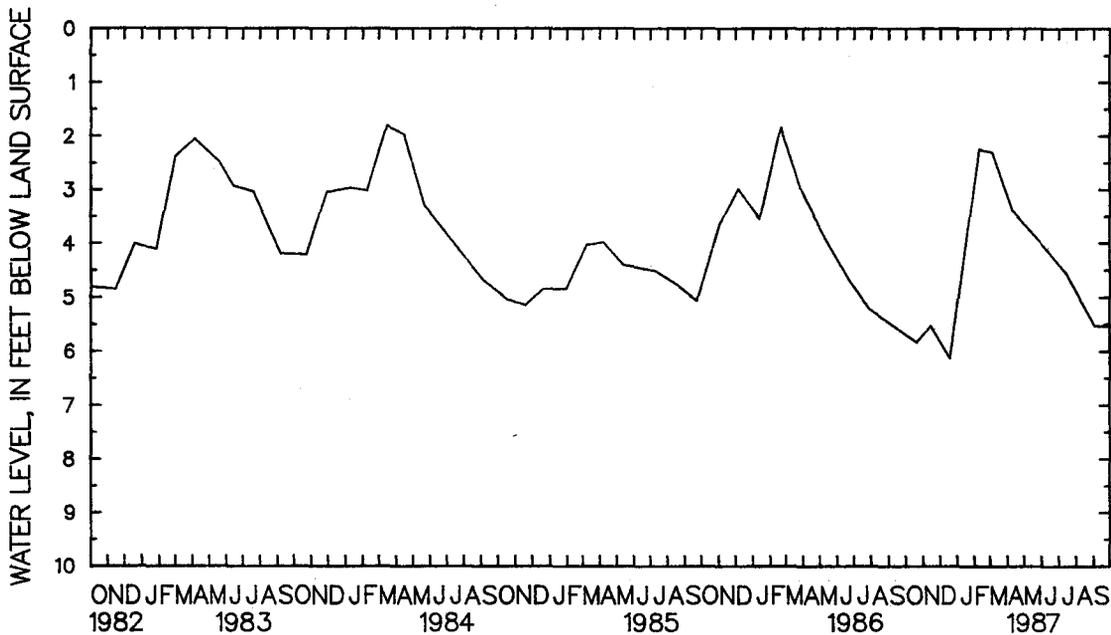
REMARKS.--Reported water level 4.0 ft below land-surface datum, June 10, 1949.

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 datum, Feb. 8, 1973; lowest measured, 6.47 ft below land-surface datum, Jan. 3, 1966.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	5.84	DEC 18	6.14	MAR 5	2.30	MAY 26	3.94	SEP 3	5.54
NOV 14	5.54	FEB 10	2.25	APR 9	3.38	JUL 14	4.56		



5 YEAR HYDROGRAPH

OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

QUEEN ANNE'S COUNTY--Continued

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.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 220 ft; casing diameter 4 in. with depth to 210 ft; screen diameter 4 in. from 210 to 220 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 23.4 ft above National Geodetic Vertical Datum of 1929.

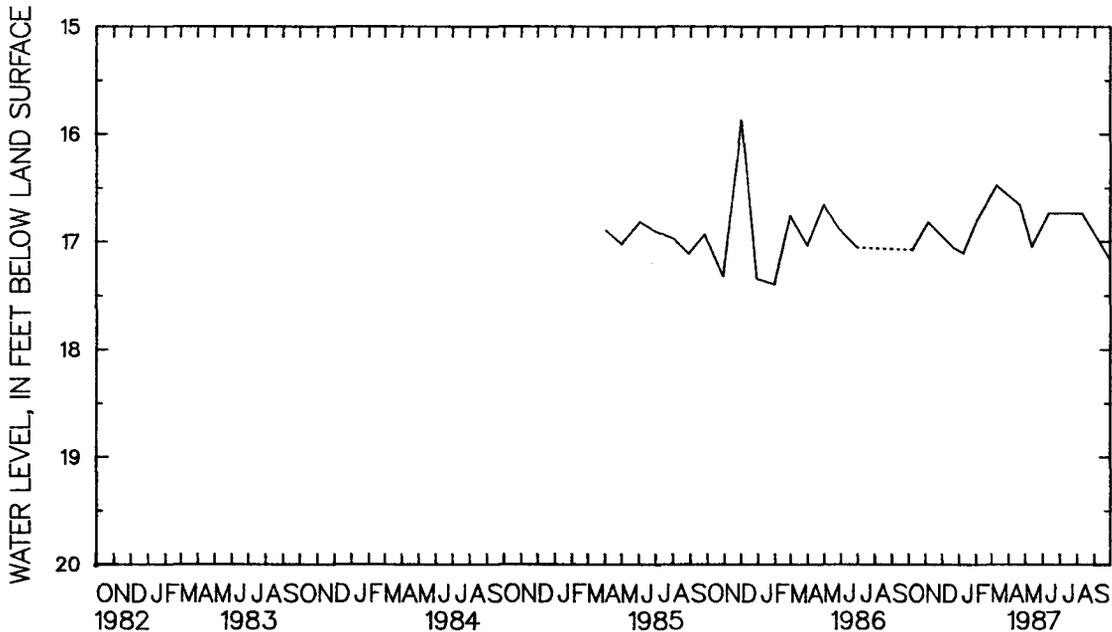
Measuring point: Top of casing, 2.4 ft above land-surface datum.

PERIOD OF RECORD.--April 1985 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 15.87 ft below land-surface datum, Dec. 2, 1985; lowest measured, 17.40 ft below land-surface datum, Jan. 31, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 8	17.08	DEC 22	17.06	FEB 3	16.80	APR 21	16.66	JUN 12	16.74
NOV 6	16.82	JAN 9	17.11	MAR 10	16.48	MAY 13	17.05	AUG 10	16.74



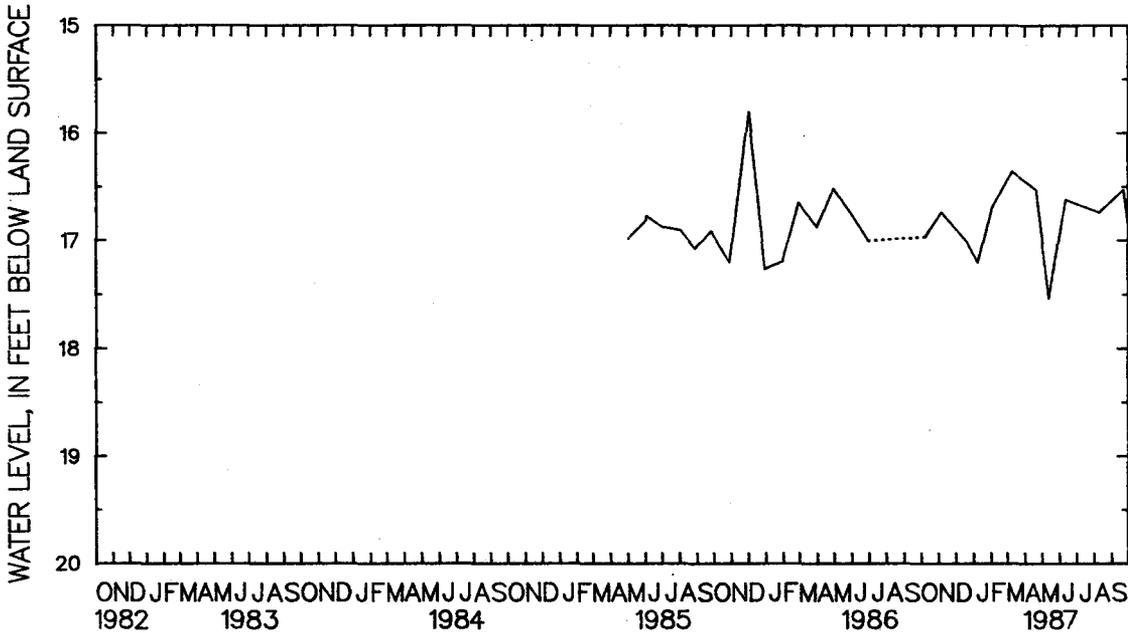
5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS  
MARYLAND--Continued  
QUEEN ANNE'S COUNTY--Continued

WELL NUMBER.--QA Db 32. SITE ID.--390201076182703. PERMIT NUMBER.--QA-81-0473.  
LOCATION.--Lat 39°02'01", long 76°18'27", Hydrologic Unit 02060002, north side of Pier Avenue,  
0.5 mi south of Love Point.  
Owner: Maryland Geological Survey.  
AQUIFER.--Aquia Formation.  
WELL CHARACTERISTICS.--Drilled artesian observation well, depth 116 ft; casing diameter 4 in. with depth to  
106 ft; screen diameter 4 in. from 106 to 116 ft.  
INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.  
DATUM.--Elevation of land-surface datum is 21.2 ft above National Geodetic Vertical Datum of 1929.  
Measuring point: Top of casing, 2.1 ft above land-surface datum.  
PERIOD OF RECORD.--May 1985 to current year.  
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 15.80 ft below land-surface datum, Dec. 2, 1985;  
lowest measured, 17.54 ft below land-surface datum, May 13, 1987.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 8	16.97	DEC 22	17.03	FEB 3	16.69	APR 21	16.53	JUN 12	16.62	SEP 22	16.53
NOV 6	16.74	JAN 9	17.21	MAR 10	16.36	MAY 13	17.54	AUG 10	16.74		



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

QUEEN ANNE'S COUNTY--Continued

WELL NUMBER.--QA Db 36. SITE ID.--390201076182704. 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.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 180 ft; casing diameter 4 in. with depth to 170 ft; screen diameter 4 in. from 170 to 180 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 21.3 ft above National Geodetic Vertical Datum of 1929.

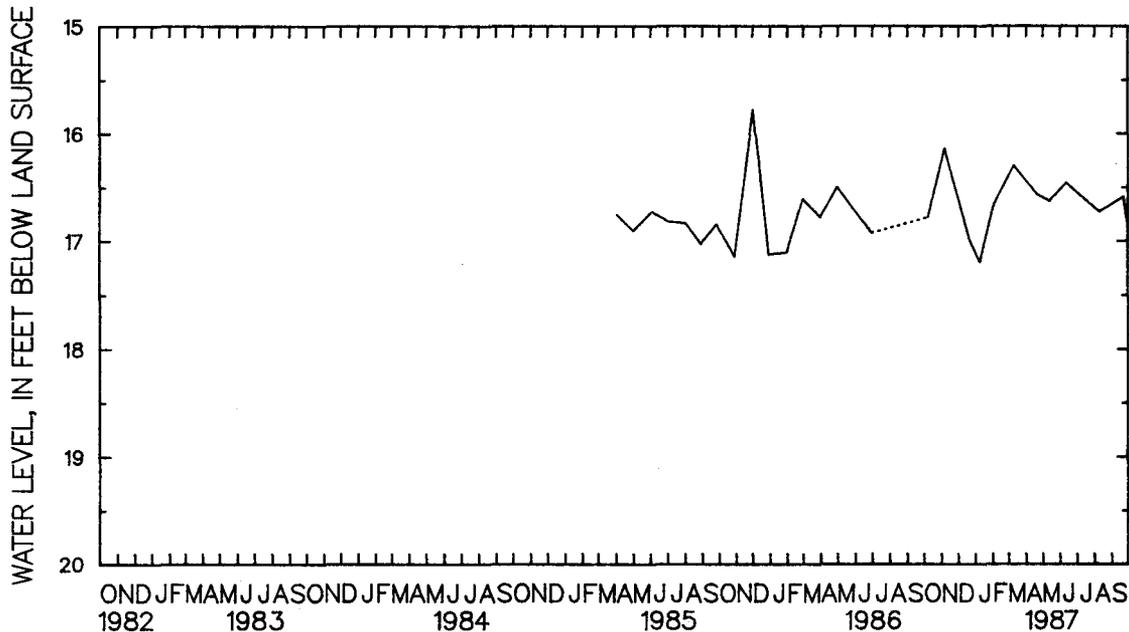
Measuring point: Top of casing, 2.6 ft above land-surface datum.

PERIOD OF RECORD.--April 1985 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 15.78 ft below land-surface datum, Dec. 2, 1985; lowest measured, 17.20 ft below land-surface datum, Jan. 9, 1987.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 8	16.78	DEC 22	17.00	FEB 3	16.66	APR 21	16.57	JUN 12	16.46	SEP 22	16.59
NOV 6	16.14	JAN 9	17.20	MAR 10	16.30	MAY 13	16.63	AUG 10	16.73		



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

QUEEN ANNE'S COUNTY--Continued

WELL NUMBER.--QA Ea 77. SITE ID.--385718076211501. PERMIT NUMBER.--QA-81-0474.

LOCATION.--Lat 38°57'18", long 76°21'15", Hydrologic Unit 02060002, at Matapeake State Park.

Owner: Maryland Geological Survey.

AQUIFER.--Aquia Formation.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 205 ft; casing diameter 4 in. with depth to 195 ft; screen diameter 4 in. from 195 to 205 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 11 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of casing 2.24 ft above land-surface datum.

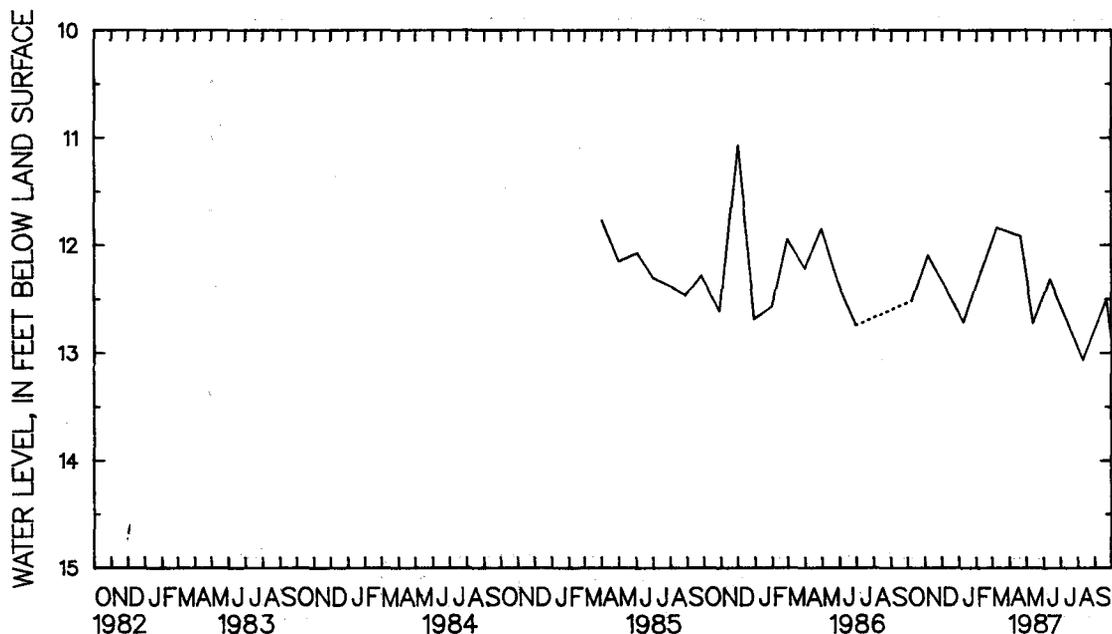
PERIOD OF RECORD.--April 1985 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 11.07 ft below land-surface datum, Dec. 2, 1985;

lowest measured, 13.07 ft below land-surface datum, Aug. 10, 1987.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 8	12.52	DEC 22	12.54	FEB 3	12.34	APR 21	11.92	JUN 12	12.32	SEP 22	12.51
NOV 6	12.10	JAN 9	12.72	MAR 10	11.84	MAY 13	12.73	AUG 10	13.07		



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

QUEEN ANNE'S COUNTY--Continued

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.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 135 ft; casing diameter 4 in. with depth to 125 ft; screen diameter 4 in. from 125 to 135 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 11.8 ft above National Geodetic Vertical Datum of 1929.

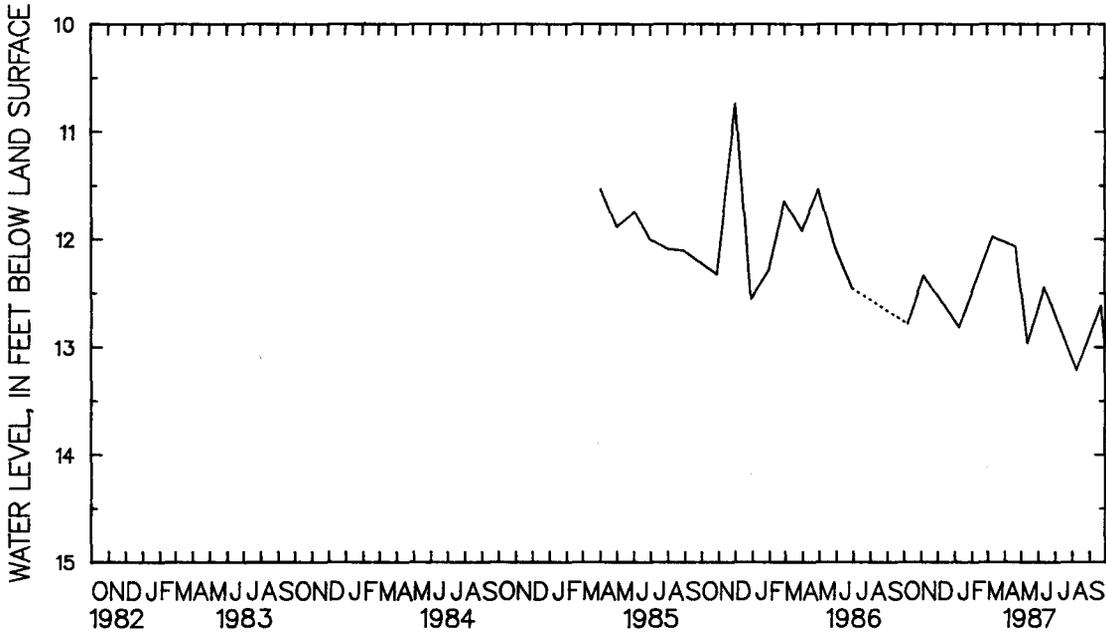
Measuring point: Top of casing, 1.98 ft above land-surface datum.

PERIOD OF RECORD.--April 1985 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.74 ft below land-surface datum, Dec. 2, 1985; lowest measured, 13.22 ft below land-surface datum, Aug. 10, 1987.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 8	12.79	DEC 22	12.68	FEB 3	12.47	APR 21	12.07	JUN 12	12.45	SEP 22	12.62
NOV 6	12.34	JAN 9	12.82	MAR 10	11.98	MAY 13	12.97	AUG 10	13.22		



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987



## GROUND-WATER LEVELS

MARYLAND--Continued

QUEEN ANNE'S COUNTY--Continued

WELL NUMBER.--QA Eb 113. SITE ID.--385748076172001. PERMIT NUMBER.--QA-73-3172.

LOCATION.--Lat 38°57'48", long 76°17'20", Hydrologic Unit 02060002, nr Chester, Kent Island.

Owner: U.S. Geological Survey.

AQUIFER.--Aquia Formation.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 216 ft; casing diameter 6 in. with depth to 176 ft; screen diameter 6 in. from 176 to 216 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel. Equipped with water level recorder June 30, 1986 to current year.

DATUM.--Elevation of land-surface datum is 10 ft above National Geodetic Vertical Datum of 1929.

Measuring Point: Top of casing, 2.6 ft above land-surface datum.

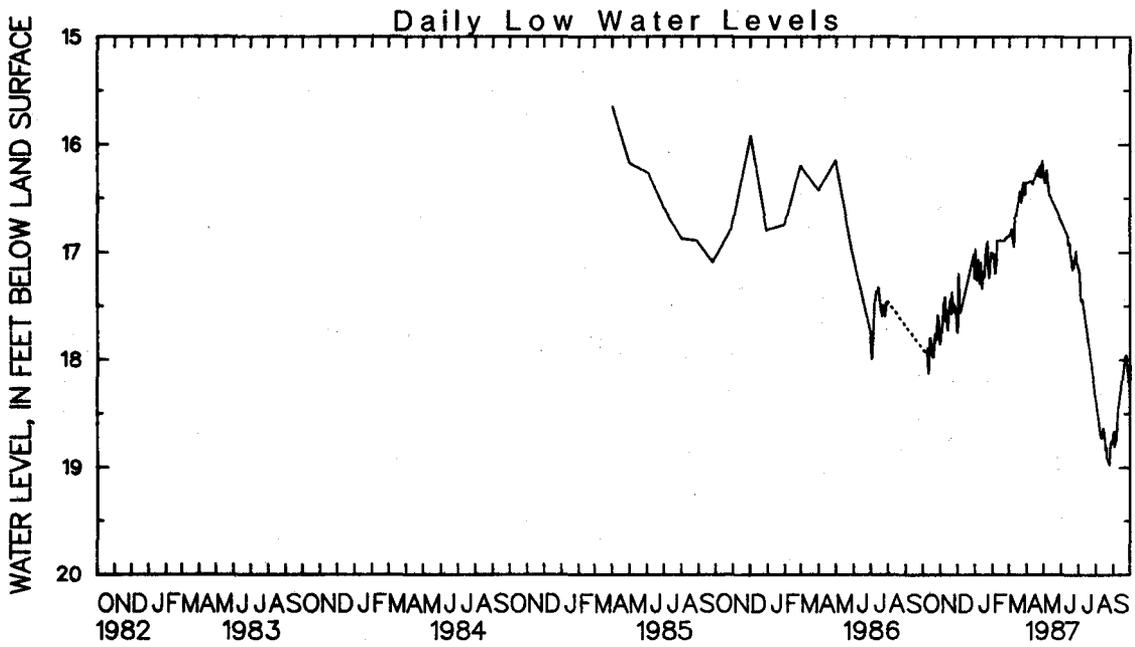
PERIOD OF RECORD.--April 1985 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 15.65 ft below land-surface datum, Apr. 2, 1985; lowest measured, 18.98 ft below land surface datum, Aug. 25, 1987.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	17.83	17.75	17.24	---	16.85	---	16.26	---	17.15	---	18.69
2	---	17.74	17.66	16.97	---	16.85	---	16.32	---	17.16	---	18.67
3	---	17.75	17.20	17.11	17.02	16.84	---	16.36	---	17.21	---	18.81
4	---	17.68	17.36	17.25	17.12	16.84	---	16.35	---	17.29	---	18.79
5	---	17.64	17.54	17.26	17.20	16.81	---	16.35	---	17.44	---	18.76
6	---	17.48	17.56	17.22	17.18	16.79	---	16.24	---	17.46	---	18.75
7	---	17.52	17.55	17.07	17.13	---	---	16.28	---	17.44	---	18.66
8	17.96	17.43	---	17.2	17.08	---	---	16.36	---	17.45	---	18.66
9	17.90	17.42	---	17.29	16.89	---	16.34	16.39	---	---	---	18.51
10	18.13	17.64	---	17.20	16.89	16.95	---	16.47	---	---	18.73	---
11	18.10	17.59	---	17.09	16.89	16.84	16.37	16.47	---	---	18.73	---
12	17.96	17.57	---	17.23	16.89	16.65	---	16.47	16.84	---	18.73	---
13	17.90	17.70	---	17.34	16.89	16.66	---	16.49	16.92	---	18.71	---
14	17.80	17.73	---	17.31	16.89	---	---	---	16.93	---	18.64	---
15	17.88	17.60	---	17.18	16.89	---	---	---	16.93	---	18.67	---
16	17.88	17.52	---	17.24	16.89	---	---	---	16.92	---	18.72	---
17	17.86	17.52	---	17.24	16.89	---	---	---	17.04	---	18.74	---
18	17.98	17.44	---	17.22	16.89	---	---	---	17.03	---	18.84	---
19	17.98	17.57	---	17.09	16.89	---	---	---	17.05	---	18.82	---
20	17.92	17.57	---	17.02	16.89	16.44	---	---	17.14	---	18.92	---
21	17.86	17.37	---	16.97	16.89	16.45	16.23	---	17.16	---	---	---
22	17.78	17.53	---	16.94	16.89	16.54	16.30	---	17.11	---	---	17.96
23	17.76	17.55	---	16.90	16.88	16.51	16.28	---	17.14	---	---	17.99
24	17.82	17.48	---	17.14	16.87	16.42	16.20	---	17.11	---	---	17.97
25	17.80	17.55	---	17.17	16.86	16.40	16.31	---	17.07	---	18.98	18.09
26	17.67	17.50	---	17.24	16.86	16.36	16.30	---	17.06	---	18.87	18.12
27	17.59	17.52	---	17.22	16.86	16.40	16.30	---	16.99	---	18.82	18.20
28	17.66	17.57	---	17.09	16.85	16.47	16.18	---	17.10	---	18.77	18.20
29	17.64	17.59	---	17.08	---	16.46	16.15	---	17.11	---	18.76	18.14
30	17.78	17.73	17.02	17.00	---	16.36	16.25	---	17.14	---	18.78	17.97
31	17.86	---	17.24	---	---	---	---	---	---	---	18.75	---
MAX	18.13	17.83	17.75	17.34	17.20	16.95	16.37	16.49	17.16	17.46	18.98	18.81
MIN	17.59	17.37	17.02	16.90	16.85	16.36	16.15	16.24	16.84	17.15	18.64	17.96

GROUND-WATER LEVELS  
MARYLAND--Continued  
QUEEN ANNE'S COUNTY--Continued  
QA Eb 113--Continued



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

QUEEN ANNE'S COUNTY--Continued

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.

WELL CHARACTERISTICS.--Drilled unused water-table well, depth 21 ft; casing diameter 1.25 in. with depth to 21 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 20 ft above National Geodetic Vertical Datum of 1929.

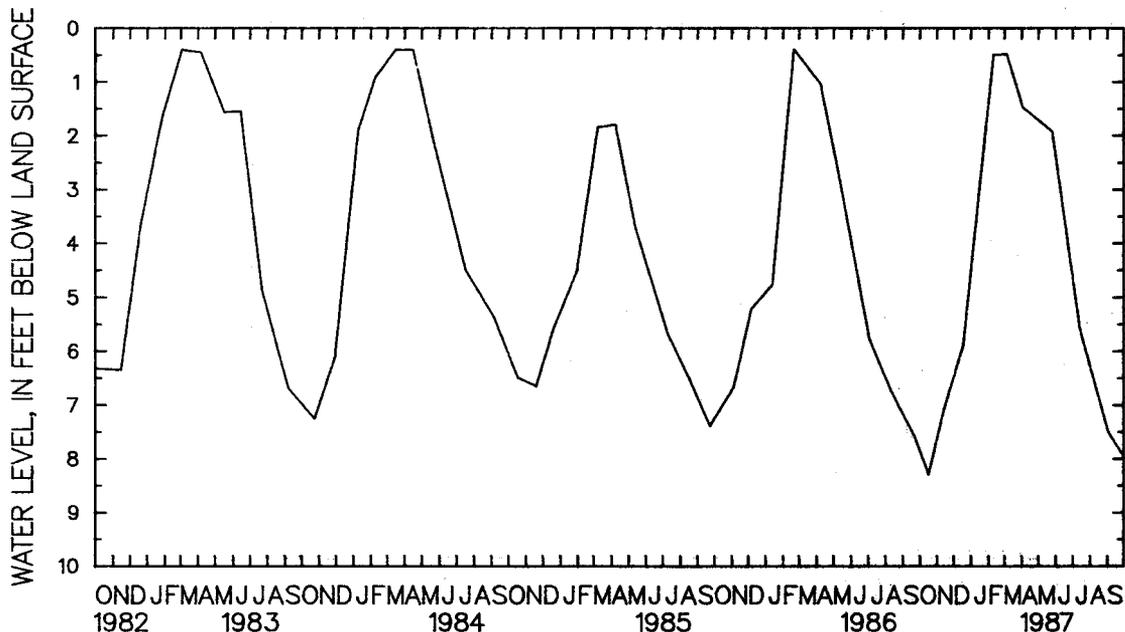
Measuring point: Top of 2 in. sleeve at land-surface datum.

PERIOD OF RECORD.--September 1949 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, .04 ft below land-surface datum, May 8, 1958; lowest measured, 8.30 ft below land-surface datum, Oct. 17, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	8.30	DEC 18	5.89	MAR 5	.48	MAY 26	1.93	SEP 3	7.52
NOV 14	7.07	FEB 10	.49	APR 3	1.48	JUL 14	5.61		



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

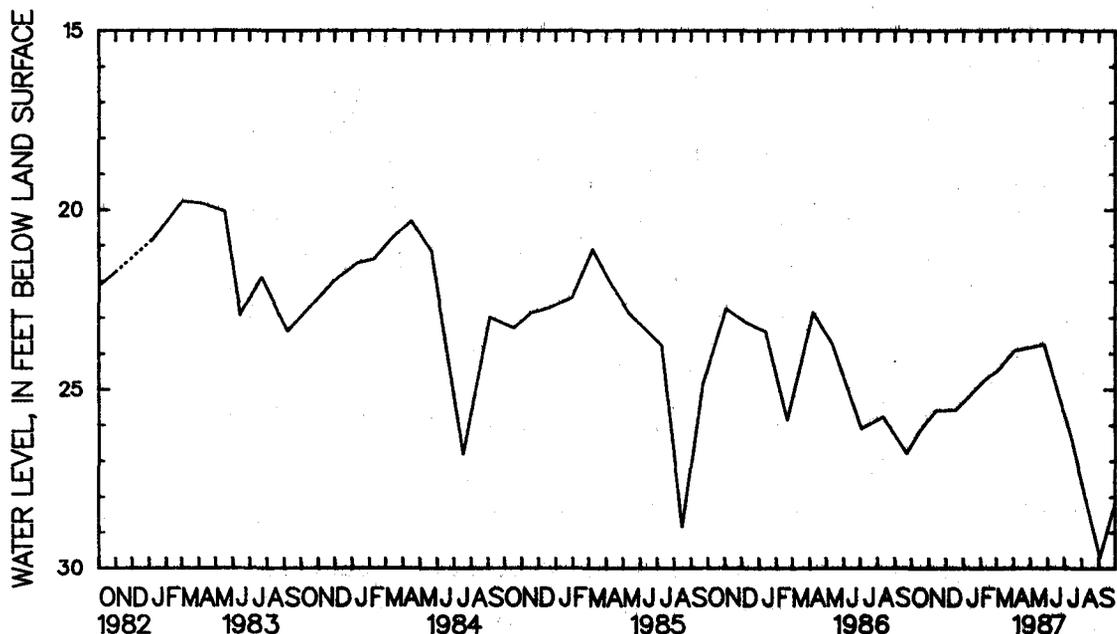
MARYLAND--Continued

QUEEN ANNE'S COUNTY--Continued

WELL NUMBER.--QA Fc 7. SITE ID.--385429076120201. PERMIT NUMBER.--QA-73-2191.  
 LOCATION.--Lat 38°54'29", long 76°12'02", Hydrologic Unit 02060002, at Prospect Plantation.  
 Owner: Maryland Community Developers Incorporated.  
 AQUIFER.--Aquia Formation.  
 WELL CHARACTERISTICS.--Drilled artesian observation well, depth 356 ft; casing diameter 4 in. with depth to 336 ft; screen diameter 2 in. from 336 to 356 ft.  
 INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.  
 DATUM.--Elevation of land-surface datum is 10 ft above National Geodetic Vertical Datum of 1929.  
 Measuring point: Top of casing at land-surface datum.  
 PERIOD OF RECORD.--September 1980 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 19.77 ft below land-surface datum, Mar. 3, 1983; lowest measured, 29.70 ft below land-surface datum, Sept. 3, 1987.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	26.14	DEC 18	25.58	MAR 5	24.46	MAY 26	23.75	SEP 3	29.70
NOV 14	25.59	FEB 10	24.72	APR 3	23.92	JUL 14	26.39		



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

SAINT MARY'S COUNTY

WELL NUMBER.--SM Bb 15. SITE ID.--382838076470101. PERMIT NUMBER.--SM-72-3430.  
 LOCATION.--Lat 38°28'38", long 76°47'01", Hydrologic Unit 02070011, at Charlotte Hall.  
 Owner: U.S. Geological Survey.

AQUIFER.--Aquia Formation.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 460 ft; casing diameter 4 in. with depth to 441 ft; casing diameter 2 in. from 441 to 450 ft; screen diameter 2 in. from 450 to 460 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 170 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of casing, 1.5 ft above land-surface datum.

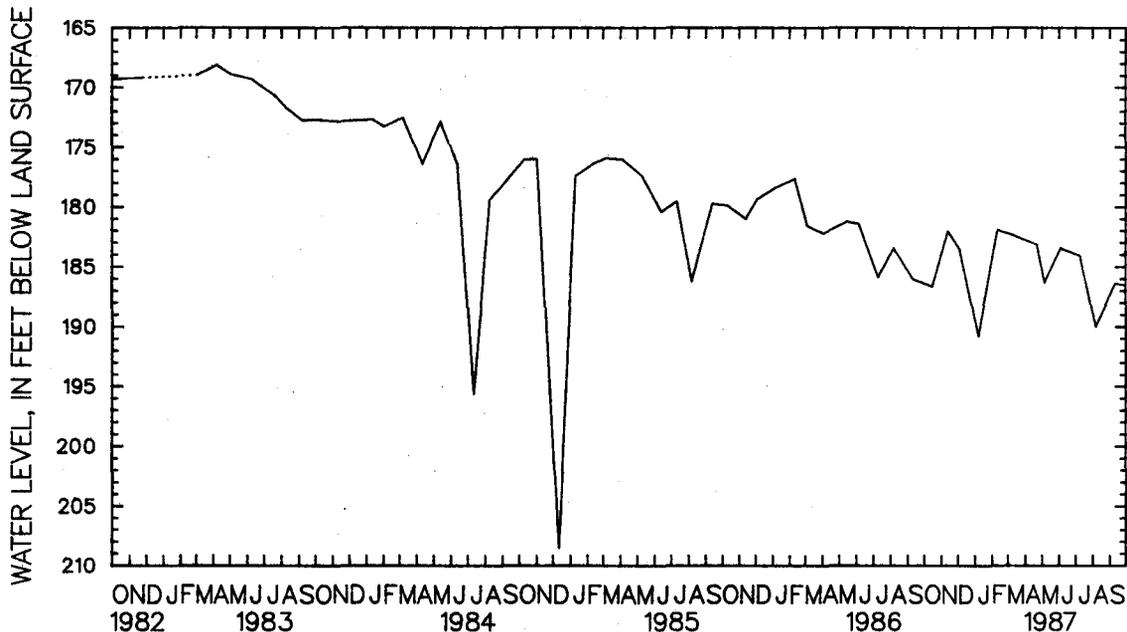
REMARKS.--Water levels may be affected by nearby pumping.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 160.76 ft below land-surface datum, Aug. 10, 1979, and Aug. 31, 1979; lowest measured, 208.55 ft below land-surface datum, Dec. 12, 1984.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 16	186.69	DEC 4	183.55	FEB 11	181.95	APR 22	183.18	JUN 4	183.49	AUG 6	190.04
NOV 13	182.05	JAN 7	190.85	MAR 5	182.28	MAY 6	186.37	JUL 9	184.10	SEP 11	186.43



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

SAINT MARY'S 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.

Owner: U.S. Geological Survey.

AQUIFER.--Piney Point Formation.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 218 ft; casing diameter 4 in. with depth to 210 ft; screen diameter 2 in. from 210 to 218 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 170 ft above National Geodetic Vertical Datum of 1929.

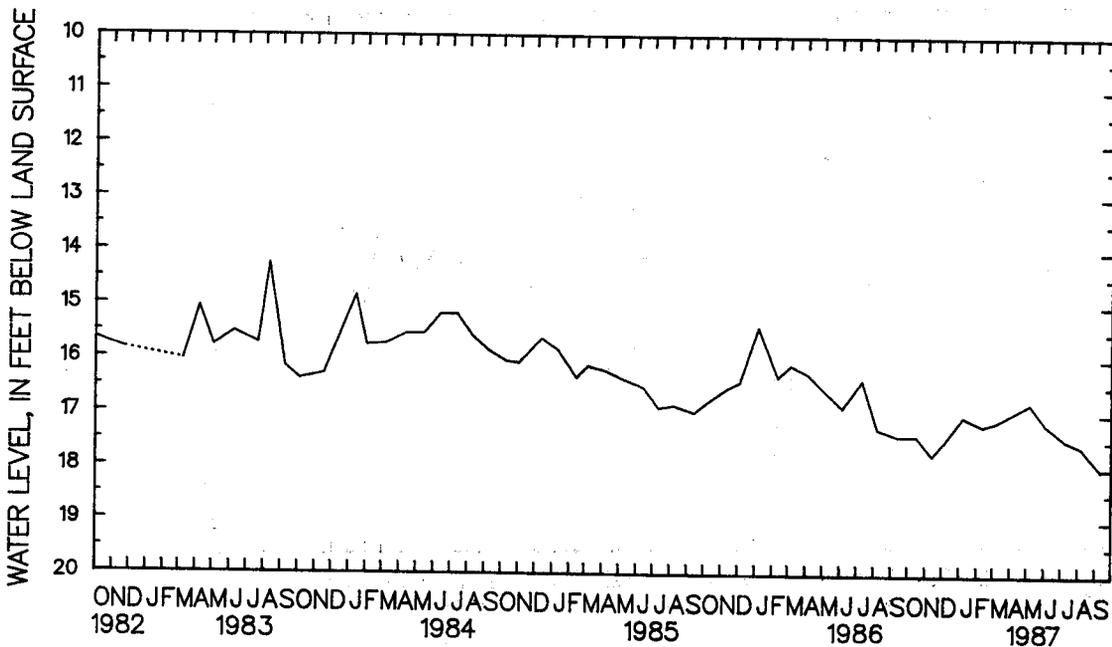
Measuring point: Top of casing, 1.7 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 13.27 ft below land-surface datum, July 9, 1980; lowest measured, 18.03 ft below land-surface datum, Sept. 11, 1987.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 16	17.42	DEC 4	17.52	FEB 11	17.22	MAY 6	16.80	JUL 9	17.48	SEP 11	18.03
NOV 13	17.77	JAN 7	17.05	MAR 5	17.15	JUN 4	17.19	AUG 6	17.60		



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

## GROUND-WATER LEVELS

MARYLAND--Continued

SAINT MARY'S COUNTY--Continued

WELL NUMBER.--SM Dd 46. SITE ID.--381616076364701.

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.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 296 ft; casing diameter 6 in. with depth to 150 ft; casing diameter 2 in. from 150 to 286 ft; screen diameter 2 in. from 286 to 296 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 115 ft above National Geodetic Vertical Datum of 1929.

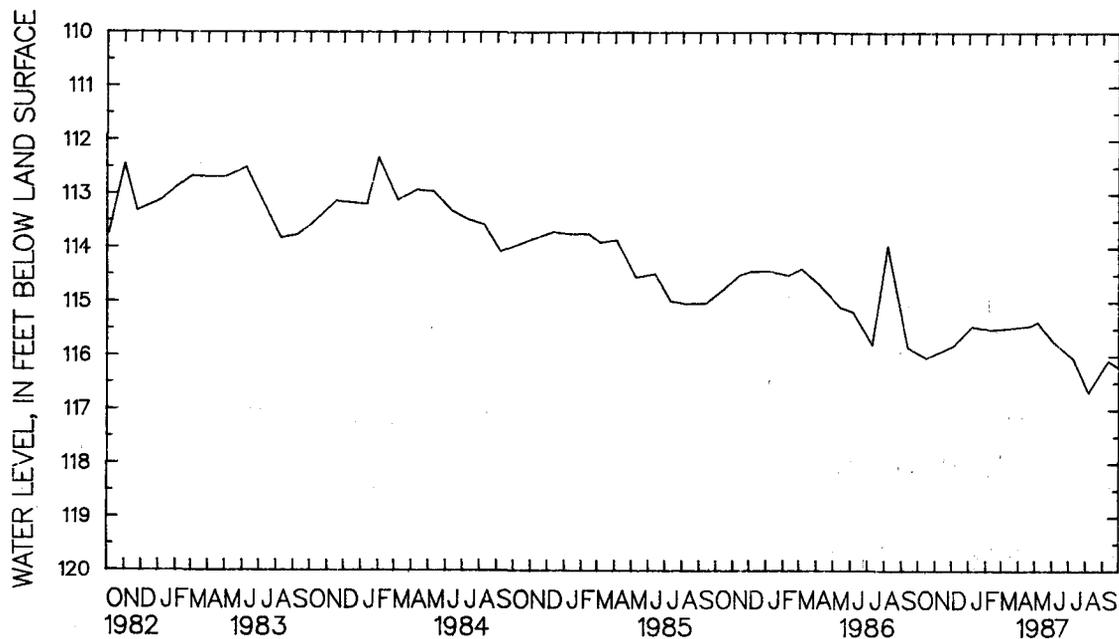
Measuring point: Top of casing, 3.5 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 110.01 ft below land-surface datum, Jan. 4, 1977; lowest measured 116.69 ft below land-surface datum, Aug. 6, 1987.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 16	116.05	JAN 7	115.46	MAR 5	115.50	MAY 6	115.38	JUL 9	116.05	SEP 11	116.10
DEC 4	115.82	FEB 11	115.52	APR 21	115.45	JUN 4	115.75	AUG 6	116.69		



5 YEAR HYDROGRAPH

OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

SAINT MARY'S 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.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 619 ft; casing diameter 4 in. with depth 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.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 115 ft above National Geodetic Vertical Datum of 1929.

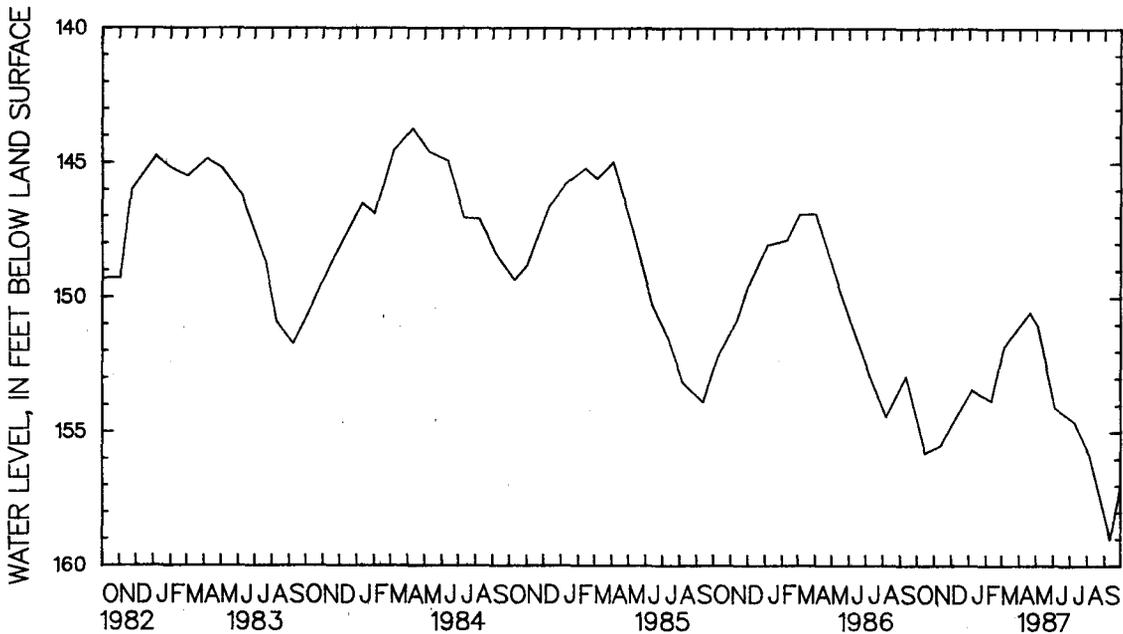
Measuring point: Top of casing, 1.0 ft above land-surface datum.

PERIOD OF RECORD.--December 1978 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 138.95 ft below land-surface datum, Apr. 5, 1979; lowest measured, 159.02 ft below land-surface datum, Sept. 11, 1987.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 16	155.81	DEC 4	154.68	FEB 11	153.85	APR 21	150.56	JUN 4	154.10	AUG 6	155.89
NOV 12	155.53	JAN 7	153.44	MAR 5	151.82	MAY 5	151.06	JUL 9	154.63	SEP 11	159.02



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

SAINT MARY'S 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.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 579 ft; casing diameter 4 in. with depth to 270 ft; casing diameter 2 in. from 270 to 505 ft; screen diameter 3 in. from 505 to 515 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 90 ft above National Geodetic Vertical Datum of 1929.

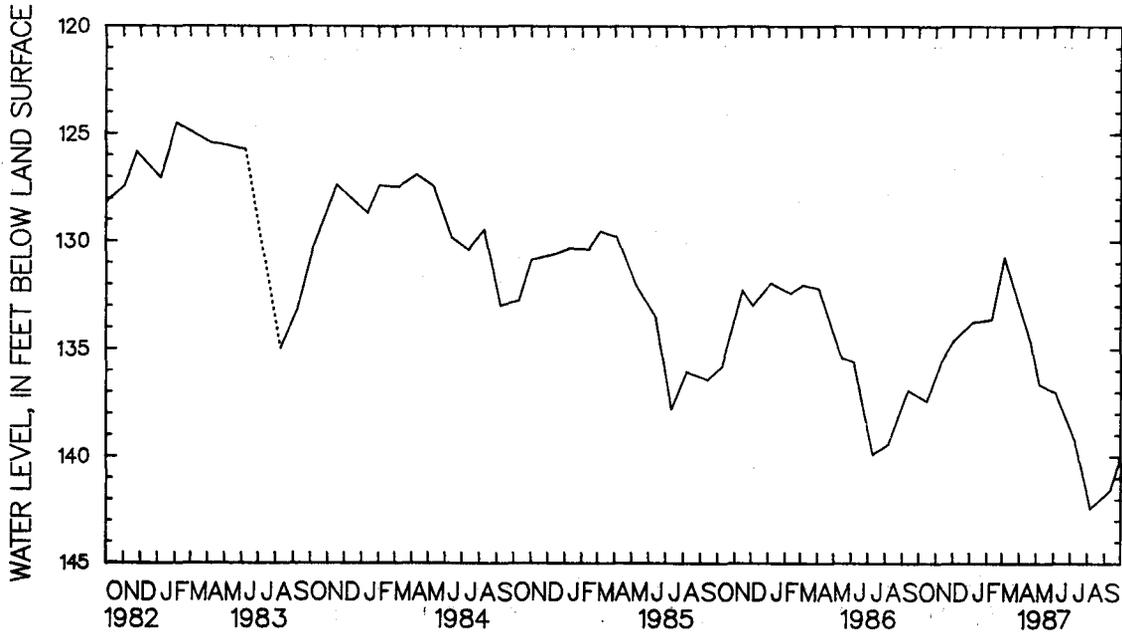
Measuring point: Top of casing, 1 ft above land-surface datum.

PERIOD OF RECORD.--December 1978 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 119.05 ft below land-surface datum, Feb. 2, 1979  
lowest measured, 142.45 ft below land-surface datum, Aug. 6, 1987.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 16	137.45	DEC 4	134.62	FEB 11	133.62	APR 21	134.64	JUN 4	137.04	AUG 6	142.45
NOV 12	135.58	JAN 7	133.77	MAR 5	130.74	MAY 6	136.66	JUL 9	139.25	SEP 11	141.58



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

SAINT MARY'S 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.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 358 ft; casing diameter 4 in. with depth to 210 ft; casing diameter 2 in. from 210 to 348 ft; screen diameter 2 in. from 348 to 358 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 115 ft above National Geodetic Vertical Datum of 1929.

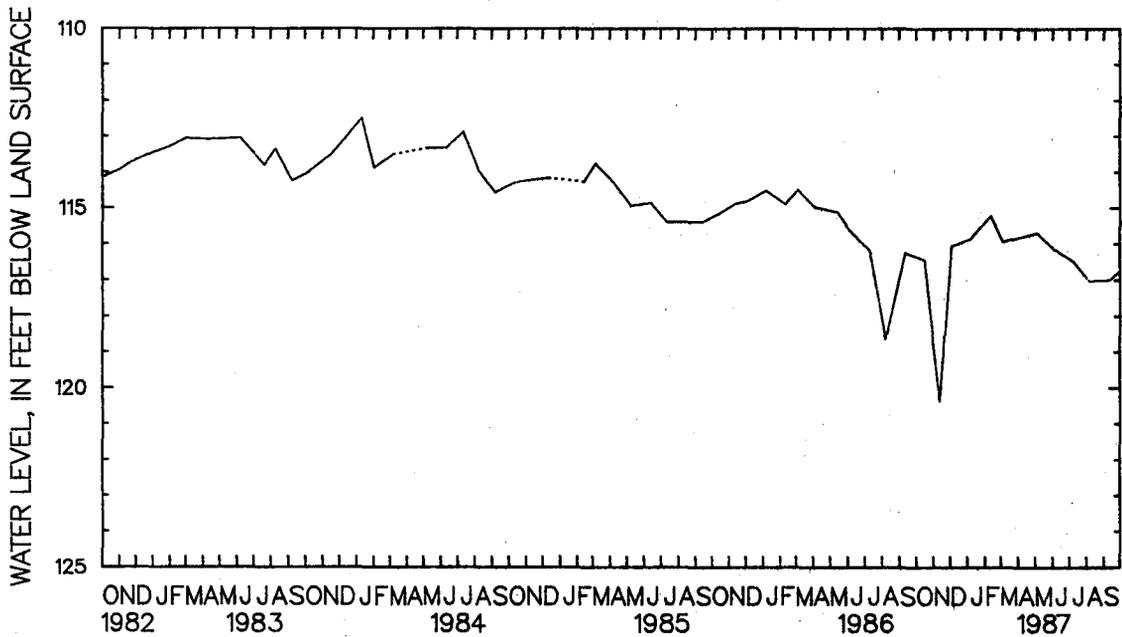
Measuring point: Top of casing, .95 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 111.06 ft below land-surface datum, Oct. 30, 1980; lowest measured, 120.39 ft below land-surface datum, Nov. 12, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 16	116.45	DEC 4	116.06	FEB 11	115.22	MAY 5	115.70	JUL 8	116.48	SEP 11	117.00
NOV 12	120.39	JAN 7	115.86	MAR 5	115.94	JUN 4	116.15	AUG 6	117.04		



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

## GROUND-WATER LEVELS

MARYLAND--Continued

SAINT MARY'S COUNTY--Continued

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.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 258 ft; casing diameter 6 in. with depth to 84 ft; casing diameter 2 in. from 84 to 248 ft; screen diameter 2 in. from 248 to 258 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 15 ft above National Geodetic Vertical Datum of 1929.

