R
200)
.A3
New Jersey
1988
v.1

Water Resources Data New Jersey Water Year 1988

Volume 1. Atlantic Slope Basins, Hudson River to Cape May

U.S. GEOLOGICAL SURVEY
RESTON, VA.
AUG 31 1989
LIBRARY

U.S. GEOLOGICAL SURVEY WATER-DATA REPORT NJ-88-1
Prepared in cooperation with the New Jersey Department of Environmental Protection and with other agencies

CALENDAR FOR WATER YEAR 1988

1987

OCTOBER

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

NOVEMBER

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

DECEMBER

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

1988

JANUARY

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

FEBRUARY

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

MARCH

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

APRIL

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

MAY

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

JUNE

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

JULY

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

AUGUST

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

SEPTEMBER

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

United States Department of the Interior

GEOLOGICAL SURVEY
Water Resources Division
Mountain View Office Park
810 Bear Tavern Road, Suite 206
West Trenton, New Jersey 08628

I am pleased to announce the release of our Annual Report "Water Resources Data for New Jersey, Water Year 1988". This report was prepared by the U.S. Geological Survey, in cooperation with the State of New Jersey and several local and federal government agencies.

Once again this year, the report is issued in two volumes:

Volume 1.--Atlantic Slope Basins, Hudson River to Cape May.
Volume 2.--Delaware River Basin and tributaries to Delaware Bay.

The report contains records of stream discharge and water-quality measurements, elevations of lakes and reservoirs, major water-supply diversions and tidal elevations. Also included are records of sediment concentrations and records of ground-water quality and ground-water levels. Special sections are devoted to low-flow and crest-stage data as well as summaries of tidal crest elevations in the New Jersey estuaries and intracoastal waterways.

Streamflow data in this report are presented in a new format, considerably different from that in previous years. The new format includes tabular presentations of streamflow statistics rather than some of the written text. Station numbers are included in the table of contents. Tables of discontinued surface-water and water-quality stations are also included. Hydrographs have been included for ground-water stations. These changes are part of a pilot program to reformat the annual water-data reports to meet user needs and data preferences.

Copies of this report in paper or microfiche are for sale through the National Technical Information Service, U.S. Department of Commerce, Springfield, Virginia 22161. When ordering, refer to U.S. Geological Survey Water-Data Report NJ-88-1 (for volume 1) and NJ-88-2 (for volume 2). For further information on this report, or to change or remove your address from our mailing list, please contact me at the above address or telephone (609) 771-3900.

Sincerely,

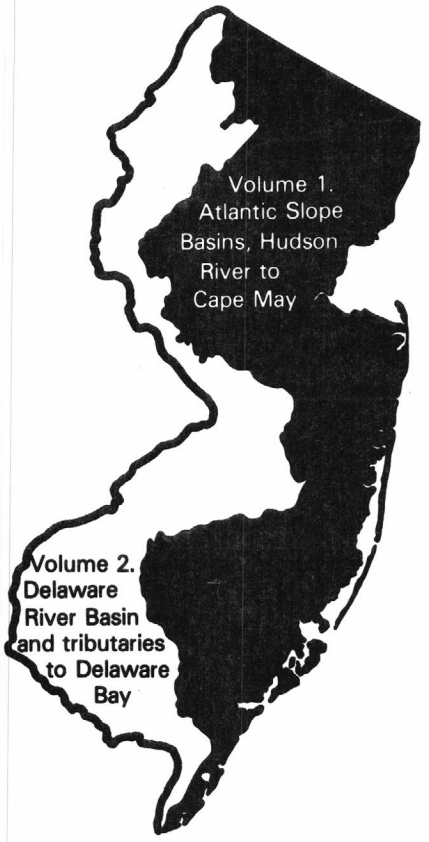
William R. Bauersfeld

William R. Bauersfeld, Chief
Hydrologic Data Assessment Program

Water Resources Data New Jersey Water Year 1988

Volume 1. Atlantic Slope Basins, Hudson River to Cape May

by W.R. Bauersfeld, E.W. Moshinsky, E.A. Pustay, and W.D. Jones



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT NJ-88-1
Prepared in cooperation with the New Jersey
Department of Environmental Protection
and with other agencies

UNITED STATES DEPARTMENT OF THE INTERIOR

MANUEL LUJAN, JR., Secretary

GEOLOGICAL SURVEY

Dallas L. Peck, Director

For information on the water program in New Jersey write to

District Chief, Water Resources Division
U.S. Geological Survey
Mountain View Office Park
810 Bear Tavern Road, Suite 206
West Trenton, New Jersey 08628

1989

PREFACE

This volume of the annual hydrologic data report of New Jersey 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 water quality provide the hydrologic information needed by state, local, and federal agencies, and the private sector for developing and managing our Nation's land and water resources.

Hydrologic data for New Jersey are contained in 2 volumes:

Volume 1. Atlantic Slope Basins, Hudson River to Cape May
Volume 2. Delaware River Basin and tributaries to Delaware Bay

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. The authors 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 completion of the report.

Eugene Dorr Mark A. Hardy Robert D. Schopp

M.D. Morgan word processed the text of the report, and G.L. Simpson drafted the illustrations.

The data were collected, computed, and processed by the following personnel:

G. Carleton	M.J. DeLuca	J.D. Joyner	R.G. Reiser
W.F. Calvetti	J.F. Dudek	D.S. Kauffman	E. Rodgers
G.L. Centinaro	M.D. Eanes	N.W. Leivers	F.L. Schaefer
R.S. Cole	C.E. Gurney	T.J. Reed	A.J. Velnich

This report was prepared in cooperation with the State of New Jersey and with other agencies under the general supervision of Janice R. Ward, Associate District Chief for Hydrologic Data Assessment and Information Management; Donald E. Vaupel, District Chief, New Jersey; and Stanley P. Sauer, Regional Hydrologist, Northeastern Region.

50272-101

REPORT DOCUMENTATION PAGE	1. REPORT NO. USGS/WRD/HD-89-274	2.	3. Recipient's Accession No.

4. Title and Subtitle
Water Resources Data - New Jersey, Water Year 1988
Volume 1. Atlantic Slope Basins, Hudson River to Cape May

5. Report Date
June 1989

6.

7. Author(s)
W. R. Bauersfeld, E. W. Moshinsky, E. A. Pustay, W. D. Jones

8. Performing Organization Rept. No.
USGS-WDR-NJ-88-1

9. Performing Organization Name and Address
U.S. Geological Survey, Water Resources Division
Mountain View Office Park
810 Bear Tavern Road, Suite 206
West Trenton, New Jersey 08628

10. Project/Task/Work Unit No.

11. Contract(C) or Grant(G) No.
(C)
(G)

12. Sponsoring Organization Name and Address
U.S. Geological Survey, Water Resources Division
Mountain View Office Park
810 Bear Tavern Road, Suite 206
West Trenton, New Jersey 08628

13. Type of Report & Period Covered
Annual - Oct. 1, 1987 to Sept. 30, 1988

14.

15. Supplementary Notes
Prepared in cooperation with the New Jersey Department of Environmental Protection and with other agencies.

16. Abstract (Limit: 200 words)
Water Resources data for the 1988 water year for New Jersey consist of 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. This volume of the report contains discharge records for 77 gaging stations; tide summaries for 1 station; stage and contents for 15 lakes and reservoirs; water quality for 61 surface-water sites and 141 wells; and water levels for 68 observation wells. Also included are data for 37 crest-stage partial-record stations, 12 tidal crest-stage gages, and 43 low-flow partial-record stations. Additional water data were collected at 60 sites, not part of the systematic data collection program, and are published as miscellaneous measurements. These data represent that part of the national water data system operated by U.S. Geological Survey and cooperating State and Federal agencies in New Jersey.

17. Document Analysis a. Descriptors
*New Jersey, *Hydrologic data, *Surface water, *Ground water, *Water quality, Flow rate, Gaging stations, Lakes, Reservoirs, Chemical analyses, Sediments, Water temperatures, Sampling sites, Water Levels, Water Analyses.

b. Identifiers/Open-Ended Terms

c. COSATI Field/Group

18. Availability Statement: No restriction on distribution. This report may be purchased from: National Technical Information Service, Springfield, VA 22161

19. Security Class (This Report) Unclassified

20. Security Class (This Page) Unclassified

21. No. of Pages 367

22. Price

(See ANSI-Z39.18) See Instructions on Reverse

OPTIONAL FORM 272 (4-77)
(Formerly NTIS-35)
Department of Commerce

CONTENTS

	Page
Preface	iii
List of surface-water stations, in downstream order, for which records are published	vi
List of ground-water wells, by county, for which records are published	viii
Introduction	1
Cooperation	1
Summary of hydrologic conditions	1
Streamflow	1
Water quality	2
Ground-water levels	2
Special networks and programs	12
Explanation of records	12
Station identification numbers	12
Downstream order system	12
Latitude-longitude system	12
Records of stage and water discharge	13
Data collection and computation	13
Data presentation	14
Identifying estimated daily discharge	15
Accuracy of the records	15
Other records available	15
Records of surface-water quality	15
Classification of records	15
Arrangement of records	15
On-site measurements and sample collection	15
Water temperature	16
Sediment	16
Laboratory measurements	16
Data presentation	16
Remark codes	17
Records of ground-water levels	17
Data collection and computation	17
Data presentation	18
Records of ground-water quality	18
Data collection and computation	18
Data presentation	18
Current water-resources projects in New Jersey	18
Water-related reports for New Jersey completed during 1987, 1988	19
Access to WATSTORE data	20
Definition of terms	20
Selected references	26
Publications on Techniques of Water-Resources Investigations	30
List of discontinued gaging stations	32
List of discontinued continuous water-quality stations	33
Station records, surface water	42
Discharge at partial-record stations and miscellaneous sites	266
Crest-stage partial-record stations	266
Low-flow partial-record stations	272
Miscellaneous sites	278
Tidal crest-stage stations	285
Station records, ground water	288
Ground-water levels	288
Secondary observation wells	332
Quality of ground water	333
Index	355

ILLUSTRATIONS

Figure 1.	Combined usable storage in 13 major water-supply reservoirs	4
2.	Monthly streamflow at key gaging stations	5
3.	Annual mean discharge at key gaging stations	6
4.	Monthly precipitation at three National Weather Service locations	7
5.	Monthly mean specific conductance at Delaware River at Trenton	8
6.	Occurrence of chlordane, DDT, DDE, DDD and PCB's in stream bottom material	8
7.	Map showing locations of sites with concentrations of Chlordane, DDD, DDE, DDT, or PCB's in bottom material greater than 20 µg/kg, 1988	9
8.	Monthly ground-water levels at key water-table observation wells	10
9.	Twenty-year hydrographs of one artesian and one water-table observation well	11
10.	System for numbering wells and miscellaneous sites	13
11.	Map showing location of gaging stations and surface-water quality stations	34
12.	Map showing location of low-flow and crest-stage partial-record stations	36
13.	Map showing location of ground-water observation wells	38
14.	Map showing locations of ground-water quality stations	40

TABLES

Table 1.	Frequency of detection of organochlorine and organophosphorus compounds in bottom materials of New Jersey streams for water years, 1976 to 1988	3
2.	Factors for converting Inch-pound units to Metric units	inside back cover

Note.--Data for partial-record stations and miscellaneous sites for surface-water quantity are published in a separate section of the data report. See references at the end of this list for page numbers for this section.

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

Page

HUDSON RIVER BASIN
Rondout Creek:
01367700 Wallkill River at Franklin (cm) ... 42
01367770 Wallkill River near Sussex (cm) ... 44
01367910 Papakating Creek at Sussex (cm) ... 46
01368950 Black Creek (head of Pochuck Creek) near Vernon (cm) ... 48
HACKENSACK RIVER BASIN
01376800 Hackensack River at West Nyack, NY (d) ... 50
01377000 Hackensack River at Rivervale (dcm) ... 51
01377500 Pascack Brook at Westwood (d) ... 54
01378500 Hackensack River at New Milford (d) ... 55
Reservoirs in Hackensack River basin (e) ... 56
Diversions in Hackensack River basin ... 57
PASSAIC RIVER BASIN
01379000 Passaic River near Millington (dcm) ... 58
01379500 Passaic River near Chatham (dcm) ... 61
01379700 Rockaway River at Berkshire Valley (d) ... 64
01379773 Green Pond Brook at Picatinny Arsenal (d) ... 65
01379780 Green Pond Brook below Picatinny Lake at Picatinny Arsenal (d) ... 66
01379790 Green Pond Brook at Wharton (d) ... 67
01380500 Rockaway River above reservoir, at Boonton (d) ... 68
01381000 Rockaway River below reservoir, at Boonton (d) ... 70
01381200 Rockaway River at Pine Brook (cm) ... 72
01381500 Whippany River at Morristown (dcm) ... 74
01381800 Whippany River near Pine Brook (cm) ... 77
01381900 Passaic River at Pine Brook (d) ... 79
01382000 Passaic River at Two Bridges (cm) ... 81
Pompton River:
01382500 Pequannock River (head of Pompton River) at Macopin intake dam (d) ... 83
01383500 Wanaque River at Awosting (d) ... 84
01384500 Ringwood Creek near Wanaque (d) ... 85
01387000 Wanaque River at Wanaque (dcm) ... 86
01387420 Ramapo River near Suffern, NY (d) ... 90
01387450 Mahwah River near Suffern, NY (d) ... 91
01387500 Ramapo River near Mahwah (dcm) ... 92
01388000 Ramapo River at Pompton Lakes (dc) ... 96
01388500 Pompton River at Pompton Plains (d) ... 100
01388600 Pompton River at Packanack Lake (cm) ... 102
01389005 Passaic River below Pompton River at Two Bridges (c) ... 104
01389500 Passaic River at Little Falls (dcms) ... 106
01390500 Saddle River at Ridgewood (d) ... 111
01391000 Hohokus Brook at Ho-Ho-Kus (d) ... 112
01391200 Saddle River at Fair Lawn (cm) ... 113
01391500 Saddle River at Lodi (dcm) ... 115
01392210 Third River at Passaic (d) ... 119
Reservoirs in Passaic River basin (e) ... 120
Diversions in Passaic River basin ... 123
ELIZABETH RIVER BASIN
01393450 Elizabeth River at Ursino Lake, at Elizabeth (dcm) ... 124
RAHWAY RIVER BASIN
01393950 West Branch Rahway River at West Orange (cm) ... 127
01394500 Rahway River near Springfield (dcm) ... 129
01395000 Rahway River at Rahway (dcm) ... 132
01396000 Robinsons Branch at Rahway (d) ... 135
RARITAN RIVER BASIN
01396280 South Branch Raritan River at Middle Valley (cm) ... 136
01396500 South Branch Raritan River near High Bridge (d) ... 138
01396535 South Branch Raritan River at Arch Street, at High Bridge (cm) ... 139
01396580 Spruce Run at Glen Gardner (d) ... 141
01396588 Spruce Run near Glen Gardner (cm) ... 142
01396660 Mulhockaway Creek at Van Syckel (dcm) ... 144
01396800 Spruce Run at Clinton (dcm) ... 147
01397000 South Branch Raritan River at Stanton (d) ... 150
01397400 South Branch Raritan River at Three Bridges (cm) ... 152
01398000 Neshanic River at Reaville (dcm) ... 154
Back Brook:
01398045 Back Brook tributary near Ringoes (d) ... 157
01398107 Holland Brook at Readington (d) ... 158
01398260 North Branch Raritan River near Chester (cm) ... 159
01398500 North Branch Raritan River near Far Hills (d) ... 161
01399120 North Branch Raritan River at Burnt Mills (cm) ... 163
01399200 Lamington (Black) River near Ironia (cm) ... 165
01399500 Lamington (Black) River near Pottersville (dcm) ... 167
01399510 Upper Cold Brook near Pottersville (d) ... 170
01399525 Axle Brook near Pottersville (d) ... 171
Rockaway Creek:
01399670 South Branch Rockaway Creek at Whitehouse Station (d) ... 172
01399700 Rockaway Creek at Whitehouse (cm) ... 174
01399780 Lamington (Black) River at Burnt Mills (cm) ... 176
01400000 North Branch Raritan River near Raritan (d) ... 178

Page

RARITAN RIVER BASIN--Continued
01400120 Raritan River at Raritan (cm) 179
01400300 Peters Brook near Raritan (d) 181
01400350 Macs Brook at Somerville (d) 182
01400500 Raritan River at Manville (dcm) 183
01400540 Millstone River near Manalapan (cm) 187
01400650 Millstone River at Grovers Mill (cm) 189
01400730 Millstone River at Plainsboro (d) 191
01401000 Stony Brook at Princeton (dcm) 192
01401301 Millstone River at Carnegie Lake at Princeton (d) 195
01401440 Millstone River at Kingston (cm) 196
01401600 Beden Brook near Rocky Hill (cm) 198
01401650 Pike Run at Belle Mead (d) 200
01402000 Millstone River at Blackwells Mills (d) 201
01402540 Millstone River at Weston (cm) 202
Royce Brook:
01402600 Royce Brook tributary near Belle Mead (d) 204
01403060 Raritan River below Calco Dam, at Bound Brook (d) 205
Middle Brook:
01403150 West Branch Middle Brook near Martinsville (d) 206
01403300 Raritan River at Queens Bridge at Bound Brook (cms) 207
Bound Brook:
01403400 Green Brook at Seeley Mills (d) 209
Stony Brook:
01403535 East Branch Stony Brook at Best Lake, at Watchung (d) 210
01403540 Stony Brook at Watchung (d) 211
01405000 Lawrence Brook at Farrington Dam (d) 212
South River:
01405302 Matchaponix Brook at Mundy Avenue, at Spotswood (cm) 213
01405340 Manalapan Brook at Federal Road, near Manalapan (cm) 215
01405400 Manalapan Brook at Spotswood (d) 217
01405440 Manalapan Brook at Bridge Street, at Spotswood (cm) 218
01405500 South River at Old Bridge (d) 220
Reservoirs in Raritan River basin (e) 221
Diversions in Raritan River basin 222
NAVESINK RIVER BASIN
01407500 Swimming River (head of Navesink River) near Red Bank (d) 223
SHARK RIVER BASIN
01407705 Shark River near Neptune City (dcm) 225
01407760 Jumping Brook near Neptune City (dcm) 228
MANASQUAN RIVER BASIN
Manasquan River:
01407997 Marsh Bog Brook at Squankum (cm) 232
01408000 Manasquan River at Squankum (d) 234
METEDECONK RIVER BASIN
01408120 North Branch Metedeconk River near Lakewood (d) 235
TOMS RIVER BASIN
01408500 Toms River near Toms River (dcms) 236
WESTECUNK CREEK BASIN
01409280 Westecunk Creek at Stafford Forge (d) 239
MULLICA RIVER BASIN
01409387 Mullica River at outlet of Atsion Lake, at Atsion (cm) 240
01409400 Mullica River near Batsto (d) 242
01409416 Hammonton Creek at Wescoatville (cm) 243
01409500 Batsto River at Batsto (dcm) 245
01409510 Batsto River at Pleasant Mills (e) 248
01409810 West Branch Wading River near Jenkins (d) 249
01409815 West Branch Wading River at Maxwell (cms) 250
01410000 Oswego River at Harrisville (dcm) 252
Bass River:
01410150 East Branch Bass River near New Gretna (dcm) 255
GREAT EGG HARBOR RIVER BASIN
01410784 Great Egg Harbor River near Sicklerville (cm) 258
01410820 Great Egg Harbor River near Blue Anchor (cm) 260
01411000 Great Egg Harbor River at Folsom (d) 262
01411110 Great Egg Harbor River at Weymouth (cm) 263
TUCKAHOE RIVER BASIN
01411300 Tuckahoe River at Head of River (d) 265

Discharge at partial-record stations and miscellaneous sites 266
Crest-stage partial-record stations 266
Low-flow partial-record stations 272
Miscellaneous sites 278
Elevation at tidal crest-stage partial-record stations 285

GROUND WATER STATIONS, BY COUNTY, FOR WHICH RECORDS ARE PUBLISHED

Page

GROUND-WATER LEVEL RECORDS

ATLANTIC COUNTY
- Jobs Point ....(NJ-WRD Well No. 01-0578).... 288
- ACOW1 ....(NJ-WRD Well No. 01-0711).... 289
- Galen Hall ....(NJ-WRD Well No. 01-0037).... 290
- Oceanville 1 ....(NJ-WRD Well No. 01-0180).... 291
- FAA-TW Pomona ....(NJ-WRD Well No. 01-0703).... 292
- Scholler 1 ....(NJ-WRD Well No. 01-0256).... 293

BURLINGTON COUNTY
- Butler Place 1 ....(NJ-WRD Well No. 05-0683).... 294
- Butler Place 2 ....(NJ-WRD Well No. 05-0684).... 295

CAMDEN COUNTY
- New Brooklyn Park 1 ....(NJ-WRD Well No. 07-0476).... 296
- New Brooklyn Park 2 ....(NJ-WRD Well No. 07-0477).... 297
- New Brooklyn Park 3 ....(NJ-WRD Well No. 07-0478).... 298
- Winslow WC 5 ....(NJ-WRD Well No. 07-0503).... 299

CUMBERLAND COUNTY
- Ragovin 2100 ....(NJ-WRD Well No. 11-0137).... 300

GLOUCESTER COUNTY
- Gloucester Co. Water-table Network.... 301

MIDDLESEX COUNTY
- Forsgate 3 ....(NJ-WRD Well No. 23-0228).... 302
- Forsgate 4 ....(NJ-WRD Well No. 23-0229).... 303
- Morrell ....(NJ-WRD Well No. 23-0104).... 304
- Fischer ....(NJ-WRD Well No. 23-0070).... 305

MONMOUTH COUNTY
- Howell Twp. 1 ....(NJ-WRD Well No. 25-0635).... 306
- Howell Twp. 2 ....(NJ-WRD Well No. 25-0636).... 307
- Howell Twp. 3 ....(NJ-WRD Well No. 25-0637).... 308
- Howell Twp. 4 ....(NJ-WRD Well No. 25-0638).... 309
- Howell Twp. 5 ....(NJ-WRD Well No. 25-0639).... 310
- DOE - Sea Girt ....(NJ-WRD Well No. 25-0486).... 311
- Allaire State Park C ....(NJ-WRD Well No. 25-0429).... 312
- Ft. Monmouth 1-NCO ....(NJ-WRD Well No. 25-0353).... 313
- Marlboro 1 ....(NJ-WRD Well No. 25-0272).... 314
- Keyport Borough WD 4 ....(NJ-WRD Well No. 25-0206).... 315

MORRIS COUNTY
- Briarwood School ....(NJ-WRD Well No. 27-0012).... 316
- Troy Meadows 1 ....(NJ-WRD Well No. 27-0020).... 317
- Berkshire Valley TW 9 ....(NJ-WRD Well No. 27-0027).... 318
- Green Pond TW 5 ....(NJ-WRD Well No. 27-0028).... 319

OCEAN COUNTY
- Island Beach 1 ....(NJ-WRD Well No. 29-0017).... 320
- Island Beach 3 ....(NJ-WRD Well No. 29-0019).... 321
- DOE - Forked River ....(NJ-WRD Well No. 29-0585).... 322
- Crammer ....(NJ-WRD Well No. 29-0486).... 323
- Toms River TW 2 ....(NJ-WRD Well No. 29-0534).... 324
- Toms River Chemical 84 ....(NJ-WRD Well No. 29-0085).... 325
- Mantoloking 6 ....(NJ-WRD Well No. 29-0503).... 326
- Colliers Mills TW 1 ....(NJ-WRD Well No. 29-0138).... 327
- Colliers Mills TW 2 ....(NJ-WRD Well No. 29-0139).... 328
- Colliers Mills TW 3 ....(NJ-WRD Well No. 29-0140).... 329
- Colliers Mills TW 4 ....(NJ-WRD Well No. 29-0141).... 330

UNION COUNTY
- Union County Park ....(NJ-WRD Well No. 39-0119).... 331

Secondary observation wells.... 332

QUALITY OF GROUND-WATER RECORDS

Atlantic County.... 333
Bergen County.... 334
Cape May County.... 335
Gloucester County.... 336
Hunterdon County.... 342
Mercer County.... 344
Middlesex County.... 346
Monmouth County.... 349
Morris County.... 350
Ocean County.... 351
Passaic County.... 352
Somerset County.... 353
Union County.... 353

WATER RESOURCES DATA - NEW JERSEY, 1988

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 New Jersey 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 - New Jersey."

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 77 gaging stations; tide summaries at 1 gaging station; stage and content at 15 lakes and reservoirs; water quality at 61 surface-water stations and 141 wells; and water levels at 68 observation wells. Records included for ground-water levels are only a part of those obtained during the year. Also included are data for 40 crest-stage partial-record stations and stage only at 12 tidal crest-stage gages. Locations of these sites are shown on figures 11, 12, 13, and 14. Additional water data were collected at various sites not involved in the systematic data-collection program. Discharge measurements were made at 43 low-flow partial-record stations. Miscellaneous data were collected at 60 discharge measuring sites and 2 water-quality sampling sites. 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 New Jersey.

This series of annual reports for New Jersey 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. Beginning with the 1977 water year, these data were published in two volumes.

Prior to introduction of this series and for several water years concurrent with it, water-resources data for New Jersey 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, Part 1B." 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, Building 4, 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 NJ-88-1." 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 (609) 771-3900.

COOPERATION

This report was prepared by the U.S. Geological Survey under cooperative agreement with the following organizations:

New Jersey Department of Environmental Protection, Christopher J. Daggett, Commissioner.
Division of Water Resources, Jorge H. Berkowitz, Acting Director.
New Jersey Water Supply Authority, Rocco Ricci, Executive Director.
North Jersey District Water Supply Commission, Dean C. Noll, Chief Engineer.
Passaic Valley Water Commission, W.I. Inhoffer, General Superintendent and Chief Engineer.
County of Bergen, Edward R. Ranuska, director of Public Works and County Engineer.
County of Camden, Barton Harrison, Chairman of Camden County Planning Board.
County of Gloucester, H. Fred Schuster, Director of Health.
County of Gloucester, Robert V. Scolpino, Director of Planning.
County of Somerset, Thomas E. Decker, County Engineer, and Thomas Harris, Administrative Engineer.
Township of West Windsor, Larry Ellery, Chairman of Environmental Commission.

Assistance in the form of funds was given by the Corps of Engineers, U.S. Army, in collecting records for 17 surface water stations, and by the U.S. Army Armament Research and Development Center for the collection of records at 3 surface-water stations. In addition, several stations were operated fully or partially from funds appropriated directly to the Geological Survey. Funding was also supplied by the following Federal Energy Regulatory Commission licensee: Jersey Central Power and Light Company and Independent Hydro Developers Inc. Assistance was provided by the National Weather Service and the National Ocean Service.

The following organizations aided in collecting records:

Municipalities of Atlantic City, Jersey City, Newark, New Brunswick and Spotswood; American Cyanamid Co.; Elizabethown Water Co.; Ewing-Lawrence Sewerage Authority; Hackensack Water Co.; New Jersey--American Water Company (formerly Monmouth Consolidated Water Co. and Commonwealth Water Co.); and Jersey Central Power and Light Co.

Organizations that supplied data are acknowledged in station descriptions.

SUMMARY OF HYDROLOGIC CONDITIONS

Streamflow

Streamflow for the 1988 water year was about normal throughout the State. Precipitation ranged from 41.05 inches (97 percent of the 30-year mean) at Newark to 33.09 inches (79 percent of the 30-year mean) at Atlantic City. Figure 4 shows monthly precipitation compared with 30-year means. Reservoir contents were above average for the entire year and, at most sites, water levels were above spillway elevations from February through May (see Figure 1).

Water year 1988 began with streamflow about normal, ranging from 110 percent of long-term normal (1919-88) in the northern part of the State to 96 percent of long-term normal (1926-88) in the southern part. Streamflow

continued in the normal range through January. In February, when precipitation was 132 percent of normal, streamflow began to increase significantly. A storm on February 12 resulted in from 2.3 inches of rainfall in the southern part of the State to 1.1 inches in the northern part. At some sites in the south, peak flow for the year was recorded. Streamflow decreased steadily in March and April. By the end of April, flow was 85 percent of normal. May was a wet month; precipitation fell on 21 days of the month. The average precipitation for May was about 200 percent of normal. This precipitation produced above-normal runoff for the month. From May through September, streamflow remained in the normal range. Several severe storms were recorded during the summer. At Essex Fells, in Essex County, the National Weather Service (NWS) recorded 6.40 inches of rainfall on July 20-22. At Morris Plains, in Morris County, NWS recorded 11.48 inches of precipitation during July, which is 255 percent of the July average. At the end of the water year, streamflow was 161 percent of normal in the north but 63 percent of normal in the south.

Streamflow at the index station for northern New Jersey (South Branch Raritan River near High Bridge) averaged 119 ft^3/s for the water year; this flow is 98 percent of the 70-year average. Streamflow at the index station for southern New Jersey (Great Egg Harbor River at Folsom) averaged 68.8 ft^3/s for the water water year; this flow is 80 percent of the 63-year average. The observed annual mean discharge of the Delaware River at Trenton was 9,802 ft^3/s, which is 84 percent of the 76-year average. The Delaware River is highly regulated by reservoirs and diversions. The natural flow at Trenton (adjusted for upstream storage and diversion) was 92 percent of normal for the year. Figure 2 compares monthly mean discharge at each of these index gaging stations during the current water year with the long-term normal (1951-80) monthly discharge. Figure 3 compares annual mean discharge at each of these gaging stations with the annual mean discharge for the period of record.

Combined usable storage in 13 major water-supply reservoirs in New Jersey decreased from 70.5 billion gallons (93 percent of capacity) on October 1, 1987, to 55.4 billion gallons (72 percent of capacity) on September 30, 1988. Storage in Wanaque Reservoir decreased from 23.5 billion gallons (85 percent of capacity) on October 1, 1987, to 14.9 billion gallons (54 percent of capacity) on September 30, 1988. Pumped storage in Round Valley Reservoir, the largest capacity reservoir in the State, increased from 53.1 billion gallons (96 percent of capacity) on October 1, 1987, to 53.2 billion gallons (97 percent of capacity) on September 30, 1988.

Water Quality

Above-normal streamflow in northern parts of the State at the beginning of the water year caused increased dilution of dissolved solids in many northern and central streams in October, November, and December. Dilution of dissolved solids generally results in an improvement in water quality because concentrations of undesirable substances, such as trace elements, organic compounds, nutrients, bacteria, and nuisance aquatic organisms, usually also are diluted. The degree of dilution is apparent when monthly mean values of specific conductance, which are related directly to dissolved-solids concentrations, for 1988 are compared with specific-conductance values for 1981-87. Figure 5 compares specific-conductance values for the Delaware River at Trenton, a large drainage in central New Jersey as well as parts of New York and Pennsylvania, in 1988 with those for 1987, and with the mean for 1981-87. The lowest instantaneous specific-conductance value measured in 1988, 103 $\mu s/cm$ (microsiemens per centimeter at 25 degrees Celsius), was measured on March 29 and was caused by heavy rainfall during the last week of the month. The effects of periods of sustained precipitation and above-normal runoff during May produced the lowest mean monthly specific conductance for the year. Decreased dilution of dissolved solids resulting from below-normal streamflow in April is demonstrated by the difference between the specific-conductance value for April 1988 (170 $\mu S/cm$) and the mean value for 1981-87 (142 $\mu S/cm$). Periods of both higher-than-normal dilution and lower-than-normal dilution occurred during the year, resulting in a mean specific conductance for the Delaware River at Trenton that was within 1 percent of the mean for 1981-87.

Polychlorinated biphenyls (PCBs) and a number of pesticides commonly are detected in New Jersey streams. Table 1 summarizes the frequency of detection of these compounds in bottom sediments from 1976 through 1988. Detection limits during this period were 1.0 $\mu g/kg$ (micrograms per kilogram) for PCN, chlordane, and PCB; 1.0 to 10 $\mu g/kg$ for toxaphene, and 0.1 $\mu g/kg$ for the other compounds. The number of sites at which samples were collected ranged from 13 to 35 per year, with a median of 27 per year. Sites sampled more than once in a year were counted only once. The organochlorine compounds chlordane, dieldrin, DDT (and its decomposition products DDD and DDE), and PCBs are the most commonly detected organic compounds in stream-bottom sediments in the State. Chlordane and dieldrin have been used widely to control soil pests as well as termites and ants. The production and use of DDT, a common, low-cost, broad-spectrum pesticide, have been banned in the United States since 1972. PCBs were used in many industrial and manufactured items (for example, lubricants, dyes, and hydraulic fluids), but their use has been restricted to environmentally closed systems (for example, electrical capacitors and transformers) since 1971. Common sources of PCBs include industrial and municipal effluents, landfills and other soil-disposal sites, and incineration of material containing PCBs (Natural Resources Council, 1979). All of these organochlorine compounds persist in the environment and still are found in surface and ground waters in the State despite the restriction or prohibition of their use.

Figure 6 summarizes the concentrations of chlordane, DDT, DDD, DDE, and PCBs in New Jersey stream-bottom samples for 1976-88. Only those sites for which water-quality data are presented in either volume of this report are included. Figure 6 also shows the percentage of samples collected in which at least one compound exceeded a concentration of 20 $\mu g/kg$ (micrograms per kilogram)--a level selected to include the highest 15 to 20 percent of values measured nationwide (J. S. Cragwall, Jr., U.S. Geological Survey, written commun., 1977). Although it is detected frequently, dieldrin is not included in Figure 6 because its concentration has been measured at greater than 20 $\mu g/kg$ only three times during this period. Figure 7 shows the locations of water-quality stations sampled during the 1988 water year at which at least one of these compounds exceeded a concentration of 20 $\mu g/kg$.

The U.S. Geological Survey maintains a network of saltwater-observation wells in the Coastal Plain of New Jersey to document and evaluate the movement of saline water into freshwater aquifers that serve as sources of water supply. During the 1988 water year, 139 samples were collected in 8 counties. The results of the sampling of these wells are presented in the quality of ground water tables in these reports.

Ground-Water Levels

Changes in ground-water levels during the 1988 water year were determined from a statewide network of observation wells. Ground-water levels in water-table observation wells declined slightly from the previous year. Water levels in most observation wells that tap the heavily stressed confined aquifers of the Coastal Plain continued to show long-term net declines. Increases in withdrawals of ground water contributed to these declines.

Monthly water levels in 1988 for two water-table observation wells--the Bird well (NJ-WRD well number 19-0002) in Hunterdon County and the Crammer well (NJ-WRD well number 29-0486) in Ocean County--are compared with monthly extremes and long-term averages in figure 8. For further comparison, 20-year hydrographs of two Coastal Plain wells, one water-table well (NJ-WRD well number 05-0689) and one artesian well (NJ-WRD well number 07-0413) are presented in

figure 9. In addition, multi-year hydrographs are provided with the 1988 water-level data for most of the wells included in this report.

Water levels in the water-table aquifers of the Coastal Plain were declining slowly at the beginning of the 1988 water year. This decline continued through January and was followed by recovery until June. Water levels fell from June through the remainder of the water year.

Observation wells that tap the heavily stressed, confined Coastal Plain aquifers continued to show long-term net declines in many areas. New lows of record were set in 44 Coastal Plain artesian observation wells. The most significant water-level declines were measured in the Potomac-Raritan-Magothy aquifer system, where previous lows of record were exceeded in 30 network observation wells. The greatest decline in water level in the Potomac-Raritan-Magothy aquifer system occurred in the Marlboro observation well (NJ-WRD well number 25-0272), where the previous record low was exceeded by 8.9 feet. Other aquifers in which previous lows of record were exceeded include the Englishtown aquifer system, Wenonah-Mount Laurel aquifer, Piney Point aquifer, and the Atlantic City 800-foot sand.

Table 1.--Frequency of detection of organochlorine and organophosphorus compounds in bottom materials of New Jersey streams, water years 1976-88

COMPOUND	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Organochlorine compounds													
Chlordane	●	⊖	⊖	●	●	◒	◒	◒	◒	◒	◒	⊖	●
DDD	●	⊖	◒	●	●	●	◒	●	◒	◒	◒	●	●
DDE	●		◒	◒	◒	◒	●	⊖	◒	◒	◒	●	◒
DDT	●	⊖	◒	◒	◒	●	◒	◒	◒	◒	⊖	●	⊖
PCB	◒	⊖	◒	◒	●	◒	●	◒	◒	◒	⊖	◒	◒
Dieldrin	●	⊖	⊖	◒	◒	◒	◒	⊖	⊖	⊖	◒	⊖	⊖
Endosulfane		○		○	○	○	○	○	○	○	○	⊖	○
Heptachlor Epoxide	○	○	○	○	○	○	○	○	○	○	⊖	⊖	⊖
Aldrin, Lindane, Endrin Toxaphene, Heptachlor	○	○	○	○	○	○	○	○	○	○	○	○	⊖
PCN			○	○	○	○	○	○	○	○	○	○	○
Mirex					○	○	○	○	○	○	○	○	○
Organophosphorus compounds													
Methoxychlor, Malathion, Parathion, Diazanon, Methyl Parathion, Ethyl Trithion, Methyl Trithion, Ethion			○	○	○	○	○	○	○	○	○	○	⊖

Frequency (rounded to nearest whole number): ○ (0 - 25%), ⊖ (26 - 50%), ◒ (51 - 75%), ● (76 - 100%)

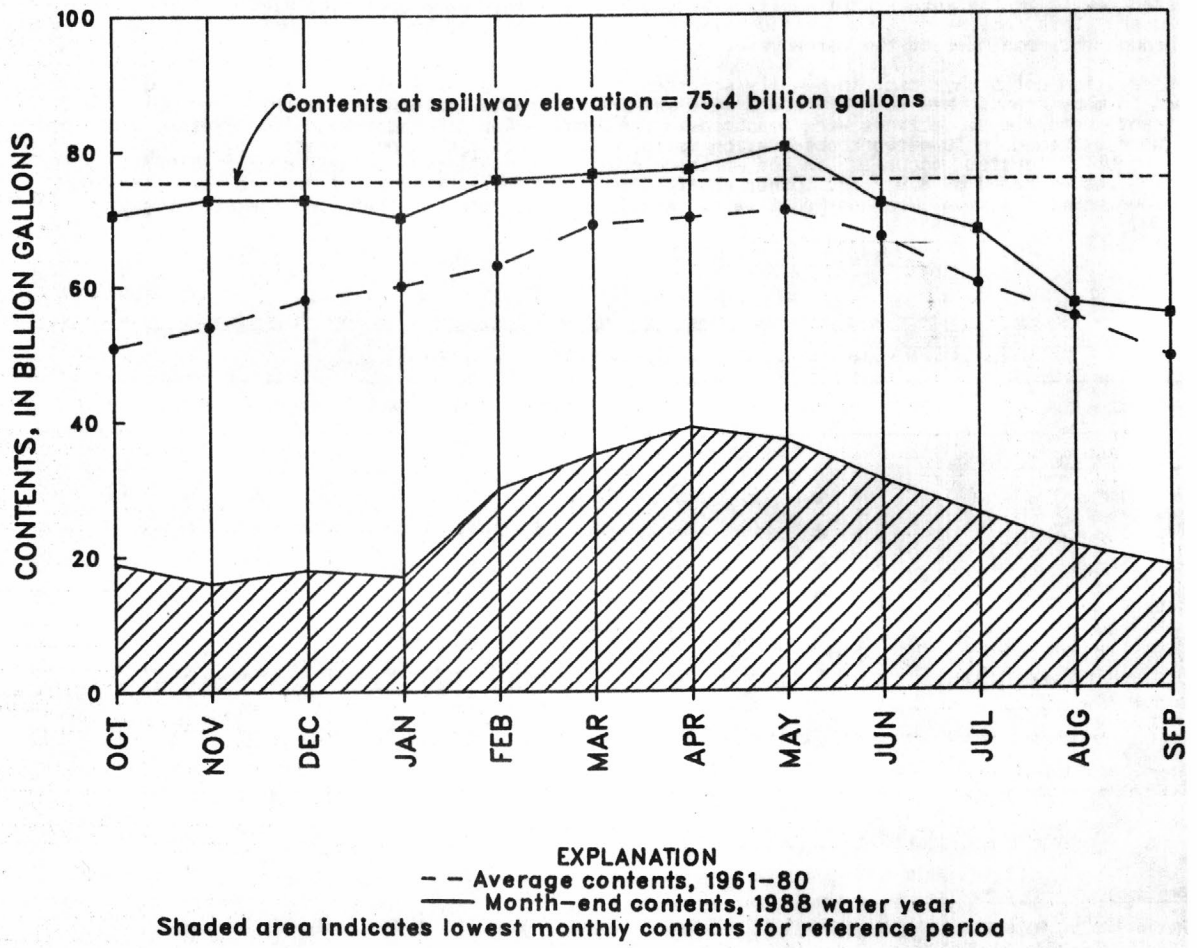
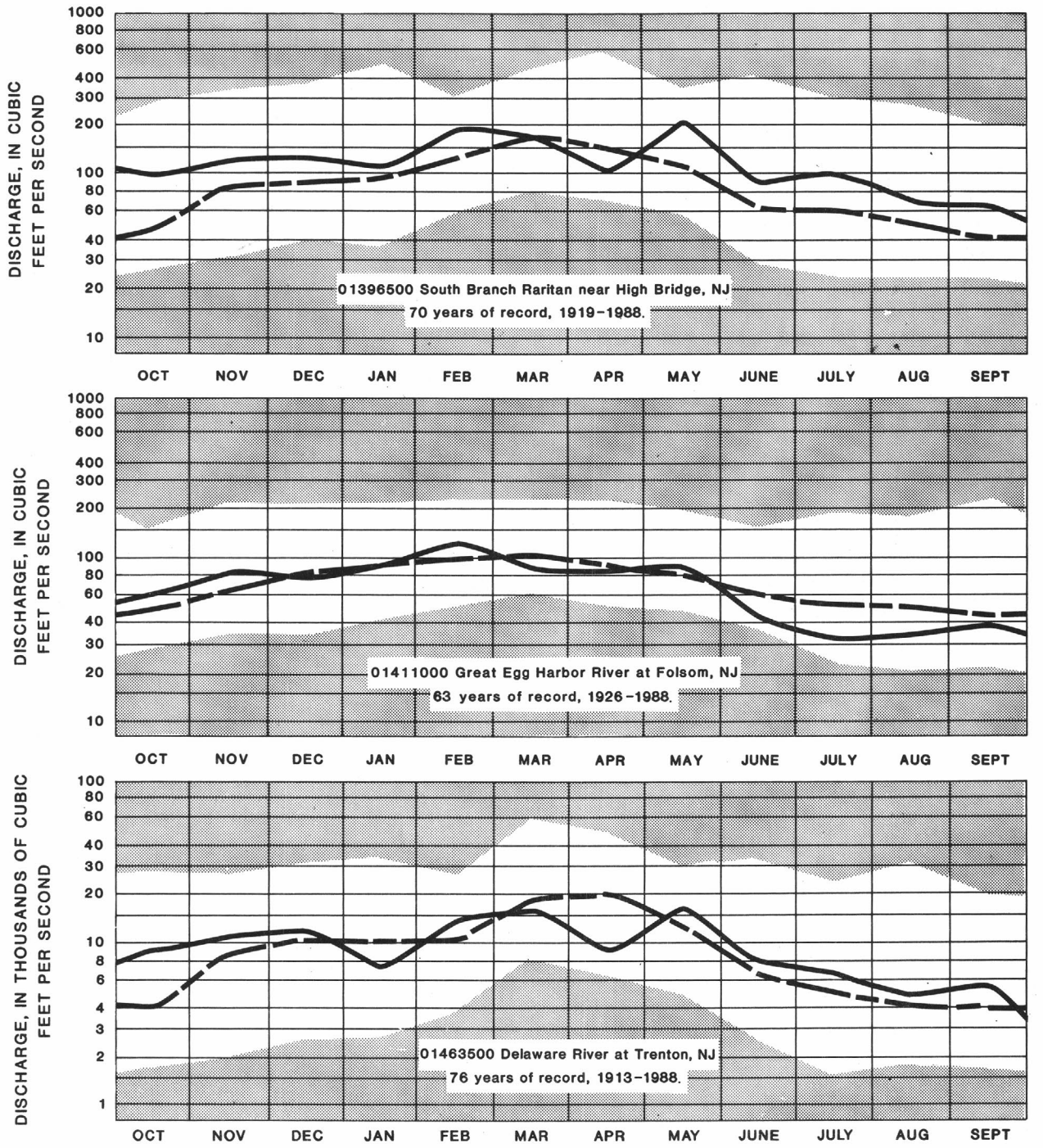


Figure 1.-- Combined usable storage in 13 major water-supply reservoirs



Unshaded area.--Indicates range between highest and lowest mean recorded for the month, prior to 1988 water year.

Broken line.--Indicates normal (median of the monthly means) for the standard reference period, 1951-1980.

Solid line.--Indicates observed monthly mean flow for the 1988 water year.

Figure 2.--Monthly mean discharge at index gaging stations.

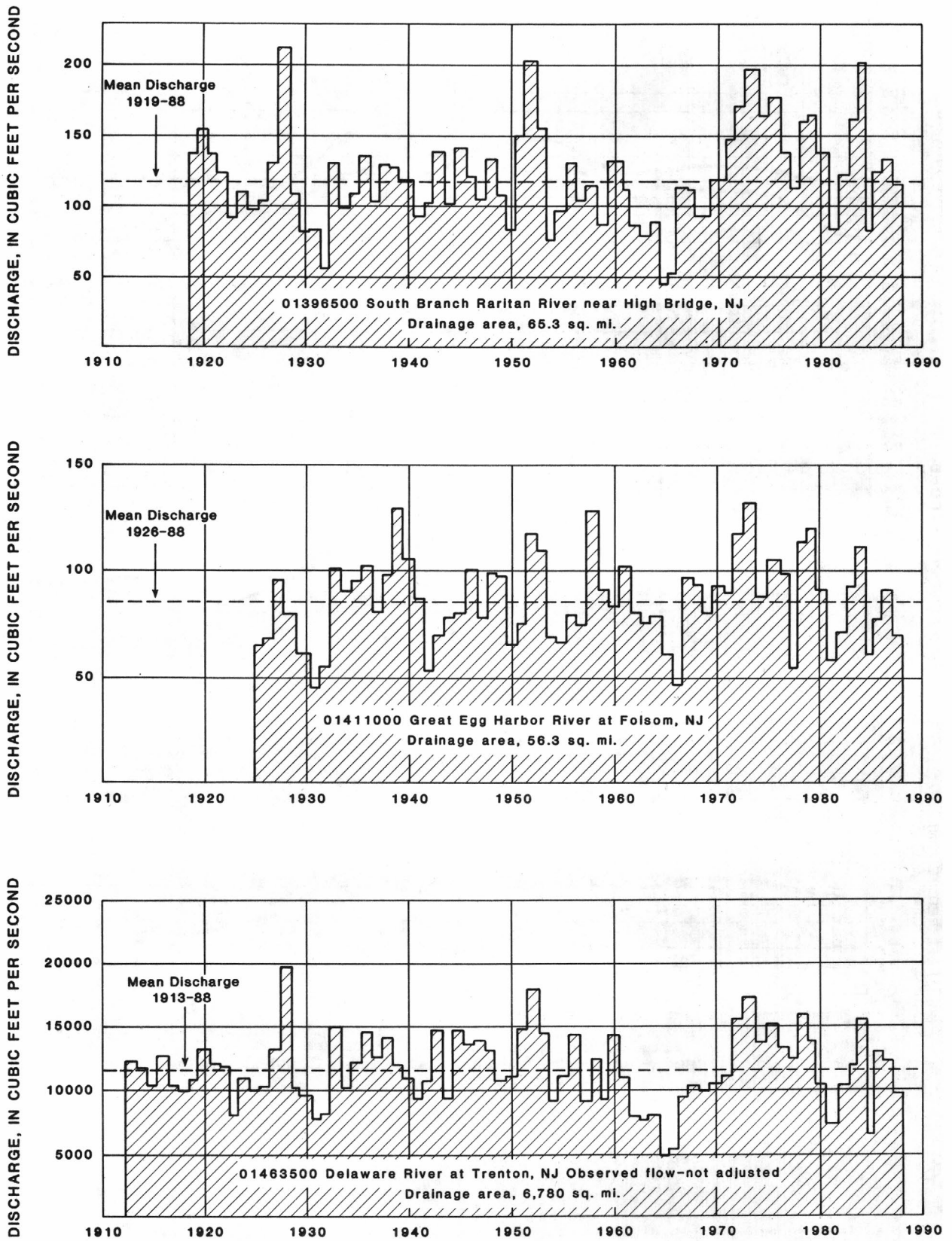


Figure 3.--Annual mean discharge at index gaging stations.

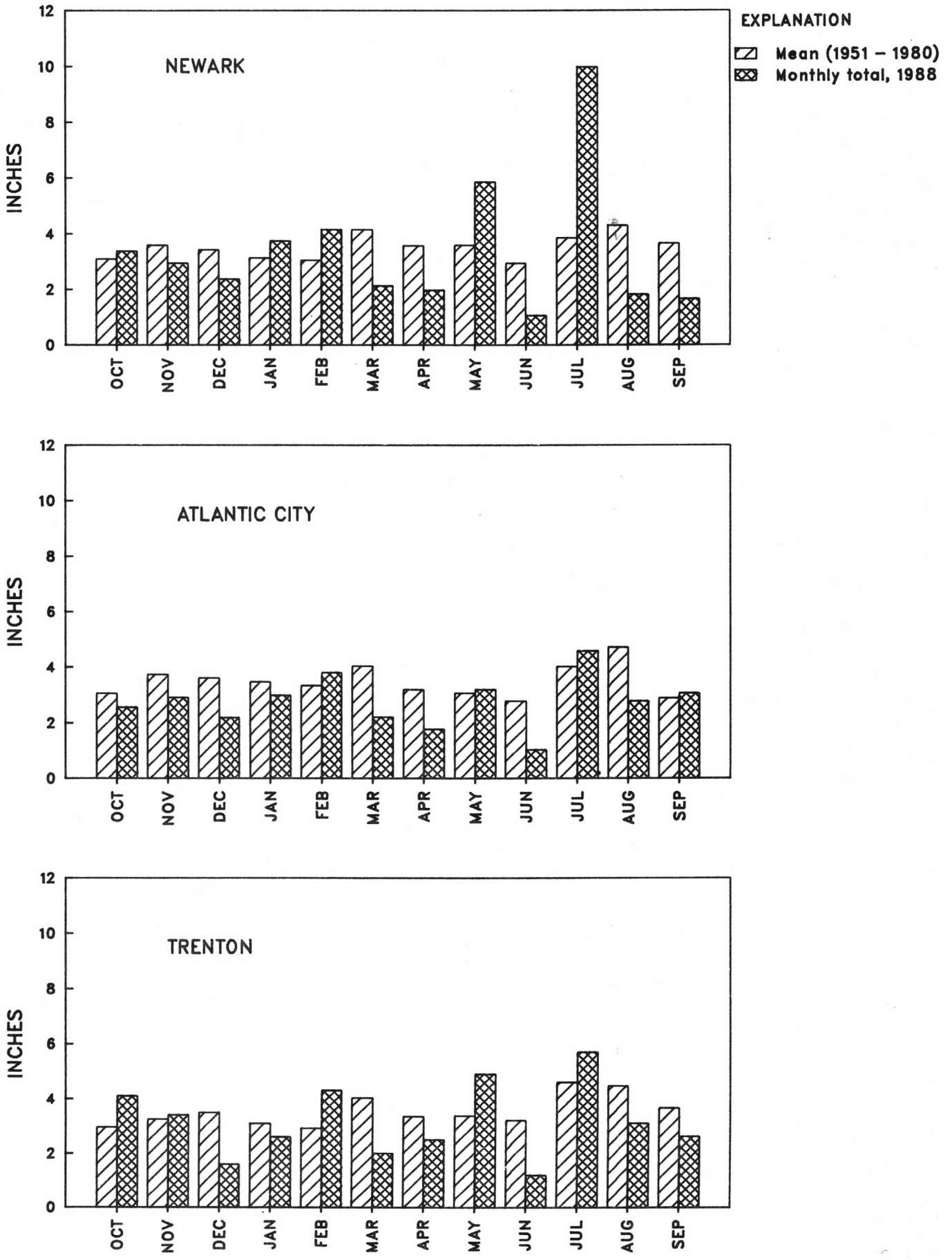


Figure 4.-- Monthly precipitation at three National Weather Service locations

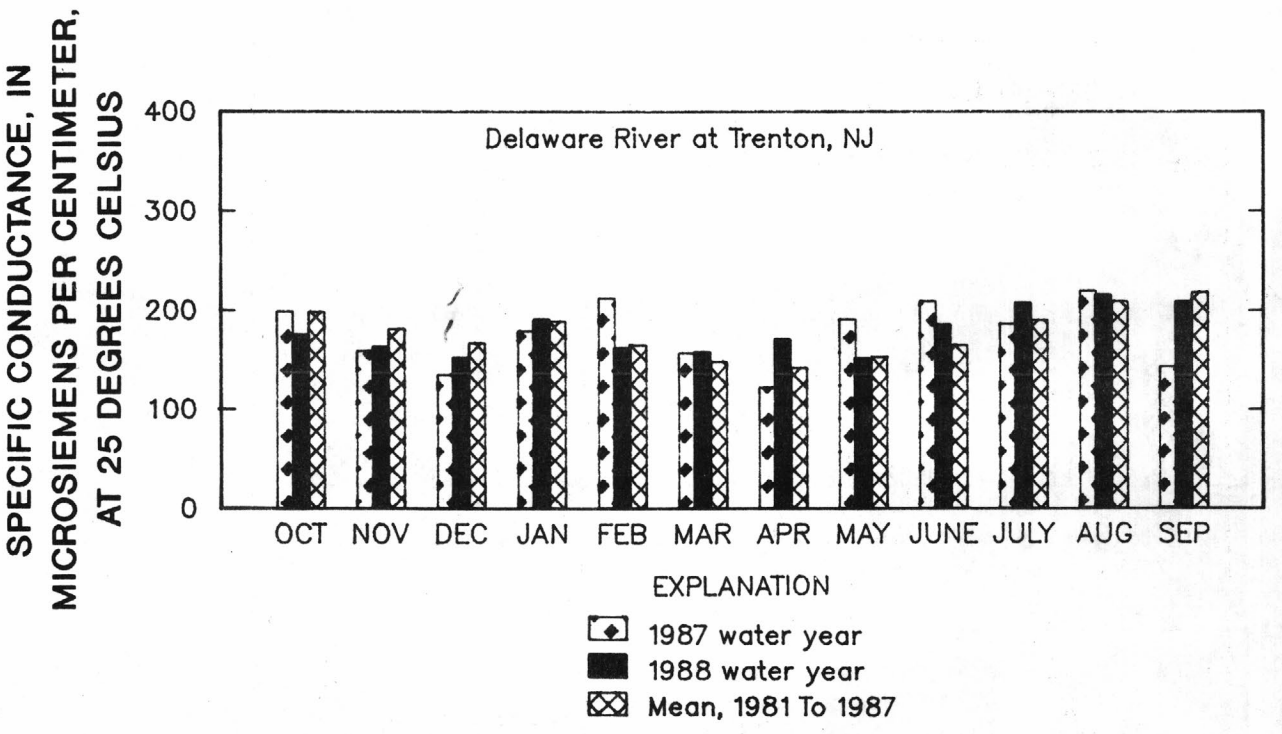


Figure 5.--Monthly mean specific conductance at Delaware River at Trenton.

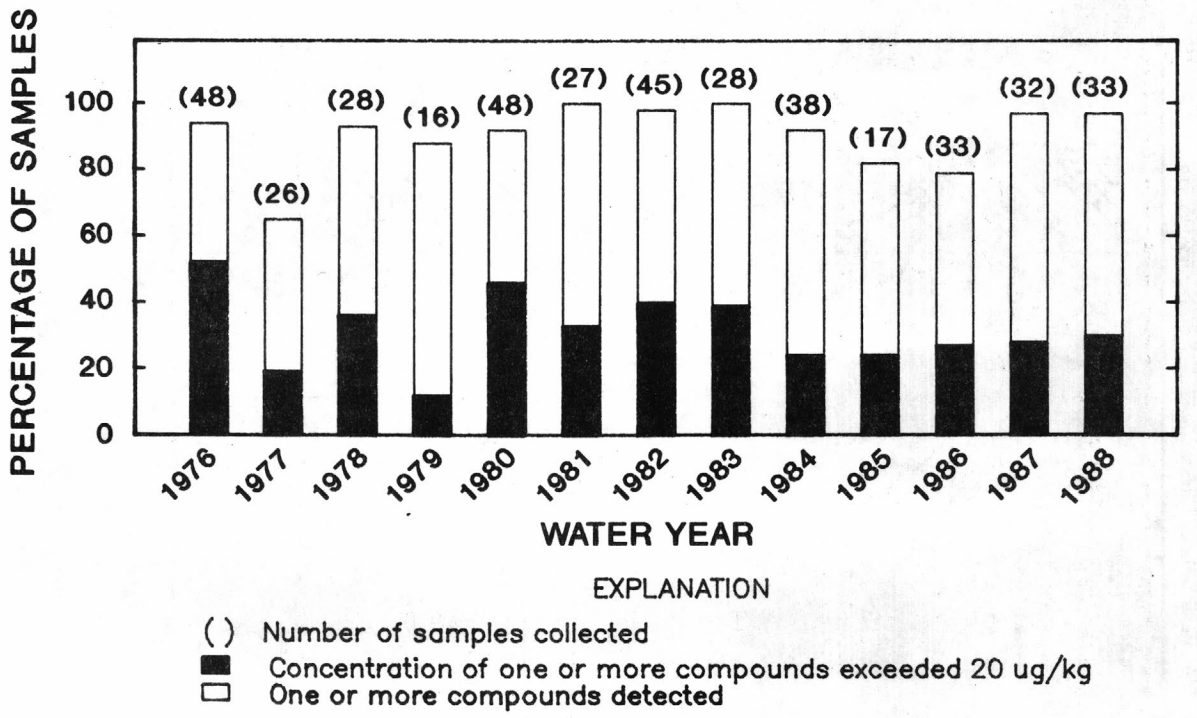


Figure 6.--Occurrence of chlordane, DDT, DDE, DDD and PCB's in stream bottom material.