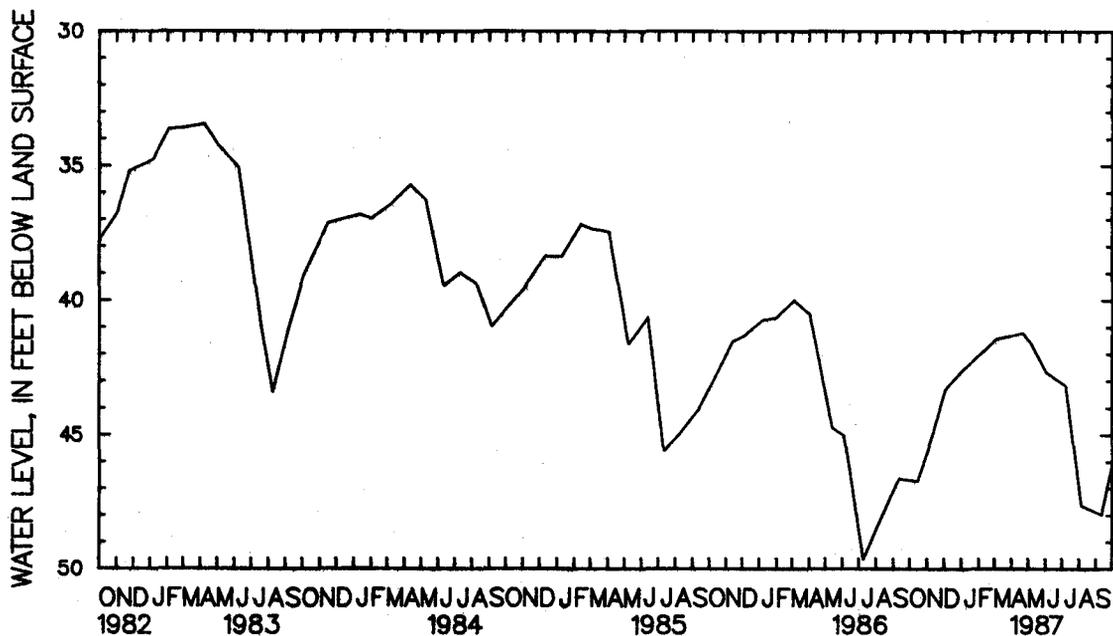
Measuring point: Top of casing, 3.55 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 30.79 ft below land-surface datum, April 5, 1979; lowest measured, 49.66 ft below land-surface datum, July 9, 1986.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15	46.73	DEC 3	43.32	FEB 10	41.89	APR 21	41.22	JUN 3	42.69	AUG 5	47.65
NOV 12	44.95	JAN 6	42.53	MAR 4	41.45	MAY 5	41.58	JUL 8	43.19	SEP 11	47.99



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

SAINT MARY'S 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 Great Mills Rd, Lexington Park.

Owner: U.S. Geological Survey.

AQUIFER.--Aquia Formation.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 560 ft; casing diameter 4 in. with depth to 420 ft; casing diameter 2 in. from 420 to 550 ft; screen diameter 2 in. from 550 to 560 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 65 ft above National Geodetic Vertical Datum of 1929.

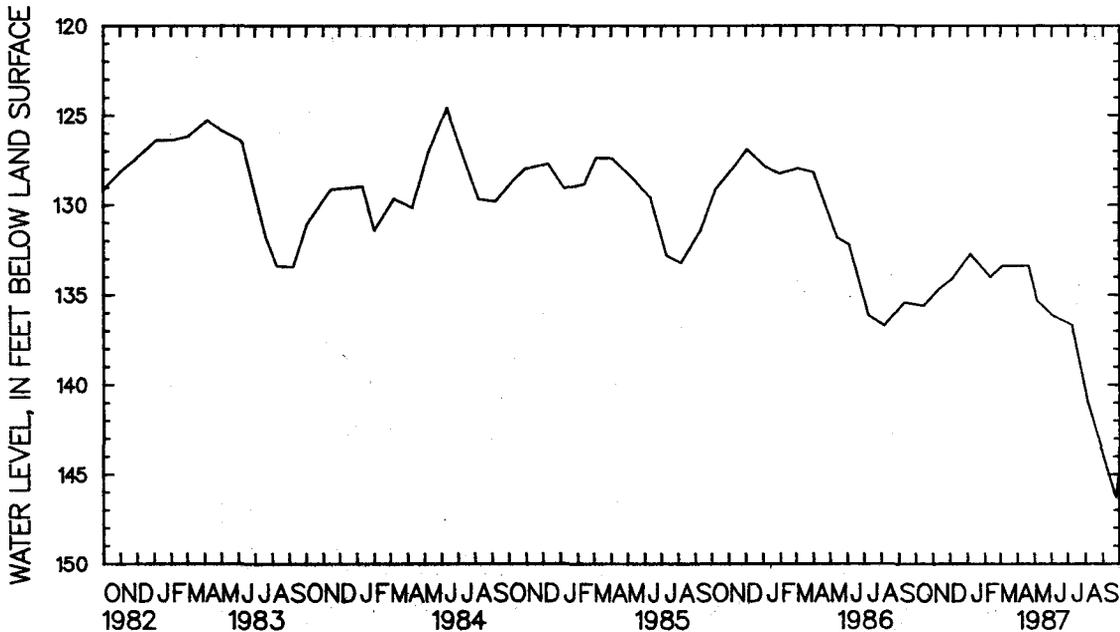
Measuring point: Top of casing, 1.3 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 119.19 ft below land-surface datum, May 1, 1980; lowest measured, 146.30 ft below land-surface datum, Sept. 24, 1987.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15	135.64	DEC 4	134.15	FEB 11	134.03	APR 21	133.40	JUN 4	136.20	AUG 5	141.02
NOV 12	134.69	JAN 6	132.75	MAR 5	133.41	MAY 6	135.35	JUL 8	136.70	SEP 24	146.30



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

SAINT MARY'S COUNTY--Continued

WELL NUMBER.--SM Df 84. SITE ID.--381548076272102. PERMIT NUMBER.--SM-0119.

LOCATION.--Lat 38°15'48", long 76°27'21", Hydrologic Unit 0206001, at Lexington Park.

Owner: Maryland Geological Survey.

AQUIFER.--Mataponi aquifer.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 920 ft; casing diameter 6 in. with depth to 246 ft; casing diameter 4 in. from 246 ft to 831 ft, from 856 to 862 ft and from 867 to 897; screen diameter 4 in. from 831 to 856 ft, from 862 to 867 ft and from 897 to 912 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 105 ft above National Geodetic Vertical Datum of 1929.

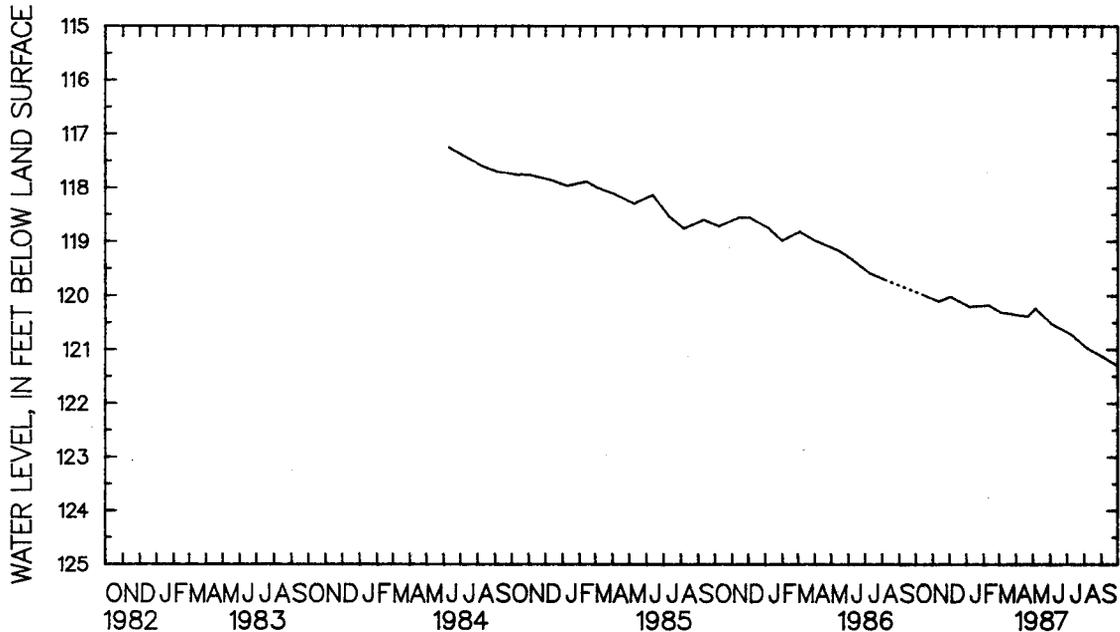
Measuring point: Top of casing 3.0 ft above land-surface datum.

PERIOD OF RECORD.--June 1984 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 117.27 ft below land-surface datum, June 11, 1984; lowest measured, 120.98 ft below land-surface datum, Aug. 5, 1987.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15	120.00	DEC 3	120.03	FEB 10	120.19	APR 21	120.40	JUN 4	120.54	AUG 5	120.98
NOV 12	120.12	JAN 6	120.22	MAR 4	120.32	MAY 5	120.25	JUL 8	120.73		



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

SAINT MARY'S COUNTY--Continued

WELL NUMBER.--SM Ef 57. SITE ID.--381435076291802. PERMIT NUMBER.--SM-67-0089.

LOCATION.--Lat 38°14'35", long 76°29'18", Hydrologic Unit 02070011, at Great Mills Fire Tower.

Owner: Maryland Forest, Park and Wildlife Service.

AQUIFER.--Piney Point Formation.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 322 ft; casing diameter 4 in. with depth to 317 ft; screen diameter 4 in. from 317 to 322 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 108 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of casing, 1.5 ft above land-surface datum.

REMARKS.--Originally drilled to a depth of 1,509 ft as well SM Ef 56; finished well numbered SM Ef 57.

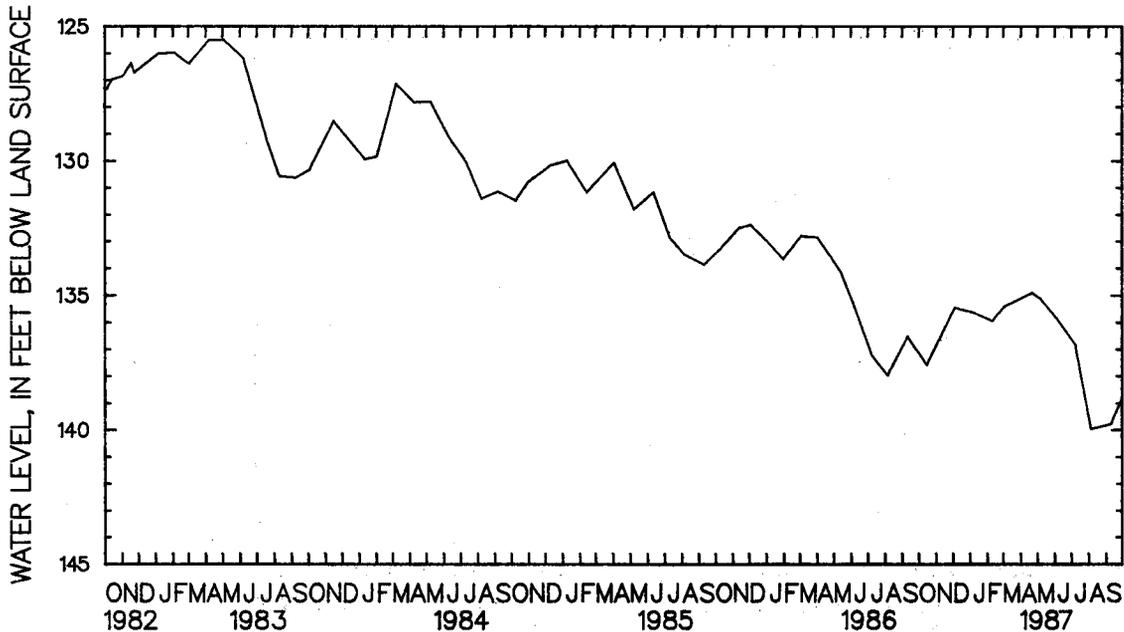
PERIOD OF RECORD.--December 1966, June 1967, February 1969 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 114.46 ft below land-surface datum, Dec. 15, 1966; lowest measured, 139.99 ft below land-surface datum, Aug. 5, 1967.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15	137.59	DEC 4	135.47	FEB 10	135.96	APR 21	134.92	JUN 3	135.00	AUG 5	139.99
NOV 12	136.42	JAN 6	135.64	MAR 4	135.41	MAY 5	135.11	JUL 8	136.83	SEP 10	139.80

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5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

SAINT MARY'S 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 02060001, 1.6 miles east of St. James at the  
 St. Mary's Co. Environmental Studies Area.  
 Owner: U.S. Geological Survey.

AQUIFER.--Piney Point Formation.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 320 ft; casing diameter 6 in. with depth to 70 ft;  
 casing diameter 2 in. from 70 to 310 ft; screen diameter 2 in. from 310 to 320 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 10 ft above National Geodetic Vertical Datum of 1929.

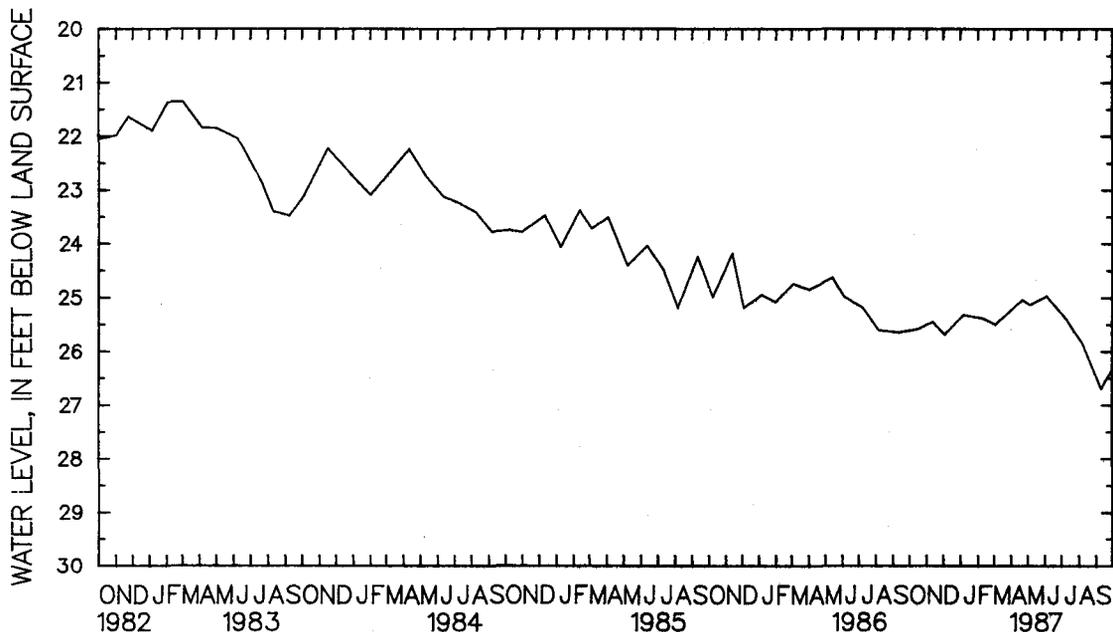
Measuring point: Top of casing, 3.3 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 19.84 ft below land-surface datum, May 12, 1978;  
 lowest measured, 26.71 ft below land-surface datum, Sept. 10, 1987.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15	25.60	DEC 4	25.70	FEB 10	25.40	APR 21	25.05	JUN 4	24.98	AUG 8	25.88
NOV 12	25.46	JAN 6	25.33	MAR 4	25.51	MAY 5	25.14	JUL 8	25.39	SEP 10	26.71



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

SAINT MARY'S 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.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 270 ft; casing diameter 6 in. with depth to 67 ft; casing diameter 2 in. from 67 to 260 ft; screen diameter 2 in. from 260 to 270 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 9 ft above National Geodetic Vertical Datum of 1929.

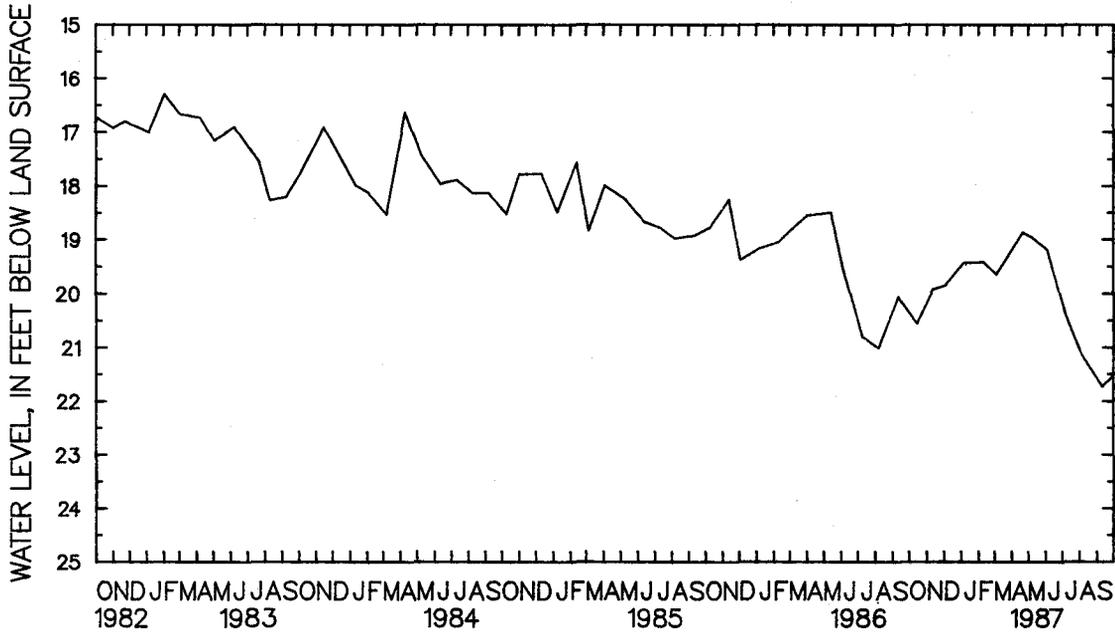
Measuring point: Top of casing, 4 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 14.24 ft below land-surface datum, Oct. 6, 1976; lowest measured, 21.74 ft below land-surface datum, Sept. 10, 1987.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15	20.57	DEC 4	19.86	FEB 10	19.42	APR 21	18.87	JUN 4	19.19	AUG 5	21.15
NOV 12	19.93	JAN 6	19.44	MAR 5	19.65	MAY 6	18.95	JUL 8	20.44	SEP 10	21.74



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

## GROUND-WATER LEVELS

MARYLAND--Continued

SAINT MARY'S 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 water tower, Piney Point.

Owner: U.S. Geological Survey.

AQUIFER.--Aquia Formation.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 639 ft; casing diameter 4 in. with depth to 171 ft; casing diameter 2 in. from 171 to 451 ft; screen diameter 3 in. from 451 to 461 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 8 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of casing, 1.7 ft above land-surface datum.

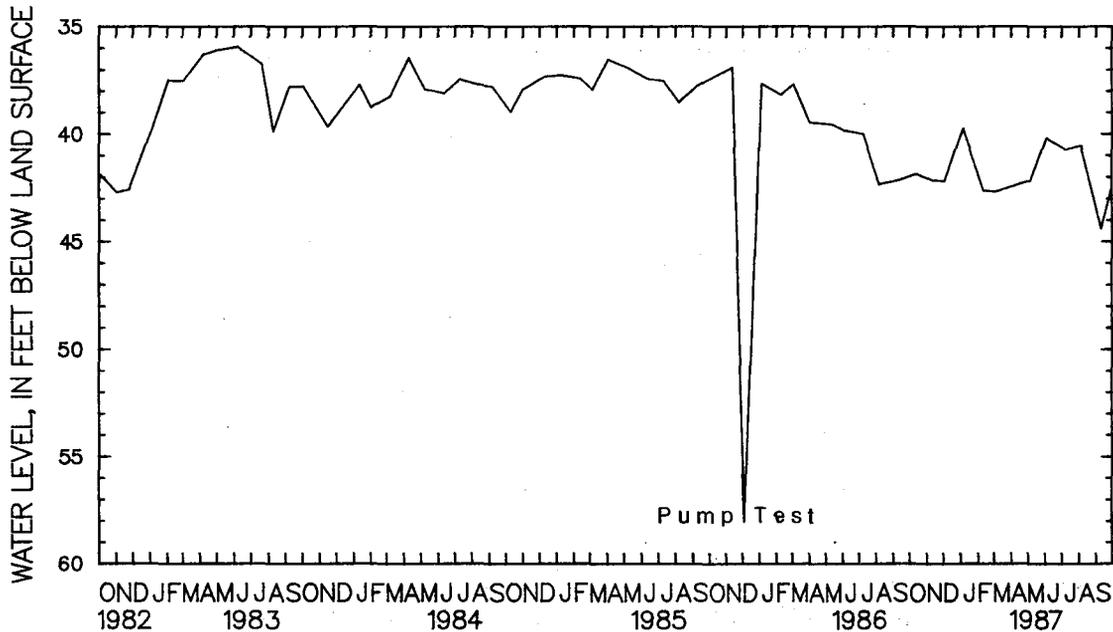
REMARKS.--Water level affected by nearby pump test, Dec. 4, 1985.

PERIOD OF RECORD.--October 1978 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 29.77 ft below land-surface datum, Dec. 5, 1978; lowest measured, 58.03 ft below land-surface datum, Dec. 4, 1985.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15	41.86	DEC 4	42.20	FEB 11	42.65	MAY 6	42.17	JUL 8	40.74	SEP 10	44.42
NOV 12	42.16	JAN 6	39.73	MAR 5	42.69	JUN 4	40.20	AUG 5	40.55		



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

SAINT MARY'S COUNTY--Continued

WELL NUMBER.--SM Fg 45. SITE ID.--39071107622201. PERMIT NUMBER.--SM-04-5190.

LOCATION.--Lat 38°07'11", long 76°22'22", Hydrologic Unit 02070011, in fire pumphouse at Ridge.

Owner: Ridge Volunteer Fire Department.

AQUIFER.--Piney Point Formation.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 436 ft; casing diameter 6 in. with depth to 386 ft; casing diameter 4 in. from 415 to 436 ft; screen diameter 5 in. from 386 to 415 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 65 ft above National Geodetic Vertical Datum of 1929.

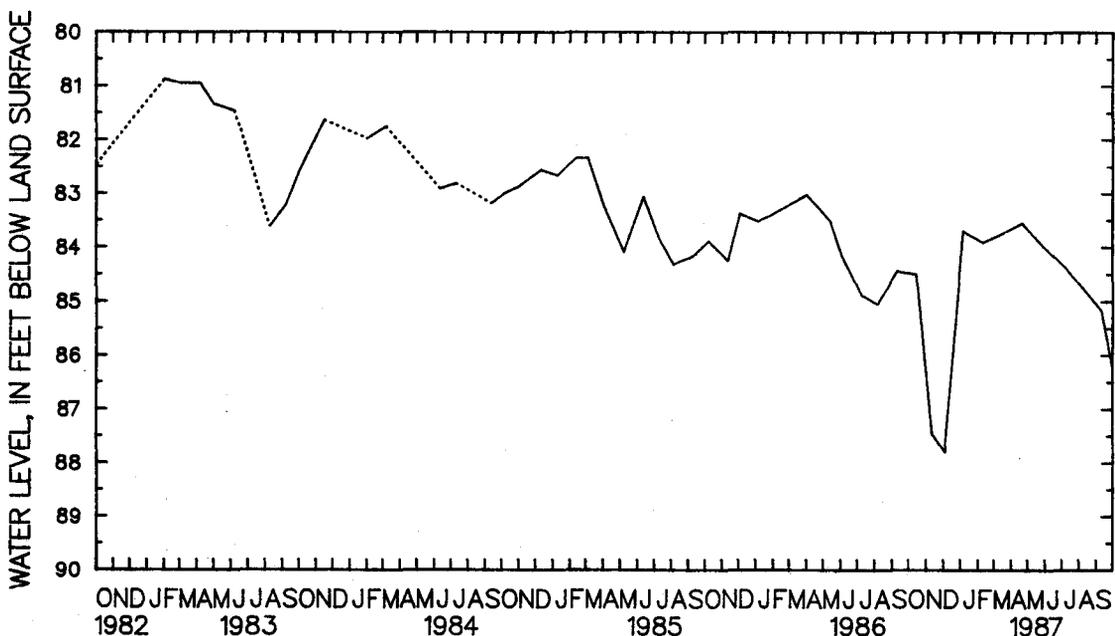
Measuring point: Hole in sanitary seal, 0.55 ft above land-surface datum.

PERIOD OF RECORD.--May 1966 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 74.83 ft below land-surface datum, May 16, 1967; lowest measured, lowest measured, 87.81 ft below land-surface datum, Dec. 4, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15	84.51	DEC 4	87.81	FEB 10	83.91	APR 21	83.55	JUL 8	84.37	SEP 10	85.17
NOV 12	87.47	JAN 6	83.70	MAR 4	83.81	JUN 3	84.03	AUG 5	84.72		



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

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.

WELL CHARACTERISTICS.--Drilled unused artesian well, measured depth 184 ft; casing diameter 2 in.; casing length unknown.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 17 ft above National Geodetic Vertical Datum of 1929.

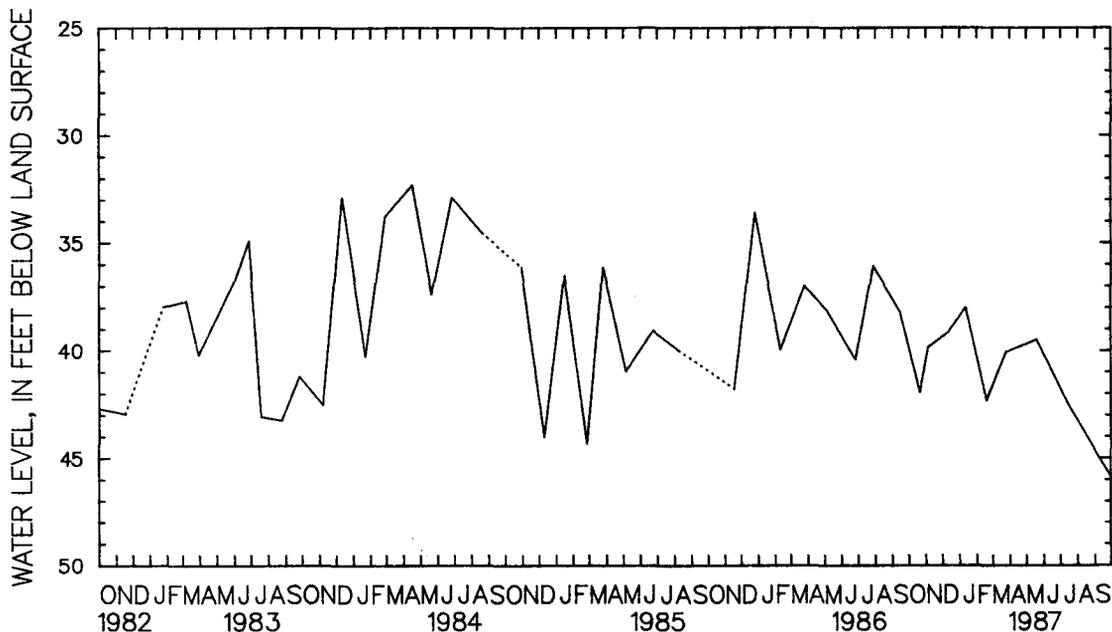
Measuring point: Top of casing, 2.5 ft above land-surface datum.

PERIOD OF RECORD.--August 1952 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.15 ft below land-surface datum, May 1, 1953; lowest measured 45.01 ft below land-surface datum, Sept. 9, 1987.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL						
OCT 21	41.98	DEC 11	39.18	FEB 18	42.35	MAY 19	39.51	SEP 9	45.01
NOV 5	39.87	JAN 12	38.01	MAR 25	40.09	JUL 13	42.45		



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

SOMERSET COUNTY--Continued

WELL NUMBER.--SO Cf 2. SITE ID.--380616075380701.

LOCATION.--Lat 38°06'16", long 75°38'07", Hydrologic Unit 02060009, on U.S. Rt. 13, 4.5 mi west of intersection of U.S. Rt. 13 and MD Rt. 364, near Costen.

Owner: Maryland State Highway Administration.

AQUIFER.--Kent Island Formation.

WELL CHARACTERISTICS.--Drilled water-table observation well, depth 15 ft; casing diameter 1.25 in.; casing length unknown.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 20 ft above National Geodetic Vertical Datum of 1929.

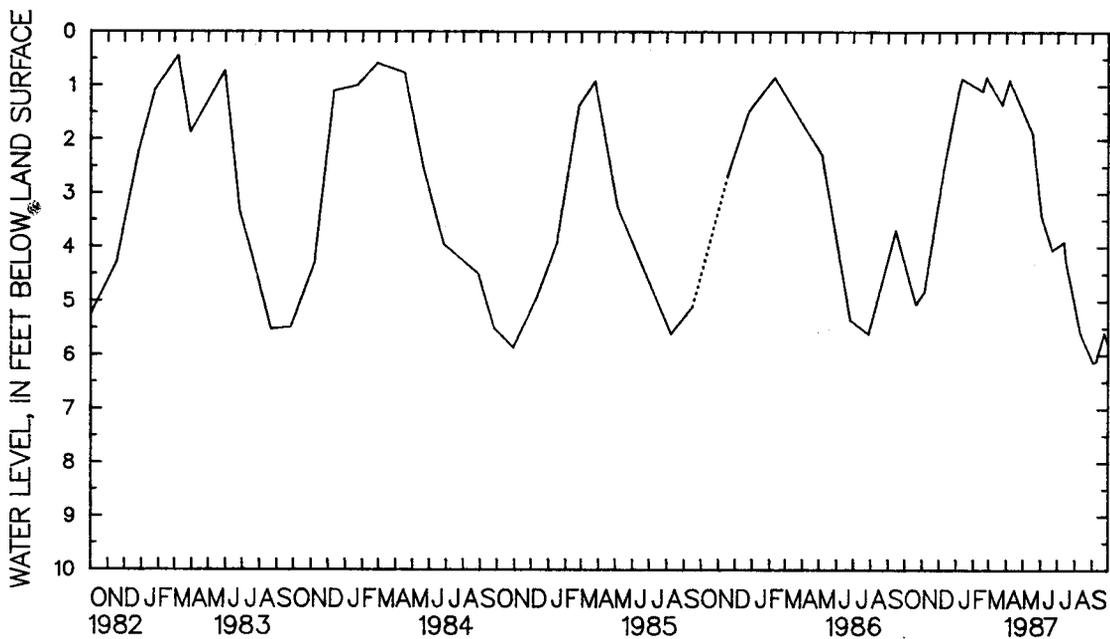
Measuring Point: Top of casing, 1.0 ft above land-surface datum.

PERIOD OF RECORD.--August 1949 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, .84 ft below land-surface datum, Feb. 25, 1987; lowest measured, 6.16 ft below land surface datum, Oct. 10, 1957.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL						
OCT 21	5.07	JAN 12	.87	APR 7	.90	JUN 22	4.07	SEP 3	6.15
NOV 5	4.84	FEB 18	1.10	MAY 18	1.89	JUL 13	3.92	9	6.13
DEC 11	2.52	25	.84	19	2.02	16	4.25	23	5.60
JAN 7	1.06	MAR 25	1.35	JUN 3	3.44	AUG 11	5.60		



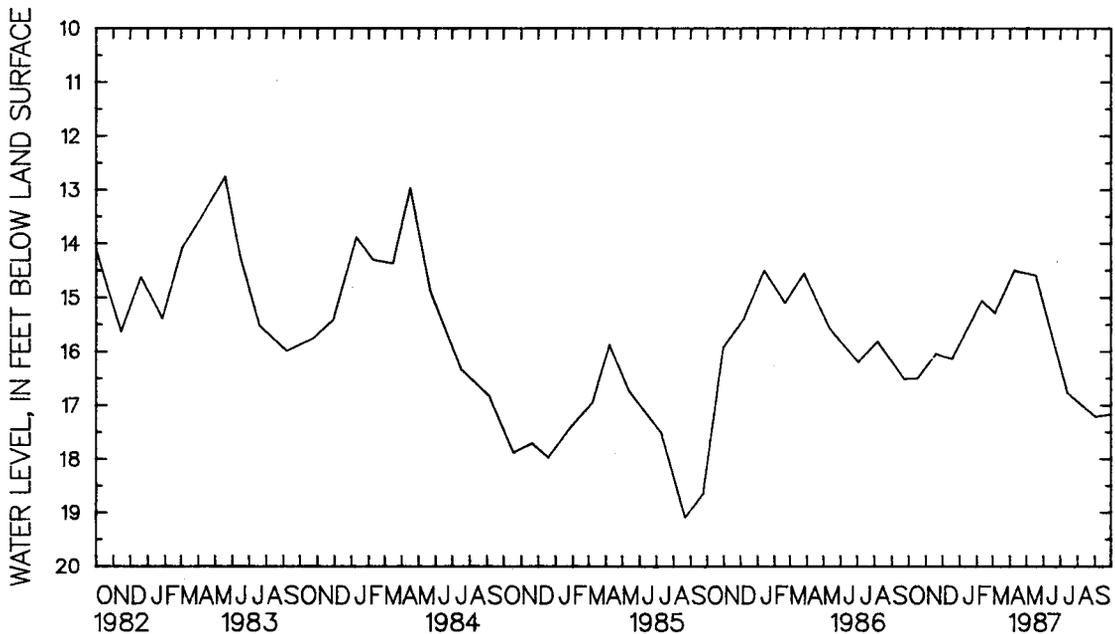
5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS  
 MARYLAND--Continued  
 TALBOT COUNTY

WELL NUMBER.--TA Bf 73. SITE ID.--385242075593101. PERMIT NUMBER.--TA-02-1641.  
 LOCATION.--Lat 38°52'42", long 75°59'31", Hydrologic Unit 02060005, at Cordova.  
 Owner: William Schluderberg-T. J. Kurdle Co.  
 AQUIFER.--Piney Point Formation.  
 WELL CHARACTERISTICS.--Drilled unused artesian well, depth 288 ft; casing diameter 4 in. with depth to 276 ft; casing diameter 2 in. from 276 to 283 ft; screen diameter 3 in. from 283 to 288 ft.  
 INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.  
 DATUM.--Elevation of land-surface datum is 42 ft above National Geodetic Vertical Datum of 1929.  
 Measuring point: Top of casing, 0.5 ft above land-surface datum.  
 REMARKS.--Water level reported by driller 26 ft below land-surface datum Dec. 16, 1955; water level measured 26.64 ft below land-surface datum March 10, 1956. These measurements may be affected by nearby pumping.  
 PERIOD OF RECORD.--December 1960 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.29 ft below land-surface datum, May 4, 1961; lowest measured, 76.57 ft below land-surface datum, Dec. 6, 1974.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	16.51	DEC 18	16.14	MAR 5	15.29	MAY 18	14.59	SEP 2	17.22
NOV 19	16.05	FEB 10	15.06	APR 9	14.50	JUL 14	16.78		



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

TALBOT COUNTY--Continued

WELL NUMBER.--TA Bf 74. SITE ID.--385242075593102. PERMIT NUMBER.--TA-02-1805.

LOCATION.--Lat 38°52'42", long 75°59'31", Hydrologic Unit 02060005, at Cordova.

Owner: William Schluderberg- T. J. Kurdle Co.

AQUIFER.--Wicomico Formation.

WELL CHARACTERISTICS.--Drilled unused water-table well, depth 48.4 ft; casing diameter 4 in. with depth to 42.5 ft; screen diameter 3 in. from 43.2 to 48.4 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 42 ft above National Geodetic Vertical Datum of 1929.

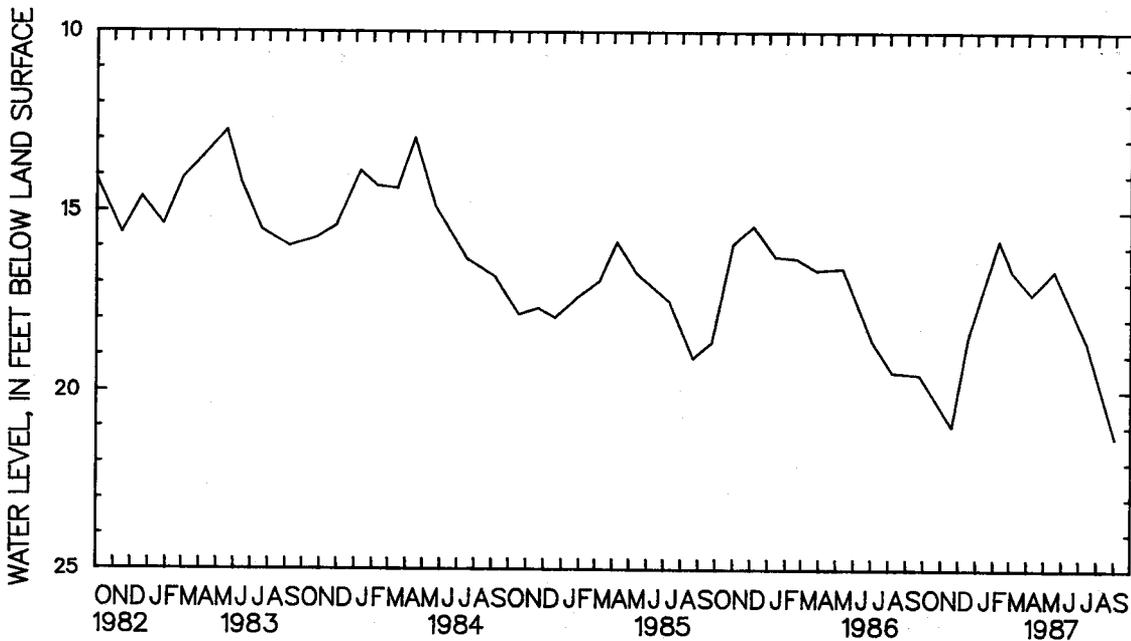
Measuring point: Top of casing, 0.7 ft above land-surface datum.

PERIOD OF RECORD.--April 1956 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.48 ft below land-surface datum, Dec. 14, 1971; lowest measured, 21.30 ft below land-surface datum, Sept. 2, 1987.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL						
NOV 19	21.00	FEB 10	15.80	APR 9	17.30	JUL 14	18.63
DEC 18	18.50	MAR 5	16.67	MAY 18	16.64	SEP 2	21.30



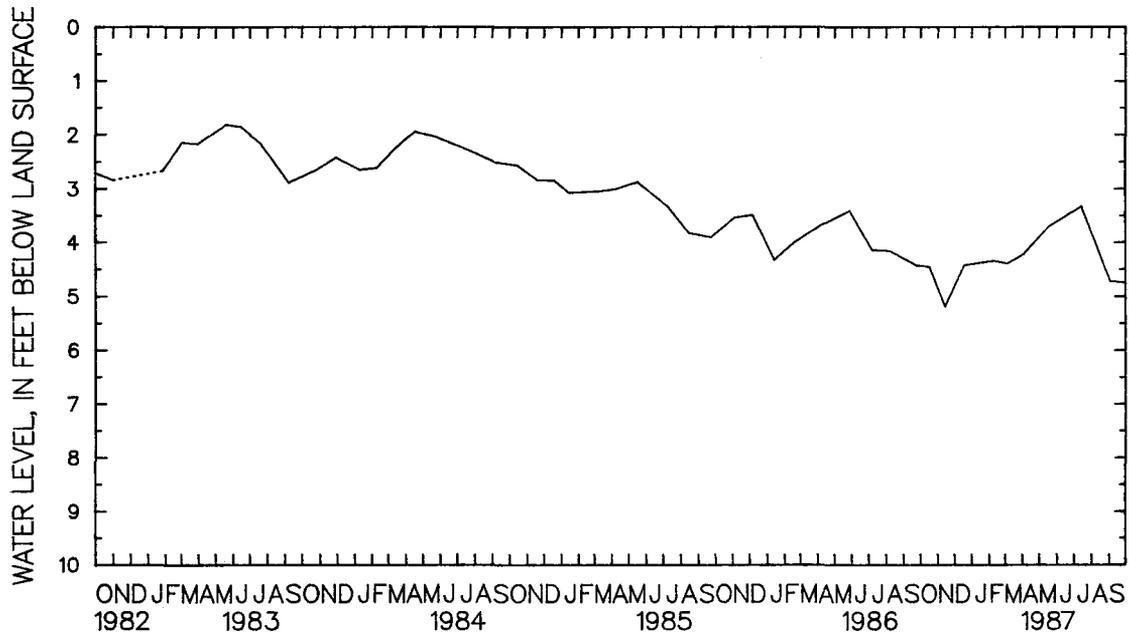
5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS  
MARYLAND--Continued  
TALBOT COUNTY--Continued

WELL NUMBER.--TA Cc 35. SITE ID.--384923076100601. PERMIT NUMBER.--TA-73-0767.  
 LOCATION.--Lat 38°49'23", long 76°10'06", Hydrologic Unit 02060002, at Tunis Mills.  
 Owner: U.S. Geological Survey.  
 AQUIFER.--Piney Point Formation.  
 WELL CHARACTERISTICS.--Drilled artesian observation well, depth 220 ft; casing diameter 6 to 2 in.;  
 screened from 170 to 180 ft.  
 INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.  
 DATUM.--Elevation of land-surface datum is 5 ft above National Geodetic Vertical Datum of 1929.  
 Measuring point: Top of casing, 1.8 ft above land-surface datum.  
 PERIOD OF RECORD.--August 1976 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, .97 ft below land-surface datum, April 2, 1980;  
 lowest measured, 5.20 ft below land-surface datum, Nov. 14, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	4.47	DEC 18	4.43	MAR 5	4.40	MAY 18	3.71	SEP 3	4.73
NOV 14	5.20	FEB 10	4.35	APR 3	4.23	JUL 14	3.33		



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

383

MARYLAND--Continued

TALBOT COUNTY--Continued

WELL NUMBER.--TA Cc 36. SITE ID.--384514076103701. PERMIT NUMBER.--TA-73-0750.  
 LOCATION.--Lat 38°45'14", long 76°10'37", Hydrologic Unit 02060002, at Newcomb.

Owner: U.S. Geological Survey.

AQUIFER.--Piney Point Formation.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 241 ft; casing diameter 6 in. with depth to 57 ft; casing diameter 2 in. from 51 to 231 ft; screen diameter 2 in. from 231 to 241 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

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

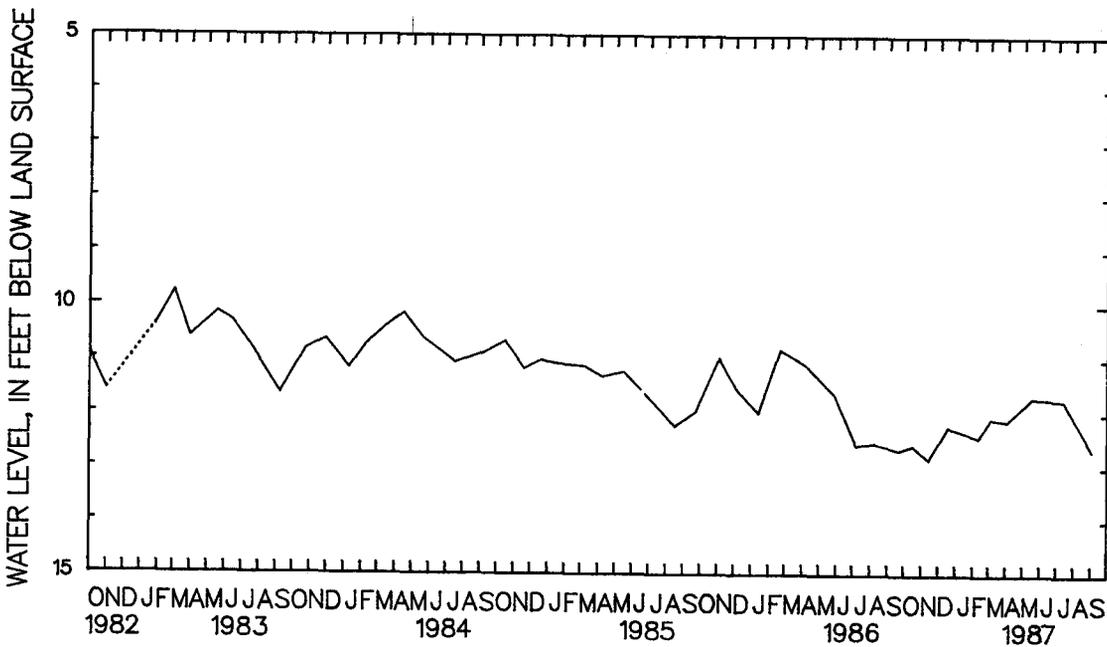
Measuring point: Top of casing, 1.4 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.89 ft below land-surface datum, April 2, 1980; lowest measured, 12.85 ft below land-surface datum, Nov. 14, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17	12.60	DEC 18	12.25	MAR 5	12.09	MAY 18	11.70	SEP 3	12.67
NOV 14	12.85	FEB 10	12.44	APR 3	12.13	JUL 14	11.75		



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND-Continued

TALBOT COUNTY--Continued

WELL NUMBER.--TA Cc 7. SITE ID.--384643076043801.

LOCATION.--Lat 38°46'43", long 76°04'38", Hydrologic Unit 0206Q005, in Easton.

Owner: Easton Utilities Commission.

AQUIFER.--Calvert Formation.

WELL CHARACTERISTICS.--Drilled unused artesian well, measured depth 104 ft; casing diameter 4 in.; casing length unknown

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 13 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of casing, 1.4 ft above land-surface datum.

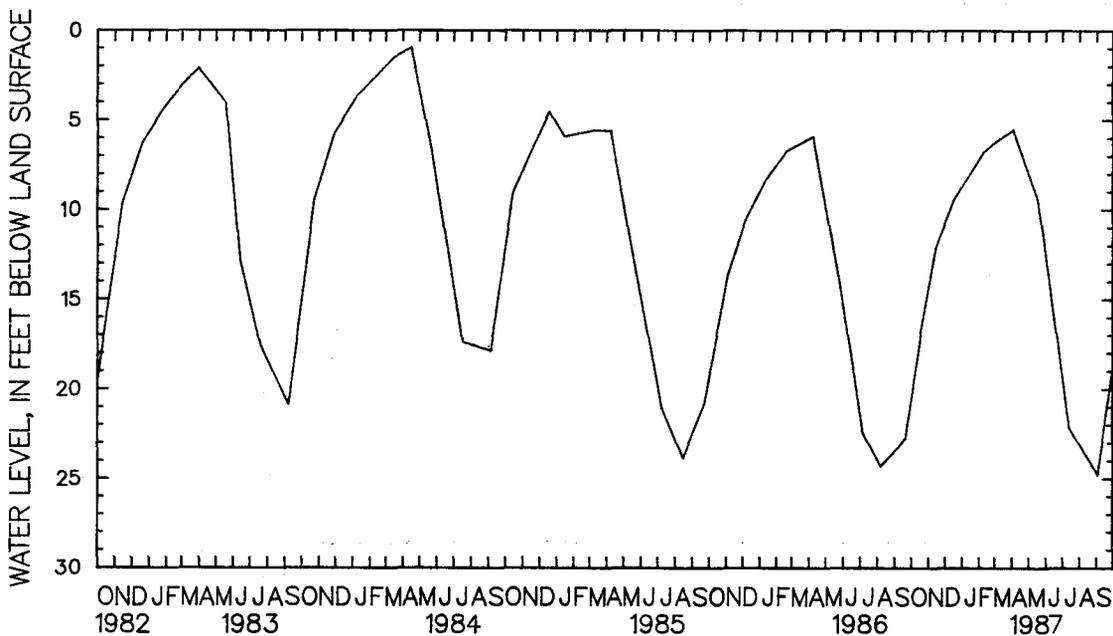
REMARKS.--Water level measured 43.43 ft below land-surface datum Oct. 7, 1948; water levels may be affected by nearby pumping.

PERIOD OF RECORDS.--April 1956 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, .97 ft below land-surface datum, Apr. 16, 1984; lowest measured 75.36 ft below land-surface datum, Aug. 2, 1966.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	16.62	DEC 18	9.40	MAR 5	6.14	MAY 18	9.50	SEP 3	24.79
NOV 14	12.14	FEB 10	6.74	APR 3	5.53	JUL 14	22.19		



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

WASHINGTON COUNTY

WELL NUMBER.--WA Ac 1. SITE ID.--394154078103501.

LOCATION.--Lat 39°41'54", long 78°10'35", Hydrologic Unit 02070004, at Hancock.

Owner: Susan Creager.

AQUIFER.--Romney Formation.

WELL CHARACTERISTICS.--Drilled unused water-table well, depth 86.2 ft; casing diameter 4 in. to unknown depth; open hole.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 440 ft above National Geodetic Vertical Datum of 1929.

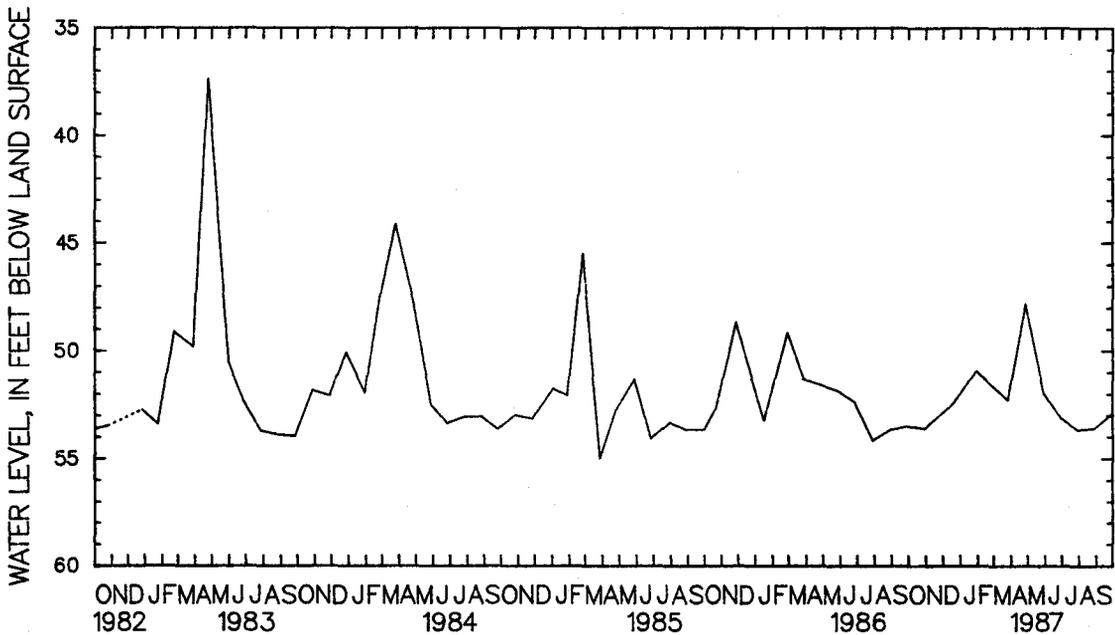
Measuring point: Top of tile pipe, .25 ft above land-surface datum.

PERIOD OF RECORD.--October 1946 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 35.65 ft below land surface datum, Jan. 2, 1976; lowest measured, 55.83 ft below land-surface datum, Nov. 19, 1953.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL								
OCT 30	53.62	JAN 29	50.95	APR 27	47.83	JUN 29	53.13	AUG 28	53.62
DEC 19	52.45	MAR 26	52.28	MAY 29	51.95	JUL 30	53.69	SEP 28	52.95



5 YEAR HYDROGRAPH

OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

## GROUND-WATER LEVELS

MARYLAND--Continued

WASHINGTON COUNTY--Continued

WELL NUMBER.--WA Be 2. SITE ID.--393638078001301.

LOCATION.--Lat 39°36'38", long 78°00'13", Hydrologic Unit 02070004, about 1.2 mi southeast of Big Pool.

Owner: Fort Frederick State Park.

AQUIFER.--Romney Formation.

WELL CHARACTERISTICS.--Dug stone-lined unused water-table well, depth 42.7 ft; casing diameter 42 in.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 470 ft above National Geodetic Vertical Datum of 1929.

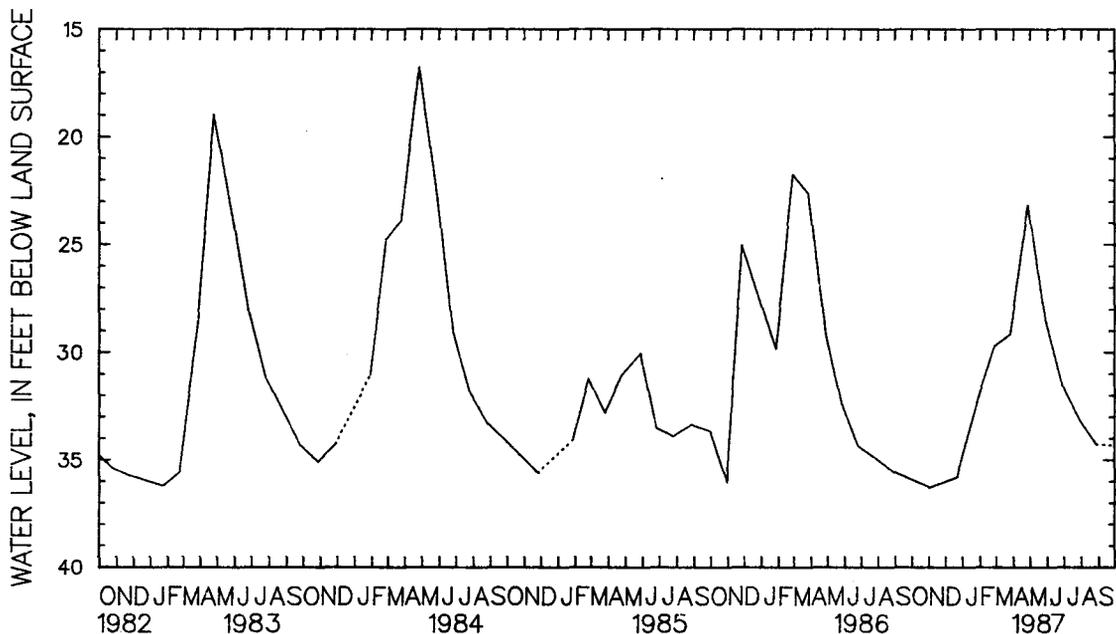
Measuring point: Top of stone sill, .8 ft above land-surface datum.

PERIOD OF RECORD.--December 1949 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 16.75 ft below land-surface datum, Apr. 26, 1984;  
lowest measured, 36.92 ft below land-surface datum, Jan. 11, 1965.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL										
OCT 30	36.25	DEC 22	35.82	FEB 26	29.72	APR 27	23.17	JUN 29	31.64	AUG 28	34.30
NOV 1	36.32	JAN 29	32.08	MAR 26	29.17	MAY 29	28.57	JUL 30	33.22		



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

## GROUND-WATER LEVELS

387

## MARYLAND--Continued

## WASHINGTON COUNTY--Continued

WELL NUMBER.--WA Bk 25. SITE ID.--393851077343001. PERMIT NUMBER.--WA-70-0235.

LOCATION.--Lat 39°38'51", long 77°34'30", Hydrologic Unit 02070004, 1/2 mi south of Smithsburg at Hagerstown Water Supply Plant.

Owner: U.S. Geological Survey.

AQUIFER.--Tomstown Dolomite.

WELL CHARACTERISTICS.--Drilled unused water-table well, depth 200 ft; casing diameter 6 in. with depth to 128 ft; open hole.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel. Equipped with water level recorder Apr. 27, 1970 to current year.

DATUM.--Elevation of land-surface datum is 790 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of shelter shelf, 1.7 ft above land-surface datum.

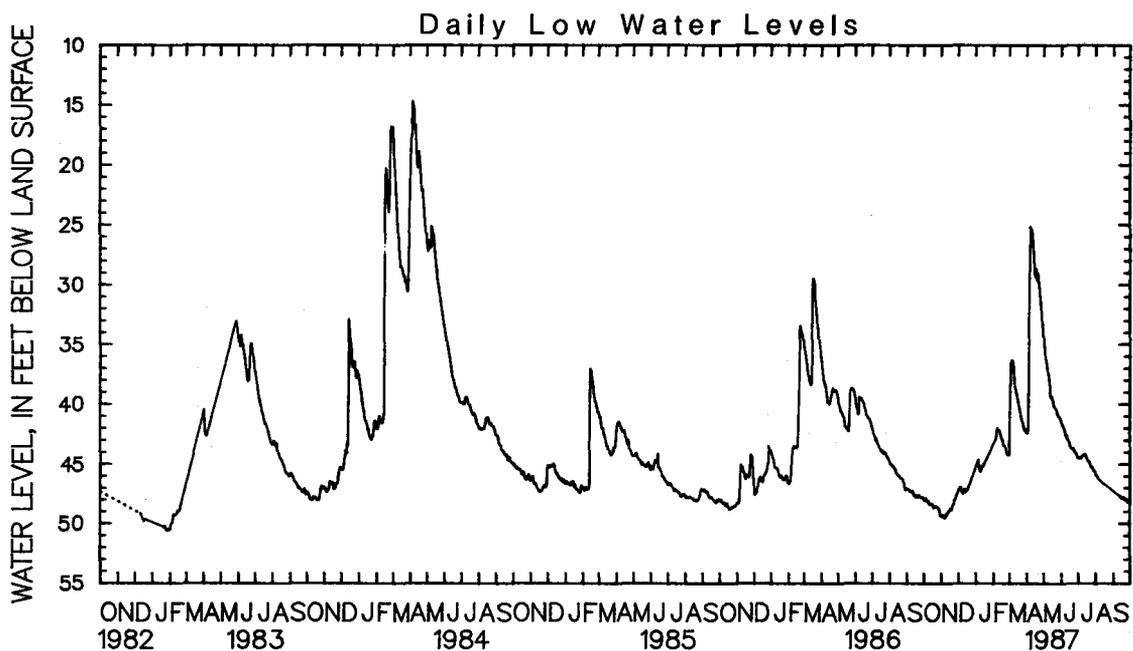
PERIOD OF RECORD.--April 1970 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 14.68 ft below land-surface datum, Apr. 6, 1984; lowest measured, 51.37 ft below land-surface datum Jan. 31, 1981.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47.99	50.00	---	---	---	43.86	42.39	34.44	41.48	44.55	45.94	---
2	48.08	49.98	---	---	---	39.97	42.42	35.16	41.69	44.55	45.96	---
3	48.10	49.94	47.00	---	---	36.80	42.44	35.76	41.81	44.50	45.99	---
4	47.97	50.09	46.98	---	---	36.41	42.05	36.17	41.81	44.45	46.05	---
5	47.92	50.09	46.98	44.65	42.94	36.33	33.25	36.37	41.94	44.51	46.21	---
6	48.05	50.15	47.12	45.29	42.74	36.34	29.34	36.64	42.03	44.53	46.32	---
7	48.14	50.18	47.30	45.40	42.30	36.47	26.74	37.04	42.20	44.45	---	---
8	48.19	50.16	47.27	45.59	42.01	36.75	25.14	37.38	42.34	44.35	---	---
9	48.15	49.94	47.49	45.65	42.09	37.44	25.28	37.55	42.56	44.26	---	47.60
10	48.35	49.95	47.47	45.50	42.18	38.24	25.64	37.91	42.72	44.24	---	47.64
11	48.42	49.87	47.23	45.34	42.19	38.57	26.16	38.12	42.65	44.25	---	47.70
12	48.38	49.74	47.14	45.15	42.26	38.76	26.77	38.58	42.84	44.23	---	47.70
13	48.35	49.72	47.36	45.19	42.43	39.04	27.67	39.43	43.07	44.21	---	47.70
14	48.38	49.72	47.35	45.19	42.56	39.15	28.25	39.48	43.06	44.32	---	47.81
15	48.35	49.52	47.17	45.04	42.84	39.48	28.86	39.41	43.20	44.38	---	47.88
16	48.37	49.46	47.18	---	42.91	39.73	29.28	39.58	43.31	44.54	---	47.90
17	48.56	49.40	47.20	---	42.94	39.94	29.37	39.75	43.55	44.68	---	47.91
18	48.67	49.41	---	---	43.18	40.15	28.69	40.05	43.67	44.70	---	47.82
19	48.70	49.49	---	---	43.40	40.37	29.66	40.25	43.73	44.74	---	47.90
20	48.60	49.45	---	---	43.49	40.60	29.06	40.29	43.73	44.80	---	47.89
21	48.54	49.11	---	---	43.54	40.76	29.27	40.38	43.69	44.96	---	47.92
22	48.57	49.09	---	---	43.57	41.09	29.85	40.43	43.74	45.06	---	47.95
23	48.58	48.97	---	---	43.89	41.27	30.24	40.50	43.85	45.17	---	47.99
24	48.64	48.69	---	---	44.05	41.47	30.83	40.60	43.98	45.28	---	48.03
25	48.70	48.69	---	---	44.17	41.54	31.37	40.78	44.01	45.33	---	48.16
26	48.70	48.53	---	---	44.24	41.86	31.87	40.92	44.07	45.30	---	48.21
27	48.72	---	---	---	44.26	41.95	32.30	41.05	44.16	45.37	---	48.25
28	48.90	---	---	---	44.25	42.18	32.84	41.05	44.30	45.50	---	48.28
29	49.61	---	---	---	---	42.25	33.20	41.11	44.37	45.61	---	48.25
30	49.90	---	---	---	---	42.17	33.90	41.18	44.51	45.65	---	48.16
31	50.01	---	---	---	---	42.37	---	41.33	---	45.69	---	---
MAX	50.01	50.18	47.49	45.65	44.26	43.86	42.44	41.33	44.51	45.69	46.32	48.28
MIN	47.92	48.53	46.98	44.65	42.01	36.33	25.14	34.44	41.48	44.21	45.94	47.60

GROUND-WATER LEVELS  
MARYLAND--Continued  
WASHINGTON COUNTY--Continued  
WA Bk 25--Continued



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

## GROUND-WATER LEVELS

MARYLAND--Continued

WASHINGTON COUNTY--Continued

WELL NUMBER.--WA Ch 106. SITE ID.--393414077461801. PERMIT NUMBER.--WA-73-2095.

LOCATION.--Lat 39°34'14", long 77°46'18", Hydrologic Unit 02070004, at Fountain Rock School.

Owner: U.S. Geological Survey.

AQUIFER.--Conococheague Limestone.

WELL CHARACTERISTICS.--Drilled water-table observation well, depth 69 ft; casing diameter 6 in. with depth to 41 ft; open hole.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel. Equipped with water level recorder Mar. 29, 1978 to June 19, 1981, Nov. 6, 1985 to May 3, 1987, July 1, 1987 to current year

DATUM.--Elevation of land-surface datum is 520 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of casing, 1.45 ft above land-surface datum.

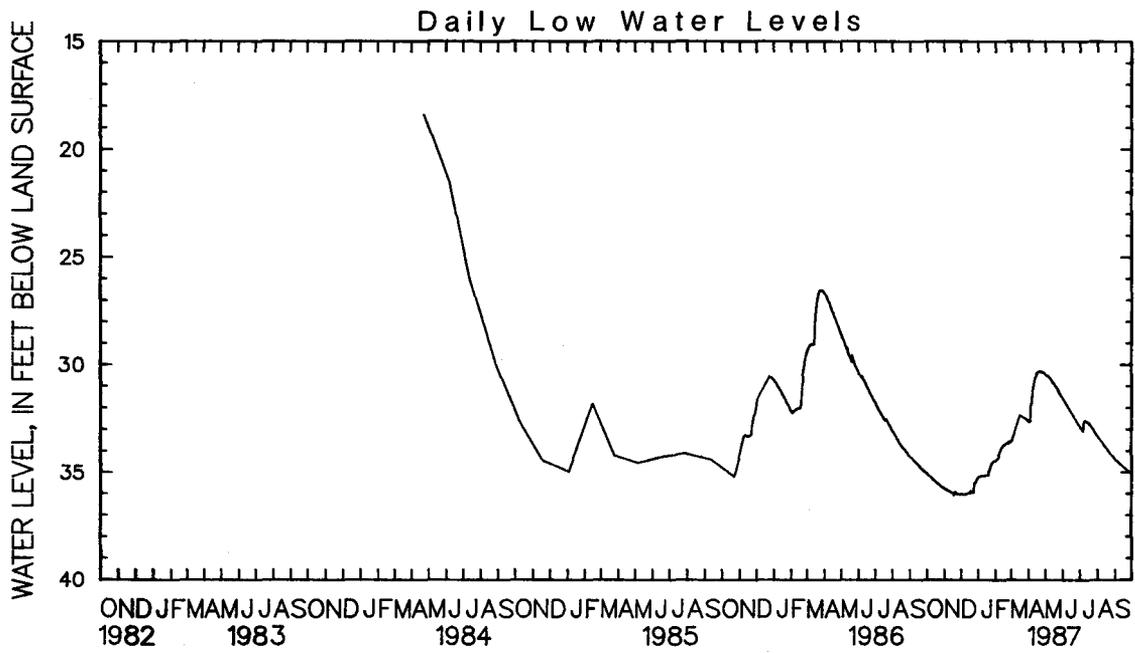
PERIOD OF RECORD.--February 1978 to June 1981, April 1984 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 18.41 ft below land-surface datum, Apr. 23, 1984, Apr. 23, 1987; lowest measured, 36.13 ft below land-surface datum, Jan. 16, 1981.

## WATER LEVEL IN, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35.09	35.79	36.06	35.26	34.48	33.57	32.64	30.44	---	32.89	---	34.46
2	35.14	35.81	36.04	35.23	34.47	33.54	32.66	30.48	---	32.92	---	---
3	35.17	35.82	36.04	35.22	34.42	33.53	32.68	30.52	---	32.96	---	---
4	35.19	35.84	36.05	35.22	34.41	---	32.67	30.52	---	32.99	---	---
5	35.21	35.85	36.05	35.21	34.38	---	31.88	30.54	---	33.03	---	---
6	35.24	35.86	36.06	35.20	34.33	---	31.84	30.56	---	33.07	---	---
7	35.26	35.88	36.07	35.20	34.24	---	31.55	30.59	---	33.10	---	---
8	35.28	35.89	36.08	35.19	34.17	---	31.27	30.62	31.87	32.69	---	---
9	35.31	35.91	36.08	35.19	34.10	---	31.05	30.65	---	32.69	---	---
10	35.34	35.92	36.04	35.19	34.05	---	30.91	30.68	---	32.62	---	---
11	35.36	35.93	36.04	35.19	33.96	---	30.74	30.71	---	32.63	---	---
12	35.39	35.93	36.03	35.18	33.90	---	30.64	30.75	---	32.64	---	---
13	35.41	35.96	36.02	35.18	33.85	---	30.57	30.80	---	32.65	---	---
14	35.43	35.98	36.02	35.18	33.82	---	30.52	30.82	---	32.67	---	---
15	35.45	35.99	36.01	35.18	33.77	---	30.46	30.86	---	32.69	---	---
16	35.47	36.00	36.01	35.17	33.75	32.37	30.42	30.90	---	32.71	---	---
17	35.50	36.01	36.01	35.17	33.73	---	30.38	30.94	---	32.74	---	---
18	35.52	36.10	36.00	35.17	33.72	---	30.35	30.97	---	32.77	---	---
19	35.55	36.03	35.90	35.16	33.70	---	30.34	31.02	---	32.82	---	---
20	35.57	36.04	35.97	34.97	33.67	---	30.33	31.05	---	32.86	---	---
21	35.59	35.94	35.97	34.84	33.66	---	30.33	31.09	---	32.89	---	---
22	35.60	35.99	35.97	34.84	33.66	---	30.32	31.14	---	32.94	---	---
23	35.62	36.02	35.96	34.73	33.65	---	30.32	31.17	---	32.98	---	---
24	35.66	36.04	35.96	34.67	33.69	---	30.33	31.21	---	33.02	---	---
25	35.67	36.05	35.52	34.62	33.61	---	30.34	31.26	---	33.06	---	---
26	35.70	36.05	35.52	34.58	33.61	32.51	30.36	31.33	---	33.10	---	---
27	35.71	36.05	35.52	34.55	33.61	32.52	---	---	---	33.14	---	---
28	35.72	36.06	35.46	34.52	33.61	32.55	30.36	---	---	33.18	---	---
29	35.73	36.07	35.38	34.51	---	32.58	30.39	---	---	33.23	---	---
30	35.76	36.07	35.34	34.50	---	32.58	30.42	---	---	33.26	---	---
31	35.77	---	35.28	34.49	---	32.61	---	---	---	33.30	---	---
MAX	35.77	36.10	36.08	35.26	34.48	33.57	32.68	31.33	31.87	33.30	---	34.46
MIN	35.09	35.79	35.28	34.49	33.61	32.37	30.32	30.44	31.87	32.62	---	34.46

GROUND-WATER LEVELS  
MARYLAND--Continued  
WASHINGTON COUNTY--Continued  
WA Ch 106--Continued



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

WASHINGTON COUNTY--Continued

WELL NUMBER.--WA C1 82. SITE ID.--393402077434201. PERMIT NUMBER.--WA-73-2101.

LOCATION.--Lat 39°34'02", long 77°43'42", Hydrologic Unit 02070004, at Maryland Correction Institution, Hagerstown.

Owner: U.S. Geological Survey.

AQUIFER.--Conococheague Limestone.

WELL CHARACTERISTICS.--Drilled water-table observation well, depth 84 ft; casing diameter 6 in. with depth to 32 ft; open hole.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel. Equipped with water level recorder Apr. 25, 1978 to June 19, 1981.

DATUM.--Elevation of land-surface datum is 500 ft above National Geodetic Vertical Datum of 1929.

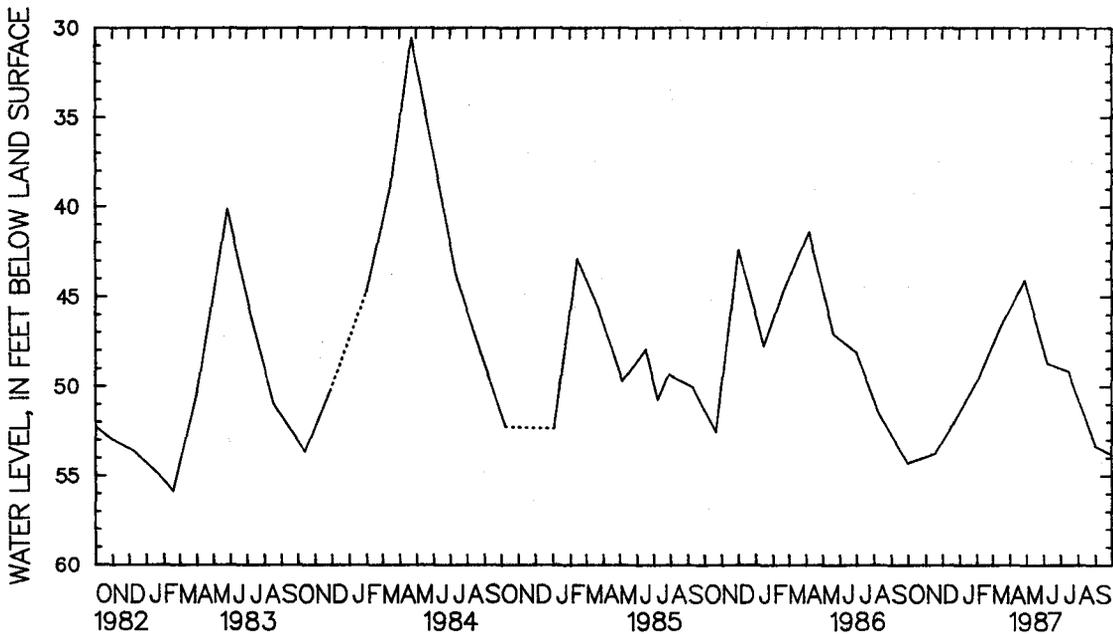
Measuring point: Top of casing 2.3 ft above land-surface datum.

PERIOD OF RECORD.--February 1978 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 30.56 ft below land-surface datum, Feb. 28, 1979; lowest measured, 59.28 ft below land-surface datum, Feb. 1, 1981.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL						
OCT 1	54.32	DEC 19	52.18	MAR 16	46.66	JUN 8	48.75	SEP 1	53.36
NOV 18	53.78	FEB 2	49.72	APR 28	44.09	JUL 15	49.19		



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

## GROUND-WATER LEVELS

MARYLAND--Continued

WASHINGTON COUNTY--Continued

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.

WELL CHARACTERISTICS.--Dug stone-lined water-table observation well, depth 61.3 ft; casing diameter 48 in.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 1,070 ft above National Geodetic Vertical Datum of 1929.

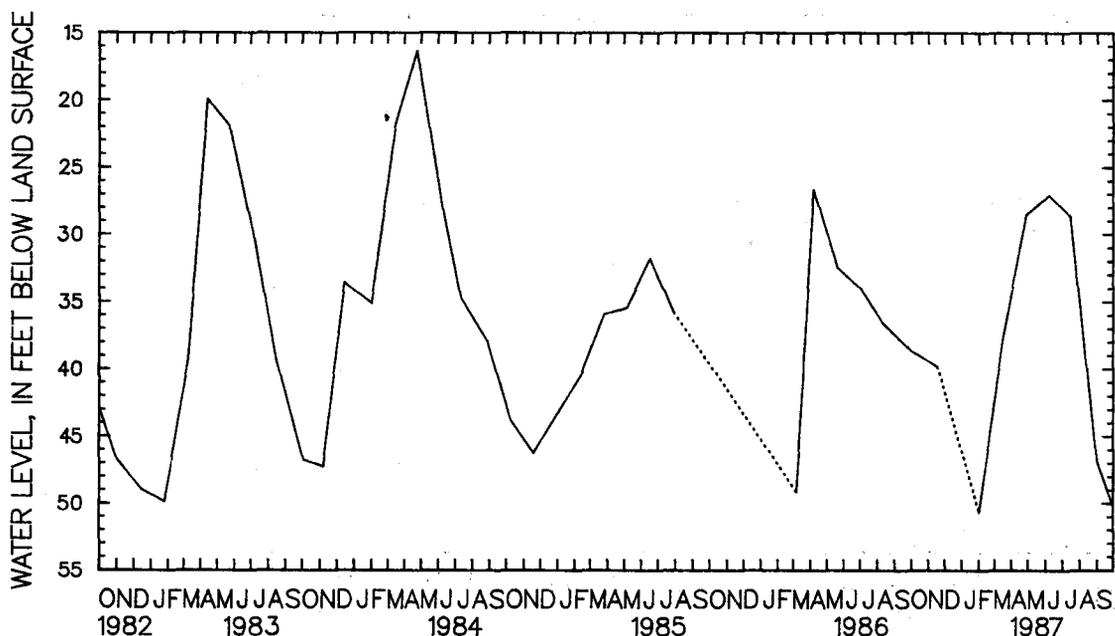
Measuring point: Top of concrete cover, .25 ft above land-surface datum.

PERIOD OF RECORD.--December 1956 to current year.

EXTREMES FOR PERIOD FOR RECORD.--Highest water level measured, 16.35 ft below land-surface datum, Apr. 23, 1984;  
lowest measured, 58.88 ft below land-surface datum, Oct. 5, 1961.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL						
OCT 2	38.73	DEC 19	52.45	MAR 16	37.90	JUN 8	27.10	SEP 1	46.97
NOV 18	39.87	FEB 2	50.70	APR 28	28.50	JUL 15	28.65		



5 YEAR HYDROGRAPH

OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987



## GROUND-WATER LEVELS

MARYLAND--Continued

WICOMICO COUNTY--Continued

WELL NUMBER.--WI Ce 204. SITE ID.--382442075355302. PERMIT NUMBER.--WI-67-0191.

LOCATION.--Lat 38°24'42", long 75°35'53", Hydrologic Unit 02060007, north side of Naylor Mill Rd., near Salisbury

Owner: City of Salisbury.

AQUIFER.--Beaverdam Sand.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 113 ft; casing diameter 8 in. with depth to 109 ft; screen diameter 3 in. from 109 to 113 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

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

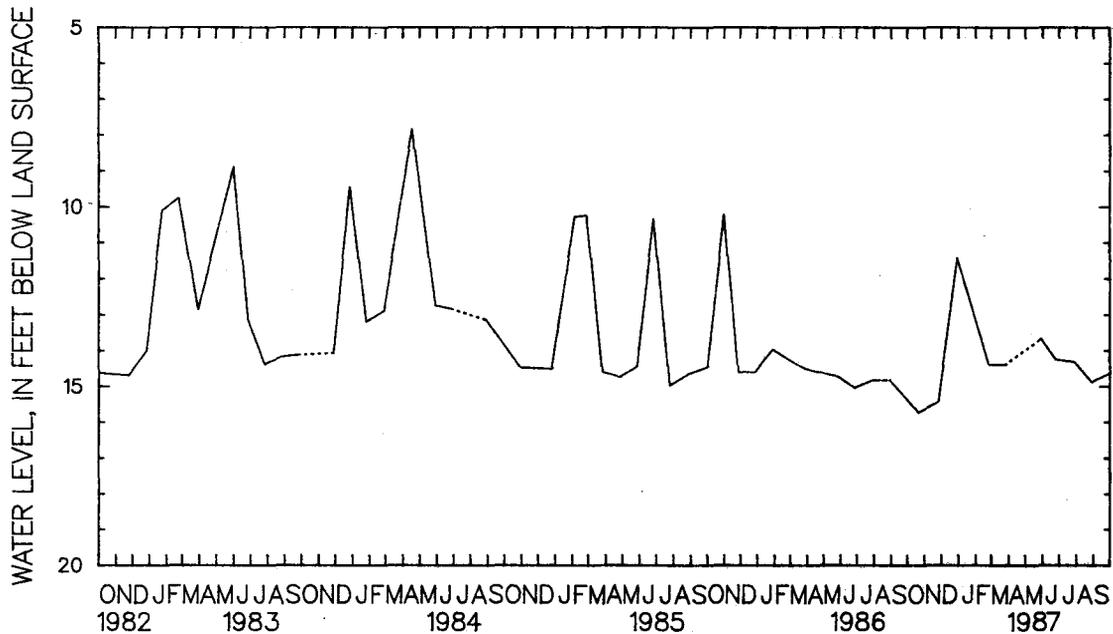
Measuring point: Top of casing, 3.14 ft above land-surface datum.

PERIOD OF RECORD.--April 1967 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.35 ft below land-surface datum, April 27, 1967; lowest measured, 15.74 ft below land-surface datum, Oct. 21, 1986.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL								
OCT 21	15.74	DEC 29	11.43	MAR 26	14.40	JUN 25	14.26	AUG 28	14.89
NOV 26	15.44	FEB 25	14.40	MAY 29	13.68	JUL 28	14.32	SEP 28	14.66



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

WICOMICO COUNTY--Continued

WELL NUMBER.--WI Cf 3. SITE ID.--382037075310801.

LOCATION.--Lat 38°20'37", long 75°31'08", Hydrologic Unit 02060007, on Airport Rd., about 5 mi southeast of Salisbury.

Owner: Salisbury Wicomico Airport.

AQUIFER.--Beaverdam Sand.

WELL CHARACTERISTICS.--Drilled unused water-table well, depth 109 ft; casing diameter 16 in. with depth to 90 ft; screened from 90 to 110 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel. Equipped with water level recorder Mar. 24, 1948 to July 9, 1948, Aug. 2, 1949 to Apr. 11, 1960 and Aug. 29, 1963 to Aug. 20, 1968.

DATUM.--Elevation of land-surface datum is 44.79 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 2.0 ft above land-surface datum.

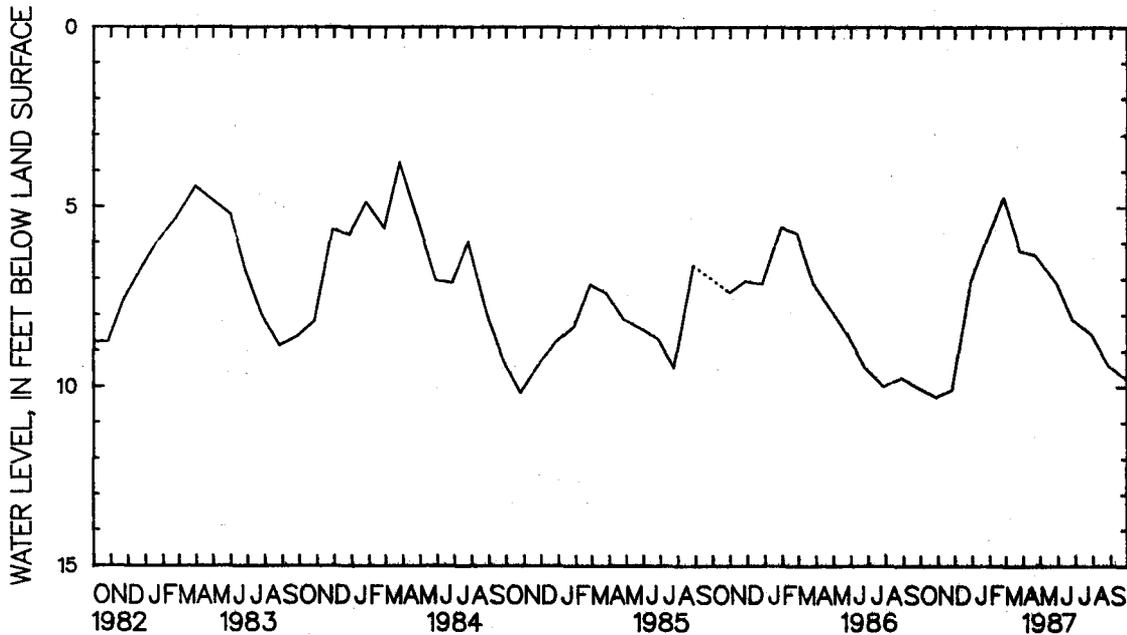
REMARKS.--Water level reported 7.2 ft below land-surface datum, Oct. 26, 1942.

PERIOD OF RECORD.--September 1947 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.90 ft below land-surface datum, May 7, 1958; lowest measured, 13.44 ft below land-surface datum, Sept. 18, 1947.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL										
OCT 28	10.30	DEC 29	7.07	FEB 25	4.73	APR 22	6.34	JUN 25	8.14	AUG 28	9.43
NOV 26	10.10	JAN 29	5.80	MAR 26	6.23	MAY 29	7.12	JUL 28	8.55	SEP 28	9.78



5 YEAR HYDROGRAPH

OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

WICOMICO COUNTY--Continued

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, near Salisbury.

Owner: A. S. Abell Co.

AQUIFER.--Beaverdam Sand.

WELL CHARACTERISTICS.--Drilled unused artesian well, depth 80 ft; casing diameter 2 in. with depth to 80 ft; casing slotted from 60 to 80 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 41.83 ft above National Geodetic Vertical Datum of 1929.

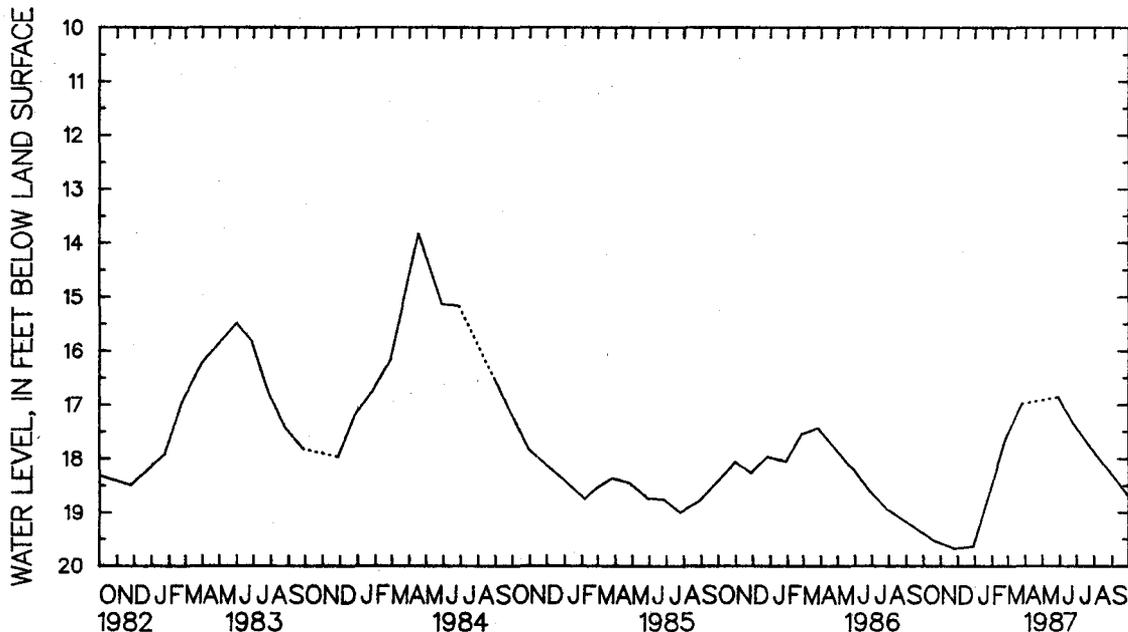
Measuring point: Top of casing at land surface datum.

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 datum, June 18, 1979; lowest measured, 19.68 ft below land-surface datum, Nov. 26, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL								
OCT 21	19.54	DEC 29	19.64	MAR 26	16.98	JUN 25	17.35	SEP 28	18.68
NOV 26	19.68	FEB 25	17.63	MAY 29	16.86	JUL 28	17.82		



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

WICOMICO COUNTY--Continued

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 on south side of MD Rt. 346.

Owner: Maryland State Highway Administration.

AQUIFER.--Parsonsburg Sand.

WELL CHARACTERISTICS.--Driven unused water-table well, depth 25 ft, casing diameter 1.25 in.; casing length unknown.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 68 ft above National Geodetic Vertical Datum of 1929.

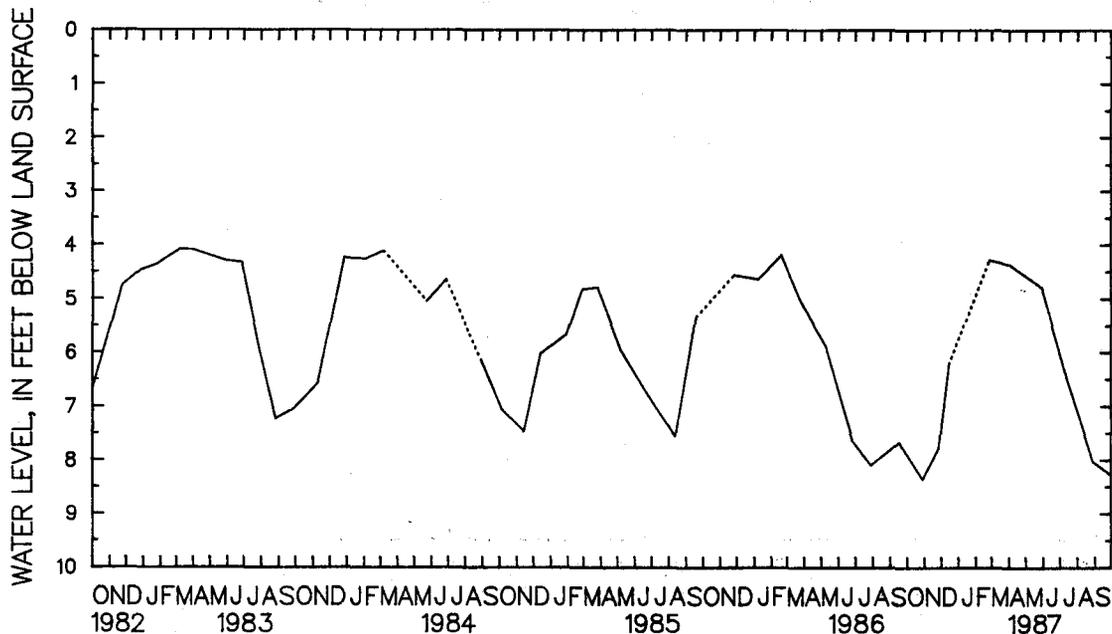
Measuring point: Top of 2 in. sleeve, .17 ft above land-surface datum.

PERIOD OF RECORD.--August 1949 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.84 ft below land-surface datum, Jan. 31, 1950; lowest measured, 8.68 ft below land-surface datum, Oct. 10, 1980.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL								
OCT 28	8.36	DEC 15	6.22	APR 1	4.36	JUL 10	6.40	SEP 28	8.27
NOV 26	7.79	FEB 25	4.28	MAY 29	4.79	AUG 28	8.03		



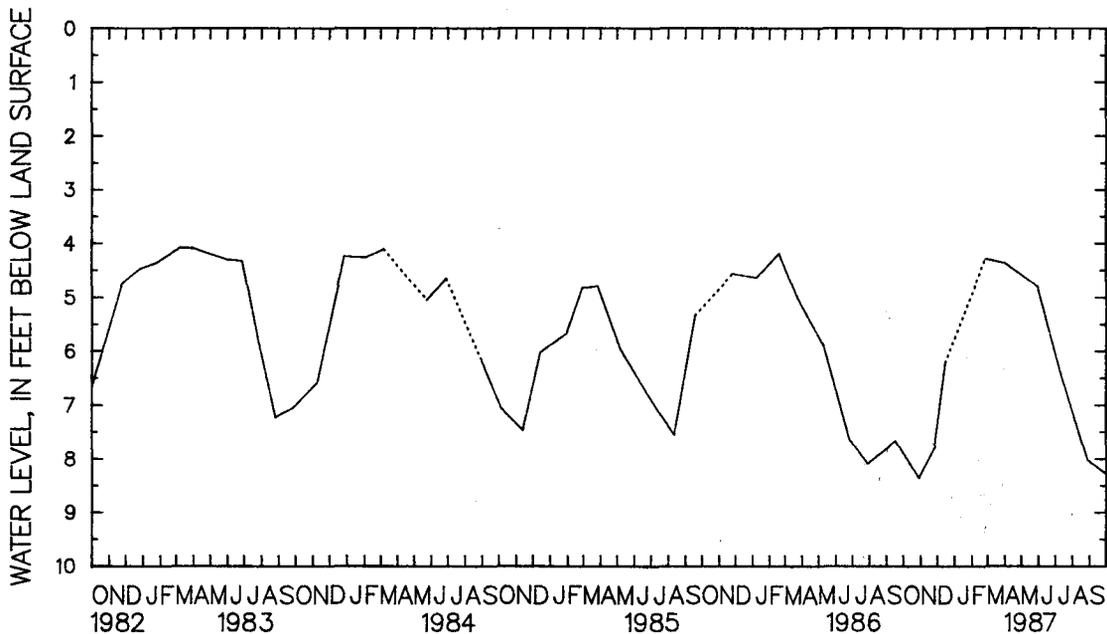
5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS  
 MARYLAND--Continued  
 WORCESTER COUNTY

WELL NUMBER.--WO Ae 23. SITE ID.--382621075174201. PERMIT NUMBER.--WO-73-0512.  
 LOCATION.--Lat 38°26'21", long 75°17'42", Hydrologic Unit 02060010, 2.75 mi north of Whaleysville.  
 Owner: U.S. Geological Survey.  
 AQUIFER.--Manokin aquifer.  
 WELL CHARACTERISTICS.--Drilled artesian observation well, depth 280 ft; casing diameter 4 in. with depth to 270 ft; screen diameter 4 in. from 270 to 280 ft.  
 INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.  
 DATUM.--Elevation of land-surface datum is 40 ft above National Geodetic Vertical Datum of 1929.  
 Measuring point: Top of 4 in. coupling, 3.7 ft above land-surface datum.  
 PERIOD OF RECORD.--October 1975 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 11.85 ft below land-surface datum, Dec. 16, 1975; lowest measured, 17.18 ft below land-surface datum, Oct. 22, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL						
OCT 22	17.18	JAN 7	14.98	APR 22	13.16	JUN 15	14.03
DEC 4	16.70	MAR 19	13.05	MAY 13	13.19	AUG 26	16.68



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

WORCESTER COUNTY--Continued

WELL NUMBER.--WO Ae 24. SITE ID.--382621075174202. PERMIT NUMBER.--WO-73-0515.  
 LOCATION.--Lat 38°26'21", long 75°17'42", Hydrologic Unit 02060010, 2.75 mi north of Whalesville.  
 Owner: U.S. Geological Survey.

AQUIFER.--Ocean City aquifer.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 200 ft; casing diameter 4 in. with depth to 190 ft; screen diameter 4 in. from 190 to 200 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

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

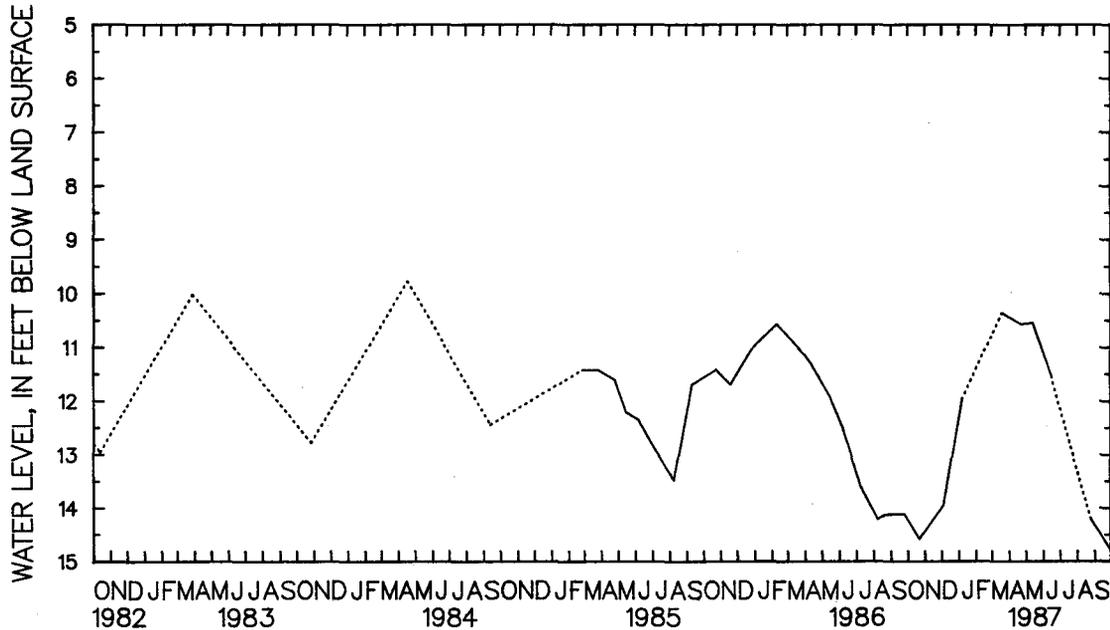
Measuring point: Top of 4 in. coupling, 4.4 ft above land-surface datum.

PERIOD OF RECORD.--October 1975 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.49 ft below land-surface datum, May 31, 1978;  
 Lowest measured, 14.59 ft below land-surface datum, Oct. 22, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL						
OCT 22	14.59	JAN 7	11.97	APR 22	10.57	JUN 15	11.54
DEC 4	13.96	MAR 19	10.36	MAY 13	10.55	AUG 26	14.23



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

WORCESTER COUNTY--Continued

WELL NUMBER.--WO Ae 25. SITE ID.--382621075174203. PERMIT NUMBER.--WO-73-0514.

LOCATION.--Lat 38°26'21", long 75°17'42", Hydrologic Unit 02060010, 2.75 mi north of Whaleysville.

Owner: U.S. Geological Survey.

AQUIFER.--Pocomoke aquifer.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 118 ft; casing diameter 4 in. with depth 108 ft; screened diameter 4 in. from 108 to 118 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

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

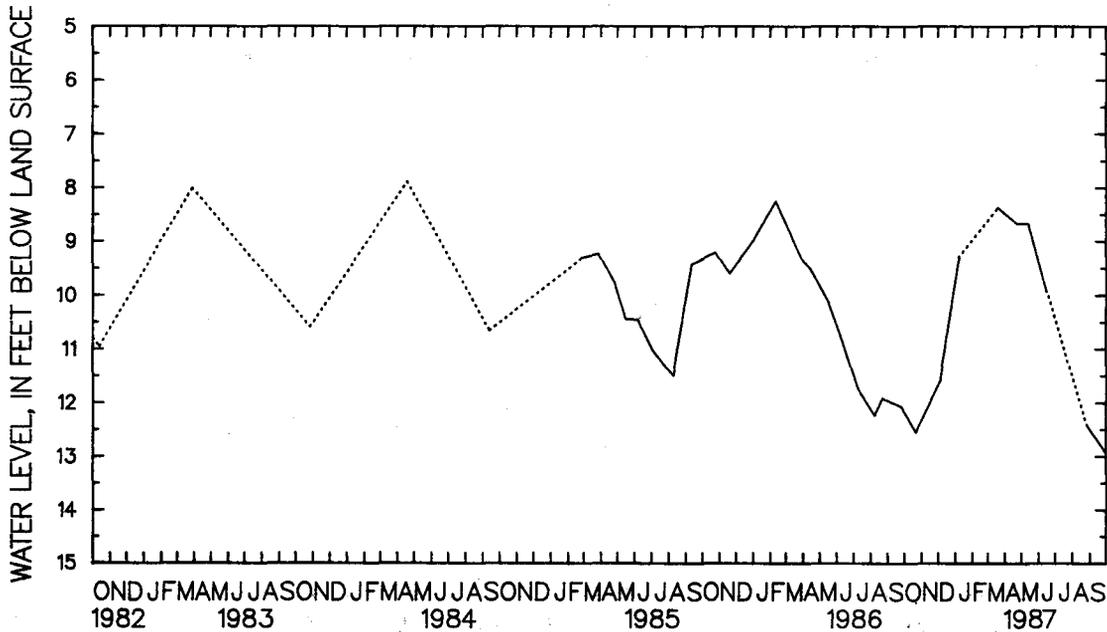
Measuring point: Top of 4 in. coupling, 3.6 ft above land-surface datum.

PERIOD OF RECORD.--October 1975 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 7.79 ft below land-surface datum, Nov. 20, 1975; lowest measured, 12.56 ft below land-surface datum, Oct. 22, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL						
OCT 22	12.56	JAN 07	9.30	APR 22	8.66	JUN 15	9.90
DEC 04	11.60	MAR 19	8.37	MAY 13	8.67	AUG 26	12.42



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

WORCESTER COUNTY--Continued

WELL NUMBER.--WO Ah 35. SITE ID.--382635C75030601. 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.--Choptank Formation.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 726 ft; casing diameter 4 in. with depth to 726 ft; screen diameter 2 in. from 716 to 726 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 13.99 ft above National Geodetic Vertical Datum of 1929.

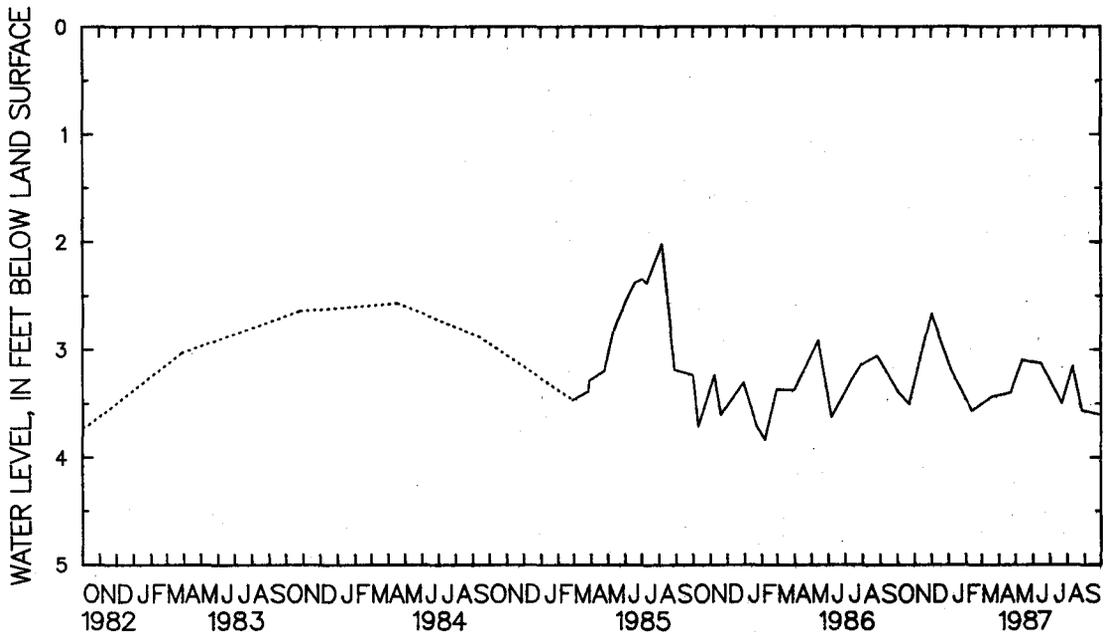
Measuring point: Top of 4 in. coupling, 3.7 ft above land-surface datum.

PERIOD OF RECORD.--October 1975 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.90 ft below land-surface datum, Mar. 10, 1976; lowest measured, 10.26 ft below land-surface datum, Oct. 28, 1975.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 3	3.40	DEC 1	2.67	FEB 11	3.57	APR 22	3.40	JUN 15	3.13	AUG 11	3.16
22	3.51	JAN 7	3.21	MAR 19	3.44	MAY 13	3.10	JUL 22	3.50	27	3.57



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

WORCESTER COUNTY--Continued

WELL NUMBER.--WO Ah 36. SITE ID.--382635075030602. 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.--Manokin aquifer.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 430 ft; casing diameter 4 in. with depth to 420 ft; screen diameter 2 in. from 420 to 430 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 14.32 ft above National Geodetic Vertical Datum of 1929.

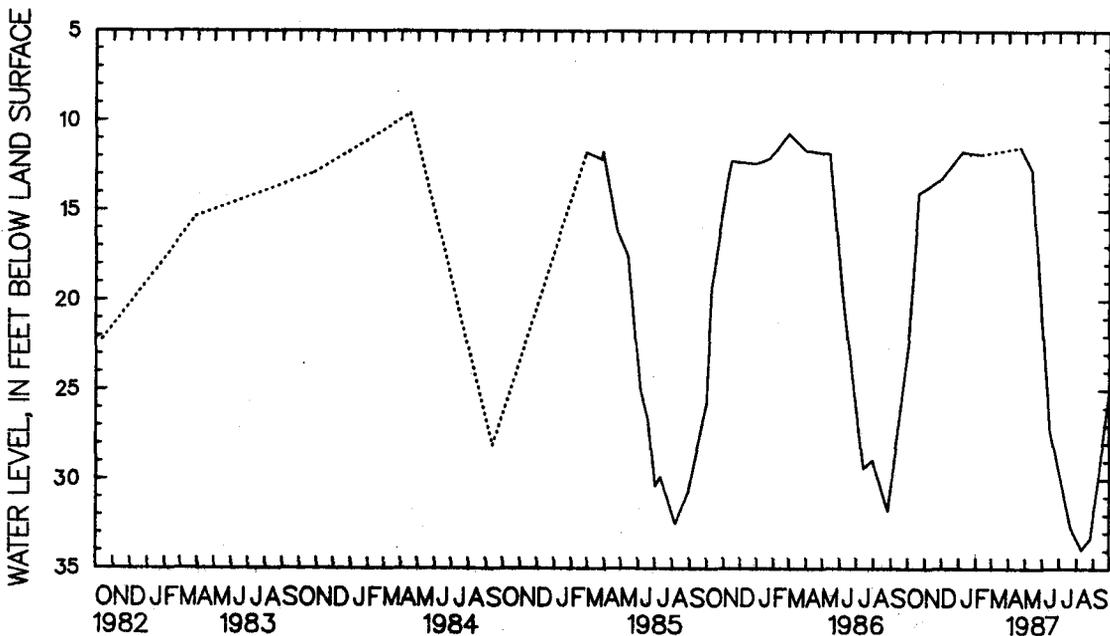
Measuring point: Top of 4 in. coupling, 1.08 ft above land-surface datum.