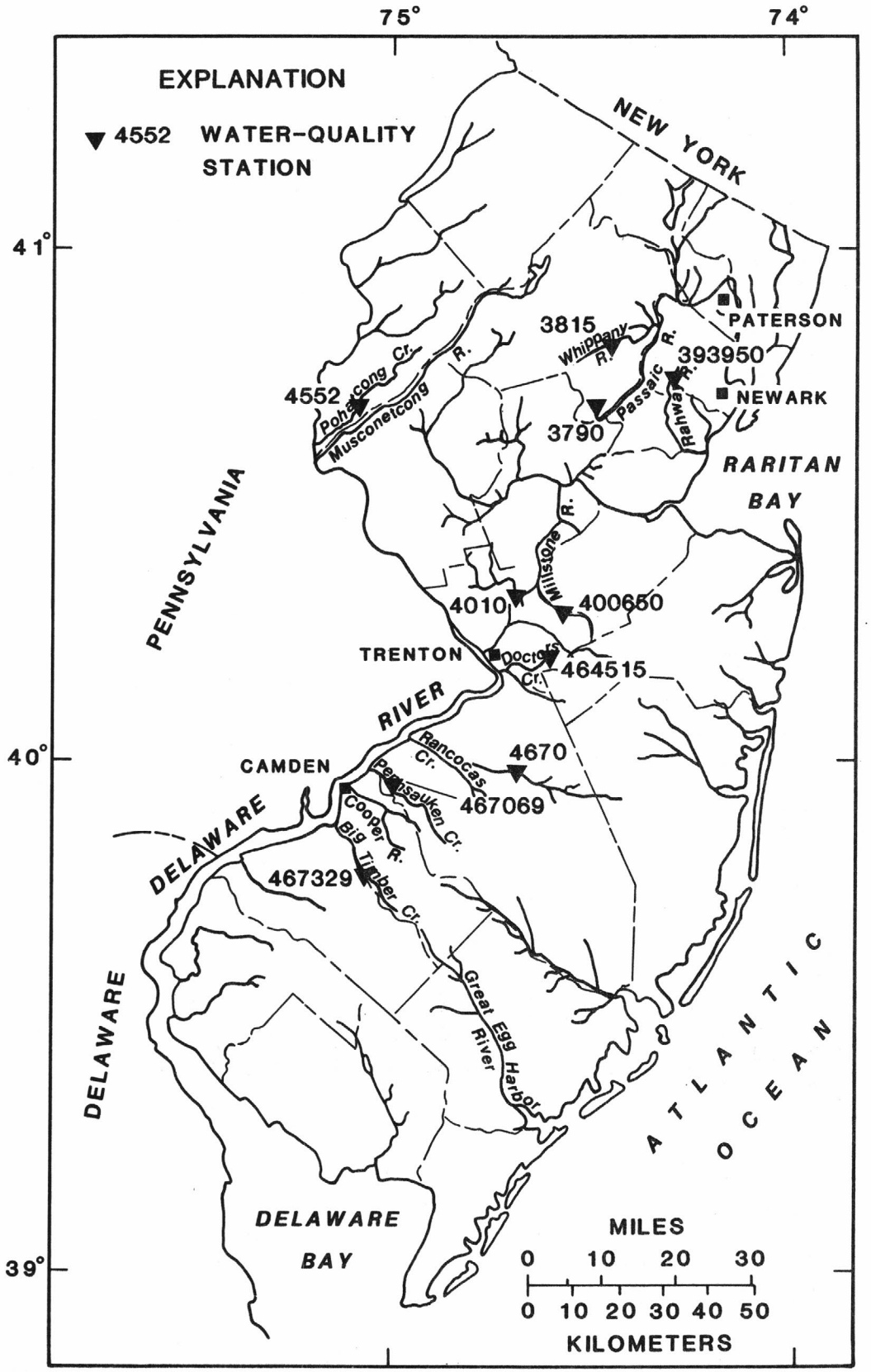
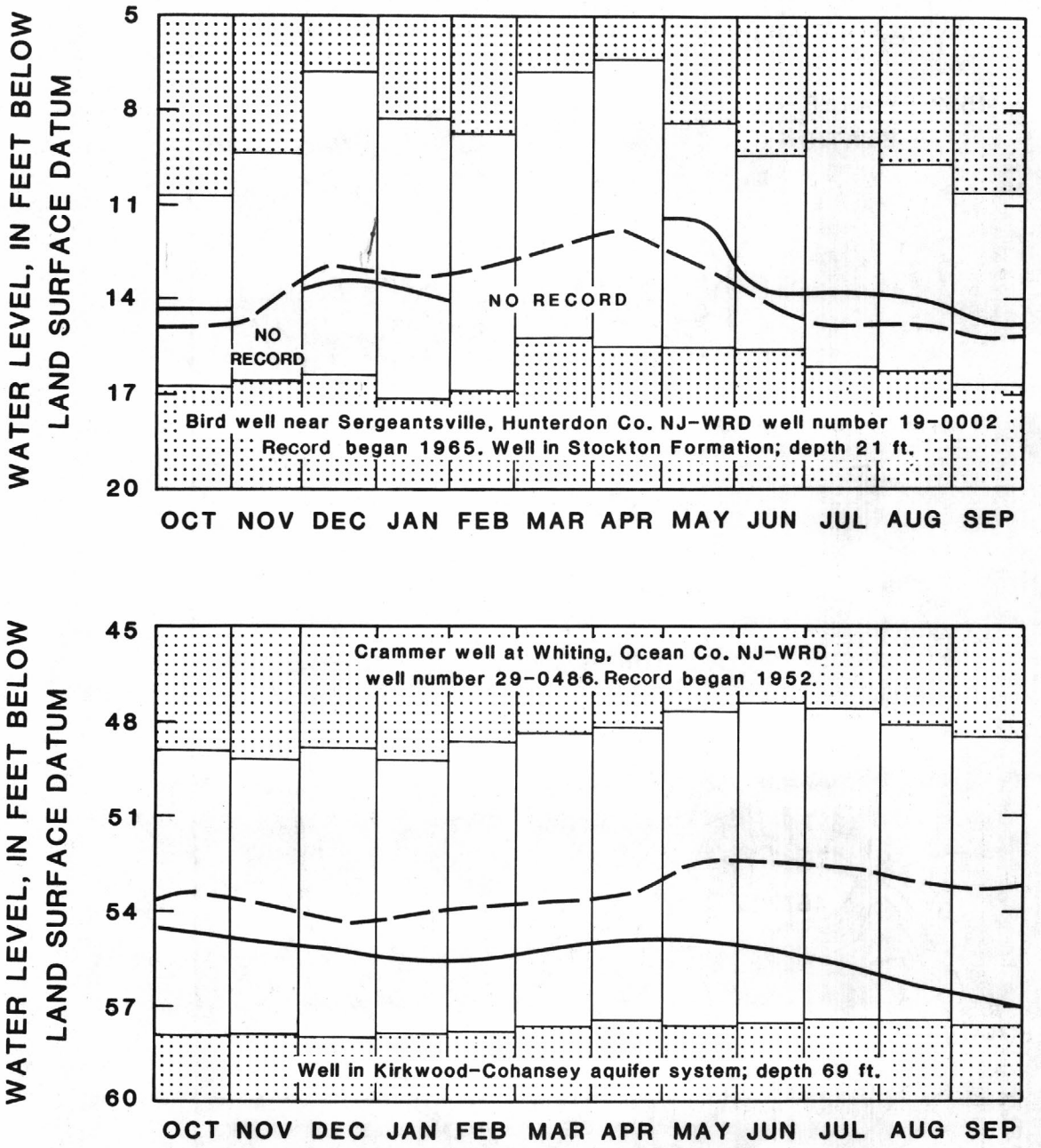


Figure 7.--Locations of water-quality stations with concentrations of chlordane, DDD, DDE, DDT, or PCB's in bottom material than 20 μg/kg, water year, 1988.



Unshaded area -- Indicates range between highest and lowest recorded monthly water levels, prior to current year.

Dashed line -- Indicates average of monthly water levels, prior to current year.

Solid line -- Indicates monthly mean water level for the current year.

Figure 8.--Monthly ground-water levels at key water-table observation wells.

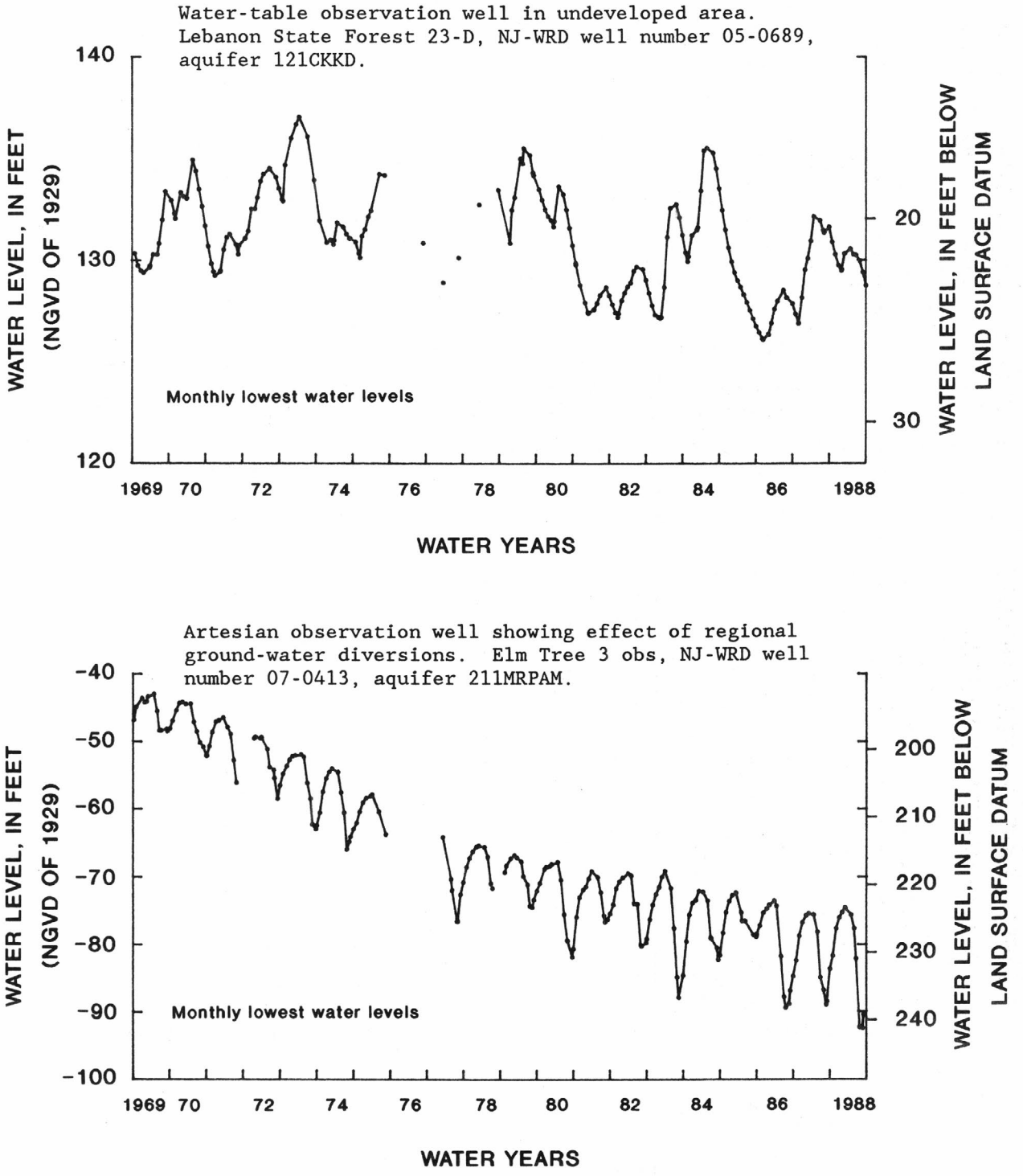


Figure 9.--Twenty-year hydrographs of one artesian and one water-table observation well.

SPECIAL NETWORKS AND PROGRAMS

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. The Bench-mark Network station published in this report is McDonalds Branch in Lebanon State Forest, NJ (01466500).

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. NASQAN stations published in this report are: Passaic River at Little Falls, NJ (01389500), Raritan River, at Queens Bridge, at Bound Brook, NJ (01403300), Toms River near Toms River, NJ (01408500), West Branch Wading River at Maxwell, NJ (01409815), Maurice River at Norma, NJ (01411500), and Delaware River at Trenton, NJ (01463500).

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). No NTN stations are published in this report.

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. The Radiochemical Program station published in this report is Delaware River at Trenton, NJ (01463500).

Tritium Network is a network of stations which has been established to provide baseline information or 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. No Tritium Network stations are published in this report.

EXPLANATION OF THE RECORDS

The surface-water and ground-water records published in this report are for the 1988 water year that began October 1, 1987, and ended September 30, 1988. 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 10, 11, 12, and 13. 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. Generally the "downstream order" system is used for regular surface-water stations and the "latitude-longitude" system is used for wells.

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 indention in the "List of Stations" in the front of this report. Each indention represents one rank. This downstream order and system of indention 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 01396500, which appears just to the left of the station name, includes the two-digit Part number "01" plus the 6-digit downstream-order number "396500". The Part number designates the major drainage basin; for example, Part "01" covers the North Atlantic slope basins.

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 below.)

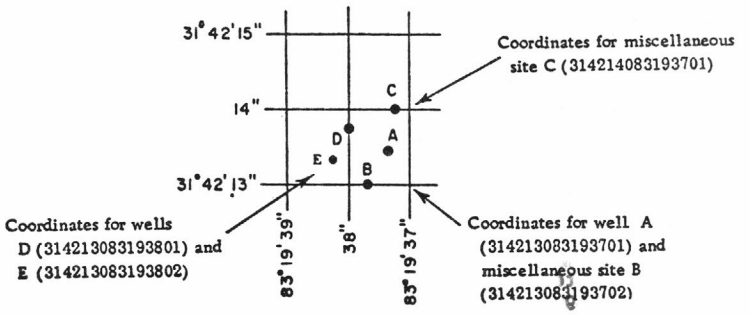


Figure 10.--System for numbering wells and miscellaneous sites (latitude and longitude).

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 10 and 11.

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 much 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 or the Delaware River Basin Commission.

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 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.

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 summaries. In the monthly summary below the daily table, 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 for some stations can also be expressed in inches (line headed "IN"). Figures for runoff in inches are omitted if there is extensive regulation or diversion or if the drainage area includes large noncontributing areas. 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. Below the monthly summary, statistical figures are listed for current water year and period of record. The first heading is the average monthly flow data for the period of record. The line headed "MEAN" gives the average flow in cubic feet per second for that month for the period of record. The lines headed "MAX" and "MIN" give the highest and lowest mean for that month and the water year (WY) in

which it occurred. Below the monthly flow statistics, summary statistics for the current water year and period of record are listed. The line headed "AVERAGE FLOW" is the average for the current year and period of record. The following lines list the extremes and date of each for the current year and period of record. The line headed "ANNUAL RUNOFF (INCHES)" is the annual total discharge in inches. The following lines list the discharges for the 10, 50, and 95 percentiles.

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^3/s; to the nearest tenth between 1.0 and 10 ft^3/s; to whole numbers between 10 and 1,000 ft^3/s; and to 3 significant figures for more than 1,000 ft^3/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.

Discharge at many stations, as indicated by the monthly mean, may not reflect natural runoff due to the effects of diversion, consumption, regulation by storage, increase or decrease in evaporation due to artificial causes, or to other factors. For such stations, figures of cubic feet per second per square mile and of runoff, in inches, are not published unless satisfactory adjustments can be made for diversions, for changes in contents of reservoirs, or for other changes incident to use and control. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless it is so stated. Even at those stations where adjustments are made, large errors in computed runoff may occur if adjustments or losses are large in comparison with the observed discharge.

Other Records Available

Information used in the preparation of the records in this publication, such as discharge- measurement notes, gage-height records, temperature measurements, and rating tables is on file in the New Jersey District office. Also, most of the daily mean discharges are in computer-readable form and have been analyzed statistically. Information on the availability of the unpublished information or on the results of statistical analyses of the published records may be obtained from the offices whose addresses are given on the back of the title page of this report.

Records of Surface-Water Quality

Records of surface-water quality ordinarily are obtained at or near stream-gaging stations because interpretation of records of surface-water quality nearly always requires corresponding discharge data. Records of surface-water quality in this report may involve a variety of types of data and measurement frequencies. Locations of stations for which records on the quality of surface water appear in this report are shown in figure 10.

Classification of Records

Water-quality data for surface-water sites are grouped into one of three classifications. A continuing-record station is a site where data are collected on a regularly scheduled basis. Frequency may be one or more times daily, weekly, monthly, or quarterly. A partial-record station is a site where limited water-quality data are collected systematically over a period of years. Frequency of sampling is usually less than quarterly. A miscellaneous sampling site is a location other than a continuing or partial-record station where random samples are collected to give better areal coverage to define water-quality conditions in the river basin.

A careful distinction needs to be made between "continuing records", as used in this report, and "continuous recordings," which refers to a continuous graph or a series of discrete values punched at short intervals on a paper tape. Some records of water quality, such as temperature and specific conductance, may be obtained through continuous recordings; however, because of costs, most data are obtained only monthly or less frequently.

Arrangement of Records

Water-quality records collected at a surface-water daily record station are published immediately following that record, regardless of the frequency of sample collection. Station number and name are the same for both records. Where a surface-water daily record station is not available or where the water quality differs significantly from that at the nearby surface-water station, the continuing water-quality record is published with its own station number and name in the regular downstream-order sequence. Water-quality data for partial-record stations and for miscellaneous sampling sites which are not at a surface-water daily record station appear in separate tables following the table of discharge measurements at miscellaneous sites.

On-site Measurements and Sample Collection

Water-quality data must represent the in-situ quality of the water. To assure this, certain measurements, such as water temperature, pH, and dissolved oxygen, must be made onsite when the samples are collected. In addition, specific procedures must be used in collecting, treating, and shipping the samples to the laboratory. Procedures for onsite measurements and for collecting, treating, and shipping samples are given in publications on "Techniques of

Water-Resources Investigations," Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A1, A3, and A4. These references are listed under "PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS" at the end of the introductory text. Also, detailed information on collecting, treating, and shipping samples may be obtained from the Geological Survey, New Jersey District office.

In streams, concentrations of various constituents may vary within the cross section depending on variables such as flow rate, the sources of the constituents, and mixing. Generally, constituents in solid phases are more variable in the cross section than are dissolved constituents. In many cases, samples must integrate several parts of the stream cross section to be representative, especially if loads will be calculated. One sample may be representative of the cross section when the distribution of constituents is homogeneous. All samples obtained for the National Stream Quality Accounting Network (see definitions) are obtained from several verticals.

Chemical-quality data published in this report are considered to be the most representative values available for the stations listed. In some instances, apparent inconsistencies may exist in the data. For example, the orthophosphate-phosphorus concentration may exceed total phosphorus concentration. However, the difference in the inconsistent values normally is smaller than the precision of the analytical techniques. Inconsistencies between pH and carbonate and bicarbonate concentrations are commonly caused by intake or loss of carbon dioxide by the sample before it can be analyzed.

For chemical-quality stations equipped with digital monitors, the records consist of daily maximum, minimum, and mean values for each constituent measured and are based upon hourly punches beginning at 0100 hours and ending at 2400 hours for the day of record. More detailed records (hourly values) may be obtained from the Geological Survey, New Jersey District Office whose address is given on the back of the title page of this report.

Water Temperature

Water temperatures are measured at most of the water-quality stations. In addition, water temperatures are taken at time of discharge measurements for water-discharge stations. For stations where water temperatures are taken manually once or twice daily, the water temperatures are taken at about the same time each day. Large streams have a small diurnal temperature change; shallow streams may have a daily range of several degrees and may follow closely the changes in air temperature. Some streams may be affected by waste-heat discharges.

At stations where recording instruments are used, maximum, minimum and mean temperatures for each day are published. Water temperatures measured at the time of water-discharge measurements are on file in the New Jersey District Office.

Sediment

Suspended-sediment concentrations are determined from samples collected by using depth-integrating samplers. Samples usually are obtained at several verticals in the cross section, or a single sample may be obtained at a fixed point and a coefficient applied to determine the mean concentration in the cross sections.

During periods of rapidly changing flow or rapidly changing concentration, samples may have been collected more frequently (twice daily or, in some instances, hourly). The published sediment discharges for days of rapidly changing flow or concentration were computed by the subdivided-day method (time-discharge weighted average). Therefore, for those days when the published sediment discharge value differs from the value computed as the product of discharge times mean concentration times 0.0027, the reader can assume that the sediment discharge for that day was computed by the subdivided-day method. For periods when no samples were collected, daily discharges of suspended sediment were estimated on the basis of water discharge, sediment concentrations observed immediately before and after the periods, and suspenced-sediment loads for other periods of similar discharge.

At other stations, suspended-sediment samples were collected periodically at many verticals in the stream cross section. Although data collected periodically may represent conditions only at the time of observations, such data are useful in establishing seasonal relations between quality and streamflow and in predicting long-term sediment-discharge characteristics of the stream.

In addition to the records of suspended-sediment discharge, records of the periodic measurements of the particle-size distribution of the suspended sediment and bed material are included for some stations.

Laboratory Measurments

Samples for biochemical-oxygen demand and for fecal coliform and fecal streptococcal bacteria are analyzed at the District laboratory or at the New Jersey Department of Health, Division of Laboratories and Epidemiology. Samples for nutrients are analyzed at the New Jersey Department of Health or at the Geological Survey Laboratory in Arvada, Colorado. Sediment samples are analyzed in the Geological Survey Laboratory in Harrisburg, Pennsylvania. All other samples are analyzed in the Geological Survey laboratory in Arvada, Colorado. Methods used in analyzing sediment samples and computing sediment records are given in TWRI, Book 5, Chap. C1. Methods used by the Geological Survey laboratory are given in TWRI, Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A1, A3, and A4.

Data Presentation

For continuing-record stations, information pertinent to the history of station operation is provided in descriptive headings preceeding 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, 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 recorder, 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 which are not at a surface-water daily record station 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:

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

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 New Jersey are shown in figure 13.

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 NJ-WRD well number, a hyphenated 6 digit identification number assigned to all New Jersey wells in the Ground Water Site Inventory (GWSI) data base. The first two digits are a code for the county in which the well is located and the last four digits are a sequence number. These NJ-WRD well numbers are being used now in the ground-water level descriptions, wells sampled for water quality analyses, and on the corresponding location maps in these reports.

Water-level records are obtained from direct measurments with a steel tape, from the punched tape of a water-level recorder, or from water-level extremes recorder. Beginning in the 1977 water year, water-level recorders were removed from some wells and replaced by water-level extremes recorders. The extremes are read from these recorders at about three month intervals, but the actual dates of occurrence of these extremes (highest and lowest water levels) are unknown. In these reports, the water-level extremes are given together with the manually measured water levels.

Most 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. 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 water-level recorders 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. All measurements published herein are reported to a hundredth of a foot.

Data Presentation

Each well record consists of three parts, the station description, the data table of water levels observed during the water year, and a multi-year hydrograph. 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); the hydrologic-unit number; (a landline location designation); the distance and direction from a geographic point of reference; and the owner's name.

AQUIFER.--This entry designates by name 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 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 record 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 or elevation of water level. For wells equipped with recorders, only abbreviated tables are published. Mean daily water-levels 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 consist of only one set of measurements for the water year. Because ground-water movement is normally slow compared to surface water, frequent measurements are not necessary for monitoring purposes. More frequent measurements may be necessary for studying ground-water problems, trends, or processes. Locations of wells for which water-quality data are published are shown in figure 13.

Data Collection and Computation

The records of ground-water quality in this report were obtained from water-quality monitoring studies in specific areas. Consequently, chemical analyses are presented for some counties but not 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.

In ground-water observation wells, water in the casing may not be representative of aquifer water quality. To collect samples representative of aquifer water, samples are collected only after at least three casing volumes of water have been pumped from the well and measurements of temperature, specific conductance, and pH have stabilized during the pumping.

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 NJ-WRD well number. 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.

CURRENT WATER RESOURCES PROJECTS IN NEW JERSEY

The Geological Survey is currently involved in a number of hydrologic investigations in the State of New Jersey. The following is a list of these investigations. Results are published at the conclusion of short-term projects or periodically in the case of long-term projects. Hydrologic data from these projects are entered into the WATSTORE data base. Subsequent sections contain information on recent publications and on WATSTORE.

Assessing the potential impacts of climate change in the water resources of the Delaware River Basin.

Assessment of ground-water resources in the vicinity of ground-water contamination sites in Greenwich Township, New Jersey.

Evaluation of field sampling techniques and analytical methods for organic compounds in ground water.

Forecasting water demand in the New Jersey Agriculture Sector.

Geochemical effects on the corrosivity of ground water in the Kirkwood-Cohansey aquifer in the New Jersey Coastal Plain.

Geochemical processes controlling aluminum and sulfate transport in acidic surface, ground and soil waters in a watershed in the New Jersey Coastal Plain.

Geohydrologic investigations and technical support at United States Environmental Protection Agency Superfund sites.

Geohydrology at Picatinny Arsenal in Morris County, New Jersey.

Geophysical characteristics of aquifers in New Jersey.

Ground-water contamination by light chlorinated hydrocarbons at Picatinny Arsenal.

Ground-water quality and its relationship to geohydrology and land use in the outcrop area of the Potomac-Raritan-Magothy aquifer system, Mercer and Middlesex Counties, New Jersey.

Ground-water data collection network.

Ground-water resources investigation of the Rockaway River buried valley.

Ground-water resources of northern Mercer County and southeastern Somerset County, New Jersey.

Ground-water resources of the buried valley and carbonate rock systems of the Lamington River and the S. Branch Raritan River drainage areas in northern New Jersey.

Hydrologic processes with special emphasis on ground-water quality near Atlantic City, New Jersey.

Hydrologic processes with special emphasis on ground-water quality near Camden, New Jersey.

Hydrologic processes with special emphasis on ground-water quality near South River, New Jersey.

Hydrology of buried valleys of Central Passaic River basin.

Hydrology of the Kirkwood-Cohansey-Aquifer system in Gloucester County and the Upper Maurice River Basin.

Hydrology of the Kirkwood-Cohansey-Aquifer system in Metedeconk and Toms River basin.

Investigation of naturally occurring radioactive substances in ground water of the Triassic formations in New Jersey.

Land subsidence related to ground-water withdrawals in the Coastal Plain of New Jersey.

New Jersey water-use data system.

Optimal withdrawals from a coastal aquifer subject to salt-water encroachment: Numerical analysis and case study.

Quality of water data collection network.

Regionalization of flood frequency for New Jersey streams.

Regionalization of low flows for New Jersey streams.

Removing volatile ground water contaminants by inducing air phase transport.

Simulation of multilayer Coastal Plain aquifer system of New Jersey.

Somerset County flood monitoring system, phase 2.

Surfactant sorption to soil and its effect on the distribution of anthropogenic compounds.

Surface-water data collection network.

Water quality trends in New Jersey streams, 1976-85.

Water-use data system for the Delaware River basin.

WATER-RELATED REPORTS FOR NEW JERSEY COMPLETED BY THE GEOLOGICAL SURVEY DURING 1987-88

Ayers, M.A., and Pustay, E.A., 1988, New Jersey ground-water quality: National Water Summary 1986, U.S. Geological Survey Water Supply Paper 2325, p. 369-376.

Barton, C., Vowinkel, E.F., and Nawyn, J.P., 1987, Preliminary assessment of water quality and its relation to hydrogeology and land use: Potomac-Raritan-Magothy aquifer system, New Jersey: U.S. Geological Survey Water-Resources Investigations Report 87-4023, 79 p.

Campbell, J.B., 1987, Rainfall-runoff data for Somerset County, New Jersey: U.S. Geological Survey Open-File Report 87-384, 161 p.

Kish, G.R., Macy, J., and Mueller, R.T., 1987, Trace-metal leaching from plumbing materials exposed to acidic ground water in three areas of the Coastal Plain of New Jersey: U.S. Geological Survey Water-Resources Investigations Report 87-4146, 19 p.

Lacombe, P., and Duran, P.B., 1988, Map of bedrock-surface topography in parts of the Paterson and Pompton Plains Quadrangles, New Jersey: U.S. Geological Survey Water-Resources Investigations Report 88-4061, 1 p.

Lacombe, P., Sargent, B,P., Harte, P.T., and Vowinkel, E.F., 1987, Determination of geohydrologic framework and extent of ground-water contamination using surface geophysical techniques at Picatinny Arsenal, New Jersey: U.S. Geological Survey Water-Resources Investigations Report 86-4051, 31 p.

Lewis, J.C., and Spitz, F.J., 1987, Hydrogeology, ground-water quality, and the possible effects of a hypothetical radioactive-water spill, Plainsboro Township, New Jersey: U.S. Geological Survey Water-Resources Investigation Report 87-4092, 45 p.

Macy, J., and Leahy, P.P., 1988, U.S. Geological Survey Ground-Water Studies in New Jersey--Water fact sheet: U.S. Geological Survey Open-File Report 88-106, 2 p.

Schaefer, F.L., 1987, Selected literature on the water resources of New Jersey by the U.S. Geological Survey, through 1986: U.S. Geological Survey Open-File Report 87-767, 45 p.

Szabo, Z., and Zapecza, O.S., 1987, Relation between radionuclide concentrations and other chemical constituents in ground water in the Newark Basin, New Jersey in Graves, Barbara, ed., Radon in ground water-Hydrogeologic impact and indoor air contamination [Conference on radon, radium, and other radioactivity in ground water-Hydrogeologic impact and application to indoor airborne contamination, Somerset, N.J., April 7-9, 1987]: Chelsea, Mich., Lewis Publishers Inc., p. 283-308.

U.S. Geological Survey, 1988, Water Resources data for New Jersey, 1988--part 1: U.S. Geological Survey Water-Data Report NJ-88-1, ___ p.

U.S. Geological Survey, 1988, Water Resources data for New Jersey, 1988--part 2: U.S. Geological Survey Water-Data Report NJ-88-2, ___ p.

Witkowski, P.J., Smith, J.A., Fusillo, T.V., and Chiou, C.T., 1987, A review of surface-water sediment fractions and their interactions with persistent anthropogenic organic compounds: U.S. Geological Survey Circular 993, 39 p.

Zapecza, O.S., and Szabo, Z., 1987, Source and distribution of natural radioactivity in ground water in the Newark Basin, New Jersey, in Graves, Barbara, ed., Radon in ground water-Hydrogeologic impact and indoor air contamination [Conference on radon, radium and other radioactivity-Hydrogeologic impact and application to indoor airborne contamination, Somerset, N.J., April 7-9, 1987]: Chelsea, Mich., Lewis Publishers., p. 31-46.

Zapecza, O.S., Voronin, L.M., and Martin, M., 1987, Ground-water-withdrawal and water-level data used to simulate regional flow in the major Coastal Plain aquifers of New Jersey: U.S. Geological Survey Water-Resources Investigations Report 87-4038, 120 p.

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 Geological 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 measurement 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.

Aquifer codes and geologic names:

The following list shows the aquifer unit codes and geologic names of the formations in which the sampled wells are finished. The aquifer unit codes also appear in the ground-water quality tables.

112SFDF	Stratified drift
112TILL	Till
112HLBC	Holly Beach water-bearing zone
112CPMY	Cape May Formation, undifferentiated
112ESRNS	Cape May Formation, estuarine sand facies
121CNSY	Cohansey Sand
121CKKD	Kirkwood-Cohansey aquifer system
122KRKDU	Rio Grande water-bearing zone of the Kirkwood Formation
122KRKDL	Atlantic City 800-foot sand of the Kirkwood Formation
124PNPN	Piney Point aquifer

125VNCN	Vincentown Formation
211MLRW	Wenonah-Mount Laurel aquifer
211EGLS	Englishtown aquifer
211MRPA	Potomac-Raritan-Magothy aquifer system, undifferentiated
211MRPAU	Upper aquifer, Potomac-Raritan-Magothy aquifer system
211MRPAM	Middle aquifer, Potomac-Raritan-Magothy aquifer system
211MRPAL	Lower aquifer, Potomac-Raritan-Magothy aquifer system
211ODBG	Old Bridge aquifer, Potomac-Raritan-Magothy aquifer system (Mercer, Middlesex, Monmouth Counties)
211FRNG	Farrington aquifer, Potomac-Raritan-Magothy aquifer system (Mercer, Middlesex, Monmouth Counties)
230TRSC	Triassic System
231BRCK*	Brunswick Group, undifferentiated
231LCKG	Lockatong Formation
231PSSC	Passaic Formation of Olsen (1980)
231SCKN	Stockton Formation
23103WG	Third Watchung Flow
400PCMB	Precambrian Erathem

* This designation is currently under revision.

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. This group includes coliforms that inhabit the intestine of warm-blooded animals and those that inhabit soils. 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.

Bedload is the sediment which moves along in essentially continuous contact with the streambed by rolling, sliding, and making brief excursions into the flow a few diameters above the bed.

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

Benthic invertebrates are invertebrate animals inhabiting the bottoms of lakes, streams, and other water bodies. They are useful as indicators of water quality.

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

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

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

Cfs-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 2,447 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 BOD 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.

Continuing-record station is a specified site which meets one or all conditions listed:

1. When chemical samples are collected daily or monthly for 10 or more months during the water year.
2. When water temperature records include observations taken one or more times daily.
3. When sediment discharge records include periods for which sediment loads are computed and are considered to be representative of the runoff for the water year.

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^3/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 [$(ft^3/s)/mi^2$] 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 specific 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 (CaCo).

High tide is the maximum height reached by each rising tide.

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.

Low-tide is the minimum height reached by each falling tide.

Mean high or low tide is the average of all high or low tides, respectively, over a specified period.

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

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

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

Micrograms per gram (μg/g) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the element per unit mass (gram) of material analyzed.

Micrograms per liter (UG/L, μg/L) is a unit expressing the concentration of chemical constituents in solution as mass (micrograms) of solute per unit volume (liter) of water. One thousand micrograms per liter is equivalent to one milligram per liter.

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

Multiple-plate samplers are artificial substrates of known surface area used for obtaining benthic-invertebrate samples. They consist of a series of spaced, hardboard plates on an eyebolt.

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 Deposition Program (NADP).

NJ-WRD well number is a hyphenated, 6-digit identification number which the U.S. Geological Survey assigned to all New Jersey wells in the Ground Water Site Inventory (GWSI) data base. This numbering system was developed in 1978 to simplify identification of wells. The first two digits are a code for the county in which the well is located, and the last four digits are a sequence number. Each well added to GWSI is assigned the next higher sequence number for the county in which the well is located. These NJ-WRD well numbers are being used now in the ground-water level descriptions, wells sampled for water-quality analyses, and on the corresponding location maps in these reports.

Open or screened interval is the length of unscreened opening or of well screen through which water enters a well, in feet below land surface.

Organism is any living entity.

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

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

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

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

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

The partial-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 (1×10^{-12}) of the amount of radioactivity represented by a curie (Ci). A curie is the amount of radioactivity that yields 3.7×10^{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 ar 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.

Polychlorinated biphenyls (PCB's) are industrial chemicals that are mixtures of chlorinated biphenyl compounds having various percentages of chlorine. They are similar in structure to organochlorine insecticides.

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

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

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

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

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.

River mile as used herein, is the distance above the mouth of Delaware Bay, measured along the center line of the navigation channel or the main stem of the Delaware River. River mile data were furnished by the Delaware River Basin Commission.

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.

Screened interval is the length of well screen through which water enters a well, in feet below land surface.

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^3/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 (MA7CD10) 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 from 55 to 75 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 emersed or submersed solid surface, such as a rock or tree, upon which an organism lives.

Artifical substrate is a device which is purposely placed in a stream or lake for colonization or 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 hierarchial scheme beginning with Kingdom and ending with Species at the base. The higher the classification level, the fewer features the organisms have in common. For example, the taxonomy of a particular mayfly, Hexagenia limbata, is the following:

Kingdom	Animal
Phylum	Arthropoda
Class	Insecta
Order	Ephemeroptera
Family	Ephemeridae
Genus	Hexagenia
Species	Hexagenia Limbata

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

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

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 table is that surface in an unconfined ground-water body at which the pressure is atmospheric.

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.

SELECTED REFERENCES

Anderson, P.W., 1970, Occurrence and distribution of trace elements in New Jersey streams; New Jersey Division of Water Policy and Supply, Water-Resources Circular 24, 24 p.

Anderson, P.W., and Faust, S.D., 1973 Characteristics of water quality and stream flow, Passaic River basin above Little Falls, New Jersey: U.S. Geological Survey Water-Supply Paper 2026, 80 p.

____ 1974, Water-quality and stream flow characteristics, Raritan River basin, New Jersey: U.S. Geological Survey Water-Resources Investigations 14-74, 82 p.

Anderson, P.W., and George, J.R., 1966, Water-quality characteristics of New Jersey streams: U.S. Geological Survey Water-Supply Paper 1819-G, 48 p.

Ayers, M.A., and Pustay, E.A., 1988, New Jersey ground-water quality: National Water Summary 1986, U.S. Geological Survey Water Supply Paper 2325, p. 369-376.

Barton, C., Vowinkel, E.F., and Nawyn, J.P., 1987, Preliminary assessment of water quality and its relation to hydrogeology and land use: Potomac-Raritan-Magothy aquifer system, New Jersey: U.S. Geological Survey Water-Resources Investigations Report 87-4023, 79 p.

Campbell, J.B., 1987, Rainfall-runoff data for Somerset County, New Jersey, U.S. Geological Survey Open-File Report 87-384, 161 p.

Eckel, J.A., and Walker, R.L., 1986, Water levels in major artesian aquifers of the New Jersey Coastal Plain, 1983: U.S. Geological Survey Water-Resources Investigations 86-4028, 62 p.

Fusillo, T.V., 1982, Impact of suburban residential development on water resources in the area of Winslow Township, Camden County, New Jersey: U.S. Geological Survey Water-Resources Investigations 81-27, 38 p.

Fusillo, T.V., Hochreiter, J.J., Jr., and Lord, D.G., 1984, Water-quality data for the Potomac-Raritan-Magothy aquifer system in southwestern New Jersey, 1923-83: U.S. Geological Survey Open-File Report 84-737, 127 p, 1 plate.

Fusillo, T.V., and Voronin, L.M., 1982, Water-quality data for the Potomac-Raritan-Magothy aquifer system, Trenton to Pennsville, New Jersey, 1980: U.S. Geological Survey Open-File Report 81-814, 38 p. 2 plates.

Fusillo, T.V., Schornick, J.C., Jr., Koester, H.E., and Harriman, D.A., 1980, Investigation of acidity and other water-quality characteristics of upper Oyster Creek, Ocean County, New Jersey: U.S. Geological Survey Water-Resources Investigations 80-10, 30 p.

Gillespie, B.D., and Schopp, R.D., 1982, Low-flow characteristics and flow duration of New Jersey streams: U.S. Geological Survey Open-File Report 81-1110, 164 p.

Harriman, D.A., and Velnich, A.J., 1982, Flood data in West Windsor Township, Mercer County, New Jersey through 1982 Water Year: U.S. Geological Survey Open-File Report 82-434, 22 p.

Harriman, D.A., and Voronin, L.M., 1984, Water-quality data for aquifers in east-central New Jersey, 1981-82: U.S. Geological Survey Open-File Report 84-821, 39 p.

Harte, P.T., Sargent, B.P., and Vowinkel, E.F., 1986, Description and results of test-drilling program at Picatinny Arsenal, new Jersey, 1982-84: U.S. Geological Survey Open-File Report 86-316, 54 p.

Heath, R.C., 1983, Basic ground-water hydrology: U.S. Geological Survey Water-Supply Paper 2220, 84 p.

Hem, J.D., 1985, Study and interpretation of the chemical characteristics of natural water, 3d ed.: U.S. Geological Survey Water-Supply Paper 2254, 263 p.

Hindall, S.M., and Jungblut, D.W., 1980, Sediment yields of New Jersey streams: U.S. Geological Survey Open-File Report 80-432, 1 sheet.

Hochreiter, J.J., Jr., 1982, Chemical-quality reconnaissance of the water and surficial bed material in the Delaware River estuary and adjacent New Jersey tributaries, 1980-81: U.S. Geological Survey Water-Resources Investigations 82-36, 41 p.

Hochreiter, J.J., Jr., Kozinski, J., and Lewis, J.C., 1986, Characterization of organic ground-water contamination at a waste-oil disposal site, Bridgeport, N.J.: EOS, v. 67, no. 44, p. 945.

Keith, L.H., and Telliard, W.A., 1979, Priority Pollutants I - a perspective view: Environmental Science and Technology, v. 13, no. 4, p. 416-423.

Kish, G.R., Macy, J.A., and Mueller, R.T., 1987, Trace-metal leaching from plumbing materials exposed to acidic ground water in three areas of the Coastal Plain of New Jersey: U.S. Geological Survey Water-Resources Investigations Report 87-4146, 19 p.

Lacombe, P., Sargent, B.P., Harte, P.T., and Vowinkel, E.F., 1987, Determination of geohydrologic framework and extent of ground-water contamination using surface geophysical techniques at Picatinny Arsenal, New Jersey: U.S. Geological Survey Water-Resources Investigations Report 86-4051, 31 p.

Langbein, W.B., and Iseri, K.T., 1960, General introduction of hydrologic definitions: U.S. Geological Survey Water-Supply Paper 1541-A, 29 p.

Laskowski, S.L., 1970, Statistical summaries of New Jersey stream flow records: New Jersey Division of Water Policy and Supply, Water-Resources Circular 23, 264 p.

Leahy, P.P., Paulachok, G.N., Navoy, A.S., and Pucci, A.A., Jr., 1987, Plan of study for the New Jersey Bond Issue ground-water supply investigations: New Jersey Geological Survey Open-File Report 87-1, 53 p.

Lewis, J.C., and Spitz, F.J., 1987, Hydrogeology, ground-water quality, and the possible effects of a hypothetical radioactive-water spill, Plainsboro Township, New Jersey: U.S. Geological Survey Water-Resources Investigation Report 87-4092, 45 p.

Lohman, S.W., and others, 1972, Definitions of selected ground-water terms-revisions and conceptual refinements: U.S. Geological Survey Water-Supply Paper 1988, 21 p.

Lord, D.G., Barringer, J., Johnsson, P., and Schuster, P., Effects of Acid precipitation on surface and ground waters in the New Jersey Pinelands [abs]: EOS, Transactions, American Geophysical Union, v. 67, no. 16., April 22, 1986, p. 282.

Lord, D.G., Johnsson, P.A., Barringer, J.L., and Schuster, P.F., 1987, Results of an acidic deposition study in McDonalds Branch watershed, New Jersey Pinelands [abs]: New Jersey Academy of Science Bulletin, v. 32, no. 1, p. 45.

Luzier, J.E., 1980, Digital-simulation and projection of head changes in the Potomac-Raritan-Magothy aquifer system, Coastal Plain, New Jersey: U.S. Geological Survey Water-Resources Investigations 80-11, 72 p.

Mansue, L.J., and Anderson, P.W., 1974, Effect of landuse and retention practices on sediment yields in the Stony Brook basin, New Jersey: U.S. Geological Survey Water-Supply Paper 1798-L.

National Research Council, 1979, Polychlorinated biphenyls: Washington D.C., National Academy of Sciences, 182 p.

Olsen, P.E., 1980, The latest Triassic and Early Jurassic Formations of the Newark Basin (eastern North America, Newark Supergroup)--Stratigraphy, structure and correlation: New Jersey Academy of Science, The Bulletin, V. 25, p. 25-51.

Paulachok, G.N., Walker, R.L., Barton, G.J., Clark, J.S., Duran, P.B., and Hochreiter, J.J., Jr., 1985, Marine well-drilling program for estimation the seaward extent of fresh ground water and evaluating the likelihood of seawater intrusion near Atlantic City, New Jersey [abs.]: EOS, Transactions, American Geophysical Union, v. 66, no. 46, Nov. 12, 1985, p. 889-890.

Philips, M.O., and Schopp, R.D., Flood of April 5-7, 1984, in northeastern New Jersey: U.S. Geological Survey Water-Resources Investigations Report 86-423W, 112 p.

Rantz, S.E., and others, 1982, Measurement and computation of stream flow; Volume 1. Measurement of stage and discharge, Volume 2. Computation of Discharge: U.S. Geological Survey Water-Supply Paper 2175, 631 p.

Sargent, B.P., Green, J.W., Harte, P.T., and Vowinkel, E.F., 1986, Ground-water-quality data for Picatinny Arsenal, new Jersey, 1958-85: U.S. Geological Survey Open-File Report 86-58, 66 p.

Schaefer, F.L., and Walker, R.L., 1982, Saltwater intrusion into the Old Bridge aquifer in the Keyport-Union Beach area of Monmouth County, New Jersey: U.S. Geological Survey Water-Supply Paper 2184, 21 p.

Schaefer, F.L., 1983, Distribution of chloride concentrations in the principal aquifers of the New Jersey Coastal Plain, 1977-81: U.S. Geological Survey Water-Resources Investigations Report 83-4061, 56 p.

Schaefer, F.L., 1987, Selected literature on the water resources of New Jersey by the U.S. Geological Survey, through 1986: U.S. Geological Survey Open-File Report 87-767, 45 p.

Schornick, J.C., and Ram, N.M., 1978, Nitrification in four acidic streams in southern New Jersey: U.S. Geological Survey Water-Resources Investigations, 77-121, 51 p.

Schornick, J.C., and Fishel, D.K., 1980, Effects of storm runoff on water quality in the Mill Creek drainage basin, Willingboro, New Jersey: U.S. Geological Survey Water-Resources Investigations 80-98, 111 p.

Schopp, R.D., and Gillespie, B.D., 1979, Selected stream flow data for the Delaware River basin: U.S. Geological Survey Open-File Report 79-347, 16 p.

Schopp, R.D., and Ulery, R.L., 1984, Cost-effectiveness of the stream-gaging program in New Jersey: U.S. Geological Survey Water-Resources Investigations Report 84-4108, 97 p.

Schopp, R.D., and Velnich, A.J., 1979, Flood of November 8-10, 1977 in northeastern and central New Jersey: U.S. Geological Survey Open-File Report 79-559, 32 p.

Seaber, P.R., 1963, Chloride concentrations of water from wells in the Atlantic Coastal Plain of New Jersey, 1923-61: New Jersey Division of Water Policy and Supply, Special Report 22, 250 p.

Stankowski, S.J., 1972, Floods of August and September 1971 in New Jersey: New Jersey Division of Water Resources, Special Report 37, 329 p.

Stankowski, S.J., and Velnich, A.J., 1974, A summary of peak stages and discharges for the flood of August 1973 in New Jersey: U.S. Geological Survey Open-File Report, 12 p.

Stankowski, S.J., 1974, Magnitude and frequency of floods in New Jersey with effects of urbanization: New Jersey Department of Environmental Protection, Division of Water Resources, Special Report 38, 46 p.

Stankowski, S.J., Schopp, R.D., and Velnich, A.J., 1975, Flood of July 21, 1975 in Mercer County, New Jersey: U.S. Geological Survey Water-Resources Investigations 51-75, 52 p.

Szabo, Z., and Zapecza, O.S., 1987, Relation between radionuclide concentrations and other chemical constituents in ground water in the Newark Basin, New Jersey in Graves, Barbara, ed., Radon in ground water-Hydrogeologic impact and indoor air contamination [Conference on radon, radium, and other radioactivity in ground water-Hydrogeologic impact and application to indoor airborne contamination, Somerset, N.J., April 7-9, 1987]: Chelsea, Mich., Lewis Publishers Inc., p. 283-308.

U.S. Environmental Protection Agency, 1976, National interim primary drinking water regulations: U.S. Environmental Protection Agency report EPA 570/9-76-003, 159 p.

U.S. Geological Survey, 1976, Surface water supply of the United States, 1966-70, Part 1. North Atlantic Slope basins, Volume 2. Basins from New York to Delaware: U.S. Geological Survey Water-Supply Paper 2102, 985 p., (most recent volume).

____1977, Ground-water levels in the United States, 1973-74, Northeastern States: U.S. Geological Survey Water-Supply Paper 2164, 126 p., (most recent volume).

Vecchioli, John, and Miller, E.G., 1973, Water resources of the New Jersey part of the Ramapo River basin: U.S. Geological Survey Water-Supply Paper 1974, 77 p.

Velnich, A.J., and Laskowski, S.L., 1979, Technique for estimating depth of 100-year flood in New Jersey: U.S. Geological Survey Open-File Report 79-419, 17 p.

Velnich, A.J., 1982, Drainage areas in New Jersey: Delaware River basin and streams tributary to Delaware Bay: U.S. Geological Survey Open-File Report 82-572, 48 p.

Velnich, A.J., 1984, Drainage areas in New Jersey: Atlantic Coastal basins, South Amboy to Cape May: U.S. Geological Survey Open-File Report 84-150, 33 p.

Vickers, A.A., and McCall, J.E., 1968, Surface water supply of New Jersey, stream flow records 1961-65: New Jersey Division of Water Policy and Supply, Special Report 31, 351 p., (most recent volume).

Vickers, A.A., 1982, Flood of August 31 - September 1, 1978, in Crosswicks Creek basin and vicinity, Central New Jersey: U.S. Geological Survey Water-Resources Investigations 80-115, 20 p.

Vickers, A.A., Farsett, H.A., and Green, J.W., 1982, Flood peaks and discharge summaries in the Delaware River basin: U.S. Geological Survey Open-File Report 81-912, 292 p.

Vowinkel, E.F., 1984, Ground-water withdrawals from the Coastal Plain of New Jersey, 1956-80: U.S. Geological Survey Open-File Report 84-226, 32 p.

Walker, R.L., 1983, Evaluation of water levels in major aquifers of the New Jersey Coastal Plain, 1978: U.S. Geological Survey Water-Resources Investigations 82-4077, 56 p.

Witkowski, P.J., Smith, J.A., Fusillo, T.V., and Chiou, C.T., 1987, A review of surface-water sediment fractions and their interactions with persistent anthropogenic organic compounds: U.S. Geological Survey Circular 993, 39 p.

Zapecza, O.S., and Szabo, Z., 1987, Source and distribution of natural radioactivity in ground water in the Newark Basin, New Jersey, in Graves, Barbara, ed., Radon in ground water-Hydrogeologic impact and indoor air contamination [Conference on radon, radium and other radioactivity-Hydrogeologic impact and application to indoor airborne contamination, Somerset, N.J., April 7-9, 1987]: Chelsea, Mich., Lewis Publishers., p. 31-46.

Zapecza, O.S., Voronin, L.M., and Martin, M., 1987, Ground-water-withdrawal and water-level data used to simulate regional flow in the major Coastal Plain aquifers of New Jersey: U.S. Geological Survey Water-Resources Investigations Report 87-4038, 120 p.

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. Current prices can be obtained by writing to the above address. 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 measurement, 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. J. 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, by 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, by E. J. Kennedy: USGS--TWRI Book 3, Chapter A10. 1984. 59 pages.

3-A11. Measurement of discharge by moving-boat method, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 3, Chapter A11. 1969. 22 pages.

3-A12. Fluorometric procedures for dye tracing, by J. F. Wilson, Jr., E. D. Cobb, and F. A. Kilpatrick: USGS--TWRI Book 3, Chapter A12. 1986. 41 pages.

3-A13. Computation of continuous records of streamflow, by E. J. Kennedy: USGS--TWRI Book 3, Chapter A13. 1983. 53 pages.

3-A14. Use of flumes in measuring discharge, by F. A. Kilpatrick and V. R. Schneider: USGS--TWRI Book 3, Chapter A14. 1983. 46 pages.

3-A15. Computation of water-surface profiles in open channels, by Jacob Davidian: USGS--TWRI Book 3, Chapter A15. 1984. 48 pages.

3-A16. Measurement of discharge using tracers, by F. A. Kilpatrick and E. D. Cobb: USGS--TWRI Book 3, Chapter A16. 1985. 52 pages.

3-A17. Acoustic velocity meter systems, by Antonius Laenen: USGS--TWRI Book 3, Chapter A17. 1985. 38 pages.

3-B1. Aquifer-test design, observation, and data analysis, by R. W. Stallman: USGS--TWRI Book 3, Chapter B1. 1971. 26 pages.

PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS--Continued

3-B2. Introduction to ground-water hydraulics, a programed test 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-B5. Definition of boundary and initial conditions in the analysis of saturated ground-water flow systems--An introduction, by O. L. Franke, T. E. Reilly, and G. D. Bennett: USGS--TWRI Book 3, Chapter B5. 1987. 15 pages.

3-B6. The principle of superposition and its application in ground-water hydraulics, by T. E. Reilly, O. L. Franke, and G. D. Bennett: USGS--TWRI Book 3, Chapter B6. 1987. 28 pages.

3-C1. Fluvial sediment concepts, by H. P. Guy: USGS--TWRI Book 3, Chapter C1. 1970. 55 pages.

3-C2. Field methods for measurement of fluvial sediment, by H. P. Guy and V. W. Norman: USGS--TWRI Book 3, Chapter C2. 1970. 59 pages.

3-C3. Computation of fluvial-sediment discharge, by George Porterfield: USGS--TWRI Book 3, Chapter C3. 1972. 66 pages.

4-A1. Some statistical tools in hydrology, by H. C. Riggs: USGS--TWRI Book 4, Chapter A1. 1968. 39 pages.

4-A2. Frequency curves, by H. C. Riggs: USGS--TWRI Book 4, Chapter A2. 1968. 15 pages.

4-B1. Low-flow investigations, by H. C. Riggs: USGS--TWRI Book 4, Chapter B1. 1972. 18 pages.

4-B2. Storage analyses for water supply, by H. C. Riggs and C. H. Hardison: USGS--TWRI Book 4, Chapter B2. 1973. 20 pages.

4-B3. Regional analyses of streamflow characteristics, by H. C. Riggs: USGS--TWRI Book 4, Chapter B3. 1973. 15 pages.

4-D1. Computation of rate and volume of stream depletion by wells, by C. T. Jenkins: USGS-TWRI Book 4, Chapter D1. 1970. 17 pages.

5-A1. Methods for determination of inorganic substances in water and fluvial sediments, by M. 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.

6-A1. A modular three-dimensional finite-difference ground-water flow model, by M. G. McDonald and A. W. Harbaugh: USGS--TWRI Book 6, Chapter A1. 1988. 586 pages.

7-C1. Finite difference model for aquifer simulation in two dimensions with results of numerical experiments, by P. C. Trescott, G. F. Pinder, and S. P. Larson: USGS--TWRI Book 7, Chapter C1. 1976. 116 pages.

7-C2. Computer model of two-dimensional solute transport and dispersion in ground water, by L. F. Konikow and J. D. Bredehoeft: USGS--TWRI Book 7, Chapter C2. 1978. 90 pages.

7-C3. A model for simulation of flow in singular and interconnected channels, by R. W. Schaffrannek, R. A. Baltzer, and D. E. Goldberg: USGS--TWRI Book 7, Chapter C3. 1981. 110 pages.

8-A1. Methods of measuring water levels in deep wells, by M. S. Garber and F. C. Koopman: USGS--TWRI Book 8, Chapter A1. 1968. 23 pages.

8-A2. Installation and service manual for U.S. Geological Survey manometers, by J. D. Craig: USGS--TWRI Book 8, Chapter A2. 1983. 57 pages.

8-B2. Calibration and maintenance of vertical-axis type current meters, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 8, Chapter B2. 1968. 15 pages.

DISCONTINUED GAGING STATIONS

The following continuous-record streamflow stations in New Jersey have been discontinued or converted to partial-record stations. Daily streamflow records were collected and published for the period of record shown for each station.

Station number	Station name	Drainage area (sq mi)	Period of record (water years)
01368000	Wallkill River near Unionville, NY	140	1938-81
01368720	Auxiliary outlet of Upper Greenwood Lake at Moe, NJ	------	1968-80a
01378690	Passaic River near Bernardsville, NJ	8.83	1968-77
01379630	Russia Brook tributary at Milton, NJ	2.51	1969-71
01384000	Wanaque River at Monks, NJ	40.4	1935-85
01385000	Cupsaw Brook near Wanaque, NJ	4.37	1935-58
01385500	Erskine Brook near Wanaque, NJ	1.14	1934-38
01386000	West Brook near Wanaque, NJ	11.8	1935-78
01386500	Blue Mine Brook near Wanaque, NJ	1.01	1935-58
01389800	Passaic River at Paterson, NJ	785	1897-1955
01392000	Weasel Brook at Clifton, NJ	4.45	1937-62
01392500	Second River at Belleville, NJ	11.6	1938-64
01393000	Elizabeth River at Irvington, NJ	2.90	1931-38
01393500	Elizabeth River at Elizabeth, NJ	20.2	1922-73
01393800	East Fork East Branch Rahway River at West Orange, NJ	.83	1972-74
01394000	West Branch Rahway River at Millburn, NJ	7.10	1940-50
01395500	Robinsons Branch Rahway River at Goodmans, NJ	12.7	1921-24
01397500	Walnut Brook near Flemington, NJ	2.24	1936-61
01399000	North Branch Raritan River at Pluckimen, NJ	52.0	1903-06
01399190	Lamington (Black) River at Succasunna, NJ	7.37	1976-87
01399200	Lamington (Black) River near Ironia, NJ	10.9	1975-87
01399690	South Branch Rockaway Creek at Whitehouse, NJ	13.2	1964-67
01399830	North Branch Raritan River at North Branch, NJ	174	1977-81
01400932	Baldwin Creek at Baldwin Lake, near Pennington, NJ	2.52	1963-70
01400953	Honey Branch near Pennington, NJ	.70	1967-75
01401500	Millstone River near Kingston, NJ	171	1934-49
01402590	Royce Brook tributary at Frankfort, NJ	.29	1969-74
01403000	Raritan River at Bound Brook, NJ	779	1903-09, 1945-66
01403500	Green Brook at Plainfield, NJ	9.75	1938-84
01403900	Bound Brook at Middlesex, NJ	48.4	1972-77
01404000	Bound Brook at Bound Brook, NJ	49.0	1923-30
01404500	Lawrence Brook at Patricks Corner, NJ	29.0	1922-26
01405300	Matchaponix Brook at Spotswood, NJ	43.9	1957-67
01406000	Deep Run near Browntown, NJ	8.07	1932-40
01406500	Tennent Brook near Browntown, NJ	5.25	1932-41
01407000	Matawan Creek at Matawan, NJ	6.11	1932-55
01408140	South Branch Metedeconk River at Lakewood, NJ	26.0	1973-76
01409000	Cedar Creek at Lanoka Harbor, NJ	55.3	1933-58, 1971
01409095	Oyster Creek near Brookville, NJ	7.43	1965-84
01410500	Absecon Creek at Absecon, NJ	17.9	1946-85
01410787	Great Egg Harbor River tributary at Sicklerville, NJ	1.64	1972-79
01410810	Fourmile Branch at New Brooklyn, NJ	7.74	1973-79
01410820	Great Egg Harbor River near Blue Anchor, NJ	37.3	1972-79
01412000	Menantico Creek near Millville, NJ	23.2	1931-57, 1978-85
01412500	WB Cohansey River at Seeley, NJ	2.58	1951-67
01413000	Loper Run near Bridgeton, NJ	2.34	1937-59
01444000	Paulins Kill at Columbia, NJ	179	1908-09
01445000	Pequest River at Huntsville, NJ	31.0	1940-62
01445430	Pequest River at Townsbury, NJ	92.5	1977-80
01446000	Beaver Brook near Belvidere, NJ	36.7	1923-61
01455160	Brass Castle Creek near Washington, NJ	2.34	1970-83
01455200	Pohatcong Creek at New Village, NJ	33.3	1960-70
01455355	Beaver Brook near Weldon, NJ	1.72	1969-71
01455500	Musconetcong River at outlet of Lake Hopatcong, NJ	25.3	1961-75
01456000	Musconetcong River near Hackettstown, NJ	68.9	1922-74
01457500	Delaware River at Riegelsville, NJ	6328	1906-71
01462000	Delaware River at Lambertville, NJ	6680	1898-1906
01463587	New Sharon Run at Carsons Mills, NJ	6.63	1976-77
01463620	Assunpink Creek near Clarksville, NJ	34.3	1972-82
01463657	Shipetaukin Creek tributary at Lawrenceville, NJ	.78	1976-77
01463690	Little Shabakunk Creek at Bakersville, NJ	3.98	1976-77
01464525	Thornton Creek at Bordentown, NJ	.84	1976-77
01465850	South Branch Rancocas Creek at Vincentown, NJ	64.5	1961-75
01466000	Middle Branch Mount Misery Brook in Lebanon State Forest, NJ	2.82	1953-65, 1977
01467019	Mill Creek near Willingboro, NJ	4.12	1975-78
01467021	Mill Creek at Levitt Parkway, at Willingboro, NJ	9.12	1975-77
01476600	Still Run near Mickleton, NJ	3.98	1957-66
01477500	Oldmans Creek near Woodstown, NJ	18.5	1932-40
01482500	Salem River at Woodstown, NJ	14.6	1940, 1941-85
01483000	Alloway Creek at Alloway, NJ	20.3	1953-72

a Not published, on file at U.S. Geological Survey, West Trenton, NJ

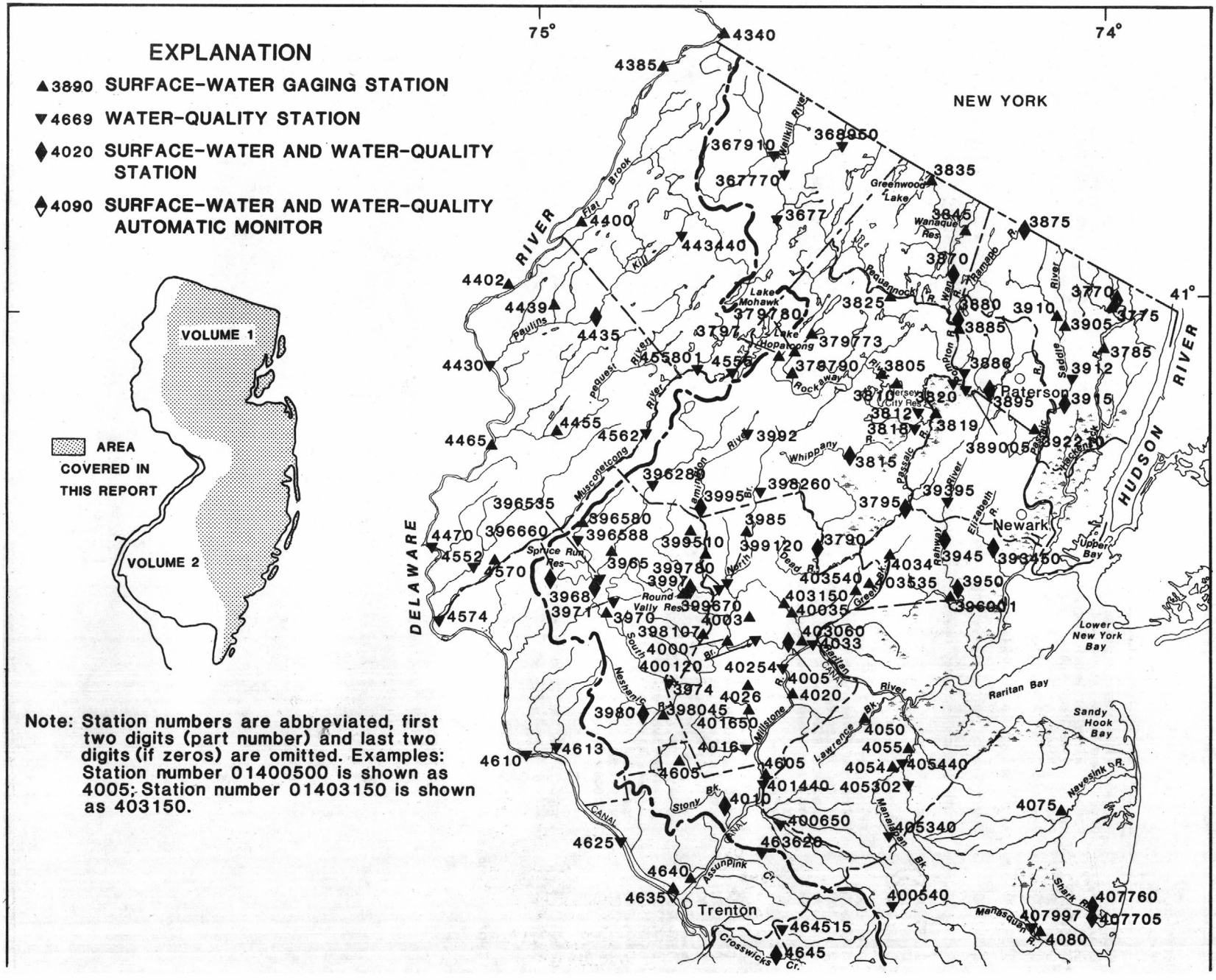
DISCONTINUED CONTINUOUS WATER-QUALITY STATIONS

The following stations were discontinued as continuous water-quality stations prior to the 1987 water year. Daily records of temperature, specific conductance, pH, dissolved oxygen or sediment were collected and published for the period of record shown for each station.

Station number	Station name	Drainage area (sq mi)	Type of record	Period of record (water years)
01379500	Passaic River near Chatham, NJ	100	Sed.	1964-68
01379773	Green Pond Brook at Picatinny Arsenal, NJ		Temp., S.C., pH, D.O.	1984-86
01382000	Passaic River at Two Bridges, NJ	361	Temp., S.C., pH, D.O.	1969-74
01387500	Ramapo River near Mahwah, NJ	118	Sed.	1964-65
01389000	Pompton River near Two Bridges, NJ	372	Temp., S.C., pH, D.O.	1969-74
01389500	Passaic River at Little Falls, NJ	762	Sed.	1964-65
			Temp., S.C.	1981-86
01396500	South Branch Raritan River near High Bridge, NJ	65.3	Temp.	1961-79
			S.C.	1969-79
01397000	South Branch Raritan River at Stanton, NJ	147	Temp., S.C.	1969-79
			Sed.	1960-63
01399690	South Branch Rockaway Creek at Whitehouse, NJ	13.2	Temp., S.C.	1977-78
			Sed.	1977
01399700	Rockaway Creek at Whitehouse, NJ	37.1	Temp., S.C.	1977-78
01400510	Raritan River near Manville, NJ	497	Temp., S.C., pH, D.O.	1968-74
01400932	Baldwin Creek at Baldwin Lake, near Pennington, NJ	2.52	Temp.	1963-66
			Sed.	1963-69
01401000	Stony Brook at Princeton, NJ	44.5	Sed.	1959-70
01402900	Millstone River near Manville, NJ	287	Temp., S.C., pH, D.O.	1968-74
01404100	Raritan River near South Bound Brook, NJ	862	Temp., S.C., pH, D.O.	1969-77
01408000	Manasquan River at Squankum, NJ	44	Temp., S.C., pH, D.O.	1969-74
01408500	Toms River near Toms River, NJ	123	Temp., S.C.	1964-66, 1975-81
			S.C.	1975-81
01409095	Oyster Creek near Brookville, NJ	7.43	Temp., D.O.	1975-76
			S.C., pH	1975-77
01409810	West Branch Wading River near Jenkins, NJ	84.1	Temp., S.C.	1978-81
01410787	Great Egg Harbor River trib. at Sicklerville, NJ	1.64	Sed.	1974-78
01410810	Fourmile Branch at New Brooklyn, NJ	7.74	Sed.	1974-78
01411000	Great Egg Harbor River at Folsom, NJ	57.1	Temp.	1961-80
01411500	Maurice River at Norma, NJ	112	Temp., S.C.	1980-86
01440200	Delaware River near Delaware Water Gap, Pa.	3850	Sed.	1964-65, 1972
01442750	Delaware River at Dunnfield, NJ	4150	Sed.	1966-76
01463500	Delaware River at Trenton, NJ	6780	Sed.	1949-82
01464040	Delaware River at Marine Terminal, at Trenton, NJ	6870	Temp., S.C.	1973-76
01464500	Crosswicks Creek near Extonville, NJ	81.5	Sed.	1965-70
01467016	Rancocas Creek at Willingboro, NJ	315	Temp., S.C., pH	1969-74
			D.O.	1970-72
			pH	1970-74
01467150	Cooper River at Haddonfield, NJ	17.0	Sed.	1968-69
01477120	Raccoon Creek near Swedesboro, NJ	26.9	Temp.	1966-73
			Sed.	1966-69

Type of record: Temp. (temperature), S.C. (specific conductance), pH (pH), D.O. (dissolved oxygen), Sed. (sediment).

WATER RESOURCES DATA-NEW JERSEY, 1988



Note: Station numbers are abbreviated, first two digits (part number) and last two digits (if zeros) are omitted. Examples: Station number 01400500 is shown as 4005; Station number 01403150 is shown as 403150.

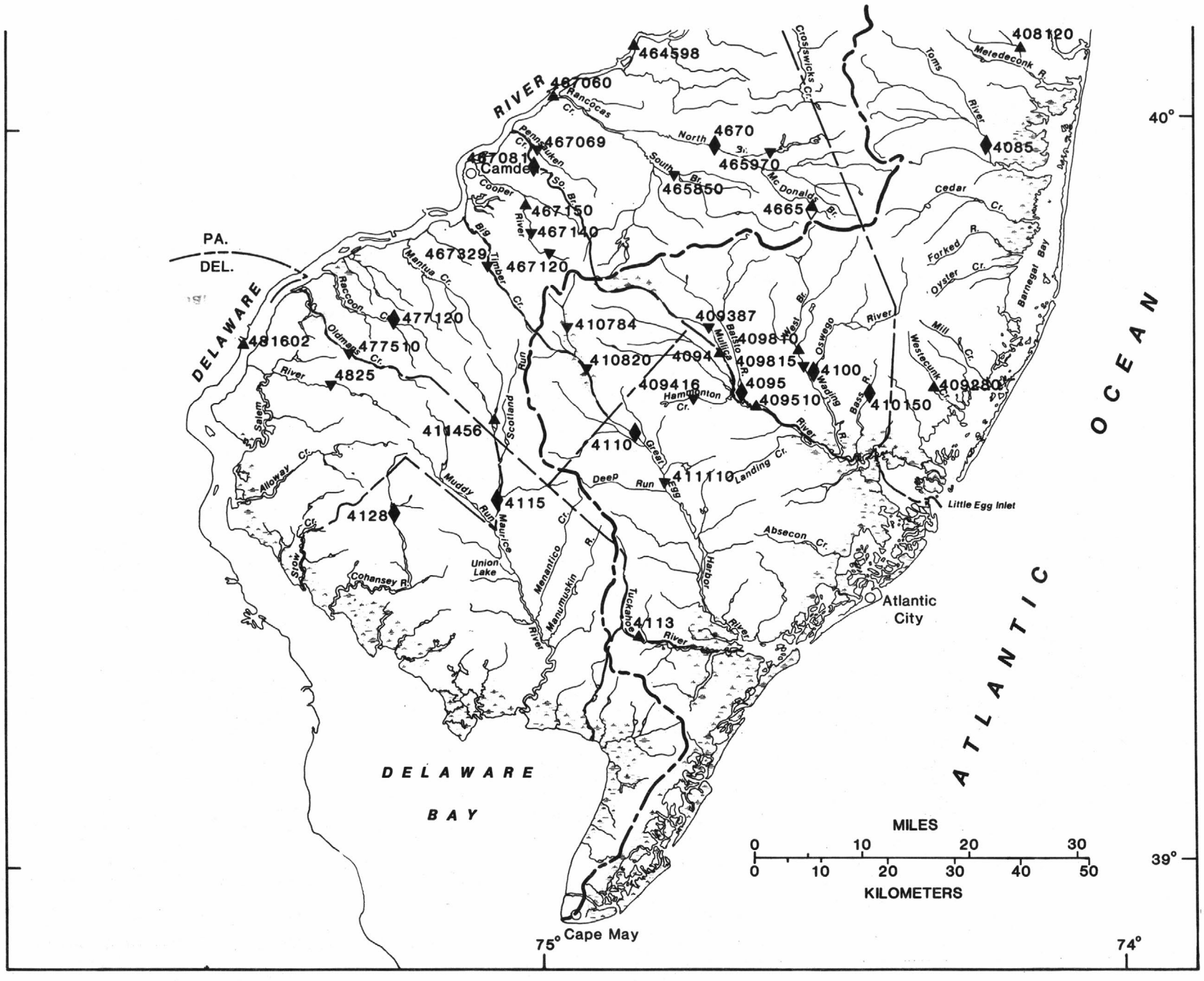
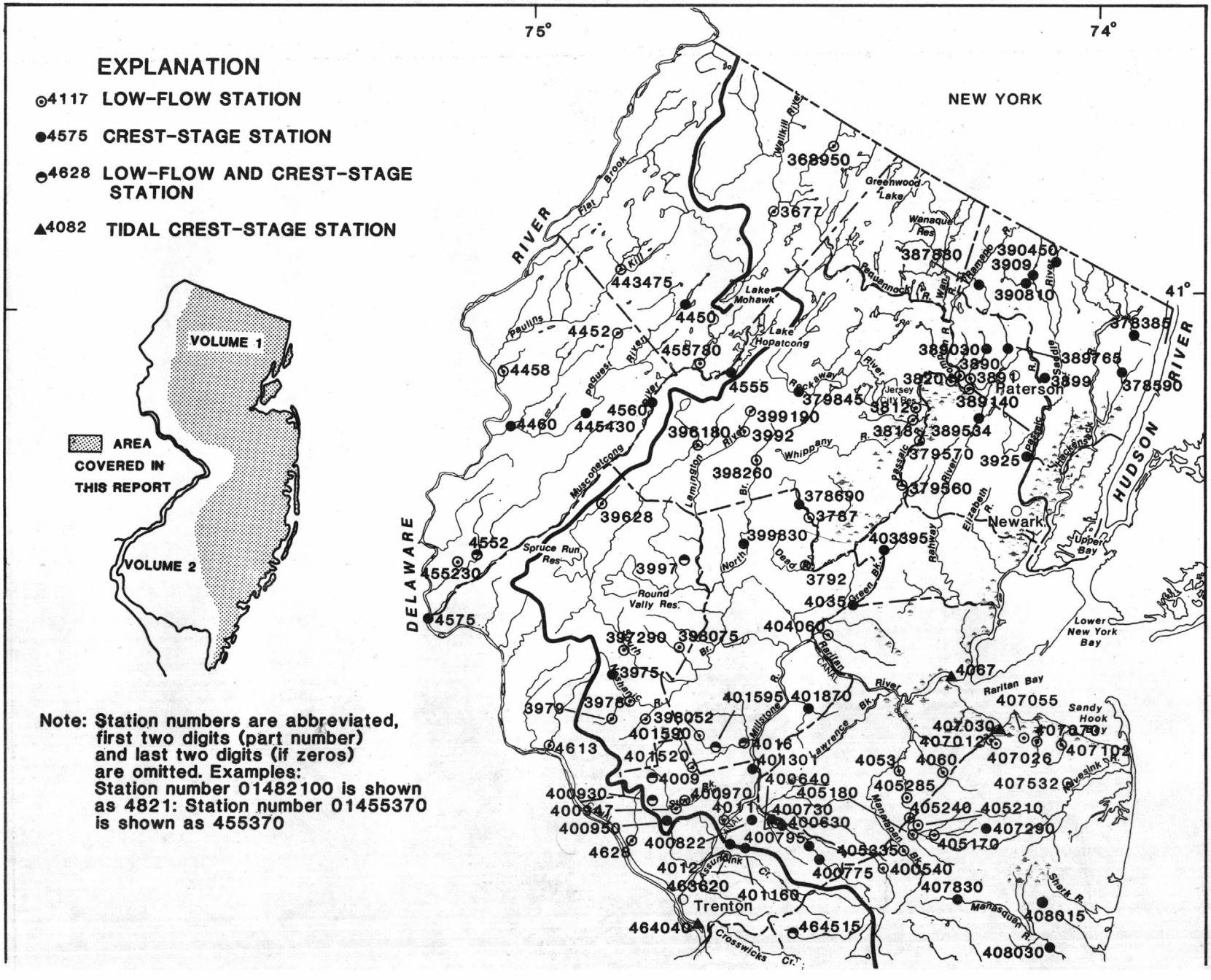


Figure 11.--Map showing location of gaging stations and surface-water quality stations.

WATER RESOURCES DATA-NEW JERSEY, 1988



Note: Station numbers are abbreviated, first two digits (part number) and last two digits (if zeros) are omitted. Examples: Station number 01482100 is shown as 4821: Station number 01455370 is shown as 455370

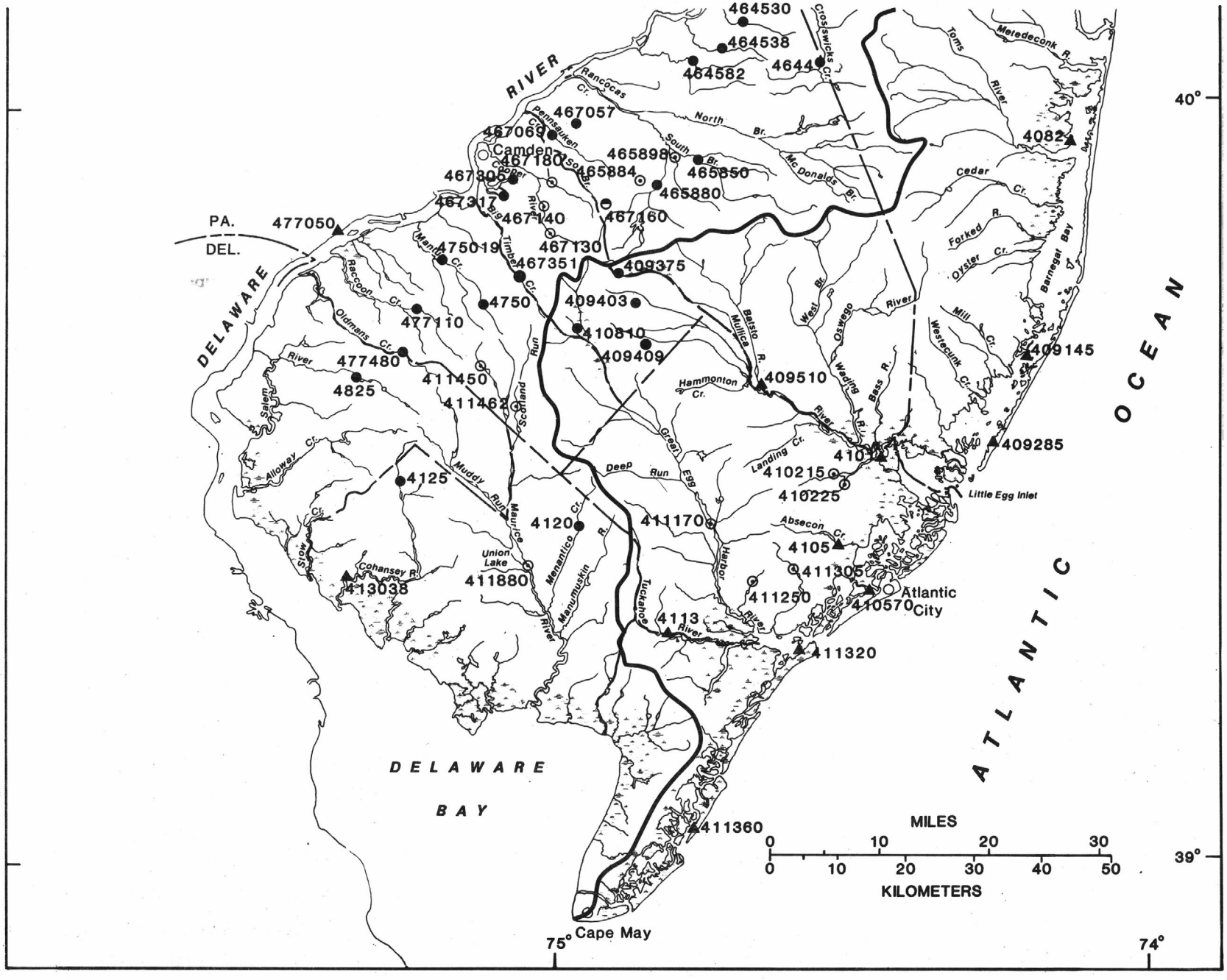


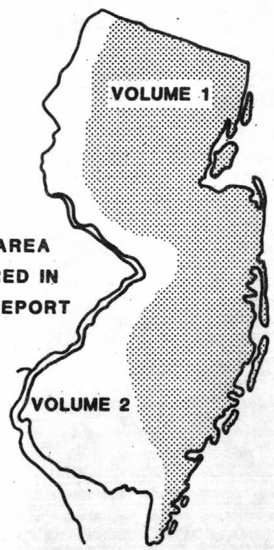
Figure 12.--Map showing location of low-flow and crest-stage partial-record stations.

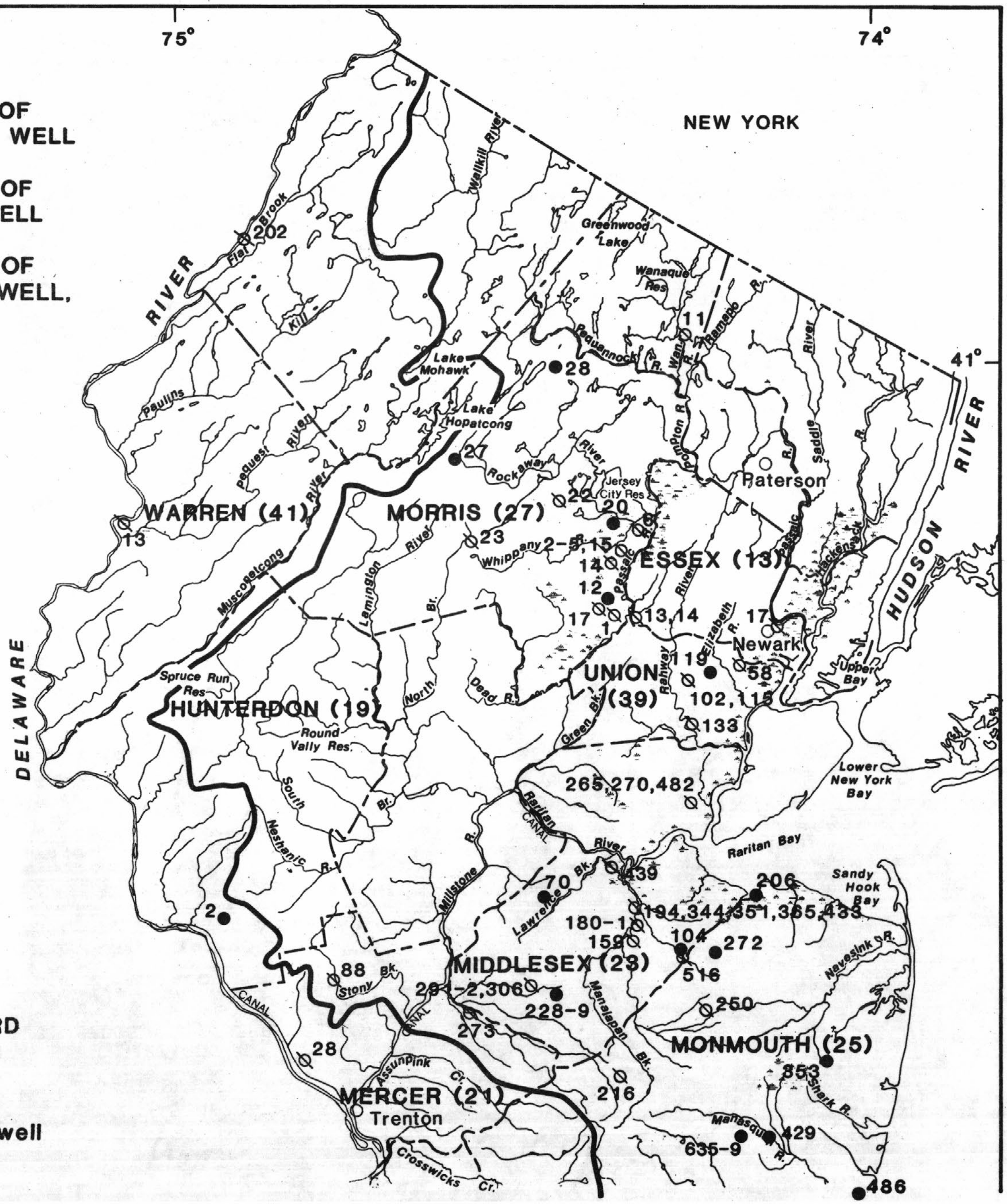
EXPLANATION

●20 LOCATION AND WELL NUMBER OF WATER-LEVEL OBSERVATION WELL

⌀17 LOCATION AND WELL NUMBER OF SECONDARY OBSERVATION WELL

◐812 LOCATION AND WELL NUMBER OF WATER-TABLE OBSERVATION WELL, GLOUCESTER COUNTY





Note: The well numbers with county prefixes constitute the NJ-WRD well number for each well. The county codes are given in parentheses with the county names. Example: NJ-WRD well number 05-0570 is shown as well 570 in county 05.

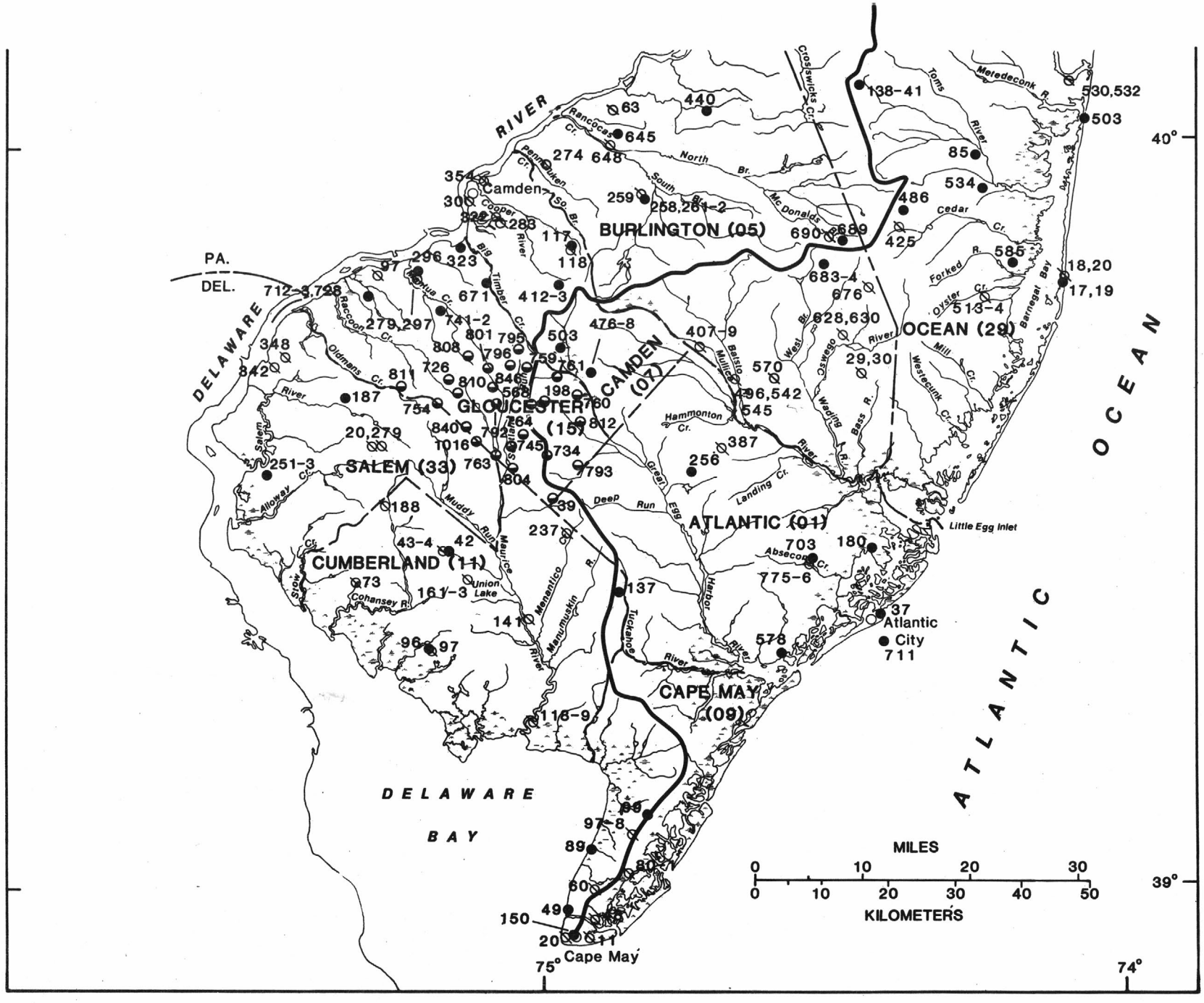
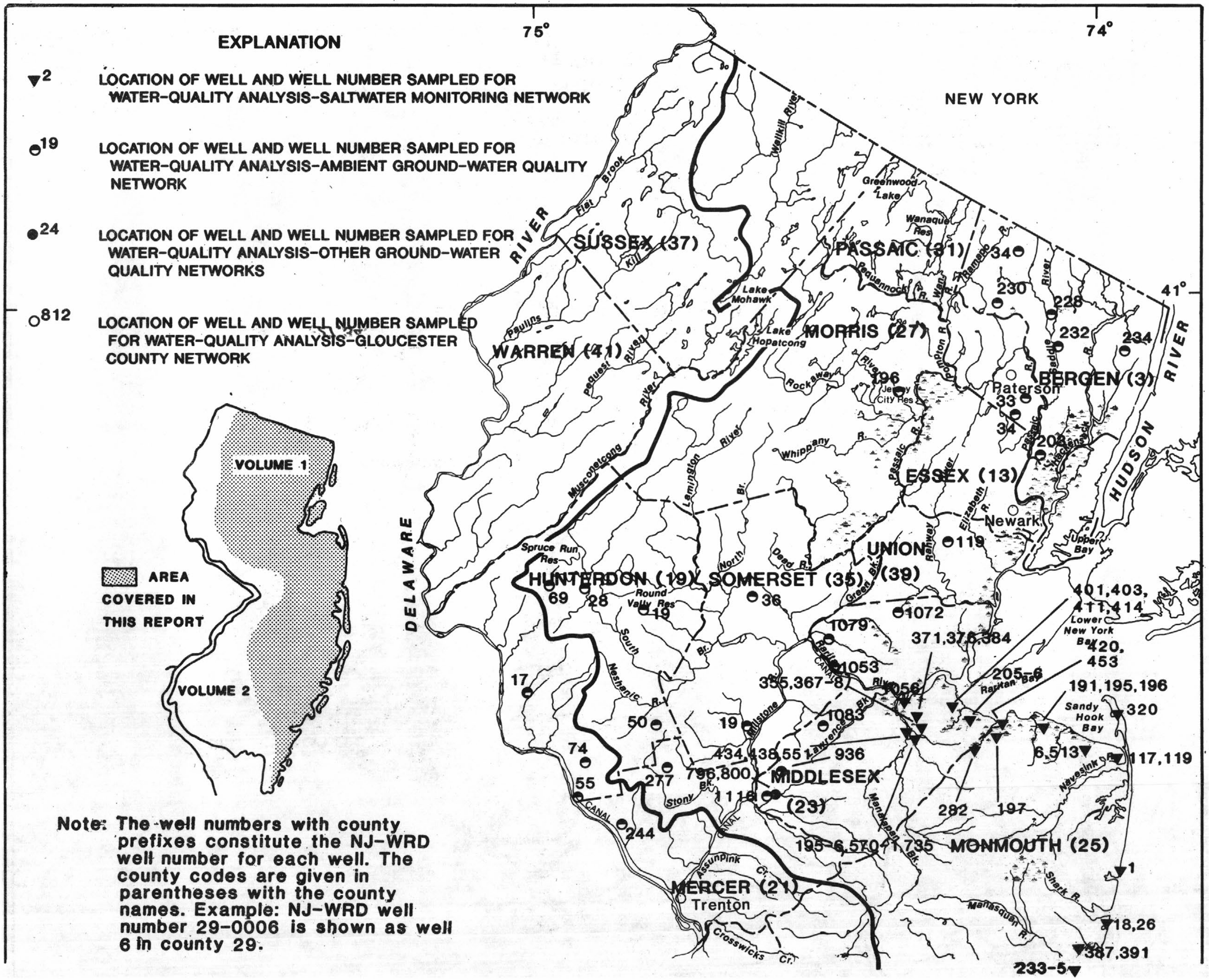


Figure 13.--Map showing location of ground-water observation well.


EXPLANATION
▼2 LOCATION OF WELL AND WELL NUMBER SAMPLED FOR WATER-QUALITY ANALYSIS-SALTWATER MONITORING NETWORK
⊖19 LOCATION OF WELL AND WELL NUMBER SAMPLED FOR WATER-QUALITY ANALYSIS-AMBIENT GROUND-WATER QUALITY NETWORK
●24 LOCATION OF WELL AND WELL NUMBER SAMPLED FOR WATER-QUALITY ANALYSIS-OTHER GROUND-WATER QUALITY NETWORKS
○812 LOCATION OF WELL AND WELL NUMBER SAMPLED FOR WATER-QUALITY ANALYSIS-GLOUCESTER COUNTY NETWORK
VOLUME 1
VOLUME 2
AREA COVERED IN THIS REPORT
Note: The well numbers with county prefixes constitute the NJ-WRD well number for each well. The county codes are given in parentheses with the county names. Example: NJ-WRD well number 29-0006 is shown as well 6 in county 29.
75°
74°
41°
NEW YORK
SUSSEX (37)
PASSAIC (31)
MORRIS (27)
WARREN (41)
BERGEN (3)
ESSEX (13)
UNION (39)
HUNTERDON (19)
SOMERSET (35)
MIDDLESEX (23)
MONMOUTH (25)
MERCER (21)
DELAWARE RIVER
HUDSON RIVER
Paterson
Newark
Trenton
Greenwood Lake
Wanaque Res
Lake Mohawk
Lake Hopatcong
Jersey City Res
Spruce Run Res
Round Valley Res
Upper Bay
Lower New York Bay
Raritan Bay
Sandy Hook Bay
Flat Brook
Kill
Wallkill River
Paulins
Pequest River
Musconetcong River
Lamington River
Rockaway River
Whippany R.
Passaic R.
Pequannock R.
Ramapo R.
Pompton R.
Saddle R.
Hackensack R.
Rahway R.
Elizabeth R.
North Br.
Dead R.
Green Bk.
South Branch
Neshanic R.
Millstone
Raritan R.
Lawrence Bk.
Stony Bk.
Manalapan Bk.
Assunpink Cr.
Crosswicks Cr.
Navesink R.
Shark R.
Manasquan R.
CANAL
34
230
228
232
234
196
33
34
208
119
36
1072
1079
1053
69
28
19
17
50
74
55
277
244
19
1083
434,438,551
936
796,800
1116
371,378,384
355,367-8
1056
401,403,
411,414
420,
453
205-6
191,195,196
320
6,513
117,119
282
197
195-6,570
41,735
1
18,26
387,391
233-5

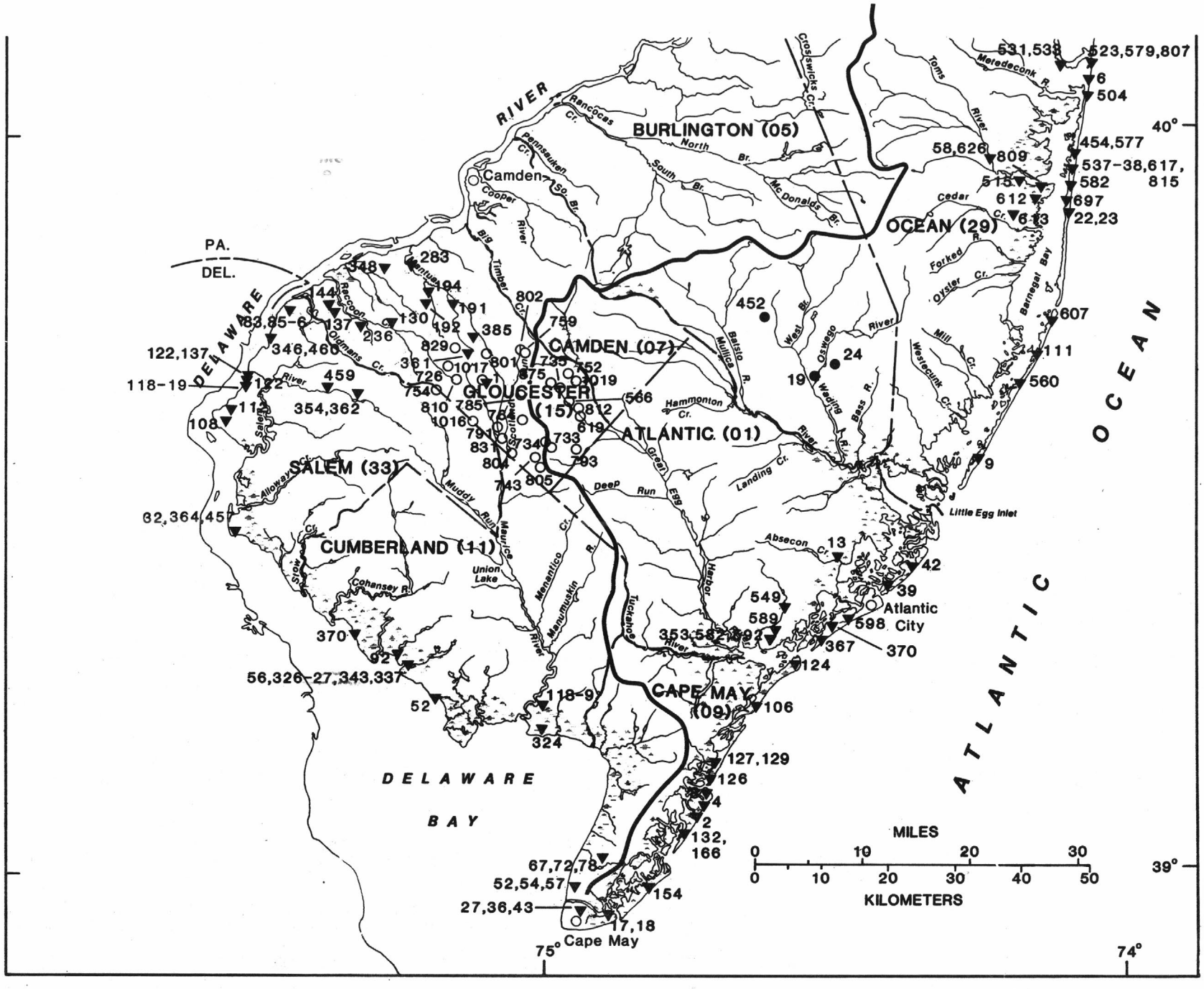


Figure 14.--Map showing location of ground-water quality stations.

HUDSON RIVER BASIN

01367700 WALLKILL RIVER AT FRANKLIN, NJ

LOCATION.--Lat 41°06'43", long 74°35'21", Sussex County, Hydrologic Unit 02020007, at bridge 120 ft downstream from dam at outlet of Franklin Pond in Franklin, and 0.8 mi upstream from Wildcat Brook.

DRAINAGE AREA.--29.4 mi^2.

PERIOD OF RECORD.--Water years 1959-63, 1976 to current year.

COOPERATION.--Field data and samples for laboratory analyses provided by New Jersey Department of Environmental Protection, Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPM method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, EC BROTH (MPN)	STREPTOCOCCI FECAL (MPN)
OCT 1987										
22...	1315	E24	364	7.5	10.0	11.4	102	E1.9	170	130
FEB 1988										
10...	1130	E72	--	7.2	1.0	12.0	85	<1.0	20	22
MAR										
16...	1030	E110	420	7.3	3.0	12.6	96	<1.2	20	79
JUN										
01...	1300	E56	393	8.1	21.5	8.8	103	E2.4	230	240
JUL										
26...	1200	E20	460	8.2	22.0	5.7	66	4.9	460	170
AUG										
18...	1230	E4.1	490	8.0	24.0	5.6	68	4.0	80	33

DATE	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
OCT 1987									
22...	130	31	12	23	1.5	107	14	44	0.1
FEB 1988									
10...	130	31	13	23	1.2	111	18	43	0.2
MAR									
16...	120	28	12	24	1.2	79	15	48	0.1
JUN									
01...	120	30	12	27	0.9	95	15	49	0.2
JUL									
26...	150	35	15	30	2.0	101	31	56	0.1
AUG									
18...	170	37	18	35	1.7	132	17	68	0.1

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1987									
22...	6.6	196	0.006	0.20	0.03	0.56	0.76	<0.020	5.1
FEB 1988									
10...	7.2	203	0.003	0.51	--	--	--	<0.020	2.0
MAR									
16...	5.9	182	0.006	--	--	--	--	--	2.8
JUN									
01...	5.3	196	0.006	0.20	<0.05	0.55	0.75	0.035	5.2
JUL									
26...	6.2	236	0.013	0.22	0.11	1.3	1.5	0.631	7.0
AUG									
18...	4.4	260	0.009	0.16	0.15	1.0	1.2	0.394	6.0

01367700 WALLKILL RIVER AT FRANKLIN, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
OCT 1987 22...	1315	<0.5	<10	8	<10	10	<1	<1	3
JUN 1988 01...	1300	<0.5	<10	5	<10	<10	<1	<1	5

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
OCT 1987 22...	240	<5	80	<0.10	2	<1	10	4
JUN 1988 01...	560	<5	180	<0.10	<1	<1	<10	3

01367770 WALLKILL RIVER NEAR SUSSEX, NJ

LOCATION.--41°11'38", long 74°34'32", Sussex County, Hydrologic Unit 02020007, at bridge on Glenwood Road, 0.8 mi upstream of Papakating Creek, 1.7 mi southwest of Independence Corner, 2.0 mi southeast of Sussex, and 2.1 mi northwest of McAfee.

DRAINAGE AREA.--60.8 mi^2.

PERIOD OF RECORD.--Water years 1976 to current year.

COOPERATION.--Field data and samples for laboratory analyses provided by New Jersey Department of Environmental Protection, Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1987										
22...	1200	E52	450	7.7	9.0	11.4	99	E1.5	20	79
FEB 1988										
10...	1030	E100	415	7.6	0.5	12.6	88	<1.0	80	13
MAR										
16...	1115	E130	400	7.5	3.5	12.2	94	E1.4	40	26
JUN										
01...	1100	E88	470	7.7	19.5	8.2	92	E1.6	490	170
JUL										
26...	1100	E46	530	7.8	20.0	8.3	92	4.3	700	1600
AUG										
18...	1145	E17	620	8.0	21.0	9.9	113	3.9	350	920

DATE	HARD-NESS TOTAL (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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (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)
OCT 1987									
22...	190	45	19	24	2.1	143	20	41	0.1
FEB 1988									
10...	160	39	16	24	1.6	133	20	43	0.2
MAR									
16...	140	33	15	20	1.2	117	18	35	0.1
JUN									
01...	170	39	17	24	1.1	135	17	44	0.2
JUL									
26...	210	49	22	26	2.4	145	49	48	0.1
AUG									
18...	230	51	26	36	4.3	186	26	69	0.1

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHOROUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1987									
22...	7.7	245	0.011	0.81	0.06	0.50	1.3	<0.020	5.2
FEB 1988									
10...	8.2	232	0.007	0.88	--	--	--	<0.020	2.6
MAR									
16...	5.8	198	0.011	--	0.03	--	--	--	3.7
JUN									
01...	6.6	230	0.013	0.69	<0.05	0.68	1.4	0.057	6.3
JUL									
26...	9.8	293	0.015	1.57	0.10	1.1	2.7	0.057	6.1
AUG									
18...	8.3	332	0.030	3.24	0.24	0.85	4.1	0.494	6.3

01367770 WALLKILL RIVER NEAR SUSSEX, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
JUN 1988 01...	1100	<0.5	10	3	<10	<10	1	<1	3

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
JUN 1988 01...	880	<5	180	<0.10	3	<1	30	<1

01367910 PAPAKATING CREEK AT SUSSEX, NJ

LOCATION.--41°12'02", long 74°35'59", Sussex County, Hydrologic Unit 02020007, at bridge on State Route 23 in Sussex, 0.7 mi downstream from Clove Brook, 2.6 mi southwest of Independence Corner, and 3.4 mi northwest of McAfee.

DRAINAGE AREA.--59.4 mi^2.

PERIOD OF RECORD.--Water years 1976 to current year.

COOPERATION.--Field data and samples for Laboratory analyses provided by New Jersey Department of Environmental Protection, Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, EC BROTH (MPN)	STREPTOCOCCI FECAL (MPN)
NOV 1987										
17...	1200	E75	239	7.7	6.5	11.2	91	<1.2	70	170
FEB 1988										
22...	1100	E73	255	8.3	0.5	13.2	92	E1.9	210	70
MAR										
22...	1100	E54	296	7.7	2.0	13.0	94	E1.4	50	<2
MAY										
16...	1330	E48	253	7.5	17.0	7.9	84	E2.0	790	79
JUL										
21...	1300	E13	308	7.0	23.0	5.4	64	4.6	5400	>2400
AUG										
09...	1315	E12	--	7.2	24.0	3.8	--	E3.2	1100	94

DATE	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
NOV 1987									
17...	83	26	4.3	12	2.0	49	24	25	0.1
FEB 1988									
22...	63	20	3.2	17	2.2	35	21	31	0.2
MAR									
22...	76	24	4.0	14	1.4	45	33	27	0.1
MAY									
16...	76	24	3.9	15	1.3	52	20	25	0.3
JUL									
21...	120	38	5.9	17	2.5	81	36	32	0.1
AUG									
09...	130	41	6.1	19	2.7	83	33	34	0.1

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
NOV 1987									
17...	6.1	129	0.004	0.74	0.11	0.51	1.3	0.048	--
FEB 1988									
22...	6.5	122	0.011	1.14	--	--	--	0.060	4.2
MAR									
22...	5.7	136	0.012	0.89	0.22	0.60	1.5	0.065	3.6
MAY									
16...	4.7	125	0.023	0.49	0.17	0.72	1.2	0.077	4.9
JUL									
21...	6.6	187	0.126	0.98	0.68	1.2	2.2	0.224	5.9
AUG									
09...	5.1	191	0.191	1.07	0.46	1.2	2.2	0.320	5.8

01367910 PAPAKATING CREEK AT SUSSEX, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	NITROGEN,NH4 + ORG. TOT IN BOT MAT (MG/KG AS N)	CARBON, INORGANIC, TOT IN BOT MAT (G/KG AS C)	CARBON, INORG + ORGANIC TOT. IN BOT MAT (MG/KG AS C)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC TOTAL IN BOTTOM MATERIAL (UG/G AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)
NOV 1987 17...	1200	<0.5	1600	5.8	45	<10	<1	4	<10	10	1
MAY 1988 16...	1330	<0.5	--	--	--	10	<1	--	<10	<10	<1

DATE	CADMIUM RECOV. FM BOTTOM MATERIAL (UG/G AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, RECOV. FM BOTTOM MATERIAL (UG/G)	COBALT, RECOV. FM BOTTOM MATERIAL (UG/G AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, RECOV. FM BOTTOM MATERIAL (UG/G AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, RECOV. FM BOTTOM MATERIAL (UG/G AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, RECOV. FM BOTTOM MATERIAL (UG/G AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)
NOV 1987 17...	<1	<1	<10	<50	2	8	220	9400	<5	10	50
MAY 1988 16...	--	<1	--	--	9	--	1200	--	120	--	160

DATE	MANGANESE, RECOV. FM BOTTOM MATERIAL (UG/G)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY RECOV. FM BOTTOM MATERIAL (UG/G AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, RECOV. FM BOTTOM MATERIAL (UG/G AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, TOTAL IN BOTTOM MATERIAL (UG/G)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, RECOV. FM BOTTOM MATERIAL (UG/G AS ZN)	PHENOLS TOTAL (UG/L)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)
NOV 1987 17...	440	<0.10	<0.10	<1	10	<1	<1	<10	60	1	8
MAY 1988 16...	--	<0.10	--	10	--	<1	--	10	--	1	--

DATE	PCN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDOSULFAN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)
NOV 1987 17...	<1.0	<0.1	5.0	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1
MAY 1988 16...	--	--	--	--	--	--	--	--	--	--	--

DATE	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	METHYL PARATHION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRITHION, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL IN BOTTOM MATERIAL (UG/KG)	PARATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	PERTHANE IN BOTTOM MATERIAL (UG/KG)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TRITHION, TOTAL IN BOTTOM MATERIAL (UG/KG)
NOV 1987 17...	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.00	<10	<0.1
MAY 1988 16...	--	--	--	--	--	--	--	--	--	--

01368950 BLACK CREEK NEAR VERNON, NJ

LOCATION.--Lat 41°13'21", long 74°28'33", Sussex County, Hydrologic Unit 02020007, at bridge on Maple Grange road, 0.6 mi upstream of confluence with Wawayanda Creek, 0.7 mi northwest of Maple Grange, and 1.7 mi northeast of Vernon.

DRAINAGE AREA.--17.3 mi^2.

PERIOD OF RECORD.--Water years 1976 to current year.

COOPERATION.--Field data and samples for Laboratory analyses provided by New Jersey Department of Environmental Protection Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, EC BROTH (MPN)	STREPTOCOCCI FECAL (MPN)
NOV 1987										
16...	1100	E36	523	7.6	4.5	9.8	76	<1.2	140	110
FEB 1988										
22...	1300	E36	514	7.8	4.5	13.8	108	<1.1	20	79
MAR										
22...	1315	E26	623	8.3	4.0	14.0	107	<1.1	<20	7
MAY										
16...	1100	--	529	7.8	16.0	7.8	81	2.3	80	70
AUG										
09...	1130	E5.9	677	7.7	24.5	6.9	84	E1.3	20	130

DATE	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
NOV 1987									
16...	210	49	22	32	1.6	174	21	58	0.1
FEB 1988									
22...	210	48	21	35	1.8	168	19	63	0.2
MAR									
22...	220	51	22	30	1.2	189	22	59	0.1
MAY									
16...	220	50	22	26	1.0	182	17	48	0.3
AUG									
09...	240	52	26	36	1.7	197	19	73	0.2

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
NOV 1987									
16...	7.9	296	0.006	0.52	<0.01	0.52	1.0	0.068	5.3
FEB 1988									
22...	7.1	296	0.009	0.86	--	--	--	0.046	3.6
MAR									
22...	5.9	305	0.010	0.87	0.01	0.30	1.2	0.045	3.2
MAY									
16...	5.2	279	0.017	0.59	<0.05	0.60	1.2	0.063	0.5
AUG									
09...	8.4	334	0.037	0.73	0.07	0.71	1.4	0.130	4.8

01368950 BLACK CREEK NEAR VERNON, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	NITRO-GEN,NH4 + ORG. TOT IN BOT MAT (MG/KG AS N)	CARBON, INOR-GANIC, TOT IN BOT MAT (G/KG AS C)	CARBON, INORG + ORGANIC TOT. IN BOT MAT (MG/KG AS C)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC TOTAL IN BOT-TOM MA-TERIAL (UG/G AS AS)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE)	BORON, TOTAL RECOV-ERABLE (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM RECOV. FM BOT-TOM MA-TERIAL (UG/G AS CD)
NOV 1987 16...	1100	<0.5	2200	0.1	35	<10	<1	6	<10	20	1	<1

DATE	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, RECOV. FM BOT-TOM MA-TERIAL (UG/G)	COBALT, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, RECOV. FM BOT-TOM MA-TERIAL (UG/G)
NOV 1987 16...	<1	<10	<50	2	10	240	15000	<5	20	50	730

DATE	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY RECOV. FM BOT-TOM MA-TERIAL (UG/G AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	NICKEL, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, TOTAL IN BOT-TOM MA-TERIAL (UG/G)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS ZN)	PHENOLS TOTAL (UG/L)	PCB, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	PCN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)
NOV 1987 16...	0.10	<0.10	1	10	<1	<1	<10	60	2	7	<1.0

DATE	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)	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)
NOV 1987 16...	<0.1	4.0	<0.4	2.1	3.0	<0.1	<0.1	<0.1	0.3	<0.1	<0.1

DATE	HEPTA-CHLOR EPOXIDE TOT. IN BOTTOM MATL. (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 BOTTOM MATL. (UG/KG)	METHYL PARA-THION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRI-THION, TOT. IN BOTTOM MATL. (UG/KG)	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)	TOXA-PHENE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	TRI-THION, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)
NOV 1987 16...	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.00	<10	<0.1

01376800 HACKENSACK RIVER AT WEST NYACK, NY

LOCATION.--Lat 41°05'44", long 73°57'52", Rockland County, Hydrologic Unit 02030103, on right bank 20 ft downstream from Penn Central Transportation Co. railroad bridge at West Nyack, 1,000 ft upstream from State Highway 59, and 1.0 mi downstream from DeForest Lake.

DRAINAGE AREA.--29.4 mi^2.

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

GAGE.--Water-stage recorder, stop-log control, and crest-stage gage. Datum of gage is 53.50 ft above National Geodetic Vertical Datum of 1929 (levels by Hackensack Water Co.).

REMARKS.--No estimated daily discharges. Records fair. Flow regulated by DeForest Lake (see Reservoirs in Hackensack River Basin). Diversion from gaging station pool for municipal supply for village of Nyack (see Diversions in Hackensack River Basin). Discharge given for this station represents the flow of Hackensack River downstream from this diversion. Several measurements of water temperature were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	15	47	18	31	45	37	34	29	18	16	15
2	16	16	43	18	54	42	35	35	39	17	14	17
3	18	16	38	18	87	42	32	28	25	16	16	17
4	36	16	41	23	91	70	32	24	27	17	20	35
5	19	17	40	23	79	101	37	23	23	16	17	24
6	16	16	34	21	62	89	34	43	23	17	15	18
7	21	15	29	20	50	77	31	48	19	16	14	18
8	17	16	27	20	43	67	40	33	17	16	16	17
9	16	18	25	22	38	62	45	27	19	17	19	17
10	16	25	23	20	34	61	39	24	16	21	15	17
11	17	39	26	19	32	54	27	24	16	18	14	17
12	16	24	25	18	42	49	22	22	16	18	15	17
13	12	19	24	18	47	47	26	20	16	18	15	29
14	14	26	22	17	41	46	20	24	19	16	14	19
15	14	28	32	16	39	44	21	19	19	20	15	18
16	16	28	53	15	54	38	26	18	19	18	17	18
17	17	27	50	15	55	36	21	25	20	19	14	18
18	17	30	38	22	55	31	22	54	18	17	14	17
19	19	30	32	29	53	31	22	209	17	19	16	17
20	22	29	35	45	207	31	24	163	15	39	15	17
21	31	31	37	60	158	30	25	90	16	37	16	19
22	30	24	34	59	95	26	24	68	15	54	16	26
23	31	16	31	50	78	22	21	78	16	17	16	27
24	29	19	28	44	74	23	22	74	16	46	30	24
25	30	63	29	41	66	25	23	94	16	17	23	23
26	33	37	33	48	59	51	21	89	17	18	16	23
27	39	18	30	42	54	78	21	64	16	24	15	24
28	64	15	28	36	51	68	39	50	16	17	15	33
29	15	17	36	31	48	56	30	42	16	17	18	36
30	16	42	28	28	---	47	37	34	17	16	18	36
31	16	---	18	26	---	44	---	29	---	15	16	---
MEAN	22.3	24.4	32.8	28.5	64.7	49.5	28.5	51.9	19.1	21.0	16.5	21.8
MAX	64	63	53	60	207	101	45	209	39	54	30	36
MIN	12	15	18	15	31	22	20	18	15	15	14	15

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	30.8	31.3	38.2	42.6	53.3	69.7	77.1	51.3	34.7	35.3	27.6	36.2
MAX	81.4	88.6	121	125	152	151	204	141	162	127	83.3	100
(WY)	1976	1976	1973	1978	1973	1961	1983	1984	1972	1984	1966	1975
MIN	7.27	7.59	5.63	8.95	10.3	6.95	9.61	7.04	12.7	11.6	12.3	9.34
(WY)	1967	1967	1967	1967	1967	1981	1966	1965	1981	1977	1981	1962

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	31.6		43.9	Unadjusted
HIGHEST ANNUAL MEAN			74.1	1984
LOWEST ANNUAL MEAN			13.4	1981
HIGHEST DAILY MEAN	209	May 19	1320	Feb 3 1973
LOWEST DAILY MEAN	12	Oct 13	2.6	Jun 12 1965
INSTANTANEOUS PEAK FLOW	361	Nov 25	1550a	Feb 3 1973
INSTANTANEOUS PEAK STAGE	5.96	Nov 25	10.52b	May 30 1984
10 PERCENTILE	55		90	
50 PERCENTILE	24		24	
95 PERCENTILE	15		9.0	

a From rating curve extended above 840 ft^3/s
b From floodmarks

01377000 HACKENSACK RIVER AT RIVERVALE, NJ

LOCATION.--Lat 40°59'55", long 73°59'27", Bergen County, Hydrologic Unit 02030103, on upstream right bank at bridge on Westwood Avenue in Rivervale, 1.5 mi upstream from Pascack Brook, 4.6 mi upstream from Oradell Dam, and 27.2 mi upstream from mouth.

DRAINAGE AREA.--58.0 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1941 to current year.

REVISED RECORDS.--WDR-NJ-80-1: 1968-79(M).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 22.51 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by De Forest Lake and Lake Tappan (see Hackensack River basin, reservoirs in). Diversions from De Forest Lake and West Nyack, NY, for municipal water supply (see Hackensack River basin, diversions). Water occasionally diverted from Oradell Reservoir to Lake Tappan. Several measurements of water temperature, other than those published, were made during the year.

COOPERATION.--Gage-height record collected in cooperation with Hackensack Water Co.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	62	52	90	108	84	72	46	67	151	37	38
2	40	63	48	82	95	78	67	45	87	150	37	37
3	43	61	47	80	54	77	62	45	70	149	35	37
4	73	61	50	81	64	114	60	45	74	146	34	67
5	44	60	49	80	45	176	62	49	62	145	34	47
6	42	60	45	91	41	163	59	68	54	144	34	39
7	49	59	45	105	39	144	60	50	48	142	33	39
8	42	59	44	102	40	124	60	47	46	141	33	38
9	41	54	44	99	39	111	61	45	49	141	33	39
10	41	56	45	96	41	106	56	45	47	140	32	39
11	42	66	47	95	43	94	52	46	45	123	33	39
12	41	51	46	94	44	85	48	46	45	98	35	38
13	41	51	46	94	45	82	47	45	44	63	35	65
14	40	49	45	94	41	79	44	45	44	45	33	40
15	40	47	54	107	42	75	43	44	43	49	38	38
16	40	45	62	120	64	69	50	44	44	57	84	38
17	40	48	47	120	50	63	45	58	43	78	111	39
18	40	48	46	86	56	57	59	81	43	75	153	40
19	42	45	45	41	76	56	113	317	42	77	144	39
20	42	45	51	57	331	54	111	349	42	115	134	38
21	45	45	49	49	333	51	103	216	42	73	119	39
22	43	44	47	43	184	47	89	153	50	98	102	38
23	42	44	68	39	148	45	76	125	115	41	101	37
24	41	44	114	39	134	44	56	174	129	95	123	37
25	62	44	94	39	118	44	45	228	141	49	110	37
26	106	45	83	41	106	81	44	231	156	47	88	37
27	122	44	82	63	99	136	44	155	162	58	66	37
28	128	44	82	90	92	123	67	121	154	42	66	37
29	68	46	73	89	91	103	47	99	153	39	69	37
30	64	77	64	89	---	88	50	82	152	37	61	38
31	63	---	102	96	---	81	---	75	---	37	39	---
MEAN	53.1	52.2	58.6	80.4	91.8	88.2	61.7	104	76.4	91.8	67.3	40.3
MAX	128	77	114	120	333	176	113	349	162	151	153	67
MIN	40	44	44	39	39	44	43	44	42	37	32	37

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	57.3	74.3	80.9	89.0	94.8	139	144	99.5	72.7	78.8	69.9	62.4
MAX	312	240	202	251	221	379	438	259	319	339	197	177
(WY)	1956	1956	1973	1949	1951	1953	1983	1984	1972	1945	1955	1975
MIN	12.1	17.7	12.6	22.6	23.0	11.2	14.5	20.4	13.4	11.6	11.3	7.87
(WY)	1942	1950	1981	1982	1967	1981	1981	1981	1957	1954	1944	1953

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	72.2		88.5	Unadjusted
HIGHEST ANNUAL MEAN			156	1952
LOWEST ANNUAL MEAN			30.9	1981
HIGHEST DAILY MEAN	349	May 20	2190	May 31 1984
LOWEST DAILY MEAN	32	Aug 10	5.8	Sep 1 1953
INSTANTANEOUS PEAK FLOW	415	Feb 20	2440	May 30 1984
INSTANTANEOUS PEAK STAGE	2.93	Feb 20	7.85	May 30 1984
INSTANTANEOUS LOW FLOW	31	Aug 7	0	Jan 16 1970
10 PERCENTILE	131		176	
50 PERCENTILE	54		60	
95 PERCENTILE	38		16	

01377000 HACKENSACK RIVER AT RIVERVALE, NJ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1962, 1964 to current year.

COOPERATION.--Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1987										
29...	1100	68	334	7.9	11.0	9.8	89	3.3	1700	2400
MAR 1988										
02...	0915	78	521	7.7	2.5	12.4	91	2.4	49	240
APR										
14...	0920	44	480	7.8	9.5	10.0	87	2.6	350	240
JUN										
07...	0900	48	433	7.7	18.5	6.5	71	4.5	490	330
AUG										
03...	1045	36	410	7.7	24.0	5.4	64	8.1	920	920
30...	1100	72	388	7.7	22.5	6.5	75	4.5	230	2400

DATE	HARD-NESS TOTAL (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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (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)
OCT 1987									
29...	100	32	6.0	25	2.2	77	20	42	0.10
MAR 1988									
02...	130	40	7.1	53	2.2	86	20	100	0.10
APR									
14...	120	38	7.2	46	2.3	86	23	84	0.10
JUN									
07...	120	37	7.2	40	2.1	88	20	73	0.30
AUG									
03...	120	35	6.9	36	1.7	86	16	59	0.10
30...	98	29	6.3	37	2.0	75	16	60	0.10

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHOROUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1987									
29...	4.0	177	0.017	0.35	0.04	0.82	1.2	0.050	8.8
MAR 1988									
02...	4.0	278	0.010	0.58	--	--	--	0.041	5.4
APR									
14...	2.6	255	0.016	0.54	0.02	0.70	1.2	0.044	6.0
JUN									
07...	3.3	236	0.029	0.53	0.06	1.0	1.6	0.057	6.6
AUG									
03...	6.1	212	0.046	0.54	0.15	1.1	1.7	0.110	8.2
30...	5.2	201	0.008	0.18	0.06	1.2	1.4	0.089	7.9

01377000 HACKENSACK RIVER AT RIVERVALE, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	NITROGEN,NH4 + ORG. TOT IN BOT MAT (MG/KG AS N)	CARBON, INORGANIC, TOT IN BOT MAT (G/KG AS C)	CARBON, INORG + ORGANIC TOT. IN BOT MAT (MG/KG AS C)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC TOTAL IN BOTTOM MATERIAL (UG/G AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM RECOV. FM BOTTOM MATERIAL (UG/G AS CD)
OCT 1987 29...	1100	<0.5	130	0.2	1.5	10	1	2	<10	20	1	<1
JUN 1988 07...	0900	<0.5	--	--	--	10	1	--	<10	40	1	--

DATE	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, RECOV. FM BOTTOM MATERIAL (UG/G)	COBALT, RECOV. FM BOTTOM MATERIAL (UG/G AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, RECOV. FM BOTTOM MATERIAL (UG/G AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, RECOV. FM BOTTOM MATERIAL (UG/G AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, RECOV. FM BOTTOM MATERIAL (UG/G AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, RECOV. FM BOTTOM MATERIAL (UG/G)
OCT 1987 29...	<1	<10	<50	16	5	--	2700	<5	20	150	280
JUN 1988 07...	<1	--	--	40	--	420	--	<5	--	10	--

DATE	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY RECOV. FM BOTTOM MATERIAL (UG/G AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, RECOV. FM BOTTOM MATERIAL (UG/G AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, TOTAL IN BOTTOM MATERIAL (UG/G)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, RECOV. FM BOTTOM MATERIAL (UG/G AS ZN)	PHENOLS TOTAL (UG/L)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	PCN, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1987 29...	0.10	<0.10	6	<10	<1	<1	--	40	3	<1	<1.0
JUN 1988 07...	<0.10	--	5	--	<1	--	10	--	2	--	--

DATE	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDOSULFAN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1987 29...	<0.1	11	0.5	0.7	0.6	<0.1	<0.1	<0.1	<0.1	<0.1	0.2
JUN 1988 07...	--	--	--	--	--	--	--	--	--	--	--

DATE	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARATHION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRITHION, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL IN BOTTOM MATERIAL (UG/KG)	PARATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	PERTHANE IN BOTTOM MATERIAL (UG/KG)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TRITHION, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1987 29...	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.00	<10	<0.1
JUN 1988 07...	--	--	--	--	--	--	--	--	--	--	--

01377500 PASCACK BROOK AT WESTWOOD, NJ

LOCATION.--Lat 40°59'33", long 74°01'19", Bergen County, Hydrologic Unit 02030103, on right bank 75 ft upstream from Harrington Avenue in Westwood, 500 ft downstream from Musquapsink Brook, and 2.3 mi upstream from mouth.