PERIOD OF RECORD.--October 1975 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.61 ft below land-surface datum, Apr. 18, 1984;  
 lowest measured, 33.92 ft below land-surface datum, Aug. 11, 1987.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 3	22.40	DEC 1	13.21	FEB 11	11.87	MAY 13	12.73	JUL 22	32.70	AUG 27	33.32
21	14.03	JAN 7	11.72	APR 22	11.48	JUN 15	27.27	AUG 11	33.92		



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

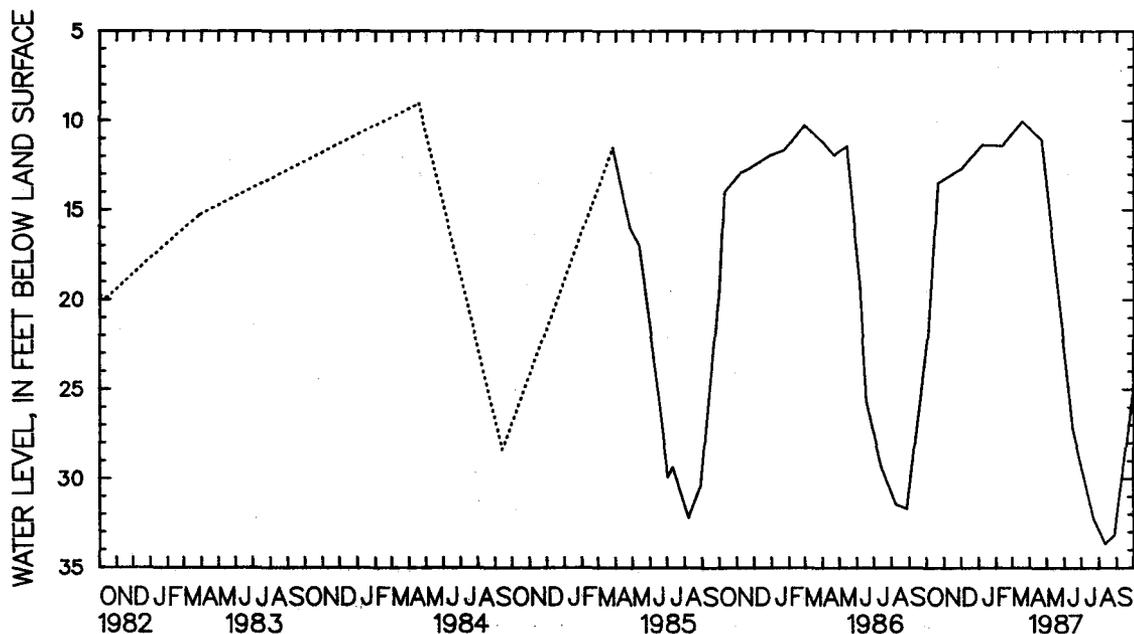
MARYLAND--Continued

WORCESTER COUNTY--Continued

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.  
 WELL CHARACTERISTICS.--Drilled artesian observation well, depth 478 ft; casing diameter 4 in. with depth to 468 ft; screen diameter 2 in. from 468 to 478 ft.  
 INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.  
 DATUM.--Elevation of land-surface datum is 13.89 ft above National Geodetic Vertical Datum of 1929.  
 Measuring point: Top of 4 in. casing, 2.75 ft above land-surface datum.  
 PERIOD OF RECORD.--October 1975 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.58 ft below land-surface datum, Feb. 10, 1977; lowest measured, 33.66 ft below land-surface datum, Aug. 11, 1987.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 3	22.10	DEC 1	12.67	FEB 11	11.40	APR 22	11.05	JUL 22	32.28	AUG 27	33.17
21	13.46	JAN 7	11.35	MAR 19	10.05	JUN 15	27.27	AUG 11	33.66		



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS  
 MARYLAND--Continued  
 WORCESTER COUNTY--Continued

WELL NUMBER.--WO Bg 1. SITE ID.--382022075072401.

LOCATION.--Lat 38°20'22", long 75°07'24", Hydrologic Unit 02060010, 0.4 mi east of Herring Creek on U.S. Rt. 50.

Owner: MD State Highway Administration.

AQUIFER.--Sinepuxent Formation.

WELL CHARACTERISTICS.--Driven water-table well, depth 14 ft; casing diameter 1.25 in. with depth to 14 ft.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 5 ft above National Geodetic Vertical Datum of 1929.

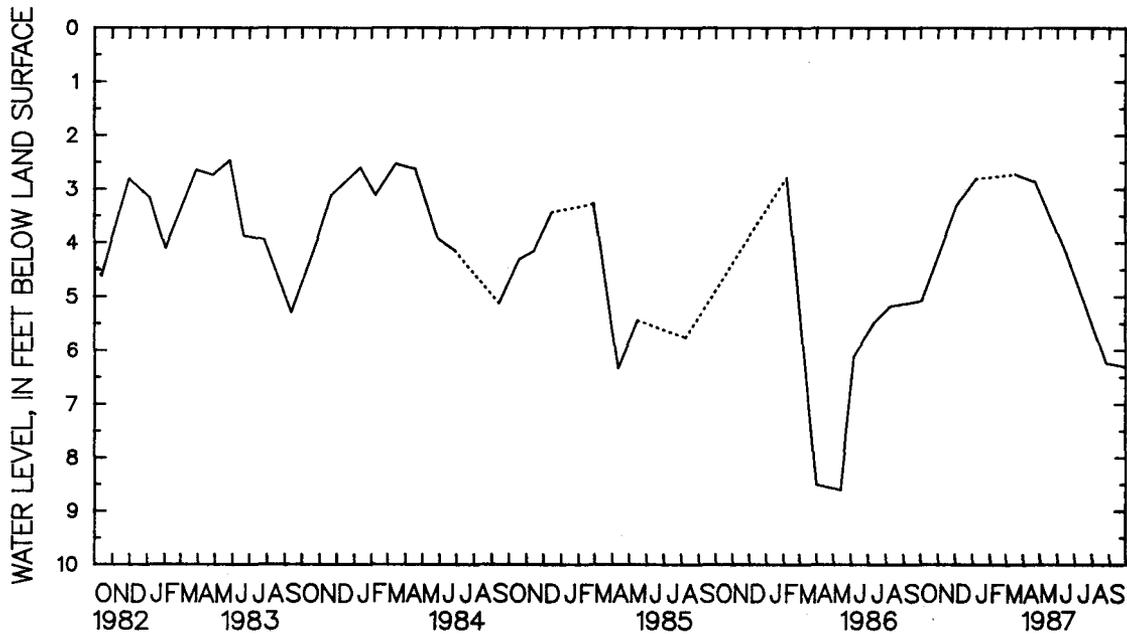
Measuring point: Top of casing, 0.25 ft above land-surface datum.

PERIOD OF RECORD.--August 1949 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.41 ft below land-surface datum, Mar. 8, 1962; lowest measured, 8.61 ft below land-surface datum, May 14, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 3	5.08	JAN 7	2.82	APR 22	2.86	JUL 22	5.24
DEC 4	3.31	MAR 18	2.72	JUN 15	4.18	AUG 26	6.25



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

## GROUND-WATER LEVELS

405

## MARYLAND--Continued

## WORCESTER COUNTY--Continued

WELL NUMBER.--WO Bg 47. SITE ID.--382325075063301. PERMIT NUMBER.--WO-73-0517.

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.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 268 ft; casing diameter 4 in. with depth to 258 ft; screen diameter 2 in. from 258 to 268 ft.

INSTRUMENTATION.--Periodic measurements with chalked steel tape September 1975 to July 1985. Equipped with digital water level recorder, 1 hr punch, July 1985 to current year.

DATUM.--Elevation of land-surface datum is 5 ft above National Geodetic Vertical Datum of 1929.

Measuring Point: Top of recorder shelf, 4.07 ft above land-surface datum.

PERIOD OF RECORD.--September 1975 to current year.

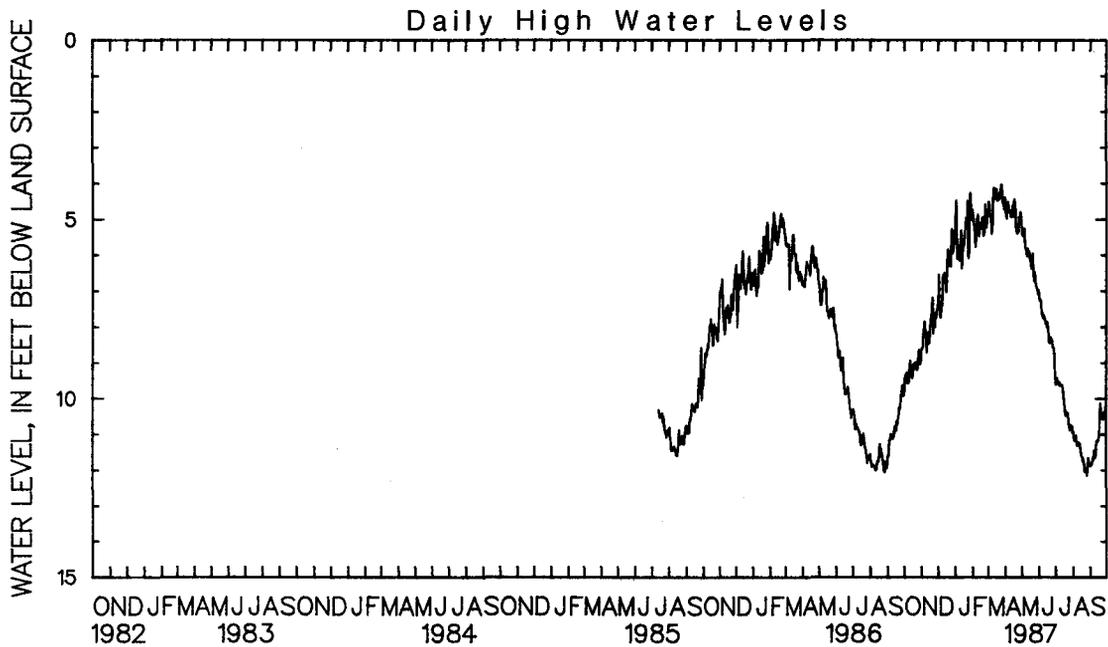
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 4.54 ft below land-surface datum, Feb. 10, 1977; lowest recorded, 32.22 ft below land surface datum, Aug. 7, 1985.

## WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	10.48	9.81	9.33	8.61	8.26	7.28	6.19	4.84	5.76	5.02	5.32	4.50
2	10.24	9.43	9.34	8.61	7.83	6.56	5.44	4.47	5.70	4.98	5.30	4.60
3	9.99	9.34	9.45	8.53	---	---	6.96	5.45	5.83	5.20	5.48	4.79
4	9.97	9.34	9.10	8.20	8.17	7.29	7.00	6.10	5.97	5.31	5.56	4.93
5	9.96	9.28	9.12	8.05	8.47	7.75	6.39	5.81	6.21	5.60	5.61	4.91
6	10.10	9.37	8.67	7.85	8.34	7.58	6.31	5.79	6.18	5.78	5.87	5.06
7	10.31	9.57	8.90	8.14	8.11	7.39	6.60	5.74	5.96	5.33	5.98	5.41
8	10.26	9.44	8.76	8.09	8.02	7.39	6.74	6.15	5.63	4.99	5.77	5.15
9	10.30	9.55	8.97	8.25	7.56	6.62	6.68	6.10	5.58	5.03	5.22	4.55
10	10.18	9.18	9.26	8.71	7.40	6.55	6.60	5.71	5.63	4.88	4.81	4.13
11	9.70	8.95	9.20	8.34	7.42	6.71	6.63	5.31	5.89	5.20	4.88	4.13
12	9.78	9.10	8.83	8.20	7.17	6.50	6.87	6.38	6.14	5.47	5.01	4.40
13	10.02	9.32	8.89	8.16	7.40	6.77	6.99	6.19	5.98	5.20	5.01	4.28
14	9.88	9.17	9.10	8.46	7.51	6.81	6.59	5.70	5.84	5.12	4.83	4.17
15	10.04	9.44	9.10	8.44	7.53	7.03	6.41	5.75	5.69	5.11	4.78	4.16
16	10.03	9.36	8.97	8.19	7.60	6.76	6.34	5.68	5.89	5.23	4.97	4.37
17	9.89	9.19	8.61	7.87	7.13	6.32	6.21	5.48	5.62	4.99	5.09	4.46
18	9.79	9.03	8.58	7.70	6.76	5.84	6.11	5.25	5.63	4.95	---	---
19	9.70	9.02	8.34	7.65	6.85	6.32	5.87	4.97	5.93	5.16	5.09	4.34
20	9.81	9.11	8.15	7.19	6.65	5.92	5.69	5.06	6.04	5.45	5.07	4.43
21	9.77	9.00	8.25	7.23	6.55	5.92	5.88	5.23	5.92	5.43	5.11	4.34
22	9.84	9.17	8.75	8.18	6.67	6.07	5.63	4.48	5.77	5.24	4.95	4.34
23	9.82	9.18	8.46	7.81	6.90	6.31	6.39	4.65	5.55	4.59	4.73	4.13
24	9.93	9.20	8.24	7.67	6.84	5.74	6.75	6.09	5.95	5.03	4.91	4.03
25	9.67	9.00	8.46	8.00	6.19	5.26	6.69	5.92	6.04	5.22	5.09	4.27
26	9.48	8.89	8.41	7.62	6.62	5.81	5.97	4.67	5.94	5.06	5.16	4.41
27	9.36	8.65	8.24	7.74	6.60	5.93	5.20	4.27	5.72	4.87	5.21	4.55
28	9.31	8.80	8.22	7.64	6.64	5.79	5.37	4.56	5.61	4.83	5.14	4.41
29	9.60	9.03	8.21	7.52	6.53	5.63	5.82	5.01	---	---	5.33	4.71
30	9.50	8.97	8.31	7.48	6.41	5.38	5.77	4.84	---	---	5.33	4.40
31	9.45	8.76	---	---	6.23	5.32	5.55	4.74	---	---	5.00	4.42
MONTH	10.48	8.65	9.45	7.19	---	---	7.00	4.27	6.21	4.59	---	---

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	5.53	4.71	6.13	5.44	7.92	7.16	10.12	9.62	11.48	10.94	12.60	11.85
2	5.57	4.92	6.13	5.47	7.88	7.28	9.97	9.48	11.67	11.12	12.64	11.90
3	5.53	4.97	6.14	5.43	7.79	7.27	10.03	9.44	11.82	11.19	12.70	11.87
4	5.05	4.64	5.88	5.34	7.95	7.26	10.09	9.57	11.88	11.11	12.68	11.84
5	5.31	4.51	6.06	5.27	8.08	7.49	10.15	9.58	11.95	11.11	12.58	11.76
6	5.30	4.74	6.34	5.63	8.15	7.65	10.20	9.53	11.93	11.05	12.47	11.67
7	5.35	4.78	6.30	5.82	8.23	7.61	10.27	9.56	12.09	11.19	12.43	11.69
8	5.34	4.79	6.33	5.83	8.44	7.76	10.41	9.64	12.21	11.33	12.25	11.46
9	5.34	4.76	6.39	5.86	8.43	7.69	10.51	9.64	12.20	11.25	12.22	11.50
10	5.43	4.91	6.61	6.03	8.52	7.73	10.53	9.63	12.10	11.26	12.30	11.64
11	5.51	4.93	6.58	5.83	8.63	7.78	10.53	9.62	12.00	11.24	12.26	11.56
12	5.48	4.91	6.64	6.00	8.72	7.85	10.55	9.62	12.00	11.32	11.97	11.20
13	5.72	4.92	6.75	5.90	8.72	7.93	10.59	9.70	11.97	11.29	11.93	11.19
14	5.41	4.81	6.87	5.95	8.67	7.87	10.56	9.82	12.04	11.41	11.88	11.21
15	5.52	4.76	6.96	6.08	8.77	7.87	10.68	9.98	12.16	11.54	11.92	11.19
16	5.49	4.51	7.04	6.17	8.68	8.04	10.78	10.12	12.26	11.63	11.90	11.15
17	5.32	4.45	7.09	6.21	8.73	8.01	10.92	10.27	12.30	11.65	11.77	11.06
18	5.84	4.63	7.01	6.38	8.91	8.20	11.09	10.49	12.42	11.74	11.44	10.58
19	6.11	5.14	6.72	6.16	8.97	8.42	11.16	10.49	12.38	11.69	10.96	10.13
20	6.04	5.33	6.71	5.97	9.06	8.46	11.08	10.40	12.46	11.79	10.88	10.29
21	6.06	5.27	6.95	6.14	9.00	8.30	11.19	10.48	12.55	11.85	11.13	10.56
22	6.12	5.40	7.17	6.59	8.98	8.30	11.20	10.43	12.70	12.05	11.13	10.51
23	6.08	5.36	7.28	6.73	9.11	8.36	11.21	10.52	12.67	11.95	11.04	10.48
24	5.95	5.35	7.25	6.50	9.07	8.40	11.36	10.69	12.66	12.02	11.15	10.57
25	5.95	4.95	7.26	6.59	9.44	8.56	11.56	10.80	---	---	11.11	10.40
26	5.73	5.07	7.49	6.82	9.37	8.59	11.57	10.89	12.72	12.16	11.02	10.38
27	5.90	5.09	7.65	6.90	9.43	8.60	11.49	10.83	12.61	12.01	11.24	10.56
28	5.86	4.80	7.67	6.93	9.71	8.71	11.45	10.76	12.28	11.67	11.16	10.48
29	5.71	4.93	7.84	7.00	9.98	9.09	11.41	10.83	12.32	11.76	11.12	10.35
30	6.02	5.23	7.67	7.09	10.19	9.38	11.41	10.79	12.52	11.87	10.82	10.00
31	---	---	7.80	6.99	---	---	11.56	10.97	12.53	11.86	---	---
MONTH	6.12	4.45	7.84	5.27	10.19	7.16	11.57	9.44	---	---	12.70	10.00



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

WORCESTER COUNTY--Continued

WELL NUMBER.--WO Bg 48. SITE ID.--382325075063302. PERMIT NUMBER.--WO-73-0522.

LOCATION.--Lat 38°23'25", long 75°06'33", Hydrologic Unit 02060010, at intersection of MD Rt. 90 and Isle of Wight Rd., Isle of Wight.

Owner: U.S. Geological Survey.

AQUIFER.--Manokin aquifer.

WELL CHARACTERISTICS.--Drilled artesian observation well, depth 420 ft; casing diameter 4 in. with depth to 410 ft; screen diameter 2 in. from 410 to 420 ft.

INSTRUMENTATION.--Periodic measurements with chalked steel tape September 1975 to April 1985. Equipped with digital water level recorder, 1 hr punch, July 1985 to current year.

DATUM.--Elevation of land-surface datum is 5 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of recorder shelf, 3.87 ft above land-surface datum.

PERIOD OF RECORD.--September 1975 to current year.

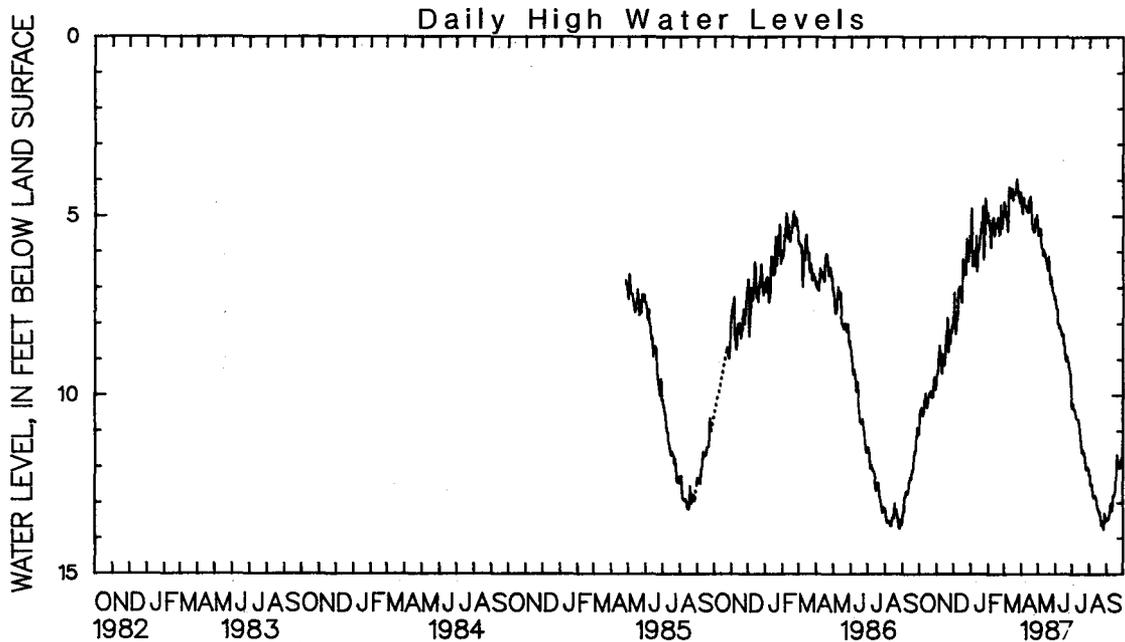
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.92 ft below land-surface datum, Jan. 30 1976; lowest recorded, 14.29 ft below land-surface datum, Aug. 26, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	11.52	10.93	10.05	9.41	8.71	7.86	6.35	5.10	5.78	5.16	5.31	4.60
2	11.27	10.55	10.01	9.37	8.30	7.13	5.63	4.78	5.72	5.11	5.28	4.67
3	11.01	10.42	10.10	9.31	---	---	7.08	5.70	5.87	5.31	5.47	4.88
4	10.93	10.40	9.77	8.99	8.60	7.82	7.16	6.40	6.02	5.45	5.56	5.02
5	10.92	10.35	9.78	8.84	8.90	8.29	6.59	6.09	6.26	5.73	5.59	5.01
6	11.02	10.36	9.32	8.61	8.79	8.13	6.51	6.07	6.22	5.88	5.82	5.14
7	11.20	10.57	9.53	8.89	8.55	7.93	6.76	5.99	6.00	5.43	5.90	5.43
8	11.14	10.43	9.39	8.82	8.42	7.89	6.89	6.39	5.67	5.11	5.71	5.15
9	11.14	10.50	9.57	8.95	7.98	7.12	6.84	6.35	5.65	5.12	5.17	4.58
10	11.05	10.19	9.86	9.39	7.77	7.02	6.75	5.92	5.69	5.04	4.78	4.19
11	10.60	9.94	9.81	9.05	7.78	7.14	6.73	5.55	5.93	5.32	4.87	4.20
12	10.66	10.06	9.45	8.89	7.54	6.96	6.99	6.54	6.12	5.56	4.97	4.46
13	10.84	10.26	9.52	8.85	7.74	7.18	7.08	6.42	5.98	5.32	4.99	4.35
14	10.72	10.11	9.68	9.15	7.85	7.24	6.72	5.95	5.83	5.21	4.82	4.26
15	10.86	10.34	9.66	9.10	7.81	7.40	6.52	5.95	5.69	5.20	4.78	4.24
16	10.85	10.28	9.50	8.83	7.87	7.11	6.46	5.91	5.88	5.30	4.96	4.46
17	10.72	10.11	9.15	8.52	7.41	6.72	6.33	5.71	5.63	5.08	5.08	4.55
18	10.62	9.96	9.11	8.32	7.03	6.21	6.21	5.46	5.62	5.04	---	---
19	10.51	9.92	8.89	8.30	7.07	6.66	5.97	5.18	5.93	5.24	4.95	4.34
20	10.58	9.99	8.74	7.84	6.94	6.29	5.83	5.28	6.03	5.53	4.93	4.39
21	10.55	9.89	8.78	7.87	6.83	6.28	5.99	5.44	5.91	5.51	4.95	4.31
22	10.59	10.05	9.22	8.79	6.94	6.42	5.77	4.71	5.73	5.32	4.81	4.29
23	10.59	10.05	9.00	8.42	7.11	6.63	6.45	4.87	5.55	4.68	4.59	4.10
24	10.68	10.06	8.73	8.24	7.06	6.03	6.81	6.22	5.93	5.11	4.75	3.98
25	10.42	9.83	8.94	8.56	6.42	5.63	6.75	6.07	6.00	5.33	4.91	4.20
26	10.22	9.70	8.90	8.18	6.84	6.10	6.06	4.89	5.93	5.19	4.97	4.33
27	10.10	9.49	8.71	8.27	6.82	6.26	5.31	4.50	5.71	5.00	5.01	4.46
28	10.08	9.61	8.70	8.20	6.85	6.12	5.46	4.75	5.59	4.92	4.94	4.33
29	10.31	9.84	8.66	8.06	6.74	5.96	5.85	5.17	---	---	5.14	4.63
30	10.23	9.79	8.74	8.04	6.58	5.69	5.80	4.99	---	---	5.15	4.35
31	10.20	9.60	---	---	6.40	5.63	5.58	4.90	---	---	4.85	4.34
MONTH	11.52	9.49	10.10	7.84	---	---	7.16	4.50	6.26	4.68	---	---

GROUND-WATER LEVELS  
 MARYLAND--Continued  
 WORCESTER COUNTY--Continued  
 WO Bg 48--Continued

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	5.37	4.65	6.10	5.54	8.08	7.43	10.79	10.37	12.68	12.23	14.09	13.45
2	5.42	4.88	6.08	5.54	8.09	7.56	10.68	10.27	12.87	12.39	14.11	13.49
3	5.40	4.93	6.08	5.49	8.02	7.59	10.75	10.25	13.03	12.52	14.17	13.48
4	4.94	4.58	5.87	5.41	8.20	7.60	10.84	10.37	13.12	12.47	14.16	13.45
5	5.17	4.48	6.03	5.35	8.35	7.84	10.90	10.43	13.20	12.52	14.06	13.37
6	5.17	4.69	6.30	5.68	8.44	8.02	10.98	10.42	13.24	12.51	13.95	13.27
7	5.21	4.73	6.29	5.87	8.53	8.00	11.07	10.48	13.44	12.69	13.88	13.26
8	5.20	4.74	6.31	5.90	8.71	8.13	11.24	10.61	13.59	12.86	13.72	13.03
9	5.21	4.71	6.37	5.93	8.71	8.08	11.37	10.66	13.60	12.80	13.69	13.08
10	5.27	4.85	6.59	6.11	8.80	8.13	11.41	10.67	13.51	12.81	13.77	13.21
11	5.35	4.88	6.59	5.95	8.91	8.19	11.43	10.67	13.43	12.80	13.74	13.15
12	5.33	4.85	6.62	6.09	9.01	8.26	11.46	10.68	13.44	12.87	13.48	12.82
13	5.55	4.89	6.77	6.05	9.03	8.35	11.53	10.76	13.42	12.86	13.40	12.79
14	5.29	4.57	6.88	6.09	8.99	8.31	11.53	10.87	13.49	12.97	13.37	12.82
15	5.36	4.71	6.96	6.22	9.17	8.31	11.67	11.04	13.62	13.10	13.40	12.78
16	5.34	4.50	7.05	6.31	9.11	8.58	11.79	11.21	13.73	13.19	13.34	12.71
17	5.21	4.45	7.09	6.37	9.18	8.56	11.94	11.37	13.77	13.20	13.18	12.58
18	5.72	4.62	7.05	6.51	9.37	8.76	12.10	11.60	13.88	13.29	12.88	12.09
19	6.01	5.13	6.80	6.33	9.45	9.00	12.18	11.61	13.86	13.25	12.39	11.67
20	5.98	5.35	6.79	6.14	9.54	9.05	12.11	11.54	13.94	13.36	12.29	11.78
21	6.00	5.32	7.04	6.32	9.48	8.91	12.23	11.65	14.03	13.43	12.52	12.03
22	6.09	5.45	7.24	6.75	9.49	8.93	12.26	11.62	14.15	13.62	12.55	12.02
23	6.04	5.44	7.36	6.90	9.63	9.02	12.29	11.72	14.15	13.55	12.45	11.98
24	5.94	5.43	7.32	6.70	9.63	9.06	12.46	11.88	14.14	13.62	12.50	12.03
25	5.93	5.07	7.35	6.79	10.00	9.22	12.66	12.00	---	---	12.46	11.87
26	5.75	5.17	7.59	6.99	9.98	9.30	12.67	12.09	14.19	13.75	12.35	11.80
27	5.92	5.23	7.77	7.13	10.05	9.32	12.61	12.06	14.11	13.61	12.49	11.93
28	5.70	4.96	7.79	7.16	10.33	9.45	12.60	12.01	13.84	13.30	12.39	11.82
29	5.73	5.09	7.97	7.23	10.61	9.84	12.60	12.08	13.86	13.37	12.32	11.67
30	6.01	5.32	7.82	7.34	10.85	10.13	12.61	12.08	14.05	13.51	12.00	11.29
31	---	---	7.96	7.25	---	---	12.74	12.24	14.04	13.46	---	---
MONTH	6.09	4.45	7.97	5.35	10.85	7.43	12.74	10.25	---	---	14.17	11.29



5 YEAR HYDROGRAPH  
 OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS

MARYLAND--Continued

WORCESTER COUNTY--Continued

WELL NUMBER.--WO Dd 7. SITE ID.--381037075234301.

LOCATION.--Lat 38°10'37", long 75°23'43", Hydrologic Unit 02060009, near intersection of Green and Commerce Sts., Snow Hill.

Owner: City of Snow Hill.

AQUIFER.--Manokin aquifer.

WELL CHARACTERISTICS.--Drilled unused artesian well, depth 290 ft; casing diameter 6 in.; casing length unknown.

INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 13 ft above National Geodetic Vertical Datum of 1929.

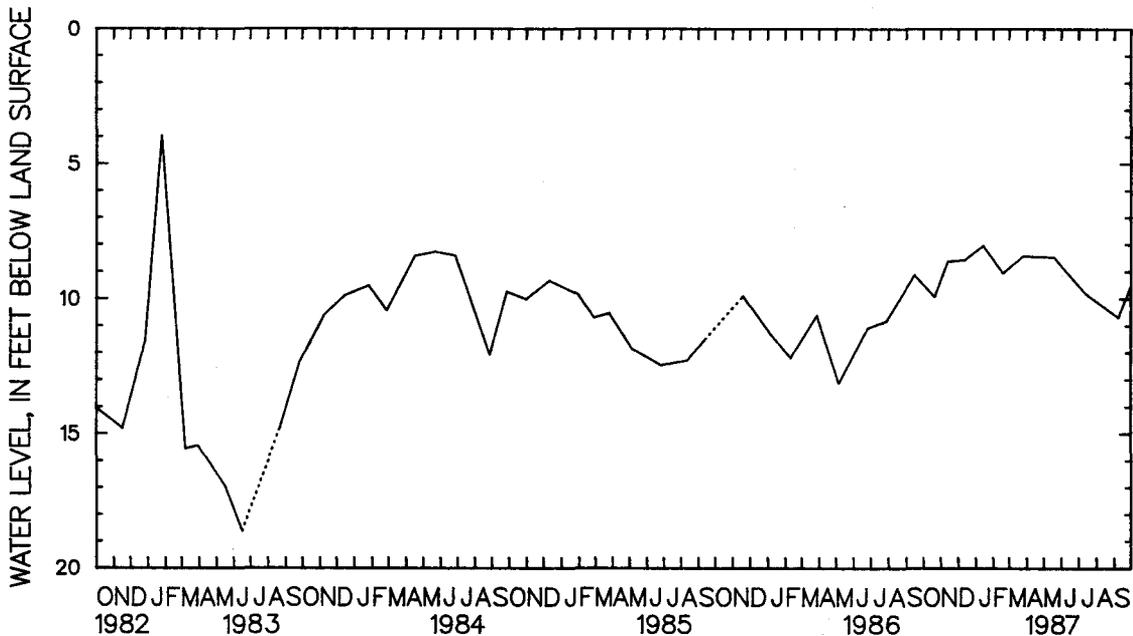
Measuring point: Top of casing extension, .40 ft below land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.63 ft below land-surface datum, Mar. 8, 1962; lowest measured, 38.02 ft below land-surface datum, Sept. 17, 1970.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL						
OCT 21	9.94	DEC 12	8.57	FEB 18	9.06	MAY 19	8.47	SEP 8	10.70
NOV 13	8.63	JAN 14	8.05	MAR 26	8.42	JUL 13	9.82		



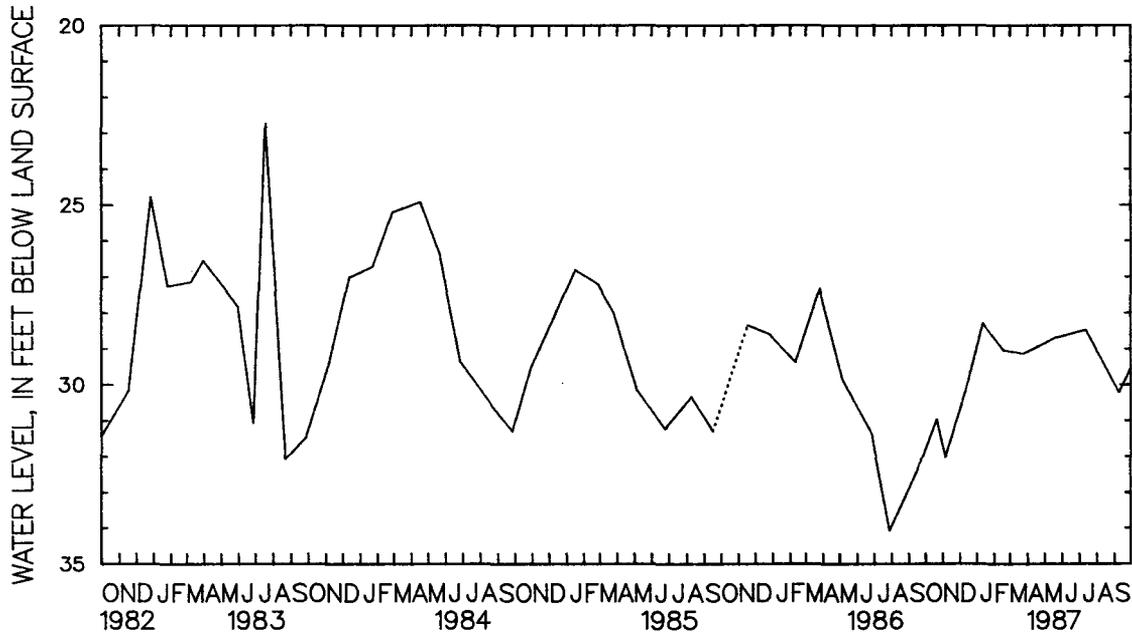
5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

GROUND-WATER LEVELS  
MARYLAND--Continued  
WORCESTER COUNTY--Continued

WELL NUMBER.--WO Fb 2. SITE ID.--380408075335701.  
 LOCATION.--Lat 38°04'08", long 75°33'57", Hydrologic Unit 02060009. nr 7th and Young Sts., Pocomoke City.  
 Owner: City of Pocomoke.  
 AQUIFER.--Pocomoke aquifer.  
 WELL CHARACTERISTICS.--Drilled unused artesian well, depth 130 ft; casing diameter 16 in. with depth to 100 ft; casing diameter 10 in. from 0 to 100 ft; screen diameter 9.5 in. from 100 to 130 ft.  
 INSTRUMENTATION.--Measurements with chalked steel tape by USGS personnel.  
 DATUM.--Elevation of land-surface is 15 ft above National Geodetic Vertical Datum of 1929.  
 Measuring point: Top of 1.5 in. casing extension, 3.4 ft above land-surface datum.  
 REMARKS.--Water level reported 30 ft below land-surface datum Oct. 3, 1947; water level may be affected by nearby pumpage.  
 PERIOD OF RECORD.--January 1953 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 21.61 ft below land-surface datum, Feb. 20, 1953; lowest measured, 49.70 ft below land-surface datum, July 1, 1954.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL						
OCT 21	30.97	DEC 11	30.21	FEB 18	29.04	MAY 19	28.70	SEP 9	30.22
NOV 5	32.02	JAN 12	28.30	MAR 25	29.14	JUL 13	28.47		



5 YEAR HYDROGRAPH  
OCTOBER 1, 1982 THROUGH SEPTEMBER 30, 1987

## GROUND-WATER-QUALITY RECORDS

REMARK CODES.--The following remark codes may appear with the water-quality data in this section.

<u>PRINTED OUTPUT</u>	<u>REMARK</u>
E	Estimated
>	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.





## QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

## NEW CASTLE COUNTY, DELAWARE

LOCAL IDENTIFIER	STATION NUMBER	GEO-LOGIC UNIT	DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	DEPTH OF WELL, TOTAL (FEET)	DEPTH TO BOTTOM OF SAMPLE INTERVAL (FT)	DEPTH TO TOP OF SAMPLE INTERVAL (FT)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN)
Eb43-04	393104075425001	211MGTY	09-03-87	--	225.00	225	205	70.0	55
Gb51-03	392043075443101	112CLMB	09-03-87	5.50	8.70	8.7	6.2	70.2	--
Gb51-04	392045075443401	112CLMB	07-17-87	--	10.35	10	7.9	73.2	--
Gb52-03	392048075430301	112CLMB	09-04-87	8.41	33.00	33	28	74.0	--
Hd11-03	391911075345201	112CLMB	09-04-87	6.50	22.50	23	20	12.0	15

LOCAL IDENTIFIER	SAMPLING METHOD, CODES	FLOW RATE, INSTANTANEOUS (GPM)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TEMPERATURE AIR (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARDNESS (MG/L AS CaCO3)	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNESIUM, DIS-SOLVED (MG/L AS Mg)
Eb43-04	4040	7.5	215	7.1	15.5	22.5	0.1	95	29	5.3
Gb51-03	4020	--	71	5.1	18.0	25.0	--	9	2.3	0.71
Gb51-04	4020	--	46	4.7	16.0	24.5	--	6	0.83	1.0
Gb52-03	4020	--	103	6.1	14.0	19.0	5.2	32	8.1	2.9
Hd11-03	4040	1.0	218	4.6	17.0	23.0	7.5	71	10	11

LOCAL IDENTIFIER	SODIUM, DIS-SOLVED (MG/L AS Na)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY WH WAT TOTAL FIELD (MG/L AS CaCO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)
Eb43-04	3.7	8	0.2	3.8	92	5.7	--	0.20	8.4	--
Gb51-03	4.0	45	0.6	1.7	12	12	--	<0.10	11	--
Gb51-04	1.9	36	0.3	1.0	--	11	2.2	--	6.8	--
Gb52-03	7.2	31	0.6	1.7	38	7.8	2.9	0.10	21	76
Hd11-03	4.6	11	0.2	5.4	--	30	12	0.10	11	--

LOCAL IDENTIFIER	NITROGEN, NITRITE DIS-SOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS NH4)	NITROGEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS-SOLVED (MG/L AS N)	PHOSPHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	PHOSPHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)	ALUMINUM, DIS-SOLVED (UG/L AS AL)	ANTI-MONY, DIS-SOLVED (UG/L AS SB)
Eb43-04	<0.010	<0.100	0.120	0.15	0.38	0.50	<0.010	--	<10	<1
Gb51-03	<0.010	<0.100	0.070	0.09	0.73	0.80	<0.010	--	60	<1
Gb51-04	<0.010	<0.100	0.050	0.06	0.45	0.50	--	--	780	--
Gb52-03	<0.010	<0.100	0.080	0.10	--	<0.20	0.040	0.12	20	<1
Hd11-03	<0.010	10.0	<0.010	--	--	0.40	<0.010	--	50	<1

LOCAL IDENTIFIER	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYLLIUM, DIS-SOLVED (UG/L AS BE)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM, DIS-SOLVED (UG/L AS CD)	CHROMIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)
Eb43-04	<1	170	<0.5	30	<1	<5	<3	<10	2100	<10
Gb51-03	<1	96	0.8	10	3	20	<3	<10	4000	<10
Gb51-04	--	--	--	--	--	--	--	--	1600	--
Gb52-03	<1	21	<0.5	<10	1	<5	7	<10	530	20
Hd11-03	<1	120	<0.5	10	<1	<5	<3	<10	87	<10

LOCAL IDENTIFIER	LITHIUM, DIS-SOLVED (UG/L AS LI)	MANGANESE, DIS-SOLVED (UG/L AS MN)	MOLYBDENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELENIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRONTIUM, DIS-SOLVED (UG/L AS SR)	VANADIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)	H-2 / H-1 STABLE ISOTOPE RATIO PER MIL
Eb43-04	<4	32	<10	<10	<1	3	500	<6	11	-42.5
Gb51-03	<4	33	<10	10	<1	2	51	9	98	-31.0
Gb51-04	--	--	--	--	--	--	--	--	--	-32.5
Gb52-03	<4	360	<10	<10	<1	<1	81	<6	68	-44.5
Hd11-03	<4	52	<10	10	<1	<1	150	<6	13	-43.0

Geologic unit (aquifer): 112CLMB - Columbia Formation  
211MGTY - Magothy Formation

Sampling method: 4020 - Bailer  
4040 - Submersible pump



QUALITY OF GROUND WATER  
WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

SUSSEX COUNTY, DELAWARE

LOCAL IDENTIFIER	STATION NUMBER	GEOLOGIC UNIT	DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	DEPTH OF WELL, TOTAL (FEET)	DEPTH TO BOTTOM OF SAMPLE INTERVAL (FT)	DEPTH TO TOP OF SAMPLE INTERVAL (FT)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN)
Me14-21	385411075262901	112CLMB	03-27-87	--	100.00	--	--	20.0	30
Me24-06	385400075262601	112CLMB	11-19-86	--	59.00	59	39	33.0	60
Nd25-03	384819075304601	122MNKN	09-02-87	--	117.00	117	112	50.0	30
Nf22-01	384826075231001	112CLMB	11-19-86	--	76.00	76	56	42.0	20
Nf22-02	384830075230601	112CLMB	11-19-86	--	70.00	70	--	42.0	20
Ni51-31	384524075091602	122FCMK	11-20-86	--	150.00	150	100	16.0	10
Ni51-31	384524075091602	122FCMK	02-05-87	--	150.00	150	100	16.0	--
Ni52-11	384558075083501	122FCMK	11-20-86	11.33	155.00	155	145	16.0	25
Ni52-11	384558075083501	122FCMK	02-05-87	10.57	150.00	155	145	16.0	25
Ni52-12	384558075083502	112CLMB	11-20-86	11.70	80.00	80	70	6.0	35
Ni52-12	384558075083502	112CLMB	02-05-87	9.61	80.00	80	70	16.0	33
Oh25-02	384350075101401	122CPNK	07-14-87	--	410.00	410	390	18.0	290
Oh25-03	384349075101402	122MNKN	11-19-86	--	240.00	240	210	18.0	60
Oh54-01	384038075110001	122MNKN	10-18-86	11.03	290.00	290	280	18.0	20
Oh54-01	384038075110001	122MNKN	11-20-86	11.98	290.00	290	280	18.0	45
Oh54-01	384038075110001	122MNKN	02-05-87	10.29	290.00	290	280	18.0	25
Oh54-02	384038075110002	122FCMK	11-20-86	12.69	189.00	189	179	18.0	40
Oh54-02	384038075110002	122FCMK	02-05-87	10.75	189.00	189	179	18.0	23
Oi23-14	384329075070101	112CLMB	11-19-86	--	102.00	102	82	25.0	20
Oi24-06	384258075063101	122MNKN	02-05-87	--	250.00	250	230	26.0	50
Oi34-01	384257075063101	112CLMB	11-21-86	--	131.00	131	69	23.0	15
Oi34-01	384257075063101	112CLMB	02-05-87	--	131.00	131	69	23.0	--
Pg53-13	383525075174101	122MNKN	12-01-86	--	406.00	255	205	22.0	60
Pg53-13	383525075174101	122MNKN	02-11-87	--	406.00	255	205	22.0	--
Ph13-14	383929075123102	112CLMB	09-01-87	--	75.00	75	70	18.0	--
Ph13-26	383903075123001	122FCMK	09-01-87	8.50	102.00	102	97	20.0	20
Ph13-28	383908075123701	112CLMB	10-22-86	--	93.00	93	63	22.0	1380
Ph13-29	383932075122901	112CLMB	04-14-87	--	45.00	45	--	6.0	15
Ph23-15	383850075123601	112CLMB	10-16-86	--	25.00	25	20	23.6	25
Pj41-04	383646075041801	122FCMK	11-21-86	--	220.00	220	200	10.0	10
Pj41-04	383646075041801	122FCMK	02-08-87	--	220.00	220	200	10.0	--
Qh41-14	383105075140801	112CLMB	04-14-87	1.89	13.30	13	11	30.0	45
Qh52-05	383059075135401	112CLMB	04-14-87	3.29	11.00	11	9.0	30.0	35
Qh54-04	383050075105201	122MNKN	11-21-86	16.00	328.00	328	324	28.0	25
Qh54-04	383050075105201	122MNKN	02-06-87	12.00	328.00	328	324	28.0	25
Qh54-05	383050075105202	122OCNC	11-21-86	16.06	232.00	232	229	28.0	35
Qh54-05	383050075105202	122OCNC	02-06-87	11.96	232.00	232	229	28.0	18
Qh54-06	383050075105203	122FCMK	11-21-86	15.40	148.00	148	144	28.0	20
Qh54-06	383050075105203	122FCMK	02-06-87	11.23	148.00	148	144	28.0	20
Qh54-07	383050075105204	112CLMB	11-21-86	15.32	108.00	108	104	28.0	17
Qh54-07	383050075105204	112CLMB	02-06-87	11.14	108.00	108	104	28.0	20
Qj32-22	383210075035801	122OCNC	11-24-86	--	250.00	250	200	5.0	15
Qj32-22	383210075035801	122OCNC	02-11-87	--	250.00	250	200	5.0	15
Qj41-02	383122075040301	122MNKN	11-24-86	--	366.00	366	341	6.0	20
Qj41-02	383122075040301	122MNKN	02-11-87	--	366.00	366	341	6.0	15
Qj41-07	383123075040202	122OCNC	11-24-86	1.94	294.00	294	284	6.0	45
Qj41-07	383123075040202	122OCNC	02-11-87	-0.08	294.00	294	284	6.0	35
Qj41-08	383123075040203	122FCMK	11-24-86	1.76	210.00	210	200	6.0	30
Qj41-08	383123075040203	122FCMK	02-11-87	-0.07	210.00	210	200	6.0	20
Rj31-07	382721075042601	122FCMK	11-24-86	--	200.00	200	150	5.0	15
Rj31-07	382721075042601	122FCMK	02-11-87	--	200.00	200	150	5.0	--
Rj31-08	382721075042602	122MNKN	11-24-86	--	365.00	365	345	5.0	20

Geologic unit (aquifer): 112CLMB - Columbia Formation  
122MNKN - Manokin Aquifer  
122OCNC - Ocean City Aquifer  
122FCMK - Pocomoke Aquifer

QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

SUSSEX COUNTY, DELAWARE-Continued

LOCAL IDENTIFIER	DATE	SAMPLING METHOD, CODES	FLOW RATE, INSTANTANEOUS (GPM)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TEMPERATURE AIR (DEG C)	OXYGEN, DISSOLVED (MG/L)	HARDNESS (MG/L AS CaCO3)	CALCIUM DISSOLVED (MG/L AS Ca)	MAGNESIUM, DISSOLVED (MG/L AS Mg)
Me14-21	03-27-87	4090	--	175	5.2	16.0	22.0	8.0	51	12	5.1
Me24-06	11-19-86	4040	440	174	4.9	14.5	12.0	8.0	47	8.8	6.0
Nd25-03	09-02-87	4040	1.0	64	6.1	15.0	26.5	0.2	10	2.9	0.73
Nf22-01	11-19-86	4090	--	138	5.1	14.5	11.0	--	38	11	2.6
Nf22-02	11-19-86	4090	--	172	5.2	15.0	11.0	--	48	14	3.1
N151-31	11-20-86	4040	--	116	5.6	13.5	--	--	--	--	--
N151-31	02-05-87	4040	--	107	4.8	14.0	--	--	--	--	--
N152-11	11-20-86	4030	25	70	6.0	14.5	--	--	--	--	--
N152-11	02-05-87	4030	24	68	4.9	14.0	--	--	--	--	--
N152-12	11-20-86	4030	50	235	5.9	14.0	--	--	--	--	--
N152-12	02-05-87	4030	50	239	5.5	14.0	--	--	--	--	--
Oh25-02	07-14-87	4030	2.0	2800	7.8	19.5	32.0	--	210	43	25
Oh25-03	11-19-86	4030	40	95	6.3	15.0	7.5	--	11	2.1	1.4
Oh54-01	10-18-86	4030	8.0	325	--	16.0	--	--	--	--	--
Oh54-01	11-20-86	4030	6.0	325	8.1	16.0	--	--	--	--	--
Oh54-01	02-05-87	4030	11	320	7.1	15.0	--	--	--	--	--
Oh54-02	11-20-86	4030	40	59	5.8	14.5	--	--	--	--	--
Oh54-02	02-05-87	4030	40	54	4.9	14.5	--	--	--	--	--
Oi23-14	11-19-86	4040	--	187	5.5	13.5	9.0	--	38	8.8	3.9
Oi24-06	02-05-87	4030	40	76	6.4	14.5	--	--	--	--	--
Oi34-01	11-21-86	4040	--	160	5.7	14.0	--	--	--	--	--
Oi34-01	02-05-87	4040	--	154	5.8	14.0	--	--	--	--	--
Pg53-13	12-01-86	4040	--	120	6.6	15.0	--	--	--	--	--
Pg53-13	02-11-87	4040	--	126	6.2	15.0	--	--	--	--	--
Ph13-14	09-01-87	8010	--	65	5.7	--	--	--	--	--	--
Ph13-26	09-01-87	4040	1.0	222	5.4	15.5	27.0	6.2	61	16	5.1
Ph13-28	10-22-86	4040	900	230	5.6	15.0	24.5	--	77	17	8.4
Ph13-29	04-14-87	4090	--	66	5.0	15.0	22.5	--	11	3.3	0.66
Ph23-15	10-16-86	4040	1.0	318	4.9	15.0	19.5	--	100	20	13
Pj41-04	11-21-86	4040	--	300	6.8	15.0	--	--	--	--	--
Pj41-04	02-08-87	4040	--	283	6.6	15.0	--	--	--	--	--
Qh41-14	04-14-87	4080	0.2	231	4.5	12.0	16.0	0.4	49	12	4.6
Qh52-05	04-14-87	4080	0.2	159	5.8	12.5	16.0	5.0	64	18	4.6
Qh54-04	11-21-86	4030	8.0	400	6.7	15.0	--	--	--	--	--
Qh54-04	02-06-87	4030	15	363	6.6	15.0	--	--	--	--	--
Qh54-05	11-21-86	4030	12	190	6.6	15.0	--	--	--	--	--
Qh54-05	02-06-87	4030	40	187	6.5	14.5	--	--	--	--	--
Qh54-06	11-21-86	4030	35	205	6.7	14.5	--	--	--	--	--
Qh54-06	02-06-87	4030	40	210	6.6	14.5	--	--	--	--	--
Qh54-07	11-21-86	4030	40	290	6.8	14.5	--	--	--	--	--
Qh54-07	02-06-87	4030	35	298	6.8	14.5	--	--	--	--	--
Qj32-22	11-24-86	4040	--	275	6.6	15.0	--	--	--	--	--
Qj32-22	02-11-87	4040	--	260	6.8	15.5	--	--	--	--	--
Qj41-02	11-24-86	4040	--	370	6.8	16.0	--	--	--	--	--
Qj41-02	02-11-87	4040	--	354	6.7	15.5	--	--	--	--	--
Qj41-07	11-24-86	4030	35	280	6.7	15.5	--	--	--	--	--
Qj41-07	02-11-87	4030	40	268	6.7	15.5	--	--	--	--	--
Qj41-08	11-24-86	4030	9.0	280	6.8	15.5	--	--	--	--	--
Qj41-08	02-11-87	4030	12	282	6.8	15.0	--	--	--	--	--
Rj31-07	11-24-86	4040	--	215	6.4	15.5	--	--	--	--	--
Rj31-07	02-11-87	4040	--	220	6.8	15.5	--	--	--	--	--
Rj31-08	11-24-86	4040	125	250	6.4	17.0	--	--	--	--	--

Sampling method: 4030 - Suction pump  
 4040 - Submersible pump  
 4080 - Peristaltic pump  
 4090 - Jet pump  
 8010 - Turbine pump

## QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

SUSSEX COUNTY, DELAWARE-Continued

LOCAL IDENTIFIER	DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY WH WAT TOTAL FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)
Me14-21	03-27-87	7.2	21	0.5	5.2	--	2.8	18	--	15	--
Me24-06	11-19-86	9.2	28	0.6	4.0	2	5.8	18	--	15	--
Nd25-03	09-02-87	7.6	59	1	1.0	26	1.8	4.3	0.10	35	--
Nf22-01	11-19-86	7.9	29	0.6	2.3	3	1.6	10	--	16	--
Nf22-02	11-19-86	9.7	29	0.6	2.6	3	0.7	10	--	16	--
N151-31	11-20-86	--	--	--	--	8	--	16	--	--	--
N151-31	02-05-87	--	--	--	--	2	--	15	--	--	--
N152-11	11-20-86	--	--	--	--	11	--	13	--	--	--
N152-11	02-05-87	--	--	--	--	8	--	12	--	--	--
N152-12	11-20-86	--	--	--	--	9	--	23	--	--	--
N152-12	02-05-87	--	--	--	--	8	--	24	--	--	--
Oh25-02	07-14-87	540	84	17	13	265	290	600	0.40	49	1630
Oh25-03	11-19-86	11	63	1	2.4	24	9.6	14	<0.10	26	69
Oh54-01	10-18-86	--	--	--	--	--	--	80	--	--	--
Oh54-01	11-20-86	--	--	--	--	158	--	9.0	--	--	--
Oh54-01	02-05-87	--	--	--	--	150	--	9.5	--	--	--
Oh54-02	11-20-86	--	--	--	--	95	--	9.0	--	--	--
Oh54-02	02-05-87	--	--	--	--	6	--	90	--	--	--
O123-14	11-19-86	16	46	1	2.2	7	1.4	18	--	14	--
O124-06	02-05-87	--	--	--	--	15	--	12	--	--	--
O134-01	11-21-86	--	--	--	--	9	--	20	--	--	--
O134-01	02-05-87	--	--	--	--	10	--	19	--	--	--
Pg53-13	12-01-86	--	--	--	--	55	--	6.0	--	--	--
Pg53-13	02-11-87	--	--	--	--	--	--	7.0	--	--	--
Ph13-14	09-01-87	--	--	--	--	--	--	--	--	--	--
Ph13-26	09-01-87	12	29	0.7	2.3	6	3.0	16	<0.10	19	--
Ph13-28	10-22-86	11	23	0.6	2.2	6	6.2	19	--	18	--
Ph13-29	04-14-87	8.9	61	1	1.3	9	0.4	11	--	21	--
Ph23-15	10-16-86	6.9	12	0.3	6.5	4	12	16	--	15	--
Pj41-04	11-21-86	--	--	--	--	96	--	41	--	--	--
Pj41-04	02-08-87	--	--	--	--	81	--	44	--	--	--
Qh41-14	04-14-87	21	47	1	2.8	0	55	21	--	14	--
Qh52-05	04-14-87	2.6	8	0.1	4.5	--	18	3.6	--	5.3	--
Qh54-04	11-21-86	--	--	--	--	155	--	32	--	--	--
Qh54-04	02-06-87	--	--	--	--	148	--	31	--	--	--
Qh54-05	11-21-86	--	--	--	--	95	--	10	--	--	--
Qh54-05	02-06-87	--	--	--	--	83	--	11	--	--	--
Qh54-06	11-21-86	--	--	--	--	102	--	12	--	--	--
Qh54-06	02-06-87	--	--	--	--	100	--	13	--	--	--
Qh54-07	11-21-86	--	--	--	--	145	--	13	--	--	--
Qh54-07	02-06-87	--	--	--	--	145	--	13	--	--	--
Qj32-22	11-24-86	--	--	--	--	134	--	15	--	--	--
Qj32-22	02-11-87	--	--	--	--	--	--	15	--	--	--
Qj41-02	11-24-86	--	--	--	--	145	--	39	--	--	--
Qj41-02	02-11-87	--	--	--	--	--	--	43	--	--	--
Qj41-07	11-24-86	--	--	--	--	135	--	13	--	--	--
Qj41-07	02-11-87	--	--	--	--	--	--	14	--	--	--
Qj41-08	11-24-86	--	--	--	--	138	--	13	--	--	--
Qj41-08	02-11-87	--	--	--	--	--	--	12	--	--	--
Rj31-07	11-24-86	--	--	--	--	102	--	15	--	--	--
Rj31-07	02-11-87	--	--	--	--	--	--	15	--	--	--
Rj31-08	11-24-86	--	--	--	--	90	--	34	--	--	--

QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

SUSSEX COUNTY, DELAWARE-Continued

LOCAL IDENTIFIER	DATE	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS NH4)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)
Me14-21	03-27-87	68	--	11.0	<0.010	--	--	0.80	0.010	--	--
Me24-06	11-19-86	68	--	10.0	<0.010	--	--	0.40	<0.010	--	--
Nd25-03	09-02-87	73	<0.010	<0.100	0.030	0.04	0.17	0.20	--	<0.010	--
Nf22-01	11-19-86	53	--	11.0	<0.010	--	--	1.3	<0.010	--	--
Nf22-02	11-19-86	58	--	15.0	<0.010	--	--	0.70	<0.010	--	--
Oh25-02	07-14-87	1700	--	<0.100	--	--	--	--	--	0.030	0.09
Oh25-03	11-19-86	83	--	<0.100	--	--	--	--	--	0.030	0.09
Oi23-14	11-19-86	69	--	12.0	<0.010	--	--	0.50	<0.010	--	--
Ph13-26	09-01-87	77	<0.010	16.0	<0.010	--	--	1.9	--	<0.010	--
Ph13-28	10-22-86	85	--	18.0	<0.010	--	--	0.80	0.010	--	--
Ph13-29	04-14-87	52	--	2.80	<0.010	--	--	0.50	0.010	--	--
Ph23-15	10-16-86	92	--	28.0	<0.010	--	--	1.3	0.020	--	--
Qh41-14	04-14-87	130	--	1.60	0.070	0.09	0.83	0.90	<0.010	--	--
Qh52-05	04-14-87	81	--	3.70	<0.010	--	--	1.0	0.010	--	--

LOCAL IDENTIFIER	DATE	ALUMINUM, DIS-SOLVED (UG/L AS AL)	ANTI-MONY, DIS-SOLVED (UG/L AS SB)	ARSENIC, DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYLLIUM, DIS-SOLVED (UG/L AS BE)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM, DIS-SOLVED (UG/L AS CD)	CHROMIUM, DIS-SOLVED (UG/L AS CR)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)
Me14-21	03-27-87	--	--	--	--	--	<10	--	--	--	--
Me24-06	11-19-86	--	--	--	--	--	<10	--	--	--	--
Nd25-03	09-02-87	<10	2	14	25	<0.5	<10	<1	<5	20	<10
Nf22-01	11-19-86	--	--	--	--	--	10	--	--	--	--
Nf22-02	11-19-86	--	--	--	--	--	<10	--	--	--	--
Oi23-14	11-19-86	--	--	--	--	--	<10	--	--	--	--
Ph13-26	09-01-87	<10	<1	--	130	<0.5	<10	<1	<5	<3	<10
Ph13-29	10-22-86	--	--	--	--	--	<10	--	--	--	--
Qh41-14	04-14-87	--	--	--	--	--	20	--	--	--	--
Qh52-05	04-14-87	--	--	--	--	--	20	--	--	--	--

LOCAL IDENTIFIER	DATE	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	LITHIUM, DIS-SOLVED (UG/L AS LI)	MANGANESE, DIS-SOLVED (UG/L AS MN)	MOLYBDENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELENIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRONTIUM, DIS-SOLVED (UG/L AS SR)	VANADIUM, DIS-SOLVED (UG/L AS V)
Me14-21	03-27-87	19	--	--	--	--	--	--	--	--	--
Me24-06	11-19-86	7	--	--	--	--	--	--	--	--	--
Nd25-03	09-02-87	3200	<10	<4	190	<10	<10	<1	1	51	<6
Nf22-01	11-19-86	3	--	--	--	--	--	--	--	--	--
Nf22-02	11-19-86	25	--	--	--	--	--	--	--	--	--
Oh25-02	07-14-87	20	--	--	20	--	--	--	--	--	--
Oh25-03	11-19-86	1500	--	--	27	--	--	--	--	--	--
Oi23-14	11-19-86	10	--	--	--	--	--	--	--	--	--
Ph13-26	09-01-87	6	<10	<4	8	<10	<10	1	<1	380	<6
Ph13-28	10-22-86	11	--	--	--	--	--	--	--	--	--
Ph13-29	04-14-87	5	--	--	--	--	--	--	--	--	--
Ph23-15	10-16-86	10	--	--	--	--	--	--	--	--	--
Qh41-14	04-14-87	240	--	--	--	--	--	--	--	--	--
Qh52-05	04-14-87	6	--	--	--	--	--	--	--	--	--

LOCAL IDENTIFIER	DATE	ZINC, DIS-SOLVED (UG/L AS ZN)	H-2 / H-1 STABLE ISOTOPE RATIO PER MIL	O-18 / O-16 STABLE ISOTOPE RATIO PER MIL	TRITIUM TOTAL (PCI/L)	GROSS ALPHA, DIS-SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS-SOLVED (PCI/L AS SR/ YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90)
Nd25-03	09-02-87	16	-40.5	-6.8	--	<0.4	<0.4	0.9	<0.4	0.8	<0.4
Ph13-14	09-01-87	--	-38.0	-6.6	38	--	--	--	--	--	--
Ph13-26	09-01-87	13	-40.0	-7.0	120	0.7	<0.4	2.8	<0.4	2.3	<0.4



QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

ANNE ARUNDEL COUNTY, MARYLAND

LOCAL IDENTIFIER	STATION NUMBER	GEO-LOGIC UNIT	DATE	DEPTH BELOW SURFACE (WATER LEVEL) (FEET)	DEPTH OF WELL, TOTAL (FEET)	DEPTH TO BOTTOM OF SAMPLE INTERVAL (FT)	DEPTH TO TOP OF SAMPLE INTERVAL (FT)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN)
AA De 140	385920076322401	125AQUI	12-11-86	37.21	45.00	42	32	85.3	--
AA De 140	385920076322401	125AQUI	04-29-87	36.25	45.00	42	32	85.3	--
AA De 140	385920076322401	125AQUI	05-04-87	36.35	45.00	42	32	85.3	--
AA De 140	385920076322401	125AQUI	09-09-87	26.66	45.00	42	32	85.3	--
AA De 142	385928076321701	125AQUI	12-12-86	27.27	37.00	34	24	70.0	--
AA De 142	385928076321701	125AQUI	04-29-87	26.90	37.00	34	24	70.0	--
AA De 143	385928076321702	125AQUI	12-12-86	27.39	46.00	43	33	69.9	2
AA De 155	385927076321704	125AQUI	12-12-86	13.05	60.00	57	47	56.3	--
AA De 156	385927076321703	125AQUI	12-12-86	12.40	39.00	34	24	55.9	1
AA De 156	385927076321703	125AQUI	04-29-87	11.82	39.00	34	24	55.9	--
AA De 157	385927076321702	125AQUI	12-10-86	11.92	24.00	20	10	55.7	10
AA De 157	385927076321702	125AQUI	04-29-87	11.47	24.00	20	10	55.7	--
AA De 157	385927076321702	125AQUI	05-04-87	11.60	24.00	20	10	55.7	--
AA De 157	385927076321702	125AQUI	09-09-87	12.08	24.00	20	10	55.7	--
AA De 157	385927076321702	125AQUI	09-11-87	11.88	24.00	20	10	55.7	--
AA De 161	385854076333202	217PPSC	01-15-87	91.00	1670.00	1640	1550	85.0	120

LOCAL IDENTIFIER	DATE	SAMPLING METHOD, CODES	FLOW RATE, INSTANTANEOUS (GFM)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	COLOR (PLATINUM-COBALT UNITS)	OXYGEN, DISSOLVED (MG/L)	HARDNESS (MG/L AS CaCO3)	CALCIUM, DISSOLVED (MG/L AS Ca)	MAGNESIUM, DISSOLVED (MG/L AS Mg)
AA De 140	12-11-86	4020	--	36	5.0	11.0	--	--	8	1.9	0.80
AA De 140	04-29-87	4020	--	30	5.3	14.0	--	9.6	7	1.3	0.90
AA De 140	05-04-87	4020	--	44	5.4	12.5	--	--	12	3.5	0.70
AA De 140	09-09-87	4020	--	36	5.1	14.5	--	--	5	0.95	0.60
AA De 142	12-12-86	4020	0.2	93	4.9	13.5	--	--	30	6.9	3.1
AA De 142	04-29-87	4020	--	64	5.4	16.5	--	6.2	18	3.4	2.4
AA De 143	12-12-86	4020	1.5	120	5.1	15.5	--	--	35	8.2	3.5
AA De 155	12-12-86	4020	--	74	4.9	12.0	--	--	18	4.6	1.5
AA De 156	12-12-86	4020	3.0	230	4.6	14.0	--	--	76	15	9.4
AA De 156	04-29-87	4020	--	372	4.9	14.0	--	5.3	--	--	--
AA De 157	12-10-86	4020	0.9	345	4.9	17.0	--	--	94	24	8.3
AA De 157	04-29-87	4020	--	135	5.2	13.5	--	4.4	27	6.5	2.5
AA De 157	05-04-87	4020	--	140	5.2	12.0	--	--	29	7.1	2.7
AA De 157	09-09-87	4020	--	630	4.7	16.5	--	2.4	110	29	10
AA De 157	09-11-87	4020	--	600	4.6	18.0	--	2.6	130	31	12
AA De 161	01-15-87	4040	300	113	6.4	22.0	7	--	18	4.2	1.9

LOCAL IDENTIFIER	DATE	SODIUM, DISSOLVED (MG/L AS Na)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY, WH WAT TOTAL FIELD (MG/L AS CaCO3)	SULFATE, DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	IODIDE, DISSOLVED (MG/L AS I)	BROMIDE, DISSOLVED (MG/L AS BR)
AA De 140	12-11-86	1.5	23	0.2	2.2	--	2.8	10	<0.10	--	--
AA De 140	04-29-87	2.1	34	0.4	1.6	4	0.3	4.3	<0.10	0.001	0.024
AA De 140	05-04-87	1.8	22	0.2	1.7	3	6.3	4.4	<0.10	<0.001	0.025
AA De 140	09-09-87	1.9	37	0.4	1.7	--	0.4	4.9	0.10	--	--
AA De 142	12-12-86	4.0	21	0.3	2.5	3	5.8	22	<0.10	--	--
AA De 142	04-29-87	3.8	28	0.4	1.9	5	0.3	13	<0.10	0.001	0.012
AA De 143	12-12-86	4.9	21	0.4	4.0	3	4.5	28	0.20	--	--
AA De 155	12-12-86	3.5	26	0.4	2.8	--	14	8.8	0.10	--	--
AA De 156	12-12-86	10	21	0.5	5.8	--	1.4	72	<0.10	--	--
AA De 156	04-29-87	--	--	--	--	2	--	--	--	--	--
AA De 157	12-10-86	22	32	1	6.0	--	3.8	100	<0.10	--	--
AA De 157	04-29-87	10	42	0.9	2.9	5	0.4	30	<0.10	0.005	0.027
AA De 157	05-04-87	11	42	0.9	3.1	4	0.4	42	<0.10	0.004	0.026
AA De 157	09-09-87	44	44	2	6.2	--	1.5	170	0.10	--	--
AA De 157	09-11-87	49	44	2	7.6	--	0.6	170	0.10	--	--
AA De 161	01-15-87	3.2	23	0.3	3.7	--	11	2.2	0.10	--	--

Geologic unit (aquifer): 125AQUI - Aquia Formation

Sampling method: 4020 - Bailer  
4040 - Submersible pump









## QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

## CALVERT COUNTY, MARYLAND

LOCAL IDENTIFIER	DATE	TIME	STATION NUMBER	GEOLOGIC UNIT	SITE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	DEPTH OF WELL, TOTAL (FEET)	DEPTH TO BOTTOM OF SAMPLE INTERVAL (FT)	DEPTH TO TOP OF SAMPLE INTERVAL (FT)
CA Db 66	12-15-86	1500	383216076351402	112UPLD	GW	25.53	34.00	31	21
CA Db 67	12-15-86	1530	383216076351403	112UPLD	GW	25.60	31.00	28	18
CA Db 67	05-18-87	1100	383216076351403	112UPLD	GW	21.30	31.00	28	18
CA Db 69	12-16-86	1230	383217076351802	112UPLD	GW	29.13	39.00	36	26
CA Db 69	09-09-87	1000	383217076351802	112UPLD	GW	29.07	39.00	36	26
CA Db 70	12-16-86	1300	383217076351803	112UPLD	GW	28.67	35.00	32	22
CA Db 70	05-18-87	1200	383217076351803	112UPLD	GW	26.07	35.00	32	22
CA Db 72	12-16-86	1030	383217076351702	112UPLD	GW	27.31	35.00	32	22
CA Db 73	12-15-86	0930	383217076351703	112UPLD	GW	26.43	32.00	29	19
CA Db 73	05-18-87	1300	383217076351703	112UPLD	GW	23.89	32.00	29	19
CA Db 73	06-13-87	2230	383217076351703	112UPLD	GW	23.85	32.00	29	19
CA Db 73	09-09-87	0900	383217076351703	112UPLD	GW	25.25	32.00	29	19
CA Db 73	09-11-87	1030	383217076351703	112UPLD	GW	25.28	32.00	29	19
CA Db 84	09-02-87	1100	383218076351703	112UPLD	LYS	--	2.12	1.6	1.3
CA Db 84	09-11-87	0900	383218076351703	112UPLD	LYS	--	2.12	1.6	1.3
CA Fc 13	10-02-86	1130	382343076302901	122CSPK	GW	29.69	35.00	35	30
CA Fc 13	12-11-86	1110	382343076302901	122CSPK	GW	30.38	35.00	35	30
CA Fc 13	12-11-86	1115	382343076302901	122CSPK	GW	30.38	35.00	35	30
CA Fc 13	12-11-86	1220	382343076302901	122CSPK	GW	30.38	35.00	35	30
CA Fc 13	12-11-86	1225	382343076302901	122CSPK	GW	30.38	35.00	35	30
CA Fc 13	01-07-87	1145	382343076302901	122CSPK	GW	29.29	35.00	35	30
CA Fc 13	01-07-87	1150	382343076302901	122CSPK	GW	29.29	35.00	35	30
CA Fc 13	02-27-87	1430	382343076302901	122CSPK	GW	27.22	35.00	35	30
CA Fc 13	03-02-87	0855	382343076302901	122CSPK	GW	27.02	35.00	35	30
CA Fc 13	03-03-87	1200	382343076302901	122CSPK	GW	27.02	35.00	35	30
CA Fc 13	03-04-87	1105	382343076302901	122CSPK	GW	27.04	35.00	35	30
CA Fc 13	03-25-87	1200	382343076302901	122CSPK	GW	26.76	35.00	35	30
CA Fc 13	04-28-87	1210	382343076302901	122CSPK	GW	27.14	34.00	35	30
CA Fc 13	05-26-87	1135	382343076302901	122CSPK	GW	27.45	35.00	35	30
CA Fc 13	07-06-87	0955	382343076302901	122CSPK	GW	27.89	35.00	35	30
CA Fc 13	08-17-87	1020	382343076302901	122CSPK	GW	28.44	35.00	35	30
CA Fc 13	08-17-87	1100	382343076302901	122CSPK	GW	28.44	35.00	35	30
CA Fc 13	09-01-87	1345	382343076302901	122CSPK	GW	28.72	35.00	35	30
CA Fc 13	09-01-87	1400	382343076302901	122CSPK	GW	28.72	35.00	35	30
CA Fc 14	03-03-87	1540	382343076302902	122CSPK	GW	27.10	30.00	30	25
CA Fc 14	03-04-87	1400	382343076302902	122CSPK	GW	27.38	30.00	30	25
CA Fc 14	07-06-87	1335	382343076302902	122CSPK	GW	28.12	30.00	30	25
CA Fc 14	08-17-87	1310	382343076302902	122CSPK	GW	28.62	30.00	30	25
CA Fc 15	10-01-86	1330	382340076303001	122CSPK	GW	17.17	37.00	37	32
CA Fc 15	12-10-86	1200	382340076303001	122CSPK	GW	17.86	37.00	37	32
CA Fc 15	12-10-86	1400	382340076303001	122CSPK	GW	17.86	37.00	37	32
CA Fc 15	01-06-87	1140	382340076303001	122CSPK	GW	16.77	37.00	37	32
CA Fc 15	03-24-87	1350	382340076303001	122CSPK	GW	14.88	37.00	37	32
CA Fc 15	04-29-87	1445	382340076303001	122CSPK	GW	15.15	37.00	37	32
CA Fc 15	05-27-87	1010	382340076303001	122CSPK	GW	15.19	37.00	37	32
CA Fc 15	07-06-87	1505	382340076303001	122CSPK	GW	15.62	37.00	37	32
CA Fc 15	08-17-87	1510	382340076303001	122CSPK	GW	16.09	37.00	37	32
CA Fc 15	08-17-87	1545	382340076303001	122CSPK	GW	16.09	37.00	37	32
CA Fc 15	09-01-87	1215	382340076303001	122CSPK	GW	16.31	37.00	37	32
CA Fc 16	10-01-86	1400	382340076303002	122CSPK	GW	17.49	24.00	24	19
CA Fc 16	11-14-86	1315	382340076303002	122CSPK	GW	--	24.00	24	19
CA Fc 16	12-10-86	1130	382340076303002	122CSPK	GW	18.10	24.00	24	19
CA Fc 16	12-10-86	1305	382340076303002	122CSPK	GW	18.10	24.00	24	19
CA Fc 16	01-06-87	1300	382340076303002	122CSPK	GW	16.95	24.00	24	19
CA Fc 16	02-27-87	1315	382340076303002	122CSPK	GW	15.15	24.00	24	19
CA Fc 16	03-01-87	2220	382340076303002	122CSPK	GW	14.93	24.00	24	19
CA Fc 16	03-02-87	1325	382340076303002	122CSPK	GW	14.96	24.00	24	19
CA Fc 16	03-03-87	1545	382340076303002	122CSPK	GW	14.99	24.00	24	19
CA Fc 16	03-04-87	1440	382340076303002	122CSPK	GW	14.95	24.00	24	19
CA Fc 16	03-24-87	1240	382340076303002	122CSPK	GW	14.95	24.00	24	19
CA Fc 16	04-29-87	1310	382340076303002	122CSPK	GW	15.24	24.00	24	19
CA Fc 16	05-27-87	1110	382340076303002	122CSPK	GW	15.49	24.00	24	19
CA Fc 16	07-06-87	1350	382340076303002	122CSPK	GW	15.89	24.00	24	19
CA Fc 16	08-18-87	1100	382340076303002	122CSPK	GW	16.44	24.00	24	19
CA Fc 16	09-01-87	1110	382340076303002	122CSPK	GW	16.62	24.00	24	19

Geologic unit (aquifer): 112UPLD - Upland Deposits  
122CSPK - Chesapeake Group

Site type: GW - Ground Water  
LYS - Lysimeter

QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

CALVERT COUNTY, MARYLAND-Continued

LOCAL IDENTIFIER	DATE	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN)	SAMPLING METHOD, CODES	FLOW RATE, INSTANTANEOUS (GPM)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	HARDNESS (MG/L AS CaCO3)	ACIDITY (MG/L AS H)
CA Db 66	12-15-86	170	5	4020	3.0	351	6.5	16.0	--	180	--
CA Db 67	12-15-86	170	7	4020	0.2	175	6.0	14.5	--	69	--
CA Db 67	05-18-87	170	--	4020	--	163	6.3	15.0	--	56	--
CA Db 69	12-16-86	168	13	4020	1.2	980	4.4	16.0	--	190	0.4
CA Db 69	09-09-87	168	--	4020	--	240	4.9	14.5	0.2	30	--
CA Db 70	12-16-86	167	--	4020	--	347	5.0	16.0	--	44	--
CA Db 70	05-18-87	167	--	4020	--	180	5.6	15.0	--	30	--
CA Db 72	12-16-86	167	6	4020	1.1	815	5.6	15.5	--	210	--
CA Db 73	12-15-86	167	5	4020	0.7	648	5.9	15.5	--	190	--
CA Db 73	05-18-87	167	--	4020	--	740	5.6	15.0	--	140	--
CA Db 73	06-13-87	167	--	4020	--	835	5.5	18.5	--	160	--
CA Db 73	09-09-87	167	--	4020	--	820	5.4	16.5	1.6	150	--
CA Db 73	09-11-87	167	--	4020	--	860	5.4	17.5	1.0	160	--
CA Db 84	09-02-87	167	--	4080	--	640	7.9	27.5	--	180	--
CA Db 84	09-11-87	167	--	4080	--	480	7.7	30.5	--	200	--
CA Fc 13	10-02-86	51.0	40	4040	0.3	635	7.3	18.0	--	--	--
CA Fc 13	12-11-86	51.0	--	4020	--	685	7.3	15.0	--	--	--
CA Fc 13	12-11-86	51.0	--	4020	--	685	7.3	15.0	--	--	--
CA Fc 13	12-11-86	51.0	70	4040	0.8	620	7.2	15.0	--	--	--
CA Fc 13	12-11-86	51.0	70	4040	0.8	620	7.2	15.0	--	--	--
CA Fc 13	01-07-87	51.0	75	4040	1.0	650	7.2	16.0	5.0	--	--
CA Fc 13	01-07-87	51.0	75	4040	1.0	650	7.2	16.0	5.0	--	--
CA Fc 13	02-27-87	51.0	60	4040	0.8	680	6.9	14.0	--	--	--
CA Fc 13	03-02-87	51.0	60	4040	1.0	660	7.1	14.5	--	--	--
CA Fc 13	03-03-87	51.0	75	4040	0.8	665	6.8	13.0	--	--	--
CA Fc 13	03-04-87	51.0	70	4040	1.0	683	6.9	13.5	--	--	--
CA Fc 13	03-25-87	51.0	60	4040	1.0	654	7.2	16.0	5.5	--	--
CA Fc 13	04-28-87	51.0	90	4040	0.8	488	7.2	14.0	--	--	--
CA Fc 13	05-26-87	51.0	65	4040	0.8	540	7.2	15.0	6.1	--	--
CA Fc 13	07-06-87	51.0	65	4040	0.5	578	7.1	15.0	7.0	--	--
CA Fc 13	08-17-87	51.0	60	4040	0.8	588	7.1	15.0	7.1	--	--
CA Fc 13	08-17-87	51.0	60	4040	0.8	588	7.1	15.0	7.1	--	--
CA Fc 13	09-01-87	51.0	85	4020	0.8	610	7.1	16.0	6.6	320	--
CA Fc 13	09-01-87	51.0	85	4020	0.8	610	7.1	16.0	6.6	320	--
CA Fc 14	03-03-87	51.0	--	4020	--	668	7.4	13.0	--	--	--
CA Fc 14	03-04-87	51.0	--	4020	--	645	7.2	13.5	--	--	--
CA Fc 14	07-06-87	51.0	--	4020	--	552	7.0	14.5	9.2	--	--
CA Fc 14	08-17-87	51.0	--	4020	--	619	7.0	16.0	8.6	--	--
CA Fc 15	10-01-86	32.0	45	4040	1.0	655	7.2	17.5	--	--	--
CA Fc 15	12-10-86	32.0	0	4020	0	600	7.3	15.0	--	--	--
CA Fc 15	12-10-86	32.0	60	4040	1.0	600	7.3	15.0	--	--	--
CA Fc 15	01-06-87	32.0	65	4040	1.2	622	7.2	15.0	5.0	--	--
CA Fc 15	03-24-87	32.0	60	4040	0.8	579	7.3	15.5	5.8	--	--
CA Fc 15	04-29-87	32.0	90	4040	1.0	481	7.3	15.0	5.8	--	--
CA Fc 15	05-27-87	32.0	60	4040	1.0	482	7.3	13.5	7.6	--	--
CA Fc 15	07-06-87	32.0	65	4040	0.4	543	7.3	13.5	8.1	--	--
CA Fc 15	08-17-87	32.0	65	4040	0.8	597	7.3	15.0	7.7	--	--
CA Fc 15	08-17-87	32.0	65	4040	0.8	597	7.3	15.0	7.7	--	--
CA Fc 15	09-01-87	32.0	65	4020	1.0	574	7.3	15.0	7.1	270	--
CA Fc 16	10-01-86	32.0	30	4040	0.8	595	7.1	18.0	--	--	--
CA Fc 16	11-14-86	32.0	60	4040	0.3	605	7.3	15.0	--	290	<0.1
CA Fc 16	12-10-86	32.0	0	4020	0	605	7.3	15.0	--	--	--
CA Fc 16	12-10-86	32.0	60	4040	0.5	605	7.4	15.0	--	--	--
CA Fc 16	01-06-87	32.0	90	4040	1.0	620	7.3	15.0	6.0	--	--
CA Fc 16	02-27-87	32.0	60	4040	1.0	635	7.1	14.0	--	--	--
CA Fc 16	03-01-87	32.0	60	4040	1.0	630	7.2	15.0	--	--	--
CA Fc 16	03-02-87	32.0	60	4040	0.8	650	7.2	12.5	--	--	--
CA Fc 16	03-03-87	32.0	70	4040	0.8	600	7.3	13.0	--	--	--
CA Fc 16	03-04-87	32.0	65	4040	1.0	627	7.2	12.5	--	--	--
CA Fc 16	03-24-87	32.0	120	4040	1.0	640	7.3	15.0	7.0	--	--
CA Fc 16	04-29-87	32.0	90	4040	1.0	494	7.4	14.5	6.4	--	--
CA Fc 16	05-27-87	32.0	55	4040	1.0	498	7.3	13.5	7.1	--	--
CA Fc 16	07-06-87	32.0	65	4040	0.5	550	7.2	13.0	7.7	--	--
CA Fc 16	08-18-87	32.0	60	4040	0.8	582	7.3	15.0	7.0	--	--
CA Fc 16	09-01-87	32.0	65	4020	0.8	578	7.3	15.0	7.5	280	--

Sampling method: 4020 - Bailer  
 4040 - Submersible pump  
 4080 - Peristaltic pump

## QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

## CALVERT COUNTY, MARYLAND-Continued

LOCAL IDENTIFIER	DATE	ACIDITY (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNESIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD-SORPTION RATIO	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY TOTAL FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)
CA Db 66	12-15-86	--	66	4.5	3.8	4	0.1	2.5	138	19	2.5
CA Db 67	12-15-86	--	20	4.5	6.3	16	0.3	4.9	64	19	2.8
CA Db 67	05-18-87	--	18	3.8	5.6	17	0.3	4.6	58	9.1	5.5
CA Db 69	12-16-86	20	15	37	110	55	4	3.2	--	4.2	310
CA Db 69	09-09-87	--	1.9	6.0	40	74	3	1.3	10	15	60
CA Db 70	12-16-86	--	9.3	5.1	55	72	4	2.4	--	8.2	83
CA Db 70	05-18-87	--	7.0	3.0	21	57	2	3.5	46	11	7.9
CA Db 72	12-16-86	--	51	19	93	49	3	4.1	76	21	220
CA Db 73	12-15-86	--	54	14	61	40	2	4.0	78	18	160
CA Db 73	05-18-87	--	28	16	69	51	3	5.0	54	19	170
CA Db 73	06-13-87	--	28	21	95	57	3	0.60	47	15	230
CA Db 73	09-09-87	--	28	19	86	55	3	3.0	54	12	220
CA Db 73	09-11-87	--	30	20	94	56	3	3.1	38	13	220
CA Db 84	09-02-87	--	7.7	40	57	--	2	--	193	12	--
CA Db 84	09-11-87	--	7.6	44	51	--	2	--	164	13	73
CA Fc 13	10-02-86	--	--	--	--	--	--	--	265	--	--
CA Fc 13	12-11-86	--	--	--	--	--	--	--	290	--	--
CA Fc 13	12-11-86	--	--	--	--	--	--	--	290	--	--
CA Fc 13	12-11-86	--	--	--	--	--	--	--	261	--	--
CA Fc 13	12-11-86	--	--	--	--	--	--	--	261	--	--
CA Fc 13	01-07-87	--	--	--	--	--	--	--	263	--	--
CA Fc 13	01-07-87	--	--	--	--	--	--	--	263	--	--
CA Fc 13	02-27-87	--	--	--	--	--	--	--	279	--	--
CA Fc 13	03-02-87	--	--	--	--	--	--	--	267	--	--
CA Fc 13	03-03-87	--	--	--	--	--	--	--	273	--	--
CA Fc 13	03-04-87	--	--	--	--	--	--	--	270	--	--
CA Fc 13	03-25-87	--	--	--	--	--	--	--	258	--	--
CA Fc 13	04-28-87	--	--	--	--	--	--	--	258	--	--
CA Fc 13	05-26-87	--	--	--	--	--	--	--	246	--	--
CA Fc 13	07-06-87	--	--	--	--	--	--	--	251	--	--
CA Fc 13	08-17-87	--	--	--	--	--	--	--	249	--	--
CA Fc 13	08-17-87	--	--	--	--	--	--	--	249	--	--
CA Fc 13	09-01-87	--	110	9.9	8.5	5	0.2	6.0	280	19	13
CA Fc 13	09-01-87	--	110	10	8.7	6	0.2	6.9	280	19	13
CA Fc 14	03-03-87	--	--	--	--	--	--	--	260	--	--
CA Fc 14	03-04-87	--	--	--	--	--	--	--	263	--	--
CA Fc 14	07-06-87	--	--	--	--	--	--	--	248	--	--
CA Fc 14	08-17-87	--	--	--	--	--	--	--	253	--	--
CA Fc 15	10-01-86	--	--	--	--	--	--	--	225	--	--
CA Fc 15	12-10-86	--	--	--	--	--	--	--	224	--	--
CA Fc 15	12-10-86	--	--	--	--	--	--	--	218	--	--
CA Fc 15	01-06-87	--	--	--	--	--	--	--	234	--	--
CA Fc 15	03-24-87	--	--	--	--	--	--	--	221	--	--
CA Fc 15	04-29-87	--	--	--	--	--	--	--	151	--	--
CA Fc 15	05-27-87	--	--	--	--	--	--	--	218	--	--
CA Fc 15	07-06-87	--	--	--	--	--	--	--	210	--	--
CA Fc 15	08-17-87	--	--	--	--	--	--	--	218	--	--
CA Fc 15	08-17-87	--	--	--	--	--	--	--	218	--	--
CA Fc 15	09-01-87	--	100	4.3	8.9	7	0.2	3.3	223	16	18
CA Fc 16	10-01-86	--	--	--	--	--	--	--	225	--	--
CA Fc 16	11-14-86	--	110	4.3	9.2	6	0.2	2.9	236	18	21
CA Fc 16	12-10-86	--	--	--	--	--	--	--	260	--	--
CA Fc 16	12-10-86	--	--	--	--	--	--	--	224	--	--
CA Fc 16	01-06-87	--	--	--	--	--	--	--	239	--	--
CA Fc 16	02-27-87	--	--	--	--	--	--	--	220	--	--
CA Fc 16	03-01-87	--	--	--	--	--	--	--	232	--	--
CA Fc 16	03-02-87	--	--	--	--	--	--	--	237	--	--
CA Fc 16	03-03-87	--	--	--	--	--	--	--	236	--	--
CA Fc 16	03-04-87	--	--	--	--	--	--	--	226	--	--
CA Fc 16	03-24-87	--	--	--	--	--	--	--	225	--	--
CA Fc 16	04-29-87	--	--	--	--	--	--	--	160	--	--
CA Fc 16	05-27-87	--	--	--	--	--	--	--	224	--	--
CA Fc 16	07-06-87	--	--	--	--	--	--	--	229	--	--
CA Fc 16	08-18-87	--	--	--	--	--	--	--	210	--	--
CA Fc 16	09-01-87	--	110	4.1	8.8	6	0.2	2.8	226	16	18

QUALITY OF GROUND WATER

429

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

CALVERT COUNTY, MARYLAND-Continued

LOCAL IDENT- I- FIER	DATE	FLUORIDE, DIS- SOLVED (MG/L AS F)	IODIDE, DIS- SOLVED (MG/L AS I)	BROMIDE DIS- SOLVED (MG/L AS BR)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)
CA Db 66	12-15-86	0.10	--	--	6.7	--	210	--	--	--	--
CA Db 67	12-15-86	<0.10	--	--	6.8	--	100	--	--	--	--
CA Db 67	05-18-87	<0.10	0.001	0.019	--	--	--	--	--	--	--
CA Db 69	12-16-86	0.30	--	--	8.5	--	490	--	--	--	--
CA Db 69	09-09-87	0.10	--	--	8.1	--	140	--	--	--	--
CA Db 70	12-16-86	<0.10	--	--	7.7	--	190	--	--	--	--
CA Db 70	05-18-87	<0.10	0.009	0.12	--	--	--	--	--	--	--
CA Db 72	12-16-86	0.20	--	--	13	--	470	--	--	--	--
CA Db 73	12-15-86	0.20	--	--	13	--	370	--	--	--	--
CA Db 73	05-18-87	<0.10	0.005	0.16	--	--	--	--	--	--	--
CA Db 73	06-13-87	0.20	0.010	0.20	--	--	--	--	--	--	--
CA Db 73	09-09-87	0.20	--	--	11	--	410	--	--	--	--
CA Db 73	09-11-87	0.20	--	--	12	--	420	--	--	--	2.90
CA Db 84	09-02-87	--	--	--	3.7	--	--	--	--	--	--
CA Db 84	09-11-87	0.20	--	0.015	3.7	--	--	--	--	--	--
CA Fc 13	10-02-86	--	--	--	--	--	--	--	<0.010	--	--
CA Fc 13	12-11-86	--	--	--	--	--	--	--	<0.010	--	--
CA Fc 13	12-11-86	--	--	--	--	--	--	--	<0.010	--	--
CA Fc 13	12-11-86	--	--	--	--	--	--	--	<0.010	--	--
CA Fc 13	12-11-86	--	--	--	--	--	--	--	<0.010	--	--
CA Fc 13	01-07-87	--	--	--	--	--	--	--	<0.010	--	--
CA Fc 13	01-07-87	--	--	--	--	--	--	--	<0.010	--	--
CA Fc 13	02-27-87	--	--	--	--	--	--	--	<0.010	--	--
CA Fc 13	03-02-87	--	--	--	--	--	--	--	<0.010	--	--
CA Fc 13	03-03-87	--	--	--	--	--	--	--	<0.010	--	--
CA Fc 13	03-04-87	--	--	--	--	--	--	--	<0.010	--	--
CA Fc 13	03-25-87	--	--	--	--	--	--	--	<0.010	--	--
CA Fc 13	04-28-87	--	--	--	--	--	--	--	<0.010	--	--
CA Fc 13	05-26-87	--	--	--	--	--	--	--	<0.010	--	--
CA Fc 13	07-06-87	--	--	--	--	--	--	--	<0.010	--	--
CA Fc 13	08-17-87	--	--	--	--	--	--	--	<0.010	--	--
CA Fc 13	08-17-87	--	--	--	--	--	--	--	<0.010	--	--
CA Fc 13	09-01-87	0.20	--	0.035	19	--	350	--	<0.010	--	--
CA Fc 13	09-01-87	0.20	--	--	20	377	360	--	--	--	9.10
CA Fc 14	03-03-87	--	--	--	--	--	--	--	<0.010	--	--
CA Fc 14	03-04-87	--	--	--	--	--	--	--	<0.010	--	--
CA Fc 14	07-06-87	--	--	--	--	--	--	--	<0.010	--	--
CA Fc 14	08-17-87	--	--	--	--	--	--	--	<0.010	--	--
CA Fc 15	10-01-86	--	--	--	--	--	--	--	<0.010	--	--
CA Fc 15	12-10-86	--	--	--	--	--	--	--	<0.010	--	--
CA Fc 15	12-10-86	--	--	--	--	--	--	11.0	0.020	0.07	--
CA Fc 15	01-06-87	--	--	--	--	--	--	--	<0.010	--	--
CA Fc 15	03-24-87	--	--	--	--	--	--	--	<0.010	--	--
CA Fc 15	04-29-87	--	--	--	--	--	--	--	<0.010	--	--
CA Fc 15	05-27-87	--	--	--	--	--	--	--	<0.010	--	--
CA Fc 15	07-06-87	--	--	--	--	--	--	--	<0.010	--	--
CA Fc 15	08-17-87	--	--	--	--	--	--	--	<0.010	--	--
CA Fc 15	08-17-87	--	--	--	--	--	--	--	<0.010	--	--
CA Fc 15	08-17-87	--	--	--	--	--	--	--	<0.010	--	--
CA Fc 15	09-01-87	0.10	--	0.038	17	--	300	--	<0.010	--	--
CA Fc 16	10-01-86	--	--	--	--	--	--	--	<0.010	--	--
CA Fc 16	11-14-86	0.20	--	--	17	352	320	--	<0.010	--	--
CA Fc 16	12-10-86	--	--	--	--	--	--	--	<0.010	--	--
CA Fc 16	12-10-86	--	--	--	--	--	--	--	<0.010	--	--
CA Fc 16	01-06-87	--	--	--	--	--	--	--	<0.010	--	--
CA Fc 16	02-27-87	--	--	--	--	--	--	--	<0.010	--	--
CA Fc 16	03-01-87	--	--	--	--	--	--	--	<0.010	--	--
CA Fc 16	03-02-87	--	--	--	--	--	--	--	<0.010	--	--
CA Fc 16	03-03-87	--	--	--	--	--	--	--	<0.010	--	--
CA Fc 16	03-04-87	--	--	--	--	--	--	--	<0.010	--	--
CA Fc 16	03-24-87	--	--	--	--	--	--	11.0	0.010	0.03	--
CA Fc 16	04-29-87	--	--	--	--	--	--	11.0	0.020	0.07	--
CA Fc 16	05-27-87	--	--	--	--	--	--	--	<0.010	--	--
CA Fc 16	07-06-87	--	--	--	--	--	--	--	<0.010	--	--
CA Fc 16	08-18-87	--	--	--	--	--	--	--	<0.010	--	--
CA Fc 16	09-01-87	0.10	--	0.036	17	--	310	--	<0.010	--	--

## QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

## CALVERT COUNTY, MARYLAND-Continued

LOCAL IDENTIFIER	DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS NH4)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	PHOS-PHORUS, ORTHO, TOTAL (MG/L AS P)
CA Db 66	12-15-86	--	--	--	--	--	--	--	--	--	--
CA Db 67	12-15-86	--	--	--	--	--	--	--	--	--	--
CA Db 67	05-18-87	--	--	--	--	--	--	--	--	--	--
CA Db 69	12-16-86	--	--	--	--	--	--	--	--	--	--
CA Db 69	09-09-87	--	--	--	--	--	--	--	--	--	--
CA Db 70	12-16-86	--	--	--	--	--	--	--	--	--	--
CA Db 70	05-18-87	--	--	--	--	--	--	--	--	--	--
CA Db 72	12-16-86	--	--	--	--	--	--	--	--	--	--
CA Db 73	12-15-86	--	--	--	--	--	--	--	--	--	--
CA Db 73	05-18-87	--	--	--	--	--	--	--	--	--	--
CA Db 73	06-13-87	--	--	--	--	--	--	--	--	--	--
CA Db 73	09-09-87	--	--	--	--	--	--	--	--	--	--
CA Db 73	09-11-87	2.70	0.020	0.040	0.05	0.66	1.5	0.70	0.010	<0.010	<0.010
CA Db 84	09-02-87	1.90	--	--	--	--	--	--	--	--	--
CA Db 84	09-11-87	1.60	--	--	--	--	--	--	--	--	--
CA Fc 13	10-02-86	8.90	--	0.050	0.06	0.35	--	0.40	--	--	--
CA Fc 13	12-11-86	8.60	--	0.070	0.09	1.0	--	1.1	--	--	--
CA Fc 13	12-11-86	8.80	--	0.070	0.09	0.83	--	0.90	--	--	--
CA Fc 13	12-11-86	9.00	--	0.040	0.05	0.76	--	0.80	--	--	--
CA Fc 13	12-11-86	8.90	--	0.040	0.05	0.56	--	0.60	--	--	--
CA Fc 13	01-07-87	9.20	--	0.060	0.08	1.3	--	1.4	--	--	--
CA Fc 13	01-07-87	9.20	--	0.060	0.08	0.94	--	1.0	--	--	--
CA Fc 13	02-27-87	9.30	--	0.020	0.03	0.78	--	0.80	--	--	--
CA Fc 13	03-02-87	9.00	--	0.020	0.03	0.58	--	0.60	--	--	--
CA Fc 13	03-03-87	9.10	--	0.030	0.04	0.67	--	0.70	--	--	--
CA Fc 13	03-04-87	8.90	--	0.030	0.04	1.1	--	1.1	--	--	--
CA Fc 13	03-25-87	8.50	--	0.060	0.08	--	--	<0.20	--	--	--
CA Fc 13	04-28-87	7.90	--	0.010	0.01	0.49	--	0.50	--	--	--
CA Fc 13	05-26-87	8.10	--	0.050	0.06	0.65	--	0.70	--	--	--
CA Fc 13	07-06-87	8.50	--	0.040	0.05	0.66	--	0.70	--	--	--
CA Fc 13	08-17-87	<0.100	--	<0.010	--	--	--	0.40	--	--	--
CA Fc 13	08-17-87	8.50	--	<0.010	--	--	--	1.3	--	--	--
CA Fc 13	09-01-87	8.90	--	0.030	0.04	0.37	--	0.40	--	0.130	--
CA Fc 13	09-01-87	9.20	--	--	--	--	--	--	0.160	--	--
CA Fc 14	03-03-87	9.70	--	0.040	0.05	0.86	--	0.90	--	--	--
CA Fc 14	03-04-87	9.90	--	0.030	0.04	0.77	--	0.80	--	--	--
CA Fc 14	07-06-87	8.90	--	0.030	0.04	0.97	--	1.0	--	--	--
CA Fc 14	08-17-87	8.90	--	0.010	0.01	0.69	--	0.70	--	--	--
CA Fc 15	10-01-86	12.0	--	0.040	0.05	0.16	--	0.20	--	--	--
CA Fc 15	12-10-86	12.0	--	0.060	0.08	1.2	--	1.3	--	--	--
CA Fc 15	12-10-86	11.0	--	0.040	0.05	0.86	--	0.90	--	--	--
CA Fc 15	01-06-87	11.0	--	0.050	0.06	1.0	--	1.1	--	--	--
CA Fc 15	03-24-87	10.0	--	0.020	0.03	0.38	--	0.40	--	--	--
CA Fc 15	04-29-87	10.0	--	0.010	0.01	1.4	--	1.4	--	--	--
CA Fc 15	05-27-87	10.0	--	0.040	0.05	0.96	--	1.0	--	--	--
CA Fc 15	07-06-87	11.0	--	0.040	0.05	1.2	--	1.2	--	--	--
CA Fc 15	08-17-87	11.0	--	<0.010	--	--	--	0.60	--	--	--
CA Fc 15	08-17-87	<0.100	--	<0.010	--	--	--	0.60	--	--	--
CA Fc 15	09-01-87	10.0	--	0.030	0.04	0.77	--	0.80	--	0.170	--
CA Fc 16	10-01-86	12.0	--	0.050	0.06	0.45	--	0.50	--	--	--
CA Fc 16	11-14-86	11.0	--	0.040	0.05	1.4	--	1.4	--	--	--
CA Fc 16	12-10-86	11.0	--	0.070	0.09	0.93	--	1.0	--	--	--
CA Fc 16	12-10-86	11.0	--	0.050	0.06	1.0	--	1.1	--	--	--
CA Fc 16	01-06-87	11.0	--	0.050	0.06	1.0	--	1.1	--	--	--
CA Fc 16	02-27-87	12.0	--	0.010	0.01	1.4	--	1.4	--	--	--
CA Fc 16	03-01-87	11.0	--	0.020	0.03	0.48	--	0.50	--	--	--
CA Fc 16	03-02-87	11.0	--	0.030	0.04	0.57	--	0.60	--	--	--
CA Fc 16	03-03-87	11.0	--	0.030	0.04	0.87	--	0.90	--	--	--
CA Fc 16	03-04-87	11.0	--	0.040	0.05	1.1	--	1.1	--	--	--
CA Fc 16	03-24-87	11.0	--	0.030	0.04	0.47	--	0.50	--	--	--
CA Fc 16	04-29-87	11.0	--	0.020	0.03	0.78	--	0.80	--	--	--
CA Fc 16	05-27-87	11.0	--	0.040	0.05	0.96	--	1.0	--	--	--
CA Fc 16	07-06-87	11.0	--	0.040	0.05	1.5	--	1.5	--	--	--
CA Fc 16	08-18-87	11.0	--	0.040	0.05	1.3	--	1.3	--	--	--
CA Fc 16	09-01-87	11.0	--	0.030	0.04	0.67	--	0.70	--	0.010	--

QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

CALVERT COUNTY, MARYLAND-Continued

LOCAL IDENTIFIER	DATE	PHOSPHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	PHOSPHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)	ALUMINUM, DIS-SOLVED (UG/L AS AL)	ANTI-MONY, TOTAL (UG/L AS SB)	ANTI-MONY, DIS-SOLVED (UG/L AS SB)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	BARIUM, DIS-SOLVED (UG/L AS BA)
CA Db 66	12-15-86	--	--	2300	<10	<1	<1	<1	<1	--	--
CA Db 67	12-15-86	--	--	--	--	--	--	--	2	--	--
CA Db 69	12-16-86	--	--	3500	820	1	<1	2	<1	--	--
CA Db 69	09-09-87	--	--	--	--	<1	<1	<1	<1	<100	43
CA Db 70	12-16-86	--	--	--	--	--	--	--	<1	--	--
CA Db 72	12-16-86	--	--	4800	20	1	<1	3	<1	--	--
CA Db 73	12-15-86	--	--	--	--	--	--	--	<1	--	--
CA Db 73	09-09-87	--	--	--	--	<1	<1	<1	<1	200	120
CA Db 73	09-11-87	<0.010	--	--	--	1	<1	1	<1	200	120
CA Db 84	09-02-87	<0.010	--	--	--	--	--	--	--	--	18
CA Db 84	09-11-87	<0.010	--	--	--	--	--	--	--	--	17
CA Fc 13	09-01-87	--	--	--	10	--	--	--	--	--	--
CA Fc 13	09-01-87	0.133	0.41	--	<10	--	<1	--	<1	--	32
CA Fc 15	09-01-87	--	--	--	<10	--	--	--	--	--	--
CA Fc 16	11-14-86	--	--	--	<10	--	--	--	--	--	--
CA Fc 16	09-01-87	--	--	--	<10	--	--	--	--	--	--