DRAINAGE AREA.--29.6 mi^2.

PERIOD OF RECORD.--October 1934 to current year.

REVISED RECORDS.--WDR NJ-87-1: 1984 (P).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 28.62 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Woodcliff Lake 3.0 mi above station (see Hackensack River basin, reservoirs in). Water diverted for municipal supply by Spring Valley Water Co., by pumpage from well fields in headwater area of Pascack Brook in vicinity of Spring Valley, NY, and by Park Ridge Water Department by pumping from wells above Woodcliff Lake probably reduces flow past this station. Several measurements of water temperature were made during the year.

COOPERATION.--Gage-height record collected in cooperation with Hackensack Water Co.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	72	57	78	23	26	37	32	39	46	19	25	20
2	70	57	66	21	40	35	31	26	68	18	22	20
3	64	47	28	21	67	36	21	19	36	18	21	20
4	136	38	46	26	53	87	21	19	43	18	20	148
5	87	32	33	26	35	112	21	31	45	18	20	97
6	45	24	29	20	30	59	20	65	35	18	19	38
7	55	19	23	20	28	48	46	43	29	18	19	31
8	55	19	23	20	28	43	73	26	27	18	19	29
9	26	19	23	21	27	42	35	25	33	19	18	25
10	26	52	23	20	26	42	29	27	33	24	18	21
11	31	111	26	20	25	39	27	33	25	20	21	20
12	38	49	23	20	34	36	24	32	23	19	18	20
13	37	57	21	20	38	36	25	24	21	18	18	87
14	34	93	21	19	32	36	24	19	21	19	18	49
15	30	86	56	19	35	35	25	19	19	28	18	26
16	30	83	75	19	90	33	39	19	19	18	17	21
17	31	80	21	19	68	32	28	37	21	30	18	22
18	33	80	20	32	53	30	27	95	18	20	19	22
19	33	78	26	25	53	31	29	244	18	20	19	21
20	34	77	35	43	318	30	26	98	17	153	19	21
21	55	76	44	31	94	29	25	55	17	174	19	22
22	62	35	42	25	55	27	23	39	18	294	18	19
23	23	31	25	22	49	27	21	38	20	47	19	19
24	26	42	25	21	52	27	25	49	20	237	87	19
25	23	53	26	22	45	28	24	174	20	77	64	36
26	18	44	27	24	40	107	21	45	20	52	32	52
27	25	19	26	21	40	105	22	38	20	124	21	52
28	174	25	31	20	40	47	111	36	19	48	20	52
29	95	50	30	19	39	36	49	32	19	38	25	51
30	90	114	24	19	---	33	43	39	19	29	39	52
31	71	---	24	21	---	33	---	46	---	28	27	---
MEAN	52.5	54.9	32.9	22.5	53.8	44.5	32.2	49.4	26.3	54.2	24.4	37.7
MAX	174	114	78	43	318	112	111	244	68	294	87	148
MIN	18	19	20	19	25	27	20	19	17	18	17	19

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	37.6	48.3	52.8	54.3	61.1	81.5	81.8	62.7	49.6	46.2	42.3	39.6
MAX	143	131	129	151	135	197	198	121	175	180	127	157
(WY)	1956	1978	1984	1979	1973	1953	1983	1984	1972	1945	1971	1971
MIN	10.1	9.83	15.8	10.8	15.7	34.8	30.1	23.3	18.2	14.2	9.99	9.45
(WY)	1942	1950	1940	1954	1954	1965	1986	1935	1939	1944	1935	1939

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	40.4		54.8	Unadjusted
HIGHEST ANNUAL MEAN			88.6	1952
LOWEST ANNUAL MEAN			27.6	1965
HIGHEST DAILY MEAN	318	Feb 20	1770	Aug 28 1971
LOWEST DAILY MEAN	17	Jun 20	6.1	Oct 21 1949
INSTANTANEOUS PEAK FLOW	659	Jul 22	2440	Sep 12 1971
INSTANTANEOUS PEAK STAGE	4.05	Jul 22	7.57	Sep 12 1971
INSTANTANEOUS LOW FLOW	15	Jan 14	5.6	Jun 29 1965
10 PERCENTILE	76		98	
50 PERCENTILE	29		41	
95 PERCENTILE	19		14	

01378500 HACKENSACK RIVER AT NEW MILFORD, NJ

LOCATION.--Lat 40°56'52", long 74°01'34", Bergen County, Hydrologic Unit 02030103, on right bank upstream from two masonry dams and two lift gates at pumping plant of Hackensack Water Co., New Milford, 4.0 mi downstream from Pascack Brook, and 21.8 mi upstream from mouth.

DRAINAGE AREA.--113 mi^2.

PERIOD OF RECORD.--October 1921 to current year. Monthly discharge only for October 1921, published in WSP 1302.

REVISED RECORDS: WSP 601: Drainage area. WSP 711: 1927-28(M). WRD-NJ 1970: 1969. WDR-NJ 1977: 1975(M). WDR-NJ 1984: 1983.

GAGE.--Water-stage recorder above south dam. Datum of gage is 6.25 ft above National Geodetic Vertical Datum of 1929. October 1921 to November 23, 1923, nonrecording gage and Nov. 23, 1923, to Sept. 25, 1934, water-stage recorder at same site at datum 0.05 ft lower.

REMARKS.--No estimated daily discharge. Records poor. Records given herein do not include diversion at gage. Flow regulated by DeForest Lake, Lake Tappan, Woodcliff Lake 9.0 mi upstream from station, and Oradell Reservoir 0.6 mi upstream from station (see Hackensack River basin, reservoirs in). Water pumped into basin above gage from Sparkill Creek (Hudson River basin) and Saddle River (Passaic River basin) by Hackensack Water Company for municipal supply (see Hacksensack River basin, diversions). Water diverted at gage, De Forest Lake, and West Nyack, NY, for municipal supply (see Hackensack River basin, diversions). Several measurements of water temperature were made during the year.

COOPERATION.--Gage-height record collected in cooperation with Hackensack Water Co.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.6	3.9	2.7	2.3	1.5	151	9.8	.09	11	1.1	1.1	1.4
2	5.2	5.1	4.2	1.2	2.5	93	11	.05	16	.92	1.5	1.4
3	7.4	2.3	3.4	2.0	4.5	92	8.2	.16	17	.93	.98	2.5
4	4.8	1.9	3.1	1.3	2.9	94	11	.21	10	1.4	1.3	5.7
5	5.8	3.4	1.9	1.1	3.0	96	9.8	.33	13	1.1	1.4	3.3
6	5.2	5.7	2.3	2.2	1.6	96	10	.90	14	1.3	1.3	2.0
7	5.1	3.2	2.4	1.3	3.6	95	11	.87	14	1.4	1.5	3.0
8	5.5	3.2	3.0	1.3	3.1	95	13	.72	12	2.0	2.2	1.7
9	7.2	3.5	2.2	2.2	2.1	94	9.9	.86	11	1.0	2.2	2.0
10	4.6	4.4	2.4	3.0	1.7	93	13	.75	14	1.6	8.9	1.5
11	4.4	3.7	2.6	1.7	2.7	87	11	.69	16	1.0	1.4	3.2
12	3.6	2.8	1.5	1.9	2.6	88	12	.84	18	1.5	1.8	1.6
13	3.2	3.0	1.3	1.6	2.2	89	9.5	.86	18	1.2	1.9	3.2
14	2.8	2.2	1.4	2.6	2.3	51	9.6	.80	12	1.5	.98	1.8
15	3.0	2.4	1.6	1.3	3.9	8.5	10	.76	2.3	1.1	3.2	1.9
16	2.5	3.2	2.0	1.7	2.2	8.8	10	.79	4.4	1.2	2.2	1.9
17	2.4	3.6	1.6	1.7	1.9	13	9.2	.97	.76	1.9	1.4	1.1
18	3.7	2.1	1.5	1.5	2.0	10	7.6	1.5	.84	1.0	1.4	1.1
19	5.2	3.4	1.1	1.7	1.9	6.1	.09	161	.66	1.5	1.5	2.0
20	3.6	4.1	1.7	1.5	2.9	14	.09	522	.83	3.4	1.1	3.2
21	2.3	2.8	1.2	2.0	213	13	.17	260	.78	2.6	2.0	2.3
22	2.8	3.1	1.8	1.4	358	14	.07	137	1.0	1.6	1.5	1.9
23	3.0	2.2	1.5	2.5	333	14	.03	90	.86	2.0	1.8	1.5
24	2.6	5.0	1.8	2.4	341	12	.21	111	.95	1.6	2.0	1.1
25	3.0	2.4	1.4	6.7	172	11	.07	636	.89	2.0	1.7	2.9
26	2.9	3.2	1.4	2.0	10	12	.17	154	.86	1.7	1.6	1.7
27	4.8	1.9	1.6	1.6	9.3	12	.10	81	.96	6.8	1.2	1.3
28	4.8	2.9	2.8	2.7	8.3	12	.03	54	.90	2.8	.89	1.8
29	4.0	4.7	1.6	1.4	90	11	.02	29	.88	1.5	1.6	1.9
30	7.6	1.4	1.2	1.7	---	12	.03	18	1.3	1.1	1.9	1.4
31	2.5	---	1.8	1.3	---	13	---	16	---	1.1	1.4	---
MEAN	4.20	3.22	2.00	1.96	54.7	48.7	6.22	73.6	7.17	1.70	1.83	2.11
MAX	7.6	5.7	4.2	6.7	358	151	13	636	18	6.8	8.9	5.7
MIN	2.3	1.4	1.1	1.1	1.5	6.1	.02	.05	.66	.92	.89	1.1

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	35.2	70.0	91.1	109	136	221	208	122	63.2	48.9	40.2	45.4
MAX	480	356	329	359	396	650	774	420	612	543	372	385
(WY)	1956	1928	1973	1937	1939	1936	1983	1984	1972	1945	1927	1927
MIN	.00	.00	.00	.00	.00	.00	.00	.39	.00	.00	.00	.00
(WY)	1922	1924	1932	1971	1977	1981	1981	1985	1977	1954	1924	1923

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	17.2		98.9	Unadjusted
HIGHEST ANNUAL MEAN			264	1928
LOWEST ANNUAL MEAN			.40	1981
HIGHEST DAILY MEAN	636	May 25	4230	May 31 1984
LOWEST DAILY MEAN	.02	Apr 29	0	Oct 1 1921
INSTANTANEOUS PEAK FLOW	1230	May 25	4500	Nov 9 1977
INSTANTANEOUS PEAK STAGE	3.21	May 25	7.96	Apr 5 1984
10 PERCENTILE	17		295	
50 PERCENTILE	2.0		19	
95 PERCENTILE	.59		0	

RESERVOIRS IN HACKENSACK RIVER BASIN

01376700 DE FOREST LAKE.--Lat 41°06'23", long 73°58'01, Rockland County, NY, Hydrologic Unit 02030103, at dam on Hackensack River, 0.8 mi north of West Nyack, NY. DRAINAGE AREA, 27.5 mi^2. PERIOD OF RECORD, February 1956 to current year. REVISED RECORDS.--WDR NJ-84-1: Drainage area. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. REMARKS.--Reservoir is formed by earthfill dam with sheet piling cutoff and concrete spillway; dam completed and storage began in February 1956. Crest of dam topped by two 50 ft Bascule Gates, 5 ft high. Capacity 5,670,500 gal, elevation, 85.00 ft, top of Bascule gates. Flow regulated by 12-inch Howell-Bunger valve at elevation, 59.25 ft and 24-inch Howell-Bunger valve at elevation, 61.25 ft. Reservoir used for storage and water released by Hackensack Water Co., for municipal water supply.
COOPERATION.--Records provided by Hackensack Water Company.

01376950 LAKE TAPPAN.--Lat 41°01'05", long 74°00'05", Bergen County, Hydrologic Unit 02030103, at dam on Hackensack River, 0.5 mi north of Old Tappan. DRAINAGE AREA, about 49.0 mi^2. PERIOD OF RECORD, October 1966 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.
REMARKS.--Reservoir is formed by earthfill dam, completed in 1966. Capacity, 3,853,000,000 gal, revised, elevation, 55.00 ft at top of Bascule gates. Flow regulated by four Bascule gates and one sluice gate. Water is released by Hackensack Water Co., for municipal water supply.
COOPERATION.--Records provided by Hackensack Water Company.

01377450 WOODCLIFF LAKE.--Lat 41°01', long 74°03', Bergen County, Hydrologic Unit 02030103, at dam on Pascack Brook, 0.7 mi north of Hillsdale. DRAINAGE AREA, 19.4 mi^2. PERIOD OF RECORD, December 1929 to current year. Monthend contents only, prior to September 1953, published in WSP 1302, 1722. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.
REMARKS.--Reservoir is formed by earthfill dam, completed about 1905. Capacity, 871,000,000 gal, elevation, 95.00 ft at top of Bascule gates, revised. Flow is regulated by two Bascule gates and one 36-inch gate in center of dam. Water is released for diversion at New Milford by Hackensack Water Co., for municipal supply.
COOPERATION.--Records provided by Hackensack Water Company.

01378480 ORADELL RESERVOIR.--Lat 40°57', long 74°02', Bergen County, Hydrologic Unit 02030103, at dam on Hackensack River at Oradell. DRAINAGE AREA, 113 mi^2. PERIOD OF RECORD, December 1922 to current year. Monthend contents only, prior to September 1953, published in WSP 1302, 1722. REVISED RECORDS.--WDR NJ-84-1: Spillway elevation. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.
REMARKS.--Reservoir is formed by hollow concrete dam, completed in 1922. Capacity at spillway level, 3,507,000,000 gal, revised, elevation, 23.16 ft. Flow regulated by seven sluice gates (7 by 9 ft). Water is released for diversion by Hackensack Water Co., 1 mi downstream from dam for municipal supply.
COOPERATION.--Records provided by Hackensack Water Company.

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

Date	Elevation (feet)†	Contents (million gallons)	Change in contents (equivalent in ft^3/s)	Elevation (feet)†	Contents (million gallons)	Change in contents (equivalent in ft^3/s)
	01376700 DE FOREST LAKE			01376950 LAKE TAPPAN		
Sept. 30.....	84.00	5,347	-	52.80	3,087	-
Oct. 31.....	84.74	5,585	+11.9	53.07	3,178	+4.5
Nov. 30.....	85.19	5,732	+7.6	53.37	3,348	+8.8
Dec. 31.....	85.03	5,680	-2.6	54.23	3,578	+11.5
CAL YR 1987			-.10			-1.5
Jan. 31.....	85.10	5,703	+1.1	53.00	3,154	-21.2
Feb. 29.....	85.18	5,729	+1.4	55.20	3,924	+41.1
Mar. 31.....	85.13	5,713	-.80	55.20	3,924	0
Apr. 30.....	85.11	5,706	-.36	54.67	3,734	-9.8
May 31.....	85.10	5,703	-.15	55.14	3,902	+8.4
June 30.....	83.59	5,216	-25.1	52.63	3,031	-44.9
July 31.....	83.25	5,108	-5.4	51.45	2,648	-19.1
Aug. 31.....	81.63	4,608	-25.0	49.00	1,919	-36.4
Sept. 30.....	80.06	4,135	-24.4	49.62	2,095	+9.1
WTR YR 1988	-	-	-5.1	-	-	-4.2

Date	Elevation (feet)†	Contents (million gallons)	Change in contents (equivalent in ft^3/s)	Elevation (feet)†	Contents (million gallons)	Change in contents (equivalent in ft^3/s)
	01377450 WOODCLIFF LAKE			01378480 ORADELL RESERVOIR		
Sept. 30.....	94.63	850	-	21.14	2,979	-
Oct. 31.....	92.18	715	-6.7	20.56	2,836	-7.1
Nov. 30.....	85.16	372	-17.7	20.35	2,785	-2.6
Dec. 31.....	85.08	369	+.15	18.72	3,400	+30.7
CAL YR 1987			-2.1			+.6
Jan. 31.....	88.23	512	+7.1	18.52	2,355	-52.1
Feb. 28.....	91.07	656	+7.7	22.85	3,422	+56.9
Mar. 31.....	91.06	655	-.05	20.78	2,890	-26.5
Apr. 30.....	91.02	653	-.10	19.81	2,665	-12.1
May 31.....	95.19	881	+11.4	22.94	3,446	+39.5
June 30.....	94.48	842	-2.0	18.62	2,378	-55.1
July 31.....	95.00	871	+1.4	22.54	3,339	+48.0
Aug. 31.....	95.04	873	+.10	19.66	2,620	-35.9
Sept. 30.....	91.63	685	-9.7	18.66	2,387	-12.0
WR YR 1988	-	-	-.70	-	-	-2.5

† Elevation at 2400 of the last day of each month.

DIVERSIONS INTO AND FROM HACKENSACK RIVER BASIN

01376272 Hackensack Water Co., diverts water from Sparkill Creek (Hudson River basin) at foot of Danny Lane in Northvale, 300 ft south of New York-New Jersey state line and 0.6 mi upstream of Sparkill Brook. Water is diverted into Oradell Reservoir on the Hackensack River, for municipal supply. Records provided by Hackensack Water Co.

01376699 Spring Valley Water Co., diverts water at De Forest Lake for municipal supply in Rockland County, NY. Records provided by Spring Valley Water Co.

01376810 Village of Nyack, NY, diverts water from Hackensack River 100 ft downstream from gaging station on Hackensack River at West Nyack, NY (station 01376800, measured flow includes diversions) for municipal supply. Records provided by Board of Water Commissioners of Nyack, NY.

01378490 Hackensack Water Co., diverts water for municipal supply from Oradell Reservoir at Haworth pumping station 2.0 mi upstream from gaging station on Hackensack River at New Milford and from Hackensack River, at New Milford pumping station about 50 ft above gaging station on Hackensack River at New Milford, NJ (station 01378500). Records provided by Hackensack Water Co.

01378520 Hackensack Water Co., diverts water from Hirshfeld Brook, a tributary of the Hackensack River, below the gaging station on Hackensack River at New Milford, NJ, for municipal supply. Records provided by Hackensack Water Co.

01387991 Hackensack Water Co., diverts water from the Ramapo River (Passaic River basin) by pumping from Pompton Lake above the gaging station into Oradell Reservoir on the Hackensack River, for municipal supply. Pumping began Feb. 14, 1985. Records provided by Hackensack Water Co.

01391210 Hackensack Water Co., diverts water from Saddle River (Passaic River basin) just north of bridge on State Route 4 at Arcola. Water is diverted into Oradell Reservoir on the Hackensack River, for municipal supply. Records provided by Hackensack Water Co.

DIVERSIONS, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

MONTH	01376699 SPRING VALLEY WATER CO.	01376810 WEST NYACK, NY	01378490 HACKENSACK WATER CO.
October	2.53	3.05	150
November	0	3.00	142
December	0	2.93	144
CAL YR 1987	5.33	2.94	155
January	0	3.10	149
February	0	2.73	148
March	0	2.57	145
April	0	2.54	142
May	6.21	2.71	151
June	12.6	2.95	192
July	17.1	3.05	189
August	15.9	3.09	193
September	12.5	2.83	164
WTR YR 1988	5.59	2.88	159

The following are diversions by pumpage from sources other than the Hackensack River into Oradell Reservoir. These figures are included in diversions from Hackensack River as noted above (station 01378490).

MONTH	01376272 SPARKILL CREEK (HUDSON RIVER BASIN)	01378520 HIRSHFELD BROOK (HACKENSACK RIVER BASIN)	01387991 RAMAPO RIVER (PASSAIC RIVER BASIN)	01391210 SADDLE RIVER (PASSAIC RIVER BASIN)	WELLS TO SURFACE SUPPLY
October	0	0	0	0	0.13
November	0	0	0	0	.09
December	0	0	0	0	.03
CAL YR 1987	0	0.23	11.2	1.39	0.13
January	0	0	0	0	0
February	0	0	0	0	.01
March	0	0	0	0	.15
April	0	0	14.3	.75	.34
May	0	0	33.8	4.48	.49
June	0	0	24.4	1.57	.50
July	0	0	42.3	2.14	.99
August	0	0	56.6	1.40	.52
September	0	0	61.6	.45	.51
WTR YR 1988	0	0	12.6	0.91	0.31

01379000 PASSAIC RIVER NEAR MILLINGTON, NJ

LOCATION.--Lat 40°40'48", long 74°31'45", Somerset County, Hydrologic Unit 02030103, on right bank 200 ft downstream from Davis Bridge on Maple Avenue, 0.7 mi northwest of Millington, and 1.8 mi downstream from Black Brook.

DRAINAGE AREA.--55.4 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1903 to June 1906 (published as "at Millington"), October 1921 to current year. Monthly discharge only for some periods published in WSP 1302.

REVISED RECORDS.--WSP 781: Drainage area. WSP 1552: 1905(M).

GAGE.--Water-stage recorder, crest-stage gage, and concrete-block control. Datum of gage is 215.60 ft above National Geodetic Vertical Datum of 1929 (levels from New Jersey Geological Survey bench mark). Nov. 25, 1903 to July 15, 1906, nonrecording gage at bridge 0.8 mi downstream at different datum. Nov. 10, 1921 to Sept. 1, 1923, nonrecording gage at site 200 ft downstream at present datum. Oct. 31, 1923 to July 3, 1925, nonrecording gage and concrete control at present site and datum.

REMARKS.--Records good. Diversion from Osborn Pond by Commonwealth Water Co., Bernards Division, was discontinued in April 1979 and the installation dismantled. Several measurements of water temperature, other than those published, were made during the year. Satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	162	255	e32	63	93	78	75	73	14	140	26
2	26	120	193	e30	152	89	72	63	67	14	96	24
3	28	96	152	e28	258	96	66	56	58	14	66	21
4	70	79	122	e26	304	145	65	49	57	14	49	33
5	74	68	104	e25	326	271	63	46	54	14	38	86
6	56	56	86	e23	239	230	57	70	46	15	31	51
7	66	48	73	e22	172	191	57	86	39	13	26	40
8	72	47	65	e20	107	160	68	68	35	12	21	35
9	53	44	60	e18	88	141	63	57	35	12	18	30
10	48	67	57	e18	81	133	57	50	37	12	17	25
11	44	175	55	e19	75	116	52	58	32	12	16	21
12	42	184	54	e20	59	102	49	77	30	13	15	18
13	37	170	53	e20	63	91	47	62	27	14	15	44
14	34	152	48	e19	63	83	47	60	25	12	14	62
15	32	128	66	e18	66	77	46	51	24	11	13	38
16	32	105	147	e17	117	73	48	43	22	11	12	36
17	29	91	129	e18	163	71	46	42	22	15	11	33
18	29	86	110	e22	182	67	45	61	22	20	11	36
19	28	78	96	36	197	66	50	169	21	15	10	30
20	26	68	98	89	403	59	45	271	20	39	10	26
21	28	61	112	208	482	54	42	267	19	90	10	24
22	31	46	98	215	427	49	38	223	18	129	9.8	21
23	28	42	88	175	274	48	35	202	17	122	9.6	19
24	26	47	78	120	226	47	37	319	16	210	29	18
25	26	48	72	95	175	47	35	391	16	228	52	17
26	25	46	69	80	141	82	32	437	16	233	32	17
27	27	43	64	71	119	203	30	341	15	539	26	16
28	297	41	58	55	100	174	106	264	15	499	23	16
29	335	53	50	42	97	138	99	184	14	378	25	15
30	253	230	42	39	---	110	86	127	14	296	59	15
31	214	---	34	41	---	89	---	93	---	212	35	---
MEAN	69.3	89.4	89.9	53.6	180	110	55.4	141	30.2	104	30.3	29.8
MAX	335	230	255	215	482	271	106	437	73	539	140	86
MIN	25	41	34	17	59	47	30	42	14	11	9.6	15
IN.	1.44	1.80	1.87	1.12	3.50	2.28	1.12	2.93	.61	2.17	.63	.60

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	42.6	84.8	104	112	132	188	146	89.5	55.5	45.8	51.5	51.8
MAX	170	340	335	463	380	430	420	222	292	307	398	380
(WY)	1956	1933	1984	1905	1904	1936	1983	1947	1972	1975	1942	1971
MIN	3.56	7.47	8.18	6.78	26.1	64.2	25.9	20.3	3.95	1.25	1.37	.73
(WY)	1964	1966	1966	1981	1934	1981	1985	1965	1965	1965	1966	1964

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	81.7		90.5	Unadjusted
HIGHEST ANNUAL MEAN			163	1984
LOWEST ANNUAL MEAN			32.3	1965
HIGHEST DAILY MEAN	539	Jul 27	1800	Jan 8 1905
LOWEST DAILY MEAN	9.6	Aug 23	.3	Sep 13 1966
INSTANTANEOUS PEAK FLOW	640	Jul 27	2000a	Jan 9 1905
INSTANTANEOUS PEAK STAGE	7.00	Jul 27	9.73	Aug 29 1971
INSTANTANEOUS LOW FLOW	9.3	Aug 22	.2	Sep 12 1966
ANNUAL RUNOFF (INCHES)	20.07		22.18	
10 PERCENTILE	199		224	
50 PERCENTILE	52		47	
95 PERCENTILE	14		4.9	

a From rating curve extended above 140 ft^3/s on basis of velocity-area study
e Estimated

01379000 PASSAIC RIVER NEAR MILLINGTON, NJ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1923-25, 1962 to current year.

COOPERATION.--Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1987 15...	1115	31	243	7.4	8.0	9.0	76	1.5	20	110
FEB 1988 22...	1030	511	190	6.7	0.0	10.2	70	1.2	17	170
APR 18...	0910	44	262	7.7	11.5	10.5	99	1.2	22	540
MAY 25...	0945	381	157	6.9	19.0	4.4	49	3.6	3500	16000
JUL 05...	1100	14	267	7.6	20.5	6.4	70	2.4	220	130
AUG 16...	1215	12	250	7.6	27.5	4.5	57	7.2	110	80

DATE	HARD-NESS TOTAL (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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (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)
OCT 1987 15...	75	18	7.3	19	2.6	54	22	28	0.1
FEB 1988 22...	44	11	4.0	17	1.8	25	16	28	0.2
APR 18...	75	18	7.2	21	2.1	60	22	32	0.2
MAY 25...	50	12	4.8	11	1.5	37	26	15	0.2
JUL 05...	77	19	7.2	22	1.0	64	25	23	0.3
AUG 16...	84	21	7.6	17	1.5	64	18	26	0.1

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1987 15...	14	143	0.006	0.23	0.48	0.99	1.2	0.126	--
FEB 1988 22...	6.3	99	0.006	0.29	--	--	--	0.036	6.9
APR 18...	4.9	143	0.010	0.42	0.01	0.70	1.1	0.099	6.2
MAY 25...	9.1	102	E0.013	0.19	<0.05	1.0	1.2	0.275	16
JUL 05...	16	152	0.025	1.04	0.08	0.50	1.5	0.119	4.3
AUG 16...	20	150	0.016	0.07	0.07	1.1	1.1	0.421	11

01379000 PASSAIC RIVER NEAR MILLINGTON, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	NITRO-GEN,NH4 + ORG. TOT IN BOT MAT (MG/KG AS N)	CARBON, INOR-GANIC, TOT IN BOT MAT (G/KG AS C)	CARBON, INORG + ORGANIC TOT. IN BOT MAT (MG/KG AS C)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC TOTAL IN BOT-TOM MA-TERIAL (UG/G AS AS)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE)	BORON, TOTAL RECOV-ERABLE (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM RECOV. FM BOT-TOM MA-TERIAL (UG/G AS CD)
OCT 1987 15...	1115	--	380	1.1	18	--	--	10	--	--	--	<1
MAY 1988 25...	0945	<0.5	--	--	--	40	1	--	<10	50	2	--

DATE	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, RECOV. FM BOT-TOM MA-TERIAL (UG/G)	COBALT, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, RECOV. FM BOT-TOM MA-TERIAL (UG/G)
OCT 1987 15...	--	10	<50	--	50	--	14000	--	180	--	9500
MAY 1988 25...	<1	--	--	12	--	1900	--	6	--	100	--

DATE	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY RECOV. FM BOT-TOM MA-TERIAL (UG/G AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	NICKEL, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, TOTAL IN BOT-TOM MA-TERIAL (UG/G)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS ZN)	PHENOLS TOTAL (UG/L)	PCB, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	PCN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)
OCT 1987 15...	--	<0.10	--	10	--	<1	--	960	--	<1	<1.0
MAY 1988 25...	<0.10	--	4	--	<1	--	20	--	1	--	--

DATE	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)	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)
OCT 1987 15...	0.2	15	15	20	410	0.3	0.7	<0.1	<0.1	<0.1	<0.1
MAY 1988 25...	--	--	--	--	--	--	--	--	--	--	--

DATE	HEPTA-CHLOR EPOXIDE TOT. IN BOTTOM MATL. (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 BOTTOM MATL. (UG/KG)	METHYL PARA-THION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRI-THION, TOT. IN BOTTOM MATL. (UG/KG)	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)	TOXA-PHENE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	TRI-THION, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)
OCT 1987 15...	0.7	<0.1	<0.1	<3.0	<0.1	<0.1	0.1	<0.1	<1.00	<10	<0.1
MAY 1988 25...	--	--	--	--	--	--	--	--	--	--	--

01379500 PASSAIC RIVER NEAR CHATHAM, NJ

LOCATION.--Lat 40°43'31", long 74°23'23", Morris County, Hydrologic Unit 02030103, on left bank 150 ft downstream from Stanley Avenue bridge in Chatham, and 3.0 mi upstream from Canoe Brook.

DRAINAGE AREA.--100 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1903 to December 1911, October 1937 to current year. Monthly discharge only for some periods, published in WSP 1302.

REVISED RECORDS.--WDR NJ-86-1: 1984 (M).

GAGE.--Water-stage recorder. Concrete control since Sept. 19, 1938. Datum of gage is 193.51 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 31, 1911, nonrecording gage at bridge 150 ft upstream at different datum.

REMARKS.--Records good except for estimated daily discharges, which are fair. Diversion from Osborn Pond by Commonwealth Water Co., Bernards Division, during water years 1903-79. Several measurements of water-temperature, other than those published, were made during the year. Satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	52	320	505	65	167	160	131	134	139	28	296	56
2	48	213	453	e64	366	148	118	112	121	26	175	44
3	59	152	327	e56	475	150	108	98	106	26	120	40
4	179	120	234	e57	571	285	102	87	101	24	89	90
5	142	101	179	e54	591	499	103	88	91	24	70	191
6	99	85	142	e49	e505	482	94	138	82	31	57	131
7	106	71	116	e43	e430	396	91	180	72	30	47	77
8	113	64	102	e41	e270	305	103	138	63	26	41	61
9	91	62	93	e45	e180	248	99	106	63	25	40	53
10	72	122	88	e44	159	224	87	92	62	24	35	46
11	66	390	91	e43	138	200	77	131	58	23	32	39
12	63	407	88	e44	107	170	71	152	53	26	30	35
13	58	346	84	e47	167	154	67	123	49	26	30	108
14	52	275	76	e45	222	141	62	122	47	25	28	125
15	49	219	149	e58	176	128	61	104	43	23	27	84
16	47	171	331	e62	381	116	65	85	42	22	26	59
17	46	141	269	e61	426	110	60	81	47	53	24	57
18	44	131	192	e63	381	105	61	171	42	45	23	60
19	43	124	153	e87	383	100	71	446	39	34	24	56
20	43	107	170	285	636	97	68	518	37	181	22	49
21	46	95	207	423	711	88	61	498	37	311	21	44
22	45	78	172	430	667	80	57	434	36	488	21	41
23	44	64	145	475	576	74	52	428	35	312	22	37
24	41	58	126	369	475	74	53	560	33	406	103	33
25	38	80	112	210	366	73	52	745	30	413	166	32
26	37	70	111	183	255	163	51	722	33	636	95	31
27	51	64	106	e150	212	408	48	653	31	758	53	31
28	575	61	93	e125	178	369	259	534	31	739	44	31
29	586	93	86	e110	166	261	235	422	30	661	63	29
30	548	424	82	e85	---	195	163	281	28	545	111	28
31	439	---	132	86	---	156	---	181	---	434	92	---
MEAN	127	157	168	128	356	199	91.0	276	56.0	207	65.4	59.9
MAX	586	424	505	475	711	499	259	745	139	758	296	191
MIN	37	58	76	41	107	73	48	81	28	22	21	28
IN.	1.46	1.75	1.94	1.47	3.85	2.29	1.02	3.19	.63	2.39	.75	.67

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	82.4	154	202	225	243	344	266	168	111	83.9	97.5	94.5
MAX	576	590	655	734	493	700	711	414	533	540	664	713
(WY)	1904	1973	1984	1979	1908	1907	1983	1947	1972	1975	1942	1971
MIN	8.05	13.6	32.3	21.5	63.2	94.5	54.3	7.52	13.6	7.74	7.35	4.70
(WY)	1965	1950	1940	1981	1980	1911	1985	1903	1965	1966	1957	1906

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	157		171	
HIGHEST ANNUAL MEAN			305	Unadjusted 1984
LOWEST ANNUAL MEAN			67.7	1965
HIGHEST DAILY MEAN	758	Jul 27	2990	Jan 9 1905
LOWEST DAILY MEAN	21	Aug 21	2	May 15 1903
INSTANTANEOUS PEAK FLOW	1220	Jul 26	3380	Aug 2 1973
INSTANTANEOUS PEAK STAGE	6.07	Jul 26	9.36a	Aug 2 1973
INSTANTANEOUS LOW FLOW	20	Aug 22	---	
ANNUAL RUNOFF (INCHES)	21.3		23.2	
10 PERCENTILE	425		461	
50 PERCENTILE	92		82	
95 PERCENTILE	27		9.7	

a From floodmark
e Estimated

01379500 PASSAIC RIVER NEAR CHATHAM, NJ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1962 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: October 1966 to September 1968.
SUSPENDED-SEDIMENT DISCHARGE: July 1963 to September 1968.

COOPERATION.--Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, EC BROTH (MPN)	STREPTOCOCCI FECAL (MPN)
OCT 1987										
14...	1045	52	412	7.6	10.0	9.1	80	5.1	1700	200
FEB 1988										
22...	1300	660	214	7.1	0.5	11.8	82	1.8	210	240
APR										
18...	1130	56	539	7.8	12.0	10.9	104	2.1	49	79
MAY										
25...	1205	811	199	6.9	17.5	5.7	61	4.8	>24000	>24000
JUL										
06...	1000	32	560	7.7	23.0	4.5	52	9.0	790	330
AUG										
22...	1200	20	585	7.7	20.5	6.5	72	6.3	1100	<200

DATE	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
OCT 1987									
14...	94	23	8.9	40	3.4	60	31	57	0.2
FEB 1988									
22...	49	12	4.7	21	1.8	26	17	36	0.2
APR									
18...	97	23	9.7	64	2.6	72	45	90	0.2
MAY									
25...	52	13	4.7	17	2.1	34	19	23	0.2
JUL									
06...	120	28	11	55	3.7	73	46	71	0.5
AUG									
22...	130	32	13	69	4.3	85	44	98	0.2

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1987									
14...	14	213	0.082	1.57	2.02	2.6	4.2	0.668	8.5
FEB 1988									
22...	8.3	117	0.019	0.65	--	--	--	0.100	6.4
APR									
18...	7.4	285	0.077	1.52	0.57	1.2	2.7	0.446	6.8
MAY									
25...	9.6	109	E0.033	0.66	0.16	1.1	1.7	0.323	15
JUL									
06...	15	274	E0.354	3.17	0.50	1.4	4.6	0.762	6.9
AUG									
22...	15	326	0.385	3.36	0.75	1.5	4.9	0.742	7.6

01379500 PASSAIC RIVER NEAR CHATHAM, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE)	BORON, TOTAL RECOV-ERABLE (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)
OCT 1987 14...	1045	<0.5	<10	5	<10	130	<1	<10	15

DATE	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
OCT 1987 14...	570	<5	50	0.20	2	1	10	3

01379700 ROCKAWAY RIVER AT BERKSHIRE VALLEY, NJ

LOCATION.--Lat 40°55'51", long 74°35'42", Morris County, Hydrologic Unit 02030103, on left bank 60 ft downstream from bridge on Berkshire Valley Road in Berkshire Valley, 2.7 mi upstream from Stephens Brook, and 3.8 mi northwest of Dover.

DRAINAGE AREA.--24.4 mi^2.

PERIOD OF RECORD.--Low-flow partial-record station water years 1960-72. May 1985 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 682.8 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Some regulation from lakes and reservoirs upstream. Several measurements of water temperature were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 11, 1936, reached a stage of 6.7 ft, present datum, discharge not determined. Flood of April 5, 1984, reached a stage of 9.05 ft, from floodmarks, discharge 1,290 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	72	151	36	40	54	58	40	59	e13	30	21
2	35	65	130	34	61	53	53	39	53	e13	33	20
3	37	61	103	e33	68	55	49	38	39	e13	32	19
4	72	57	87	e30	71	74	48	37	45	e13	29	28
5	85	51	76	e27	e72	89	48	38	44	e13	23	27
6	65	45	67	e25	e63	82	46	45	40	e13	19	16
7	60	42	62	e27	e57	77	46	42	30	e13	e16	15
8	59	41	60	30	56	79	47	39	30	e12	e15	26
9	49	40	55	32	55	82	44	37	27	e12	e14	27
10	43	48	51	e28	54	92	42	37	24	e11	e14	22
11	42	61	48	e27	52	94	41	44	23	e11	e14	15
12	41	62	47	29	66	87	40	41	24	e10	e15	12
13	39	59	45	e27	e54	86	39	39	25	e10	e14	21
14	36	60	43	e26	e51	83	38	41	25	e10	e14	27
15	35	63	52	e27	53	78	44	39	24	e9.9	e13	19
16	34	65	58	28	58	71	41	37	24	e9.7	e13	14
17	34	64	49	29	55	66	37	43	24	e9.6	e13	12
18	33	69	45	33	53	62	34	60	23	e15	e13	13
19	32	70	43	36	54	59	31	113	22	49	e12	22
20	31	69	48	47	91	56	29	181	26	61	e12	25
21	33	65	47	51	87	53	27	179	23	51	e12	24
22	34	57	44	47	76	50	29	155	18	36	e12	18
23	30	50	43	e43	70	50	28	130	15	31	e12	16
24	29	46	41	42	74	50	30	104	14	67	18	12
25	22	45	41	40	69	49	28	103	13	44	15	9.1
26	19	44	40	e44	62	63	27	107	14	54	11	8.9
27	21	43	38	e38	60	72	26	94	14	103	10	9.7
28	137	41	39	e34	58	75	48	78	13	105	9.2	10
29	163	48	39	e35	55	66	37	67	13	73	16	12
30	114	134	e36	36	---	58	37	63	14	49	23	12
31	85	---	36	35	---	53	---	61	---	32	21	---
MEAN	51.3	57.9	56.9	34.1	61.9	68.3	39.1	70.0	26.1	31.2	16.7	17.8
MAX	163	134	151	51	91	94	58	181	59	105	33	28
MIN	19	40	36	25	40	49	26	37	13	9.6	9.2	8.9
IN.	2.42	2.65	2.69	1.61	2.74	3.23	1.79	3.31	1.19	1.47	.79	.81

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	35.4	60.5	75.7	44.9	54.3	80.7	99.2	50.4	29.0	25.0	19.9	40.3
MAX	51.3	73.0	97.0	53.4	74.7	96.6	152	70.0	39.1	31.2	25.8	100
(WY)	1988	1986	1987	1986	1986	1986	1987	1988	1986	1988	1986	1987
MIN	16.0	50.5	56.9	34.1	26.4	68.3	39.1	41.1	19.4	15.8	16.7	15.1
(WY)	1987	1987	1988	1988	1987	1988	1988	1985	1987	1986	1988	1986

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	44.3		*****	
HIGHEST ANNUAL MEAN			56.0	1987
LOWEST ANNUAL MEAN			44.3	1988
HIGHEST DAILY MEAN	181	May 20	630	Sep 14 1987
LOWEST DAILY MEAN	8.9	Sep 26	6.7	Oct 16 1984
INSTANTANEOUS PEAK FLOW	190	May 20	744	Sep 14 1987
INSTANTANEOUS PEAK STAGE	5.36	May 20	7.23	Sep 14 1987
INSTANTANEOUS LOW FLOW	7.7	Sep 26	7.5	Jul 5 1987
ANNUAL RUNOFF (INCHES)	24.7		*****	
10 PERCENTILE	77		104	
50 PERCENTILE	40		39	
95 PERCENTILE	12		13	

***** Indicates not enough data, therefore statistic is not computed

e Estimated

01379773 GREEN POND BROOK AT PICATINNY ARSENAL, NJ

LOCATION.--Lat 40°57'34", long 74°32'24", Morris County, Hydrologic Unit 02030103, on left bank at Picatinny Arsenal, 500 ft upstream from Picatinny Lake, and 0.55 mi downstream from Burnt Meadow Brook.

DRAINAGE AREA.--7.65 mi^2.

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 712.54 ft above National Geodetic Vertical Datum of 1929 (U.S. Army, Picatinny Arsenal, bench mark).

REMARKS.--No estimated daily discharges. Records good. Some regulation by Lake Denmark and Green Pond. Several measurements of water temperature were made during the year. Satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	32	40	11	12	17	13	7.9	13	3.6	3.5	3.9
2	12	28	38	11	14	16	13	7.6	12	3.5	3.4	3.8
3	13	25	34	10	15	17	12	7.5	8.8	3.4	3.6	3.8
4	19	21	31	10	16	23	12	7.3	8.1	3.3	3.5	6.1
5	17	19	27	10	15	25	12	7.5	7.4	3.6	3.5	7.0
6	16	16	23	9.5	14	25	11	8.8	6.7	3.6	3.6	5.1
7	19	15	20	9.0	13	26	12	8.5	6.2	2.9	3.5	4.6
8	22	14	18	8.7	12	26	12	7.8	5.7	2.7	3.4	4.4
9	21	13	17	8.7	12	27	11	7.5	6.0	2.6	3.4	4.2
10	19	17	16	8.7	12	29	12	7.3	5.8	2.6	3.6	4.0
11	19	22	16	8.9	12	28	12	8.3	5.4	2.3	3.8	4.0
12	18	20	15	9.4	12	27	11	8.3	5.2	2.2	3.9	3.9
13	17	20	14	9.4	12	27	11	7.6	5.2	2.1	3.9	5.8
14	16	21	13	9.1	13	26	11	8.3	5.0	2.1	3.8	5.1
15	15	20	15	8.9	13	23	10	7.6	5.0	2.0	3.7	4.3
16	14	20	17	8.7	14	21	10	7.3	4.9	2.0	3.7	4.0
17	14	20	16	8.7	13	19	10	8.8	4.9	3.1	3.7	3.9
18	13	21	15	9.1	13	17	9.1	11	4.8	2.7	3.6	4.0
19	13	20	14	9.4	14	16	8.5	18	4.5	2.6	3.6	3.9
20	13	19	16	11	20	15	8.1	30	4.3	5.2	3.6	3.8
21	13	17	16	12	22	14	7.8	34	4.1	4.3	3.5	3.8
22	12	15	15	11	22	13	7.6	32	3.5	4.1	3.5	3.8
23	12	14	14	11	25	12	7.6	29	3.5	3.3	3.4	3.7
24	12	14	13	11	25	12	7.6	26	3.4	11	5.7	3.6
25	11	13	13	11	24	13	7.1	29	3.7	5.4	4.4	3.6
26	11	13	13	11	22	17	7.0	26	3.9	5.3	3.9	3.5
27	12	13	13	11	21	20	7.1	23	3.8	8.1	4.1	3.4
28	37	12	12	11	20	17	11	20	3.7	5.7	3.7	3.4
29	41	16	12	11	19	16	8.6	18	3.7	4.8	5.7	3.3
30	41	39	11	11	---	15	8.3	15	3.5	4.0	6.3	3.2
31	36	---	11	11	---	14	---	13	---	3.8	4.4	---
MEAN	18.1	19.0	18.0	10.0	16.2	19.8	10.0	14.8	5.52	3.80	3.90	4.16
MAX	41	39	40	12	25	29	13	34	13	11	6.3	7.0
MIN	11	12	11	8.7	12	12	7.0	7.3	3.4	2.0	3.4	3.2
IN.	2.73	2.77	2.71	1.51	2.29	2.98	1.46	2.23	.81	.57	.59	.61

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	7.00	11.7	20.6	12.8	17.1	25.0	33.1	15.5	10.3	9.28	6.10	7.77
MAX	18.1	19.0	40.8	17.5	22.6	49.5	64.1	28.6	16.8	32.6	12.3	24.7
(WY)	1988	1986	1984	1987	1984	1983	1983	1984	1984	1984	1986	1987
MIN	2.31	2.07	5.46	7.30	9.77	10.5	3.84	9.28	3.54	3.80	3.62	2.63
(WY)	1985	1985	1985	1985	1985	1985	1985	1985	1987	1988	1983	1983

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	11.9		14.7	
HIGHEST ANNUAL MEAN			21.4	1984
LOWEST ANNUAL MEAN			6.63	1985
HIGHEST DAILY MEAN	41	Oct 29	248	Apr 5 1984
LOWEST DAILY MEAN	2.0	Jul 15	1.3	Jun 26 1987
INSTANTANEOUS PEAK FLOW	57	Oct 28	333	Apr 5 1984
INSTANTANEOUS PEAK STAGE	2.27	Oct 28	3.51	Apr 5 1984
INSTANTANEOUS LOW FLOW	1.9	Jul 13	1.4	Jul 1 1988
ANNUAL RUNOFF (INCHES)	21.1		26.0	
10 PERCENTILE	23		33	
50 PERCENTILE	12		8.9	
95 PERCENTILE	3.4		2.1	

01379780 GREEN POND BROOK BELOW PICATINNY LAKE AT PICATINNY ARSENAL, NJ

LOCATION.--Lat 40°56'56", long 74°33'29", Morris County, Hydrologic Unit 02030103, on left bank 100 ft upstream from bridge on Whitmore Avenue at Picatinny Arsenal, and 200 ft downstream from dam on Picatinny Lake.

DRAINAGE AREA.--9.16 mi^2.

PERIOD OF RECORD.--October 1984 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 694.91 ft above National Geodetic Vertical Datum of 1929 (U.S. Army, Picatinny Arsenal, benchmark).

REMARKS.--Records fair except for estimated daily discharges, which are poor. Several measurements of water temperature were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of April 5, 1984 reached an elevation of 699.0 ft above NGVD, 200 ft upstream of bridge on Whitmore Avenue.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	39	51	13	e12	22	16	8.8	e12	1.4	4.3	3.0
2	12	33	51	e10	13	21	16	8.5	e12	1.3	4.6	3.0
3	10	28	44	e9.6	14	20	15	7.9	e13	1.3	4.9	3.1
4	12	32	39	e10.4	15	24	15	7.7	e9.9	1.3	5.3	3.1
5	12	29	32	e9.8	16	32	15	8.1	e8.4	1.3	5.3	3.4
6	13	26	28	e9.6	16	30	14	9.9	e8.5	1.4	5.5	3.7
7	13	23	25	e9.8	15	29	14	11	e8.4	1.3	5.5	3.7
8	14	21	22	e9.8	16	29	14	9.2	e7.5	1.4	5.5	3.8
9	15	14	21	e9.6	14	29	14	8.6	7.4	1.6	5.6	4.1
10	15	8.9	19	e9.8	14	33	13	8.4	7.4	1.7	5.7	4.3
11	16	9.6	19	e10.1	14	34	9.9	10	7.4	1.8	5.8	4.3
12	17	11	18	e10.2	14	32	7.2	11	7.4	1.9	5.7	4.3
13	18	17	16	e10.1	14	31	7.6	9.7	7.3	1.6	5.6	4.5
14	20	23	15	e9.7	14	30	8.1	10	6.9	1.6	5.6	4.5
15	21	23	23	e9.4	14	26	9.7	9.5	7.1	1.5	5.5	3.7
16	20	22	27	e8.6	15	25	11	8.8	7.2	1.4	5.0	3.4
17	18	27	26	e8.3	15	24	11	11	6.9	1.6	4.5	3.5
18	17	28	25	e9.6	15	14	10	16	6.5	1.7	3.8	3.6
19	16	26	23	e10.2	15	6.1	9.6	31	6.4	1.6	3.7	3.4
20	15	25	23	e14.5	17	6.4	8.9	42	6.1	1.8	3.7	3.6
21	15	24	22	e13.3	22	8.3	8.2	44	6.0	1.9	3.8	3.4
22	14	23	21	e12.2	29	10	7.7	42	5.5	2.0	4.0	3.3
23	13	21	20	e11	30	11	7.4	39	5.0	2.0	4.0	3.4
24	13	20	19	e11	30	12	7.5	36	4.5	2.6	4.0	3.4
25	12	19	19	e11	27	11	7.4	e43	2.9	3.0	4.2	3.2
26	12	17	18	e11	25	17	7.4	e33	1.7	3.2	4.3	3.1
27	11	9.8	17	e10	26	22	7.4	e27	1.4	3.3	4.5	3.0
28	12	5.0	17	e11	25	20	9.5	e24	1.5	3.2	4.6	2.8
29	26	5.1	16	e10	23	21	9.5	e22	1.5	3.4	4.0	2.5
30	48	23	14	e10	---	19	9.5	e20	1.4	3.6	2.8	2.4
31	45	---	13	e10	---	17	---	e17	---	3.9	2.8	---
MEAN	17.1	21.1	24.0	10.4	18.2	21.5	10.7	19.2	6.50	2.02	4.65	3.48
MAX	48	39	51	14	30	34	16	44	13	3.9	5.8	4.5
MIN	10	5.0	13	8.3	12	6.1	7.2	7.7	1.4	1.3	2.8	2.4
IN.	2.16	2.57	3.02	1.31	2.15	2.70	1.30	2.41	.79	.25	.59	.42

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	7.91	16.1	23.0	13.6	16.1	20.0	23.5	12.8	7.98	4.18	6.78	13.1
MAX	17.1	22.3	43.1	20.5	24.7	28.6	50.2	19.2	12.3	6.85	11.7	36.7
(WY)	1988	1987	1987	1987	1986	1986	1987	1988	1985	1985	1986	1987
MIN	.714	.275	5.28	6.98	9.93	10.6	2.48	9.64	2.23	2.02	4.65	3.48
(WY)	1985	1985	1985	1985	1985	1985	1985	1985	1987	1988	1988	1988

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	13.2		*****	
HIGHEST ANNUAL MEAN			19.3	1987
LOWEST ANNUAL MEAN			6.35	1985
HIGHEST DAILY MEAN	51	Dec 1	173	Sep 14 1987
LOWEST DAILY MEAN	1.3	Jul 2	.20	Nov 20 1984
INSTANTANEOUS PEAK FLOW	54	Dec 1	309	Sep 13 1987
INSTANTANEOUS PEAK STAGE	2.90	Dec 1	3.70	Sep 13 1987
INSTANTANEOUS LOW FLOW	1.0	Jul 4	---	
ANNUAL RUNOFF (INCHES)	19.6		*****	
10 PERCENTILE	28		31	
50 PERCENTILE	11		8.3	
95 PERCENTILE	1.6		1.0	

e Estimated
***** Indicates not enough data, therefore statistic is not computed

01379790 GREEN POND BROOK AT WHARTON, NJ

LOCATION.--Lat 40°55'04", long 74°35'02", Morris County, Hydrologic Unit 02030103, on left bank 600 ft upstream from bridge on northbound lane of State Route 15, 0.2 mi northwest of Wharton, and 1.7 mi upstream from mouth.

DRAINAGE AREA.--12.6 mi^2.

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 680.26 ft, revised, above National Geodetic Vertical Datum of 1929 (U.S. Army, Picatinny Arsenal, bench mark).

REMARKS.--Records good except for estimated daily discharges, which are fair. Some regulation from Lake Picatinny, Picatinny Arsenal sewage treatment plant, and flood gates located about 800 ft upstream of gage. Several measurements of water temperature were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	43	63	18	21	30	e26	e17	20	4.9	8.8	6.8
2	17	38	60	17	31	29	e25	e16	21	4.7	8.9	6.6
3	18	34	53	16	28	31	e24	e16	19	4.4	8.8	6.2
4	33	36	48	17	33	48	e24	14	17	4.4	8.8	12
5	23	34	41	16	27	52	e24	15	16	4.4	8.8	12
6	20	30	36	15	23	44	e22	21	16	4.7	8.7	8.7
7	24	28	32	15	22	43	e24	19	15	4.6	8.6	7.8
8	21	27	30	15	22	42	e24	16	14	4.5	8.5	6.6
9	21	23	25	15	21	42	e22	15	15	4.4	8.4	6.8
10	21	22	25	15	21	46	e23	15	14	4.8	8.5	6.5
11	22	25	24	15	21	43	e20	21	13	4.7	8.5	6.7
12	22	22	24	15	22	41	e16	19	13	4.8	8.4	7.2
13	23	28	22	15	22	41	e16	18	13	4.9	8.2	13
14	24	34	20	14	21	39	e17	19	13	4.5	8.0	9.3
15	25	34	33	14	22	36	e18	16	13	4.4	8.1	8.0
16	24	31	40	13	28	33	e19	15	12	4.2	7.7	7.1
17	23	34	33	13	25	32	e19	23	12	7.3	7.2	7.3
18	21	39	30	16	25	25	e17	33	11	5.8	6.8	7.5
19	20	34	28	17	25	e18	e16	60	11	5.0	6.2	7.3
20	20	33	31	26	52	e16	e15	67	11	12	6.2	7.3
21	20	30	29	23	38	e17	e15	56	10	11	6.4	7.2
22	19	29	27	21	40	e19	e15	53	9.9	10	6.5	7.1
23	17	27	26	19	43	e20	e14	50	9.4	7.3	6.7	7.0
24	17	27	24	18	42	e21	e15	46	8.6	31	12	6.7
25	17	26	23	19	38	e22	e14	63	7.4	12	9.0	6.6
26	16	24	23	19	33	e31	e14	46	5.5	13	7.5	6.4
27	17	19	22	18	34	e37	e14	38	5.0	22	8.8	6.5
28	64	12	21	18	33	e31	e23	34	5.0	13	7.7	6.4
29	36	21	21	17	31	e30	e16	31	5.0	10	12	5.9
30	50	67	19	17	---	e28	e17	29	4.9	9.2	13	5.6
31	49	---	17	17	---	e26	---	26	---	8.8	8.0	---
MEAN	24.7	30.4	30.6	16.9	29.1	32.7	18.9	29.9	12.0	8.09	8.38	7.54
MAX	64	67	63	26	52	52	26	67	21	31	13	13
MIN	16	12	17	13	21	16	14	14	4.9	4.2	6.2	5.6
IN.	2.26	2.69	2.80	1.54	2.49	2.99	1.68	2.74	1.06	.74	.77	.67

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	11.0	21.1	36.1	23.2	30.8	44.9	60.8	30.1	19.4	18.1	11.6	15.9
MAX	24.7	34.3	71.2	29.9	41.9	89.2	112	57.4	32.5	61.4	20.1	54.0
(WY)	1988	1986	1984	1987	1984	1983	1983	1984	1984	1984	1986	1987
MIN	4.54	4.23	11.7	11.3	17.3	17.8	8.96	16.9	6.65	7.72	7.68	4.73
(WY)	1985	1985	1985	1985	1985	1985	1985	1986	1987	1983	1983	1983

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	20.8		26.8	
HIGHEST ANNUAL MEAN			40.6	1984
LOWEST ANNUAL MEAN			12.5	1985
HIGHEST DAILY MEAN	67	Nov 30	512	Apr 6 1984
LOWEST DAILY MEAN	4.2	Jul 16	2.8	Nov 25 1984
INSTANTANEOUS PEAK FLOW	97	Oct 28	572	Apr 5 1984
INSTANTANEOUS PEAK STAGE	3.37	Oct 28	5.11	Apr 5 1984
INSTANTANEOUS LOW FLOW	4.1	Jul 5	2.4	Sep 29 1983
ANNUAL RUNOFF (INCHES)	22.4		28.9	
10 PERCENTILE	38		58	
50 PERCENTILE	19		17	
95 PERCENTILE	4.9		4.4	

e Estimated

01380500 ROCKAWAY RIVER ABOVE RESERVOIR, AT BOONTON, NJ

LOCATION.--Lat 40°54'06", long 74°24'40", Morris County, Hydrologic Unit 02030103, on right bank, under CONRAIL railroad bridge, just downstream of bridge on Morris Avenue in Boonton, 1.8 mi upstream from dam at Boonton Reservoir.

DRAINAGE AREA.--116 mi^2.

PERIOD OF RECORD.--October 1937 to current year. Monthly discharge only for October 1937, published in WSP 1302.

REVISED RECORDS.--WRD-NJ 1974: 1938(M). WDR NJ-78-1: 1949(M), 1952(M), 1968(M), 1971(M), 1973(P), 1974(M), 1977(M).

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Datum of gage is 364.47 ft above National Geodetic Vertical Datum of 1929 (levels from New Jersey Geological Survey bench mark).

REMARKS.--Records good except for estimated daily discharges, which are fair. Flow regulated by Splitrock Reservoir on Beaver Brook, 14.5 mi above station (see Passaic River basin, reservoirs in). Town of Boonton diverts water for municipal supply from Taylortown Reservoir on Stony Brook, capacity, 75,000,000 gal and by pumping from wells in vicinity of Boonton. The mean diversion during the water year from Taylortown Reservoir was 0.92 ft^3/s. Rockaway Valley trunk sewer bypasses the station (see station 01381000). Several measurements of water temperature were made during the year. Satellite telemeter at station.

COOPERATION.--Gage-height record collected in cooperation with Jersey City, Bureau of Water.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	144	317	717	e153	e230	255	209	187	202	35	116	100
2	122	276	495	e150	e339	240	219	171	226	37	106	77
3	118	247	409	e157	e406	257	201	162	181	36	101	66
4	344	217	338	e138	e482	420	197	152	168	36	95	134
5	303	207	307	e145	e435	590	191	154	166	34	88	281
6	246	183	269	e137	e337	441	182	284	149	36	79	138
7	263	169	243	e126	e307	379	186	285	129	36	71	89
8	230	163	230	e121	e285	367	218	205	117	33	61	72
9	194	162	222	e116	e260	355	189	172	129	31	55	74
10	159	221	211	e116	e247	379	173	169	124	32	53	71
11	153	385	204	e113	e215	357	164	220	106	31	52	61
12	153	309	198	e113	e237	326	152	248	97	30	51	54
13	139	301	194	e117	e239	316	146	188	93	30	49	131
14	131	302	180	e113	e232	306	143	197	91	28	47	123
15	129	287	244	e107	e212	285	146	172	85	27	45	88
16	123	265	439	e106	338	263	158	153	80	26	41	66
17	116	258	295	e104	303	247	142	196	86	63	38	58
18	114	287	221	e134	272	232	139	334	77	60	38	71
19	108	269	203	e173	268	210	142	748	71	36	37	64
20	105	254	239	e276	689	202	130	867	69	200	35	68
21	117	235	260	e437	592	189	126	702	70	274	34	72
22	116	194	221	e354	411	182	121	574	61	236	35	69
23	103	188	203	e296	385	185	120	508	54	136	34	60
24	99	185	189	e281	396	186	133	487	48	514	197	56
25	100	182	184	e244	351	182	124	549	47	353	184	51
26	93	175	186	e246	301	309	113	547	44	228	100	48
27	95	169	176	e236	287	454	113	413	40	553	109	44
28	1130	153	167	e201	279	328	408	335	39	341	84	43
29	793	177	e166	e190	265	268	272	284	37	237	106	41
30	482	881	e160	e189	---	240	213	249	35	177	353	38
31	383	---	e163	e188	---	218	---	224	---	139	153	---
MEAN	223	254	256	180	331	296	172	327	97.4	131	85.4	80.3
MAX	1130	881	717	437	689	590	408	867	226	553	353	281
MIN	93	153	160	104	212	182	113	152	35	26	34	38

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	121.1	222.2	276.1	259.5	279.8	397.0	397.7	267.2	179.5	131.6	120.1	123.1
MAX	522	694	706	855	590	798	979	518	847	553	447	484
(WY)	1956	1973	1974	1979	1973	1977	1983	1947	1972	1975	1955	1971
MIN	23.7	63.7	67.2	74.8	107	151	87.0	90.5	35.3	18.1	16.6	16.8
(WY)	1965	1962	1940	1981	1940	1985	1985	1965	1965	1966	1957	1964

01380500 ROCKAWAY RIVER ABOVE RESERVOIR, AT BOONTON, NJ--Continued

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	203		231	
HIGHEST ANNUAL MEAN			396	1952
LOWEST ANNUAL MEAN			88.3	1965
HIGHEST DAILY MEAN	1130	Oct 28	4220	Jan 25 1979
LOWEST DAILY MEAN	26	Jul 16	10	Aug 10 1966
INSTANTANEOUS PEAK FLOW	1430	Oct 28	5590	Apr 5 1984
INSTANTANEOUS PEAK STAGE	4.59	Oct 28	7.23	Apr 5 1984
INSTANTANEOUS LOW FLOW	26	Jul 15	---	
10 PERCENTILE	377		503	
50 PERCENTILE	177		156	
95 PERCENTILE	37		32	

e Estimated

01381000 ROCKAWAY RIVER BELOW RESERVOIR, AT BOONTON, NJ

LOCATION.--Lat 40°53'47", long 74°23'36", Morris County, Hydrologic Unit 02030103, on right bank 2,000 ft downstream from Boonton Reservoir Dam at Boonton, and 0.4 mi upstream at bridge on Greenback Road.

DRAINAGE AREA.--119 mi^2.

PERIOD OF RECORD.--March to December 1903; January, February 1904 (gage height only); January 1906 to September 1950 (monthly discharge only, published in WSP 1302) October 1950 to current year (figures of daily discharge for October 1950 to September 1954 published in Special Report 16 of New Jersey Department of Environmental Protection). Published as "near Boonton" 1903-4, and as "at Boonton" 1906-37.

REVISED RECORDS.--WSP 1902: 1951-54. WDR NJ-79-1: 1949(M), 1952(M), 1968(M), 1970-74(M), 1977(M).

GAGE.--Water-stage recorder. Concrete control since Nov. 5, 1936. Datum of gage is 195.68 ft above National Geodetic Vertical Datum of 1929 (levels from New Jersey Geological Survey bench mark). Mar. 15, 1903 to Feb. 2, 1904, nonrecording gage at site 1.9 mi downstream at different datum. Jan. 1, 1906 to Mar. 3, 1918, nonrecording gage on Boonton Dam 2,000 ft upstream at datum 305.25 ft National Geodetic Vertical Datum of 1929 (levels from New Jersey Geological Survey bench mark).

REMARKS.--Records good. Records represent flow in river only. Sewage effluent enters river about 600 ft below station (records given herein). Flow regulated by Boonton Reservoir (see Passaic River basin, reservoirs in) 2,000 ft above station, and by Splitrock Reservoir (see Passaic River basin, reservoirs in) 16.5 mi above station. Water diverted from Boonton Reservoir for municipal supply of Jersey City (see Passaic River basin, diversions). Several measurements of water temperature were made during the year. Satellite telemeter at station.

COOPERATION.--Gage-height record collected in cooperation with and record of sewage effluent furnished by Jersey City, Bureau of Water.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	65	293	871	77	101	176	136	138	161	12	32	11
2	58	240	548	76	221	162	141	111	159	12	15	11
3	37	202	400	60	369	165	132	103	118	12	15	11
4	188	162	314	72	372	284	126	92	96	12	15	13
5	256	140	261	53	372	537	113	91	104	12	13	12
6	195	110	215	30	250	442	107	184	75	12	12	11
7	192	92	178	28	168	339	106	239	57	12	11	11
8	176	87	162	34	168	299	63	175	39	12	11	11
9	135	81	152	43	146	286	10	123	41	12	11	e11
10	98	117	138	44	130	298	10	107	48	12	11	e11
11	83	300	130	37	126	292	10	137	31	12	11	e11
12	80	284	125	34	164	262	10	185	23	12	11	11
13	65	247	116	38	178	249	10	152	16	12	11	12
14	52	243	104	33	143	232	10	122	13	12	11	11
15	494	233	137	22	143	214	10	114	12	12	11	11
16	385	214	350	22	208	192	11	93	14	12	11	11
17	134	200	274	23	234	172	12	102	14	12	11	11
18	60	228	175	43	198	160	11	236	14	12	11	11
19	42	213	135	85	188	139	11	639	14	12	11	11
20	35	196	146	134	511	125	16	899	14	16	9.9	11
21	40	179	188	243	645	110	21	761	14	14	9.7	11
22	36	137	165	224	405	93	19	576	13	15	12	11
23	32	120	138	154	323	100	20	486	13	13	13	11
24	22	116	116	117	318	98	40	444	12	15	13	11
25	20	108	113	111	291	104	38	487	12	13	11	11
26	14	103	117	134	240	168	37	533	12	23	11	11
27	14	98	116	103	218	373	27	386	12	14	11	11
28	772	89	102	78	206	304	229	296	12	50	11	11
29	1060	98	96	71	190	217	264	239	12	135	13	11
30	553	665	68	69	---	175	177	203	12	103	11	11
31	382	---	57	69	---	151	---	175	---	60	11	---
MEAN	186	186	200	76.2	249	223	64.2	278	39.6	22.5	12.3	11.1
MAX	1060	665	871	243	645	537	264	899	161	135	32	13
MIN	14	81	57	22	101	93	10	91	12	12	9.7	11
(†)	12.3	12.6	12.7	9.8	13.6	13.2	11.8	13.0	11.6	11.7	11.3	11.4

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	40.1	90.3	164	150	172	272	295	171	93.1	52.7	41.4	48.7
MAX	408	483	582	692	499	654	978	439	671	445	243	346
(WY)	1956	1973	1984	1979	1973	1983	1983	1984	1972	1984	1967	1960
MIN	.23	.43	.35	.39	1.49	13.9	11.4	18.6	.40	.24	.29	.28
(WY)	1964	1966	1966	1966	1966	1981	1985	1955	1957	1966	1966	1957

01381000 ROCKAWAY RIVER BELOW RESERVOIR, AT BOONTON, NJ--Continued

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	129		132	Unadjusted
(†)	12.1			
ADJUSTED AVERAGE FLOW	141		139	
HIGHEST ANNUAL MEAN			296a	1952
LOWEST ANNUAL MEAN			7.19a	1965
HIGHEST DAILY MEAN	1060	Oct 29	3850	Oct 10 1903
LOWEST DAILY MEAN	9.7	Aug 21	0	Jan 19 1959
INSTANTANEOUS PEAK FLOW	1840	Oct 15	7560b	Oct 10 1903
INSTANTANEOUS PEAK STAGE	5.49	Oct 15	---	
INSTANTANEOUS LOW FLOW	7	Aug 18	0	Many days
10 PERCENTILE	295		364a	
50 PERCENTILE	92		32a	
95 PERCENTILE	11		.35a	

a Since 1950
b Maximum daily
e Estimated
† Sewage effuent, in cubic feet per second, from plant at Rockaway Valley Regional Sewage Authority.

01381200 ROCKAWAY RIVER AT PINE BROOK, NJ

LOCATION.--Lat 40°51'29", long 74°20'53", Morris County, Hydrologic Unit 02030103, at bridge on U.S. Route 46 at intersection with New Road in Pine Brook, and 1.1 mi upstream of mouth.

DRAINAGE AREA.--136 mi^2.

PERIOD OF RECORD.--Water years 1963 to current year.

COOPERATION.--Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, EC BROTH (MPN)	STREPTOCOCCI FECAL (MPN)
OCT 1987										
21...	1100	E60	311	7.5	14.0	8.0	78	2.7	5400	1700
MAR 1988										
08...	1125	E200	247	7.6	4.0	12.9	98	0.5	80	330
APR										
19...	1030	E28	437	7.7	9.0	12.6	111	0.9	80	20
JUN										
14...	1030	E31	435	7.7	20.0	7.0	77	1.8	2300	500
AUG										
02...	1030	E60	385	7.7	24.0	6.1	72	7.2	1300	2300
23...	0930	E31	463	8.0	19.0	6.8	73	--	500	330

DATE	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
OCT 1987									
21...	91	23	8.1	23	3.0	57	24	36	0.2
MAR 1988									
08...	63	16	5.6	25	1.4	37	17	43	0.2
APR									
19...	120	31	11	36	3.7	72	31	59	0.2
JUN									
14...	120	29	11	36	3.8	77	29	57	0.2
AUG									
02...	110	28	10	30	3.1	71	24	49	0.2
23...	130	31	12	39	4.6	78	29	62	0.2

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHOROUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1987									
21...	10	161	0.012	3.29	0.06	0.88	4.2	0.430	6.1
MAR 1988									
08...	8.8	139	0.013	0.87	--	--	--	0.058	3.2
APR									
19...	12	227	0.036	4.67	0.03	--	--	0.660	4.5
JUN									
14...	8.6	221	0.032	3.81	0.13	0.72	4.5	0.534	4.2
AUG									
02...	9.4	196	0.015	3.15	0.09	0.97	4.1	0.570	4.8
23...	12	237	0.026	4.57	0.09	0.92	5.5	1.06	4.8

01381200 ROCKAWAY RIVER AT PINE BROOK, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE)	BORON, TOTAL RECOV-ERABLE (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)
JUN 1988 14...	1030	<0.5	10	<1	<10	70	<1	<1	5

DATE	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
JUN 1988 14...	550	<5	110	<0.10	4	<1	10	3

01381500 WHIPPANY RIVER AT MORRISTOWN, NJ

LOCATION.--Lat 40°48'26", long 74°27'22" (revised), Morris County, Hydrologic Unit 02030103, on left bank at Morristown sewage-disposal plant, 0.8 mi downstream from Morristown, and 9.0 mi upstream from mouth.

DRAINAGE AREA.--29.4 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1921 to current year.

REVISED RECORDS.--WSP 781: Drainage area. WSP 1552: 1922-23(M), 1924, 1925-27(M) 1928-29, 1930-32(M), 1933-34. WRD-NJ 1974: 1965. WDR NJ-84-1: 1971(M).

GAGE.--Water-stage recorder and crest-stage gage. Concrete control since July 1, 1936. Datum of gage is 260.01 ft above National Geodetic Vertical Datum of 1929 (levels from New Jersey Geological Survey bench mark). Prior to July 16, 1930, nonrecording gage at same site and datum.

REMARKS.--Records good. Flow occasionally regulated by operation of gates in Pocahontas Dam, 2.5 mi above station. Several measurements of water temperature, other than those published, were made during the year. Satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	36	101	37	66	59	45	41	61	25	38	27
2	27	35	60	36	110	57	45	38	66	24	35	25
3	44	34	52	33	112	61	44	37	55	23	34	24
4	92	33	52	36	158	129	46	36	54	23	32	116
5	46	32	45	34	99	173	44	43	53	23	30	110
6	33	29	40	34	61	81	42	66	47	24	30	37
7	68	29	38	39	48	70	45	54	44	23	28	30
8	44	29	38	33	48	67	50	41	42	22	28	28
9	33	30	39	33	47	64	43	38	51	22	27	27
10	30	74	39	32	46	68	40	37	45	22	27	28
11	32	128	39	31	45	60	39	52	41	e20	26	24
12	31	63	39	32	51	54	38	45	38	e22	26	24
13	28	58	37	32	52	54	37	39	37	e23	25	92
14	27	51	36	31	44	55	37	41	35	e22	24	37
15	27	43	86	31	49	52	37	35	33	e28	24	27
16	27	39	128	31	92	47	37	34	32	e23	23	25
17	26	37	54	29	71	46	36	38	33	e36	23	28
18	26	52	45	53	63	44	38	95	32	e37	23	30
19	26	40	42	54	74	44	39	213	30	e25	21	26
20	26	38	58	111	304	44	36	219	30	e76	22	24
21	32	35	53	109	147	44	35	100	30	e64	22	27
22	28	32	45	66	75	42	34	75	29	e64	21	24
23	26	32	42	48	76	42	34	106	29	e31	21	23
24	26	34	39	41	85	43	36	180	27	e198	144	22
25	25	33	39	44	69	42	34	196	26	53	66	22
26	24	33	41	47	62	117	33	140	27	98	29	22
27	60	31	38	39	61	147	36	86	26	600	29	22
28	589	31	37	36	60	66	148	75	25	100	27	22
29	98	66	38	36	59	52	52	69	25	54	84	21
30	50	287	36	36	---	47	47	63	24	44	125	21
31	40	---	41	39	---	45	---	60	---	44	36	---
MEAN	55.6	50.8	48.9	42.7	80.5	65.0	43.6	77.2	37.6	61.1	37.1	33.8
MAX	589	287	128	111	304	173	148	219	66	600	144	116
MIN	24	29	36	29	44	42	33	34	24	20	21	21
IN.	2.18	1.93	1.92	1.67	2.95	2.55	1.65	3.03	1.43	2.40	1.46	1.28

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	30.3	44.1	53.3	56.7	64.6	86.0	87.0	63.5	45.0	38.0	35.0	33.9
MAX	89.7	132	158	211	147	215	231	151	214	186	158	123
(WY)	1956	1933	1984	1979	1973	1936	1983	1984	1972	1975	1942	1971
MIN	8.72	13.3	14.2	16.9	23.5	28.1	30.2	24.4	14.6	10.3	8.02	7.25
(WY)	1931	1937	1940	1922	1940	1981	1985	1941	1965	1965	1932	1932

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	52.8		53.0	
HIGHEST ANNUAL MEAN			98.5	1984
LOWEST ANNUAL MEAN			23.3	1965
HIGHEST DAILY MEAN	600	Jul 27	1510	Aug 28 1971
LOWEST DAILY MEAN	20	Jul 11	4.2	Sep 10 1932
INSTANTANEOUS PEAK FLOW	1080	Jul 27	2800	Aug 28 1971
INSTANTANEOUS PEAK STAGE	5.37	Jul 27	8.6	Aug 28 1971
INSTANTANEOUS LOW FLOW	19	Aug 23	2.8	Aug 27 1932
ANNUAL RUNOFF (INCHES)	24.4		24.5	
10 PERCENTILE	91		104	
50 PERCENTILE	39		36	
95 PERCENTILE	23		12	

e Estimated

01381500 WHIPPANY RIVER AT MORRISTOWN, NJ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1923-24, 1926, 1962 to current year.

COOPERATION.--Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1987										
27...	1030	24	357	8.0	10.5	11.7	106	1.2	<200	1700
MAR 1988										
02...	1200	56	355	7.9	5.0	15.7	123	2.1	50	20
APR										
07...	1135	43	326	7.8	10.0	10.0	91	3.6	1700	490
JUN										
14...	1230	36	312	8.1	23.5	10.2	121	3.0	1300	800
JUL										
27...	1100	600	111	7.1	20.0	8.0	88	2.4	>24000	>24000
AUG										
18...	0915	22	372	7.9	23.0	7.9	93	10	9200	800

DATE	HARD-NESS TOTAL (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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (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)
OCT 1987									
27...	120	30	10	25	3.1	74	20	46	0.1
MAR 1988									
02...	84	21	7.6	35	2.0	46	19	68	0.2
APR									
07...	92	23	8.3	22	1.9	55	22	44	0.2
JUN									
14...	95	24	8.6	21	2.2	60	20	42	0.1
JUL									
27...	35	8.9	3.0	6.8	2.0	19	17	11	0.2
AUG									
18...	120	31	11	28	2.7	76	25	54	0.1

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1987									
27...	18	197	0.077	1.83	0.35	0.90	2.7	0.376	4.0
MAR 1988									
02...	15	195	0.042	1.39	--	--	--	0.259	3.1
APR									
07...	16	170	0.067	1.36	0.35	--	--	0.255	3.8
JUN									
14...	17	171	0.094	1.36	0.13	0.50	1.9	0.290	3.2
JUL									
27...	8.2	68	0.040	0.73	0.09	0.69	1.4	0.353	11
AUG									
18...	17	214	0.108	1.90	0.16	0.79	2.7	0.238	4.3

01381500 WHIPPANY RIVER AT MORRISTOWN, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	NITRO-GEN,NH4 + ORG. TOT IN BOT MAT (MG/KG AS N)	CARBON, INOR-GANIC, TOT IN BOT MAT (G/KG AS C)	CARBON, INORG + ORGANIC TOT. IN BOT MAT (MG/KG AS C)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC TOTAL IN BOT-TOM MA-TERIAL (UG/G AS AS)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE)	BORON, TOTAL RECOV-ERABLE (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM RECOV. FM BOT-TOM MA-TERIAL (UG/G AS CD)
OCT 1987 27...	1030	<0.5	200	1.0	5.6	60	<1	4	<10	10	<1	<1

DATE	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, RECOV. FM BOT-TOM MA-TERIAL (UG/G)	COBALT, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, RECOV. FM BOT-TOM MA-TERIAL (UG/G)
OCT 1987 27...	<1	<10	<50	5	30	460	6800	<5	150	40	380

DATE	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY RECOV. FM BOT-TOM MA-TERIAL (UG/G AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	NICKEL, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, TOTAL IN BOT-TOM MA-TERIAL (UG/G)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS ZN)	PHENOLS TOTAL (UG/L)	PCB, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	PCN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)
OCT 1987 27...	<0.10	<0.10	<1	<10	<1	<1	<10	80	4	90	<1.0

DATE	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)	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)
OCT 1987 27...	<0.1	25	3.3	2.3	9.6	0.2	<0.1	<0.1	<0.1	<0.1	0.3

DATE	HEPTA-CHLOR EPOXIDE TOT. IN BOTTOM MATL. (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 BOTTOM MATL. (UG/KG)	METHYL PARA-THION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRI-THION, TOT. IN BOTTOM MATL. (UG/KG)	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)	TOXA-PHENE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	TRI-THION, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)
OCT 1987 27...	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.00	<10	<0.1

01381800 WHIPPANY RIVER NEAR PINE BROOK, NJ

LOCATION.--Lat 40°50'42", long 74°20'51", Morris County, Hydrologic Unit 02030103, at bridge on New Road, 0.3 mi southwest of overpass of Interstate 280, 0.4 mi upstream of Rockaway River, and 1.4 mi southwest of Pine Brook.

DRAINAGE AREA.--68.5 mi^2.

PERIOD OF RECORD.--Water years 1963 to current year.

COOPERATION.--Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1987										
28...	1030	E730	150	7.1	12.0	6.7	63	8.0	9200	>24000
MAR 1988										
08...	0945	E120	320	7.3	4.0	10.5	80	1.3	70	330
APR										
07...	0945	E83	425	7.5	10.0	7.8	70	6.0	210	20
JUN										
14...	0900	E67	432	7.4	21.5	4.4	50	7.8	700	700
AUG										
02...	1300	E67	344	7.3	25.5	3.6	44	4.5	490	460
23...	1145	E43	491	7.9	20.0	7.2	79	--	500	<200

DATE	HARD-NESS TOTAL (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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (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)
OCT 1987									
28...	43	11	3.8	8.9	3.9	30	10	15	0.1
MAR 1988									
08...	85	22	7.3	33	2.1	55	21	56	0.1
APR									
07...	130	32	11	30	2.6	79	31	52	0.2
JUN									
14...	130	33	12	29	3.2	81	32	53	0.2
AUG									
02...	110	30	9.5	23	3.0	77	27	37	0.2
23...	150	37	14	36	3.8	95	35	65	0.1

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHOROUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1987									
28...	5.7	76	0.029	0.60	0.10	1.1	1.7	0.342	13
MAR 1988									
08...	9.9	184	0.027	0.83	--	--	--	0.079	7.2
APR									
07...	13	219	0.100	1.38	1.50	--	--	0.362	5.9
JUN									
14...	17	228	0.270	2.11	1.01	1.9	4.0	0.568	7.6
AUG									
02...	16	192	0.102	1.32	0.40	1.8	3.2	0.550	18
23...	16	264	0.213	3.16	0.47	1.2	4.4	0.617	5.8

01381800 WHIPPANY RIVER NEAR PINE BROOK, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE)	BORON, TOTAL RECOV-ERABLE (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)
OCT 1987 28...	1030	<0.5	20	1	<10	<10	<1	4	13

DATE	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
OCT 1987 28...	4600	58	190	<0.10	3	<1	30	4

01381900 PASSAIC RIVER AT PINE BROOK, NJ

LOCATION.--Lat 40°51'45", long 74°19'18", Morris County, Hydrologic Unit 02030103, on downstream left wingwall of bridge on U.S. Route 46, 0.5 mi east of Pine Brook, and 1.3 mi downstream from Rockaway River.

DRAINAGE AREA.--349 mi^2.

PERIOD OF RECORD.--Occasional low-flow measurements, water years 1963-69, 1973, and annual maximum, water years 1966-75, 1978-79. October 1979 to current year. Feb. 19 to Aug. 24, 1939 in files of U.S. Army Corps of Engineers, New York District.

REVISED RECORDS.--WDR NJ-77-1: 1967(M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 149.26 ft above National Geodetic Vertical Datum of 1929. December 1965 to September 1979, crest-stage gage at same site at datum 10.00 ft higher. Feb. 19 to Aug. 24, 1939, water-stage recorder at present NJ Route 506 bridge, 1,600 ft upstream from gage, operated by U.S. Army Corps of Engineers, New York District at datum 13.05 ft higher.

REMARKS.--Records fair except those above 1,000 ft^3/s, and periods of estimated daily discharges, which are poor. Flow regulated by Boonton and Splitrock Reservoirs (see Passaic River basin, reservoirs in) and many small lakes. Water diverted from Boonton Reservoir for municipal supply of Jersey City (see Passaic River basin, diversions). Several measurements of water temperature were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1810, according to State Geologist's report for 1904, 23.2 ft, Oct. 10, 1903, present datum, from King Survey of highwater marks at present NJ Route 506 bridge, 1,600 ft upstream from gage. Floods of Mar. 13, 1936 and Sept. 24, 1938 reached stages of 20.8 ft and 19.4 ft respectively, at present NJ Route 506 bridge and present datum. Flood of July 23, 1945 reached a stage of 22.3 ft at present site and datum according to U.S. Army Corps of Engineers; minimum observed, 41.1 ft^3/s, Sept. 22, 1964.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	274	1680	1280	e352	400	764	637	644	1120	123	1230	227
2	252	1390	1590	e328	653	675	572	477	908	122	945	179
3	238	1130	1520	e289	933	631	543	410	658	116	673	157
4	591	846	1340	e281	1200	779	505	359	467	113	388	197
5	675	615	1140	e271	e1940	1190	490	331	393	117	249	460
6	596	466	900	e252	e1650	1440	460	651	348	117	204	398
7	547	392	697	e227	e1340	1500	434	855	292	120	181	268
8	550	352	550	e210	e1020	1440	499	808	250	119	164	210
9	472	335	479	e210	e793	1340	404	617	235	114	156	183
10	391	389	443	e215	e669	1240	320	445	260	111	153	169
11	332	792	426	e216	e586	1150	272	442	228	108	148	155
12	320	992	416	e213	e527	1050	245	599	198	112	145	145
13	294	1070	401	e216	e597	933	232	540	183	117	141	279
14	266	1040	373	e214	e679	836	226	475	172	116	137	373
15	316	912	423	e228	e677	762	217	422	167	111	134	262
16	560	766	785	e233	e936	686	240	354	163	106	132	201
17	502	634	910	e233	883	619	236	312	162	147	129	176
18	317	586	816	e256	950	573	216	480	159	165	129	189
19	239	582	637	438	936	542	226	1180	152	140	126	177
20	216	540	555	563	1230	510	236	1630	146	458	123	169
21	233	496	621	822	1820	478	230	1930	146	810	122	170
22	242	439	591	963	2050	431	219	1950	145	1060	119	158
23	223	383	525	964	1980	410	207	1830	142	1090	137	149
24	211	357	466	857	1840	416	209	1760	136	1120	265	144
25	197	348	436	721	1690	412	222	1860	132	1130	440	138
26	186	354	433	624	1510	520	213	2040	128	1090	310	136
27	185	340	428	e604	1310	1000	205	2080	129	1470	206	135
28	966	323	406	e519	1100	1190	551	1940	127	1730	169	135
29	1680	336	370	e451	904	1180	929	1750	126	1760	166	133
30	2030	824	e375	e389	---	1020	860	1560	124	1660	364	131
31	1920	---	e419	e371	---	801	---	1360	---	1470	326	---
MEAN	517	657	669	411	1131	855	368	1035	267	553	268	200
MAX	2030	1680	1590	964	2050	1500	929	2080	1120	1760	1230	460
MIN	185	323	370	210	400	410	205	312	124	106	119	131

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	277	492	777	526	800	952	1370	727	507	415	227	219
MAX	531	922	2286	797	1221	2067	2842	1230	1482	1485	474	600
(WY)	1980	1986	1984	1987	1984	1983	1983	1984	1984	1984	1986	1987
MIN	134	161	107	105	211	272	161	380	188	168	117	91.0
(WY)	1981	1981	1981	1981	1980	1981	1985	1986	1981	1980	1981	1980

01381900 PASSAIC RIVER AT PINE BROOK, NJ--Continued

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	577		605	
HIGHEST ANNUAL MEAN			1125	1984
LOWEST ANNUAL MEAN			276.3	1981
HIGHEST DAILY MEAN	2080	May 27	7910	Apr 7 1984
LOWEST DAILY MEAN	106	Jul 16	72	Sep 29 1980
INSTANTANEOUS PEAK FLOW	2100	May 27	8000	Apr 7 1984
INSTANTANEOUS PEAK STAGE	18.00	May 27	22.90a	Apr 7 1984
INSTANTANEOUS LOW FLOW	---		70	Sep 29 1980
10 PERCENTILE	1360		1490	
50 PERCENTILE	413		327	
95 PERCENTILE	124		101	

a Affected by backwater
e Estimated

01382000 PASSAIC RIVER AT TWO BRIDGES, NJ

LOCATION.--Lat 40°53'40", long 74°16'23", Passaic County, Hydrologic Unit 02030103, at bridge on Two Bridges Road in Two Bridges, 50 ft upstream from Pompton River.

DRAINAGE AREA.--361 mi^2.

PERIOD OF RECORD.--Water years 1962 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: June 1969 to September 1974.
pH: June 1969 to September 1974.
WATER TEMPERATURES: October 1962 to September 1974.
DISSOLVED OXYGEN: June 1969 to September 1974.

COOPERATION.--Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
OCT 1987												
20...	1000	E220	449	7.3	14.0	4.8	47	3.1	700	<20	120	31
NOV												
17...	0915	E540	356	7.2	7.0	7.9	64	3.0	--	--	81	20
DEC												
16...	0830	E640	353	7.4	5.0	9.7	78	3.0	--	--	97	24
JAN 1988												
19...	1100	E400	643	7.4	0.0	10.1	69	4.5	50	220	130	33
FEB												
24...	0815	E1300	256	7.0	1.5	11.0	79	1.0	--	--	59	15
MAR												
22...	1000	E390	379	7.4	4.0	10.6	80	2.1	<20	<20	100	25
APR												
21...	0950	E240	513	7.4	11.0	6.2	58	2.7	--	--	130	33
MAY												
12...	0930	E510	382	7.1	15.0	4.3	43	6.6	--	--	110	27
26...	0900	E1400	219	6.8	16.0	3.6	37	4.5	700	3500	63	16
JUN												
10...	0830	E260	470	7.2	18.0	1.4	15	5.9	--	--	130	32
23...	1015	E160	605	7.6	26.5	5.5	70	6.9	--	--	150	37
JUL												
21...	1000	E650	268	7.1	24.5	2.5	30	11	2400	2200	70	18
AUG												
10...	1000	E170	503	7.6	27.5	3.2	41	7.9	<200	23	130	33
SEP												
09...	1030	E200	397	7.5	19.0	3.7	40	5.1	--	--	100	26
22...	1400	E180	500	7.7	21.0	3.5	39	4.4	--	--	140	35

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (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)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)
OCT 1987												
20...	11	36	4.4	73	32	55	0.2	15	245	0.120	0.120	3.20
NOV												
17...	7.6	34	2.7	49	26	57	0.1	12	194	0.030	0.020	1.00
DEC												
16...	9.0	28	3.2	59	28	44	0.2	13	195	0.040	0.050	1.80
JAN 1988												
19...	12	68	4.4	91	35	110	0.2	15	349	0.050	0.040	2.70
FEB												
24...	5.3	27	1.9	33	18	45	0.2	8.6	145	0.020	0.020	0.80
MAR												
22...	9.2	34	2.7	67	29	56	0.1	10	214	0.030	0.040	1.80
APR												
21...	12	45	4.0	81	39	70	0.2	12	278	0.090	0.090	2.70
MAY												
12...	9.5	33	2.8	63	29	52	0.3	11	212	0.090	0.090	1.70
26...	5.7	18	2.4	43	20	27	0.3	9.2	128	0.060	0.050	0.60
JUN												
10...	11	39	4.1	81	38	60	0.2	16	263	0.170	0.170	2.40
23...	13	58	4.7	89	42	91	0.3	15	331	0.260	0.260	3.10
JUL												
21...	6.2	27	3.4	42	28	35	0.1	8.2	161	0.120	0.120	1.70
AUG												
10...	12	43	4.1	86	37	68	0.1	16	278	0.200	0.200	2.50
SEP												
09...	9.3	32	3.7	63	33	47	0.1	15	223	0.160	0.140	3.10
22...	13	50	4.8	78	40	77	0.1	16	303	0.220	0.190	3.60

01382000 PASSAIC RIVER AT TWO BRIDGES, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHOROUS TOTAL (MG/L AS P)	PHOSPHOROUS DISSOLVED (MG/L AS P)	PHOSPHORUS, ORTHO, TOTAL (MG/L AS P)	PHOSPHOROUS ORTHO, DISSOLVED (MG/L AS P)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	CARBON, ORGANIC SUSPENDED TOTAL (MG/L AS C)
OCT 1987												
20...	3.10	1.40	1.40	2.2	2.0	5.4	0.660	0.500	0.550	0.440	6.3	0.4
NOV												
17...	0.98	0.540	0.520	1.3	1.2	2.3	0.280	0.220	0.220	0.200	8.2	<0.1
DEC												
16...	1.80	1.10	1.00	1.7	1.5	3.5	0.530	0.350	0.390	0.310	7.4	0.5
JAN 1988												
19...	2.60	2.80	2.80	3.5	2.9	6.2	0.800	0.630	0.680	0.540	4.8	0.7
FEB												
24...	0.80	0.250	0.250	0.50	0.60	1.3	0.150	0.080	0.080	0.050	4.5	0.3
MAR												
22...	1.60	0.980	0.990	1.7	1.3	3.5	0.370	0.290	0.310	--	4.3	<0.1
APR												
21...	2.50	1.70	1.60	2.8	2.7	5.5	0.720	0.490	0.540	0.410	5.0	0.7
MAY												
12...	1.70	0.910	0.950	1.3	1.3	3.0	0.380	0.240	0.310	0.180	6.2	<0.1
26...	0.58	0.260	0.290	0.40	0.60	1.0	0.250	0.240	0.190	0.170	9.0	0.2
JUN												
10...	2.50	2.00	2.00	2.6	2.3	5.0	0.460	0.330	0.350	0.260	5.2	0.8
23...	3.10	1.70	1.20	3.4	2.3	6.5	0.690	0.370	0.400	0.320	5.2	3.7
JUL												
21...	1.70	0.940	0.950	1.9	1.6	3.6	0.620	0.410	0.390	0.360	5.8	1.4
AUG												
10...	2.50	1.40	1.40	3.3	2.6	5.8	0.610	0.310	0.370	0.300	7.4	--
SEP												
09...	3.70	0.910	0.950	1.8	1.8	4.9	0.770	0.580	0.560	0.510	5.5	0.4
22...	3.50	2.30	2.20	2.4	2.2	6.0	0.900	0.700	0.690	0.630	5.4	0.4

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
MAY 1988									
26...	0900	<0.5	40	1	<10	10	<1	<1	9

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
MAY 1988								
26...	850	<5	70	<0.10	2	<1	20	3

01382500 PEQUANNOCK RIVER AT MACOPIN INTAKE DAM, NJ

LOCATION.--Lat 41°01'10", long 74°24'11", revised, Morris County, Hydrologic Unit 02030103, on left bank at Macopin intake dam of Newark waterworks, 0.4 mi downstream from Macopin River, and 3.0 mi northwest of Butler.

DRAINAGE AREA.--63.7 mi^2.

PERIOD OF RECORD.--January 1898 to current year. Monthly discharge only for some periods, published in WSP 1302. Records for January 1892 to December 1897, published in WSP 541, have been found to be unreliable and should not be used.

GAGE.--Water-stage recorder above hewn-rock dam. Datum of gage is 570.00 ft above National Geodetic Vertical Datum of 1929 (levels by New Jersey Geological Survey). Prior to May 22, 1970, at datum 13.55 ft higher.

REMARKS.--No estimated daily discharges. Records good above 10 ft^3/s, and poor below. Records given herein represent flow over intake dam only. Flow regulated by Canistear, Oak Ridge, Clinton, Charlotteburg Reservoirs, and Echo Lake (see Passaic River basin, reservoirs in). Water diverted at Charlotteburg Reservoir for municipal supply of city of Newark (see Passaic River basin, diversions). Several measurements of water temperature were made during the year. Satellite telemeter at station.

COOPERATION.--Gage-height record collected in cooperation with the Department of Public Affairs, Division of Water Supply, city of Newark. Prior to May 22, 1970, discharge figures provided by city of Newark.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	27	343	19	17	23	31	15	96	1.5	4.7	1.3
2	9.6	23	234	20	29	22	29	14	49	1.7	4.1	.99
3	12	20	175	18	28	23	27	12	19	2.2	3.4	.99
4	32	19	132	19	29	35	26	12	16	2.4	3.1	5.0
5	20	18	105	19	23	45	23	14	12	4.8	2.4	5.7
6	16	15	77	63	19	40	23	29	8.8	5.4	2.4	2.2
7	19	12	56	77	24	42	22	23	7.5	3.4	2.4	1.0
8	16	12	43	66	15	46	23	18	7.9	3.4	2.0	.99
9	14	14	40	48	14	57	22	16	7.9	3.4	1.6	.99
10	14	22	36	29	12	170	19	15	7.2	3.0	1.6	1.1
11	15	28	35	27	12	187	17	18	6.1	2.4	1.6	1.3
12	14	22	35	21	17	158	15	17	6.1	2.4	1.6	1.6
13	12	20	33	17	35	148	15	14	6.1	3.2	1.6	7.5
14	9.9	23	30	18	22	152	14	19	5.5	3.4	1.6	3.5
15	9.9	23	35	14	19	126	13	15	4.7	2.8	1.1	1.8
16	14	23	43	13	21	96	14	13	4.7	2.7	.50	1.6
17	15	26	37	12	17	85	12	22	4.7	4.7	.55	1.6
18	14	31	32	18	17	75	10	40	4.7	4.2	.53	1.6
19	17	27	28	16	17	70	11	101	4.7	3.1	.54	1.7
20	21	27	32	19	42	61	11	501	4.7	11	.55	2.4
21	17	24	32	19	31	53	8.8	410	4.7	12	.54	2.4
22	13	18	30	16	27	40	8.0	303	4.7	9.9	.53	1.5
23	12	15	30	13	28	33	8.0	240	3.4	9.9	.55	1.6
24	14	15	27	12	28	30	7.2	210	3.4	14	3.0	1.6
25	14	17	27	13	27	27	7.4	204	3.4	3.5	1.3	2.0
26	14	17	27	17	24	41	7.1	215	2.3	2.7	.99	2.4
27	20	16	27	15	24	182	6.6	160	2.4	11	1.3	2.4
28	174	15	24	37	23	160	25	126	2.0	6.1	.99	2.0
29	69	24	23	50	23	87	16	118	2.2	6.1	4.2	1.6
30	49	293	22	31	---	59	17	114	1.8	5.5	4.7	1.6
31	35	---	21	15	---	40	---	107	---	4.3	1.9	---
MEAN	23.8	29.5	60.4	25.5	22.9	77.8	16.3	101	10.5	5.04	1.87	2.13
MAX	174	293	343	77	42	187	31	501	96	14	4.7	7.5
MIN	9.6	12	21	12	12	22	6.6	12	1.8	1.5	.50	.99

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	15.8	31.5	39.6	37.7	48.3	95.8	128.6	63.3	32.0	19.1	15.3	19.7
MAX	288	310	236	208	270	572	506	245	360	238	228	212
(WY)	1956	1928	1973	1953	1939	1936	1983	1945	1972	1938	1955	1960
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
(WY)	1929	1929	1929	1931	1930	1965	1950	1954	1944	1923	1923	1929

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	31.6		50.0	Unadjusted
HIGHEST ANNUAL MEAN			109a	1952
LOWEST ANNUAL MEAN			.12a	1954
HIGHEST DAILY MEAN	501	May 20	3170a	Apr 6 1984
LOWEST DAILY MEAN	.50	Aug 16	0	Oct 1 1922
INSTANTANEOUS PEAK FLOW	908	May 20	6100	Oct 10 1903
INSTANTANEOUS PEAK STAGE	14.67	May 20	17.4	Oct 10 1903
INSTANTANEOUS LOW FLOW	.49	Aug 16	0	Many days
10 PERCENTILE	69		146a	
50 PERCENTILE	16		3.7a	
95 PERCENTILE	1.1		0a	

a Since 1923

01383500 WANAQUE RIVER AT AWOSTING, NJ

LOCATION.--Lat 41°09'31", long 74°20'00", Passaic County, Hydrologic Unit 02030103, on right bank 700 ft downstream from dam at outlet of Greenwood Lake at Awosting.

DRAINAGE AREA.--27.1 mi^2.

PERIOD OF RECORD.--May 1919 to current year. Prior to October 1940, published as "at Greenwood Lake".

REVISED RECORDS.--WSP 781: Drainage area. WSP 1552: 1922(M), 1928(M), 1936. WDR NJ-79-1: 1933(M), 1936(M), 1945(M), 1948(P), 1951(P), 1952(P), 1953(M), 1955(P), 1956(M), 1957(M), 1958(M), 1960(P), 1961(M), 1968(P), 1969(P). WDR NJ-80-1: 1960(P).

GAGE.--Water-stage recorder. Concrete control since Oct. 31, 1938. Datum of gage is 601.32 ft above National Geodetic Vertical Datum of 1929 (levels from New Jersey Geological Survey bench mark). Prior to Apr. 1, 1926, nonrecording gage and Apr. 1, 1926, to Oct. 31, 1938, water-stage recorder at site 100 ft upstream at same datum.

REMARKS.--No estimated daily discharges. Records fair. Flow completely regulated by Greenwood Lake (see Passaic River basin, reservoirs in). Water diverted into basin above gage from Upper Greenwood Lake (Hudson River basin) by North Jersey District Water Supply Commission since 1968. Several measurements of water temperature were made during the year.

COOPERATION.--Gage-height record collected in cooperation with North Jersey District Water Supply Commission.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	49	144	162	26	44	60	56	40	67	4.6	13	4.0
2	38	122	150	34	65	55	54	39	70	4.6	13	4.0
3	42	101	128	30	97	54	51	34	55	4.6	12	4.1
4	90	89	118	32	114	73	49	32	49	4.2	11	4.5
5	102	82	111	29	110	91	48	34	41	4.7	10	4.3
6	94	68	99	26	98	87	47	59	36	5.1	8.7	3.7
7	96	56	86	24	85	85	43	71	28	4.9	7.5	3.8
8	90	55	78	26	76	85	45	66	20	4.9	5.5	3.9
9	76	57	72	28	68	87	44	60	22	4.9	5.1	4.0
10	67	72	69	25	62	98	38	59	20	4.9	5.0	3.9
11	65	94	67	23	57	101	33	63	16	4.9	4.8	4.0
12	59	87	65	21	78	97	28	60	15	5.0	4.9	3.9
13	55	76	62	21	79	94	26	55	11	5.0	4.9	4.2
14	50	77	59	19	68	93	24	62	9.7	4.9	4.9	4.0
15	49	79	62	17	60	88	24	54	9.7	4.9	4.6	4.0
16	47	76	72	16	61	81	31	49	9.4	4.9	4.6	3.8
17	45	74	73	15	57	73	26	55	10	4.8	4.8	3.8
18	45	88	61	19	55	65	25	84	8.4	4.7	4.8	3.8
19	42	90	56	22	55	63	25	207	6.8	4.8	4.6	3.9
20	41	87	59	33	83	57	24	271	5.9	4.9	4.6	3.9
21	47	84	59	42	96	50	22	254	5.8	4.9	4.5	4.0
22	45	70	53	46	92	48	20	229	5.3	4.9	4.4	4.0
23	38	57	48	46	88	44	15	203	6.0	4.7	4.2	4.0
24	36	53	44	43	90	43	19	170	4.9	4.8	4.4	4.0
25	36	51	44	47	84	42	18	166	4.9	4.9	4.5	4.0
26	30	50	46	60	77	49	14	163	5.5	5.1	4.6	4.0
27	30	47	43	55	74	75	13	136	4.7	14	4.6	4.0
28	236	43	42	50	70	78	36	116	4.6	34	4.4	4.0
29	255	46	47	46	64	71	37	101	4.6	38	4.3	3.8
30	210	131	18	43	---	64	41	83	4.7	33	4.0	3.8
31	175	---	26	42	---	62	---	75	---	21	4.0	---
MEAN	76.8	76.9	70.3	32.5	76.1	71.4	32.5	102	18.7	8.56	6.01	3.97
MAX	255	144	162	60	114	101	56	271	70	38	13	4.5
MIN	30	43	18	15	44	42	13	32	4.6	4.2	4.0	3.7

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	25.1	54.5	65.3	66.0	66.8	106.1	100.1	60.3	36.9	25.6	24.9	26.2
MAX	210	210	197	221	168	271	333	172	178	132	208	161
(WY)	1956	1984	1974	1979	1981	1980	1984	1981	1972	1938	1955	1979
MIN	.20	.18	1.88	6.98	16.3	43.5	24.7	13.4	4.37	2.76	.01	.06
(WY)	1932	1932	1985	1981	1980	1938	1985	1941	1957	1981	1929	1929

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	47.9		54.7	
HIGHEST ANNUAL MEAN			105.3	1984
LOWEST ANNUAL MEAN			19.9	1965
HIGHEST DAILY MEAN	271	May 20	2350	Apr 6 1984
LOWEST DAILY MEAN	3.7	Sep 6	0	Oct 15 1928
INSTANTANEOUS PEAK FLOW	273	Oct 28	2800	Apr 5 1984
INSTANTANEOUS PEAK STAGE	3.25	Oct 28	6.65	Apr 5 1984
INSTANTANEOUS LOW FLOW	2.1	Dec 30	0	At times
10 PERCENTILE	94		129	
50 PERCENTILE	44		33	
95 PERCENTILE	3.7		3.1	

01384500 RINGWOOD CREEK NEAR WANAQUE, NJ

LOCATION.--Lat 41°07'36", long 74°15'52", Passaic County, Hydrologic Unit 02030103, on right bank 500 ft upstream from Wanaque Reservoir, 0.7 mi downstream from Ringwood Mill Pond dam, and 6.5 mi north of Wanaque.

DRAINAGE AREA.--19.1 mi^2.

PERIOD OF RECORD.--October 1934 to September 1978, October 1985 to current year. Monthly discharge only for some periods, published in WSP 1302.

REVISED RECORDS.--WDR NJ-82-1: 1935-77(P).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 292.67 ft above National Geodetic Vertical Datum of 1929 (levels by New Jersey Geological Survey). Prior to Sept. 30, 1978, at datum 10.0 ft higher.

REMARKS.--Records good. Records given herein include flow over spillway and through ports in dam when open or through waste gate in dam. No flow through ports or waste gates this year. Flow slightly regulated by Ringwood Mill Pond, Sterling, and Sterling Forest Lakes, and several smaller lakes above station.

COOPERATION.--Gage-height record collected in cooperation with North Jersey District Water Supply Commission.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	71	90	23	26	32	33	25	35	3.6	11	4.3
2	18	63	75	21	60	31	32	23	49	3.9	9.1	2.9
3	19	57	66	21	76	36	31	23	33	4.0	7.3	2.6
4	86	52	65	19	69	72	30	22	29	3.5	5.8	9.6
5	69	46	61	e17	59	69	28	25	26	3.2	5.4	23
6	53	39	53	e19	61	57	26	52	21	3.2	5.1	11
7	56	34	47	e17	67	60	26	45	19	3.1	5.0	7.8
8	48	31	43	e17	42	62	27	36	18	3.2	4.1	5.6
9	40	28	40	e18	39	62	25	33	17	3.0	3.3	4.4
10	35	38	37	e16	33	70	22	32	17	3.2	2.6	3.7
11	35	52	34	13	31	63	22	36	15	2.9	2.1	3.0
12	33	44	34	12	34	58	21	34	13	3.2	1.6	2.8
13	28	45	31	15	39	58	20	30	12	3.1	1.7	7.8
14	25	50	29	7.2	46	58	19	34	10	3.2	1.9	8.6
15	23	53	37	6.2	30	53	18	29	9.9	3.4	1.9	5.5
16	22	49	53	13	35	48	22	27	9.5	3.3	1.5	3.9
17	20	50	37	11	33	44	19	46	8.7	3.9	1.5	3.4
18	18	66	32	21	32	40	18	84	8.5	3.8	1.4	4.6
19	17	59	29	20	32	37	18	178	8.3	3.4	1.3	4.2
20	16	55	36	28	81	34	16	153	7.9	5.5	1.3	3.9
21	17	49	37	33	65	29	15	119	7.3	6.4	1.2	3.5
22	17	42	32	30	53	27	14	102	6.6	8.1	.99	3.1
23	16	39	30	24	53	26	14	92	5.5	6.9	1.0	2.7
24	15	38	29	23	53	27	16	76	5.4	20	1.9	2.4
25	14	36	29	24	46	27	14	85	5.4	13	3.1	2.4
26	13	35	30	26	41	45	13	81	4.9	12	2.7	2.1
27	15	32	28	27	39	69	13	63	4.3	20	2.5	2.0
28	201	30	26	43	37	50	45	54	4.0	19	2.4	1.6
29	121	33	25	28	34	42	28	47	3.7	24	6.3	1.4
30	97	121	23	25	---	38	27	41	3.5	14	17	1.5
31	81	---	24	21	---	35	---	35	---	12	8.1	---
MEAN	41.6	47.9	40.1	20.6	46.4	47.1	22.4	56.8	13.9	7.26	3.94	4.84
MAX	201	121	90	43	81	72	45	178	49	24	17	23
MIN	13	28	23	6.2	26	26	13	22	3.5	2.9	.99	1.4
IN.	2.51	2.80	2.42	1.24	2.62	2.84	1.31	3.43	.81	.44	.24	.28

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	15.5	32.2	43.0	40.8	41.9	67.3	59.5	38.4	22.4	15.0	13.6	12.4
MAX	131	88.8	104	150	110	157	123	87.7	121	86.1	107	59.0
(WY)	1956	1973	1974	1979	1970	1936	1940	1978	1972	1945	1955	1960
MIN	1.07	2.27	4.06	12.5	14.0	28.5	18.3	10.9	3.78	1.31	.70	.28
(WY)	1945	1950	1940	1940	1940	1938	1966	1941	1957	1966	1966	1964

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	29.4		33.4	
HIGHEST ANNUAL MEAN			54.4	1952
LOWEST ANNUAL MEAN			13.2	1965
HIGHEST DAILY MEAN	201	Oct 28	756	Aug 19 1955
LOWEST DAILY MEAN	.99	Aug 22	0	Sep 11 1963
INSTANTANEOUS PEAK FLOW	265	Oct 28	1150	Mar 30 1951
INSTANTANEOUS PEAK STAGE	11.87	Oct 28	13.74	Mar 30 1951
INSTANTANEOUS LOW FLOW	.93	Aug 21	0	Part of days
ANNUAL RUNOFF (INCHES)	20.9		23.8	
10 PERCENTILE	62		79	
50 PERCENTILE	25		21	
95 PERCENTILE	1.9		1.1	

e Estimated

01387000 WANAQUE RIVER AT WANAQUE, NJ

LOCATION.--Lat 41°02'33", long 74°17'36", Passaic County, Hydrologic Unit 02030103, on left bank 750 ft downstream from Raymond Dam in Wanaque, and 50 ft upstream from bridge on State Highway 511.

DRAINAGE AREA.--90.4 mi^2, considered as 94 mi^2 Oct. 1, 1928 to Sept. 30, 1934.

WATER DISCHARGE RECORDS

PERIOD OF RECORD.--December 1903 to December 1905 (gage heights only), September 1912 to April 1915, May 1919 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 210.00 ft above National Geodetic Vertical Datum of 1929 (levels from New Jersey Geological Survey bench mark). Dec. 16, 1903, to Dec. 31, 1905, nonrecording gage on highway bridge at site 50 ft downstream at different datum. Sept. 15, 1912, to Apr. 1, 1922, nonrecording gage at site 200 ft downstream from present concrete control at different datum. Apr. 1, 1922 to Mar. 14, 1931, water-stage recorder at site 400 ft downstream from present concrete control at present datum.

REMARKS.--Records good. Flow regulated by Greenwood Lake 11 mi above station, since October 1987 by Monksville Reservoir just upstream of Wanaque Reservoir, and since 1928 by Wanaque Reservoir (see Passaic River basin, reservoirs in). North Jersey Water Supply Commission diverts water for municipal supply from Wanaque Reservoir. Water is diverted to Wanaque Reservoir from Posts Brook at Wanaque and from Ramapo River at Pompton Lakes (see Passaic River basin, diversions). Water diverted into basin above gage from Upper Greenwood Lake (Hudson River basin) by North Jersey District Water Supply Commission since 1968. Several measurements of water temperature, other than those published, were made during the year. National Weather Service raingage and USGS satellite gage-height telemeter at station.

COOPERATION.--Gage-height record collected in cooperation with North Jersey District Water Supply Commission.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	17	17	16	17	18	18	18	50	16	18	e18
2	19	17	17	17	18	18	18	18	59	16	18	e18
3	19	17	17	17	16	19	18	18	22	16	18	18
4	20	17	17	16	16	19	18	18	23	16	18	19
5	18	18	17	16	16	19	18	18	28	17	19	18
6	19	17	17	16	15	19	18	19	39	17	20	18
7	19	17	17	17	15	19	19	19	23	18	20	18
8	19	17	17	17	16	18	18	18	20	18	20	18
9	18	17	17	17	16	18	18	18	19	18	19	18
10	18	18	17	17	16	18	18	18	19	18	19	18
11	18	17	17	17	16	18	18	18	19	18	18	18
12	18	17	17	17	16	18	18	18	19	18	18	18
13	18	17	17	17	16	18	18	19	19	17	17	19
14	19	17	17	17	16	18	18	19	20	18	17	18
15	18	17	17	17	16	18	18	19	22	18	17	18
16	18	17	17	17	16	18	18	18	20	18	17	18
17	18	17	17	17	18	18	18	18	18	18	17	18
18	18	17	17	17	19	18	18	25	18	18	17	18
19	18	17	17	17	18	18	18	495	18	18	17	18
20	18	17	17	18	20	18	18	751	20	22	17	17
21	19	17	17	18	18	18	18	630	21	22	17	17
22	18	17	17	18	18	18	18	499	21	19	17	18
23	17	17	17	18	18	18	18	408	19	18	17	17
24	17	17	17	17	18	18	18	312	17	19	19	17
25	17	17	17	17	18	18	18	324	17	18	18	17
26	17	17	17	17	18	18	18	292	17	18	18	17
27	18	17	17	17	18	18	18	210	17	18	18	17
28	21	17	17	17	18	18	19	173	17	18	17	17
29	18	17	17	17	18	19	18	146	17	18	20	17
30	18	18	17	17	---	19	18	114	17	18	18	17
31	17	---	17	17	---	18	---	95	---	18	18	---
MEAN	18.3	17.1	17.0	17.0	17.0	18.2	18.1	154	22.5	18.0	18.0	17.7
MAX	21	18	17	18	20	19	19	751	59	22	20	19
MIN	17	17	17	16	15	18	18	18	17	16	17	17

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	26.6	26.5	37.9	48.2	55.3	132.5	171.0	82.9	56.7	32.4	20.4	24.5
MAX	258	272	233	360	412	599	806	290	416	221	87.5	263
(WY)	1956	1956	1946	1978	1973	1929	1984	1984	1972	1945	1929	1933
MIN	1.82	1.70	1.50	.76	2.05	1.91	1.54	1.72	2.17	1.73	1.53	1.51
(WY)	1966	1966	1950	1950	1966	1966	1966	1966	1966	1965	1965	1965

01387000 WANAQUE RIVER AT WANAQUE, NJ--Continued

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	29.6		59.7a	Unadjusted
HIGHEST ANNUAL MEAN			170a	1984
LOWEST ANNUAL MEAN			1.93a	1966
HIGHEST DAILY MEAN	751	May 20	5470a	Apr 6 1984
LOWEST DAILY MEAN	15	Feb 6	.06a	Oct 11 1984
INSTANTANEOUS PEAK FLOW	781	May 20	10500	Apr 5 1984
INSTANTANEOUS PEAK STAGE	4.54	May 20	10.82	Apr 5 1984
INSTANTANEOUS LOW FLOW	15	Feb 4	---	
10 PERCENTILE	21		132a	
50 PERCENTILE	18		19a	
95 PERCENTILE	17		3.4a	

a Since 1929
e Estimated

01387000 WANAQUE RIVER AT WANAQUE, NJ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1963 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: October 1963 to September 1980.

COOPERATION.--Analyses of fecal coliform and fecal streptococci by the MPN method, and selected water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, EC BROTH (MPN)	STREPTOCOCCI FECAL (MPN)
NOV 1987										
04...	1100	17	138	7.5	12.5	9.8	93	0.9	11	350
MAR 1988										
03...	1130	21	191	7.1	3.5	12.3	93	1.8	<2	2
APR										
20...	1100	18	150	7.5	9.0	11.3	99	1.2	2	5
JUN										
08...	1030	19	163	7.4	14.0	10.1	100	1.8	17	8
JUL										
28...	1130	18	150	7.5	15.0	9.1	90	1.3	46	540
AUG										
24...	1015	18	144	7.7	17.0	8.2	86	3.9	49	920

DATE	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
NOV 1987									
04...	37	10	3.0	9.8	0.9	25	11	15	0.1
MAR 1988									
03...	49	13	3.9	17	1.1	29	14	30	0.1
APR									
20...	41	11	3.2	11	0.9	24	16	19	0.2
JUN									
08...	42	11	3.5	12	0.9	26	15	20	0.3
JUL									
28...	44	12	3.4	13	1.0	26	13	19	0.1
AUG									
24...	41	11	3.4	12	1.1	26	13	19	<0.1

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
NOV 1987									
04...	4.3	69	0.008	0.10	0.09	0.46	0.56	0.020	3.3
MAR 1988									
03...	5.5	102	0.004	0.37	--	--	--	0.037	2.9
APR									
20...	3.3	79	0.116	0.17	0.00	0.50	0.68	0.026	3.0
JUN									
08...	1.8	80	0.007	0.14	0.08	0.37	0.51	<0.020	3.0
JUL									
28...	2.9	80	0.010	0.28	<0.05	0.35	0.63	0.042	2.8
AUG									
24...	2.3	77	0.003	0.16	<0.05	0.20	0.37	0.143	3.3

01387000 WANAQUE RIVER AT WANAQUE, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
NOV 1987 04...	1100	--	10	<1	<10	<10	<1	1	8
JUN 1988 08...	1030	<0.5	<10	<1	<10	<10	1	8	7

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
NOV 1987 04...	400	<5	310	<0.10	<1	<1	<10	2
JUN 1988 08...	80	<5	80	<0.10	8	<1	<10	1

01387420 RAMAPO RIVER AT SUFFERN, NY

LOCATION.--Lat 41°07'06", long 74°09'38", Rockland County, Hydrologic Unit 02030103, on left bank, 145 ft downstream from highway bridge on New York State Thruway at Suffern, and 1.1 mi upstream from Mahwah River.

DRAINAGE AREA.--93.0 mi^2.

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

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Datum of gage is 264.44 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Flow affected by diversion from Spring Valley Water Company well field upstream from station and by occasional regulation by Lake Sebago. Several measurements of water temperature were made during the year.

COOPERATION.--Figures of pumpage from well field provided by Spring Valley Water Company.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	88	263	466	101	138	167	164	161	141	6.8	38	27
2	71	230	321	97	323	155	158	132	154	6.9	31	21
3	65	208	263	90	616	187	146	122	116	7.2	26	17
4	375	190	250	87	462	282	140	112	102	6.0	23	50
5	519	172	243	e80	331	353	134	114	90	5.4	18	106
6	312	147	216	e72	e260	288	120	245	77	6.0	16	63
7	283	125	193	e64	e220	276	117	286	63	6.7	14	44
8	265	112	175	56	e200	292	135	228	56	5.4	12	34
9	214	105	163	82	182	299	130	194	54	6.2	11	27
10	182	131	164	e74	171	363	115	173	55	7.9	11	23
11	168	213	146	e72	153	352	98	175	49	6.5	11	18
12	167	203	141	74	184	309	89	185	43	6.9	12	16
13	139	197	132	e70	e190	291	82	153	38	6.6	12	54
14	116	207	123	e56	e165	288	76	169	34	9.4	10	60
15	100	222	143	e54	147	267	73	138	31	18	10	38
16	91	223	225	e56	181	237	98	119	28	11	10	27
17	82	229	194	59	189	215	92	151	27	13	10	22
18	74	303	152	87	179	198	81	286	26	14	11	22
19	69	292	131	129	177	190	77	783	23	13	10	19
20	64	252	150	188	337	172	69	756	19	25	11	18
21	68	224	188	249	363	151	61	582	16	29	10	18
22	72	188	163	201	282	129	59	430	14	34	10	16
23	64	163	145	e160	258	119	57	361	13	24	10	14
24	58	153	134	141	266	119	63	303	12	56	24	12
25	54	146	130	131	240	132	62	321	12	56	21	12
26	51	138	141	157	214	178	55	368	11	45	13	12
27	51	129	132	e130	202	314	51	290	8.9	59	14	11
28	1210	114	120	e125	193	262	188	235	8.8	56	10	11
29	883	125	e115	e115	182	211	211	205	8.1	68	30	10
30	464	479	e110	101	---	188	181	174	7.3	51	82	11
31	330	---	e105	100	---	179	---	144	---	40	41	---
MEAN	218	196	177	105	242	231	106	261	44.6	22.8	18.5	27.8
MAX	1210	479	466	249	616	363	211	783	154	68	82	106
MIN	51	105	105	54	138	119	51	112	7.3	5.4	10	10
(‡)	13	14	14	14	14	14	14	12	13	8.8	6.8	7.7

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	82.4	154	208	140	241	324	429	204	106	57.1	39.5	65.4
MAX	218	313	693	290	475	816	862	415	269	234	134	219
(WY)	1988	1986	1984	1982	1981	1983	1984	1984	1982	1984	1986	1987
MIN	11.0	17.1	29.6	6.84	49.7	128	77.1	98.5	23.4	19.6	10.1	12.3
(WY)	1985	1985	1981	1981	1980	1981	1985	1987	1987	1983	1981	1981

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	137		169	Unadjusted
(‡)	12		---	
HIGHEST ANNUAL MEAN			295	1984
LOWEST ANNUAL MEAN			78.2	1985
HIGHEST DAILY MEAN	1210	Oct 28	7110	Apr 5 1984
LOWEST DAILY MEAN	5.4	Jul 5	3.7	Sep 30 1981
INSTANTANEOUS PEAK FLOW	1400	Oct 28	12300a	Apr 5 1984
INSTANTANEOUS PEAK STAGE	6.18	Oct 28	15.38	Apr 5 1984
INSTANTANEOUS LOW FLOW	4.8	Jul 9	2.6	Sep 30 1981
10 PERCENTILE	286		377	
50 PERCENTILE	117		81	
95 PERCENTILE	10.0		11	

a From rating curve extended above 5,400 ft^3/s
e Estimated
‡ Diversion, in cubic feet per second, by pumpage from well field upstream of gage

01387450 MAHWAH RIVER NEAR SUFFERN, NY

LOCATION.--Lat 41°08'27", long 74°07'01", Rockland County, Hydrologic Unit 02030103, on left bank, 13 ft upstream from bridge on U.S. Highway 202, 2.5 mi northeast of Suffern, and 4.8 mi upstream from mouth.

DRAINAGE AREA.--12.3 mi^2.

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

REVISED RECORDS.--WDR NY-79-1: 1977(P). WDR NY-87-1: 1986.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 321.57 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 18, 1976, water-stage recorder at site on right bank 13 ft downstream, at present datum.