LOCAL IDENTIFIER	DATE	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BERYLLIUM, DIS-SOLVED (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, DIS-SOLVED (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COBALT, DIS-SOLVED (UG/L AS CO)
CA Db 66	12-15-86	<10	<0.5	2400	20	<1	<1	<10	<1	7	<1
CA Db 67	12-15-86	--	--	--	50	--	<1	--	<1	--	4
CA Db 67	05-18-87	--	<0.5	--	30	<1	0	30	<1	5	1
CA Db 69	12-16-86	<10	2	--	10	<1	2	10	<1	50	30
CA Db 69	09-09-87	--	--	20	20	<1	0	20	<1	6	3
CA Db 70	12-16-86	--	--	--	10	--	<1	--	3	--	6
CA Db 70	05-18-87	--	<0.5	--	40	<1	0	20	1	2	1
CA Db 72	12-16-86	<10	<0.5	--	10	1	2	10	<1	30	50
CA Db 73	12-15-86	--	--	--	10	--	<1	--	<1	--	40
CA Db 73	05-18-87	--	<0.5	--	30	<1	1	<10	<1	20	20
CA Db 73	06-13-87	--	1	30	10	1	1	30	<1	40	30
CA Db 73	09-09-87	--	--	<10	10	1	1	<10	<1	30	20
CA Db 73	09-11-87	--	--	<10	10	<1	1	30	<1	30	30
CA Db 84	09-02-87	--	<0.5	--	--	--	1	--	9	--	<3
CA Db 84	09-11-87	--	<0.5	--	--	--	1	--	<5	--	<3
CA Fc 13	09-01-87	--	<0.5	--	30	--	1	--	<10	--	1

LOCAL IDENTIFIER	DATE	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	LITHIUM TOTAL RECOVERABLE (UG/L AS LI)	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DIS-SOLVED (UG/L AS MN)
CA Db 66	12-15-86	11	3	8000	19	7	<5	<10	8	320	190
CA Db 67	12-15-86	--	3	--	430	--	<5	--	<4	--	410
CA Db 67	05-18-87	21	4	--	200	46	9	--	--	--	54
CA Db 69	12-16-86	11	9	10000	27	6	<5	<10	6	1400	320
CA Db 69	09-09-87	10	4	--	--	16	<5	<10	<4	--	--
CA Db 70	12-16-86	--	4	--	73	--	<5	--	<4	--	230
CA Db 70	05-18-87	15	3	--	3	7	8	--	--	--	27
CA Db 72	12-16-86	10	7	7400	23	<5	<5	<10	8	370	1300
CA Db 73	12-15-86	--	9	--	30	--	<5	--	6	--	1200
CA Db 73	05-18-87	16	8	--	9	14	5	--	--	--	570
CA Db 73	06-13-87	12	6	--	58	9	<5	--	--	--	840
CA Db 73	09-09-87	6	3	--	--	<5	<5	<10	<4	--	--
CA Db 73	09-11-87	16	2	--	--	16	<5	10	<4	--	--
CA Db 84	09-02-87	--	<10	--	31	--	<10	--	<4	--	3
CA Db 84	09-11-87	--	<10	--	16	--	<10	--	<4	--	24
CA Fc 13	09-01-87	--	--	--	<3	--	--	--	--	--	4
CA Fc 13	09-01-87	--	2	--	<3	--	<5	--	<4	--	4
CA Fc 15	09-01-87	--	--	--	<3	--	--	--	--	--	<1
CA Fc 16	11-14-86	--	--	--	13	--	--	--	--	--	3
CA Fc 16	09-01-87	--	--	--	<3	--	--	--	--	--	1

## QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

## CALVERT COUNTY, MARYLAND-Continued

LOCAL IDENTIFIER	DATE	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	MOLYB-DENUM, TOTAL RECOVERABLE (UG/L AS MO)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, DIS-SOLVED (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	SILVER, DIS-SOLVED (UG/L AS AG)
CA Db 66	12-15-86	--	--	8	6	12	<1	<1	<1	<1	<1
CA Db 67	12-15-86	--	--	--	3	--	5	--	<1	--	<1
CA Db 67	05-18-87	0.10	<0.1	5	<1	5	<1	--	--	--	--
CA Db 69	12-16-86	--	--	8	<1	47	30	<1	<1	<1	<1
CA Db 69	09-09-87	--	--	<1	<1	10	5	--	<1	<1	<1
CA Db 70	12-16-86	--	--	--	3	--	36	--	<1	--	<1
CA Db 70	05-18-87	1.8	0.2	5	1	4	<1	--	--	--	--
CA Db 72	12-16-86	--	--	8	1	26	46	1	<1	<1	<1
CA Db 73	12-15-86	--	--	--	3	--	4	--	<1	--	<1
CA Db 73	05-18-87	0.20	<0.1	<10	1	37	24	--	--	--	--
CA Db 73	06-13-87	<0.10	<0.1	1	<1	40	34	--	--	--	--
CA Db 73	09-09-87	--	--	<1	<1	26	20	--	<1	<1	<1
CA Db 73	09-11-87	--	--	2	<1	36	28	--	<1	<1	<1
CA Db 84	09-02-87	--	--	--	<10	--	<10	--	--	--	1
CA Db 84	09-11-87	--	--	--	<10	--	<10	--	--	--	<1
CA Fc 13	09-01-87	--	--	--	<1	--	3	--	2	--	--

LOCAL IDENTIFIER	DATE	STRONTIUM, TOTAL RECOVERABLE (UG/L AS SR)	STRONTIUM, DIS-SOLVED (UG/L AS SR)	THALIUM, DIS-SOLVED (UG/L AS TL)	VANADIUM, DIS-SOLVED (UG/L AS V)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)	OIL AND GREASE, TOTAL RECOVERABLE GRAVIMETRIC (MG/L)
CA Db 66	12-15-86	400	330	--	1	70	8	3.4	1.1	<0.01	--
CA Db 67	12-15-86	--	130	--	<1	--	14	4.8	1.2	<0.01	--
CA Db 67	05-18-87	--	95	<1	<2	50	9	10	1.5	<0.01	--
CA Db 69	12-16-86	320	190	--	<3	140	97	0.8	1.0	0.09	--
CA Db 69	09-09-87	50	28	--	<1	30	19	1.5	1.6	0.02	--
CA Db 70	12-16-86	--	49	--	<1	--	31	1.7	1.0	0.05	--
CA Db 70	05-18-87	--	59	<1	<12	40	20	8.0	1.8	0.02	--
CA Db 72	12-16-86	230	330	--	<2	130	110	1.4	1.1	0.05	--
CA Db 73	12-15-86	--	330	--	1	--	55	1.4	1.2	0.04	--
CA Db 73	05-18-87	--	230	<1	<16	100	50	7.6	1.4	0.05	--
CA Db 73	06-13-87	--	200	<1	<2	100	87	1.5	1.6	0.05	2
CA Db 73	09-09-87	210	190	--	1	120	78	2.2	1.3	0.02	--
CA Db 73	09-11-87	210	200	--	3	170	65	4.0	1.7	<0.01	--
CA Db 84	09-02-87	--	36	--	<6	--	19	--	--	--	1
CA Db 84	09-11-87	--	31	--	>6	--	25	5.1	6.5	--	--
CA Fc 13	09-01-87	--	--	--	--	--	--	21	--	--	--
CA Fc 13	09-01-87	--	440	--	<1	--	12	--	--	--	--
CA Fc 15	09-01-87	--	--	--	--	--	--	1.6	--	--	--
CA Fc 16	11-14-86	--	350	--	--	--	--	--	--	--	--
CA Fc 16	09-01-87	--	--	--	--	--	--	2.3	--	--	--

QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

CALVERT COUNTY, MARYLAND-Continued

LOCAL IDENTIFIER	DATE	PCB, DIS-SOLVED (UG/L)	PCB, TOTAL (UG/L)	PCN DISSOLV (UG/L)	NAPHTHALENES, POLY-CHLOR. TOTAL (UG/L)	ALA-CHLOR TOTAL RECOVER (UG/L)	ALDRIN, DIS-SOLVED (UG/L)	ALDRIN, TOTAL (UG/L)	AME-TRYNE TOTAL	ATRA-ZINE, TOTAL (UG/L)	CHLOR-DANE, DIS-SOLVED (UG/L)
CA Fc 13	09-01-87	<0.1	--	<0.10	--	0.20	<0.01	--	<0.10	0.10	<0.1
CA Fc 16	09-01-87	--	<0.1	--	<0.10	--	--	<0.010	--	--	--
LOCAL IDENTIFIER	DATE	CHLOR-DANE, TOTAL (UG/L)	CYAN-AZINE TOTAL (UG/L)	DDD, DIS-SOLVED (UG/L)	DDD, TOTAL (UG/L)	DDE, DIS-SOLVED (UG/L)	DDE, TOTAL (UG/L)	DDT, DIS-SOLVED (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, DIS-SOLVED (UG/L)	DI-AZINON, TOTAL (UG/L)
CA Fc 13	09-01-87	--	<0.10	<0.01	--	<0.01	--	<0.01	--	<0.01	--
CA Fc 16	09-01-87	<0.1	--	--	<0.010	--	<0.010	--	<0.010	--	<0.01
LOCAL IDENTIFIER	DATE	DI-ELDRIN DIS-SOLVED (UG/L)	DI-ELDRIN TOTAL (UG/L)	ENDO-SULFAN DISSOLV (UG/L)	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, DIS-SOLVED (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION DISSOLV (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, DIS-SOLVED (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)
CA Fc 13	09-01-87	<0.01	--	<0.01	--	<0.01	--	<0.01	--	<0.01	--
CA Fc 16	09-01-87	--	<0.010	--	<0.010	--	<0.010	--	<0.01	--	<0.010
LOCAL IDENTIFIER	DATE	HEPTA-CHLOR EPOXIDE DIS-SOLVED (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE DIS-SOLVED (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, DIS-SOLVED (UG/L)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR DISSOLV (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)	METHYL PARA-THION, DIS-SOLVED (UG/L)	METHYL PARA-THION, TOTAL (UG/L)
CA Fc 13	09-01-87	<0.01	--	<0.01	--	<0.01	--	<0.01	--	<0.01	--
CA Fc 16	09-01-87	--	<0.010	--	<0.010	--	<0.01	--	<0.01	--	<0.01
LOCAL IDENTIFIER	DATE	METHYL-TRI-THION DISSOLV (UG/L)	METHYL-TRI-THION, TOTAL (UG/L)	METOLA-CHLOR WATER WHOLE TOT. REC (UG/L)	METRI-BUZIN WATER WHOLE TOT. REC (UG/L)	MIREX, DIS-SOLVED (UG/L)	MIREX, TOTAL (UG/L)	PARA-THION, DIS-SOLVED (UG/L)	PARA-THION, TOTAL (UG/L)	PER-THANE DISSOLV (UG/L)	PER-THANE TOTAL (UG/L)
CA Fc 13	09-01-87	<0.01	--	<0.1	<0.1	<0.01	--	<0.01	--	<0.10	--
CA Fc 16	09-01-87	--	<0.01	--	--	--	<0.01	--	<0.01	--	<0.1
LOCAL IDENTIFIER	DATE	PROME-TONE TOTAL (UG/L)	PROME-TRYNE TOTAL (UG/L)	PRO-PAZINE TOTAL (UG/L)	SILVEX, TOTAL (UG/L)	SIMA-ZINE TOTAL (UG/L)	SIME-TRYNE TOTAL (UG/L)	TOX-APHENE, DIS-SOLVED (UG/L)	TOX-APHENE, TOTAL (UG/L)	TRI-FLURA-LIN TOTAL RECOVER (UG/L)	TRI-THION DISSOLV (UG/L)
CA Fc 13	09-01-87	<0.1	<0.1	<0.10	<0.01	<0.10	<0.1	<1.0	--	<0.10	<0.01
CA Fc 16	09-01-87	--	--	--	<0.01	--	--	--	<1	--	--
LOCAL IDENTIFIER	DATE	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4-DP TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	BENZENE TOTAL (UG/L)	BROMO-FORM TOTAL (UG/L)	CARBON-TETRA-CHLORIDE TOTAL (UG/L)	CHLORO-BENZENE TOTAL (UG/L)	CHLORO-DI-BROMO-METHANE TOTAL (UG/L)	CHLORO-ETHANE TOTAL (UG/L)
CA Db 66	12-15-86	--	--	--	--	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
CA Db 67	12-15-86	--	--	--	--	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
CA Db 67	05-18-87	--	--	--	--	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
CA Db 69	12-16-86	--	--	--	--	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
CA Db 70	12-16-86	--	--	--	--	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
CA Db 70	05-18-87	--	--	--	--	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
CA Db 72	12-16-86	--	--	--	--	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
CA Db 73	12-15-86	--	--	--	--	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
CA Db 73	05-18-87	--	--	--	--	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
CA Db 73	06-13-87	--	--	--	--	0.30	<0.20	<0.20	<0.20	<0.20	<0.20
CA Db 73	09-09-87	--	--	--	--	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
CA Fc 13	09-01-87	--	<0.01	<0.01	<0.01	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
CA Fc 16	09-01-87	<0.01	<0.01	<0.01	<0.01	--	--	--	--	--	--



QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

CALVERT COUNTY, MARYLAND-Continued

LOCAL IDENTIFIER	DATE	TIME	STATION NUMBER	GEOLOGIC UNIT	SITE	DEPTH BELOW SURFACE (WATER LEVEL) (FEET)	DEPTH OF WELL, TOTAL (FEET)	DEPTH TO BOTTOM OF SAMPLE INTERVAL (FT)	DEPTH TO TOP OF SAMPLE INTERVAL (FT)
CA Fc 17	10-02-86	1430	382343076303801	122CSPK	GW	14.39	39.00	39	34
CA Fc 17	12-11-86	1150	382343076303801	122CSPK	GW	14.52	39.00	39	34
CA Fc 17	12-11-86	1155	382343076303801	122CSPK	GW	14.52	39.00	39	34
CA Fc 17	12-11-86	1420	382343076303801	122CSPK	GW	14.52	39.00	39	34
CA Fc 17	12-11-86	1425	382343076303801	122CSPK	GW	14.52	39.00	39	34
CA Fc 17	03-24-87	1440	382343076303801	122CSPK	GW	11.73	39.00	39	34
CA Fc 17	05-07-87	1330	382343076303801	122CSPK	GW	12.11	39.00	39	34
CA Fc 17	05-27-87	1230	382343076303801	122CSPK	GW	12.26	39.00	39	34
CA Fc 17	07-09-87	1435	382343076303801	122CSPK	GW	12.85	39.00	39	34
CA Fc 17	08-18-87	1435	382343076303801	122CSPK	GW	13.42	39.00	39	34
CA Fc 17	09-02-87	1425	382343076303801	122CSPK	GW	13.71	39.00	39	34
CA Fc 18	10-01-86	1200	382340076303801	122CSPK	GW	8.94	34.00	34	29
CA Fc 18	11-14-86	1100	382340076303801	122CSPK	GW	9.34	34.00	34	29
CA Fc 18	11-14-86	1200	382340076303801	122CSPK	GW	9.34	34.00	34	29
CA Fc 18	12-08-86	1100	382340076303801	122CSPK	GW	9.16	34.00	34	29
CA Fc 18	12-08-86	1105	382340076303801	122CSPK	GW	9.16	34.00	34	29
CA Fc 18	12-08-86	1240	382340076303801	122CSPK	GW	9.16	34.00	34	29
CA Fc 18	12-08-86	1245	382340076303801	122CSPK	GW	9.16	34.00	34	29
CA Fc 18	01-06-87	1405	382340076303801	122CSPK	GW	7.93	34.00	34	29
CA Fc 18	02-27-87	1200	382340076303801	122CSPK	GW	6.47	34.00	34	29
CA Fc 18	03-01-87	2100	382340076303801	122CSPK	GW	6.18	34.00	34	29
CA Fc 18	03-02-87	1155	382340076303801	122CSPK	GW	6.12	34.00	34	29
CA Fc 18	03-03-87	1450	382340076303801	122CSPK	GW	6.23	34.00	34	29
CA Fc 18	03-04-87	1300	382340076303801	122CSPK	GW	6.27	34.00	34	29
CA Fc 18	03-24-87	1150	382340076303801	122CSPK	GW	6.49	34.00	34	29
CA Fc 18	05-07-87	1020	382340076303801	122CSPK	GW	6.66	34.00	34	29
CA Fc 18	05-07-87	1030	382340076303801	122CSPK	GW	6.66	34.00	34	29
CA Fc 18	06-10-87	1130	382340076303801	122CSPK	GW	7.11	34.00	34	29
CA Fc 18	07-09-87	1300	382340076303801	122CSPK	GW	7.57	34.00	34	29
CA Fc 18	08-19-87	1100	382340076303801	122CSPK	GW	8.10	34.00	34	29
CA Fc 18	08-19-87	1115	382340076303801	122CSPK	GW	8.10	34.00	34	29
CA Fc 18	09-02-87	1225	382340076303801	122CSPK	GW	8.34	34.00	34	29
CA Fc 19	10-02-86	1230	382337076303701	122CSPK	GW	18.32	34.00	34	29
CA Fc 19	12-08-86	1200	382337076303701	122CSPK	GW	18.90	34.00	34	29
CA Fc 19	12-08-86	1205	382337076303701	122CSPK	GW	18.90	34.00	34	29
CA Fc 19	12-08-86	1340	382337076303701	122CSPK	GW	18.90	34.00	34	29
CA Fc 19	12-08-86	1345	382337076303701	122CSPK	GW	18.90	34.00	34	29
CA Fc 19	03-25-87	1330	382337076303701	122CSPK	GW	16.60	34.00	34	29
CA Fc 19	05-07-87	1130	382337076303701	122CSPK	GW	16.88	34.00	34	29
CA Fc 19	06-10-87	1230	382337076303701	122CSPK	GW	17.16	34.00	34	29
CA Fc 19	07-09-87	1000	382337076303701	122CSPK	GW	17.39	34.00	34	29
CA Fc 19	08-18-87	1230	382337076303701	122CSPK	GW	17.72	34.00	34	29
CA Fc 19	09-02-87	1120	382337076303701	122CSPK	GW	17.78	34.00	34	29
CA Fc 20	10-02-86	1330	382337076303702	122CSPK	GW	13.77	29.00	29	24
CA Fc 20	12-11-86	1140	382337076303702	122CSPK	GW	14.00	29.00	29	24
CA Fc 20	12-11-86	1145	382337076303702	122CSPK	GW	14.00	29.00	29	24
CA Fc 20	12-11-86	1310	382337076303702	122CSPK	GW	14.00	29.00	29	24
CA Fc 20	12-11-86	1315	382337076303702	122CSPK	GW	14.00	29.00	29	24
CA Fc 20	03-24-87	1315	382337076303702	122CSPK	GW	11.65	29.00	29	24
CA Fc 20	05-07-87	1230	382337076303702	122CSPK	GW	11.85	29.00	29	24
CA Fc 20	05-27-87	1400	382337076303702	122CSPK	GW	12.05	29.00	29	24
CA Fc 20	07-09-87	1130	382337076303702	122CSPK	GW	12.55	29.00	29	24
CA Fc 20	08-18-87	1330	382337076303702	122CSPK	GW	12.99	29.00	29	24
CA Fc 20	09-02-87	1325	382337076303702	122CSPK	GW	13.21	29.00	29	24
CA Fc 21	10-01-86	1530	382342076303401	122CSPK	GW	19.66	35.00	35	30
CA Fc 21	11-10-86	1230	382342076303401	122CSPK	GW	20.22	35.00	35	30
CA Fc 21	12-09-86	1240	382342076303401	122CSPK	GW	20.33	35.00	35	30
CA Fc 21	12-09-86	1245	382342076303401	122CSPK	GW	20.33	35.00	35	30
CA Fc 21	12-09-86	1410	382342076303401	122CSPK	GW	20.33	35.00	35	30
CA Fc 21	12-09-86	1415	382342076303401	122CSPK	GW	20.33	35.00	35	30
CA Fc 21	01-07-87	1345	382342076303401	122CSPK	GW	18.64	35.00	35	30
CA Fc 21	03-25-87	1420	382342076303401	122CSPK	GW	16.69	35.00	35	30
CA Fc 21	04-29-87	1115	382342076303401	122CSPK	GW	17.04	35.00	35	30
CA Fc 21	05-26-87	1405	382342076303401	122CSPK	GW	17.16	35.00	35	30
CA Fc 21	07-06-87	1235	382342076303401	122CSPK	GW	17.65	35.00	35	30

Geologic unit (aquifer): 112CSPK - Chesapeake Group

Site type: GW - Ground Water

## QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

## CALVERT COUNTY, MARYLAND-Continued

LOCAL IDENTIFIER	DATE	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN)	SAMPLING METHOD, CODES	FLOW RATE, INSTANTANEOUS (GPM)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	HARDNESS (MG/L AS CaCO3)	ACIDITY (MG/L AS H)
CA Fc 17	10-02-86	27.0	30	4040	0.4	635	7.3	19.0	--	--	--
CA Fc 17	12-11-86	27.0	--	4020	--	600	7.4	15.0	--	--	--
CA Fc 17	12-11-86	27.0	--	4020	--	600	7.4	15.0	--	--	--
CA Fc 17	12-11-86	27.0	55	4040	1.0	630	7.3	15.0	--	--	--
CA Fc 17	12-11-86	27.0	55	4040	1.0	630	7.3	15.0	--	--	--
CA Fc 17	03-24-87	27.0	60	4040	1.0	638	7.3	14.0	5.5	--	--
CA Fc 17	05-07-87	27.0	60	4040	1.0	535	7.2	13.5	5.6	--	--
CA Fc 17	05-27-87	27.0	60	4040	1.0	505	7.3	13.5	6.6	--	--
CA Fc 17	07-09-87	27.0	85	4040	1.0	579	7.2	13.5	5.7	--	--
CA Fc 17	08-18-87	27.0	60	4040	0.8	574	7.2	16.0	7.0	--	--
CA Fc 17	09-02-87	27.0	65	4020	0.8	592	7.1	15.0	6.7	290	--
CA Fc 18	10-01-86	21.0	60	4040	1.7	632	6.5	18.0	--	--	--
CA Fc 18	11-14-86	21.0	60	4040	0.2	595	7.1	15.0	--	300	0.2
CA Fc 18	11-14-86	21.0	60	4040	0.2	595	7.1	15.0	--	300	0.1
CA Fc 18	12-08-86	21.0	--	4020	--	550	7.3	16.0	--	--	--
CA Fc 18	12-08-86	21.0	--	4020	--	550	7.3	16.0	--	--	--
CA Fc 18	12-08-86	21.0	90	4040	1.5	635	7.3	16.0	--	--	--
CA Fc 18	12-08-86	21.0	90	4040	1.5	635	7.3	16.0	--	--	--
CA Fc 18	01-06-87	21.0	--	4040	1.0	648	7.2	14.5	3.4	--	--
CA Fc 18	02-27-87	21.0	60	4040	1.0	635	7.0	11.0	--	--	--
CA Fc 18	03-01-87	21.0	60	4040	1.0	650	7.1	16.0	--	--	--
CA Fc 18	03-02-87	21.0	60	4040	1.3	650	7.1	12.5	--	--	--
CA Fc 18	03-03-87	21.0	75	4040	0.8	640	7.1	13.0	--	--	--
CA Fc 18	03-04-87	21.0	70	4040	1.2	648	7.1	11.0	--	--	--
CA Fc 18	03-24-87	21.0	60	4040	1.5	609	7.1	13.0	5.5	--	--
CA Fc 18	05-07-87	21.0	90	4040	1.0	502	7.3	12.0	6.4	--	--
CA Fc 18	05-07-87	21.0	90	4040	1.0	502	7.3	12.0	6.4	--	--
CA Fc 18	06-10-87	21.0	65	4040	1.0	560	7.0	13.0	4.7	--	--
CA Fc 18	07-09-87	21.0	95	4040	1.0	619	7.1	14.5	2.6	--	--
CA Fc 18	08-19-87	21.0	65	4040	1.0	622	7.0	15.5	5.8	--	--
CA Fc 18	08-19-87	21.0	65	4040	1.0	622	7.0	15.5	5.8	--	--
CA Fc 18	09-02-87	21.0	65	4020	0.8	612	7.0	16.0	5.4	310	--
CA Fc 19	10-02-86	26.0	30	4040	0.3	530	7.1	17.0	--	--	--
CA Fc 19	12-08-86	26.0	0	4020	0	553	7.4	16.0	--	--	--
CA Fc 19	12-08-86	26.0	0	4020	0	553	7.4	16.0	--	--	--
CA Fc 19	12-08-86	26.0	60	4040	1.2	585	7.3	15.0	--	--	--
CA Fc 19	12-08-86	26.0	60	4040	1.2	585	7.3	15.0	--	--	--
CA Fc 19	03-25-87	26.0	60	4040	1.0	603	7.2	17.0	4.4	--	--
CA Fc 19	05-07-87	26.0	65	4040	1.0	495	7.3	13.5	4.6	--	--
CA Fc 19	06-10-87	26.0	45	4040	0.8	492	7.3	14.0	2.9	--	--
CA Fc 19	07-09-87	26.0	70	4040	1.0	531	7.2	14.5	3.6	--	--
CA Fc 19	08-18-87	26.0	60	4040	0.8	567	7.2	14.0	3.4	--	--
CA Fc 19	09-02-87	26.0	65	4020	0.8	564	7.2	14.0	4.4	290	--
CA Fc 20	10-02-86	26.0	30	4040	0.3	615	7.3	19.0	--	--	--
CA Fc 20	12-11-86	26.0	0	4020	0	580	7.5	15.0	--	--	--
CA Fc 20	12-11-86	26.0	0	4020	0	580	7.5	15.0	--	--	--
CA Fc 20	12-11-86	26.0	50	4040	1.0	640	7.3	15.0	--	--	--
CA Fc 20	12-11-86	26.0	50	4040	1.0	640	7.3	15.0	--	--	--
CA Fc 20	03-24-87	26.0	90	4040	1.5	617	7.2	14.0	3.2	--	--
CA Fc 20	05-07-87	26.0	55	4040	1.0	491	7.3	12.0	3.8	--	--
CA Fc 20	05-27-87	26.0	75	4040	1.0	492	7.2	12.5	2.8	--	--
CA Fc 20	07-09-87	26.0	85	4040	1.0	560	7.1	14.0	1.9	--	--
CA Fc 20	08-18-87	26.0	60	4040	0.8	552	7.1	16.0	4.5	--	--
CA Fc 20	09-02-87	26.0	55	4020	0.8	563	7.1	15.0	4.3	290	--
CA Fc 21	10-01-86	38.0	50	4040	0.5	490	7.2	18.0	--	--	--
CA Fc 21	11-10-86	38.0	45	4040	0.3	505	7.3	15.0	--	240	<0.1
CA Fc 21	12-09-86	38.0	0	4020	--	495	7.4	15.0	--	--	--
CA Fc 21	12-09-86	38.0	0	4020	--	495	7.4	15.0	--	--	--
CA Fc 21	12-09-86	38.0	60	4040	1.0	525	7.3	15.0	--	--	--
CA Fc 21	12-09-86	38.0	60	4040	1.0	525	7.3	15.0	--	--	--
CA Fc 21	01-07-87	38.0	45	4040	1.2	555	7.4	15.5	3.6	--	--
CA Fc 21	03-25-87	38.0	120	4040	0.8	455	7.2	15.5	6.2	--	--
CA Fc 21	04-29-87	38.0	75	4040	1.0	379	7.3	14.5	4.1	--	--
CA Fc 21	05-26-87	38.0	70	4040	1.0	421	7.3	13.5	5.8	--	--
CA Fc 21	07-06-87	38.0	70	4040	0.7	413	7.2	14.0	4.0	--	--

Sampling method: 4020 - Bailer  
4040 - Submersible pump

QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

CALVERT COUNTY, MARYLAND-Continued

LOCAL IDENTIFIER	DATE	ACIDITY (MG/L AS CaCO3)	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNESIUM, DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY TOTAL FIELD (MG/L AS CaCO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS Cl)
CA Fc 17	10-02-86	--	--	--	--	--	--	--	230	--	--
CA Fc 17	12-11-86	--	--	--	--	--	--	--	231	--	--
CA Fc 17	12-11-86	--	--	--	--	--	--	--	231	--	--
CA Fc 17	12-11-86	--	--	--	--	--	--	--	238	--	--
CA Fc 17	12-11-86	--	--	--	--	--	--	--	238	--	--
CA Fc 17	03-24-87	--	--	--	--	--	--	--	230	--	--
CA Fc 17	05-07-87	--	--	--	--	--	--	--	232	--	--
CA Fc 17	05-27-87	--	--	--	--	--	--	--	228	--	--
CA Fc 17	07-09-87	--	--	--	--	--	--	--	230	--	--
CA Fc 17	08-18-87	--	--	--	--	--	--	--	221	--	--
CA Fc 17	09-02-87	--	110	3.3	7.5	5	0.2	1.1	240	23	19
CA Fc 18	10-01-86	--	--	--	--	--	--	--	240	--	--
CA Fc 18	11-14-86	9.9	110	4.0	6.7	5	0.2	0.90	242	31	14
CA Fc 18	11-14-86	5.0	110	4.0	6.7	5	0.2	0.90	242	30	14
CA Fc 18	12-08-86	--	--	--	--	--	--	--	225	--	--
CA Fc 18	12-08-86	--	--	--	--	--	--	--	225	--	--
CA Fc 18	12-08-86	--	--	--	--	--	--	--	245	--	--
CA Fc 18	12-08-86	--	--	--	--	--	--	--	245	--	--
CA Fc 18	01-06-87	--	--	--	--	--	--	--	230	--	--
CA Fc 18	02-27-87	--	--	--	--	--	--	--	230	--	--
CA Fc 18	03-01-87	--	--	--	--	--	--	--	230	--	--
CA Fc 18	03-02-87	--	--	--	--	--	--	--	234	--	--
CA Fc 18	03-03-87	--	--	--	--	--	--	--	239	--	--
CA Fc 18	03-04-87	--	--	--	--	--	--	--	248	--	--
CA Fc 18	03-24-87	--	--	--	--	--	--	--	225	--	--
CA Fc 18	05-07-87	--	--	--	--	--	--	--	147	--	--
CA Fc 18	05-07-87	--	--	--	--	--	--	--	147	--	--
CA Fc 18	06-10-87	--	--	--	--	--	--	--	249	--	--
CA Fc 18	07-09-87	--	--	--	--	--	--	--	254	--	--
CA Fc 18	08-19-87	--	--	--	--	--	--	--	241	--	--
CA Fc 18	08-19-87	--	--	--	--	--	--	--	241	--	--
CA Fc 18	09-02-87	--	120	3.4	7.4	5	0.2	1.1	251	28	17
CA Fc 19	10-02-86	--	--	--	--	--	--	--	230	--	--
CA Fc 19	12-08-86	--	--	--	--	--	--	--	217	--	--
CA Fc 19	12-08-86	--	--	--	--	--	--	--	217	--	--
CA Fc 19	12-08-86	--	--	--	--	--	--	--	230	--	--
CA Fc 19	12-08-86	--	--	--	--	--	--	--	230	--	--
CA Fc 19	03-25-87	--	--	--	--	--	--	--	223	--	--
CA Fc 19	05-07-87	--	--	--	--	--	--	--	170	--	--
CA Fc 19	06-10-87	--	--	--	--	--	--	--	219	--	--
CA Fc 19	07-09-87	--	--	--	--	--	--	--	234	--	--
CA Fc 19	08-18-87	--	--	--	--	--	--	--	215	--	--
CA Fc 19	09-02-87	--	110	4.4	6.7	5	0.2	1.9	227	35	14
CA Fc 20	10-02-86	--	--	--	--	--	--	--	220	--	--
CA Fc 20	12-11-86	--	--	--	--	--	--	--	221	--	--
CA Fc 20	12-11-86	--	--	--	--	--	--	--	221	--	--
CA Fc 20	12-11-86	--	--	--	--	--	--	--	247	--	--
CA Fc 20	12-11-86	--	--	--	--	--	--	--	247	--	--
CA Fc 20	03-24-87	--	--	--	--	--	--	--	228	--	--
CA Fc 20	05-07-87	--	--	--	--	--	--	--	221	--	--
CA Fc 20	05-27-87	--	--	--	--	--	--	--	224	--	--
CA Fc 20	07-09-87	--	--	--	--	--	--	--	229	--	--
CA Fc 20	08-18-87	--	--	--	--	--	--	--	210	--	--
CA Fc 20	09-02-87	--	110	2.7	7.1	5	0.2	1.3	224	27	16
CA Fc 21	10-01-86	--	--	--	--	--	--	--	175	--	--
CA Fc 21	11-10-86	--	94	1.9	6.6	6	0.2	1.8	170	60	15
CA Fc 21	12-09-86	--	--	--	--	--	--	--	168	--	--
CA Fc 21	12-09-86	--	--	--	--	--	--	--	168	--	--
CA Fc 21	12-09-86	--	--	--	--	--	--	--	173	--	--
CA Fc 21	12-09-86	--	--	--	--	--	--	--	173	--	--
CA Fc 21	01-07-87	--	--	--	--	--	--	--	185	--	--
CA Fc 21	03-25-87	--	--	--	--	--	--	--	160	--	--
CA Fc 21	04-29-87	--	--	--	--	--	--	--	109	--	--
CA Fc 21	05-26-87	--	--	--	--	--	--	--	150	--	--
CA Fc 21	07-06-87	--	--	--	--	--	--	--	148	--	--

## QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

## CALVERT COUNTY, MARYLAND-Continued

LOCAL IDENT- IFIER	DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	BROMIDE DIS- SOLVED (MG/L AS BR)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)
CA Fc 17	10-02-86	--	--	--	--	--	--	<0.010	--	9.80	0.050
CA Fc 17	12-11-86	--	--	--	--	--	--	<0.010	--	9.50	0.030
CA Fc 17	12-11-86	--	--	--	--	--	--	<0.010	--	9.70	0.040
CA Fc 17	12-11-86	--	--	--	--	--	--	<0.010	--	9.40	0.040
CA Fc 17	12-11-86	--	--	--	--	--	--	<0.010	--	9.60	0.040
CA Fc 17	03-24-87	--	--	--	--	--	8.89	0.010	0.03	8.90	0.030
CA Fc 17	05-07-87	--	--	--	--	--	--	<0.010	--	8.40	0.040
CA Fc 17	05-27-87	--	--	--	--	--	--	<0.010	--	8.30	0.040
CA Fc 17	07-09-87	--	--	--	--	--	--	<0.010	--	8.70	0.070
CA Fc 17	08-18-87	--	--	--	--	--	--	<0.010	--	8.40	0.030
CA Fc 17	09-02-87	0.10	0.028	16	--	320	--	<0.010	--	8.40	0.020
CA Fc 18	10-01-86	--	--	--	--	--	5.59	0.010	0.03	5.60	0.060
CA Fc 18	11-14-86	0.20	--	27	399	340	--	<0.010	--	6.90	0.020
CA Fc 18	11-14-86	0.20	--	27	405	340	--	<0.010	--	6.60	0.020
CA Fc 18	12-08-86	--	--	--	--	--	--	<0.010	--	1.30	0.060
CA Fc 18	12-08-86	--	--	--	--	--	--	<0.010	--	1.40	0.070
CA Fc 18	12-08-86	--	--	--	--	--	7.77	0.030	0.10	7.80	0.050
CA Fc 18	12-08-86	--	--	--	--	--	7.77	0.030	0.10	7.80	0.050
CA Fc 18	01-06-87	--	--	--	--	--	9.38	0.020	0.07	9.40	0.050
CA Fc 18	02-27-87	--	--	--	--	--	9.78	0.020	0.07	9.80	0.020
CA Fc 18	03-01-87	--	--	--	--	--	9.58	0.020	0.07	9.60	0.040
CA Fc 18	03-02-87	--	--	--	--	--	9.44	0.060	0.20	9.50	0.040
CA Fc 18	03-03-87	--	--	--	--	--	9.68	0.020	0.07	9.70	0.030
CA Fc 18	03-04-87	--	--	--	--	--	9.26	0.040	0.13	9.30	0.050
CA Fc 18	03-24-87	--	--	--	--	--	7.64	0.060	0.20	7.70	0.030
CA Fc 18	05-07-87	--	--	--	--	--	6.86	0.040	0.13	6.90	0.030
CA Fc 18	05-07-87	--	--	--	--	--	6.76	0.040	0.13	6.80	0.030
CA Fc 18	06-10-87	--	--	--	--	--	9.48	0.020	0.07	9.50	0.020
CA Fc 18	07-09-87	--	--	--	--	--	8.15	0.050	0.16	8.20	0.070
CA Fc 18	08-19-87	--	--	--	--	--	6.98	0.020	0.07	7.00	0.040
CA Fc 18	08-19-87	--	--	--	--	--	7.38	0.020	0.07	7.40	0.030
CA Fc 18	09-02-87	0.20	0.034	18	--	350	7.19	0.010	0.03	7.20	0.020
CA Fc 19	10-02-86	--	--	--	--	--	--	<0.010	--	2.60	0.040
CA Fc 19	12-08-86	--	--	--	--	--	--	<0.010	--	3.90	0.060
CA Fc 19	12-08-86	--	--	--	--	--	--	<0.010	--	4.10	0.050
CA Fc 19	12-08-86	--	--	--	--	--	4.68	0.020	0.07	4.70	0.060
CA Fc 19	12-08-86	--	--	--	--	--	4.78	0.020	0.07	4.80	0.050
CA Fc 19	03-25-87	--	--	--	--	--	5.48	0.020	0.07	5.50	0.240
CA Fc 19	05-07-87	--	--	--	--	--	--	<0.010	--	8.50	0.040
CA Fc 19	06-10-87	--	--	--	--	--	--	<0.010	--	6.10	0.030
CA Fc 19	07-09-87	--	--	--	--	--	--	<0.010	--	6.10	0.060
CA Fc 19	08-18-87	--	--	--	--	--	--	<0.010	--	6.10	0.040
CA Fc 19	09-02-87	0.20	0.027	23	--	330	--	<0.010	--	6.00	0.020
CA Fc 20	10-02-86	--	--	--	--	--	8.53	0.070	0.23	8.60	0.040
CA Fc 20	12-11-86	--	--	--	--	--	--	<0.010	--	8.80	0.040
CA Fc 20	12-11-86	--	--	--	--	--	--	<0.010	--	9.00	0.040
CA Fc 20	12-11-86	--	--	--	--	--	7.40	0.100	0.33	7.50	0.040
CA Fc 20	12-11-86	--	--	--	--	--	7.40	0.100	0.33	7.50	0.040
CA Fc 20	03-24-87	--	--	--	--	--	5.53	0.270	0.89	5.80	0.020
CA Fc 20	05-07-87	--	--	--	--	--	6.83	0.170	0.56	7.00	0.040
CA Fc 20	05-27-87	--	--	--	--	--	6.97	0.130	0.43	7.10	0.040
CA Fc 20	07-09-87	--	--	--	--	--	6.52	0.080	0.26	6.60	0.070
CA Fc 20	08-18-87	--	--	--	--	--	7.18	0.020	0.07	7.20	0.040
CA Fc 20	09-02-87	0.20	0.023	18	--	320	6.77	0.030	0.10	6.80	0.020
CA Fc 21	10-01-86	--	--	--	--	--	--	<0.010	--	10.0	0.030
CA Fc 21	11-10-86	0.10	--	25	328	310	2.28	0.020	0.07	2.30	0.080
CA Fc 21	12-09-86	--	--	--	--	--	2.69	0.010	0.03	2.70	0.040
CA Fc 21	12-09-86	--	--	--	--	--	2.69	0.010	0.03	2.70	0.050
CA Fc 21	12-09-86	--	--	--	--	--	--	<0.010	--	6.70	0.050
CA Fc 21	12-09-86	--	--	--	--	--	--	<0.010	--	6.50	0.050
CA Fc 21	01-07-87	--	--	--	--	--	--	<0.010	--	9.60	0.050
CA Fc 21	03-25-87	--	--	--	--	--	--	<0.010	--	9.20	0.030
CA Fc 21	04-29-87	--	--	--	--	--	--	<0.010	--	8.90	<0.010
CA Fc 21	05-26-87	--	--	--	--	--	--	<0.010	--	9.30	0.030
CA Fc 21	07-06-87	--	--	--	--	--	--	<0.010	--	9.70	0.020

QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

CALVERT COUNTY, MARYLAND-Continued

LOCAL IDENTIFIER	DATE	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS NH4)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	CARBON, ORGANIC TOTAL (MG/L AS C)
CA Fc 17	10-02-86	0.06	0.35	0.40	--	--	--	--	--	--
CA Fc 17	12-11-86	0.04	1.5	1.5	--	--	--	--	--	--
CA Fc 17	12-11-86	0.05	1.4	1.4	--	--	--	--	--	--
CA Fc 17	12-11-86	0.05	0.66	0.70	--	--	--	--	--	--
CA Fc 17	12-11-86	0.05	1.5	1.5	--	--	--	--	--	--
CA Fc 17	03-24-87	0.04	0.77	0.80	--	--	--	--	--	--
CA Fc 17	05-07-87	0.05	1.3	1.3	--	--	--	--	--	--
CA Fc 17	05-27-87	0.05	0.46	0.50	--	--	--	--	--	--
CA Fc 17	07-09-87	0.09	1.3	1.4	--	--	--	--	--	--
CA Fc 17	08-18-87	0.04	0.77	0.80	--	--	--	--	--	--
CA Fc 17	09-02-87	0.03	0.38	0.40	0.140	<10	<3	<1	--	1.6
CA Fc 18	10-01-86	0.08	0.44	0.50	--	--	--	--	--	--
CA Fc 18	11-14-86	0.03	0.38	0.40	--	<10	<10	20	240	--
CA Fc 18	11-14-86	0.03	0.48	0.50	--	40	20	20	340	--
CA Fc 18	12-08-86	0.08	0.34	0.40	--	--	--	--	--	--
CA Fc 18	12-08-86	0.09	0.33	0.40	--	--	--	--	--	--
CA Fc 18	12-08-86	0.06	0.65	0.70	--	--	--	--	--	--
CA Fc 18	12-08-86	0.06	0.95	1.0	--	--	--	--	--	--
CA Fc 18	01-06-87	0.06	0.75	0.80	--	--	--	--	--	--
CA Fc 18	02-27-87	0.03	1.1	1.1	--	--	--	--	--	--
CA Fc 18	03-01-87	0.05	0.86	0.90	--	--	--	--	--	--
CA Fc 18	03-02-87	0.05	0.46	0.50	--	--	--	--	--	--
CA Fc 18	03-03-87	0.04	0.47	0.50	--	--	--	--	--	--
CA Fc 18	03-04-87	0.06	0.35	0.40	--	--	--	--	--	--
CA Fc 18	03-24-87	0.04	0.37	0.40	--	--	--	--	--	--
CA Fc 18	05-07-87	0.04	0.97	1.0	--	--	--	--	--	--
CA Fc 18	05-07-87	0.04	0.57	0.60	--	--	--	--	--	--
CA Fc 18	06-10-87	0.03	2.2	2.2	--	--	--	--	--	--
CA Fc 18	07-09-87	0.09	1.0	1.1	--	--	--	--	--	--
CA Fc 18	08-19-87	0.05	0.86	0.90	--	--	--	--	--	--
CA Fc 18	08-19-87	0.04	0.77	0.80	--	--	--	--	--	--
CA Fc 18	09-02-87	0.03	--	<0.20	0.120	<10	7	<1	--	0.9
CA Fc 19	10-02-86	0.05	0.56	0.60	--	--	--	--	--	--
CA Fc 19	12-08-86	0.08	0.34	0.40	--	--	--	--	--	--
CA Fc 19	12-08-86	0.06	0.35	0.40	--	--	--	--	--	--
CA Fc 19	12-08-86	0.08	0.74	0.80	--	--	--	--	--	--
CA Fc 19	12-08-86	0.06	0.35	0.40	--	--	--	--	--	--
CA Fc 19	03-25-87	0.31	0.86	1.1	--	--	--	--	--	--
CA Fc 19	05-07-87	0.05	0.46	0.50	--	--	--	--	--	--
CA Fc 19	06-10-87	0.04	0.87	0.90	--	--	--	--	--	--
CA Fc 19	07-09-87	0.08	1.2	1.3	--	--	--	--	--	--
CA Fc 19	08-18-87	0.05	0.36	0.40	--	--	--	--	--	--
CA Fc 19	09-02-87	0.03	0.38	0.40	0.120	<10	9	3	--	0.8
CA Fc 20	10-02-86	0.05	0.36	0.40	--	--	--	--	--	--
CA Fc 20	12-11-86	0.05	2.0	2.0	--	--	--	--	--	--
CA Fc 20	12-11-86	0.05	1.1	1.1	--	--	--	--	--	--
CA Fc 20	12-11-86	0.05	1.2	1.2	--	--	--	--	--	--
CA Fc 20	12-11-86	0.05	1.2	1.2	--	--	--	--	--	--
CA Fc 20	03-24-87	0.03	0.38	0.40	--	--	--	--	--	--
CA Fc 20	05-07-87	0.05	0.36	0.40	--	--	--	--	--	--
CA Fc 20	05-27-87	0.05	0.96	1.0	--	--	--	--	--	--
CA Fc 20	07-09-87	0.09	0.83	0.90	--	--	--	--	--	--
CA Fc 20	08-18-87	0.05	0.56	0.60	--	--	--	--	--	--
CA Fc 20	09-02-87	0.03	0.48	0.50	0.150	<10	<3	<1	--	1.8
CA Fc 21	10-01-86	0.04	0.37	0.40	--	--	--	--	--	--
CA Fc 21	11-10-86	0.10	0.72	0.80	--	<10	8	9	330	--
CA Fc 21	12-09-86	0.05	0.56	0.60	--	--	--	--	--	--
CA Fc 21	12-09-86	0.06	0.65	0.70	--	--	--	--	--	--
CA Fc 21	12-09-86	0.06	1.0	1.1	--	--	--	--	--	--
CA Fc 21	12-09-86	0.06	0.55	0.60	--	--	--	--	--	--
CA Fc 21	01-07-87	0.06	0.95	1.0	--	--	--	--	--	--
CA Fc 21	03-25-87	0.04	0.27	0.30	--	--	--	--	--	--
CA Fc 21	04-29-87	--	--	0.70	--	--	--	--	--	--
CA Fc 21	05-26-87	0.04	0.57	0.60	--	--	--	--	--	--
CA Fc 21	07-06-87	0.03	1.5	1.5	--	--	--	--	--	--

## WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

## CALVERT COUNTY, MARYLAND-Continued

LOCAL IDENTIFIER	DATE	TIME	STATION NUMBER	GEOLOGIC UNIT	SITE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	DEPTH OF WELL, TOTAL (FEET)	DEPTH TO BOTTOM OF SAMPLE INTERVAL (FT)	DEPTH TO TOP OF SAMPLE INTERVAL (FT)
CA Fc 21	07-06-87	1245	382342076303401	122CSPK	GW	17.65	35.00	35	30
CA Fc 21	08-17-87	1330	382342076303401	122CSPK	GW	18.27	35.00	35	30
CA Fc 21	09-03-87	1210	382342076303401	122CSPK	GW	18.56	35.00	35	30
CA Fc 22	10-01-86	1500	382340076303201	122CSPK	GW	19.39	36.00	36	31
CA Fc 22	11-10-86	1415	382340076303201	122CSPK	GW	20.36	36.00	36	31
CA Fc 22	12-09-86	1130	382340076303201	122CSPK	GW	21.42	36.00	36	31
CA Fc 22	12-09-86	1135	382340076303201	122CSPK	GW	20.54	36.00	36	31
CA Fc 22	12-09-86	1300	382340076303201	122CSPK	GW	21.42	36.00	36	31
CA Fc 22	12-09-86	1305	382340076303201	122CSPK	GW	20.54	36.00	36	31
CA Fc 22	01-07-87	1245	382340076303201	122CSPK	GW	19.21	36.00	36	31
CA Fc 22	03-24-87	1515	382340076303201	122CSPK	GW	17.28	36.00	36	31
CA Fc 22	04-28-87	1530	382340076303201	122CSPK	GW	17.71	36.00	36	31
CA Fc 22	05-26-87	1245	382340076303201	122CSPK	GW	17.99	36.00	36	31
CA Fc 22	07-06-87	1115	382340076303201	122CSPK	GW	18.39	36.00	36	31
CA Fc 22	08-17-87	1215	382340076303201	122CSPK	GW	18.88	36.00	36	31
CA Fc 22	09-03-87	1105	382340076303201	122CSPK	GW	19.12	36.00	36	31
CA Fc 22	09-03-87	1110	382340076303201	122CSPK	GW	19.12	36.00	36	31
CA Fc 28	07-09-87	1405	382340076303401	122CSPK	LYS	--	3.56	3.6	3.6
CA Fc 28	08-19-87	1150	382340076303401	122CSPK	LYS	--	3.56	3.6	3.6
CA Fc 28	09-03-87	1305	382340076303401	122CSPK	LYS	--	3.56	3.6	3.6
CA Fc 29	07-09-87	1250	382340076303402	122CSPK	LYS	--	8.52	8.5	8.5
CA Fc 29	08-19-87	1130	382340076303402	122CSPK	LYS	--	8.52	8.5	8.5
CA Fc 30	07-09-87	1100	382340076303403	122CSPK	LYS	--	13.70	14	14
CA Fc 30	08-19-87	1030	382340076303403	122CSPK	LYS	--	13.70	14	14
CA Fc 30	09-03-87	1030	382340076303403	122CSPK	LYS	--	13.70	14	14

LOCAL IDENTIFIER	DATE	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN)	SAMPLING METHOD CODES	FLOW RATE, INSTANTANEOUS (GPM)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	HARDNESS (MG/L AS CaCO3)	ACIDITY (MG/L AS H)
CA Fc 21	07-06-87	38.0	70	4040	0.7	413	7.2	14.0	4.0	--	--
CA Fc 21	08-17-87	38.0	65	4040	0.8	467	7.2	15.0	5.8	--	--
CA Fc 21	09-03-87	38.0	60	4020	0.8	469	7.1	14.0	6.3	220	--
CA Fc 22	10-01-86	42.0	30	4040	0.5	570	7.1	18.0	--	--	--
CA Fc 22	11-10-86	42.0	60	4040	0.5	640	7.2	15.0	--	300	0.2
CA Fc 22	12-09-86	42.0	0	4020	--	585	7.4	14.5	--	--	--
CA Fc 22	12-09-86	42.0	0	4020	--	585	7.4	14.5	--	--	--
CA Fc 22	12-09-86	42.0	60	4040	1.0	655	7.1	15.0	--	--	--
CA Fc 22	12-09-86	42.0	60	4040	1.0	655	7.1	15.0	--	--	--
CA Fc 22	01-07-87	42.0	55	4040	1.2	640	7.3	16.0	5.0	--	--
CA Fc 22	03-24-87	42.0	90	4040	0.5	607	7.2	14.5	5.0	--	--
CA Fc 22	04-28-87	42.0	60	4040	0.8	480	7.2	13.0	--	--	--
CA Fc 22	05-26-87	42.0	50	4040	0.5	578	7.2	14.0	6.1	--	--
CA Fc 22	07-06-87	42.0	60	4040	0.5	571	7.1	14.0	6.8	--	--
CA Fc 22	08-17-87	42.0	60	4040	0.8	600	7.2	15.0	7.0	--	--
CA Fc 22	09-03-87	42.0	60	4020	0.8	615	7.1	14.0	6.6	300	--
CA Fc 22	09-03-87	42.0	60	4020	0.8	615	7.1	14.0	6.6	300	--
CA Fc 28	07-09-87	32.0	--	4030	--	399	5.0	--	--	--	--
CA Fc 28	08-19-87	32.0	--	4030	--	339	5.0	--	--	--	--
CA Fc 28	09-03-87	32.0	--	4030	--	--	--	--	--	--	--
CA Fc 29	07-09-87	32.0	--	4030	--	359	6.6	--	--	--	--
CA Fc 29	08-19-87	32.0	--	4030	--	--	--	--	--	--	--
CA Fc 30	07-09-87	32.0	--	4030	--	750	7.2	--	--	--	--
CA Fc 30	08-19-87	32.0	--	4030	--	690	7.2	--	--	--	--
CA Fc 30	09-03-87	32.0	--	4030	--	699	7.1	--	--	--	--