REMARKS.--No estimated daily discharges. Records fair. Occasional regulation from unknown source. Several measurements of water temperature were made during the year. Telephone gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	34	50	15	19	22	19	18	22	2.6	4.8	2.7
2	11	30	39	15	43	22	18	16	24	2.9	4.0	2.1
3	11	27	32	13	55	25	18	15	18	2.6	3.6	1.8
4	55	25	32	13	45	51	18	14	18	2.4	3.2	13
5	39	22	30	13	36	51	17	16	16	2.2	2.9	14
6	29	20	27	11	29	40	16	39	14	2.1	2.7	7.6
7	42	19	24	11	24	39	17	33	12	2.0	2.5	5.0
8	31	18	22	11	22	41	18	26	11	1.9	2.3	3.5
9	26	18	21	11	21	40	16	23	11	1.9	2.1	2.7
10	23	22	20	11	20	46	15	21	10	1.9	2.0	2.3
11	22	31	20	11	18	40	14	21	9.3	1.8	1.8	2.0
12	21	25	19	10	20	35	13	19	8.5	1.6	1.7	1.8
13	20	26	18	10	19	34	12	18	7.8	1.6	1.7	8.2
14	18	28	17	9.7	17	32	12	21	7.1	1.7	1.6	5.3
15	17	28	22	9.1	17	29	12	18	6.6	5.2	1.4	3.7
16	16	27	33	8.9	22	26	14	16	6.3	2.8	1.1	2.8
17	15	26	25	9.0	23	24	13	19	6.0	6.7	1.1	2.5
18	15	30	21	13	22	22	12	50	5.5	3.1	1.3	2.9
19	14	27	19	15	23	21	12	112	5.1	2.5	1.1	2.6
20	14	26	22	23	69	20	11	87	4.9	9.1	.92	2.5
21	17	23	24	27	53	18	11	59	4.6	11	.82	4.3
22	16	20	21	25	39	16	10	47	4.2	14	.76	3.1
23	15	19	19	20	37	16	9.8	48	4.2	5.8	.70	2.3
24	14	19	18	18	38	16	10	45	3.7	41	7.3	2.2
25	13	19	18	18	32	16	9.9	57	3.4	15	4.0	2.0
26	14	18	20	19	28	29	9.4	47	3.3	9.8	2.4	1.7
27	16	17	18	16	27	39	9.1	37	3.1	17	3.9	1.7
28	266	16	17	15	25	28	27	31	3.0	8.6	3.0	1.6
29	94	19	17	14	23	24	20	27	2.8	6.7	4.0	1.5
30	55	75	15	14	---	22	20	24	2.7	5.4	11	1.4
31	41	---	14	14	---	20	---	21	---	5.0	3.7	---
MEAN	32.6	25.1	23.0	14.3	29.9	29.2	14.4	33.7	8.60	6.38	2.75	3.69
MAX	266	75	50	27	69	51	27	112	24	41	11	14
MIN	11	16	14	8.9	17	16	9.1	14	2.7	1.6	.70	1.4
IN.	3.06	2.28	2.16	1.34	2.62	2.73	1.31	3.16	.78	.60	.26	.34

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	13.6	26.0	30.2	27.6	34.2	46.0	43.4	29.2	17.5	10.4	8.48	10.3
MAX	37.4	100	88.8	104	76.2	113	115	69.2	82.7	45.4	31.8	57.3
(WY)	1976	1978	1984	1979	1970	1983	1983	1978	1972	1984	1960	1971
MIN	1.94	2.31	5.72	2.02	7.68	15.0	8.14	12.5	4.22	1.31	1.16	.68
(WY)	1981	1965	1981	1981	1980	1985	1985	1965	1965	1977	1981	1980

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	18.6		24.7	
HIGHEST ANNUAL MEAN			41.4	1984
LOWEST ANNUAL MEAN			11.2	1985
HIGHEST DAILY MEAN	266	Oct 28	1040	Nov 8 1977
LOWEST DAILY MEAN	.70	Aug 23	.12	Oct 21 1970
INSTANTANEOUS PEAK FLOW	640	Oct 28	1840a	Nov 8 1977
INSTANTANEOUS PEAK STAGE	5.39	Oct 28	9.91	Nov 8 1977
INSTANTANEOUS LOW FLOW	.60	Aug 23	.05b	Oct 20 1970
ANNUAL RUNOFF (INCHES)	20.5		27.2	
10 PERCENTILE	38		54	
50 PERCENTILE	17		15	
95 PERCENTILE	1.5		1.3	

a From rating curve extended above 850 ft^3/s on basis of contracted-opening measurement at gage height 9.91 ft
b Result of tempoary pumping from gage pool

01387500 RAMAPO RIVER NEAR MAHWAH, NJ

LOCATION.--Lat 41°05'51", long 74°09'48", Bergen County, Hydrologic Unit 02030103, on left bank 350 ft downstream from State Highway 17, 0.6 mi downstream from Mahwah River, and 1.0 mi west of Mahwah. Water-quality samples collected at bridge, 350 ft upstream from gage, at high flows.

DRAINAGE AREA.--120 mi.^{2}

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1902 to December 1906, September 1922 to current year. October 1902 to February 1905 monthly discharge only, published in WSP 1302. Figures of daily discharge Feb. 10, 1903, to Dec. 31, 1904, published in WSP 97, 125, are unreliable and should not be used. Gage-height records for 1903-14 are contained in reports of the National Weather Service.

REVISED RECORDS.--WSP 781: 1904(M). WSP 1031: 1938, 1940. WSP 1552: 1923(M), 1924, 1925-26(M), 1927-28, 1933, 1937. WRD-NJ 1971: 1968(M). WDR NJ-82-1: Drainage area. WDR-NJ-87-1: 1986.

GAGE.--Water-discharge recorder. Datum of gage is 253.10 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 31, 1906, nonrecording gage on former bridge at site 250 ft downstream at different datum. Sept. 1, 1922 to Dec. 23, 1936, water-stage recorder just below former bridge at present datum.

REMARKS.--No estimated daily discharges. Records fair. Flow affected by diversion from Spring Valley (NY) Water Company well field upstream from station (see station 01387420). Occasional regulation from lakes and ponds upstream from the station. Several measurements of water temperature, other than those published, were made during the year. Satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	120	342	545	134	178	220	220	212	208	23	52	39
2	96	297	400	125	386	214	215	182	228	23	45	33
3	98	270	333	108	674	244	203	171	177	23	40	30
4	454	245	319	113	531	379	199	160	164	21	37	119
5	572	223	307	104	409	461	191	174	146	20	33	159
6	383	196	272	104	329	372	183	328	123	21	31	85
7	376	172	241	86	283	353	177	356	105	21	29	59
8	339	155	220	83	254	373	192	288	93	20	27	44
9	269	144	210	101	232	377	179	246	95	22	27	38
10	227	190	210	96	218	438	166	224	92	29	25	34
11	215	286	195	84	209	424	146	228	82	21	26	31
12	211	265	189	84	256	378	136	233	73	22	26	29
13	181	257	178	84	250	360	125	206	65	20	29	116
14	155	266	159	78	224	356	117	225	57	28	26	82
15	136	280	201	68	196	331	115	191	53	51	24	50
16	123	278	297	65	243	299	151	172	48	27	23	39
17	111	282	245	65	247	273	138	207	47	38	24	42
18	103	370	199	104	237	254	124	380	45	30	24	39
19	95	358	173	139	236	242	119	952	41	32	23	32
20	89	314	204	210	485	225	111	855	38	126	23	31
21	101	278	236	273	473	201	102	633	36	97	23	33
22	100	233	210	253	364	179	95	484	33	148	22	30
23	88	209	188	205	336	170	90	421	31	51	27	27
24	79	197	171	177	348	171	98	377	30	203	80	24
25	74	191	172	169	312	189	95	417	29	106	43	23
26	69	184	187	199	279	260	85	443	28	94	29	23
27	79	173	173	171	265	409	79	356	26	123	40	22
28	1690	165	157	144	253	329	265	298	25	82	28	21
29	1100	181	155	134	236	269	264	263	25	90	71	20
30	559	607	136	128	---	243	232	233	23	67	118	21
31	417	---	123	130	---	232	---	208	---	57	53	---
MEAN	281	254	226	130	308	298	154	327	75.5	56.0	36.4	45.8
MAX	1690	607	545	273	674	461	265	952	228	203	118	159
MIN	69	144	123	65	178	170	79	160	23	20	22	20
IN.	2.70	2.36	2.17	1.25	2.77	2.86	1.43	3.14	.70	.54	.35	.43

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	142	220	274	262	285	449	410	252	152	100	102	112
MAX	954	736	873	877	701	1151	1055	561	735	602	755	478
(WY)	1904	1978	1984	1979	1970	1936	1984	1978	1972	1945	1955	1927
MIN	13.8	24.4	43.4	16.5	70.8	144	88.4	79.5	37.0	21.9	13.5	11.1
(WY)	1942	1965	1981	1981	1980	1985	1985	1905	1957	1957	1981	1964

01387500 RAMAPO RIVER NEAR MAHWAH, NJ--Continued

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	182.4		230	
HIGHEST ANNUAL MEAN			461	1903
LOWEST ANNUAL MEAN			99.5	1985
HIGHEST DAILY MEAN	1690	Oct 28	8920	Oct 9 1903
LOWEST DAILY MEAN	20	Jul 5	6.1b	Sep 30 1981
INSTANTANEOUS PEAK FLOW	1940	Oct 28	15500a	Apr 5 1984
INSTANTANEOUS PEAK STAGE	7.06	Oct 28	13.35	Apr 5 1984
INSTANTANEOUS LOW FLOW	19	Jul 8	4.6	Sep 30 1981
ANNUAL RUNOFF (INCHES)	20.6		26.0b	
10 PERCENTILE	367		517	
50 PERCENTILE	162		138	
95 PERCENTILE	24		22	

a From rating curve extended above 1,400 ft^3/s
b Possible regulation

01387500 RAMAPO RIVER NEAR MAHWAH, NJ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1963 to current year.

PERIOD OF DAILY RECORD.--
SUSPENDED-SEDIMENT DISCHARGE: February 1964 to June 1965.

COOPERATION.--Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, EC BROTH (MPN)	STREPTOCOCCI FECAL (MPN)
NOV 1987										
05...	1100	224	241	7.9	11.5	10.1	95	0.9	23	17
MAR 1988										
03...	0930	239	325	7.5	3.5	13.5	103	2.1	330	20
APR										
14...	1115	117	333	8.1	9.5	12.3	109	6.0	170	20
JUN										
08...	0900	96	367	7.7	16.0	8.3	86	2.1	490	330
AUG										
03...	0900	42	490	7.9	24.5	5.5	66	5.1	630	1100
31...	1030	53	428	7.4	18.5	7.1	76	6.6	3300	3300

DATE	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
NOV 1987									
05...	67	18	5.3	19	1.2	44	18	35	0.1
MAR 1988									
03...	80	22	6.2	33	1.2	51	17	59	0.2
APR									
14...	90	24	7.2	30	1.3	61	18	52	0.2
JUN									
08...	100	27	8.1	31	1.3	69	17	54	0.3
AUG									
03...	130	34	9.9	47	2.0	88	26	76	0.2
31...	100	28	8.1	49	2.5	71	26	70	0.1

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
NOV 1987									
05...	8.1	131	0.021	1.06	0.01	0.62	1.7	0.108	3.6
MAR 1988									
03...	6.3	175	0.022	1.03	--	--	--	0.092	2.7
APR									
14...	3.7	173	0.018	1.08	0.04	1.0	2.1	0.132	1.1
JUN									
08...	7.0	187	0.017	1.16	<0.05	0.42	1.6	0.170	3.3
AUG									
03...	7.9	256	0.019	1.68	0.08	0.63	2.3	0.270	5.4
31...	7.6	234	0.016	2.58	<0.05	0.91	3.5	0.340	8.6

01387500 RAMAPO RIVER NEAR MAHWAH, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	NITROGEN,NH4 + ORG. TOT IN BOT MAT (MG/KG AS N)	CARBON, INORGANIC, TOT IN BOT MAT (G/KG AS C)	CARBON, INORG + ORGANIC TOT. IN BOT MAT (MG/KG AS C)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC TOTAL IN BOTTOM MATERIAL (UG/G AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)
NOV 1987 05...	1100	--	20	0.1	1.2	20	<1	4	<10	10	<1
JUN 1988 08...	0900	<0.5	--	--	--	<10	1	--	<10	20	1

DATE	CADMIUM RECOV. FM BOTTOM MATERIAL (UG/G AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, RECOV. FM BOTTOM MATERIAL (UG/G)	COBALT, RECOV. FM BOTTOM MATERIAL (UG/G AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, RECOV. FM BOTTOM MATERIAL (UG/G AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, RECOV. FM BOTTOM MATERIAL (UG/G AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, RECOV. FM BOTTOM MATERIAL (UG/G AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)
NOV 1987 05...	<1	1	<10	<50	4	4	190	5500	<5	<10	40
JUN 1988 08...	--	11	--	--	15	--	370	--	<5	--	90

DATE	MANGANESE, RECOV. FM BOTTOM MATERIAL (UG/G)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY RECOV. FM BOTTOM MATERIAL (UG/G AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, RECOV. FM BOTTOM MATERIAL (UG/G AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, TOTAL IN BOTTOM MATERIAL (UG/G)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, RECOV. FM BOTTOM MATERIAL (UG/G AS ZN)	PHENOLS TOTAL (UG/L)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)
NOV 1987 05...	340	0.10	<0.10	<1	<10	<1	<1	<10	30	2	2
JUN 1988 08...	--	<0.10	--	9	--	<1	--	<10	--	<1	--

DATE	PCN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDOSULFAN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)
NOV 1987 05...	<1.0	<0.1	4.0	0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1
JUN 1988 08...	--	--	--	--	--	--	--	--	--	--	--

DATE	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARATHION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRITHION, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL IN BOTTOM MATERIAL (UG/KG)	PARATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	PERTHANE IN BOTTOM MATERIAL (UG/KG)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TRITHION, TOTAL IN BOTTOM MATERIAL (UG/KG)
NOV 1987 05...	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.00	<10	<0.1
JUN 1988 08...	--	--	--	--	--	--	--	--	--	--	--

01388000 RAMAPO RIVER AT POMPTON LAKES, NJ

LOCATION.--Lat 40°59'33", long 74°16'44", Passaic County, Hydrologic Unit 02030103, on right end of dam at pumping station in Pompton Lakes, 700 ft upstream of bridge on Paterson-Hamburg Turnpike, and 2.0 mi upstream from mouth. Water samples collected upstream of dam at water supply intake, on right bank.

DRAINAGE AREA.--160 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1921 to current year.

REVISED RECORDS.--WSP 1552: 1922(M), 1924-25, 1929-31(M), 1934-35(M). WRD-NJ 1970: 1968-69.

GAGE.--Water-stage recorder and concrete dam. Datum of gage is 190.96 ft above National Geodetic Vertical Datum of 1929. Prior to October 1, 1981, at datum 10.00 ft higher.

REMARKS.--Records good. Diversion by North Jersey District Water Supply Commission to Wanaque Reservoir since December 1953 (see Passaic River basin, diversions) and to Oradell Reservoir by Hackensack Water Company since February 1985 (see Hackensack River basin, diversions) for municipal supply (records given herein). Slight regulation by Pompton Lake, capacity, 300,000,000 gal. Several measurements of water temperature were made during the year. Satellite telemeter at station.

REVISIONS.--The maximum dishcarge for April 5, 1984, has been corrected to 15,400 ft^3/s superceding the figure published in the reports for water years 1984-87 which was in error.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	163	477	830	208	228	308	287	286	237	28	103	59
2	139	404	607	203	449	290	277	272	275	28	89	49
3	125	362	487	176	876	320	261	253	218	23	72	44
4	453	326	446	187	830	498	252	216	194	23	63	98
5	743	296	430	172	654	743	245	218	175	27	56	256
6	541	259	380	150	483	584	234	447	151	28	51	142
7	471	232	333	147	381	518	226	510	131	23	49	103
8	440	212	305	141	350	530	240	410	116	24	45	77
9	336	202	285	141	317	528	225	335	117	23	41	63
10	274	239	280	141	292	585	210	301	119	25	39	52
11	245	421	266	141	277	606	190	298	106	29	40	46
12	242	379	256	168	309	530	178	303	94	27	37	42
13	222	366	245	174	339	494	168	265	84	25	34	102
14	244	380	227	125	287	482	161	283	75	25	34	134
15	177	389	263	129	268	453	158	250	69	45	32	86
16	159	384	431	123	319	404	184	225	62	43	27	64
17	145	380	351	113	342	364	189	241	57	46	28	59
18	132	470	284	148	326	334	171	470	55	41	29	61
19	121	495	252	205	332	315	166	1330	51	39	29	50
20	114	434	284	288	758	296	153	1210	47	164	31	43
21	120	377	325	396	779	267	144	950	45	265	30	46
22	122	e318	294	377	581	235	133	727	40	298	27	42
23	110	e285	267	307	506	222	124	610	37	136	26	42
24	99	e270	243	265	522	219	126	536	34	291	113	38
25	91	e260	238	257	466	231	128	609	34	262	91	32
26	89	e255	258	284	405	312	121	645	34	222	55	33
27	94	e240	251	257	374	553	111	519	32	347	48	34
28	1680	e230	228	207	349	483	246	408	32	203	49	33
29	1540	e250	227	192	330	372	362	356	31	188	51	30
30	874	e900	203	199	---	322	299	309	30	146	153	32
31	610	---	189	195	---	301	---	276	---	116	86	---
MEAN	352	350	321	201	439	410	199	454	92.7	104	53.5	66.4
MAX	1680	900	830	396	876	743	362	1330	275	347	153	256
MIN	89	202	189	113	228	219	111	216	30	23	26	30
(†)	0	0	0	0	0	0	14.3	33.6	24.4	42.3	56.6	61.6
MEAN‡	352	350	321	201	439	410	213	488	117	146	110	128

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	146	263	320	316	358	557	523	340	204	138	137	147
MAX	1154	954	1135	1035	838	1670	1465	750	973	895	889	725
(WY)	1956	1933	1984	1979	1970	1936	1983	1978	1972	1945	1955	1927
MIN	13.6	22.2	12.8	27.5	83.0	67.8	24.8	72.0	39.9	5.89	6.17	10.8
(WY)	1981	1981	1981	1981	1969	1985	1985	1965	1965	1985	1985	1964

01388000 RAMAPO RIVER AT POMPTON LAKES, NJ--Continued

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	253		287	Unadjusted
AVERAGE FLOW ‡	273		302	
HIGHEST ANNUAL MEAN			512	1984
LOWEST ANNUAL MEAN			73.1	1985
HIGHEST DAILY MEAN	1680	Oct 28	10400	Mar 12 1936
LOWEST DAILY MEAN	23	Jul 3	0	Oct 1 1922
INSTANTANEOUS PEAK FLOW	2030	Oct 28	15400	Apr 5 1984
INSTANTANEOUS PEAK STAGE	11.49	Oct 28	15.21a	Apr 5 1984
INSTANTANEOUS LOW FLOW	23	Jul 2	0	
10 PERCENTILE	500		678	
50 PERCENTILE	225		164	
95 PERCENTILE	29		28	

a From gage well, outside high-water marks at 15.33 ft
e Estimated
† Diversion, in cubic feet per second, at station to Wanaque and Oradell Reservoirs. Records of diversion furnished by North Jersey District Water Supply Commission and Hackensack Water Company.
‡ Adjusted for diversion.

01388000 RAMAPO RIVER AT POMPTON LAKES, NJ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1923, 1962-67, 1982, 1987 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS TOTAL (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)
OCT 1987												
20...	1130	111	278	8.0	12.5	11.6	109	1.1	80	22	6.0	20
NOV												
17...	1130	373	345	7.5	7.0	11.8	96	2.1	73	20	5.6	36
DEC												
16...	1045	431	246	7.8	4.0	12.3	96	1.5	73	20	5.7	19
JAN 1988												
19...	1230	200	374	7.7	0.5	14.4	100	1.2	100	28	8.0	34
FEB												
24...	1130	531	266	7.5	2.5	13.8	102	1.8	61	17	4.6	28
MAR												
22...	1145	228	264	8.1	3.5	13.6	101	1.2	74	20	5.8	23
APR												
21...	1145	141	330	9.2	10.5	14.6	134	3.3	96	26	7.6	27
MAY												
12...	1200	308	258	7.5	15.5	10.3	104	2.8	67	18	5.4	21
26...	1100	658	210	7.2	16.0	7.8	79	1.8	59	16	4.7	18
JUN												
09...	1150	118	310	7.9	18.5	9.4	102	3.6	88	24	6.9	24
23...	1140	40	374	9.0	26.5	12.4	157	7.5	120	32	8.7	28
JUL												
21...	0930	329	402	7.8	24.5	2.5	30	9.0	120	31	9.7	31
AUG												
10...	0945	38	380	8.5	26.5	2.1	26	5.7	96	26	7.5	27
SEP												
08...	1030	77	369	8.1	19.5	6.0	65	4.2	100	27	8.3	30
22...	1400	42	369	8.3	20.5	8.7	98	2.0	110	29	8.4	29

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (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)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)
OCT 1987											
20...	1.3	56	20	37	0.1	7.7	152	<0.010	<0.010	0.90	0.89
NOV											
17...	1.3	46	17	65	0.1	7.9	185	<0.010	<0.010	0.90	0.89
DEC											
16...	1.1	50	17	34	0.2	7.0	138	0.020	0.020	0.90	0.88
JAN 1988											
19...	1.4	67	19	57	0.2	9.0	204	0.020	0.010	1.60	1.50
FEB											
24...	1.0	34	15	50	0.2	7.4	147	0.020	0.020	0.70	0.74
MAR											
22...	0.9	46	17	42	0.1	5.2	145	0.010	0.010	0.70	0.65
APR											
21...	1.2	63	20	52	0.1	2.4	174	0.020	0.020	0.60	--
MAY											
12...	1.1	44	16	39	0.3	5.7	136	0.020	0.020	0.70	0.66
26...	1.1	38	17	29	0.2	7.5	119	0.020	0.020	0.60	0.60
JUN											
09...	1.3	59	19	43	0.2	6.3	163	0.020	0.020	0.60	0.66
23...	1.3	80	20	57	0.4	0.70	197	0.020	0.020	0.30	0.31
JUL											
21...	1.8	81	18	62	0.1	4.1	208	0.020	0.020	0.30	0.27
AUG											
10...	1.5	72	21	52	0.1	8.4	187	<0.010	<0.010	<0.10	<0.10
SEP											
08...	2.6	68	21	53	0.1	6.0	193	0.020	0.020	0.90	0.92
22...	1.6	69	22	52	0.1	8.4	195	0.020	<0.010	0.70	0.71

01388000 RAMAPO RIVER AT POMPTON LAKES, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHOROUS TOTAL (MG/L AS P)	PHOSPHOROUS DISSOLVED (MG/L AS P)	PHOSPHORUS, ORTHO, TOTAL (MG/L AS P)	PHOSPHOROUS ORTHO, DISSOLVED (MG/L AS P)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	CARBON, ORGANIC SUSPENDED TOTAL (MG/L AS C)
OCT 1987											
20...	0.010	0.010	0.50	0.40	1.4	0.070	0.040	0.040	0.020	3.6	0.4
NOV											
17...	0.030	0.040	0.70	0.40	1.6	0.070	0.060	0.050	0.040	3.4	0.3
DEC											
16...	0.030	0.020	<0.20	<0.20	--	0.070	0.040	0.050	0.040	3.5	0.2
JAN 1988											
19...	0.030	0.050	0.30	0.20	1.9	0.110	0.080	0.080	0.070	2.4	0.2
FEB											
24...	0.070	0.060	0.20	0.20	0.90	0.050	0.020	0.020	0.020	2.2	0.1
MAR											
22...	0.020	0.030	0.30	0.20	1.0	0.040	0.030	0.020	0.030	2.4	<0.1
APR											
21...	0.020	0.040	0.70	0.40	1.3	0.040	0.020	0.030	0.030	2.3	0.9
MAY											
12...	0.050	0.070	0.20	<0.20	0.90	0.060	0.040	0.040	0.030	3.3	--
26...	0.110	0.120	1.2	0.80	1.8	0.060	0.050	0.040	0.030	4.1	0.1
JUN											
09...	0.030	0.030	0.40	0.30	1.0	0.040	0.030	<0.010	0.020	3.1	0.3
23...	0.020	0.020	1.1	0.40	1.4	0.100	0.030	0.030	0.010	4.0	3.5
JUL											
21...	0.390	0.420	1.1	1.0	1.4	0.170	0.080	0.080	0.060	3.7	0.8
AUG											
10...	0.110	0.150	1.7	0.80	--	0.130	0.040	0.050	0.020	5.4	1.3
SEP											
08...	0.070	0.100	0.90	0.40	1.8	0.130	0.040	0.050	0.030	3.0	1.7
22...	0.020	<0.010	0.90	0.30	1.6	0.100	0.040	0.040	0.020	3.0	1.6

01388500 POMPTON RIVER AT POMPTON PLAINS, NJ

LOCATION.--Lat 40°58'09", long 74°16'56", Passaic County, Hydrologic Unit 02030103, on left bank in Passaic Valley Water Commission pumping station, 800 ft below confluence of Pequannock and Ramapo Rivers, 100 ft upstream from bridge on Jackson Avenue (Pompton Plains Cross Road), and 0.7 mi east of Pompton Plains.

DRAINAGE AREA.--355 mi^2.

PERIOD OF RECORD.--March 1903 to December 1904, May 1940 to current year. Monthly discharge only for some periods, published in WSP 1302.

REVISED RECORDS.--WSP 1202: 1945(M).

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Datum of gage is 160.00 ft above National Geodetic Vertical Datum of 1929. March 1903 to December 1904, nonrecording gage on main spillway of dam 2,000 ft upstream at different datum. May 1940 to September 1964 two water-stage recorders, each above a concrete dam about 2,000 ft upstream at datum 14.46 ft higher.

REMARKS.--No estimated daily discharges. Records fair. Water diverted from reservoirs on Pequannock and Wanaque Rivers, from Pompton River to Point View Reservoir, and from Ramapo River to Wanaque Reservoir and Oradell Reservoir (from February 1985) for municipal supply (see Hackensack River basin, diversions into and from and Passaic River basin, diversions). Flow regulated by Canistear, Oak Ridge, Clinton, Charlotteburg and Echo Lake Reservoirs on Pequannock River and by Greenwood Lake, Monksville and Wanaque Reserviors on Wanaque River (see Passaic River basin, reservoirs in). Several measurements of water temperature were made during the year. Satellite telemeter at station.

COOPERATION.--Gage-height record collected in cooperation with Passaic Valley Water Commission.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	213	661	1610	274	295	397	504	438	580	61	147	103
2	179	562	1190	265	605	365	488	410	604	61	132	87
3	177	493	927	225	1130	413	445	358	348	57	116	80
4	693	436	813	246	1110	740	424	317	308	56	105	184
5	932	378	749	215	905	1060	410	345	284	61	96	355
6	679	323	639	176	658	843	374	861	265	70	91	193
7	597	296	543	186	500	754	368	940	208	59	86	143
8	540	273	472	188	459	759	402	733	181	58	80	115
9	406	259	429	191	403	760	367	576	181	57	76	97
10	329	331	408	193	365	954	333	498	177	60	73	88
11	307	586	394	167	337	995	297	514	159	63	73	81
12	310	502	374	174	402	875	274	513	145	60	68	78
13	293	491	359	182	439	809	253	429	133	57	67	196
14	305	514	333	150	354	790	238	477	122	55	66	182
15	234	529	422	144	325	742	230	389	115	75	63	128
16	205	513	702	144	431	643	269	334	107	73	57	102
17	190	499	559	144	452	569	267	377	100	92	57	98
18	181	647	432	198	430	504	239	840	97	75	59	104
19	172	661	367	266	442	463	228	2410	92	73	56	90
20	163	572	431	400	1140	426	209	2970	84	280	57	86
21	174	486	493	545	1090	371	193	2510	86	400	58	93
22	175	404	436	515	829	322	177	2000	81	435	56	84
23	161	345	385	390	721	301	163	1780	77	196	55	79
24	151	330	339	322	733	308	169	1510	69	515	215	79
25	147	323	326	316	647	329	169	1580	69	377	136	71
26	142	319	350	346	546	548	158	1610	70	361	90	70
27	150	307	334	310	504	1190	147	1310	66	553	92	70
28	2590	295	310	254	466	1060	577	1060	65	295	86	72
29	2030	329	308	240	432	779	590	938	64	264	137	67
30	1180	1610	266	253	---	633	481	806	63	202	262	67
31	836	---	245	249	---	544	---	715	---	163	148	---
MEAN	479	476	514	254	591	653	315	985	167	170	95.5	111
MAX	2590	1610	1610	545	1140	1190	590	2970	604	553	262	355
MIN	142	259	245	144	295	301	147	317	63	55	55	67

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	290	404	523	494	571	935	962	580	372	242	221	230
MAX	2369	1417	1543	1562	1654	2477	2995	1356	2177	1530	1520	1057
(WY)	1904	1956	1984	1979	1973	1983	1983	1978	1972	1945	1955	1971
MIN	40.2	52.3	34.8	39.2	149	118	62.7	110	62.9	34.2	34.2	46.7
(WY)	1981	1981	1981	1981	1969	1981	1985	1965	1965	1965	1966	1980

01388500 POMPTON RIVER AT POMPTON PLAINS, NJ--Continued

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	401		482	
HIGHEST ANNUAL MEAN			906	1952
LOWEST ANNUAL MEAN			117	1965
HIGHEST DAILY MEAN	2970	May 20	28300	Oct 10 1903
LOWEST DAILY MEAN	55	Jul 14	0	Aug 18 1904
INSTANTANEOUS PEAK FLOW	3260	May 20	28340a	Oct 10 1903
INSTANTANEOUS PEAK STAGE	11.79	May 20	14.3b	Oct 10 1903
INSTANTANEOUS LOW FLOW	52	Aug 23	0	Aug 18 1904
10 PERCENTILE	830		1130	
50 PERCENTILE	311		244	
95 PERCENTILE	61		57	

a By computation of peak flow over dam, maximum observed
b Site and datum then in use

01388600 POMPTON RIVER AT PACKANACK LAKE, NJ

LOCATION.--Lat 40°56'36", long 74°16'47", Morris County, Hydrologic Unit 02030103, at bridge on State Highway 504 in Packanack Lake, and 2.2 mi downstream from confluence of Pequannock and Wanaque Rivers.

DRAINAGE AREA.--361 mi^2.

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

COOPERATION.--Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)	HARD-NESS TOTAL (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
OCT 1987												
20...	1030	E170	283	7.7	12.5	9.7	91	3.0	490	80	81	22
NOV												
17...	1030	E500	320	7.4	7.0	11.8	96	3.0	--	--	73	20
DEC												
16...	1000	E750	242	7.8	4.0	13.0	102	1.5	--	--	67	18
JAN 1988												
20...	1030	E340	396	7.8	0.5	14.6	103	2.7	16000	2200	91	25
FEB												
24...	1000	E750	259	7.4	2.5	13.8	102	0.9	--	--	62	17
MAR												
23...	1100	E300	270	8.1	5.0	14.5	112	1.5	33	7	70	19
APR												
21...	1030	E200	320	8.5	10.5	10.7	98	3.0	--	--	89	24
MAY												
12...	1100	E510	253	7.4	15.5	10.2	103	3.3	--	--	66	18
26...	0950	E1700	183	7.4	15.5	9.8	99	3.3	1300	230	52	14
JUN												
09...	1020	E180	300	7.5	17.5	7.7	82	4.2	--	--	82	22
24...	0900	E72	342	7.5	21.5	5.3	60	5.8	--	--	88	24
JUL												
21...	1200	E420	362	7.6	24.5	7.1	86	9.0	9200	2400	110	28
AUG												
10...	1150	E71	334	7.8	26.5	5.7	71	3.6	200	4900	96	26
SEP												
09...	1130	E100	352	7.6	19.5	7.6	83	9.6	--	--	96	26
22...	1100	E84	296	7.7	19.0	9.1	98	2.0	--	--	96	26

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (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)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)
OCT 1987												
20...	6.4	21	1.6	54	20	35	0.10	8.3	152	0.041	0.030	0.96
NOV												
17...	5.6	32	1.4	44	17	57	0.10	8.2	172	0.010	<0.010	0.80
DEC												
16...	5.3	18	1.2	44	18	30	0.20	7.2	128	0.020	0.030	0.80
JAN 1988												
20...	6.9	40	1.6	57	20	68	0.20	8.6	211	0.030	0.010	1.40
FEB												
24...	4.8	27	1.2	35	16	48	0.20	7.5	146	0.010	0.020	0.80
MAR												
23...	5.4	21	1.0	44	18	39	0.10	5.7	139	0.020	<0.010	0.70
APR												
21...	7.0	25	1.3	56	21	46	0.10	3.8	165	0.020	0.020	0.70
MAY												
12...	5.2	20	1.1	40	17	36	0.30	5.8	131	0.020	0.020	0.70
26...	4.2	15	0.9	32	16	25	0.20	5.6	102	0.020	0.020	0.40
JUN												
09...	6.5	22	1.5	54	20	41	0.20	6.0	156	0.040	0.040	0.80
24...	6.9	25	1.7	64	22	47	0.30	2.7	173	0.120	0.110	0.90
JUL												
21...	8.6	28	1.8	67	21	54	--	4.6	189	0.040	0.040	0.50
AUG												
10...	7.5	27	1.7	63	22	46	0.10	7.1	179	0.080	0.080	0.70
SEP												
09...	7.5	27	1.7	62	25	47	0.10	6.3	183	0.060	0.060	1.10
22...	7.5	26	1.7	60	23	42	0.10	7.1	174	0.070	0.050	0.80

01388600 POMPTON RIVER AT PACKANACK LAKE, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHOROUS TOTAL (MG/L AS P)	PHOSPHOROUS DISSOLVED (MG/L AS P)	PHOSPHORUS, ORTHO, TOTAL (MG/L AS P)	PHOSPHOROUS ORTHO, DISSOLVED (MG/L AS P)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	CARBON, ORGANIC SUSPENDED TOTAL (MG/L AS C)
OCT 1987												
20...	1.00	0.29	0.280	0.90	0.70	1.9	0.110	0.110	0.100	0.060	3.4	0.1
NOV												
17...	0.81	0.20	0.170	1.1	0.30	1.9	0.100	0.070	0.050	0.050	3.6	0.5
DEC												
16...	0.80	0.12	0.110	0.50	0.40	1.3	0.090	0.050	0.060	0.040	3.5	0.4
JAN 1988												
20...	1.30	0.22	0.210	0.80	0.60	2.2	0.130	0.090	0.090	0.070	2.3	--
FEB												
24...	0.74	0.10	0.100	0.20	0.30	1.0	0.050	0.030	0.030	0.020	2.4	0.3
MAR												
23...	0.65	0.11	0.090	0.50	0.30	1.2	0.060	0.040	<0.010	0.020	2.6	0.4
APR												
21...	0.73	0.14	0.140	0.80	0.50	1.5	0.080	0.060	0.060	0.050	2.6	0.7
MAY												
12...	0.70	0.10	0.120	0.40	0.40	1.1	0.070	0.050	0.040	0.030	3.4	0.1
26...	0.42	0.10	0.090	0.60	0.70	1.0	0.050	0.040	0.030	0.020	4.3	0.1
JUN												
09...	0.87	0.27	0.270	1.2	0.60	2.0	0.100	0.080	0.060	0.050	3.3	--
24...	0.91	0.49	0.510	1.1	0.50	2.0	0.230	0.140	0.140	0.120	3.6	0.8
JUL												
21...	0.46	0.28	0.320	1.3	0.90	1.8	0.250	0.070	0.070	0.050	4.2	--
AUG												
10...	0.68	0.36	0.390	1.3	1.2	2.0	0.180	0.120	0.130	0.110	4.1	--
SEP												
09...	1.00	0.27	0.310	0.70	0.50	1.8	0.130	0.060	0.080	0.040	2.9	1.0
22...	0.83	0.29	0.250	1.1	0.60	1.9	0.140	0.070	0.060	0.050	3.0	0.3

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
OCT 1987									
20...	1030	<0.5	<10	<1	<10	60	<1	<10	8

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
OCT 1987								
20...	380	73	80	<0.10	5	<1	80	2

01389005 PASSAIC RIVER BELOW POMPTON RIVER AT TWO BRIDGES, NJ

LOCATION.--Lat 40°53'47", long 074°16'10", Passaic County, Hydrologic Unit 02030103, on right bank, in Two Bridges and 400 ft downstream from the Pompton River.

DRAINAGE AREA.--734 mi^2.

PERIOD OF RECORD.--June, 1987 to current year.

WATER QUALITY DATA, WATER YEAR OCOTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	HARD-NESS TOTAL (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)
OCT 1987												
20...	0845	E410	418	7.5	13.5	5.6	54	2.3	100	26	8.5	28
NOV												
17...	0730	E1200	353	7.3	7.0	8.4	69	3.0	78	20	6.8	34
JAN 1988												
19...	0945	E720	592	7.5	0.0	10.1	69	3.3	120	30	10	56
MAR												
22...	0845	E810	373	7.6	4.0	10.8	82	1.5	87	22	7.7	30
APR												
21...	0815	E460	491	7.5	11.0	6.4	59	4.8	130	32	12	44
MAY												
12...	0740	E1200	331	7.4	15.0	4.8	48	4.5	90	23	7.8	27
JUN												
09...	0800	E450	450	7.3	19.0	2.3	25	4.8	100	27	8.7	31
23...	0910	E240	600	7.4	26.0	5.1	64	6.7	140	35	12	47
JUL												
21...	0830	E1200	274	7.3	24.0	2.6	31	7.9	78	20	6.8	26
AUG												
10...	0845	E240	502	7.5	27.0	3.1	39	4.5	130	32	11	39
SEP												
08...	0930	E340	353	7.1	18.5	4.2	45	3.3	100	26	8.6	30
22...	1030	E260	467	7.4	20.0	4.3	48	6.1	130	33	12	44

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (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)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)
OCT 1987											
20...	3.0	64	27	47	0.20	11	200	0.080	0.080	2.20	2.10
NOV											
17...	2.2	47	23	56	0.10	10	185	0.020	0.020	1.00	0.94
JAN 1988											
19...	3.6	78	31	91	0.20	13	295	0.040	0.030	2.40	2.30
MAR											
22...	1.9	55	24	49	0.10	8.3	182	0.020	0.030	1.20	1.20
APR											
21...	3.9	81	41	68	0.20	11	274	0.090	0.100	2.50	2.50
MAY											
12...	2.1	54	25	45	0.30	8.6	178	0.060	0.060	1.20	1.30
JUN											
09...	2.9	67	29	51	0.20	12	211	0.110	0.110	1.60	1.70
23...	3.8	82	37	78	0.30	12	289	0.210	0.210	2.70	2.70
JUL											
21...	2.9	47	25	40	0.10	7.4	164	0.090	0.090	1.30	1.40
AUG											
10...	3.5	79	34	63	0.10	14	256	0.170	0.170	2.30	2.30
SEP											
08...	1.7	61	30	45	0.10	10	198	0.130	0.130	1.90	2.00
22...	3.8	77	36	68	0.10	14	273	0.210	0.180	3.00	2.90

01389005 PASSAIC RIVER BELOW POMPTON RIVER AT TWO BRIDGES, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCOTOBER 1987 TO SEPTEMBER 1988

DATE	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHOROUS TOTAL (MG/L AS P)	PHOSPHOROUS DISSOLVED (MG/L AS P)	PHOSPHORUS, ORTHO, TOTAL (MG/L AS P)	PHOSPHOROUS ORTHO, DISSOLVED (MG/L AS P)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	CARBON, ORGANIC SUSPENDED TOTAL (MG/L AS C)
OCT 1987											
20...	0.75	0.750	1.5	1.4	3.7	0.400	0.310	0.320	0.250	4.6	0.3
NOV											
17...	0.41	0.380	1.2	0.70	2.2	0.190	0.170	0.150	0.150	6.3	0.6
JAN 1988											
19...	2.00	2.00	2.5	2.0	4.9	0.590	0.460	0.490	0.400	4.0	0.6
MAR											
22...	0.52	0.520	1.0	1.0	2.2	0.200	0.180	0.170	0.150	3.2	2.0
APR											
21...	1.50	1.00	2.7	2.3	5.2	0.650	0.480	0.530	0.400	5.1	0.2
MAY											
12...	0.63	0.670	0.90	1.0	2.1	0.250	0.160	0.210	0.120	5.5	<0.1
JUN											
09...	1.00	1.00	1.6	1.6	3.2	0.300	0.220	--	0.180	3.9	0.4
23...	1.20	1.20	2.2	1.6	4.9	0.590	0.330	0.340	0.290	5.7	2.6
JUL											
21...	0.71	0.700	2.2	1.6	3.5	0.490	0.300	0.300	0.270	5.3	2.0
AUG											
10...	0.99	1.00	2.7	2.5	5.0	0.520	0.290	0.340	0.290	7.4	1.5
SEP											
08...	0.49	0.540	1.5	1.0	3.4	0.440	0.330	0.310	0.260	5.6	0.5
22...	1.40	1.20	1.5	1.5	4.5	0.700	0.540	0.530	0.490	4.1	0.6

01389500 PASSAIC RIVER AT LITTLE FALLS, NJ
(National stream quality accounting network station)

LOCATION.--Lat 40°53'05", long 74°13'35", Passaic County, Hydrologic Unit 02030103, on left bank 0.6 mi downstream from Beattie's Dam in Little Falls, and 1.0 mi upstream from Peckman River.

DRAINAGE AREA.--762 mi^2. Area at site used prior to Oct. 1, 1955, 799 mi^2, revised.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1897 to current year. Monthly discharge only for September 1897, published in WSP 1302. Published as "at Paterson", September 1897 to September 1955.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 120.00 ft above National Geodetic Vertical Datum of 1929 (levels by Passaic Valley Water Commission). Prior to Jan. 8, 1933, nonrecording gage and Jan. 8, 1933, to Sept. 30, 1955, water-stage recorder, at site 3.7 mi downstream at National Geodetic Vertical Datum of 1929 (levels from New Jersey Geological Survey bench mark).

REMARKS.--Records good. Diurnal fluctuation at medium and low flow caused by hydroelectric plant at Beattie's Dam. Flow regulated by reservoirs in Rockaway, Pequannock, Wanaque, and Ramapo River subbasins (see Passaic River basin, reservoirs in). Large diversions for municipal supply from Passaic River above Beattie's Dam, and from Rockaway, Pequannock, Ramapo, and Wanaque Rivers (see Passaic River basin, diversions and Hackensack River basin, diversions). In addition, the New Jersey American Water Company (formerly Commonwealth Water Co.) diverts from Canoe Brook near Summit and from Passaic River (see Passaic River basin, diversions); that company and the city of East Orange also divert water for municipal supply by pumping wells. Several measurements of water temperature, other than those published, were made during the year. National Weather Service rain-gage and gage-height and USGS satellite telemeters at station.

COOPERATION.--Gage-height record collected in cooperation with the Passaic Valley Water Commission.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	427	2220	2410	549	695	848	932	705	1590	e111	1370	366
2	426	1980	2340	568	1160	743	830	516	1390	e109	1170	260
3	424	1730	2160	533	1780	722	798	428	1060	e105	896	205
4	1070	1470	2030	526	2180	1110	760	339	826	e99	584	323
5	1400	1160	1860	501	2120	1850	741	411	678	e91	377	765
6	1310	852	1630	425	1900	1870	696	884	626	111	282	676
7	1150	704	1340	432	1690	1840	694	1180	543	107	239	473
8	1080	623	1060	412	1490	1810	751	1160	466	106	199	341
9	916	583	902	416	1180	1770	679	1130	451	103	176	271
10	764	697	835	429	951	1770	585	839	460	103	163	228
11	659	1300	801	393	684	1780	409	758	404	98	161	199
12	621	1450	771	391	815	1640	256	851	345	108	151	180
13	580	1480	741	398	920	1500	221	788	302	120	143	447
14	540	1490	695	369	889	1390	200	735	264	126	143	610
15	494	1440	801	339	836	1290	237	655	247	107	121	443
16	675	1330	1330	330	986	1160	458	580	229	115	108	308
17	708	1160	1400	326	1120	1040	359	579	231	195	101	256
18	540	1120	1300	442	1160	946	214	1020	221	213	104	270
19	416	1160	1090	648	1180	888	205	2780	202	167	97	250
20	363	1070	977	985	2250	834	179	3440	190	630	103	219
21	387	961	1060	1360	2420	776	111	3620	171	1100	102	238
22	394	844	1030	1430	2250	708	87	3410	164	1370	88	210
23	367	731	922	1370	2130	652	117	3150	156	1170	81	181
24	331	678	822	1220	2100	642	123	2870	e138	1420	443	170
25	311	650	760	1090	1900	639	169	2910	e126	1470	637	167
26	315	643	759	1010	1650	835	121	2970	e138	1570	467	155
27	340	623	755	891	1620	1450	106	2830	e126	2060	295	148
28	2680	594	711	716	1460	1640	610	2630	e115	1640	244	146
29	3040	644	677	610	1140	1530	903	2400	e105	1540	240	142
30	2750	1870	594	598	---	1340	1010	2110	e115	1540	579	136
31	2440	---	505	579	---	1120	---	1850	---	1490	551	---
MEAN	901	1109	1131	654	1471	1230	452	1630	403	622	336	293
MAX	3040	2220	2410	1430	2420	1870	1010	3620	1590	2060	1370	765
MIN	311	583	505	326	684	639	87	339	105	91	81	136

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	620	947	1272	1351	1462	2429	2110	1294	768	538	551	540
MAX	5613	4757	4497	4039	3787	6755	5760	3686	4290	3124	2859	3561
(WY)	1904	1908	1903	1979	1973	1936	1983	1898	1972	1945	1942	1971
MIN	44.5	79.2	111	104	178	423	228	227	84.6	60.3	30.4	28.9
(WY)	1931	1932	1981	1981	1901	1981	1985	1965	1965	1954	1923	1964

01389500 PASSAIC RIVER AT LITTLE FALLS, NJ--Continued

WATER DISCHARGE RECORDS--Continued

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	852		1156	Unadjusted
HIGHEST ANNUAL MEAN			2394	1903
LOWEST ANNUAL MEAN			269	1965
HIGHEST DAILY MEAN	3620	May 21	28000	Oct 10 1903
LOWEST DAILY MEAN	81	Aug 23	0	Jul 3 1904
INSTANTANEOUS PEAK FLOW	3670	May 21	31700a	Oct 10 1903
INSTANTANEOUS PEAK STAGE	5.31	May 21	--	Oct 10 1903
INSTANTANEOUS LOW FLOW	73	Apr 22	0	Jul 3 1904
10 PERCENTILE	1840		2860	
50 PERCENTILE	676		640	
95 PERCENTILE	109		83	

a Present site
e Estimated

01389500 PASSAIC RIVER AT LITTLE FALLS, NJ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1963 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1980 to November 1986 (discontinued).
WATER TEMPERATURE: Water years 1963 to 1980 (once daily), September 1980 to November 1986 (discontinued).
DISSOLVED OXYGEN: October 1970 to September 1980 (once daily).
SUSPENDED-SEDIMENT DISCHARGE: August 1963 to July 1965.

INSTRUMENTATION.--Water-quality monitor since October 1980.

REMARKS.--Missing continuous water-quality records are the result of malfunction of the instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 965 microsiemens, Feb. 4, 1985; minimum, 99 microsiemens, April 6, 1984.
WATER TEMPERATURE: Maximum, 29.5°C, July 12, 1981; minimum, 0.0°C on many days during winter months.
DISSOLVED OXYGEN: Maximum daily, 14.4 mg/L, Jan. 7, 1973; minimum daily, 1.7 mg/L, June 23, 1976.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT 1987											
20...	1300	358	364	8.0	13.5	--	9.7	93	2.1	--	--
NOV											
17...	1200	1160	347	7.6	7.5	3.3	11.2	93	3.0	380	--
DEC											
16...	1430	1360	308	7.8	4.5	--	12.1	96	3.0	--	--
JAN 1988											
19...	1230	644	567	7.8	0.5	2.5	14.9	103	5.7	93	660
FEB											
25...	1110	1890	271	7.3	2.0	--	12.9	94	3.0	--	--
MAR											
22...	1200	703	342	7.9	4.5	2.1	12.9	99	--	--	--
APR											
21...	1300	111	532	8.1	12.0	--	9.2	87	4.8	--	--
MAY											
13...	1010	796	344	7.6	16.5	14	7.8	80	4.8	K170	K320
26...	1230	2970	208	7.2	16.0	--	9.0	91	3.6	--	--
JUN											
10...	1100	471	398	7.7	18.0	--	8.6	91	4.2	--	--
24...	1200	237	515	8.3	24.5	--	7.9	95	10	--	--
JUL											
21...	1330	1080	299	7.9	25.0	18	8.0	97	7.8	>2000	2800
AUG											
10...	1415	155	415	8.5	28.5	--	8.6	111	7.5	--	--
SEP											
08...	1300	330	368	8.0	19.0	--	8.3	89	3.9	--	--
23...	1130	182	479	8.2	20.5	6.7	7.9	89	3.4	250	--

01389500 PASSAIC RIVER AT LITTLE FALLS, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	CARBONATE IT-FLD (MG/L AS CO3)	BICARBONATE IT-FLD (MG/L AS HCO3)	ALKALINITY, CARBONATE IT-FLD (MG/L - CACO3)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)
OCT 1987											
20...	110	29	9.2	29	2.9	--	--	--	--	67	26
NOV											
17...	81	21	7.0	34	2.2	--	--	--	--	49	23
DEC											
16...	82	21	7.1	23	2.3	--	--	--	--	51	24
JAN 1988											
19...	120	33	10	61	3.7	<1.0	98	81	84	79	34
FEB											
25...	66	17	5.6	27	1.6	--	--	--	--	37	18
MAR											
22...	93	24	7.9	30	2.1	--	--	--	--	57	25
APR											
21...	140	38	12	44	3.9	--	--	--	--	91	37
MAY											
13...	85	22	7.4	29	2.0	<1.0	74	61	61	53	26
26...	61	16	5.1	17	1.7	--	--	--	--	39	19
JUN											
10...	110	30	9.3	31	2.9	--	--	--	--	69	30
24...	140	37	12	48	3.9	--	--	--	--	85	37
JUL											
21...	83	22	6.7	24	2.8	<1.0	67	55	54	48	25
AUG											
10...	130	34	10	38	3.5	--	--	--	--	83	34
SEP											
08...	100	27	8.7	30	2.5	--	--	--	--	63	32
23...	130	34	12	41	3.4	<1.0	99	81	82	81	36

DATE	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)
OCT 1987											
20...	44	0.2	12	203	--	--	--	0.080	0.080	2.20	2.10
NOV											
17...	57	0.1	11	190	18	56	95	0.020	0.020	1.00	0.97
DEC											
16...	38	0.2	10	164	--	--	--	0.030	0.040	1.50	1.40
JAN 1988											
19...	100	0.2	13	318	12	21	90	0.040	0.020	2.40	2.50
FEB											
25...	46	0.2	8.7	150	--	--	--	0.010	0.020	0.90	0.80
MAR											
22...	52	0.1	8.4	191	2	3.8	100	0.020	0.030	1.30	1.30
APR											
21...	73	0.2	12	290	--	--	--	0.080	0.080	2.90	2.80
MAY											
13...	47	0.3	8.2	185	26	56	99	0.060	0.060	1.40	1.40
26...	27	0.3	7.7	120	--	--	--	0.040	0.040	0.70	0.59
JUN											
10...	52	0.2	12	219	--	--	--	0.120	0.120	2.00	2.00
24...	75	0.3	9.7	289	--	--	--	0.190	0.190	3.10	3.10
JUL											
21...	39	0.2	7.6	169	44	128	95	0.090	0.090	1.40	1.50
AUG											
10...	61	0.1	13	256	--	--	--	0.160	0.150	2.60	2.60
SEP											
08...	46	0.1	10	206	--	--	--	0.110	0.120	2.30	2.40
23...	63	0.2	13	273	20	9.8	97	0.200	0.190	4.60	4.30

01389500 PASSAIC RIVER AT LITTLE FALLS, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOSPHOROUS TOTAL (MG/L AS P)	PHOSPHOROUS DISSOLVED (MG/L AS P)	PHOSPHORUS, ORTHO, TOTAL (MG/L AS P)	PHOSPHOROUS ORTHO, DISSOLVED (MG/L AS P)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	CARBON, ORGANIC SUSPENDED TOTAL (MG/L AS C)
OCT 1987										
20...	0.580	0.560	1.3	1.1	0.400	0.310	0.320	0.250	4.7	<0.1
NOV										
17...	0.370	0.360	1.3	0.70	0.190	0.160	0.140	0.130	5.5	1.0
DEC										
16...	0.600	0.580	1.3	1.1	0.300	0.220	0.230	0.180	6.0	0.7
JAN 1988										
19...	2.00	1.80	2.5	2.1	0.590	0.460	0.480	0.400	4.2	<0.1
FEB										
25...	0.220	0.220	0.60	0.50	0.110	0.080	0.080	0.040	4.0	0.5
MAR										
22...	0.520	0.500	1.1	1.1	0.240	0.190	0.180	0.160	3.5	--
APR										
21...	1.30	1.40	2.4	2.2	0.590	0.440	0.460	0.350	4.3	1.0
MAY										
13...	0.420	0.440	0.80	0.80	0.220	0.140	0.170	0.100	4.8	0.5
26...	0.170	0.160	0.70	0.50	0.160	0.130	0.120	0.100	7.1	0.5
JUN										
10...	0.820	0.820	1.5	1.4	0.270	0.200	0.190	0.150	4.5	0.7
24...	0.480	0.500	2.1	1.1	0.570	0.310	0.250	0.250	5.0	2.5
JUL										
21...	0.600	0.620	1.5	1.3	0.460	0.280	0.250	0.260	5.0	1.9
AUG										
10...	0.380	0.380	2.3	1.5	0.470	0.280	0.300	0.260	7.1	0.9
SEP										
08...	0.420	0.450	1.1	0.90	0.450	0.320	0.320	0.280	--	--
23...	0.820	0.790	1.7	1.3	0.540	0.500	0.440	0.410	4.4	0.7

DATE	TIME	ALUMINUM, DISSOLVED (UG/L AS AL)	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, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)
JAN 1988											
19...	1230	<10	<1	17	<0.5	<1	<1	<3	6	50	<5
MAR											
22...	1200	10	<1	14	<0.5	<1	<1	<3	4	33	<5
JUL											
21...	1330	30	1	15	<0.5	<1	<1	<3	3	46	<5
SEP											
23...	1130	30	1	18	<0.5	<1	<1	<3	4	21	<5

DATE	LITHIUM DISSOLVED (UG/L AS LI)	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)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)
JAN 1988										
19...	<4	100	<0.1	<10	<1	<1	<1.0	120	<6	13
MAR										
22...	4	78	<0.1	<10	1	<1	<1.0	82	<6	<3
JUL										
21...	<4	80	<0.1	<10	2	2	<1.0	81	<6	8
SEP										
23...	5	87	<0.1	<10	4	<1	<1.0	120	<6	8

01390500 SADDLE RIVER AT RIDGEWOOD, NJ

LOCATION.--Lat 40°59'05", long 74°05'30", Bergen County, Hydrologic Unit 02030103, on left bank 15 ft upstream from bridge on State Highway 17 in Ridgewood and 2.8 mi upstream from Hohokus Brook.

DRAINAGE AREA.--21.6 mi^2.

PERIOD OF RECORD.--October 1954 to September 1974, October 1977 to current year. Operated as a maximum-stage gage water years 1975-77.

REVISED RECORDS.--WRD-NJ 1974: 1971.

GAGE.--Water-stage recorder. Datum of gage is 71.74 ft above National Geodetic Vertical Datum of 1929 (levels from New Jersey Geological Survey bench mark).

REMARKS.--Records fair except for estimated daily discharges, which are poor. The flow past this station is affected by pumpage from wells by Hackensack Water Co. and others. Several measurements of water temperature were made during the year. Satellite telemeter at station.

EXTREMES OUTSIDE OF PERIOD OF RECORD.--Flood of July 23, 1945, reached a discharge of 6,400 ft^3/s, at site 1.6 mi upstream, drainage area, 19.1 mi^2, by slope-area measurement.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	22	51	19	23	33	26	25	22	e7.6	e15	e11
2	15	20	40	18	59	32	25	24	34	e7.1	e15	e9.3
3	23	20	35	18	53	36	24	22	19	e6.6	e15	6.1
4	111	20	40	19	58	90	25	20	32	e6.8	e14	89
5	39	19	37	18	36	72	24	39	22	e6.8	e13	38
6	26	19	30	24	25	47	22	80	18	e6.9	e12	18
7	48	19	21	17	23	44	27	40	17	e6.8	e11	12
8	28	20	20	18	20	40	26	28	15	e6.8	e11	8.9
9	22	21	20	19	19	39	23	25	20	e7.2	e10	8.3
10	20	57	20	17	19	41	20	25	16	e10	e10	7.2
11	22	87	21	18	18	36	21	27	14	e8.7	e9.2	6.7
12	24	56	21	18	25	33	20	23	13	e9.2	e9.2	6.7
13	20	59	20	18	24	34	19	20	11	e8.1	e9.1	57
14	20	52	18	18	22	34	19	25	11	e7.8	e9.0	16
15	19	44	48	18	21	31	20	19	e11	e15	e8.9	8.0
16	18	41	54	20	47	29	27	17	e11	e8.7	e8.2	7.2
17	17	39	28	20	33	28	19	34	e10	e20	e8.0	8.3
18	18	43	24	21	30	27	22	119	e10	e11	e8.4	8.8
19	19	25	22	27	34	26	21	130	e9.5	e11	e7.5	7.5
20	19	24	32	56	194	26	19	65	e9.9	98	e7.5	7.0
21	32	23	29	43	66	24	18	38	e9.2	118	e7.0	8.2
22	27	22	23	30	45	22	18	31	e9.2	179	e7.0	7.1
23	21	23	22	21	49	22	17	28	e8.8	26	e6.8	6.6
24	19	29	21	18	49	23	19	34	e8.4	141	73	6.6
25	20	28	21	20	41	24	18	93	e7.9	44	e28	6.1
26	23	24	25	22	37	81	17	47	e7.9	59	e15	6.6
27	23	22	21	18	37	69	17	31	e8.0	77	e12	5.4
28	336	22	20	18	35	37	74	26	e8.1	29	e10	6.0
29	47	37	21	23	35	31	31	23	e7.9	20	e17	5.2
30	32	140	21	16	---	28	31	21	e7.7	16	e26	6.0
31	26	---	22	17	---	26	---	22	---	16	e13	---
MEAN	37.2	35.9	27.4	21.5	40.6	37.6	23.6	38.7	13.6	32.1	13.7	13.5
MAX	336	140	54	56	194	90	74	130	34	179	73	89
MIN	15	19	18	16	18	22	17	17	7.7	6.6	6.8	5.2
IN.	1.98	1.85	1.46	1.15	2.03	2.01	1.22	2.07	.70	1.71	.73	.70

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	22.1	35.2	38.2	36.5	43.7	56.2	61.7	42.0	27.1	20.7	19.9	18.6
MAX	104	109	109	115	86.9	104	152	102	121	87.6	77.1	70.6
(WY)	1956	1978	1973	1979	1961	1983	1983	1984	1972	1984	1955	1971
MIN	5.80	8.41	7.49	6.43	11.8	15.6	11.0	14.8	7.46	3.23	3.30	2.34
(WY)	1983	1982	1981	1981	1980	1985	1985	1965	1965	1966	1980	1980

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	28.0		35.1	
HIGHEST ANNUAL MEAN			58.7	1984
LOWEST ANNUAL MEAN			16.6	1965
HIGHEST DAILY MEAN	336	Oct 28	1250	Nov 8 1977
LOWEST DAILY MEAN	5.2	Sep 29	.2	Sep 17 1966
INSTANTANEOUS PEAK FLOW	990	Oct 28	4650	Nov 8 1977
INSTANTANEOUS PEAK STAGE	5.63	Oct 28	12.25	Nov 8 1977
INSTANTANEOUS LOW FLOW	4.7	Sep 29	---	
ANNUAL RUNOFF (INCHES)	17.6		22.1	
10 PERCENTILE	51		71	
50 PERCENTILE	22		23	
95 PERCENTILE	6.5		5.0	

e Estimated

01391000 HOHOKUS BROOK AT HO-HO-KUS, NJ

LOCATION.--Lat 40°59'52", long 74°06'48", Bergen County, Hydrologic Unit 02030103, on left bank 500 ft upstream from bridge on Maple Avenue in Ho-Ho-Kus, and 3.5 mi upstream from mouth.

DRAINAGE AREA.--16.4 mi^2.

PERIOD OF RECORD.--April 1954 to September 1973, October 1977 to current year. Operated as a crest-stage partial-record station, water years 1974-77.

REVISED RECORDS.--WDR NJ-77-1: 1955(M), 1968(M), 1976(M).

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Datum of gage is 120.09 ft above National Geodetic Vertical Datum of 1929 (levels from New Jersey Geological Survey bench mark).

REMARKS.--Records good below 300 ft^3/s and fair above. Some regulation and diurnal fluctuation at low and medium flows caused by unknown sources, possibly sewage treatment plant upstream of gage. Several measurements of water temperature were made during the year. Satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	30	51	25	37	35	33	28	28	15	27	18
2	21	28	37	25	72	33	33	26	29	14	24	17
3	29	27	32	24	68	39	32	25	25	13	23	16
4	91	26	37	26	73	94	33	24	34	14	22	91
5	39	25	34	23	51	82	32	45	27	14	21	55
6	28	23	29	22	36	52	30	90	23	14	20	26
7	51	23	27	22	28	47	34	49	21	14	19	22
8	31	22	27	23	31	44	33	32	21	14	19	20
9	25	24	27	25	28	43	30	29	29	15	18	19
10	24	51	27	23	27	44	29	31	26	20	18	19
11	25	72	28	22	27	38	28	33	22	17	17	18
12	25	43	28	21	38	36	27	29	21	16	17	18
13	23	42	26	23	36	36	25	27	20	15	17	63
14	21	38	24	e21	29	36	25	31	21	16	17	31
15	21	32	59	e22	31	34	26	25	19	27	17	22
16	20	29	62	e23	62	32	33	23	19	17	16	20
17	20	28	35	e27	46	31	27	42	18	30	15	21
18	22	38	29	43	43	30	27	130	18	19	16	22
19	20	30	28	38	46	31	28	165	17	19	15	19
20	19	27	42	71	191	30	25	82	18	106	15	18
21	24	25	38	56	72	28	24	51	17	105	14	19
22	23	23	31	43	47	26	24	42	17	152	14	17
23	20	23	29	33	51	27	24	39	16	41	14	17
24	18	24	28	29	53	28	24	38	15	148	79	17
25	17	25	28	31	42	28	24	99	15	76	38	16
26	19	24	33	36	38	75	23	59	15	110	21	16
27	22	23	29	29	38	75	23	38	15	107	19	15
28	130	24	27	e29	37	42	76	33	15	49	18	15
29	56	41	28	e30	36	36	33	30	15	37	27	15
30	39	142	25	25	---	35	32	28	15	31	38	15
31	33	---	24	27	---	33	---	28	---	29	21	---
MEAN	31.6	34.4	32.5	29.6	48.8	41.3	29.9	46.8	20.4	42.4	21.8	23.9
MAX	130	142	62	71	191	94	76	165	34	152	79	91
MIN	17	22	24	21	27	26	23	23	15	13	14	15
IN.	2.23	2.34	2.29	2.08	3.21	2.90	2.03	3.29	1.39	2.98	1.53	1.63

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	23.1	33.9	35.2	32.8	41.7	49.3	52.6	37.5	27.9	23.6	24.1	21.5
MAX	82.4	102	91.7	80.9	90.0	89.6	130	94.9	101	85.5	84.9	96.5
(WY)	1956	1978	1984	1979	1973	1983	1983	1984	1972	1984	1955	1971
MIN	6.21	7.10	12.3	9.07	15.3	20.8	19.4	13.9	7.58	3.91	5.17	5.78
(WY)	1965	1965	1981	1981	1980	1981	1985	1955	1965	1966	1966	1964

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	33.6		33.5	
HIGHEST ANNUAL MEAN			61.3	1984
LOWEST ANNUAL MEAN			16.1	1965
HIGHEST DAILY MEAN	191	Feb 20	1220	Nov 8 1977
LOWEST DAILY MEAN	13	Jul 3	2.5	Jul 13 1966
INSTANTANEOUS PEAK FLOW	443	Jul 26	3700a	Nov 8 1977
INSTANTANEOUS PEAK STAGE	2.74	Jul 26	7.06	Nov 8 1977
INSTANTANEOUS LOW FLOW	8.6	Jul 9	1.9	Aug 2 1966
ANNUAL RUNOFF (INCHES)	27.8		27.8	
10 PERCENTILE	55		63	
50 PERCENTILE	28		23	
95 PERCENTILE	15		6.9	

a From rating curve extended above 750 ft^3/s by computation of peak flow over dam
e Estimated

01391200 SADDLE RIVER AT FAIR LAWN, NJ

LOCATION.--Lat 40°56'30", long 74°05'36", Bergen County, Hydrologic Unit 02030103, at bridge on Century Road in Fair Lawn, and 0.8 mi downstream from Hohokus Brook.

DRAINAGE AREA.--45.2 mi^2.

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

COOPERATION.--Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, EC BROTH (MPN)	STREPTOCOCCI FECAL (MPN)
OCT 1987										
15...	1115	E41	553	7.8	10.0	10.2	90	3.3	>24000	5400
FEB 1988										
10...	0935	E60	608	7.8	3.0	13.1	96	4.2	200	200
APR										
06...	0815	E70	569	7.6	11.5	8.0	74	7.9	170	170
JUN										
07...	0945	E40	515	7.8	17.0	7.8	82	3.3	1100	1100
AUG										
02...	0900	E50	542	7.6	22.0	6.6	75	6.6	1400	790
23...	1115	E23	638	7.6	20.0	8.7	95	--	4900	700

DATE	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
OCT 1987									
15...	190	51	14	39	4.3	114	32	63	0.2
FEB 1988									
10...	180	50	13	51	3.7	125	32	93	0.2
APR									
06...	180	48	14	42	3.2	115	31	74	0.2
JUN									
07...	170	45	13	38	3.7	115	30	69	0.3
AUG									
02...	170	46	13	40	3.9	113	29	68	0.1
23...	180	47	16	49	6.2	113	38	84	0.1

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1987									
15...	13	285	0.240	5.03	E2.35	2.3	7.3	1.13	5.4
FEB 1988									
10...	11	329	0.128	3.09	--	--	--	0.622	4.2
APR									
06...	7.8	289	0.290	1.79	3.60	--	--	0.707	4.8
JUN									
07...	11	279	0.119	3.93	0.19	0.63	4.6	0.810	6.0
AUG									
02...	9.3	277	0.290	4.04	0.31	0.95	5.0	0.850	5.5
23...	11	319	0.600	7.35	0.52	1.6	9.0	1.66	7.0

01391200 SADDLE RIVER AT FAIR LAWN, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	NITRO-GEN,NH4 + ORG. TOT IN BOT MAT (MG/KG AS N)	CARBON, INOR-GANIC, TOT IN BOT MAT (G/KG AS C)	CARBON, INORG + ORGANIC TOT. IN BOT MAT (MG/KG AS C)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC TOTAL IN BOT-TOM MA-TERIAL (UG/G AS AS)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE)	BORON, TOTAL RECOV-ERABLE (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM RECOV. FM BOT-TOM MA-TERIAL (UG/G AS CD)
OCT 1987 15...	1115	<0.5	120	0.1	1.6	<10	1	<1	<10	110	<1	<1

DATE	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, RECOV. FM BOT-TOM MA-TERIAL (UG/G)	COBALT, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, RECOV. FM BOT-TOM MA-TERIAL (UG/G)
OCT 1987 15...	<10	<10	<50	15	5	180	3900	<5	<10	60	100

DATE	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY RECOV. FM BOT-TOM MA-TERIAL (UG/G AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	NICKEL, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, TOTAL IN BOT-TOM MA-TERIAL (UG/G)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS ZN)	PHENOLS TOTAL (UG/L)	PCB, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	PCN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)
OCT 1987 15...	<0.10	<0.10	3	<10	<1	<1	20	20	5	<1	<1.0

DATE	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)	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)
OCT 1987 15...	<0.1	18	0.9	1.5	1.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

DATE	HEPTA-CHLOR EPOXIDE TOT. IN BOTTOM MATL. (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 BOTTOM MATL. (UG/KG)	METHYL PARA-THION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRI-THION, TOT. IN BOTTOM MATL. (UG/KG)	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)	TOXA-PHENE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	TRI-THION, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)
OCT 1987 15...	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.00	<10	<0.1

01391500 SADDLE RIVER AT LODI, NJ

LOCATION.--Lat 40°53'25", long 74°04'51", Bergen County, Hydrologic Unit 02030103, on left bank 560 ft upstream from bridge on Outwater Lane in Lodi and 3.2 mi upstream from mouth. Water-quality samples collected at bridge on Outwater Lane at high flows.

DRAINAGE AREA.--54.6 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1923 to current year.

REVISED RECORDS.--WSP 781: Drainage area. WSP 1031: 1940(M). WSP 1552: 1929(M), 1936(M), 1938. WRD-NJ 1969: 1967. WRD-NJ 1970: 1968, 1969.

GAGE.--Water-stage recorder. Concrete control since Nov. 2, 1938. Datum of gage is 25.00 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 2, 1938, at site 560 ft downstream at datum 2.54 ft lower.

REMARKS.--No estimated daily discharges. Records fair. Occasional regulation at low flow. Diversion above station at Arcola by Hackensack Water Co., for municipal supply (records given herein). The flow past this station is affected by pumpage from wells by Hackensack Water Co. and others. Several measurements of water temperature, other then those published, were made during the year. Satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	72	76	140	72	95	94	79	67	80	36	60	41
2	61	71	99	70	172	90	80	66	91	35	54	37
3	97	69	86	65	198	100	76	64	70	33	56	36
4	339	68	103	71	228	216	79	63	102	33	55	223
5	121	65	93	64	146	232	78	118	69	34	52	144
6	84	61	78	60	102	138	73	230	63	33	50	57
7	140	59	74	62	86	121	99	108	60	32	47	45
8	91	60	72	63	86	113	87	78	59	32	45	39
9	73	60	72	67	82	110	74	70	73	32	43	39
10	69	131	72	63	80	112	69	66	65	43	42	40
11	74	201	90	59	78	102	69	77	60	39	40	37
12	72	114	78	61	116	95	67	64	56	40	39	37
13	65	103	72	62	113	94	66	62	53	33	39	197
14	62	95	67	53	87	94	64	72	51	31	38	65
15	60	82	170	58	101	89	65	63	50	60	37	47
16	58	76	192	57	202	86	91	60	48	39	34	41
17	58	72	96	58	136	82	66	91	49	65	36	47
18	59	85	81	122	119	81	66	278	47	42	37	49
19	56	76	76	109	127	81	69	452	45	43	34	42
20	54	71	110	202	598	80	62	211	44	327	32	42
21	72	68	101	156	210	77	59	133	42	296	31	60
22	60	62	82	121	141	73	59	109	40	435	30	37
23	54	63	78	92	127	72	57	100	40	110	29	36
24	50	63	76	81	135	74	59	102	39	388	248	36
25	49	65	76	86	115	74	59	264	38	196	92	33
26	49	63	88	102	104	209	56	159	38	231	47	35
27	69	61	78	82	103	200	57	106	38	281	43	33
28	812	60	73	70	101	110	194	93	39	115	41	32
29	154	101	75	68	97	92	84	83	37	85	59	31
30	100	379	65	71	---	86	79	67	37	71	85	31
31	84	---	69	78	---	82	---	67	---	66	46	---
MEAN	107	89.3	89.7	80.8	141	108	74.7	118	54.1	108	52.3	55.6
MAX	812	379	192	202	598	232	194	452	102	435	248	223
MIN	49	59	65	53	78	72	56	60	37	31	29	31
(†)	0	0	0	0	0	0	0.7	4.5	1.6	2.1	1.4	0.4
MEAN‡	107	89.3	89.7	80.8	141	108	75.4	122	55.7	110	53.7	56.0

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	63.2	87.5	100	104	121	156	158	115	82.8	71.4	67.6	67.9
MAX	257	284	301	331	258	333	457	315	336	371	225	256
(WY)	1956	1978	1984	1979	1973	1953	1983	1984	1972	1945	1955	1971
MIN	16.5	25.5	17.0	12.1	38.1	40.1	32.9	44.9	31.8	14.1	15.1	11.4
(WY)	1936	1982	1981	1981	1980	1981	1985	1941	1965	1966	1966	1932

01391500 SADDLE RIVER AT LODI, NJ--Continued

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	89.8		99.4	Unadjusted
AVERAGE FLOW‡	90.7		101	
HIGHEST ANNUAL MEAN			187	1984
LOWEST ANNUAL MEAN			45.2	1981
HIGHEST DAILY MEAN	812	Oct 28	2970	Apr 5 1984
LOWEST DAILY MEAN	29	Aug 23	6.0	Aug 4 1930
INSTANTANEOUS PEAK FLOW	1630	Oct 28	4500	Nov 9 1977
INSTANTANEOUS PEAK STAGE	5.39	Oct 28	12.36a	Nov 9 1977
INSTANTANEOUS LOW FLOW	22	Jan 14	1.0	May 25 1938
ANNUAL RUNOFF (INCHES)	22.3		24.7	
10 PERCENTILE	150		194	
50 PERCENTILE	71		68	
95 PERCENTILE	35		21	

a From high-water mark in gage house
† Diversion, equivalent in cubic feet per second, above station by Hackensack Water Co. Records of diversion provided by Hackensack Water Co.
‡ Adjusted for diversion.

01391500 SADDLE RIVER AT LODI, NJ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1962 to current year.

COOPERATION.--Analysis of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, EC BROTH (MPN)	STREPTOCOCCI FECAL (MPN)
OCT 1987										
15...	0945	59	591	7.9	9.0	8.4	72	2.1	92000	2600
FEB 1988										
10...	1130	76	638	7.6	4.0	12.4	94	3.0	200	<200
APR										
06...	1000	66	611	7.6	12.0	6.8	63	7.9	330	210
JUN										
07...	1145	56	564	7.7	18.5	6.5	71	3.0	230	80
AUG										
02...	1000	53	587	7.8	23.0	5.4	63	3.9	4900	1100
25...	1100	89	332	7.8	19.0	6.4	70	7.5	4900	>2400

DATE	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
OCT 1987									
15...	190	52	14	40	4.4	122	35	72	0.2
FEB 1988									
10...	200	55	14	52	3.9	130	35	98	0.2
APR									
06...	190	52	14	45	3.4	122	35	82	0.1
JUN									
07...	190	53	14	43	3.8	126	32	77	0.3
AUG									
02...	190	51	14	42	4.0	119	31	77	0.1
25...	99	27	7.7	23	2.6	63	22	37	0.1

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1987									
15...	12	303	0.097	4.51	E2.25	2.0	6.5	1.05	4.7
FEB 1988									
10...	11	347	0.117	3.09	--	--	--	0.534	4.1
APR									
06...	8.7	313	0.285	2.03	3.20	--	--	0.658	4.2
JUN									
07...	12	311	0.196	3.99	0.38	1.2	5.1	0.765	5.3
AUG									
02...	11	301	0.310	3.92	0.41	1.2	5.2	0.820	5.8
25...	6.7	164	0.060	2.49	0.35	1.0	3.5	0.501	7.8

01391500 SADDLE RIVER AT LODI, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
JUN 1988 07...	1145	<0.5	<10	2	<10	90	<1	1	10

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
JUN 1988 07...	520	<5	150	<0.10	4	<1	20	3

01392210 THIRD RIVER AT PASSAIC, NJ

LOCATION.--Lat 40°49'47", long 74°08'32", Passaic County, Hydrologic Unit 02030103, on right bank 400 ft upstream from bridge on State Highway 3, 0.8 mi south of Passaic, 1.2 mi upstream from Passaic River.

DRAINAGE AREA.--11.8 mi^2.

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

GAGE.--Water-stage recorder. Datum of gage is 22.15 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records fair. Some regulation from ponds upstream. Several measurements of water temperature were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	9.2	16	9.3	22	15	11	11	27	6.0	11	7.9
2	12	8.9	12	8.9	29	14	11	9.5	18	6.1	11	8.0
3	39	8.6	11	8.5	23	17	12	10	13	5.5	10	7.4
4	72	8.5	18	10	67	53	10	9.2	25	5.4	10	75
5	14	8.2	13	8.7	20	28	12	56	13	5.7	9.3	19
6	13	7.8	14	8.3	17	18	10	40	12	5.7	8.9	9.9
7	41	8.2	11	8.2	19	19	25	14	11	5.4	8.4	8.8
8	13	8.5	9.6	8.5	13	15	19	12	11	5.4	8.0	8.7
9	12	8.3	9.4	9.3	13	16	11	10	16	5.6	8.0	7.8
10	12	73	9.9	8.7	12	14	11	10	11	6.3	7.6	7.7
11	14	51	22	9.4	13	13	11	18	10	5.8	7.4	8.0
12	12	26	12	9.2	32	13	10	11	10	14	7.7	7.7
13	12	19	9.5	8.8	23	13	9.3	10	9.6	7.4	7.4	82
14	11	15	9.0	8.1	18	12	11	15	8.8	6.4	7.0	9.6
15	11	13	78	8.6	29	12	13	9.5	8.4	6.2	7.1	7.9
16	10	12	27	8.6	66	12	19	9.6	8.9	5.6	6.6	7.0
17	11	11	12	8.3	22	12	11	20	9.0	17	6.5	10
18	10	12	11	38	17	11	11	148	7.9	7.8	6.7	9.2
19	10	10	9.9	14	36	11	11	92	7.9	6.7	6.4	7.2
20	10	11	26	59	123	12	9.0	43	7.7	177	6.5	7.1
21	16	9.9	13	21	26	13	9.0	24	7.5	86	6.7	9.7
22	10	9.9	10	14	25	12	8.6	19	7.3	105	6.6	7.2
23	9.8	11	9.9	13	22	12	11	24	10	21	6.7	8.3
24	9.6	11	9.3	15	19	11	9.0	30	7.1	79	126	7.5
25	9.4	12	9.7	16	17	10	9.1	86	7.1	15	33	6.5
26	8.9	11	13	21	16	55	8.4	24	7.1	93	9.7	5.9
27	51	8.9	9.6	14	18	26	9.3	18	8.5	53	9.2	6.1
28	100	8.5	10	16	17	15	61	16	8.2	26	8.2	6.3
29	14	59	10	18	18	12	11	16	7.1	15	23	5.7
30	13	70	9.4	11	---	12	17	14	6.6	13	16	6.4
31	9.5	---	9.0	15	---	11	---	14	---	12	8.7	---
MEAN	19.4	18.0	14.6	14.0	27.3	16.7	13.4	27.2	10.7	26.7	13.4	12.8
MAX	100	73	78	59	123	55	61	148	27	177	126	82
MIN	8.9	7.8	9.0	8.1	12	10	8.4	9.2	6.6	5.4	6.4	5.7
IN.	1.90	1.70	1.43	1.37	2.50	1.64	1.26	2.66	1.01	2.61	1.31	1.22

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	14.8	23.0	22.1	23.1	21.0	25.2	32.0	26.8	16.5	18.0	17.7	15.5
MAX	22.6	66.1	60.2	64.3	31.0	48.1	70.4	50.4	24.5	31.7	44.1	27.4
(WY)	1978	1978	1984	1979	1984	1983	1983	1984	1984	1984	1978	1979
MIN	6.00	9.31	7.55	7.25	10.4	9.94	7.56	12.9	9.61	9.58	7.44	8.43
(WY)	1983	1982	1981	1981	1980	1985	1985	1982	1987	1977	1981	1982

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	17.9		21.3	
HIGHEST ANNUAL MEAN			32.7	1978
LOWEST ANNUAL MEAN			13.7	1985
HIGHEST DAILY MEAN	177	Jul 20	798	Nov 8 1977
LOWEST DAILY MEAN	5.4	Jul 4	3.9	Sep 16 1980
INSTANTANEOUS PEAK FLOW	829	Jul 20	2300	Nov 8 1977
INSTANTANEOUS PEAK STAGE	4.90	Jul 20	8.25	Nov 8 1977
INSTANTANEOUS LOW FLOW	4.5	Jul 8	.84	Jul 3 1981
ANNUAL RUNOFF (INCHES)	20.6		24.5	
10 PERCENTILE	31		40	
50 PERCENTILE	12		12	
95 PERCENTILE	6.0		5.3	

RESERVOIRS IN PASSAIC RIVER BASIN

01379990 SPLITROCK RESERVOIR.--Lat 40°57'40", long 74°27'45", Morris County, Hydrologic Unit 02030103, at dam on Beaver Brook, 2 mi northeast of Hibernia. DRAINAGE AREA, 5.50 mi^2. PERIOD OF RECORD, September 1925 to September 1931, December 1948 to September 1950, October 1953 to current year. Monthend contents only 1925-31, 1948-50, published in WSP 1302. October 1950 to September 1953 in Special Report 16, New Jersey Department of Environmental Protection. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.
REMARKS.--Reservoir is formed by a concrete gravity dam with earth embankment; present dam constructed 1946-48 and sluice gate first closed Dec. 22, 1948. Prior to 1946, reservoir was formed by earthfill dam with crest about 20 ft lower. Capacity of spillway level, 3,310,000,000 gal, elevation, 835 ft. Flow is regulated by two 30-inch sluice gates. Flow is released for diversion for municipal supply of Jersey City.
COOPERATION.--Records provided by Jersey City, Bureau of Water.
EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 3,652,500,000 gal, Apr. 5, 1973, elevation, 836.75 ft; minimum, 1,522,800,000 gal, Jan. 4, 1954, elevation, 824.20 ft.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 3,435,000,000 gal, May 20, elevation, 835.65 ft; minimum, 3,217,000,000 gal, Sept. 30, elevation, 834.55 ft.

01380900 BOONTON RESERVOIR.--Lat 40°53'. long 74°24', Morris County, Hydrologic Unit 02030103, at dam on Rockaway River at Boonton. DRAINAGE AREA, 119 mi^2. PERIOD OF RECORD, April 1904 to September 1950, October 1953 to current year. Monthend contents only 1904-50, published in WSP 1302. October 1950 to September 1953 in Special Report 16, New Jersey Department of Environmental Protection. REVISED RECORDS.--WDR NJ-85-1: 1984. GAGE, hook gage. Datum of gage is National Geodetic Vertical Datum of 1929.
REMARKS.--Reservoir is formed by a cyclopean masonry dam with earth wings; dam completed and storage began in 1904. Total capacity at spillway level, 7,620,000,000 gal elevation, 305.25 ft of which 7,366,000,000 gal is usable contents above elevation 259.75 ft, sill of lowest outlet gate. Spillway is topped with two Bascule gates, 2 ft high; prior to 1952, flashboards were used. Flow regulated by Bascule gates, three outlets in gatehouse at head of conduit and by two 48-inch pipes (bottom of sluice pipes at elevation 205 ft). Water is diverted from reservoir for municipal supply of Jersey City.
COOPERATION.--Records provided by Jersey City, Bureau of Water.
EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 8,545,600,000 gal, May 31, 1984, elevation, 308.81 ft; minimum, 1,445,000,000 gal, Jan. 31, 1981, elevation 274.71 ft.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 8,172,000,000 gal, May 20, elevation, 307.96 ft; minimum, 6,999,000,000 gal, Sept. 30, elevation, 303.35 ft.

01382100 CANISTEAR RESERVOIR.--Lat 41°06'30", long 74°29'30", Sussex County, Hydrologic Unit 02030103, at dam on Pacock Brook, 1.8 mi northeast of Stockholm. DRAINAGE AREA, 5.6 mi^2. PERIOD OF RECORD, October 1923 to September 1950, October 1953 to current year. Monthend contents 1923-50, published in WSP 1302. October 1950 to September 1953 in Special Report 16, New Jersey Department of Environmental Protection. GAGE, staff gage. Datum of gage is National Geodetic Vertical Datum of 1929.
REMARKS.--Reservoir is formed by earth-embankment type dam, completed about 1896. Capacity at spillway level, 2,407,000,000 gal, elevation, 1,086.0 ft. Reservoir used for storage and water released for diversion at Macopin intake dam on Pequannock River prior to May 21, 1961, and for diversion at Charlotteburg Reservoir on Pequannock River since May 21, 1961, for municipal supply for City of Newark. Outflow is controlled mostly by operation of gates in pipes through dam.
COOPERATION.--Records provided by City of Newark, Division of Water Supply.

01382200 OAK RIDGE RESERVOIR.--Lat 41°02'30", long 74°30'10", Passaic County, Hydrologic Unit 02030103, at dam on Pequannock River, 0.9 mi southwest of Oak Ridge. DRAINAGE AREA, 27.3 mi^2. PERIOD OF RECORD, October 1923 to September 1950, October 1953 to current year. Monthend contents only 1924-50, published in WSP 1302. October 1950 to September 1953 in Special Report 16, New Jersey Department of Environmental Protection. GAGE, staff gage. Datum of gage is National Geodetic Vertical Datum of 1929.
REMARKS.--Reservoir is formed by earthfill dam with concrete-core wall and ogee overflow section; dam constructed between 1880-92; dam raised 10 ft during 1917-19. Capacity at spillway level, 3,895,000,000 gal, elevation, 846.0 ft. Reservoir used for storage and water released for diversion at Macopin intake dam on Pequannock River prior to May 21, 1961, and diversion at Charlotteburg Reservoir on Pequannock River since May 21, 1961, for municipal supply of City of Newark. Outflow is controlled mostly by operation of gates in pipes through dam.
COOPERATION.--Records provided by City of Newark, Division of Water Supply.

01382300 CLINTON RESERVOIR.--Lat 41°04'30", long 74°27'00", Passaic County, Hydrologic Unit 02030103, at dam on Clinton Brook, 2.0 mi north of Newfoundland. DRAINAGE AREA, 10.5 mi^2. PERIOD OF RECORD, October 1923 to September 1950, October 1953 to current year. Monthend contents only 1923-50, published in WSP 1302. October 1950 to September 1953 in Special Report 16, New Jersey Department of Environmental Protection. GAGE, staff gage. Datum of gage is National Geodetic Vertical Datum of 1929.
REMARKS.--Reservoir is formed by earthfill dam constructed between 1889-92. Capacity at spillway level, 3,518,000,000 gal, elevation, 992.0 ft. Reservoir used for storage and water released for diversion at Macopin intake dam on Pequannock River prior to May 21, 1961, and for diversion at Charlotteburg Reservoir since May 21, 1961, for municipal supply of City of Newark. Outflow is controlled mostly by operation of gates in pipes through dam.
COOPERATION.--Records provided by City of Newark, Division of Water Supply.

01382380 CHARLOTTEBURG RESERVOIR.--Lat 41°01'34", long 74°25'30", Passaic County, Hydrologic Unit 02030103, at dam on Pequannock River, 1.1 mi upstream from Macopin River, and 1.5 mi southeast of Newfoundland, NJ. DRAINAGE AREA, 56.2 mi^2. PERIOD OF RECORD, May 1961 to current year. REVISED RECORDS.--WRD NJ-74: Station number. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.
REMARKS.--Reservoir is formed by concrete-masonry dam and earth embankment, with concrete spillway at elevation 738.00 ft; storage began May 19, 1961. Spillway equipped with Bascule gate 5 ft high. Capacity, 2,964,000,000 gal, elevation, 743.00 ft, top of Bascule gate. No dead storage. Outflow is controlled by sluice and automatic Bascule gates. Water diverted from reservoir since May 21, 1961, for municipal supply of City of Newark.
COOPERATION.--Records provided by City of Newark, Division of Water Supply.

RESERVOIRS IN PASSAIC RIVER BASIN--Continued

01382400 ECHO LAKE.--Lat 41°03'00", long 74°24'30", Passaic County, Hydrologic Unit 02030103, at Echo Lake Dam on Macopin River, 1.6 mi north of Charlotteburg, and 1.9 mi upstream from mouth. DRAINAGE AREA, 4.35 mi^2. PERIOD OF RECORD, October 1927 to September 1950, October 1953 to current year. Monthend contents only 1928-50, published in WSP 1302. October 1950 to September 1953 in Special Report 16, New Jersey Department of Environmental Protection. GAGE, staff gage. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Lake is formed by earth-embankment type dam completed about 1925. Capacity at spillway level, 1,583,000,000 gal, elevation, 893.0 ft, with provision for additional storage of 180,000,000 gal at elevation 894.9 ft with flashboards. Usable contents, 1,045,000,000 gal above elevation 880.0 ft. Lake used for storage and water released for diversion at Macopin intake dam on Pequannock River prior to May 21, 1961, and water diverted to Charlotteburg Reservoir on Pequannock River since May 21, 1961, for municipal supply of City of Newark. Outflow to Macopin River controlled by operation of gates in gatehouse at dam and water released through pipe and canal to Charlotteburg Reservoir.

COOPERATION.--Records provided by City of Newark, Division of Water Supply.

01383000 GREENWOOD LAKE.--Lat 41°09'36", long 74°20'03", Passaic County, Hydrologic Unit 02030103, in gatehouse near right end of Greenwood Lake Dam on Wanaque River at Awosting. DRAINAGE AREA, 27.1 mi^2. PERIOD OF RECORD, June 1898 to November 1903, June 1907 to current year (gage heights only prior to October 1953). GAGE, water-stage recorder. Datum of gage is 608.86 ft National Geodetic Vertical Datum of 1929 (levels from New Jersey Geological Survey bench mark). Prior to Oct. 1, 1931, staff gage on former railroad bridge at site 100 ft upstream at datum 89.75 ft lower.

REMARKS.--Reservoir is formed by earthfill dam with concrete spillway; dam completed about 1837 and reconstruction completed in 1928 with crest of spillway 0.25 ft lower. Usable capacity, 6,860,000,000 gal between gage heights -4.00 ft, sill of gate, and 10.00 ft, crest of spillway. Dead storage, 7,140,000,000 gal. Outflow mostly regulated by two gates, 3.5 by 5.0 ft. Records given herein represent usable capacity. Lake used for recreation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 9,528,000,000 gal, Oct. 9-14, 1903, gage height, 14.25 ft, present datum; minimum, 3,160,000,000 gal, several days in November 1900, gage height, 3.50 ft, present datum.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 7,845,000,000 gal, Apr. 5, gage height, 11.58 ft; minimum, 6,028,000,000 gal, Nov. 1, gage height, 8.63 ft.

01384002 MONKSVILLE RESERVOIR.--Lat 41°07'20", long 74°17'49", Passaic County, Hydrologic Unit 02030103, at dam on Wanaque River at Monks. DRAINAGE AREA, 40.4 mi^2. PERIOD OF RECORD, September 1987 to current year. GAGE, measurement from reference point. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by a Roller Compacted Concrete dam constructed in 1987. Total capacity at spillway level, 7,000,000,000 gal, elevation 400.0 ft. Reservoir used for storage and water released to Wanaque Reservoir. Outflow is controlled by a 60-inch fixed-cone value in a 72 inch pipe and 10-inch cone value which can discharge directly into Wanaque Reservoir or into the 72 inch pipe.

COOPERATION.--Records provided by North Jersey District Water Supply Commission.

EXTREMES FOR PERIOD SEPTEMBER 28, 1987 TO SEPTEMBER 30, 1988.--Maximum contents, 7,060,000,000 gal, June 2, 3, 1988, elevation 400.4 ft; minimum, 860,000,000, Sept. 28, 1987 (first filling), elevation 339.0 ft.

01386990 WANAQUE RESERVOIR.--Lat 41°02'42", long 74°17'44", Passaic County, Hydrologic Unit 02030103, at Raymond Dam on Wanaque River at Wanaque. DRAINAGE AREA, 90.4 mi^2. PERIOD OF RECORD, February 1928 to September 1950, October 1953 to current year. Monthend contents only 1928-50, published in WSP 1302. October 1950 to September 1953 in Special Report 16, New Jersey Department of Environmental Protection. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by North Jersey District Water Supply Commission).

REMARKS.--Reservoir is formed by earthfill with concrete-core wall main dam and seven secondary dams; dams completed in 1927 and storage began in March 1928. Total capacity of spillway level, 28,010,000,000 gal, revised, elevation, 300.3 ft. Capacity available by gravity at spillway level, 27,030,000,000 gal, revised. Outflow mostly controlled by sluice gates in intake conduits in gage house. Water is diverted from reservoir for municipal supply. Diversion to reservoir from Posts Brook and Ramapo River (see Passaic River basin, diversions).

COOPERATION.--Records provided by North Jersey District Water Supply Commission.

REVISED RECORDS.--WDR NJ-85-1: 1984 (M).

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 31,280,000,000 gal, Apr. 5, 1984, elevation, 304.52 ft; minimum, 5,110,000,000 gal, Dec. 26, 1964, elevation, 256.06 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 30,110,000,000 gal, May 20, elevation, 303.02 ft; minimum, 15,015,000,000 gal, Sept. 30, elevation, 280.04 ft.

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

Date	Elevation (feet)*	Contents (million gallons)	Change in contents (equivalent in ft^3/s)	Elevation (feet)*	Contents (million gallons)	Change in contents (equivalent in ft^3/s)	Elevation (feet)†	Contents (million gallons)	Change in contents (equivalent in ft^3/s)
	01379990 SPLITROCK RESERVOIR			01380900 BOONTON RESERVOIR			01382100 CANISTEAR RESERVOIR		
Sept. 30...	835.00	3,306	-	306.25	7,730	-	1,085.60	2,282	-
Oct. 31...	835.40	3,385	+3.9	305.67	7,583	-7.3	1,086.00	2,407	+6.2
Nov. 30...	835.45	3,395	+.5	305.81	7,619	+1.9	1,086.10	2,417	+.5
Dec. 31...	835.15	3,346	-2.9	305.35	7,502	-5.8	1,086.00	2,407	-.5
CAL YR 1987			-.1			-.9			0
Jan. 31...	835.20	3,346	+.5	305.42	7,520	+.9	1,086.00	2,407	0
Feb. 29...	835.25	3,356	+.5	305.56	7,555	+1.9	1,086.00	2,407	0
Mar. 31...	835.25	3,356	0	305.50	7,540	-.7	1,086.10	2,417	+.5
Apr. 30...	835.20	3,346	-.5	307.44	8,037	+25.6	1,086.10	2,417	0
May 31...	835.30	3,365	+.9	307.50	8,053	+.8	1,086.00	2,407	-.5
June 30...	834.70	3,247	-6.1	305.29	7,487	-28.2	1,085.60	2,565	+8.1
July 31...	834.95	3,296	+2.4	307.35	8,014	+26.3	1,085.80	2,386	-8.9
Aug. 31...	834.75	3,256	-2.0	304.81	7,366	-32.4	1,085.20	2,323	-3.1
Sept. 30...	834.55	3,217	-2.0	303.35	6,999	-18.9	1,084.80	2,282	-2.1
WTR YR 1988			-.4			-3.1			-.5

RESERVOIRS IN PASSAIC RIVER BASIN--Continued

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

Date	Elevation (feet)†	Contents (million gallons)	Change in contents (equivalent in ft³/s)	Elevation (feet)†	Contents (million gallons)	Change in contents (equivalent in ft³/s)	Elevation (feet)†	Contents (million gallons)	Change in contents (equivalent in ft³/s)
	01382200 OAK RIDGE RESERVOIR			01382300 CLINTON RESERVOIR			01382380 CHARLOTTEBURG RESERVOIR		
Sept. 30...	839.00	2,940	-	992.30	3,556	-	735.25	2,134	-
Oct. 31...	845.90	3,881	+46.9	989.90	3,249	-15.3	738.85	2,493	+17.9
Nov. 30...	846.10	3,909	+1.5	992.50	3,582	-17.2	743.40	3,014	+26.9
Dec. 31...	845.90	3,881	-1.5	992.00	3,544	-1.9	741.00	2,730	-14.2
CAL YR 1987			+3.7			+6.1			+4.0
Jan. 31...	846.00	3,895	+.7	992.30	3,556	+.6	732.70	1,899	-41.5
Feb. 29...	846.00	3,895	0	992.30	3,556	0	740.20	2,643	+39.7
Mar. 31...	846.10	3,909	+.7	992.30	3,556	0	743.10	2,977	+16.6
Apr. 30...	846.10	3,909	0	992.30	3,556	0	737.55	2,360	-31.8
May 31...	846.10	3,909	0	992.20	3,543	-.6	741.35	2,771	+20.5
June 30...	842.90	3,461	-23.1	991.90	3,505	-1.9	730.75	1,729	-53.7
July 31...	837.40	2,733	-36.3	987.50	2,954	-27.5	731.35	1,780	+2.6
Aug. 31...	824.70	1,319	-70.6	983.70	2,399	-27.7	732.25	1,859	+3.9
Sept. 30...	809.50	332	-50.9	980.00	2,058	-17.6	731.10	1,759	-5.2
WTR YR 1988			-11.0			-6.3			-1.6

Date	Elevation (feet)†	Contents (million gallons)	Change in contents (equivalent in ft³/s)	Elevation (feet)**	Contents (million gallons)	Change in contents (equivalent in ft³/s)	Elevation (feet)†	Contents (million gallons)	Change in contents (equivalent in ft³/s)
	01382400 ECHO LAKE			01383000 GREENWOOD LAKE			01384002 MONKSVILLE RESERVOIR		
Sept. 30...	893.00	1,583	-	10.23	7,003	-	339.0	860	-
Oct. 31...	893.20	1,601	+0.9	10.55	7,201	+9.9	a	e2,600	+86.3
Nov. 30...	893.30	1,611	+.5	10.59	7,226	+1.3	374.5	3,550	+49.0
Dec. 31...	893.00	1,583	-1.4	10.18	6,972	-12.7	a	e3,520	-1.5
CAL YR 1987			-.04			-.6			-
Jan. 31...	893.10	1,592	+.4	e10.19	6,978	+.3	a	e3,890	+18.4
Feb. 29...	893.10	1,592	0	10.14	6,947	-1.6	386.6	4,840	+50.7
Mar. 31...	893.10	1,592	0	a	e7,010	+3.1	397.0	6,300	+72.9
Apr. 30...	893.10	1,592	0	a	e6,980	-1.5	a	e7,030	+37.6
May 31...	893.10	1,592	0	a	e7,030	+2.5	a	e7,060	+1.5
June 30...	892.70	1,555	-1.9	10.82	7,368	+17.4	a	e7,010	-2.6
July 31...	893.10	1,592	+1.9	11.16	7,581	+10.6	a	e7,040	+1.5
Aug. 31...	892.80	1,564	-1.4	11.00	7,480	-5.0	400.2	7,030	-.5
Sept. 30...	891.90	1,484	-4.1	11.03	7,499	+1.0	400.1	7,020	-.5
WTR YR 1988			-.4			+2.1			+25.9

Date	Elevation (feet)†	Contents (million gallons)	Change in contents (equivalent in ft³/s)
	01386990 WANAQUE RESERVOIR		
Sept. 30...	294.00	23,480	-
Oct. 31...	293.25	22,947	-26.6
Nov. 30...	294.79	24,020	+55.3
Dec. 31...	296.05	24,900	+43.9
CAL YR 1987			-12.8
Jan. 31...	293.97	23,460	-71.9
Feb. 29...	297.83	26,170	+145
Mar. 31...	298.97	27,010	+41.9
Apr. 30...	300.61	28,250	+63.9
May 31...	302.49	29,700	+72.4
June 30...	298.01	26,300	-175
July 31...	293.11	22,880	-171
Aug. 31...	286.47	18,620	-213
Sept. 30...	279.79	14,880	-193
WTR YR 1988			-36.4

a Elevation not available.
e Estimated.
* Elevation at 0900.
** Gage height at 2400.
† Elevation at 0800 on first day of following month.

DIVERSIONS WITHIN PASSAIC RIVER BASIN

01368720 North Jersey District Water Supply Commission diverts water from Upper Greenwood Lake (Hudson River basin) near Moe, NJ to the Green Brook, a tributary of Greenwood Lake, for municipal supply. Consult North Jersey District Water Supply Commission for data available.

01379510 New Jersey-American Water Copmpany (formerly Commonwealth Water Company) diverts water from Passaic River, 1.2 mi upstream from Canoe Brook for municipal supply. These figures also include water diverted from the Passaic River by the Bernards Division of the Commonwealth Water Company. Records provided by New Jersey-American Water Company.

01379530 New Jersey-American Water Company (formerly Commonwealth Water Company) diverts water from Canoe Brook near Summit, 0.5 mi from mouth, for municipal supply. Records provided by New Jersey-American Water Company.

01380800 Jersey City diverts water from Boonton Reservoir on Rockaway River at Boonton for municipal supply. Records provided by Jersey City, Bureau of Water.

01382370 City of Newark diverts water from Charlotteburg Reservoir on Pequannock River since May 21, 1961 for municipal supply. Prior to May 21, 1961 water was diverted from reservoir formed by Macopin intake dam on Pequannock River (former diversion 01382490). Records provided by City of Newark, Division of Water Supply.
REVISED RECORDS.--WDR NJ-82-1: Station number.

01386980 North Jersey District Water Supply Commission diverts water for municipal supply from Wanaque Reservoir on Wanaque River. Records provided by North Jersey District Water Supply Commission.

01387020 North Jersey District Water Supply Commission diverts water from Post Brook near Wanaque into Wanaque Reservoir for municipal supply. Records not available.

01387990 North Jersey District Water Supply Commission diverts water from Ramapo River by pumping from Pompton Lakes into Wanaque Reservoir. Records provided by North Jersey District Water Supply Commission.

01387991 Hackensack Water Company diverts water from Ramapo River by pumping from Pompton Lake above the gaging station into Oradell Reservoir in the Hackensack River basin (see Hackensack River basin, diversions). Pumping began Feb. 14, 1985. Records provided by Hackensack Water Company.

01388490 Passaic Valley Water Commission supplements the dependable yield of its supply at Little Falls by diverting water at high flows at the Jackson Avenue Pumping Station into Point View Reservoir on Haycock Brook for release as required to sustain minimum flow requirements. Also water may be released into Haycock Brook for maintenance of flow in that stream. These diversions and releases occur upstream of Pompton Plains gaging station. Records provided by Passaic Valley Water Commission. No diversion or release during the year.
REVISED RECORDS.--WDR NJ-82-1: Station number.

01389490 The Passaic Valley Water Commission diverts water from Passaic River above Beattie's Dam at Little Falls for municipal supply. Records provided by Passaic Valley Water Commission.

DIVERSIONS, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

MONTH	01379510 NJ-AMERICAN WATER COMPANY FROM PASSAIC RIVER	01379530 NJ-AMERICAN WATER COMPANY FROM CANOE BROOK	01380800 JERSEY CITY	01382370 NEWARK	01386980 FROM WANAQUE RESERVOIR	01387990 FROM RAMAPO RIVER TO WANAQUE RESERVOIR	01389490 PASSAIC VALLEY WATER COMMISSION
October.....	0.68	6.50	79.1	98.1	137	0	73.0
November.....	4.55	7.38	82.3	95.0	132	0	73.7
December.....	2.30	8.58	79.1	98.4	130	0	75.1
CAL YR 1987..	8.75	6.65	78.7	106	139	0	72.5
January.....	25.8	.64	77.7	106	145	0	72.2
February.....	54.1	14.7	76.2	103	129	0	73.7
March.....	24.2	9.18	72.8	90.5	122	0	74.0
April.....	6.62	4.30	72.0	110	130	0	71.9
May.....	23.6	13.1	68.8	101	136	0	71.1
June.....	.58	1.79	76.4	107	164	0	86.7
July.....	29.2	12.4	74.5	115	152	0	92.4
August.....	9.74	2.99	82.3	111	160	0	92.1
September....	7.20	3.14	75.5	105	151	0	77.5
WTR YR 1988..	15.6	7.05	76.4	103	141	0	77.8

01393450 ELIZABETH RIVER AT URSINO LAKE, AT ELIZABETH, NJ

LOCATION.--Lat 40°40'30", long 74°13'20", Union County, Hydrologic Unit 02030104, on left bank at Ursino Lake Dam in Elizabeth, 75 ft upstream of bridge on Trotters Lane and 3.8 mi upstream from mouth.

DRAINAGE AREA.--16.9 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1921 to current year.

REVISED RECORDS.--WSP 1552: Drainage area, 1922-23, 1927-29(M), 1932, 1933-34(M), 1938(P), 1942(M) 1944(P), 1945(M), 1948(P), 1952-53(M). WDR NJ-84-1: 1974.

GAGE.--Water-stage recorder, crest-stage gages, and two concrete weirs. The right concrete weir was lowered 5 ft on Dec. 18, 1985. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Oct. 1, 1922, nonrecording gage at site 2,800 ft downstream at datum 4.14 ft higher and Oct. 1, 1922 to May 18, 1923, at same site at datum 5.23 ft higher. May 19, 1923 to Dec. 27, 1972, at site 2,800 ft downstream at datum 5.23 ft higher and published as "Elizabeth River at Elizabeth" (station 01393500).

REMARKS.--No estimated daily discharges. Records fair. Diversion by pumpage from Hammock Well Field in Union for municipal supply by Elizabethtown Water Co., probably reduces the flow past the station. Some measurements of water temperature, other than those published, were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.6	11	16	11	23	10	11	8.7	40	7.2	10	6.3
2	8.6	11	10	7.9	46	10	9.8	22	22	6.7	10	6.3
3	64	11	8.3	6.3	28	15	9.2	14	28	6.5	10	6.1
4	102	11	23	13	104	126	16	10	30	6.4	9.4	107
5	16	5.9	8.5	8.1	25	34	10	94	10	7.4	8.6	17
6	11	5.0	6.9	8.1	15	18	10	54	9.6	7.5	7.9	8.2
7	43	4.7	7.0	7.5	12	14	19	18	9.7	7.3	7.3	7.3
8	12	4.5	7.0	7.4	9.9	12	17	9.8	9.5	6.9	7.6	6.5
9	9.9	5.1	6.9	8.2	9.8	13	9.2	10	16	7.2	7.5	5.7
10	9.0	140	7.1	7.0	9.5	14	8.4	11	9.9	6.4	7.9	5.5
11	14	60	36	6.8	9.0	11	8.8	32	8.4	7.2	7.5	5.1
12	9.8	31	13	6.9	70	9.9	9.4	13	7.9	15	7.2	5.7
13	9.0	15	7.3	8.6	31	9.3	9.8	11	8.3	6.7	7.5	127
14	8.7	9.7	6.7	7.5	17	9.2	9.7	23	8.1	6.2	6.3	15
15	8.8	8.1	149	6.4	57	9.1	9.1	8.3	9.0	6.2	6.8	8.0
16	8.7	7.8	29	6.1	84	9.3	22	8.5	9.5	5.9	7.3	6.1
17	8.5	7.3	14	6.1	27	8.7	8.2	37	11	58	9.9	16
18	8.1	7.6	9.6	70	19	8.7	15	218	8.5	22	7.9	8.7
19	8.4	6.9	8.5	18	84	8.3	12	127	7.4	15	5.9	6.1
20	8.8	7.1	41	124	194	11	9.3	61	8.0	330	5.2	6.0
21	18	6.2	12	29	27	8.1	8.9	24	9.2	195	4.6	6.0
22	8.9	5.9	9.3	16	17	8.0	8.1	13	9.2	232	4.6	5.5
23	8.4	6.7	8.7	11	16	7.9	10	63	9.0	47	5.0	5.6
24	8.0	6.5	7.6	8.9	14	8.0	8.5	51	8.6	130	163	5.6
25	7.7	6.2	7.7	17	13	8.0	7.8	41	7.9	18	99	4.8
26	8.3	5.7	14	35	12	86	7.7	20	15	257	14	4.7
27	55	5.5	7.4	13	19	43	9.1	14	9.2	108	11	4.8
28	176	5.4	7.4	9.4	16	13	129	12	8.0	71	6.5	5.1
29	24	81	12	8.9	12	11	15	9.9	7.5	20	45	4.2
30	16	73	8.1	12	---	10	21	9.2	7.9	13	14	4.1
31	12	---	13	23	---	11	---	9.8	---	11	7.5	---
MEAN	23.2	19.1	16.8	17.0	35.2	18.5	15.3	34.1	12.1	53.0	17.2	14.3
MAX	176	140	149	124	194	126	129	218	40	330	163	127
MIN	7.7	4.5	6.7	6.1	9.0	7.9	7.7	8.3	7.4	5.9	4.6	4.1

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	20.0	24.6	23.3	23.3	27.0	32.0	30.1	26.7	22.7	27.2	28.0	25.7
MAX	60.1	90.6	85.1	86.3	55.1	75.5	97.0	83.8	57.4	83.1	195	102
(WY)	1928	1973	1984	1979	1971	1953	1983	1968	1972	1922	1971	1966
MIN	1.58	5.05	6.25	3.71	6.56	6.03	10.3	5.97	3.94	3.24	.07	1.99
(WY)	1922	1923	1981	1925	1934	1981	1963	1923	1923	1923	1923	1923

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	23.0		25.9	Unadjusted
HIGHEST ANNUAL MEAN			48.3	1971
LOWEST ANNUAL MEAN			10.2	1923
HIGHEST DAILY MEAN	330	Jul 20	1900	Aug 28 1971
LOWEST DAILY MEAN	4.1	Sep 30	0	Jul 14 1922
INSTANTANEOUS PEAK FLOW	1600	Jul 22	4110	Aug 28 1971
INSTANTANEOUS PEAK STAGE	19.31	Jul 22	18.7a	Aug 28 1971
INSTANTANEOUS LOW FLOW	3.8	Sep 29	0	Many days
10 PERCENTILE	56		51	
50 PERCENTILE	9.5		12	
95 PERCENTILE	5.3		3.9	

a From floodmark, site and datum then in use, from rating curve extended above 1,100 ft^3/s on basis of contracted-opening measurement of peak flow.

01393450 ELIZABETH RIVER AT URSINO LAKE, AT ELIZABETH, NJ--Continued

WATER-QUALITY RECORDS

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

COOPERATION.--Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1987										
14...	1200	8.4	477	8.0	12.0	10.5	96	2.4	1300	200
FEB 1988										
18...	0925	18	811	7.6	4.5	11.9	92	1.5	13000	500
APR										
05...	0900	10	550	7.6	12.0	7.7	72	8.2	7900	2200
JUN										
06...	0945	9.6	750	7.6	18.0	7.1	76	3.6	2300	800
JUL										
28...	1200	43	208	7.4	23.5	6.7	79	4.8	35000	22000
AUG										
09...	1200	7.2	726	8.4	26.5	14.3	177	--	92000	<200

DATE	HARD-NESS TOTAL (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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (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)
OCT 1987									
14...	170	51	9.3	29	2.0	60	40	62	0.2
FEB 1988									
18...	170	56	8.2	100	4.0	95	44	180	0.2
APR									
05...	170	54	8.4	49	2.2	108	48	85	0.2
JUN									
06...	240	74	13	66	2.9	144	44	130	0.3
JUL									
28...	58	19	2.6	15	1.9	39	19	19	0.1
AUG									
09...	240	74	14	52	2.4	161	51	110	0.1

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1987									
14...	12	241	0.092	1.26	0.15	0.68	1.9	0.104	4.7
FEB 1988									
18...	11	460	0.066	1.82	--	--	--	E0.104	6.1
APR									
05...	7.1	319	0.175	1.07	0.04	1.3	2.4	0.104	10
JUN									
06...	12	429	0.098	1.27	0.26	0.88	2.1	0.140	6.9
JUL									
28...	6.6	107	0.030	0.59	0.06	0.90	1.5	0.159	8.6
AUG									
09...	16	416	0.009	<0.05	0.13	1.1	--	0.250	13

01393450 ELIZABETH RIVER AT URSINO LAKE, AT ELIZABETH, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE)	BORON, TOTAL RECOV-ERABLE (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)
OCT 1987 14...	1200	<0.5	<10	1	<10	80	<1	110	18

DATE	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
OCT 1987 14...	530	<5	50	<0.10	1	<1	30	4

01393950 WEST BRANCH RAHWAY RIVER AT WEST ORANGE, NJ

LOCATION.--Lat 40°47'01", long 74°16'27", Essex County, Hydrologic Unit 02030104, at bridge on Mountain Avenue, 300 ft downstream of Turtle Brook, and 400 ft southeast of intersection with Pleasant Valley Way in West Orange.

DRAINAGE AREA.--2.52 mi^2.

WATER-QUALITY RECORDS

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

COOPERATION.--Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1987										
06...	1200	E0.90	722	7.6	11.5	10.6	99	0.3	1700	790
FEB 1988										
09...	1130	E1.0	1250	7.9	1.0	15.6	111	0.5	460	80
APR										
07...	0800	E1.0	994	7.5	7.5	9.0	77	1.8	330	220
MAY										
23...	0945	E1.4	676	7.6	14.5	9.7	97	1.9	500	200
JUL										
28...	1045	E1.3	487	7.5	21.0	7.4	83	1.9	4900	4900
AUG										
22...	1115	E0.90	832	8.4	19.5	--	--	5.4	500	3300

DATE	HARD-NESS TOTAL (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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (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)
OCT 1987									
06...	200	50	19	62	1.7	78	34	160	0.1
FEB 1988									
09...	240	61	22	120	2.2	58	36	280	0.1
APR									
07...	260	64	25	91	1.6	72	38	250	0.1
MAY									
23...	170	40	16	62	1.3	57	32	150	0.2
JUL									
28...	110	27	9.7	51	2.0	54	27	95	0.1
AUG									
22...	260	60	26	60	1.7	72	35	190	0.1

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHOROUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1987									
06...	17	391	0.007	1.42	<0.05	0.48	1.9	0.112	3.4
FEB 1988									
09...	16	572	0.011	1.79	--	--	--	0.024	1.9
APR									
07...	16	529	0.019	1.28	0.03	<0.20	--	0.024	3.6
MAY									
23...	16	352	E0.019	1.35	0.06	0.42	1.8	0.048	4.2
JUL									
28...	13	257	0.020	1.29	0.00	0.87	2.2	0.096	8.2
AUG									
22...	12	428	0.010	0.45	0.06	0.56	1.0	0.079	4.1

01393950 WEST BRANCH RAHWAY RIVER AT WEST ORANGE, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	NITROGEN,NH4 + ORG. TOT IN BOT MAT (MG/KG AS N)	CARBON, INORGANIC, TOT IN BOT MAT (G/KG AS C)	CARBON, INORG + ORGANIC TOT. IN BOT MAT (MG/KG AS C)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC TOTAL IN BOTTOM MATERIAL (UG/G AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM RECOV. FM BOTTOM MATERIAL (UG/G AS CD)
OCT 1987 06...	1200	<0.5	250	2.0	17	<10	<1	2	<10	100	<1	<1

DATE	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, RECOV. FM BOTTOM MATERIAL (UG/G)	COBALT, RECOV. FM BOTTOM MATERIAL (UG/G AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, RECOV. FM BOTTOM MATERIAL (UG/G AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, RECOV. FM BOTTOM MATERIAL (UG/G AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, RECOV. FM BOTTOM MATERIAL (UG/G AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, RECOV. FM BOTTOM MATERIAL (UG/G)
OCT 1987 06...	<10	270	<50	6	20	180	6800	5	<100	40	190

DATE	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY RECOV. FM BOTTOM MATERIAL (UG/G AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, RECOV. FM BOTTOM MATERIAL (UG/G AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, TOTAL IN BOTTOM MATERIAL (UG/G)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, RECOV. FM BOTTOM MATERIAL (UG/G AS ZN)	PHENOLS TOTAL (UG/L)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	PCN, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1987 06...	<0.10	<0.10	2	10	<1	<1	10	120	<1	54	<1.0

DATE	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDOSULFAN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1987 06...	<0.1	100	16	<10	<22	0.5	1.4	<0.1	<0.1	<0.1	<2.1

DATE	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARATHION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRITHION, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL IN BOTTOM MATERIAL (UG/KG)	PARATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	PERTHANE IN BOTTOM MATERIAL (UG/KG)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TRITHION, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1987 06...	0.9	<0.1	<0.1	<1.0	<0.1	<0.1	<1.1	<0.1	<1.00	<10	<0.1

01394500 RAHWAY RIVER NEAR SPRINGFIELD, NJ

LOCATION.--Lat 40°41'11", long 74°18'44", Union County, Hydrologic Unit 02030104, on left bank 50 ft downstream from bridge on eastbound U.S. Highway 22, 100 ft downstream from Pope Brook, and 1.5 mi south of Springfield.

DRAINAGE AREA.--25.5 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1938 to current year.

REVISED RECORDS.--WSP 1622: 1945. WRD-NJ 1973: 1938(M), 1968(M), 1971(M).

GAGE.--Water-stage recorder. Former concrete control is no longer effective. Datum of gage is 66.17 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except for estimated daily discharges, which are fair. Water for municipal supply diverted from river by city of Orange. The flow past this station is affected by diversions by pumpage from wells by Orange, South Orange, Short Hills Water Co., and Springfield station of Elizabethtown Water Co. Several measurements of water temperature, other than those published, were made during the year. Satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.8	9.4	26	6.4	39	13	10	e16	30	6.1	11	6.0
2	7.4	9.3	13	6.2	65	12	9.7	e16	22	6.4	10	6.0
3	46	10	9.5	5.7	57	16	9.2	e20	22	6.2	10	6.0
4	95	11	17	7.2	185	121	9.7	e14	26	6.2	9.7	92
5	8.3	9.4	8.8	6.0	48	80	8.9	e31	11	6.3	9.2	16
6	7.1	8.5	7.5	5.0	21	25	8.7	e60	9.9	6.3	8.6	7.5
7	31	15	7.2	4.8	14	17	13	e28	10	6.1	8.3	8.4
8	6.5	14	7.2	5.0	13	15	15	e17	9.9	6.1	7.8	12
9	6.1	13	7.0	5.6	11	15	8.5	e15	16	6.0	7.8	6.7
10	5.7	103	6.7	5.4	9.5	15	8.5	e16	11	5.8	8.0	5.6
11	7.2	87	22	4.8	10	13	9.0	e44	9.6	6.1	7.3	5.4
12	7.1	36	8.1	4.7	44	12	8.6	e21	8.4	12	7.2	5.4
13	5.8	22	6.5	5.3	35	12	9.0	e15	7.6	5.9	7.2	91
14	6.3	15	6.0	5.3	15	12	8.5	e27	7.4	5.3	7.0	9.0
15	6.0	10	115	5.5	42	11	11	e14	7.2	4.9	7.0	7.0
16	6.3	9.3	72	5.5	194	11	21	e15	7.3	5.0	6.6	6.7
17	6.6	9.0	18	5.6	58	10	7.8	28	10	58	7.7	11
18	8.4	9.4	11	59	43	10	12	165	5.4	17	7.9	9.3
19	9.2	8.6	9.0	16	57	10	11	243	4.9	6.0	6.6	6.5
20	10	8.6	37	176	361	10	7.7	152	5.0	228	6.6	6.0
21	21	7.8	16	63	65	9.4	7.2	54	5.0	127	6.3	6.0
22	8.7	7.0	9.6	27	30	9.2	7.4	30	5.5	330	6.0	5.8
23	10	7.8	8.2	14	26	11	7.9	105	6.4	18	6.4	6.4
24	11	7.8	7.6	11	23	8.5	8.1	123	6.3	122	158	6.1
25	14	7.9	7.2	15	18	8.6	7.6	222	5.9	14	82	6.0
26	24	8.2	9.7	27	15	95	7.9	66	10	383	8.3	6.2
27	67	9.0	6.6	12	19	77	8.0	32	6.1	213	9.1	6.1
28	330	8.6	6.2	8.8	18	15	e113	22	5.7	62	6.7	6.2
29	18	74	7.5	7.9	14	11	e16	16	6.7	17	45	6.9
30	10	142	5.9	8.7	---	11	e17	14	6.0	11	14	7.5
31	9.3	---	5.9	17	---	10	---	12	---	11	6.5	---
MEAN	26.3	23.3	16.3	17.9	53.4	22.8	13.6	53.3	10.1	55.4	16.4	12.9
MAX	330	142	115	176	361	121	113	243	30	383	158	92
MIN	5.7	7.0	5.9	4.7	9.5	8.5	7.2	12	4.9	4.9	6.0	5.4

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	15.6	26.0	30.1	28.8	35.3	46.3	42.9	33.0	22.0	24.2	22.6	20.3
MAX	47.0	107	129	116	77.7	112	139	101	110	138	112	100
(WY)	1974	1973	1984	1979	1939	1953	1983	1984	1972	1975	1942	1975
MIN	2.17	2.73	4.02	4.26	7.01	8.08	7.37	6.31	4.14	2.23	2.10	2.97
(WY)	1964	1950	1940	1966	1954	1981	1963	1965	1965	1966	1964	1964

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	26.8		28.9	
HIGHEST ANNUAL MEAN			55.9	1973
LOWEST ANNUAL MEAN			10.0	1965
HIGHEST DAILY MEAN	383	Jul 26	1620	Aug 28 1971
LOWEST DAILY MEAN	4.7	Jan 12	.40	Sep 11 1966
INSTANTANEOUS PEAK FLOW	1170	Jul 26	5430a	Aug 2 1973
INSTANTANEOUS PEAK STAGE	5.77	Jul 26	9.76b	Aug 2 1973
INSTANTANEOUS LOW FLOW	4.7	Jan 12	0.1	Sep 11 1966
10 PERCENTILE	66		59	
50 PERCENTILE	9.1		9.0	
95 PERCENTILE	5.4		2.3	

a From rating curve extended above 1,600 ft^3/s on basis of slope-area measurement of peak flow
b From floodmark
e Estimated

01394500 RAHWAY RIVER NEAR SPRINGFIELD, NJ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1978 to current year.

COOPERATION.--Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, EC BROTH (MPN)	STREPTOCOCCI FECAL (MPN)
OCT 1987 06...	1015	6.6	408	7.7	11.0	7.3	66	0.7	3500	3500
FEB 1988 09...	1015	7.2	680	7.8	0.5	13.2	91	0.6	230	1400
APR 06...	1205	8.5	602	7.8	12.5	9.7	92	3.3	130	130
MAY 23...	1140	22	548	7.6	16.5	7.9	82	2.1	500	200
JUL 28...	0900	98	--	7.2	22.0	5.8	66	2.8	13000	54000
AUG 17...	1200	6.6	587	7.5	22.5	4.1	48	4.5	92000	35000

DATE	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
OCT 1987 06...	150	46	8.2	25	2.0	97	31	48	0.1
FEB 1988 09...	180	55	11	56	2.1	92	35	120	0.1
APR 06...	190	57	11	43	1.8	109	39	96	0.1
MAY 23...	150	44	10	48	1.7	76	36	99	0.3
JUL 28...	86	26	5.1	27	2.5	52	24	42	0.1
AUG 17...	190	58	11	36	2.5	111	47	82	0.1

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1987 06...	13	231	0.010	1.83	0.06	0.48	2.3	0.118	3.6
FEB 1988 09...	15	349	0.011	1.76	--	--	--	0.038	2.5
APR 06...	9.3	323	0.035	1.13	0.03	--	--	0.055	5.7
MAY 23...	13	298	E0.032	1.16	0.17	0.55	1.7	0.070	4.0
JUL 28...	10	168	0.030	1.06	0.05	1.0	2.1	0.154	7.4
AUG 17...	12	315	0.054	1.01	0.07	0.78	1.8	0.108	6.9

01394500 RAHWAY RIVER NEAR SPRINGFIELD, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
MAY 1988 23...	1140	<0.5	<10	2	<10	30	2	1	7

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
MAY 1988 23...	410	6	110	<0.10	3	<1	10	4

01395000 RAHWAY RIVER AT RAHWAY, NJ

LOCATION.--Lat 40°37'05", long 74°17'00", Union County, Hydrologic Unit 02030104, on left bank 100 ft upstream from St. Georges Avenue bridge in Rahway and 0.9 mi upstream from Robinsons Branch.