Geologic unit (aquifer): 112CSPK - Chesapeake Group

Sampling method: 4020 - Bailer  
4030 - Suction pump  
4040 - Submersible pumpSite type: GW - Ground Water  
LYS - Lysimeter

QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

CALVERT COUNTY, MARYLAND-Continued

LOCAL IDENTIFIER	DATE	ACIDITY (MG/L AS CaCO3)	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNESIUM, DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY TOTAL FIELD (MG/L AS CaCO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS Cl)
CA Fc 21	07-06-87	--	--	--	--	--	--	--	148	--	--
CA Fc 21	08-17-87	--	--	--	--	--	--	--	148	--	--
CA Fc 21	09-03-87	--	81	4.4	7.2	7	0.2	2.4	148	20	17
CA Fc 22	10-01-86	--	--	--	--	--	--	--	240	--	--
CA Fc 22	11-10-86	9.9	110	5.5	8.6	6	0.2	5.1	251	21	17
CA Fc 22	12-09-86	--	--	--	--	--	--	--	235	--	--
CA Fc 22	12-09-86	--	--	--	--	--	--	--	235	--	--
CA Fc 22	12-09-86	--	--	--	--	--	--	--	245	--	--
CA Fc 22	12-09-86	--	--	--	--	--	--	--	245	--	--
CA Fc 22	01-07-87	--	--	--	--	--	--	--	246	--	--
CA Fc 22	03-24-87	--	--	--	--	--	--	--	215	--	--
CA Fc 22	04-28-87	--	--	--	--	--	--	--	224	--	--
CA Fc 22	05-26-87	--	--	--	--	--	--	--	221	--	--
CA Fc 22	07-06-87	--	--	--	--	--	--	--	229	--	--
CA Fc 22	08-17-87	--	--	--	--	--	--	--	237	--	--
CA Fc 22	09-03-87	--	110	5.8	9.5	6	0.3	5.0	234	20	16
CA Fc 22	09-03-87	--	110	5.8	9.6	6	0.3	5.0	234	19	16
CA Fc 28	07-09-87	--	--	--	--	--	--	--	--	--	--
CA Fc 28	08-19-87	--	--	--	--	--	--	--	--	--	--
CA Fc 28	09-03-87	--	--	--	--	--	--	--	--	--	--
CA Fc 29	07-09-87	--	--	--	--	--	--	--	--	--	--
CA Fc 29	08-19-87	--	--	--	--	--	--	--	--	--	--
CA Fc 30	07-09-87	--	--	--	--	--	--	--	270	--	--
CA Fc 30	08-19-87	--	--	--	--	--	--	--	246	--	--
CA Fc 30	09-03-87	--	--	--	--	--	--	--	240	--	--

LOCAL IDENTIFIER	DATE	FLUORIDE, DIS-SOLVED (MG/L AS F)	BROMIDE DIS-SOLVED (MG/L AS BR)	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	NITROGEN, NITRATE DIS-SOLVED (MG/L AS N)	NITROGEN, NITRITE DIS-SOLVED (MG/L AS N)	NITROGEN, NITRITE DIS-SOLVED (MG/L AS NO2)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS N)
CA Fc 21	07-06-87	--	--	--	--	--	--	<0.010	--	9.60	0.040
CA Fc 21	08-17-87	--	--	--	--	--	--	<0.010	--	9.50	<0.010
CA Fc 21	09-03-87	0.10	0.029	15	--	240	--	<0.010	--	9.60	0.020
CA Fc 22	10-01-86	--	--	--	--	--	--	<0.010	--	11.0	0.050
CA Fc 22	11-10-86	0.10	--	18	393	340	--	<0.010	--	11.0	0.080
CA Fc 22	12-09-86	--	--	--	--	--	--	<0.010	--	11.0	0.050
CA Fc 22	12-09-86	--	--	--	--	--	--	<0.010	--	12.0	0.040
CA Fc 22	12-09-86	--	--	--	--	--	10.9	0.090	0.30	11.0	0.050
CA Fc 22	12-09-86	--	--	--	--	--	10.9	0.090	0.30	11.0	0.040
CA Fc 22	01-07-87	--	--	--	--	--	--	<0.010	--	11.0	0.050
CA Fc 22	03-24-87	--	--	--	--	--	--	<0.010	--	11.0	0.020
CA Fc 22	04-28-87	--	--	--	--	--	11.0	0.010	0.03	11.0	0.020
CA Fc 22	05-26-87	--	--	--	--	--	--	<0.010	--	11.0	0.040
CA Fc 22	07-06-87	--	--	--	--	--	--	<0.010	--	11.0	0.050
CA Fc 22	08-17-87	--	--	--	--	--	--	<0.010	--	10.0	0.010
CA Fc 22	09-03-87	0.20	0.036	19	--	330	--	<0.010	--	10.0	0.030
CA Fc 22	09-03-87	0.20	0.034	19	--	320	--	<0.010	--	10.0	0.030
CA Fc 28	07-09-87	--	--	--	--	--	--	<0.010	--	21.0	0.180
CA Fc 28	08-19-87	--	--	--	--	--	--	<0.010	--	19.0	0.010
CA Fc 28	09-03-87	--	--	--	--	--	--	<0.010	--	17.0	0.020
CA Fc 29	07-09-87	--	--	--	--	--	--	<0.010	--	13.0	0.070
CA Fc 29	08-19-87	--	--	--	--	--	--	<0.010	--	13.0	0.020
CA Fc 30	07-09-87	--	--	--	--	--	2.89	0.010	0.03	2.90	0.120
CA Fc 30	08-19-87	--	--	--	--	--	--	<0.010	--	7.00	0.050
CA Fc 30	09-03-87	--	--	--	--	--	--	<0.010	--	6.60	0.040

QUALITY OF GROUND WATER  
WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

CALVERT COUNTY, MARYLAND-Continued

LOCAL IDENT- I- FIER	DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH <sub>4</sub> )	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	CARBON, ORGANIC TOTAL (MG/L AS C)
CA Fc 21	07-06-87	0.05	1.8	1.8	--	--	--	--	--	--
CA Fc 21	08-17-87	--	--	0.60	--	--	--	--	--	--
CA Fc 21	09-03-87	0.03	--	<0.20	0.120	<10	4	<1	--	1.0
CA Fc 22	10-01-86	0.06	0.25	0.30	--	--	--	--	--	--
CA Fc 22	11-10-86	0.10	1.3	1.4	--	<10	7	2	380	--
CA Fc 22	12-09-86	0.06	0.65	0.70	--	--	--	--	--	--
CA Fc 22	12-09-86	0.05	1.1	1.1	--	--	--	--	--	--
CA Fc 22	12-09-86	0.06	0.75	0.80	--	--	--	--	--	--
CA Fc 22	12-09-86	0.05	1.1	1.1	--	--	--	--	--	--
CA Fc 22	01-07-87	0.06	0.35	0.40	--	--	--	--	--	--
CA Fc 22	03-24-87	0.03	0.68	0.70	--	--	--	--	--	--
CA Fc 22	04-28-87	0.03	0.88	0.90	--	--	--	--	--	--
CA Fc 22	05-26-87	0.05	0.96	1.0	--	--	--	--	--	--
CA Fc 22	07-06-87	0.06	1.2	1.3	--	--	--	--	--	--
CA Fc 22	08-17-87	0.01	0.79	0.80	--	--	--	--	--	--
CA Fc 22	09-03-87	0.04	--	<0.20	0.160	<10	<3	<1	--	0.8
CA Fc 22	09-03-87	0.04	--	<0.20	0.160	<10	3	<1	--	0.6
CA Fc 28	07-09-87	0.23	2.1	2.3	--	--	--	--	--	--
CA Fc 28	08-19-87	0.01	4.0	4.0	--	--	--	--	--	--
CA Fc 28	09-03-87	0.03	0.18	0.20	--	--	--	--	--	1.9
CA Fc 29	07-09-87	0.09	2.3	2.4	--	--	--	--	--	--
CA Fc 29	08-19-87	0.03	2.2	2.2	--	--	--	--	--	--
CA Fc 30	07-09-87	0.15	0.68	0.80	--	--	--	--	--	--
CA Fc 30	08-19-87	0.06	0.55	0.60	--	--	--	--	--	--
CA Fc 30	09-03-87	0.05	0.36	0.40	--	--	--	--	--	3.9

QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

CARROLL COUNTY, MARYLAND

LOCAL IDENTIFIER	STATION NUMBER	GEOLOGIC UNIT	SITE	DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	DEPTH OF WELL TOTAL (FEET)	DEPTH TO BOTTOM OF SAMPLE INTERVAL (FT)	DEPTH TO TOP OF SAMPLE INTERVAL (FT)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)
CL Bf 194	393811076521101	300PRTB	GW	12-17-86	8.48	53.00	53	48	819
CL Bf 195	393811076521102	300PRTB	GW	06-01-87	1.89	18.00	18	8.0	819
CL Bf 195	393811076521102	300PRTB	GW	06-04-87	--	18.00	18	8.0	819
CL Bf 195	393811076521102	300PRTB	GW	06-05-87	1.22	18.00	18	8.0	819
CL Bf 195	393811076521102	300PRTB	GW	09-10-87	7.88	18.00	18	8.0	819
CL Bf 198	393817076520801	300PRTB	GW	12-17-86	54.41	73.00	71	46	866
CL Bf 198	393817076520801	300PRTB	GW	06-02-87	48.19	73.00	71	46	866
CL Bf 198	393817076520801	300PRTB	GW	06-04-87	--	73.00	71	46	866
CL Bf 199	393810076521001	300PRTB	GW	12-17-86	7.53	18.00	15	5.0	819
CL Bf 199	393810076521001	300PRTB	GW	06-02-87	2.95	18.00	15	5.0	819
CL Bf 199	393810076521001	300PRTB	GW	06-04-87	--	18.00	15	5.0	819
CL Bf 199	393810076521001	300PRTB	GW	06-05-87	2.08	18.00	15	5.0	819
CL Bf 199	393810076521001	300PRTB	GW	09-10-87	7.43	18.00	15	5.0	818
CL Bf 200	393810076521002	300PRTB	GW	06-02-87	--	79.00	76	66	818
CL Bf 200	393810076521002	300PRTB	GW	06-04-87	--	79.00	76	66	818
CL Bf 200	393810076521002	300PRTB	GW	06-05-87	--	79.00	76	66	818
CL Bf 200	393810076521002	300PRTB	GW	09-10-87	8.33	79.00	76	66	819
CL Bf 201	393811076521103	300PRTB	LYS	09-10-87	--	2.90	2.4	2.1	821

LOCAL IDENTIFIER	DATE	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN)	SAMPLING METHOD CODES	FLOW RATE, INSTANTANEOUS (GPM)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TEMPERATURE AIR (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARDNESS (MG/L AS CaCO3)	CALCIUM DIS-SOLVED (MG/L AS Ca)
CL Bf 194	12-17-86	126	4020	--	235	5.5	11.0	--	--	54	8.4
CL Bf 195	06-01-87	71	4020	--	246	5.2	14.0	30.0	--	63	13
CL Bf 195	06-04-87	0	4020	--	239	5.3	16.5	--	--	55	8.8
CL Bf 195	06-05-87	0	4020	--	250	5.2	15.5	--	--	61	11
CL Bf 195	09-10-87	--	4020	--	245	5.1	15.0	--	3.2	54	8.8
CL Bf 198	12-17-86	0.6	4020	0.8	190	5.4	11.0	0.0	--	52	7.8
CL Bf 198	06-02-87	0	4020	--	187	5.7	18.0	--	--	54	7.4
CL Bf 198	06-04-87	0	4020	--	181	5.6	15.0	--	--	54	7.0
CL Bf 199	12-17-86	12	4020	1.7	230	5.1	11.0	--	--	59	14
CL Bf 199	06-02-87	99	4020	--	275	5.3	15.5	26.0	--	57	13
CL Bf 199	06-04-87	0	4020	--	276	5.3	14.5	--	--	57	13
CL Bf 199	06-05-87	0	4020	--	285	5.2	15.0	--	--	64	16
CL Bf 199	09-10-87	--	4020	--	360	5.1	14.5	--	3.8	67	17
CL Bf 200	06-02-87	0	4020	--	145	5.4	12.0	31.0	--	41	6.7
CL Bf 200	06-04-87	0	4020	--	147	5.3	15.0	--	--	41	6.6
CL Bf 200	06-05-87	0	4020	--	150	5.3	15.0	--	--	42	7.0
CL Bf 200	09-10-87	--	4020	--	144	5.3	12.0	--	5.7	40	6.6
CL Bf 201	09-10-87	--	4080	--	570	7.0	29.5	--	--	--	--

LOCAL IDENTIFIER	DATE	MAGNESIUM, DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY, WH WAT TOTAL FIELD (MG/L AS CaCO3)	SULFATE, DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS Cl)	FLUORIDE, DIS-SOLVED (MG/L AS F)	IODIDE, DIS-SOLVED (MG/L AS I)
CL Bf 194	12-17-86	8.1	21	45	1	1.6	21	6.9	29	<0.10	--
CL Bf 195	06-01-87	7.3	16	35	0.9	1.9	9	18	30	<0.10	0.007
CL Bf 195	06-04-87	8.1	16	38	1	0.90	8	16	28	<0.10	0.007
CL Bf 195	06-05-87	8.2	17	37	1	1.5	--	20	30	<0.10	0.009
CL Bf 195	09-10-87	7.7	17	40	1	1.6	10	16	28	<0.10	--
CL Bf 198	12-17-86	7.8	12	33	0.7	1.6	10	7.1	22	<0.10	--
CL Bf 198	06-02-87	8.5	7.3	22	0.4	2.6	13	2.1	17	<0.10	0.003
CL Bf 198	06-04-87	8.8	7.1	22	0.4	1.9	13	1.7	14	<0.10	0.005
CL Bf 199	12-17-86	5.9	16	36	0.9	1.1	8	7.0	39	<0.10	--
CL Bf 199	06-02-87	5.9	18	40	1	1.5	9	9.3	43	<0.10	0.005
CL Bf 199	06-04-87	6.0	19	42	1	0.50	9	6.8	35	<0.10	0.002
CL Bf 199	06-05-87	5.9	22	42	1	1.0	--	11	50	0.30	0.003
CL Bf 199	09-10-87	6.0	29	48	2	1.0	7	5.0	74	0.20	--
CL Bf 200	06-02-87	5.9	6.1	24	0.4	1.4	15	0.3	14	<0.10	0.004
CL Bf 200	06-04-87	6.0	6.0	24	0.4	0.60	6	0.3	15	<0.10	0.002
CL Bf 200	06-05-87	6.0	6.8	25	0.5	1.2	--	0.4	19	<0.10	0.002
CL Bf 200	09-10-87	5.8	5.8	23	0.4	1.2	6	0.6	21	0.10	--
CL Bf 201	09-10-87	--	--	--	--	--	43	93	23	--	--

Geologic unit (aquifer): 300PRTB - Prettyboy Schist

Sampling method: 4020 - Bailer  
4080 - Persitaltic pump

Site type: GW - Ground Water  
LYS - Lysimeter







QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

HARFORD COUNTY, MARYLAND

LOCAL IDENTIFIER	STATION NUMBER	GEOLOGIC UNIT	DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	DEPTH OF WELL, TOTAL (FEET)	DEPTH TO BOTTOM OF SAMPLE INTERVAL (FT)	DEPTH TO TOP OF SAMPLE INTERVAL (FT)	ELEV. OF SURFACE DATUM (FT. ABOVE NGVD)	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN)
HA Cf 114	393042076074801	112TLBT	05-08-87	33.93	90.00	90	89	28.0	--
HA Cf 173	393158076082401	300MBAB	08-31-87	2.87	--	--	--	125	45
HA Dc 117	392611076205001	217PTMC	05-29-87	58.73	85.00	85	75	150	--
HA Dc 118	392512076204901	217PTMC	05-18-87	51.70	90.00	90	80	84.0	--
HA Dc 119	392753076220401	300PRDP	09-01-87	--	164.00	350	162	390	45
HA Dd 71	392707076155101	217PTMC	09-03-87	52.60	107.00	107	97	67.0	45
HA Dd 73	392527076170801	217PTMC	06-10-87	--	--	--	--	49.0	--
HA Dd 75	392543076184001	217PTMC	05-29-87	--	89.00	89	84	80.0	--
HA Dd 79	392518076192701	217PTMC	05-18-87	--	140.00	140	130	125	--
HA Dd 86	392832076154301	110ALVM	09-03-87	6.48	12.00	12	7.0	10.0	45
HA Dd 87	392941076161101	300JMSR	09-04-87	--	--	--	--	163	45
HA De 64	392834076111002	217PTMC	09-04-87	--	100.00	84	60	35.0	120
HA De 73	392817076122602	217PTMC	06-03-87	--	103.00	103	94	40.0	--
HA De 85	392539076131201	217PTMC	05-08-87	27.89	118.00	118	103	32.0	--
HA De 86	392959076100101	112TLBT	06-10-87	--	61.00	61	39	60.0	--
HA De 150	392718076134701	217PTMC	05-07-87	19.29	100.00	100	95	20.0	--
HA De 168	392722076144501	112TLBT	05-18-87	34.35	50.00	50	42	38.0	--
HA De 169	392920076111201	217PTMC	05-06-87	28.98	60.00	60	50	63.0	--
HA De 174	392822076124201	217PTMC	05-27-87	23.20	48.00	48	41	35.0	--
HA De 179	392905076114101	112TLBT	09-03-87	--	--	--	--	30.0	45
HA De 180	392920076124601	217PTMC	09-03-87	--	--	--	--	20.0	45
HA De 190	392731076122701	112TLBT	06-10-87	--	50.00	50	45	40.0	--
HA Ec 13	392436076205401	217PTMC	06-03-87	--	133.00	146	113	66.5	--
HA Ec 13	392436076205401	217PTMC	09-04-87	--	133.00	146	113	67.0	--
HA Ed 32	392408076195201	217PTMC	06-11-87	--	243.00	243	200	42.0	45
HA Ed 36	392447076183701	217PTMC	05-07-87	--	120.00	120	110	70.0	--
HA Ed 39	392421076192801	217PTMC	09-01-87	--	110.00	110	105	47.0	--
HA Ed 40	392438076181201	217PTMC	05-06-87	--	185.00	185	175	47.0	--

LOCAL IDENTIFIER	SAMPLING METHOD, CODES	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TEMPERATURE AIR (DEG C)	COLOR (PLATINUM-COBALT UNITS)	OXYGEN, DISSOLVED (MG/L)	HARDNESS (MG/L AS CaCO3)	CALCIUM DISSOLVED (MG/L AS Ca)	MAGNESIUM, DISSOLVED (MG/L AS Mg)
HA Cf 114	4040	270	6.8	14.0	19.0	3	0	110	28	8.7
HA Cf 173	4040	246	7.7	15.0	21.0	--	3.0	130	38	7.6
HA Dc 117	4040	25	5.2	14.5	32.0	1	5.7	3	0.72	0.37
HA Dc 118	4040	56	4.9	15.0	25.0	1	8.0	5	1.2	0.53
HA Dc 119	4040	163	7.0	17.0	26.0	--	0	67	22	2.9
HA Dd 71	4040	115	4.8	15.0	23.0	--	7.5	23	4.6	2.7
HA Dd 73	--	64	5.1	15.0	23.5	--	0.3	13	2.5	1.6
HA Dd 75	4040	44	5.3	18.0	31.0	2	1.2	3	0.55	0.39
HA Dd 79	4040	69	5.1	28.0	28.0	1	6.7	16	3.5	1.7
HA Dd 86	--	444	6.3	18.0	19.0	--	0.8	190	55	13
HA Dd 87	4040	155	6.9	14.0	23.0	--	0	73	18	6.9
HA De 64	--	140	5.4	12.0	25.0	--	7.9	51	9.3	6.8
HA De 73	4040	127	5.3	14.0	22.0	1	6.5	51	11	5.8
HA De 85	4040	27	5.5	13.5	17.0	1	3.8	6	1.3	0.64
HA De 86	4040	135	5.2	13.0	24.0	--	4.6	31	5.9	4.0
HA De 150	4040	31	5.5	13.0	0.0	1	7.6	7	1.7	0.62
HA De 168	4040	129	6.3	14.0	--	2	--	30	5.9	3.7
HA De 169	4040	293	4.7	15.0	22.0	1	4.6	60	9.7	8.6
HA De 174	4040	49	5.6	16.0	16.0	3	0	10	2.3	1.1
HA De 179	--	150	5.2	13.0	17.0	--	4.0	26	3.9	4.0
HA De 180	--	428	6.6	16.0	20.0	--	0	180	36	22
HA De 190	4040	166	5.3	14.0	20.0	--	7.2	63	9.2	9.7
HA Ec 13	4040	93	4.9	13.0	23.0	1	7.1	10	1.6	1.4
HA Ec 13	4040	--	5.0	--	--	--	--	--	--	--
HA Ed 32	4040	54	5.8	14.0	21.0	1	0.2	11	2.4	1.3
HA Ed 36	4040	33	4.5	13.0	--	1	2.7	3	0.61	0.31
HA Ed 39	--	29	5.0	--	25.0	--	--	5	1.3	0.31
HA Ed 40	4040	18	5.2	14.0	24.0	1	6.9	3	0.65	0.25

Geologic unit (aquifer): 110ALVM - Quaternary Alluvium  
 112TLBT - Talbot Formation  
 217PTMC - Potomac Group  
 300JMSR - James Run Gneiss  
 300MBAB - Metagabbro and Amphibolite  
 300PRDP - Port Deposit Gneiss

Sampling method: 4040 - Submersible pump

## QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

HARFORD COUNTY, MARYLAND-Continued

LOCAL IDENTIFIER	SODIUM, DIS-SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY, TOTAL FIELD (MG/L AS CAC03)	SULFATE, DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)
HA Cf 114	13	21	0.6	2.4	140	5.7	10	0.20	12	152
HA Cf 173	6.9	10	0.3	1.8	110	4.9	3.4	0.10	28	163
HA Dc 117	2.0	53	0.5	0.40	3	0.4	3.9	<0.10	6.6	15
HA Dc 118	2.2	45	0.4	0.50	3	<5.0	4.0	<0.10	5.6	21
HA Dc 119	5.5	14	0.3	3.3	63	17	1.4	0.20	49	128
HA Dd 71	11	50	1	1.2	3	4.5	24	0.10	8.8	64
HA Dd 73	5.1	44	0.6	0.80	5	11	5.6	<0.10	8.4	44
HA Dd 75	6.9	82	2	0.20	8	1.8	6.2	<0.10	7.5	29
HA Dd 79	3.9	33	0.4	1.0	2	<5.0	6.0	<0.10	7.5	45
HA Dd 86	45	34	1	2.5	95	23	140	0.10	19	380
HA Dd 87	4.9	12	0.3	3.5	61	10	6.7	0.30	41	129
HA De 64	4.5	15	0.3	2.1	2	11	10	0.10	11	90
HA De 73	5.4	18	0.3	2.8	5	3.7	16	<0.10	9.9	114
HA De 85	2.2	43	0.4	0.40	4	0.3	1.8	<0.10	12	25
HA De 86	11	42	0.9	1.6	8	9.5	24	<0.10	15	93
HA De 150	2.2	39	0.4	0.60	5	<0.2	2.0	<0.10	9.2	30
HA De 168	7.4	34	0.6	0.80	56	<5.0	9.0	<0.10	39	105
HA De 169	32	52	2	2.7	7	6.1	73	<0.10	13	205
HA De 174	2.9	37	0.4	0.50	8	6.2	5.1	<0.10	8.2	23
HA De 179	17	56	1	2.2	6	0.6	34	0.10	10	96
HA De 180	16	16	0.5	1.7	69	10	110	0.10	41	305
HA De 190	2.6	8	0.1	2.2	4	6.1	12	<0.10	9.6	128
HA Ec 13	13	73	2	0.60	2	2.7	24	<0.10	8.1	55
HA Ec 13	--	--	--	--	--	--	--	--	--	--
HA Ed 32	5.1	48	0.7	0.70	13	7.2	3.5	<0.10	9.0	35
HA Ed 36	2.0	58	0.5	0.30	--	5.7	1.7	<0.10	7.6	21
HA Ed 39	2.4	29	0.5	6.7	3	3.8	2.7	0.10	7.3	22
HA Ed 40	1.4	50	0.4	0.30	5	1.5	1.8	<0.10	7.5	15

LOCAL IDENTIFIER	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	ALUMINUM, DIS-SOLVED (UG/L AS AL)	ANTIMONY, DIS-SOLVED (UG/L AS SB)	ARSENIC, DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYLLIUM, DIS-SOLVED (UG/L AS BE)	CADMIUM, DIS-SOLVED (UG/L AS CD)	CHROMIUM, DIS-SOLVED (UG/L AS CR)
HA Cf 114	170	<0.100	0.160	--	--	--	--	--	--	--
HA Cf 173	160	0.700	0.010	--	--	--	--	--	--	--
HA Dc 117	16	0.200	<0.010	--	--	--	--	--	--	--
HA Dc 118	--	1.30	0.010	--	--	--	--	--	--	--
HA Dc 119	140	<0.100	0.010	--	--	--	--	--	--	--
HA Dd 71	59	1.80	<0.010	--	--	--	--	--	--	--
HA Dd 73	38	<0.100	0.030	--	--	--	--	--	--	--
HA Dd 75	28	0.300	<0.010	--	--	--	--	--	--	--
HA Dd 79	--	4.60	0.050	--	--	--	--	--	--	--
HA Dd 86	360	<0.100	<0.010	<10	<1	<1	110	8	<1	<1
HA Dd 87	130	<0.100	0.010	--	--	--	--	--	--	--
HA De 64	57	8.60	0.010	20	<1	<1	110	<0.5	<1	1
HA De 73	58	12.0	0.030	--	--	--	--	--	--	--
HA De 85	21	0.900	<0.010	--	--	--	--	--	--	--
HA De 86	76	1.90	0.020	--	--	--	--	--	--	--
HA De 150	--	1.30	0.010	--	--	--	--	--	--	--
HA De 168	--	<0.100	0.320	--	--	--	--	--	--	--
HA De 169	150	<0.100	<0.010	--	--	--	--	--	--	--
HA De 174	33	<0.100	<0.010	--	--	--	--	--	--	--
HA De 179	76	5.10	<0.010	20	<1	<1	76	<0.5	<1	1
HA De 180	300	0.200	<0.010	--	--	--	--	--	--	--
HA De 190	54	14.0	0.020	--	--	--	--	--	--	--
HA Ec 13	53	1.10	0.020	--	--	--	--	--	--	--
HA Ec 13	--	--	--	80	<1	3	<100	<10	<1	4
HA Ed 32	38	<0.100	0.020	--	--	--	--	--	--	--
HA Ed 36	19	0.100	<0.010	--	--	--	--	--	--	--
HA Ed 39	26	0.700	<0.010	--	--	--	--	--	--	--
HA Ed 40	17	0.200	0.020	--	--	--	--	--	--	--



## QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

HOWARD COUNTY, MARYLAND

LOCAL IDENTIFIER	DATE	TIME	STATION NUMBER	GEOLOGIC UNIT	DEPTH BELOW SURFACE (WATER LEVEL) (FEET)	DEPTH OF WELL, TOTAL (FEET)	DEPTH TO BOTTOM OF SAMPLE INTERVAL (FT)	DEPTH TO TOP OF SAMPLE INTERVAL (FT)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)
HO Cd 20	10-08-86	1550	391440076555401	300WSCK	12.63	100.00	100	30	398
HO Cd 20	11-12-86	1100	391440076555401	300WSCK	11.54	100.00	100	30	398
HO Cd 20	12-02-86	1330	391440076555401	300WSCK	10.23	100.00	100	30	398
HO Cd 20	12-02-86	1335	391440076555401	300WSCK	10.23	100.00	100	30	398
HO Cd 20	12-02-86	1500	391440076555401	300WSCK	10.23	100.00	100	30	398
HO Cd 20	12-02-86	1505	391440076555401	300WSCK	10.23	100.00	100	30	398
HO Cd 20	12-02-86	1530	391440076555401	300WSCK	10.23	100.00	100	30	398
HO Cd 20	12-02-86	1535	391440076555401	300WSCK	10.23	100.00	100	30	398
HO Cd 20	12-30-86	1315	391440076555401	300WSCK	9.06	100.00	100	30	398
HO Cd 20	03-05-87	1315	391440076555401	300WSCK	7.75	100.00	100	30	398
HO Cd 20	04-09-87	1400	391440076555401	300WSCK	6.14	100.00	100	30	398
HO Cd 20	04-09-87	1405	391440076555401	300WSCK	6.14	100.00	100	30	398
HO Cd 20	05-12-87	1520	391440076555401	300WSCK	10.98	100.00	100	30	398
HO Cd 20	06-11-87	1450	391440076555401	300WSCK	7.06	100.00	100	30	398
HO Cd 20	07-08-87	1335	391440076555401	300WSCK	7.40	100.00	100	30	398
HO Cd 20	08-05-87	1500	391440076555401	300WSCK	7.85	100.00	100	30	398
HO Cd 20	08-31-87	1425	391440076555401	300WSCK	8.41	100.00	100	30	398
HO Cd 21	10-08-86	1410	391442076555301	300WSCK	17.92	99.00	99	55	420
HO Cd 21	11-12-86	1350	391442076555301	300WSCK	18.85	99.00	99	55	420
HO Cd 21	11-12-86	1440	391442076555301	300WSCK	18.85	99.00	99	55	420
HO Cd 21	12-03-86	1245	391442076555301	300WSCK	--	99.00	99	55	420
HO Cd 21	12-03-86	1250	391442076555301	300WSCK	--	99.00	99	55	420
HO Cd 21	12-03-86	1400	391442076555301	300WSCK	--	99.00	99	55	420
HO Cd 21	12-03-86	1405	391442076555301	300WSCK	--	99.00	99	55	420
HO Cd 21	12-03-86	1500	391442076555301	300WSCK	--	99.00	99	55	420
HO Cd 21	12-30-86	1215	391442076555301	300WSCK	16.78	99.00	99	55	420
HO Cd 21	12-30-86	1220	391442076555301	300WSCK	16.78	99.00	99	55	420
HO Cd 21	03-05-87	1215	391442076555301	300WSCK	15.42	99.00	99	55	420
HO Cd 21	03-05-87	1220	391442076555301	300WSCK	15.42	99.00	99	55	420
HO Cd 21	04-09-87	1230	391442076555301	300WSCK	14.79	99.00	99	55	420
HO Cd 21	05-12-87	1340	391442076555301	300WSCK	14.43	99.00	99	55	420
HO Cd 21	05-12-87	1355	391442076555301	300WSCK	14.43	99.00	99	55	420
HO Cd 21	06-11-87	1310	391442076555301	300WSCK	14.65	99.00	99	55	420
HO Cd 21	07-08-87	1215	391442076555301	300WSCK	14.92	99.00	99	55	420
HO Cd 21	08-05-87	1330	391442076555301	300WSCK	15.41	99.00	99	55	420
HO Cd 21	08-31-87	1315	391442076555301	300WSCK	15.96	99.00	99	55	420
HO Cd 25	10-09-86	1300	391444076554701	300WSCK	45.39	98.00	98	60	460
HO Cd 25	11-04-86	1250	391444076554701	300WSCK	45.62	98.00	98	60	460
HO Cd 26	10-09-86	1200	391442076554701	300WSCK	51.00	150.00	150	106	465
HO Cd 26	11-10-86	1330	391442076554701	300WSCK	51.38	150.00	150	106	465
HO Cd 28	10-08-86	1340	391447076554702	300WSCK	31.14	50.00	50	45	450
HO Cd 28	11-12-86	1530	391447076554702	300WSCK	31.78	50.00	50	45	450
HO Cd 28	12-03-86	1205	391447076554702	300WSCK	31.85	50.00	50	45	450
HO Cd 28	12-03-86	1210	391447076554702	300WSCK	31.85	50.00	50	45	450
HO Cd 28	12-04-86	1100	391447076554702	300WSCK	31.94	50.00	50	45	450
HO Cd 28	12-04-86	1115	391447076554702	300WSCK	31.94	50.00	50	45	450
HO Cd 28	12-04-86	1430	391447076554702	300WSCK	31.94	50.00	50	45	450
HO Cd 28	12-04-86	1435	391447076554702	300WSCK	31.94	50.00	50	45	450
HO Cd 28	12-30-86	1140	391447076554702	300WSCK	31.76	50.00	50	45	450
HO Cd 28	03-05-87	1140	391447076554702	300WSCK	29.85	50.00	50	45	450
HO Cd 28	04-09-87	1320	391447076554702	300WSCK	28.19	50.00	50	45	450
HO Cd 28	05-12-87	1015	391447076554702	300WSCK	26.99	50.00	50	45	450
HO Cd 28	06-11-87	1015	391447076554702	300WSCK	26.56	50.00	50	45	450
HO Cd 28	07-08-87	1110	391447076554702	300WSCK	26.42	50.00	50	45	450
HO Cd 28	08-05-87	1230	391447076554702	300WSCK	26.60	50.00	50	45	450
HO Cd 28	08-31-87	1220	391447076554702	300WSCK	27.04	50.00	50	45	450
HO Cd 29	10-09-86	1100	391442076554702	300WSCK	48.61	68.00	68	64	470
HO Cd 29	11-10-86	1115	391442076554702	300WSCK	49.06	68.00	68	64	470
HO Cd 29	12-02-86	1100	391442076554702	300WSCK	50.29	68.00	68	64	470
HO Cd 29	12-02-86	1200	391442076554702	300WSCK	50.29	68.00	68	64	470
HO Cd 29	12-02-86	1230	391442076554702	300WSCK	50.29	68.00	68	64	470
HO Cd 29	12-02-86	1235	391442076554702	300WSCK	50.29	68.00	68	64	470
HO Cd 29	12-02-86	1415	391442076554702	300WSCK	50.29	68.00	68	64	470
HO Cd 29	12-02-86	1420	391442076554702	300WSCK	50.29	67.59	68	64	470
HO Cd 29	12-30-86	1430	391442076554702	300WSCK	49.60	68.00	68	64	470
HO Cd 29	03-05-87	1045	391442076554702	300WSCK	48.74	68.00	68	64	470
HO Cd 29	04-09-87	1110	391442076554702	300WSCK	46.95	68.00	68	64	470
HO Cd 29	05-12-87	1205	391442076554702	300WSCK	44.95	68.00	68	64	470
HO Cd 29	06-11-87	1105	391442076554702	300WSCK	43.82	68.00	68	64	470
HO Cd 29	06-11-87	1110	391442076554702	300WSCK	43.82	68.00	68	64	470
HO Cd 29	07-08-87	1030	391442076554702	300WSCK	43.53	68.00	68	64	470
HO Cd 29	08-05-87	1010	391442076554702	300WSCK	43.55	68.00	68	64	470
HO Cd 29	08-31-87	1100	391442076554702	300WSCK	44.00	68.00	68	64	470

Geologic unit (aquifer): 300WSCK - Wissahickon Formation

QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

HOWARD COUNTY, MARYLAND-Continued

LOCAL IDENTIFIER	DATE	PUMP OR FLOW PERIOD TO SAMPLING (MIN)	SAMPLING METHOD CODES	FLOW RATE, INSTANTANEOUS (GPM)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TEMPERATURE AIR (DEG C)	OXYGEN, DISSOLVED (MG/L)	HARDNESS (MG/L AS CaCO3)	ACIDITY (MG/L AS H)
HO Cd 20	10-08-86	60	4020	1.0	116	7.0	14.0	21.0	--	--	--
HO Cd 20	11-12-86	75	4020	1.0	112	6.8	13.0	11.0	--	36	<0.1
HO Cd 20	12-02-86	0	4020	0	104	7.0	9.0	8.0	--	--	--
HO Cd 20	12-02-86	0	4020	0	104	7.0	9.0	8.0	--	--	--
HO Cd 20	12-02-86	45	4070	1.0	100	7.0	9.0	8.0	--	--	--
HO Cd 20	12-02-86	45	4070	1.0	100	7.0	9.0	8.0	--	--	--
HO Cd 20	12-02-86	45	4020	1.0	102	6.8	9.0	8.0	--	--	--
HO Cd 20	12-02-86	45	4020	1.0	102	6.8	9.0	8.0	--	--	--
HO Cd 20	12-30-86	75	4020	1.0	93	7.2	11.5	8.5	--	--	--
HO Cd 20	03-05-87	70	4020	1.0	87	6.3	11.5	3.0	0.5	--	--
HO Cd 20	04-09-87	60	4020	1.5	83	6.4	12.0	13.0	0.2	--	--
HO Cd 20	04-09-87	60	4020	1.5	83	6.4	12.0	13.0	0.2	--	--
HO Cd 20	05-12-87	95	4020	1.0	84	6.5	12.0	28.0	0.0	--	--
HO Cd 20	06-11-87	95	4020	1.0	98	6.9	12.0	26.0	0.2	--	--
HO Cd 20	07-08-87	85	4020	1.0	104	6.9	12.0	36.5	0.3	--	--
HO Cd 20	08-05-87	60	4020	1.0	102	6.7	12.0	25.0	0.6	--	--
HO Cd 20	08-31-87	60	4020	1.0	103	6.9	13.0	28.0	1.4	34	--
HO Cd 21	10-08-86	120	4020	1.0	108	7.0	14.0	21.0	--	--	--
HO Cd 21	11-12-86	75	4020	1.0	106	7.0	11.0	11.0	--	34	<0.1
HO Cd 21	11-12-86	75	4020	1.0	106	7.0	11.0	11.0	--	34	<0.1
HO Cd 21	12-03-86	0	4020	0	82	6.8	9.5	14.0	--	--	--
HO Cd 21	12-03-86	0	4020	0	82	6.8	9.5	14.0	--	--	--
HO Cd 21	12-03-86	60	4070	1.0	98	6.9	9.5	14.0	--	--	--
HO Cd 21	12-03-86	60	4070	1.0	98	6.9	9.5	14.0	--	--	--
HO Cd 21	12-03-86	60	4020	1.0	97	7.0	9.5	14.0	--	--	--
HO Cd 21	12-30-86	75	4020	1.0	105	7.5	11.5	8.5	--	--	--
HO Cd 21	12-30-86	75	4020	1.0	105	7.5	11.5	8.5	--	--	--
HO Cd 21	03-05-87	90	4020	1.0	97	6.6	11.5	3.0	0.2	--	--
HO Cd 21	03-05-87	90	4020	1.0	97	6.6	11.5	3.0	0.2	--	--
HO Cd 21	04-09-87	60	4020	1.5	100	7.0	12.0	13.0	0.2	--	--
HO Cd 21	05-12-87	120	4020	1.0	84	6.8	12.0	25.5	0.0	--	--
HO Cd 21	05-12-87	120	4020	1.0	84	6.8	12.0	25.5	0.0	--	--
HO Cd 21	06-11-87	100	4020	1.0	95	6.8	12.5	26.0	0.4	--	--
HO Cd 21	07-08-87	105	4020	1.0	92	6.8	12.5	33.5	0.4	--	--
HO Cd 21	08-05-87	60	4020	1.0	92	6.7	12.5	29.0	0.5	--	--
HO Cd 21	08-31-87	60	4020	1.0	74	6.7	13.0	27.5	1.4	27	--
HO Cd 25	10-09-86	--	4020	--	76	6.8	14.0	25.0	--	--	--
HO Cd 25	11-04-86	60	4020	0.5	214	6.0	11.0	14.0	--	--	--
HO Cd 26	10-09-86	--	4020	--	180	8.1	15.0	25.0	--	--	--
HO Cd 26	11-10-86	60	4020	1.0	170	8.3	11.0	9.0	--	--	--
HO Cd 28	10-08-86	60	4040	0.8	37	6.3	14.0	21.0	--	--	--
HO Cd 28	11-12-86	75	4020	1.0	28	6.1	11.0	9.0	--	--	--
HO Cd 28	12-03-86	0	4020	0	45	6.1	9.5	14.0	--	--	--
HO Cd 28	12-03-86	0	4020	0	45	6.1	9.5	14.0	--	--	--
HO Cd 28	12-04-86	--	4020	--	72	6.3	9.0	7.0	--	--	--
HO Cd 28	12-04-86	--	4020	--	72	6.3	9.0	7.0	--	--	--
HO Cd 28	12-04-86	60	4040	1.0	31	6.0	9.0	7.0	--	--	--
HO Cd 28	12-04-86	60	4040	1.0	31	6.0	9.0	7.0	--	--	--
HO Cd 28	12-30-86	60	4040	1.0	30	6.0	11.5	8.5	--	--	--
HO Cd 28	03-05-87	60	4040	0.3	38	5.9	10.5	3.0	5.2	--	--
HO Cd 28	04-09-87	45	4040	1.0	26	5.8	12.5	13.0	0.2	--	--
HO Cd 28	05-12-87	95	4040	0.2	22	5.9	12.5	29.0	7.5	--	--
HO Cd 28	06-11-87	115	4040	0.5	21	5.8	13.0	21.0	6.6	--	--
HO Cd 28	07-08-87	165	4040	0.5	22	5.7	13.5	13.5	3.9	--	--
HO Cd 28	08-05-87	30	4020	1.0	25	5.6	13.0	31.0	7.4	--	--
HO Cd 28	08-31-87	30	4020	1.0	21	5.7	13.0	26.0	7.5	6	--
HO Cd 29	10-09-86	0	4020	0	32	6.2	13.0	25.0	--	--	--
HO Cd 29	11-10-86	75	4020	1.0	28	5.8	11.0	9.0	--	--	--
HO Cd 29	12-02-86	0	4020	0	32	6.0	9.0	8.0	--	--	--
HO Cd 29	12-02-86	0	4020	0	32	6.0	9.0	8.0	--	--	--
HO Cd 29	12-02-86	45	4070	1.0	24	6.4	9.0	8.0	--	--	--
HO Cd 29	12-02-86	45	4070	1.0	24	6.4	9.0	8.0	--	--	--
HO Cd 29	12-02-86	45	4020	1.0	25	6.0	9.0	8.0	--	--	--
HO Cd 29	12-02-86	45	4020	1.0	25	6.0	9.0	8.0	--	--	--
HO Cd 29	12-30-86	75	4020	1.0	24	6.1	11.0	8.5	--	--	--
HO Cd 29	03-05-87	90	4020	1.0	29	5.4	10.5	3.0	--	--	--
HO Cd 29	04-09-87	60	4020	1.5	32	5.7	12.5	13.0	2.6	--	--
HO Cd 29	05-12-87	80	4020	1.0	26	5.9	12.5	29.0	10.8	--	--
HO Cd 29	06-11-87	110	4020	1.0	24	5.6	12.5	25.0	9.3	--	--
HO Cd 29	06-11-87	110	4020	1.0	24	5.6	12.5	25.0	9.3	--	--
HO Cd 29	07-08-87	90	4020	1.0	25	5.6	12.5	33.0	9.9	--	--
HO Cd 29	08-05-87	60	4020	1.0	27	5.5	12.5	36.0	10.1	--	--
HO Cd 29	08-31-87	60	4020	1.0	22	5.5	12.5	26.0	9.3	5	--

Sampling method: 4020 - Thief sampler  
 4040 - Submersible pump  
 4070 - Air lift

## QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

HOWARD COUNTY, MARYLAND-Continued

LOCAL IDENT- I- FIER	DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
HO Cd 20	10-08-86	--	--	--	--	--	--	43	--	--	--
HO Cd 20	11-12-86	7.8	3.9	5.9	25	0.4	2.6	43	10	1.4	0.20
HO Cd 20	12-02-86	--	--	--	--	--	--	48	--	--	--
HO Cd 20	12-02-86	--	--	--	--	--	--	48	--	--	--
HO Cd 20	12-02-86	--	--	--	--	--	--	43	--	--	--
HO Cd 20	12-02-86	--	--	--	--	--	--	43	--	--	--
HO Cd 20	12-02-86	--	--	--	--	--	--	42	--	--	--
HO Cd 20	12-02-86	--	--	--	--	--	--	42	--	--	--
HO Cd 20	12-30-86	--	--	--	--	--	--	31	--	--	--
HO Cd 20	03-05-87	--	--	--	--	--	--	24	--	--	--
HO Cd 20	04-09-87	--	--	--	--	--	--	26	--	--	--
HO Cd 20	04-09-87	--	--	--	--	--	--	26	--	--	--
HO Cd 20	05-12-87	--	--	--	--	--	--	27	--	--	--
HO Cd 20	06-11-87	--	--	--	--	--	--	43	--	--	--
HO Cd 20	07-08-87	--	--	--	--	--	--	41	--	--	--
HO Cd 20	08-05-87	--	--	--	--	--	--	41	--	--	--
HO Cd 20	08-31-87	7.5	3.7	5.8	25	0.4	2.6	42	12	1.5	0.20
HO Cd 21	10-08-86	--	--	--	--	--	--	49	--	--	--
HO Cd 21	11-12-86	7.1	4.0	5.1	23	0.4	2.7	43	10	1.4	0.20
HO Cd 21	11-12-86	7.1	3.9	5.1	23	0.4	2.7	43	12	1.6	0.20
HO Cd 21	12-03-86	--	--	--	--	--	--	35	--	--	--
HO Cd 21	12-03-86	--	--	--	--	--	--	35	--	--	--
HO Cd 21	12-03-86	--	--	--	--	--	--	34	--	--	--
HO Cd 21	12-03-86	--	--	--	--	--	--	34	--	--	--
HO Cd 21	12-03-86	--	--	--	--	--	--	--	--	--	--
HO Cd 21	12-30-86	--	--	--	--	--	--	40	--	--	--
HO Cd 21	12-30-86	--	--	--	--	--	--	40	--	--	--
HO Cd 21	03-05-87	--	--	--	--	--	--	35	--	--	--
HO Cd 21	03-05-87	--	--	--	--	--	--	35	--	--	--
HO Cd 21	04-09-87	--	--	--	--	--	--	39	--	--	--
HO Cd 21	05-12-87	--	--	--	--	--	--	33	--	--	--
HO Cd 21	05-12-87	--	--	--	--	--	--	33	--	--	--
HO Cd 21	06-11-87	--	--	--	--	--	--	40	--	--	--
HO Cd 21	07-08-87	--	--	--	--	--	--	37	--	--	--
HO Cd 21	08-05-87	--	--	--	--	--	--	37	--	--	--
HO Cd 21	08-31-87	5.7	3.1	4.8	26	0.4	2.6	29	6.8	1.7	0.20
HO Cd 25	10-09-86	--	--	--	--	--	--	20	--	--	--
HO Cd 25	11-04-86	--	--	--	--	--	--	10	--	--	--
HO Cd 26	10-09-86	--	--	--	--	--	--	68	--	--	--
HO Cd 26	11-10-86	--	--	--	--	--	--	69	--	--	--
HO Cd 28	10-08-86	--	--	--	--	--	--	16	--	--	--
HO Cd 28	11-12-86	--	--	--	--	--	--	9	--	--	--
HO Cd 28	12-03-86	--	--	--	--	--	--	13	--	--	--
HO Cd 28	12-03-86	--	--	--	--	--	--	13	--	--	--
HO Cd 28	12-04-86	--	--	--	--	--	--	15	--	--	--
HO Cd 28	12-04-86	--	--	--	--	--	--	15	--	--	--
HO Cd 28	12-04-86	--	--	--	--	--	--	12	--	--	--
HO Cd 28	12-04-86	--	--	--	--	--	--	12	--	--	--
HO Cd 28	12-30-86	--	--	--	--	--	--	9	--	--	--
HO Cd 28	03-05-87	--	--	--	--	--	--	11	--	--	--
HO Cd 28	04-09-87	--	--	--	--	--	--	7	--	--	--
HO Cd 28	05-12-87	--	--	--	--	--	--	7	--	--	--
HO Cd 28	06-11-87	--	--	--	--	--	--	6	--	--	--
HO Cd 28	07-08-87	--	--	--	--	--	--	6	--	--	--
HO Cd 28	08-05-87	--	--	--	--	--	--	7	--	--	--
HO Cd 28	08-31-87	1.1	0.79	1.3	28	0.2	1.0	6	0.6	1.1	0.10
HO Cd 29	10-09-86	--	--	--	--	--	--	7	--	--	--
HO Cd 29	11-10-86	--	--	--	--	--	--	7	--	--	--
HO Cd 29	12-02-86	--	--	--	--	--	--	9	--	--	--
HO Cd 29	12-02-86	--	--	--	--	--	--	9	--	--	--
HO Cd 29	12-02-86	--	--	--	--	--	--	7	--	--	--
HO Cd 29	12-02-86	--	--	--	--	--	--	7	--	--	--
HO Cd 29	12-02-86	--	--	--	--	--	--	7	--	--	--
HO Cd 29	12-30-86	--	--	--	--	--	--	6	--	--	--
HO Cd 29	03-05-87	--	--	--	--	--	--	5	--	--	--
HO Cd 29	04-09-87	--	--	--	--	--	--	6	--	--	--
HO Cd 29	05-12-87	--	--	--	--	--	--	6	--	--	--
HO Cd 29	06-11-87	--	--	--	--	--	--	5	--	--	--
HO Cd 29	06-11-87	--	--	--	--	--	--	5	--	--	--
HO Cd 29	07-08-87	--	--	--	--	--	--	5	--	--	--
HO Cd 29	08-05-87	--	--	--	--	--	--	6	--	--	--
HO Cd 29	08-31-87	1.1	0.57	1.3	30	0.3	1.1	4	0.5	1.4	0.10

QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

HOWARD COUNTY, MARYLAND-Continued

LOCAL IDENTIFIER	DATE	BROMIDE DIS-SOLVED (MG/L AS BR)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	NITROGEN, NITRATE DIS-SOLVED (MG/L AS N)	NITROGEN, NITRITE DIS-SOLVED (MG/L AS N)	NITROGEN, NITRITE DIS-SOLVED (MG/L AS NO2)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS NH4)
HO Cd 20	10-08-86	--	--	--	--	<0.010	--	<0.100	0.080	0.10
HO Cd 20	11-12-86	--	29	88	--	<0.010	--	<0.100	<0.010	--
HO Cd 20	12-02-86	--	--	--	--	<0.010	--	<0.100	0.030	0.04
HO Cd 20	12-02-86	--	--	--	--	<0.010	--	<0.100	0.020	0.03
HO Cd 20	12-02-86	--	--	--	--	<0.010	--	<0.100	0.020	0.03
HO Cd 20	12-02-86	--	--	--	--	0.010	0.03	<0.100	0.020	0.03
HO Cd 20	12-02-86	--	--	--	--	<0.010	--	<0.100	0.020	0.03
HO Cd 20	12-02-86	--	--	--	--	<0.010	--	<0.100	0.030	0.04
HO Cd 20	12-30-86	--	--	--	0.900	0.020	0.07	0.920	0.120	0.15
HO Cd 20	03-05-87	--	--	--	0.310	0.030	0.10	0.340	0.320	0.41
HO Cd 20	04-09-87	--	--	--	--	<0.010	--	0.190	0.060	0.08
HO Cd 20	04-09-87	--	--	--	--	<0.010	--	0.190	0.090	0.12
HO Cd 20	05-12-87	--	--	--	--	<0.010	--	0.130	0.060	0.08
HO Cd 20	06-11-87	--	--	--	--	<0.010	--	<0.100	0.070	0.09
HO Cd 20	07-08-87	--	--	--	--	<0.010	--	<0.100	0.060	0.08
HO Cd 20	08-05-87	--	--	--	--	<0.010	--	<0.100	0.030	0.04
HO Cd 20	08-31-87	0.076	28	88	--	<0.010	--	<0.100	0.030	0.04
HO Cd 21	10-08-86	--	--	--	--	<0.010	--	<0.100	0.090	0.12
HO Cd 21	11-12-86	--	27	85	--	<0.010	--	<0.100	0.020	0.03
HO Cd 21	11-12-86	--	26	86	--	<0.010	--	<0.100	0.040	0.05
HO Cd 21	12-03-86	--	--	--	--	0.020	0.07	<0.100	0.070	0.09
HO Cd 21	12-03-86	--	--	--	--	0.010	0.03	<0.100	0.070	0.09
HO Cd 21	12-03-86	--	--	--	--	<0.010	--	<0.100	0.030	0.04
HO Cd 21	12-03-86	--	--	--	--	<0.010	--	<0.100	0.040	0.05
HO Cd 21	12-03-86	--	--	--	--	<0.010	--	<0.100	0.050	0.06
HO Cd 21	12-30-86	--	--	--	--	<0.010	--	<0.100	0.030	0.04
HO Cd 21	12-30-86	--	--	--	--	<0.010	--	<0.100	0.010	0.01
HO Cd 21	03-05-87	--	--	--	--	<0.010	--	<0.100	0.020	0.03
HO Cd 21	03-05-87	--	--	--	--	<0.010	--	<0.100	<0.010	--
HO Cd 21	04-09-87	--	--	--	--	<0.010	--	<0.100	<0.010	--
HO Cd 21	05-12-87	--	--	--	--	<0.010	--	<0.100	0.020	0.03
HO Cd 21	05-12-87	--	--	--	--	<0.010	--	<0.100	0.030	0.04
HO Cd 21	06-11-87	--	--	--	--	<0.010	--	<0.100	0.020	0.03
HO Cd 21	07-08-87	--	--	--	--	<0.010	--	<0.100	0.040	0.05
HO Cd 21	08-05-87	--	--	--	--	<0.010	--	<0.500	<0.010	--
HO Cd 21	08-31-87	0.013	24	67	--	<0.010	--	<0.100	<0.010	--
HO Cd 25	10-09-86	--	--	--	0.120	0.030	0.10	0.150	0.140	0.18
HO Cd 25	11-04-86	--	--	--	--	--	--	--	--	--
HO Cd 26	10-09-86	--	--	--	--	<0.010	--	<0.100	0.060	0.08
HO Cd 26	11-10-86	--	--	--	--	<0.010	--	<0.100	0.030	0.04
HO Cd 28	10-08-86	--	--	--	--	<0.010	--	0.380	0.060	0.08
HO Cd 28	11-12-86	--	--	--	--	<0.010	--	0.470	0.020	0.03
HO Cd 28	12-03-86	--	--	--	--	<0.010	--	0.440	0.030	0.04
HO Cd 28	12-03-86	--	--	--	--	<0.010	--	0.440	0.030	0.04
HO Cd 28	12-04-86	--	--	--	--	<0.010	--	0.420	0.030	0.04
HO Cd 28	12-04-86	--	--	--	--	<0.010	--	0.420	0.030	0.04
HO Cd 28	12-04-86	--	--	--	--	<0.010	--	0.490	0.030	0.04
HO Cd 28	12-04-86	--	--	--	--	--	--	--	--	--
HO Cd 28	12-30-86	--	--	--	--	<0.010	--	0.450	0.010	0.01
HO Cd 28	03-05-87	--	--	--	--	<0.010	--	0.370	0.010	0.01
HO Cd 28	04-09-87	--	--	--	--	<0.010	--	0.470	<0.010	--
HO Cd 28	05-12-87	--	--	--	--	<0.010	--	0.450	0.030	0.04
HO Cd 28	06-11-87	--	--	--	--	<0.010	--	0.470	0.020	0.03
HO Cd 28	07-08-87	--	--	--	--	<0.010	--	0.500	0.040	0.05
HO Cd 28	08-05-87	--	--	--	--	<0.010	--	0.520	<0.010	--
HO Cd 28	08-31-87	<0.010	9.7	19	--	<0.010	--	0.510	0.010	0.01
HO Cd 29	10-09-86	--	--	--	--	<0.010	--	0.800	0.060	0.08
HO Cd 29	11-10-86	--	--	--	--	<0.010	--	0.670	0.020	0.03
HO Cd 29	12-02-86	--	--	--	--	<0.010	--	0.580	0.030	0.04
HO Cd 29	12-02-86	--	--	--	--	<0.010	--	0.590	0.040	0.05
HO Cd 29	12-02-86	--	--	--	--	<0.010	--	0.590	0.040	0.05
HO Cd 29	12-02-86	--	--	--	--	<0.010	--	0.600	0.030	0.04
HO Cd 29	12-02-86	--	--	--	--	<0.010	--	0.610	0.030	0.04
HO Cd 29	12-02-86	--	--	--	--	<0.010	--	0.610	0.030	0.04
HO Cd 29	12-30-86	--	--	--	--	<0.010	--	0.620	0.020	0.03
HO Cd 29	03-05-87	--	--	--	--	<0.010	--	0.680	0.020	0.03
HO Cd 29	04-09-87	--	--	--	--	<0.010	--	0.610	0.020	0.03
HO Cd 29	05-12-87	--	--	--	--	<0.010	--	0.640	0.030	0.04
HO Cd 29	06-11-87	--	--	--	--	<0.010	--	0.760	0.030	0.04
HO Cd 29	06-11-87	--	--	--	--	<0.010	--	0.800	0.020	0.03
HO Cd 29	07-08-87	--	--	--	--	<0.010	--	0.720	0.040	0.05
HO Cd 29	08-05-87	--	--	--	--	<0.010	--	0.750	0.020	0.03
HO Cd 29	08-31-87	<0.010	7.4	16	--	<0.010	--	0.750	0.020	0.03

## QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

## HOWARD COUNTY, MARYLAND-Continued

LOCAL IDENTIFIER	DATE	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	CARBON, ORGANIC TOTAL (MG/L AS C)	PCB, TOTAL (UG/L)
HO Cd 20	10-08-86	0.32	0.40	--	--	--	--	--	--	--
HO Cd 20	11-12-86	--	0.40	--	<10	1400	72	57	--	--
HO Cd 20	12-02-86	0.17	0.20	--	--	--	--	--	--	--
HO Cd 20	12-02-86	0.38	0.40	--	--	--	--	--	--	--
HO Cd 20	12-02-86	0.18	0.20	--	--	--	--	--	--	--
HO Cd 20	12-02-86	0.68	0.70	--	--	--	--	--	--	--
HO Cd 20	12-02-86	0.28	0.30	--	--	--	--	--	--	--
HO Cd 20	12-02-86	--	<0.20	--	--	--	--	--	--	--
HO Cd 20	12-30-86	0.28	0.40	--	--	--	--	--	--	--
HO Cd 20	03-05-87	0.28	0.60	--	--	--	--	--	--	--
HO Cd 20	04-09-87	0.14	0.20	--	--	--	--	--	--	--
HO Cd 20	04-09-87	0.31	0.40	--	--	--	--	--	--	--
HO Cd 20	05-12-87	0.14	0.20	--	--	--	--	--	--	--
HO Cd 20	06-11-87	0.63	0.70	--	--	--	--	--	--	--
HO Cd 20	07-08-87	0.64	0.70	--	--	--	--	--	--	--
HO Cd 20	08-05-87	0.57	0.60	--	--	--	--	--	--	--
HO Cd 20	08-31-87	--	<0.20	0.010	<10	1700	88	--	0.8	--
HO Cd 21	10-08-86	0.71	0.80	--	--	--	--	--	--	--
HO Cd 21	11-12-86	0.28	0.30	--	<10	1500	47	47	--	--
HO Cd 21	11-12-86	0.36	0.40	--	20	1700	49	47	--	--
HO Cd 21	12-03-86	0.43	0.50	--	--	--	--	--	--	--
HO Cd 21	12-03-86	0.33	0.40	--	--	--	--	--	--	--
HO Cd 21	12-03-86	0.27	0.30	--	--	--	--	--	--	--
HO Cd 21	12-03-86	0.16	0.20	--	--	--	--	--	--	--
HO Cd 21	12-03-86	--	<0.20	--	--	--	--	--	--	--
HO Cd 21	12-30-86	--	<0.20	--	--	--	--	--	--	--
HO Cd 21	12-30-86	0.49	0.50	--	--	--	--	--	--	--
HO Cd 21	03-05-87	0.38	0.40	--	--	--	--	--	--	--
HO Cd 21	03-05-87	--	0.40	--	--	--	--	--	--	--
HO Cd 21	04-09-87	--	<0.20	--	--	--	--	--	--	--
HO Cd 21	05-12-87	0.58	0.60	--	--	--	--	--	--	--
HO Cd 21	05-12-87	0.37	0.40	--	--	--	--	--	--	--
HO Cd 21	06-11-87	0.88	0.90	--	--	--	--	--	--	--
HO Cd 21	07-08-87	0.36	0.40	--	--	--	--	--	--	--
HO Cd 21	08-05-87	--	0.80	--	--	--	--	--	--	--
HO Cd 21	08-31-87	--	0.30	<0.010	<10	1100	74	--	0.9	--
HO Cd 25	10-09-86	0.26	0.40	--	--	--	--	--	--	--
HO Cd 25	11-04-86	--	--	--	--	--	--	--	--	--
HO Cd 26	10-09-86	0.84	0.90	--	--	--	--	--	--	--
HO Cd 26	11-10-86	0.47	0.50	--	--	--	--	--	--	--
HO Cd 28	10-08-86	1.3	1.4	--	--	--	--	--	--	--
HO Cd 28	11-12-86	0.38	0.40	--	--	--	--	--	--	--
HO Cd 28	12-03-86	--	<0.20	--	--	--	--	--	--	--
HO Cd 28	12-03-86	0.27	0.30	--	--	--	--	--	--	--
HO Cd 28	12-04-86	0.27	0.30	--	--	--	--	--	--	--
HO Cd 28	12-04-86	0.17	0.20	--	--	--	--	--	--	--
HO Cd 28	12-04-86	0.27	0.30	--	--	--	--	--	--	--
HO Cd 28	12-04-86	--	--	--	--	--	--	--	--	--
HO Cd 28	12-30-86	0.29	0.30	--	--	--	--	--	--	--
HO Cd 28	03-05-87	0.39	0.40	--	--	--	--	--	--	--
HO Cd 28	04-09-87	--	0.40	--	--	--	--	--	--	--
HO Cd 28	05-12-87	0.47	0.50	--	--	--	--	--	--	--
HO Cd 28	06-11-87	0.68	0.70	--	--	--	--	--	--	--
HO Cd 28	07-08-87	0.46	0.50	--	--	--	--	--	--	--
HO Cd 28	08-05-87	--	0.60	--	--	--	--	--	--	--
HO Cd 28	08-31-87	--	<0.20	<0.010	<10	8	97	--	0.6	<0.1
HO Cd 29	10-09-86	1.2	1.3	--	--	--	--	--	--	--
HO Cd 29	11-10-86	0.18	0.20	--	--	--	--	--	--	--
HO Cd 29	12-02-86	0.27	0.30	--	--	--	--	--	--	--
HO Cd 29	12-02-86	0.46	0.50	--	--	--	--	--	--	--
HO Cd 29	12-02-86	--	<0.20	--	--	--	--	--	--	--
HO Cd 29	12-02-86	--	<0.20	--	--	--	--	--	--	--
HO Cd 29	12-02-86	--	<0.30	--	--	--	--	--	--	--
HO Cd 29	12-02-86	--	<0.20	--	--	--	--	--	--	--
HO Cd 29	12-30-86	0.38	0.40	--	--	--	--	--	--	--
HO Cd 29	03-05-87	0.48	0.50	--	--	--	--	--	--	--
HO Cd 29	04-09-87	0.28	0.30	--	--	--	--	--	--	--
HO Cd 29	05-12-87	0.27	0.30	--	--	--	--	--	--	--
HO Cd 29	06-11-87	0.97	1.0	--	--	--	--	--	--	--
HO Cd 29	06-11-87	0.58	0.60	--	--	--	--	--	--	--
HO Cd 29	07-08-87	0.26	0.30	--	--	--	--	--	--	--
HO Cd 29	08-05-87	0.48	0.50	--	--	--	--	--	--	--
HO Cd 29	08-31-87	0.28	0.30	<0.010	<10	9	13	--	4.0	--

QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

HOWARD COUNTY, MARYLAND-Continued

LOCAL IDENTIFIER	DATE	NAPH-THA-LENES, POLY-CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)	DI-ELDRIN, TOTAL (UG/L)	ENDO-SULFAN, TOTAL (UG/L)
		HO Cd 28	08-31-87	<0.10	<0.010	<0.1	<0.010	<0.010	<0.010	<0.01
		ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METH-OXY-CHLOR, TOTAL (UG/L)	METHYL-PARA-THION, TOTAL (UG/L)	METHYL-TRI-THION, TOTAL (UG/L)
		<0.010	<0.01	<0.010	<0.010	<0.010	<0.01	<0.01	<0.01	<0.01
		MIREX, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	PER-THANE TOTAL (UG/L)	SILVEX, TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4-DP, TOTAL (UG/L)	2,4,5-T, TOTAL (UG/L)
		<0.01	<0.01	<0.1	<0.01	<1	<0.01	<0.01	<0.01	<0.01

QUALITY OF GROUND WATER  
WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
SOMERSET COUNTY, MARYLAND

LOCAL IDENTIFIER	STATION NUMBER	GEOLOGIC UNIT	DATE	DEPTH OF WELL, TOTAL (FEET)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	SAMPLING METHOD, CODES	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)
SO Ea 3	375934076014501	217PTMC	05-06-87	865.00	2.0	4090	1360	8.6	20.5
SO Ea 4	375937076014701	217PTMC	05-06-87	852.00	2.0	4090	768	8.4	24.0
SO Ea 7	375820076022701	217PTMC	05-06-87	848.00	2.0	4090	887	8.1	24.0

LOCAL IDENTIFIER	TEMPERATURE AIR (DEG C)	HARDNESS AS CaCO3 (MG/L)	ACIDITY AS H (MG/L)	CALCIUM DIS-SOLVED AS Ca (MG/L)	MAGNESIUM DIS-SOLVED AS Mg (MG/L)	SODIUM, DIS-SOLVED AS Na (MG/L)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	POTASSIUM, DIS-SOLVED AS K (MG/L)
SO Ea 3	23.0	39	<0.1	7.3	5.1	300	93	21	8.4
SO Ea 4	22.0	5	<0.1	1.5	0.40	190	97	37	4.1
SO Ea 7	23.5	6	<0.1	1.5	0.60	220	97	40	5.5

LOCAL IDENTIFIER	ALKALINITY WH WAT TOTAL FIELD MG/L AS CaCO3	SULFATE DIS-SOLVED AS SO4 (MG/L)	CHLORIDE, DIS-SOLVED AS CL (MG/L)	FLUORIDE, DIS-SOLVED AS F (MG/L)	SILICA, DIS-SOLVED AS SiO2 (MG/L)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	NITROGEN, NO2+NO3 DIS-SOLVED AS N (MG/L)	NITROGEN, AMMONIA DIS-SOLVED AS N (MG/L)
SO Ea 3	475	47	170	2.2	13	809	840	<0.100	0.040
SO Ea 4	425	28	6.0	1.8	13	475	500	<0.100	0.050
SO Ea 7	--	33	12	2.8	12	551	550	<0.100	0.040

LOCAL IDENTIFIER	NITROGEN, AMMONIA DIS-SOLVED AS NH4 (MG/L)	NITROGEN, ORGANIC DIS-SOLVED AS N (MG/L)	NITROGEN, AMMONIA + ORGANIC DIS-SOLVED AS N (MG/L)	PHOSPHORUS, DIS-SOLVED AS P (MG/L)	BARIUM, DIS-SOLVED AS Ba (UG/L)	BERYLLIUM, DIS-SOLVED AS Be (UG/L)	BORON, DIS-SOLVED AS B (UG/L)	CADMIUM, DIS-SOLVED AS Cd (UG/L)	COBALT, DIS-SOLVED AS Co (UG/L)
SO Ea 3	0.05	0.86	0.90	0.230	12	<0.5	760	<1	<3
SO Ea 4	0.06	0.35	0.40	0.290	20	<0.5	670	<1	<3
SO Ea 7	0.05	0.56	0.60	0.190	20	<0.5	930	<1	<3

LOCAL IDENTIFIER	COPPER, DIS-SOLVED AS Cu (UG/L)	IRON, DIS-SOLVED AS Fe (UG/L)	LEAD, DIS-SOLVED AS Pb (UG/L)	LITHIUM, DIS-SOLVED AS Li (UG/L)	MANGANESE, DIS-SOLVED AS Mn (UG/L)	MOLYBDENUM, DIS-SOLVED AS Mo (UG/L)	STRONTIUM, DIS-SOLVED AS Sr (UG/L)	VANADIUM, DIS-SOLVED AS V (UG/L)	ZINC, DIS-SOLVED AS Zn (UG/L)
SO Ea 3	<10	14	20	9	31	<10	180	<6	23
SO Ea 4	<10	8	10	5	13	<10	33	<6	19
SO Ea 7	<10	14	<10	6	8	<10	43	<6	<3

Geologic Unit (aquifer): 217PTMC - Potomac Group

Sampling method: 4090 - Jet pump

QUALITY OF GROUND WATER

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

WASHINGTON COUNTY, MARYLAND

LOCAL IDENTIFIER	STATION NUMBER	GEOLOGIC UNIT	SITE	DATE	DEPTH OF WELL, TOTAL (FEET)	ELEV. OF SURFACE DATUM (FT. ABOVE NGVD)	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN)	SAMPLING METHOD, CODES	SPECIFIC CONDUCTANCE (US/CM)
WA Af 33	394047077562401	354MCKZ	GW	04-15-87	100.00	755	13	4040	560
WA Ag 65	394149077515001	364STPL	GW	05-19-87	165.00	530	10	4040	430
WA Ag 71	394113077500101	364CBBG	GW	05-19-87	365.00	480	5	4040	970
WA Ai 74	394038077410201	367SNNG	GW	05-21-87	260.00	530	10	4040	890
WA Ak 45	394023077324201	377HRFR	SP	06-29-87	--	970	--	--	35
WA Be 41	393830078001801	347ORSK	GW	05-18-87	245.00	595	10	4040	360
WA Bg 27	393802077501001	361MRBG	GW	05-19-87	72.00	390	5	4040	250
WA Bg 90	393957077380901	367PBGS	GW	04-15-87	425.00	500	13	4040	560
WA Bj 105	393959077370301	371CCCG	GW	05-19-87	250.00	645	5	4040	750
WA Ci 147	393301077433501	371CCCG	GW	05-21-87	225.00	495	120	4040	1250
WA Cj 126	393309077392201	377WSBR	SP	05-21-87	--	480	--	--	510
WA Di 137	392533077405501	377WVRN	GW	04-14-87	200.00	790	28	4040	37
WA Di 185	392617077442401	371ELBK	GW	05-20-87	245.00	350	5	4040	2600
WA Di 187	392515077433601	377TMSN	GW	05-20-87	200.00	410	10	4040	630
WA Ei 74	392021077413401	400GBGG	GW	04-14-87	210.00	450	15	4040	280
WA Ei 93	392125077420302	400CTCN	GW	05-20-87	250.00	780	10	4040	96
WA Ei 105	392128077441401	377HRFR	GW	05-20-87	205.00	520	15	4040	105
WA Ej 21	392436077384901	377HRFR	GW	05-20-87	115.00	780	15	4040	67

LOCAL IDENTIFIER	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TEMPERATURE AIR (DEG C)	HARDNESS (MG/L AS CaCO3)	CALCIUM SOLVED (MG/L AS Ca)	MAGNESIUM, DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	PERCENT SODIUM	SODIUM AD-SORPTION RATIO	POTASSIUM, DIS-SOLVED (MG/L AS K)
WA Af 33	7.2	12.5	--	130	50	2.0	0.90	1	0.0	0.60
WA Ag 65	7.2	13.0	12.0	250	73	17	2.5	2	0.1	0.70
WA Ag 71	6.6	13.0	12.5	560	170	34	3.1	1	0.1	0.90
WA Ai 74	6.6	14.0	19.0	360	130	7.7	42	20	1	7.8
WA Ak 45	5.0	12.0	28.0	10	2.1	1.1	1.9	27	0.3	1.0
WA Be 41	7.3	15.0	21.0	180	63	5.6	1.9	2	0.1	0.40
WA Bg 27	7.6	13.5	13.5	110	30	9.1	9.5	15	0.4	1.2
WA Bg 90	7.2	12.5	--	390	87	42	17	9	0.4	1.4
WA Bj 105	7.1	13.5	12.5	360	97	29	8.1	5	0.2	7.6
WA Ci 147	6.9	14.0	14.0	440	150	15	72	26	2	3.3
WA Cj 126	6.7	12.5	14.5	270	69	23	3.2	3	0.1	2.5
WA Di 137	5.3	12.0	--	13	2.8	1.5	1.4	17	0.2	1.6
WA Di 185	6.7	14.0	12.0	1300	390	90	4.8	1	0.1	1.9
WA Di 187	7.1	13.5	11.0	340	72	40	3.6	2	0.1	0.90
WA Ei 74	7.9	13.0	--	120	35	8.1	8.5	13	0.3	1.1
WA Ei 93	5.7	13.0	11.0	33	7.5	3.5	4.1	21	0.3	0.50
WA Ei 105	6.0	13.0	9.5	38	8.7	4.0	6.0	25	0.4	0.80
WA Ej 21	5.9	13.0	11.0	21	5.0	2.0	4.5	31	0.4	0.90

LOCAL IDENTIFIER	ALKALINITY (MG/L AS CaCO3)	WH WAT SULFATE (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS Cl)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	NITROGEN, NO2+NO3, DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC, DIS-SOLVED (MG/L AS N)	PHOSPHORUS, ORTHO, DIS-SOLVED (MG/L AS P)
WA Af 33	130	2.3	0.50	0.10	9.9	139	140	0.300	0.30	0.030
WA Ag 65	217	15	5.0	<0.10	6.0	250	250	2.50	1.6	0.020
WA Ag 71	310	230	5.0	0.30	6.5	690	640	8.30	1.4	0.010
WA Ai 74	272	48	75	0.10	9.8	505	480	6.60	0.90	<0.010
WA Ak 45	10	0.8	1.9	<0.10	9.4	24	24	1.10	0.20	0.010
WA Be 41	174	<5.0	2.0	0.10	10	188	--	0.440	0.50	0.040
WA Bg 27	115	11	5.0	0.20	25	166	160	<0.100	0.90	0.040
WA Bg 90	378	24	32	1.6	7.9	406	440	0.990	0.50	<0.010
WA Bj 105	243	45	30	0.40	9.6	441	370	20.0	1.6	<0.010
WA Ci 147	289	22	200	0.20	12	735	650	7.40	0.80	<0.010
WA Cj 126	210	19	8.1	0.40	11	298	260	8.80	0.70	0.010
WA Di 137	4	11	1.5	0.10	7.7	28	30	0.200	0.30	<0.010
WA Di 185	253	1500	1.1	0.60	24	2550	2200	<0.100	0.30	<0.010
WA Di 187	295	23	13	<0.10	6.1	347	340	4.90	0.20	<0.010
WA Ei 74	142	19	2.3	0.30	27	167	190	<0.100	0.20	<0.010
WA Ei 93	29	<5.0	2.9	<0.10	24	69	--	3.20	<0.20	0.060
WA Ei 105	36	7.0	8.0	<0.10	26	74	83	0.710	<0.20	<0.010
WA Ej 21	24	<5.0	2.1	0.10	28	57	--	0.950	<0.20	0.080

Geologic unit (aquifer):  
 347ORSK - Oriskany Group  
 354MCKZ - McKensie Formation  
 361MRBG - Martinsburg Shale  
 364CBBG - Chambersburg Limestone  
 364STPL - St Paul Group  
 367PBGS - Pinesburg Station Dolomite  
 367SNNG - Stonehenge Limestone  
 371CCCG - Conococheague Limestone  
 371ELBK - Elbrook Formation  
 377HRFR - Harpers Formation  
 377TMSN - Tomstown Dolomite  
 377WSBR - Waynesboro Formation  
 377WVRN - Weverton Formation  
 400CTCN - Catoctin Metabasalt  
 400GBGG - Granodiorite and Biotite Granite Gneiss

Site type: GW - Ground water  
 SP - Spring

Sampling method: 4040 - Submersible pump





QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

WICOMICO COUNTY, MARYLAND

LOCAL IDENTIFIER	STATION NUMBER	GEOLOGIC UNIT	DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	DEPTH OF WELL, TOTAL (FEET)	DEPTH TO BOTTOM OF SAMPLE INTERVAL (FT)	DEPTH TO TOP OF SAMPLE INTERVAL (FT)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN)		
WI Ch 47	382454075200701	122PCMK	08-31-87	14.00	149.00	149	147	42.0	15		
	4040	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TEMPERATURE AIR (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARDNESS (MG/L AS CaCO3)	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNESIUM, DIS-SOLVED (MG/L AS Mg)		
	1.0	157	6.6	15.5	22.5	0.7	43	11	3.8		
		SODIUM, DIS-SOLVED (MG/L AS Na)	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY WH WAT TOTAL FIELD (MG/L AS CaCO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS Cl)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)		
	9.2	31	0.6	1.6	10	1.4	7.4	0.10	32		
		NITROGEN, NITRITE DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS NH4)	NITROGEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS-SOLVED (MG/L AS N)	PHOSPHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	ALUMINUM, DIS-SOLVED (UG/L AS AL)	ANTI-MONY, DIS-SOLVED (UG/L AS SB)	ARSENIC, DIS-SOLVED (UG/L AS AS)		
	<0.010	<0.100	0.490	0.63	0.01	0.50	<0.010	<10	1		
		BARIUM, DIS-SOLVED (UG/L AS Ba)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM, DIS-SOLVED (UG/L AS Cd)	CHROMIUM, DIS-SOLVED (UG/L AS Cr)	COBALT, DIS-SOLVED (UG/L AS Co)	COPPER, DIS-SOLVED (UG/L AS Cu)	IRON, DIS-SOLVED (UG/L AS Fe)	LEAD, DIS-SOLVED (UG/L AS Pb)	LITHIUM, DIS-SOLVED (UG/L AS Li)	
	32	<0.5	20	1	<5	<3	<10	27000	<10	4	
		MANGANESE, DIS-SOLVED (UG/L AS Mn)	MOLYBDENUM, DIS-SOLVED (UG/L AS Mo)	NICKEL, DIS-SOLVED (UG/L AS Ni)	SELENIUM, DIS-SOLVED (UG/L AS Se)	SILVER, DIS-SOLVED (UG/L AS Ag)	STRONTIUM, DIS-SOLVED (UG/L AS Sr)	VANADIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS Zn)	H-2 / H-1 STABLE ISOTOPE RATIO PER MIL	O-18 / O-16 STABLE ISOTOPE RATIO PER MIL
	310	<10	<10	1	<1	140	<6	<3	-34.0	-6.1	
		TRITIUM TOTAL (PCI/L)	GROSS ALPHA, DIS-SOLVED (UG/L AS U-NAT)	GROSS BETA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS-SOLVED (PCI/L AS SR/YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	ALACHLOR TOTAL RECOVER (UG/L)	AMETRYNE TOTAL
	1.1	<0.4	<0.4	1.2	<0.4	1.0	<0.4	5.4	<0.10	<0.10	
		ATRAZINE, TOTAL (UG/L)	CYANAZINE, TOTAL (UG/L)	METOLACHLOR WATER WHOLE TOT. REC (UG/L)	METRIBUZIN WATER WHOLE TOT. REC (UG/L)	PROMETONE TOTAL (UG/L)	PROMETRYNE TOTAL (UG/L)	PROPAZINE TOTAL (UG/L)	SIMAZINE TOTAL (UG/L)	SIMETRYNE TOTAL (UG/L)	TRIFLURALIN TOTAL RECOVER (UG/L)
	<0.10	<0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.10	<0.10	<0.10	
		BENZENE TOTAL (UG/L)	BROMOFORM TOTAL (UG/L)	CARBON TETRACHLORIDE TOTAL (UG/L)	CHLOROBENZENE TOTAL (UG/L)	CHLORO-DI-BROMO METHANE TOTAL (UG/L)	CHLOROETHANE TOTAL (UG/L)	CHLOROFORM TOTAL (UG/L)	CIS-1,3-DI-CHLORO-PROPENE TOTAL (UG/L)	DI-CHLORO-BROMO METHANE TOTAL (UG/L)	
	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	4.3	<0.20	<0.20	

Geologic unit (aquifer): 122PCMK - Pocomoke Aquifer

Sampling method: 4040 - Submersible pump



QUALITY OF GROUND WATER  
WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987  
WORCESTER COUNTY, MARYLAND

LOCAL IDENTIFIER	STATION NUMBER	GEOLOGIC UNIT	DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	DEPTH OF WELL, TOTAL (FEET)	DEPTH TO BOTTOM OF SAMPLE INTERVAL (FT)	DEPTH TO TOP OF SAMPLE INTERVAL (FT)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)
WO Ae 23	382621075174201	122MNKN	12-04-86	16.70	280.00	280	270	40.0
WO Ae 23	382621075174201	122MNKN	03-19-87	13.05	280.00	280	270	40.0
WO Ae 23	382621075174201	122MNKN	08-26-87	16.68	280.00	280	270	40.0
WO Ae 24	382621075174202	122OCNC	12-04-86	13.96	220.00	220	190	40.0
WO Ae 24	382621075174202	122OCNC	03-19-87	10.36	220.00	220	190	40.0
WO Ae 24	382621075174202	122OCNC	08-26-87	14.23	220.00	200	190	40.0
WO Ae 25	382621075174203	122MNKN	12-04-86	11.60	118.00	118	108	40.0
WO Ae 25	382621075174203	122PCMK	03-19-87	8.37	118.00	118	108	40.0
WO Ae 25	382621075174203	122MNKN	08-26-87	12.42	118.00	118	108	40.0
WO Ah 34	382632075031901	122MNKN	12-01-86	--	450.00	450	350	5.0
WO Ah 34	382632075031901	122MNKN	02-20-87	--	450.00	450	350	5.0
WO Ah 34	382632075031901	122MNKN	08-24-87	--	450.00	450	350	5.0
WO Bg 15	382359075094501	122MNKN	12-03-86	0.29	318.00	318	288	7.0
WO Bg 15	382359075094501	122MNKN	02-13-87	-2.68	318.00	318	288	7.0
WO Bg 15	382359075094501	122MNKN	08-26-87	2.63	318.00	318	288	7.0
WO Bg 45	382358075094501	112CLMB	12-03-86	9.10	77.00	77	56	10.0
WO Bg 45	382358075094501	112CLMB	02-13-87	6.74	77.00	77	56	10.0
WO Bg 45	382358075094501	112CLMB	08-26-87	9.54	77.00	77	56	10.0
WO Bg 46	382358075094502	122PCMK	12-03-86	4.08	194.00	194	164	10.0
WO Bg 46	382358075094502	122PCMK	02-13-87	1.00	194.00	194	164	10.0
WO Bg 46	382358075094502	122PCMK	08-26-87	5.74	194.00	194	164	10.0
WO Bg 47	382325075063301	122OCNC	12-03-86	6.86	268.00	268	258	5.0
WO Bg 47	382325075063301	122OCNC	03-18-87	4.82	268.00	268	258	5.0
WO Bg 47	382325075063301	122OCNC	08-25-87	12.20	268.00	268	258	5.0
WO Bg 48	382325075063302	122MNKN	12-03-86	7.34	420.00	420	410	5.0
WO Bg 48	382325075063302	122MNKN	03-18-87	4.81	420.00	420	410	5.0
WO Bg 48	382325075063302	122MNKN	08-25-87	13.78	420.00	420	410	5.0
WO Bg 49	382038075065901	122OCNC	12-04-86	8.97	243.00	243	233	10.0
WO Bg 49	382038075065901	122OCNC	03-18-87	7.92	243.00	243	233	10.0
WO Bh 28	382215075041802	122OCNC	12-01-86	--	294.00	294	248	5.0
WO Bh 28	382215075041802	122OCNC	02-20-87	--	294.00	294	248	5.0
WO Bh 28	382215075041802	122OCNC	08-24-87	--	294.00	294	248	5.0
WO Bh 34	382443075033501	122MNKN	12-04-86	5.74	353.00	353	337	4.0
WO Bh 34	382443075033501	122MNKN	03-19-87	1.00	353.00	353	337	2.8
WO Bh 34	382443075033501	122MNKN	08-25-87	15.43	353.00	353	337	4.0
WO Bh 84	382215075041901	112CLMB	12-03-86	2.65	86.00	86	81	5.0
WO Bh 84	382215075041901	112CLMB	02-20-87	4.26	86.00	86	81	5.0
WO Bh 84	382215075041901	112CLMB	08-24-87	5.54	86.00	86	81	5.0
WO Bh 85	382215075041902	122PCMK	12-03-86	2.95	195.00	195	190	5.0
WO Bh 85	382215075041902	122PCMK	02-20-87	3.90	195.00	195	190	5.0
WO Bh 85	382215075041902	122PCMK	08-24-87	7.14	195.00	195	190	5.0
WO Bh 89	382215075041903	122MNKN	02-20-87	15.28	500.00	500	388	5.0
WO Cg 32	381941075052201	122OCNC	08-24-87	--	280.00	280	245	4.0
WO Cg 69	381931075071101	122OCNC	12-04-86	9.12	235.00	235	215	10.0
WO Cg 69	381931075071101	122OCNC	03-18-87	7.41	235.00	235	215	10.0
WO Cg 75	381939075052102	122MNKN	12-01-86	--	427.00	427	367	5.0
WO Cg 75	381939075052102	122MNKN	02-20-87	--	427.00	427	367	5.0
WO Dg 21	381427075081102	122MNKN	12-04-86	2.51	310.00	310	300	6.0
WO Dg 21	381427075081102	122MNKN	03-18-87	0.52	310.00	310	300	6.0
WO Dg 21	381427075081102	122MNKN	08-27-87	3.86	310.00	310	300	6.0

Geologic unit (aquifer): 112CLMB - Columbia Formation  
122MNKN - Manokin Aquifer  
122OCNC - Ocean City Aquifer  
122PCMK - Pocomoke Aquifer

QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

WORCESTER COUNTY, MARYLAND-Continued

LOCAL IDENTIFIER	DATE	PUMP OR FLOW PERIOD PRIOR TO SAMPLING (MIN)	SAMPLING METHOD, CODES	FLOW RATE, INSTANTANEOUS (GPM)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TEMPERATURE AIR (DEG C)	HARDNESS (MG/L AS CaCO3)	CALCIUM DISSOLVED (MG/L AS Ca)
WO Ae 23	12-04-86	26	4030	40	130	6.5	14.5	--	--	--
WO Ae 23	03-19-87	28	4030	34	137	5.9	14.5	--	--	--
WO Ae 23	08-26-87	33	4030	30	143	5.6	14.5	21.0	37	8.8
WO Ae 24	12-04-86	18	4030	40	395	6.9	14.0	--	--	--
WO Ae 24	03-19-87	25	4030	35	460	6.6	14.5	--	--	--
WO Ae 24	08-26-87	45	4030	30	464	6.4	14.5	21.0	210	79
WO Ae 25	12-04-86	20	4030	48	490	6.9	14.0	--	--	--
WO Ae 25	03-19-87	17	4030	50	483	6.6	14.5	--	--	--
WO Ae 25	08-26-87	23	4030	45	488	6.4	14.5	21.0	220	86
WO Ah 34	12-01-86	10	4040	--	480	6.4	16.0	--	--	--
WO Ah 34	02-20-87	--	4040	--	408	6.7	16.5	--	--	--
WO Ah 34	08-24-87	--	4040	--	370	6.6	17.0	23.0	74	21
WO Bg 15	12-03-86	30	4030	60	260	6.2	15.0	--	--	--
WO Bg 15	02-13-87	40	4030	60	247	6.9	15.0	--	--	--
WO Bg 15	08-26-87	35	4030	60	275	6.1	15.5	22.0	60	16
WO Bg 45	12-03-86	25	4030	50	78	5.3	13.5	--	--	--
WO Bg 45	02-13-87	25	4030	60	73	6.1	13.5	--	--	--
WO Bg 45	08-26-87	25	4030	40	78	5.4	14.0	22.0	11	2.6
WO Bg 46	12-03-86	25	4030	60	260	6.3	14.0	--	--	--
WO Bg 46	02-13-87	25	4030	48	257	6.8	14.0	--	--	--
WO Bg 46	08-26-87	33	4030	40	267	6.1	14.5	22.0	66	15
WO Bg 47	12-03-86	30	4030	35	350	7.0	16.0	--	--	--
WO Bg 47	03-18-87	25	4040	30	364	6.3	16.0	--	--	--
WO Bg 47	08-25-87	35	4030	24	353	--	16.5	26.0	55	12
WO Bg 48	12-03-86	40	4030	40	400	6.9	17.0	--	--	--
WO Bg 48	03-18-87	30	4030	55	419	6.2	16.5	--	--	--
WO Bg 48	08-25-87	40	4030	34	408	--	17.0	26.0	71	15
WO Bg 49	12-04-86	30	4030	20	390	7.7	15.0	--	--	--
WO Bg 49	03-18-87	35	4030	38	407	7.7	15.0	--	--	--
WO Bh 28	12-01-86	15	4040	--	670	6.7	16.0	--	--	--
WO Bh 28	02-20-87	--	4040	--	686	6.9	16.5	--	--	--
WO Bh 28	08-24-87	--	4040	--	615	6.5	17.0	24.0	110	18
WO Bh 34	12-04-86	25	4030	40	203	6.7	16.0	--	--	--
WO Bh 34	03-19-87	40	4030	40	--	6.1	16.0	--	--	--
WO Bh 34	08-25-87	35	4030	30	216	6.4	17.0	27.0	58	14
WO Bh 84	12-03-86	33	4030	50	370	6.7	15.5	--	--	--
WO Bh 84	02-20-87	20	4030	50	370	7.0	16.0	--	--	--
WO Bh 84	08-24-87	40	4030	50	332	6.7	16.0	24.0	84	17
WO Bh 85	12-03-86	30	4030	16	410	6.6	16.0	--	--	--
WO Bh 85	02-20-87	45	4030	17	394	6.9	16.0	--	--	--
WO Bh 85	08-24-87	35	4030	18	363	6.6	16.5	24.0	95	15
WO Bh 89	02-20-87	60	4030	40	2470	7.2	17.5	--	--	--
WO Cg 32	08-24-87	--	4040	--	336	7.1	17.0	24.0	130	34
WO Cg 69	12-04-86	40	4030	25	390	--	15.0	--	--	--
WO Cg 69	03-18-87	38	4030	40	418	7.6	15.0	--	--	--
WO Cg 75	12-01-86	10	4040	--	430	6.7	17.0	--	--	--
WO Cg 75	02-20-87	15	4040	--	408	6.8	17.0	--	--	--
WO Dg 21	12-04-86	30	4030	20	490	--	16.0	--	--	--
WO Dg 21	03-18-87	30	4030	20	486	7.9	16.5	--	--	--
WO Dg 21	08-27-87	50	4030	17	480	7.2	17.0	29.0	150	38

Sampling method: 4030 - Suction pump  
 4040 - Submersible pump

## QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

WORCESTER COUNTY, MARYLAND-Continued

LOCAL IDENTIFIER	DATE	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WH WAT TOTAL FIELD (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
WO Ae 23	12-04-86	--	--	--	--	--	66	--	7.0	--
WO Ae 23	03-19-87	--	--	--	--	--	58	--	7.0	--
WO Ae 23	08-26-87	3.6	9.6	34	0.7	3.2	68	7.2	2.1	0.10
WO Ae 24	12-04-86	--	--	--	--	--	242	--	9.5	--
WO Ae 24	03-19-87	--	--	--	--	--	240	--	9.0	--
WO Ae 24	08-26-87	3.1	8.0	8	0.3	1.7	232	5.7	8.9	0.10
WO Ae 25	12-04-86	--	--	--	--	--	--	--	9.0	--
WO Ae 25	03-19-87	--	--	--	--	--	255	--	10	--
WO Ae 25	08-26-87	2.2	8.7	8	0.3	0.90	245	5.6	2.1	0.10
WO Ah 34	12-01-86	--	--	--	--	--	112	--	86	--
WO Ah 34	02-20-87	--	--	--	--	--	104	--	79	--
WO Ah 34	08-24-87	5.2	57	61	3	4.7	120	5.3	84	0.10
WO Bg 15	12-03-86	--	--	--	--	--	97	--	26	--
WO Bg 15	02-13-87	--	--	--	--	--	--	--	27	--
WO Bg 15	08-26-87	4.9	24	45	1	3.4	101	7.2	34	0.10
WO Bg 45	12-03-86	--	--	--	--	--	14	--	15	--
WO Bg 45	02-13-87	--	--	--	--	--	--	--	16	--
WO Bg 45	08-26-87	1.0	9.7	63	1	1.4	12	1.0	12	0.10
WO Bg 46	12-03-86	--	--	--	--	--	117	--	10	--
WO Bg 46	02-13-87	--	--	--	--	--	--	--	11	--
WO Bg 46	08-26-87	7.0	13	28	0.7	6.0	120	5.3	9.9	0.10
WO Bg 47	12-03-86	--	--	--	--	--	105	--	49	--
WO Bg 47	03-18-87	--	--	--	--	--	118	--	48	--
WO Bg 47	08-25-87	6.2	45	61	3	4.8	--	5.4	46	0.20
WO Bg 48	12-03-86	--	--	--	--	--	108	--	67	--
WO Bg 48	03-18-87	--	--	--	--	--	112	--	65	--
WO Bg 48	08-25-87	8.2	50	58	3	7.2	--	5.7	66	0.20
WO Bg 49	12-04-86	--	--	--	--	--	183	--	16	--
WO Bg 49	03-18-87	--	--	--	--	--	195	--	15	--
WO Bh 28	12-01-86	--	--	--	--	--	--	--	120	--
WO Bh 28	02-20-87	--	--	--	--	--	--	--	150	--
WO Bh 28	08-24-87	16	110	66	5	11	115	5.1	160	0.20
WO Bh 34	12-04-86	--	--	--	--	--	90	--	16	--
WO Bh 34	03-19-87	--	--	--	--	--	--	--	--	--
WO Bh 34	08-25-87	5.6	12	29	0.7	4.9	96	5.2	14	0.10
WO Bh 84	12-03-86	--	--	--	--	--	128	--	46	--
WO Bh 84	02-20-87	--	--	--	--	--	126	--	41	--
WO Bh 84	08-24-87	10	35	45	2	8.5	119	5.5	38	0.10
WO Bh 85	12-03-86	--	--	--	--	--	124	--	46	--
WO Bh 85	02-20-87	--	--	--	--	--	139	--	46	--
WO Bh 85	08-24-87	14	39	43	2	12	130	5.1	45	0.20
WO Bh 89	02-20-87	--	--	--	--	--	255	--	620	--
WO Cg 32	08-24-87	12	36	35	1	8.6	160	1.3	34	0.20
WO Cg 69	12-04-86	--	--	--	--	--	199	--	19	--
WO Cg 69	03-18-87	--	--	--	--	--	191	--	19	--
WO Cg 75	12-01-86	--	--	--	--	--	--	--	64	--
WO Cg 75	02-20-87	--	--	--	--	--	105	--	76	--
WO Dg 21	12-04-86	--	--	--	--	--	205	--	25	--
WO Dg 21	03-18-87	--	--	--	--	--	210	--	25	--
WO Dg 21	08-27-87	13	45	38	2	8.5	210	1.1	23	0.10

QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

WORCESTER COUNTY, MARYLAND-Continued

LOCAL IDENTIFIER	DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOSPHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	PHOSPHATE, ORTHO, DIS-SOLVED (MG/L AS PO4)	IRON, DIS-SOLVED (UG/L AS FE)	MANGANESE, DIS-SOLVED (UG/L AS MN)
WO Ae 23	12-04-86	--	--	--	--	--	--	--	--
WO Ae 23	03-19-87	--	--	--	--	--	--	--	--
WO Ae 23	08-26-87	28	86	110	<0.100	0.060	0.18	7100	110
WO Ae 24	12-04-86	--	--	--	--	--	--	--	--
WO Ae 24	03-19-87	--	--	--	--	--	--	--	--
WO Ae 24	08-26-87	30	279	290	<0.100	<0.010	--	12000	87
WO Ae 25	12-04-86	--	--	--	--	--	--	--	--
WO Ae 25	03-19-87	--	--	--	--	--	--	--	--
WO Ae 25	08-26-87	34	296	300	<0.100	<0.010	--	13000	130
WO Ah 34	12-01-86	--	--	--	--	--	--	--	--
WO Ah 34	02-20-87	--	--	--	--	--	--	--	--
WO Ah 34	08-24-87	34	276	300	<0.100	0.040	0.12	12000	130
WO Bg 15	12-03-86	--	--	--	--	--	--	--	--
WO Bg 15	02-13-87	--	--	--	--	--	--	--	--
WO Bg 15	08-26-87	36	167	200	<0.100	0.320	0.98	9000	120
WO Bg 45	12-03-86	--	--	--	--	--	--	--	--
WO Bg 45	02-13-87	--	--	--	--	--	--	--	--
WO Bg 45	08-26-87	17	61	52	0.260	<0.010	--	71	4
WO Bg 46	12-03-86	--	--	--	--	--	--	--	--
WO Bg 46	02-13-87	--	--	--	--	--	--	--	--
WO Bg 46	08-26-87	29	125	180	<0.100	<0.010	--	22000	290
WO Bg 47	12-03-86	--	--	--	--	--	--	--	--
WO Bg 47	03-18-87	--	--	--	--	--	--	--	--
WO Bg 47	08-25-87	35	208	220	<0.100	0.330	1.0	7500	89
WO Bg 48	12-03-86	--	--	--	--	--	--	--	--
WO Bg 48	03-18-87	--	--	--	--	--	--	--	--
WO Bg 48	08-25-87	36	233	250	<0.100	0.080	0.25	4700	96
WO Bg 49	12-04-86	--	--	--	--	--	--	--	--
WO Bg 49	03-18-87	--	--	--	--	--	--	--	--
WO Bh 28	12-01-86	--	--	--	--	--	--	--	--
WO Bh 28	02-20-87	--	--	--	--	--	--	--	--
WO Bh 28	08-24-87	33	418	430	<0.100	<0.010	--	6700	130
WO Bh 34	12-04-86	--	--	--	--	--	--	--	--
WO Bh 34	03-19-87	--	--	--	--	--	--	--	--
WO Bh 34	08-25-87	35	114	160	<0.100	<0.010	--	13000	110
WO Bh 84	12-03-86	--	--	--	--	--	--	--	--
WO Bh 84	02-20-87	--	--	--	--	--	--	--	--
WO Bh 84	08-24-87	37	214	230	<0.100	0.190	0.58	6100	80
WO Bh 85	12-03-86	--	--	--	--	--	--	--	--
WO Bh 85	02-20-87	--	--	--	--	--	--	--	--
WO Bh 85	08-24-87	33	230	250	<0.100	0.080	0.25	4400	85
WO Bh 89	02-20-87	--	--	--	--	--	--	--	--
WO Cg 32	08-24-87	26	242	250	<0.100	0.080	0.25	1600	87
WO Cg 69	12-04-86	--	--	--	--	--	--	--	--
WO Cg 69	03-18-87	--	--	--	--	--	--	--	--
WO Cg 75	12-01-86	--	--	--	--	--	--	--	--
WO Cg 75	02-20-87	--	--	--	--	--	--	--	--
WO Dg 21	12-04-86	--	--	--	--	--	--	--	--
WO Dg 21	03-18-87	--	--	--	--	--	--	--	--
WO Dg 21	08-27-87	20	270	280	<0.100	0.180	0.55	300	43

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## FACTORS FOR CONVERTING INCH-POUND UNITS TO INTERNATIONAL SYSTEM UNITS (SI)

The following factors may be used to convert the inch-pound units published herein to the International System of Units (SI).

Multiply inch-pound units	By	To obtain SI units
<i>Length</i>		
inches (in)	$2.54 \times 10^1$	millimeters (mm)
	$2.54 \times 10^{-2}$	meters (m)
feet (ft)	$3.048 \times 10^{-1}$	meters (m)
miles (mi)	$1.609 \times 10^0$	kilometers (km)
<i>Area</i>		
acres	$4.047 \times 10^3$	square meters (m <sup>2</sup> )
	$4.047 \times 10^{-1}$	square hectometers (hm <sup>2</sup> )
	$4.047 \times 10^{-3}$	square kilometers (km <sup>2</sup> )
square miles (mi <sup>2</sup> )	$2.590 \times 10^0$	square kilometers (km <sup>2</sup> )
<i>Volume</i>		
gallons (gal)	$3.785 \times 10^0$	liters (L)
	$3.785 \times 10^0$	cubic decimeters (dm <sup>3</sup> )
	$3.785 \times 10^{-3}$	cubic meters (m <sup>3</sup> )
million gallons	$3.785 \times 10^3$	cubic meters (m <sup>3</sup> )
	$3.785 \times 10^{-3}$	cubic hectometers (hm <sup>3</sup> )
cubic feet (ft <sup>3</sup> )	$2.832 \times 10^1$	cubic decimeters (dm <sup>3</sup> )
	$2.832 \times 10^{-2}$	cubic meters (m <sup>3</sup> )
cfs-days	$2.447 \times 10^3$	cubic meters (m <sup>3</sup> )
	$2.447 \times 10^{-3}$	cubic hectometers (hm <sup>3</sup> )
acre-feet (acre-ft)	$1.233 \times 10^3$	cubic meters (m <sup>3</sup> )
	$1.233 \times 10^{-3}$	cubic hectometers (hm <sup>3</sup> )
	$1.233 \times 10^{-6}$	cubic kilometers (km <sup>3</sup> )
<i>Flow</i>		
cubic feet per second (ft <sup>3</sup> /s)	$2.832 \times 10^1$	liters per second (L/s)
	$2.832 \times 10^1$	cubic decimeters per second (dm <sup>3</sup> /s)
	$2.832 \times 10^{-2}$	cubic meters per second (m <sup>3</sup> /s)
gallons per minute (gal/min)	$6.309 \times 10^{-2}$	liters per second (L/s)
	$6.309 \times 10^{-2}$	cubic decimeters per second (dm <sup>3</sup> /s)
	$6.309 \times 10^{-5}$	cubic meters per second (m <sup>3</sup> /s)
million gallons per day	$4.381 \times 10^1$	cubic decimeters per second (dm <sup>3</sup> /s)
	$4.381 \times 10^{-2}$	cubic meters per second (m <sup>3</sup> /s)
<i>Mass</i>		
tons (short)	$9.072 \times 10^{-1}$	megagrams (Mg) or metric tons

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