DRAINAGE AREA.--40.9 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1908 to April 1915 (gage heights and discharge measurements only), October 1921 to current year.

REVISED RECORDS.--WSP 781: Drainage area. WSP 1552: 1922-23(M), 1924, 1930-31(M), 1937. WDR NJ-79-1: 1978.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 8.77 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 25, 1934, nonrecording gage at site 40 ft downstream from Church Street and 1,500 ft downstream from present site at datum 2.77 ft lower.

REMARKS.--Records fair. Water for municipal supply diverted from river by Rahway and Orange. The flow past this station is affected by diversions by pumpage from wells by Orange, South Orange, Short Hills Water Co., Springfield station of Elizabethtown Water Co, and by storage in the Lenape Park flood control reservoir (since 1980). Several measurements of water temperature, other than those published, were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	2.6	52	14	53	27	20	23	21	3.7	9.9	2.8
2	1.7	9.8	31	16	84	25	19	21	55	2.5	e13	2.6
3	13	9.8	24	14	98	28	18	35	22	2.8	e12	2.7
4	182	8.6	31	17	227	114	24	18	50	2.1	e11	80
5	32	8.2	27	19	95	185	21	47	25	2.3	e12	55
6	20	6.2	19	e12	e45	44	18	161	17	3.6	e9.9	5.3
7	49	6.4	17	e8.0	e29	35	22	71	17	3.7	e9.0	3.9
8	23	6.8	16	e8.5	e22	29	33	30	18	3.6	e8.7	10
9	13	8.0	18	e9.0	e19	29	18	20	22	3.0	e9.0	14
10	12	97	16	e9.1	e17	31	13	19	24	3.4	e9.2	8.0
11	3.7	193	42	e8.7	e16	25	13	48	16	2.9	e9.8	4.1
12	2.5	58	26	e8.6	61	23	14	44	11	18	e9.5	6.1
13	22	45	20	e9.7	69	23	11	21	11	18	e9.5	139
14	12	31	14	e9.0	32	22	14	44	16	5.8	e9.2	33
15	6.9	25	103	e7.9	45	21	12	20	5.9	4.2	e8.3	13
16	7.0	20	166	e8.0	241	18	33	18	6.0	3.5	e8.4	8.9
17	8.4	20	37	e8.1	93	18	14	38	6.6	68	e7.1	13
18	8.7	19	26	71	55	18	18	191	26	87	e9.3	27
19	7.2	17	22	48	53	19	28	446	3.9	27	e5.4	9.6
20	9.8	15	48	207	476	19	15	258	2.6	501	e5.8	7.3
21	20	16	42	133	123	18	15	81	5.6	292	e7.0	6.7
22	21	13	25	52	48	16	11	46	20	670	e5.6	6.0
23	13	11	22	33	39	16	13	86	18	91	e5.6	6.0
24	11	14	20	26	39	18	19	322	4.6	174	e166	6.0
25	11	16	19	28	34	17	12	212	3.2	40	e183	5.6
26	9.6	14	22	46	29	124	10	119	3.7	369	e23	5.3
27	22	13	21	33	31	119	13	48	4.4	630	e8.3	4.9
28	549	11	16	22	36	34	182	33	3.9	152	e7.2	5.1
29	93	49	17	21	32	23	33	26	3.8	42	e33	4.8
30	16	240	16	20	---	21	28	22	3.7	24	47	5.1
31	2.6	---	13	28	---	22	---	19	---	15	4.3	---
MEAN	39.3	33.4	31.9	30.8	77.3	38.1	23.8	83.5	14.9	105	21.8	16.7
MAX	549	240	166	207	476	185	182	446	55	670	183	139
MIN	1.7	2.6	13	7.9	16	16	10	18	2.6	2.1	4.3	2.6

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	25.2	41.8	46.6	48.9	59.9	77.7	68.9	50.3	34.4	40.3	38.9	34.8
MAX	130	221	255	211	156	190	246	147	173	268	242	175
(WY)	1928	1973	1984	1979	1925	1983	1983	1968	1972	1975	1971	1975
MIN	1.48	3.05	3.27	1.41	12.5	12.6	7.80	6.20	3.32	.33	.43	2.26
(WY)	1964	1966	1981	1981	1954	1981	1963	1965	1965	1966	1964	1964

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	43.1		47.3	Unadjusted
HIGHEST ANNUAL MEAN			105	1973
LOWEST ANNUAL MEAN			15.0	1965
HIGHEST DAILY MEAN	670	Jul 22	3450	Aug 28 1971
LOWEST DAILY MEAN	1.7	Oct 2	0	Oct 9 1964
INSTANTANEOUS PEAK FLOW	1130	Jul 22	5420a	Aug 2 1973
INSTANTANEOUS PEAK STAGE	4.05	Jul 22	7.88	Aug 2 1973
INSTANTANEOUS LOW FLOW	1.7	Oct 2	0	Many days
10 PERCENTILE	96		99	
50 PERCENTILE	19		19	
95 PERCENTILE	3.5		1.0	

a From rating curve extended above 3,000 ft^3/s
e Estimated

01395000 RAHWAY RIVER AT RAHWAY, NJ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1923-24, 1952, 1962, 1967-70, and February 1979 to current year.

COOPERATION.--Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, EC BROTH (MPN)	STREPTOCOCCI FECAL (MPN)
OCT 1987										
14...	1000	13	442	8.0	9.5	10.2	88	2.7	170	140
FEB 1988										
18...	1110	53	604	7.6	3.5	13.9	104	1.5	790	230
APR										
05...	1050	22	548	8.2	13.5	11.6	112	2.6	170	20
JUN										
06...	1130	20	468	7.6	20.0	7.9	88	3.9	330	330
AUG										
02...	1130	8.3	422	7.9	26.5	9.1	113	6.3	200	700
17...	1115	E7.1	540	7.8	24.5	5.2	63	6.0	3300	500

DATE	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
OCT 1987									
14...	170	53	9.8	19	1.9	103	43	38	0.2
FEB 1988									
18...	110	32	6.3	82	2.4	52	27	140	0.2
APR									
05...	190	56	11	36	2.5	116	44	71	0.1
JUN									
06...	160	47	9.3	29	2.4	98	35	61	0.3
AUG									
02...	150	46	8.5	24	2.2	98	34	45	0.2
17...	210	64	12	28	2.1	131	46	62	0.1

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1987									
14...	13	240	0.010	1.36	0.07	0.49	1.8	0.076	3.7
FEB 1988									
18...	9.1	330	0.018	1.02	--	--	--	0.064	5.5
APR									
05...	9.3	299	0.021	0.79	0.06	0.40	1.2	0.068	4.7
JUN									
06...	13	256	0.069	1.15	0.16	0.79	1.9	0.111	6.1
AUG									
02...	13	232	0.015	0.77	0.05	0.89	1.7	0.100	6.8
17...	11	304	0.015	0.55	<0.05	1.0	1.6	0.136	4.6

01395000 RAHWAY RIVER AT RAHWAY, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
OCT 1987 14...	1000	<10	1	<10	80	<1	10	5

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
OCT 1987 14...	380	<5	100	<0.10	<1	<1	20	2

01396000 ROBINSONS BRANCH AT RAHWAY, NJ

LOCATION.--Lat 40°36'20", long 74°17'40", Union County, Hydrologic Unit 02030104, on right bank of Milton Lake, 2,000 ft upstream from Maple Avenue in Rahway, 3,200 ft downstream from Middlesex Reservoir Dam, and 1.6 mi upstream from mouth.

DRAINAGE AREA.--21.6 mi^2.

PERIOD OF RECORD.--September 1939 to current year. September 1939 to September 1978, published as "Robinsons Branch Rahway River at Rahway." October 1978 to September 1985, published as "Robinsons Branch Rahway River at Maple Avenue, at Rahway" (station 01396001).

REVISED RECORDS.--WDR NJ-75-1: 1973(P). WDR NJ-87-1: 1986(M).

GAGE.--Water-stage recorder. Datum of gage is 19.99 ft above National Geodetic Vertical Datum of 1929 (levels from New Jersey Geological Survey bench mark). From Sept. 26, 1978 to Sept. 30, 1985, water-stage recorder 2,000 ft downstream on Maple Avenue at datum 8.69 ft lower.

REMARKS.--No estimated daily discharges. Records good above 10 ft^3/s and fair below. Water diverted for municipal supply by Middlesex Water Co., from Middlesex Reservoir, capacity, 89,000,000 gal, 1.0 mi above station. No diversion this year. Several measurements of water temperature were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.3	11	44	8.1	46	17	11	13	6.5	1.4	3.1	1.6
2	5.0	11	25	8.8	81	15	11	15	12	1.4	3.7	1.5
3	20	12	19	8.2	81	17	11	19	6.4	1.2	4.0	1.5
4	137	10	22	10	170	88	21	14	12	1.1	2.7	33
5	24	9.4	19	8.7	70	133	20	23	7.4	1.1	3.4	23
6	9.1	4.7	13	6.9	23	34	13	70	3.7	1.2	2.6	4.3
7	25	3.6	11	6.3	14	24	21	47	2.6	1.2	2.0	1.8
8	11	4.7	11	7.2	12	20	29	17	2.3	1.3	1.9	1.5
9	6.0	5.1	13	7.5	12	20	16	12	3.2	1.3	2.1	1.6
10	5.3	58	13	7.3	11	21	10	13	3.0	1.4	2.3	1.6
11	6.7	170	34	7.3	10	15	11	33	2.1	1.4	2.8	1.5
12	8.0	55	27	7.3	43	16	11	24	1.7	7.2	3.0	1.5
13	6.6	34	18	8.0	50	15	9.5	14	1.6	5.2	2.9	71
14	6.2	25	13	7.3	24	14	9.5	24	1.6	1.4	2.8	21
15	7.0	18	74	6.4	39	13	11	14	1.5	1.5	2.2	4.2
16	8.4	14	91	6.3	229	11	17	12	1.5	1.2	2.0	1.7
17	8.2	14	31	6.0	81	9.5	10	18	1.6	36	1.5	6.0
18	8.4	15	19	37	41	9.0	13	141	2.2	12	2.3	13
19	7.0	13	13	37	41	10	20	268	2.0	23	1.5	4.8
20	11	14	30	183	290	10	12	146	1.5	406	1.4	2.7
21	14	13	29	129	74	9.6	9.3	41	1.5	296	1.7	3.0
22	8.9	9.4	18	40	28	8.2	7.8	21	1.4	506	1.5	1.9
23	7.4	12	15	22	23	8.8	8.4	71	1.7	137	1.4	1.7
24	9.2	12	13	17	22	9.7	12	259	1.4	71	94	2.1
25	10	13	13	19	18	11	8.6	67	1.3	19	71	2.3
26	7.6	14	18	23	15	89	7.8	30	12	218	10	2.7
27	36	12	16	17	17	116	8.5	16	6.8	265	2.1	2.0
28	360	12	14	12	20	26	107	12	1.8	84	1.6	3.2
29	73	35	16	8.9	19	16	25	10	1.4	21	16	1.7
30	16	119	11	8.4	---	13	16	9.3	1.5	11	20	1.7
31	10	---	7.7	15	---	12	---	8.4	---	5.3	3.4	---
MEAN	28.4	25.1	22.9	22.4	55.3	26.8	16.6	47.8	3.57	69.1	8.80	7.37
MAX	360	170	91	183	290	133	107	268	12	506	94	71
MIN	5.0	3.6	7.7	6.0	10	8.2	7.8	8.4	1.3	1.1	1.4	1.5

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	11.9	25.1	28.9	29.7	36.9	45.0	38.1	29.0	15.8	17.4	16.5	14.8
MAX	60.3	98.8	142	118	77.0	108	129	99.3	76.8	143	90.9	118
(WY)	1959	1973	1984	1979	1973	1953	1983	1948	1972	1975	1942	1975
MIN	.22	.48	1.03	.87	7.24	8.49	.45	.27	.15	.00	.13	.02
(WY)	1954	1965	1966	1966	1954	1981	1963	1963	1957	1954	1953	1955

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	27.9		25.7	Unadjusted
HIGHEST ANNUAL MEAN			52.2	1984
LOWEST ANNUAL MEAN			5.79	1965
HIGHEST DAILY MEAN	506	Jul 22	1240	Jul 15 1975
LOWEST DAILY MEAN	1.1	Jul 4	0	Jan 9 1942
INSTANTANEOUS PEAK FLOW	1450	Jul 22	3110a	Jul 15 1975
INSTANTANEOUS PEAK STAGE	5.27	Jul 22	6.02	Aug 15 1969
INSTANTANEOUS LOW FLOW	1.1	Jul 4	0	Many days
10 PERCENTILE	71		58	
50 PERCENTILE	12		7.1	
95 PERCENTILE	1.3		.16	

a From rating curve extended above 750 ft^3/s on basis of flow-over-dam computation.

01396280 SOUTH BRANCH RARITAN RIVER AT MIDDLE VALLEY, NJ

LOCATION.--Lat 40°45'40", long 74°49'18", Morris County, Hydrologic Unit 02030105, at bridge on Middle Valley Road in Middle Valley, 6.9 mi downstream from Drakes Brook.

DRAINAGE AREA.--47.6 mi^2.

PERIOD OF RECORD.--Water years 1964-65, 1967, 1976 to current year.

COOPERATION.--Field data and samples for laboratory analyses provided by New Jersey Department of Environmental Protection, Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, EC BROTH (MPN)	STREPTOCOCCI FECAL (MPN)
OCT 1987										
06...	1100	E58	239	7.7	9.0	12.0	106	E1.5	460	130
JAN 1988										
28...	1230	E59	315	7.4	0.0	15.6	107	E1.2	80	33
MAR										
16...	1045	E100	230	8.1	4.0	13.8	108	<0.9	20	49
MAY										
19...	1045	E310	--	7.4	13.5	8.9	87	2.7	2300	>2400
JUL										
07...	1330	E33	301	8.2	23.0	10.2	121	E2.1	130	240
AUG										
09...	1220	E37	310	8.3	20.0	10.7	120	4.7	1300	540

DATE	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
OCT 1987									
06...	80	18	8.6	11	1.5	58	11	20	0.1
JAN 1988									
28...	87	19	9.7	22	1.2	62	14	38	0.1
MAR									
16...	71	16	7.6	14	1.3	47	12	25	0.1
MAY									
19...	46	11	4.5	10	0.5	31	16	16	0.2
JUL									
07...	110	23	13	13	1.6	86	13	21	0.2
AUG									
09...	100	22	12	15	2.3	82	12	24	0.1

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHOROUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1987									
06...	13	118	0.015	1.34	0.17	0.65	2.0	0.130	5.2
JAN 1988									
28...	14	155	0.021	1.93	--	--	--	0.125	2.2
MAR									
16...	12	116	0.017	1.35	0.05	--	--	0.063	2.4
MAY									
19...	10	87	0.028	0.65	<0.05	0.76	1.4	0.115	8.4
JUL									
07...	13	149	E0.032	2.08	0.13	0.93	3.0	0.569	3.6
AUG									
09...	8.7	145	0.021	1.78	0.11	1.1	2.9	0.560	6.3

01396280 SOUTH BRANCH RARITAN RIVER AT MIDDLE VALLEY, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE)	BORON, TOTAL RECOV-ERABLE (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)
MAY 1988 19...	1045	<0.5	60	1	<10	<10	<1	1	3

DATE	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
MAY 1988 19...	1000	7	60	<0.10	4	<1	20	2

01396500 SOUTH BRANCH RARITAN RIVER NEAR HIGH BRIDGE, NJ

LOCATION.--Lat 40°40'40", long 74°52'46", Hunterdon County, Hydrologic Unit 02030105, on left bank 1.0 mi northeast of High Bridge, and 4.4 mi upstream from Spruce Run.

DRAINAGE AREA.--65.3 mi^2.

PERIOD OF RECORD.--October 1918 to current year. Monthly discharge only for some periods, published in WSP 1302.

REVISED RECORDS.--WSP 601: 1924. WSP 781: Drainage area. WSP 1552: 1919(M), 1920(M), 1921, 1923, 1924(M), 1927-28(M), 1934(M), 1941(M).

GAGE.--Water-stage recorder and crest-stage gage. Concrete control since Sept. 28, 1930. Datum of gage is 282.10 ft above National Geodetic Vertical Datum of 1929 (levels from New Jersey Geological Survey bench mark). Prior to Sept. 30, 1921, reference point at same site and datum.

REMARKS.--Records good except for estimated daily discharges, which are fair. Occasional regulation from unknown source. Several measurements of water temperature were made during the year. Satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Outstanding floods occurred on Feb. 6, 1896, in February 1902, and October 1903. At High Bridge, according to reports of the New Jersey State Geologist, the discharges for these floods respectively were 7,560 ft^3/s, 3,840 ft^3/s, and 2,670 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	76	90	253	93	158	e141	113	104	145	52	74	57
2	65	88	181	92	307	e137	112	94	160	52	68	55
3	81	83	156	78	268	e169	109	90	134	51	64	51
4	219	82	149	85	307	e339	109	87	128	49	63	162
5	114	80	138	e88	214	e365	106	91	121	49	59	195
6	85	76	128	e94	150	e226	100	163	109	48	57	81
7	90	73	121	e97	126	e216	100	143	103	47	55	64
8	86	72	117	e93	129	e221	106	104	98	46	53	59
9	77	72	114	e87	121	e210	98	91	106	45	52	57
10	75	110	112	e86	115	e225	93	89	103	46	51	54
11	76	211	109	e91	111	e195	90	131	91	44	50	52
12	78	126	105	e92	128	173	87	130	88	44	55	50
13	71	133	104	e93	125	174	86	97	84	44	52	99
14	66	142	98	e94	117	168	83	106	80	43	49	79
15	64	136	140	e92	114	154	83	91	77	42	47	58
16	64	114	227	e93	204	141	92	85	75	41	45	52
17	63	107	129	e93	168	132	85	144	74	77	46	52
18	62	123	108	e109	151	128	84	228	73	89	47	59
19	61	108	102	e134	153	127	90	332	69	52	43	54
20	60	99	130	e257	557	123	82	571	67	198	43	52
21	67	92	139	e272	311	116	79	258	66	137	44	52
22	66	80	111	e147	197	107	77	268	62	114	43	50
23	61	85	105	e155	210	107	75	374	61	74	41	48
24	59	86	100	e154	225	108	80	755	58	385	106	47
25	58	88	100	e140	174	108	78	405	57	117	115	46
26	57	85	101	e148	150	189	75	307	58	e259	60	46
27	66	82	96	92	e148	270	74	236	55	e462	84	45
28	549	80	93	82	e147	164	315	207	56	e153	63	44
29	157	111	94	88	e142	136	143	182	56	102	82	43
30	111	795	80	94	---	124	119	164	52	84	184	42
31	98	---	89	92	---	117	---	152	---	79	72	---
MEAN	96.2	124	124	113	187	171	101	203	85.5	101	63.5	63.5
MAX	549	795	253	272	557	365	315	755	160	462	184	195
MIN	57	72	80	78	111	107	74	85	52	41	41	42
IN.	1.70	2.11	2.18	2.00	3.09	3.02	1.72	3.58	1.46	1.78	1.12	1.09

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	71.9	108	132	136	155	203	193	140	95.2	85.8	77.9	71.2
MAX	257	335	382	480	301	466	528	313	401	296	285	196
(WY)	1928	1928	1974	1979	1925	1936	1983	1984	1972	1975	1942	1979
MIN	21.8	26.9	36.5	31.8	54.0	79.5	70.7	50.5	27.6	20.7	20.4	20.8
(WY)	1964	1966	1966	1981	1934	1965	1965	1965	1965	1965	1965	1964

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	119		122	
HIGHEST ANNUAL MEAN			213	1928
LOWEST ANNUAL MEAN			46.2	1965
HIGHEST DAILY MEAN	795	Nov 30	3340	Jan 25 1979
LOWEST DAILY MEAN	41	Jul 16	13	Aug 11 1966
INSTANTANEOUS PEAK FLOW	1130	Nov 30	6910	Jan 25 1979
INSTANTANEOUS PEAK STAGE	8.6	Nov 30	12.23a	Feb 24 1979
INSTANTANEOUS LOW FLOW	40	Jul 15	6.6	Oct 11 1930
ANNUAL RUNOFF (INCHES)	24.8		25.4	
10 PERCENTILE	210		238	
50 PERCENTILE	95		86	
95 PERCENTILE	46		30	

a Ice jam
e Estimated

01396535 SOUTH BRANCH RARITAN RIVER AT ARCH STREET AT HIGH BRIDGE, NJ

LOCATION.--Lat 40°39'49", long 74°53'52", Hunterdon County, Hydrologic Unit 02030105, at bridge on Arch Street in High Bridge, 0.9 mi northeast of Mariannes Corner, 1.0 mi downstream from Lake Solitude dam, and 4.3 mi northeast of Norton.

DRAINAGE AREA.--68.8 mi^2.

PERIOD OF RECORD.--Water years 1976 to current year.

COOPERATION.--Field data and samples for laboratory analyses provided by New Jersey Department of Environmental Protection, Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1987										
06...	1330	E78	221	8.0	10.5	12.4	113	<1.2	2400	130
JAN 1988										
28...	1330	E84	298	7.5	0.0	17.6	119	<0.9	20	8
MAR										
16...	1245	E150	229	8.3	4.5	13.2	104	<0.9	50	17
MAY										
19...	1245	E400	178	7.6	14.0	9.5	93	E2.0	1300	>2400
JUL										
07...	1150	E45	301	8.1	22.0	11.1	127	7.1	230	240
AUG										
09...	1100	E51	275	8.3	22.0	9.7	111	4.4	630	540

DATE	HARD-NESS TOTAL (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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (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)
OCT 1987									
06...	77	17	8.4	9.6	1.6	61	15	16	0.1
JAN 1988									
28...	87	19	9.5	18	1.0	62	16	31	0.1
MAR									
16...	73	16	8.0	13	1.0	50	19	22	0.1
MAY									
19...	48	11	4.9	9.6	0.5	33	13	15	0.2
JUL									
07...	110	23	12	12	1.6	89	14	17	0.2
AUG									
09...	110	23	12	12	2.1	85	14	19	0.1

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHOROUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1987									
06...	13	117	0.009	1.15	0.13	0.53	1.7	0.124	4.9
JAN 1988									
28...	14	146	0.018	1.07	--	--	--	0.080	2.4
MAR									
16...	13	122	0.015	1.30	0.04	--	--	0.059	2.3
MAY									
19...	11	85	0.030	0.67	0.18	0.76	1.4	0.115	7.5
JUL									
07...	11	144	E0.038	1.81	0.16	0.95	2.8	0.436	4.6
AUG									
09...	7.5	141	0.018	1.28	0.11	1.3	2.6	0.510	5.5

01396535 SOUTH BRANCH RARITAN RIVER AT ARCH STREET AT HIGH BRIDGE, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	NITROGEN,NH4 + ORG. TOT IN BOT MAT (MG/KG AS N)	CARBON, INORGANIC, TOT IN BOT MAT (G/KG AS C)	CARBON, INORG + ORGANIC TOT. IN BOT MAT (MG/KG AS C)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC TOTAL IN BOTTOM MATERIAL (UG/G AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM RECOV. FM BOTTOM MATERIAL (UG/G AS CD)
OCT 1987 06...	1330	<0.5	180	2.0	11	--	3	2	<10	100	<1	<1
MAY 1988 19...	1245	<0.5	--	--	--	50	1	--	<10	<10	<1	--

DATE	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, RECOV. FM BOTTOM MATERIAL (UG/G)	COBALT, RECOV. FM BOTTOM MATERIAL (UG/G AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, RECOV. FM BOTTOM MATERIAL (UG/G AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, RECOV. FM BOTTOM MATERIAL (UG/G AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, RECOV. FM BOTTOM MATERIAL (UG/G AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, RECOV. FM BOTTOM MATERIAL (UG/G)
OCT 1987 06...	<10	<1	<50	3	30	--	9500	<5	<100	30	920
MAY 1988 19...	1	--	--	2	--	930	--	5	--	50	--

DATE	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY RECOV. FM BOTTOM MATERIAL (UG/G AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, RECOV. FM BOTTOM MATERIAL (UG/G AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, TOTAL IN BOTTOM MATERIAL (UG/G)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, RECOV. FM BOTTOM MATERIAL (UG/G AS ZN)	PHENOLS TOTAL (UG/L)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	PCN, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1987 06...	<0.10	<0.10	2	20	<1	<1	--	90	<1	15	<1.0
MAY 1988 19...	<0.10	--	3	--	<1	--	<10	--	2	--	--

DATE	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDOSULFAN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1987 06...	<0.1	19	0.2	0.4	<0.1	0.2	0.3	<0.1	<0.1	<0.1	0.2
MAY 1988 19...	--	--	--	--	--	--	--	--	--	--	--

DATE	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARATHION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRITHION, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL IN BOTTOM MATERIAL (UG/KG)	PARATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	PERTHANE IN BOTTOM MATERIAL (UG/KG)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TRITHION, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1987 06...	0.2	<0.1	<0.1	<1.0	<0.1	<0.1	1.1	<0.1	<1.00	<10	<0.1
MAY 1988 19...	--	--	--	--	--	--	--	--	--	--	--

01396580 SPRUCE RUN AT GLEN GARDNER, NJ

LOCATION.--Lat 40°41'29", long 74°56'15", Hunterdon County, Hydrologic Unit 02030105, on right downstream wingwall of bridge on Sanatorium Road in Glen Gardner, 0.8 mi downstream from Alpaugh Brook, and 2.0 mi upstream from Spruce Run Reservoir.

DRAINAGE AREA.--12.3 mi^2.

PERIOD OF RECORD.--March 1978 to September 1988 (discontinued).

REVISED RECORD.--WDR NJ-86-1: 1983-85(P).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 389.10 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Several measurements of water temperature were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.1	9.9	43	e13	e39	19	15	12	18	3.9	7.4	5.6
2	6.1	9.3	29	e12	e65	21	14	11	23	4.0	6.3	4.9
3	21	9.1	24	e9.7	e41	35	13	10	14	3.5	5.9	4.8
4	34	8.8	22	e11	e66	109	14	9.5	13	3.5	5.7	79
5	12	8.4	19	e9.6	e30	63	13	11	12	3.3	5.4	26
6	9.2	7.6	16	e9.1	e21	39	12	30	10	3.1	5.1	9.9
7	9.6	7.5	15	e9.0	e16	40	12	18	9.3	3.1	4.9	7.5
8	8.9	7.3	14	e10	e20	36	12	12	9.1	3.1	4.7	6.4
9	8.2	7.4	14	e10	e17	35	11	10	12	4.3	4.6	5.9
10	8.1	34	13	e9.5	e17	41	10	9.7	10	3.4	4.6	5.5
11	9.1	42	13	e9.9	e16	27	9.9	33	8.4	3.1	4.5	5.2
12	9.4	22	13	e9.5	e23	24	9.5	19	7.7	3.1	6.9	5.1
13	8.4	29	12	e10	e21	24	9.4	13	7.2	3.2	6.4	16
14	7.7	29	11	e8.8	e19	23	9.1	15	6.8	2.8	4.7	8.7
15	7.2	23	38	e8.6	e21	20	9.2	11	6.4	2.7	4.3	6.0
16	7.1	17	34	e8.5	e47	18	11	9.7	6.1	3.1	3.8	5.2
17	7.1	15	16	e8.6	e33	17	9.6	39	6.7	12	4.1	6.1
18	7.2	19	13	e21	26	17	9.9	56	6.3	6.2	6.3	6.8
19	7.1	14	12	e24	30	17	11	67	5.6	3.7	4.0	6.0
20	7.1	12	25	e70	155	17	9.3	137	5.5	55	4.0	5.7
21	9.8	11	20	e39	48	15	8.5	36	5.2	15	4.1	5.7
22	8.8	16	14	e26	31	14	7.9	31	5.4	12	3.7	5.2
23	7.9	9.3	13	e16	43	14	8.0	81	5.0	7.6	3.8	5.1
24	7.7	10	12	e16	38	15	9.9	68	4.6	66	19	4.9
25	8.0	9.9	12	e17	26	14	8.3	49	6.3	9.8	14	4.8
26	8.0	9.5	12	e18	21	40	7.5	30	15	71	5.9	4.8
27	14	8.8	11	e14	21	47	8.2	22	13	64	10	4.7
28	181	8.7	10	e13	20	20	77	19	7.2	14	6.2	4.6
29	20	44	11	e13	20	16	16	17	4.9	10	30	4.5
30	13	318	e11	e13	---	15	16	15	4.1	8.5	18	4.5
31	11	---	e11	e15	---	14	---	13	---	8.4	7.4	---
MEAN	15.8	25.9	17.2	15.5	34.2	27.9	13.0	29.5	8.93	13.4	7.28	9.17
MAX	181	318	43	70	155	109	77	137	23	71	30	79
MIN	6.1	7.3	10	8.5	16	14	7.5	9.5	4.1	2.7	3.7	4.5
IN.	1.48	2.35	1.61	1.46	3.00	2.62	1.18	2.76	.81	1.26	.68	.83

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	11.5	18.1	21.8	26.3	28.6	32.1	37.8	28.9	13.9	12.0	6.84	9.47
MAX	34.1	34.6	49.2	106	44.7	51.5	73.7	61.3	25.6	46.9	11.4	29.5
(WY)	1980	1986	1984	1979	1979	1983	1983	1984	1984	1984	1978	1979
MIN	3.54	5.60	6.96	5.66	9.93	12.8	9.74	15.8	8.34	4.97	3.35	1.88
(WY)	1983	1985	1981	1981	1980	1981	1985	1982	1987	1983	1980	1980

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	18.1		20.6	
HIGHEST ANNUAL MEAN			33.2	1984
LOWEST ANNUAL MEAN			13.2	1981
HIGHEST DAILY MEAN	318	Nov 30	570	Jan 21 1979
LOWEST DAILY MEAN	2.7	Jul 15	1.2	Oct 1 1982
INSTANTANEOUS PEAK FLOW	971	Oct 28	1820a	Jan 24 1979
INSTANTANEOUS PEAK STAGE	4.53	Oct 28	7.60b	Jan 24 1979
INSTANTANEOUS LOW FLOW	---		1.1	Oct 1 1982
ANNUAL RUNOFF (INCHES)	20.0		22.8	
10 PERCENTILE	38		42	
50 PERCENTILE	12		12	
95 PERCENTILE	4.0		3.0	

a From rating curve extended above 700 ft^3/s on basis of slope-conveyance computation
b From high-water mark
e Estimated

01396588 SPRUCE RUN NEAR GLEN GARDNER, NJ

LOCATION.--Lat 40°40'41", long 74°55'06", Hunterdon County, Hydrologic Unit 02030105, at site 800 ft downstream of Rocky Run, 0.3 mi above Van Syckel Road bridge, 1.5 mi northwest of High Bridge, and 1.6 mi southeast of Glen Gardner.

DRAINAGE AREA.--15.5 mi^2.

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

COOPERATION.--Field data and samples for laboratory analyses provided by the New Jersey Department of Environmental Protection, Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, EC BROTH (MPN)	STREPTOCOCCI FECAL (MPN)
OCT 1987										
20...	1215	9.8	183	7.5	11.5	12.6	117	E1.9	170	70
FEB 1988										
03...	1030	E190	165	7.2	2.0	13.3	96	E1.3	330	110
MAR										
24...	1200	E35	--	8.7	10.5	9.5	85	E1.3	<20	5
MAY										
25...	1300	E260	123	7.4	15.0	8.7	88	<0.9	2200	>2400
JUL										
20...	1200	E300	124	7.8	22.0	9.0	104	3.4	>24000	>2400
AUG										
03...	1145	E7.2	195	7.5	21.0	9.8	110	5.3	790	920

DATE	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
OCT 1987									
20...	58	14	5.7	9.6	1.7	38	20	14	0.2
FEB 1988									
03...	45	11	4.2	11	1.4	20	19	20	0.2
MAR									
24...	46	11	4.5	8.9	1.2	24	21	14	0.1
MAY									
25...	40	9.6	4.0	6.9	0.9	25	14	9.6	0.2
JUL									
20...	37	9.2	3.5	7.4	2.4	23	15	11	0.2
AUG									
03...	62	15	5.9	9.7	1.2	40	20	13	0.2

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHOROUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1987									
20...	17	105	0.010	0.83	0.19	0.24	1.1	0.12	2.1
FEB 1988									
03...	13	92	0.016	0.86	--	--	--	0.04	2.7
MAR									
24...	15	90	0.020	0.99	0.00	--	--	0.03	1.5
MAY									
25...	14	74	E0.004	0.68	<0.05	0.60	1.3	0.21	5.3
JUL									
20...	11	73	0.046	0.79	0.13	2.8	3.6	0.28	32
AUG									
03...	17	106	<0.003	1.14	0.10	1.2	2.4	0.44	4.2

01396588 SPRUCE RUN NEAR GLEN GARDNER, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE)	BORON, TOTAL RECOV-ERABLE (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)
OCT 1987 20...	1215	<0.5	<10	<1	<10	<10	<1	<10	2
MAY 1988 25...	1300	<0.5	170	<1	<10	<10	1	1	6

DATE	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
OCT 1987 20...	140	<5	40	<0.10	6	<1	30	3
MAY 1988 25...	410	<5	10	<0.10	2	<1	40	4

01396660 MULHOCKAWAY CREEK AT VAN SYCKEL, NJ

LOCATION.--Lat 40°38'51", long 74°58'09", Hunterdon County, Hydrologic Unit 02030105, on left bank downstream side of bridge on Jutland Road, 0.2 mi south of Van Syckel, 0.8 mi north of Perryville, and 0.3 mi upstream from Spruce Run Reservoir.

DRAINAGE AREA.--11.8 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Occasional low-flow measurements, water years 1973-77. July 1977 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 280.25 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records fair except for the period July 15-20, which are poor. Several measurements of water temperature, other than those published, were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.4	10	34	14	48	23	16	13	35	5.3	6.3	4.5
2	7.5	9.7	25	12	76	22	16	12	42	5.5	5.7	4.2
3	35	9.5	21	11	39	29	16	11	21	5.1	5.4	4.1
4	30	9.5	21	13	80	80	16	11	19	5.1	5.2	52
5	14	9.2	19	9.9	29	47	15	14	17	5.6	5.0	15
6	11	8.6	17	9.4	20	31	14	26	15	4.8	4.9	6.7
7	15	8.2	16	9.0	18	29	15	17	14	4.8	4.7	5.5
8	11	8.2	15	10	20	27	15	12	14	4.7	4.6	5.0
9	10	8.6	15	11	19	27	13	11	16	6.1	4.6	4.8
10	9.3	42	15	10	19	27	12	11	13	5.0	4.3	4.5
11	10	41	15	11	18	24	12	39	12	4.5	4.2	4.3
12	9.7	28	15	9.9	22	23	11	20	11	4.7	4.2	4.3
13	8.8	29	14	11	20	23	11	16	10	4.7	4.4	16
14	8.3	24	13	9.2	18	22	11	23	9.6	4.3	4.0	6.1
15	8.1	19	40	8.7	21	20	12	14	9.1	4.0	3.7	4.8
16	7.8	16	29	8.6	48	20	13	13	9.0	4.4	3.4	4.4
17	7.8	15	18	9.1	33	19	11	17	9.2	19	4.1	5.7
18	7.9	17	15	19	35	18	12	49	8.5	6.7	4.6	5.9
19	7.8	14	15	19	40	18	12	135	8.0	5.1	3.8	5.0
20	7.8	13	29	70	133	19	11	164	7.9	24	3.8	4.8
21	12	11	21	46	41	17	10	50	7.4	21	3.8	4.9
22	8.9	11	17	27	29	16	9.5	40	7.0	17	3.4	4.4
23	8.3	11	16	19	37	16	9.5	56	6.8	13	3.5	4.4
24	8.3	11	15	17	31	16	11	58	6.4	61	24	4.3
25	8.2	11	15	20	26	16	9.5	62	6.3	9.6	11	4.6
26	8.4	11	15	20	23	37	8.9	33	6.8	32	5.0	4.4
27	41	10	14	16	24	33	10	27	6.0	32	6.4	4.2
28	118	10	13	13	23	20	58	24	5.5	15	4.6	4.1
29	19	42	14	13	24	18	17	22	5.5	8.9	18	3.9
30	13	174	11	14	---	17	16	20	5.9	7.9	8.9	4.1
31	11	---	11	18	---	16	---	18	---	7.1	5.1	---
MEAN	15.8	21.4	18.2	16.4	35.0	24.8	14.1	33.5	12.1	11.5	5.95	7.03
MAX	118	174	40	70	133	80	58	164	42	61	24	52
MIN	7.5	8.2	11	8.6	18	16	8.9	11	5.5	4.0	3.4	3.9
IN.	1.55	2.02	1.77	1.60	3.20	2.43	1.33	3.27	1.15	1.13	.58	.66

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	10.2	16.6	21.5	24.4	26.8	30.3	40.2	28.6	15.5	13.5	9.08	9.12
MAX	25.1	32.6	47.9	79.2	40.2	47.9	94.1	59.2	27.7	53.2	19.7	21.3
(WY)	1980	1986	1984	1979	1979	1978	1984	1984	1984	1984	1978	1979
MIN	4.55	6.34	5.61	5.01	11.1	10.2	6.88	15.7	9.01	5.80	2.84	2.85
(WY)	1983	1985	1981	1981	1980	1985	1985	1986	1987	1980	1980	1980

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	17.9		20.5	
HIGHEST ANNUAL MEAN			35.2	1984
LOWEST ANNUAL MEAN			11.8	1985
HIGHEST DAILY MEAN	174	Nov 30	700	Apr 5 1984
LOWEST DAILY MEAN	3.4	Aug 16	1.5	Sep 12 1980
INSTANTANEOUS PEAK FLOW	890	Oct 28	3950a	Jan 24 1979
INSTANTANEOUS PEAK STAGE	4.19	Oct 28	6.48	Jan 24 1979
INSTANTANEOUS LOW FLOW	3.1	Aug 16	1.1	Sep 23 1980
ANNUAL RUNOFF (INCHES)	20.6		23.6	
10 PERCENTILE	35		39	
50 PERCENTILE	13		13	
95 PERCENTILE	4.3		3.7	

a From rating curve extended above 200 ft^3/s

01396660 MULHOCKAWAY CREEK AT VAN SYCKEL, NJ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1976 to current year.

COOPERATION.--Field data and samples for laboratory analyses provided by the New Jersey Department of Environmental Protection, Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1987										
20...	1345	7.8	206	7.5	11.5	11.4	106	E2.3	170	140
FEB 1988										
03...	1145	34	190	7.4	4.0	13.6	104	<1.2	80	140
MAR										
24...	1330	16	--	9.5	12.5	9.1	86	E1.9	<20	17
MAY										
26...	1100	33	171	7.5	15.0	8.4	84	<0.9	2400	>2400
JUL										
20...	1045	93	138	7.4	22.5	8.3	97	2.6	>24000	>2400
AUG										
03...	1400	5.6	225	8.7	23.0	9.9	116	4.5	1100	1600

DATE	HARD-NESS TOTAL (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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (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)
OCT 1987									
20...	76	19	6.9	7.3	1.5	63	19	10	0.1
FEB 1988									
03...	57	15	4.7	15	1.5	33	18	26	0.2
MAR									
24...	55	14	4.9	7.8	1.1	38	19	12	0.1
MAY									
26...	58	15	5.0	8.8	1.4	40	23	12	0.2
JUL									
20...	51	13	4.4	6.4	2.5	45	14	10	0.1
AUG									
03...	80	20	7.2	9.6	1.2	64	16	11	0.2

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHOROUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1987									
20...	15	117	0.005	0.92	<0.05	0.24	1.2	0.040	1.5
FEB 1988									
03...	12	112	0.009	0.84	--	--	--	0.027	2.3
MAR									
24...	12	94	0.013	0.73	<0.00	--	--	0.034	2.1
MAY									
26...	14	104	0.010	0.92	<0.05	0.42	1.3	3.35	2.9
JUL									
20...	12	89	0.065	0.76	0.27	2.7	3.5	0.869	45
AUG									
03...	13	117	<0.003	0.75	0.11	1.3	2.0	0.410	2.9

01396660 MULHOCKAWAY CREEK AT VAN SYCKEL, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	NITROGEN,NH4 + ORG. TOT IN BOT MAT (MG/KG AS N)	CARBON, INORGANIC, TOT IN BOT MAT (G/KG AS C)	CARBON, INORG + ORGANIC TOT. IN BOT MAT (MG/KG AS C)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC TOTAL IN BOTTOM MATERIAL (UG/G AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM RECOV. FM BOTTOM MATERIAL (UG/G AS CD)
OCT 1987 20...	1345	<0.5	130	0.1	4.3	10	<1	2	<10	<10	1	<1
MAY 1988 26...	1100	<0.5	--	--	--	130	<1	--	<10	<10	<1	--

DATE	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, RECOV. FM BOTTOM MATERIAL (UG/G)	COBALT, RECOV. FM BOTTOM MATERIAL (UG/G AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, RECOV. FM BOTTOM MATERIAL (UG/G AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, RECOV. FM BOTTOM MATERIAL (UG/G AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, RECOV. FM BOTTOM MATERIAL (UG/G AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, RECOV. FM BOTTOM MATERIAL (UG/G)
OCT 1987 20...	<10	<10	<50	2	2	110	3700	<5	<10	20	170
MAY 1988 26...	<1	--	--	2	--	430	--	<5	--	30	--

DATE	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY RECOV. FM BOTTOM MATERIAL (UG/G AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, RECOV. FM BOTTOM MATERIAL (UG/G AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, TOTAL IN BOTTOM MATERIAL (UG/G)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, RECOV. FM BOTTOM MATERIAL (UG/G AS ZN)	PHENOLS TOTAL (UG/L)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	PCN, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1987 20...	<0.10	<0.10	<1	<10	<1	<1	40	20	2	<1	<1.0
MAY 1988 26...	<0.10	--	<1	--	<1	--	10	--	2	--	--

DATE	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDOSULFAN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1987 20...	<0.1	<1.0	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MAY 1988 26...	--	--	--	--	--	--	--	--	--	--	--

DATE	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARATHION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRITHION, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL IN BOTTOM MATERIAL (UG/KG)	PARATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	PERTHANE IN BOTTOM MATERIAL (UG/KG)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TRITHION, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1987 20...	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.00	<10	<0.1
MAY 1988 26...	--	--	--	--	--	--	--	--	--	--	--

01396800 SPRUCE RUN AT CLINTON, NJ

LOCATION.--Lat 40°38'21", long 74°54'58", Hunterdon County, Hydrologic Unit 02030105, 1,800 ft downstream from dam at Spruce Run Reservoir, 0.2 mi north of Clinton, 0.3 mi upstream from mouth, and 2.2 mi southwest of High Bridge.

DRAINAGE AREA.--41.3 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1959 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Concrete control since Mar. 15, 1964. Datum of gage is 193.5 ft above National Geodetic Vertical Datum of 1929. May to Nov. 24, 1959, nonrecording gage; Nov. 25, 1959 to July 23, 1961, water-stage recorder at site 1,800 ft upstream and at datum 1.41 ft lower; July 24, 1961 to Mar. 14, 1964, water-stage recorder at site 1,500 ft upstream at datum 1.41 ft lower.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Spruce Run Reservoir (see Raritan River basin, reservoirs in). Several measurements of water temperature, other than those published, were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	8.3	242	89	24	86	62	38	72	92	8.1	7.1
2	14	8.0	147	89	24	91	62	32	119	95	8.0	16
3	68	8.1	84	89	41	101	62	34	72	95	7.8	24
4	122	8.3	86	89	65	139	62	34	60	100	7.8	19
5	24	18	111	89	109	216	63	39	83	104	7.8	11
6	14	20	83	88	91	151	63	79	56	101	7.7	10
7	24	9.4	28	87	70	128	63	79	32	102	19	10
8	39	7.9	32	88	87	116	64	53	13	104	34	10
9	16	7.9	46	87	98	109	64	38	25	96	30	10
10	17	9.4	54	87	86	111	63	36	41	92	25	10
11	23	75	53	88	84	106	40	94	26	97	25	15
12	22	106	56	89	117	101	9.2	96	31	97	25	34
13	22	46	63	89	106	107	7.0	67	20	92	17	21
14	83	66	35	89	86	111	9.0	70	24	99	21	7.0
15	191	65	65	89	84	115	9.2	51	21	111	40	12
16	265	57	172	89	95	113	12	43	22	122	51	20
17	242	53	120	89	106	103	10	52	23	64	74	24
18	150	80	39	90	102	99	9.3	109	21	10	73	15
19	71	43	19	70	106	101	9.0	217	21	51	64	13
20	18	53	47	41	299	103	17	470	18	18	64	9.9
21	16	135	82	18	231	88	19	218	19	8.9	64	7.7
22	7.8	41	57	18	142	76	15	155	43	8.4	64	19
23	8.1	7.5	57	24	132	68	9.4	160	67	8.1	74	38
24	8.2	8.5	46	24	139	51	23	252	53	11	40	38
25	23	6.2	49	25	119	37	19	221	57	8.1	11	38
26	37	11	55	25	101	32	9.3	139	54	9.7	7.1	38
27	39	8.0	45	24	96	36	9.3	102	46	9.4	18	38
28	39	11	40	24	92	34	54	88	62	8.5	32	41
29	21	42	82	23	88	31	58	80	81	8.4	27	57
30	8.4	640	181	24	---	44	61	72	83	8.4	9.2	69
31	8.2	---	123	24	---	62	---	75	---	8.4	7.1	---
MEAN	54.3	55.3	77.4	63.2	104	92.5	34.6	106	45.5	59.3	31.1	22.7
MAX	265	640	242	90	299	216	64	470	119	122	74	69
MIN	7.8	6.2	19	18	24	31	7.0	32	13	8.1	7.1	7.0

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	50.3	30.3	44.5	62.2	66.8	83.0	103.7	71.0	57.7	70.9	47.4	72.1
MAX	198	81.0	196	258	162	158	342	225	278	244	132	236
(WY)	1972	1976	1974	1979	1971	1983	1983	1984	1972	1975	1983	1986
MIN	.00	.00	.00	.00	.00	.19	.86	.81	2.60	4.24	4.32	.50
(WY)	1964	1964	1964	1964	1964	1964	1964	1964	1981	1964	1963	1963

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	62.2		63.3	
HIGHEST ANNUAL MEAN			107	Unadjusted 1983
LOWEST ANNUAL MEAN			3.81	1964
HIGHEST DAILY MEAN	640	Nov 30	2060	Jul 7 1984
LOWEST DAILY MEAN	6.2	Nov 25	0	Aug 22 1963
INSTANTANEOUS PEAK FLOW	982	Nov 30	6410	Apr 2 1970
INSTANTANEOUS PEAK STAGE	2.93	Nov 30	5.17	Apr 2 1970
INSTANTANEOUS LOW FLOW	---		0a	Aug 22 1963
10 PERCENTILE	116		149	
50 PERCENTILE	52		39	
95 PERCENTILE	8.1		4.3	

a Result of reservoir filling

01396800 SPRUCE RUN AT CLINTON, NJ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960-62, 1967 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: October 1968 to September 1969, January 1971 to September 1980.
SUSPENDED-SEDIMENT DISCHARGE: October 1960 to April 1961.

COOPERATION.--Field data and samples for laboratory analyses provided by the New Jersey Department of Environmental Protection, Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, EC BROTH (MPN)	STREPTOCOCCI FECAL (MPN)
OCT 1987										
20...	1045	18	--	7.6	13.5	11.1	107	E1.9	<20	2
FEB 1988										
03...	1400	35	150	7.2	3.0	13.2	98	E1.4	20	26
MAR										
24...	1030	49	--	8.0	5.0	11.4	89	E1.5	<20	<2
MAY										
25...	1100	220	165	8.2	17.0	6.2	65	E1.6	170	240
JUL										
20...	1315	10	163	7.8	24.0	8.3	99	E1.4	<20	240
AUG										
03...	1300	7.7	195	8.1	19.0	9.3	101	4.4	<20	<2

DATE	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
OCT 1987									
20...	58	14	5.5	8.3	1.5	42	17	11	0.1
FEB 1988									
03...	61	15	5.7	7.8	1.6	44	17	15	0.2
MAR									
24...	53	13	5.0	8.8	1.4	38	18	14	0.1
MAY									
25...	54	13	5.3	8.7	1.0	38	18	13	0.2
JUL									
20...	58	14	5.5	8.2	1.2	40	15	13	0.2
AUG									
03...	61	15	5.7	11	1.5	47	14	14	0.1

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1987									
20...	4.2	87	0.008	0.07	0.15	0.39	0.46	0.050	3.4
FEB 1988									
03...	6.1	95	0.008	0.25	--	--	--	<0.020	2.9
MAR									
24...	5.9	89	0.014	0.41	0.02	--	--	0.034	3.4
MAY									
25...	0.96	83	E0.007	0.34	0.07	0.51	0.85	0.329	3.4
JUL									
20...	2.4	83	0.012	0.18	0.06	0.28	0.47	0.027	2.8
AUG									
03...	3.5	93	0.008	0.25	0.15	1.3	1.6	0.390	3.2

01396800 SPRUCE RUN AT CLINTON, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
OCT 1987 20...	1045	<0.5	<10	<1	<10	<10	<1	<10	1
MAY 1988 25...	1100	<0.5	50	<1	<10	<10	1	<1	4

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
OCT 1987 20...	70	<5	140	<0.10	<1	<1	<10	2
MAY 1988 25...	100	<5	30	<0.10	3	<1	30	1

01397000 SOUTH BRANCH RARITAN RIVER AT STANTON, NJ

LOCATION.--Lat 40°34'21", long 74°52'10", Hunterdon County, Hydrologic Unit 02030105, on right bank at downstream side of bridge on Stanton Road at Stanton Station, 0.4 mi upstream from Prescott Brook, and 1.4 mi west of Stanton.

DRAINAGE AREA.--147 mi^2.

PERIOD OF RECORD.--July 1903 to December 1906, July 1919 to current year. Monthly discharge only for some periods published in WSP 1302.

REVISED RECORDS.--WSP 561: Drainage area. WSP 1552: 1904, 1922-24(M), 1928-29(M), 1933-35(M).

GAGE.--Water-stage recorder. Datum of gage is 125.01 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 17, 1925, nonrecording gage on downstream side of highway bridge at same site and datum.

REMARKS.--Records good. Flow regulated by Spruce Run Reservoir since September 1963 (see Raritan River basin, reservoirs in). Occasional regulation at low flows by ponds above station. Water diverted by Hamden Pumping Station, 4.0 mi upstream, into Round Valley Reservoir since February 1966 (see Raritan River basin, diversions).

REVISIONS.--Revised daily discharges for water year 1982, in cubic feet per second, are given below. The figures supercede those published in the report for 1982.

January 12.....217	17.....217	22.....148	27.....181
13.....247	18.....213	23.....217	28.....197
14.....239	19.....207	24.....259	29.....188
15.....230	20.....156	25.....202	30.....184
16.....225	21.....125	26.....182	31.....210

MONTH		TOTAL	MEAN	MAX	MIN
January	1981	10054	324	1500	125
WTR YR	1981	91631	251	3660	49
CAL YR	1981	87685	240	3660	49

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	156	148	e904	207	259	279	209	177	280	158	155	122
2	110	140	e542	201	491	269	208	156	404	164	141	117
3	182	132	e334	193	493	310	204	154	269	164	133	130
4	483	129	e318	195	598	587	204	151	243	165	129	269
5	217	130	e314	182	486	834	200	155	248	169	126	402
6	145	131	e302	176	348	502	191	274	218	167	120	174
7	149	114	e302	213	286	430	189	276	178	163	121	136
8	169	110	e196	234	271	419	198	194	157	168	140	125
9	135	109	e202	213	282	388	189	163	167	162	135	119
10	125	191	e205	215	257	427	179	155	186	159	126	116
11	132	490	e199	e308	240	367	164	261	159	160	124	110
12	134	347	e193	e305	317	329	127	284	154	165	125	134
13	127	256	e196	e286	300	330	120	200	137	160	139	218
14	152	269	e158	e314	272	329	120	222	135	160	112	180
15	270	256	223	e297	252	311	119	180	129	172	137	123
16	381	224	500	e289	457	293	130	160	126	184	148	116
17	368	206	308	e274	418	274	124	174	128	232	170	139
18	250	235	199	e372	385	261	122	389	123	150	195	125
19	178	206	158	e490	381	264	130	787	118	129	162	117
20	103	179	210	e738	1450	262	125	1480	110	273	162	117
21	114	244	274	406	831	242	121	719	110	299	162	104
22	102	176	208	281	485	214	116	524	121	219	160	104
23	95	127	198	215	471	210	109	626	144	144	164	131
24	91	127	179	189	506	195	121	1270	133	674	257	130
25	97	126	179	188	393	182	125	972	130	234	261	128
26	117	126	186	196	327	252	106	643	135	540	138	125
27	129	122	172	172	316	404	104	469	124	1080	142	123
28	1080	118	161	164	301	245	455	400	127	321	175	121
29	309	191	186	162	287	204	255	354	155	219	190	134
30	187	e2000	302	166	---	199	213	313	150	184	330	149
31	162	---	309	157	---	213	---	296	---	166	158	---
MEAN	208	245	268	258	419	323	166	406	167	242	159	145
MAX	1080	2000	904	738	1450	834	455	1480	404	1080	330	402
MIN	91	109	158	157	240	182	104	151	110	129	112	104

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	155	204	261	281	324	405	377	263	185	176	160	157
MAX	641	659	767	1099	807	1057	1137	702	967	752	793	517
(WY)	1904	1952	1974	1979	1925	1936	1983	1984	1972	1975	1955	1971
MIN	34.1	46.2	65.1	55.0	61.2	61.3	58.5	80.3	60.1	40.7	30.1	31.0
(WY)	1964	1965	1966	1966	1967	1981	1981	1965	1965	1955	1957	1957

01397000 SOUTH BRANCH RARITAN RIVER AT STANTON, NJ--Continued

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	250		245	
HIGHEST ANNUAL MEAN			413	1952
LOWEST ANNUAL MEAN			95.0	1966
HIGHEST DAILY MEAN	2000	Nov 30	8060	Aug 19 1955
LOWEST DAILY MEAN	91	Oct 24	12	Oct 18 1963
INSTANTANEOUS PEAK FLOW	2740	Nov 30	18000a	Aug 19 1955
INSTANTANEOUS PEAK STAGE	6.86	Nov 30	15.22	Aug 19 1955
INSTANTANEOUS LOW FLOW	78	Aug 12, 18	9	Nov 7 1931
10 PERCENTILE	439		488	
50 PERCENTILE	189		165	
95 PERCENTILE	114		49	

a From rating curve extended above 6,400 ft^3/s on basis of computation of flow over Clinton Dam, 6.5 mi upstream, at gage height 10.72 ft, contracted-opening measurement 1.7 mi downstream, and slope-area measurement 0.4 mi downstream at gage height 15.22 ft, adjusted to present site.
e Estimated

01397400 SOUTH BRANCH RARITAN RIVER AT THREE BRIDGES, NJ

LOCATION.--Lat 40°31'01", long 74°48'12", Hunterdon County, Hydrologic Unit 02030105, at bridge on Main Street in Three Bridges, 0.4 mi northeast of Voorhees Corner, 1.3 mi downstream of Bushkill Brook, and 2.2 mi southeast of Darts Mills.

DRAINAGE AREA.--181 mi^2.

PERIOD OF RECORD.--Water years 1976 to current year.

COOPERATION.--Field data and samples for laboratory analyses provided by New Jersey Department of Environmental Protection, Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, EC BROTH (MPN)	STREPTOCOCCI FECAL (MPN)
OCT 1987										
19...	1230	E220	225	8.4	12.5	8.4	79	--	50	46
FEB 1988										
04...	1130	E830	284	7.1	2.0	14.3	104	2.8	1300	>2400
MAR										
29...	1330	E220	280	9.4	11.5	14.6	133	E1.7	<20	<2
MAY										
18...	1200	E340	279	7.6	16.5	8.4	86	3.2	9200	>2400
JUL										
11...	1100	E170	276	8.1	25.5	9.2	114	E1.7	1100	79
AUG										
16...	1200	E160	315	7.8	27.0	8.9	113	E1.4	330	140

DATE	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
OCT 1987									
19...	80	19	8.0	11	1.8	61	20	16	0.1
FEB 1988									
04...	56	14	5.2	23	2.1	34	18	36	0.2
MAR									
29...	75	18	7.2	16	1.0	52	24	23	0.1
MAY									
18...	85	21	7.9	17	1.7	57	22	27	0.2
JUL									
11...	88	21	8.7	18	2.0	67	30	21	0.1
AUG									
16...	97	23	9.7	17	2.1	77	27	20	0.1

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHOROUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1987									
19...	5.8	118	0.025	0.77	0.08	0.42	1.2	0.070	3.1
FEB 1988									
04...	8.1	127	0.023	1.28	--	--	--	0.281	10
MAR									
29...	7.7	128	0.029	1.26	0.02	0.50	1.8	0.090	4.1
MAY									
18...	7.3	138	0.046	1.15	0.21	0.83	2.0	0.185	5.4
JUL									
11...	5.7	147	0.021	1.73	0.08	0.40	2.1	0.276	3.6
AUG									
16...	4.2	149	0.009	1.24	0.05	0.53	1.8	0.222	3.3

01397400 SOUTH BRANCH RARITAN RIVER AT THREE BRIDGES, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
OCT 1987 19...	1230	<0.5	10	1	<10	20	1	<10	3

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
OCT 1987 19...	100	<5	30	0.20	3	<1	<10	4

01398000 NESHANIC RIVER AT REAVILLE, NJ

LOCATION.--Lat 40°28'18", long 74°49'42", Hunterdon County, Hydrologic Unit 02030105, on left bank 50 ft downstream from bridge on Everitts Road, 0.6 mi southwest of Reaville, 1.5 mi downstream from Third Neshanic River, and 2.2 mi upstream from Back Brook.

DRAINAGE AREA.--25.7 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1930 to current year.

REVISED RECORDS.--WSP 1552: 1933, 1934(M), 1936(M), 1938, 1940(M), 1942(M), 1945-46, 1951, 1952(M).

GAGE.--Water-stage recorder. Concrete control since Sept. 26, 1935. Datum of gage is 109.46 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Several measurements of water temperature, other than those published, were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.0	15	81	15	136	27	20	19	22	1.9	21	4.1
2	2.5	13	53	13	187	24	19	17	54	1.9	17	3.2
3	16	12	41	11	126	28	17	16	21	1.9	14	2.7
4	37	11	37	13	238	215	19	15	18	1.7	11	61
5	12	9.7	29	10	81	141	17	19	16	1.7	9.5	28
6	8.3	8.1	24	8.4	47	72	15	49	13	1.5	8.3	9.9
7	10	7.3	20	9.3	35	58	16	39	11	1.4	7.3	6.2
8	7.0	6.8	18	12	33	47	16	24	10	1.4	6.1	4.5
9	5.5	6.6	18	13	28	44	13	21	11	1.4	5.4	3.8
10	4.9	65	17	11	25	42	12	19	9.4	1.5	4.8	3.2
11	5.0	226	16	8.0	21	33	11	30	7.8	1.3	4.4	2.5
12	4.9	80	15	8.0	82	30	10	23	6.8	1.5	4.1	2.3
13	4.2	61	13	9.2	64	29	9.7	17	5.8	1.7	3.7	23
14	3.7	43	11	7.4	41	26	9.1	22	5.3	1.3	3.4	6.9
15	3.5	32	53	6.3	72	22	9.0	15	4.7	1.0	3.3	4.0
16	3.4	27	59	6.5	426	20	10	13	6.2	.91	2.8	2.4
17	3.2	24	30	7.0	156	18	8.5	13	7.4	27	4.1	3.7
18	3.0	27	24	29	110	17	12	31	4.8	10	4.9	4.5
19	2.8	20	22	37	111	17	13	263	4.1	2.5	2.7	2.8
20	2.7	19	39	325	480	16	9.2	489	3.8	57	2.7	2.6
21	4.6	14	33	144	97	13	8.4	114	3.5	109	2.6	2.4
22	3.4	14	25	73	60	12	7.5	87	3.2	99	2.2	2.1
23	2.9	12	24	46	59	12	7.5	70	3.0	47	2.1	3.0
24	2.7	12	20	36	52	12	8.5	127	2.7	501	17	2.4
25	2.4	11	21	39	39	11	7.1	202	2.6	52	17	2.8
26	2.4	11	23	41	33	48	6.6	86	2.8	657	3.9	2.0
27	4.2	9.7	19	27	33	80	7.5	57	2.6	848	2.7	1.8
28	260	9.1	17	21	33	34	108	43	2.2	121	2.4	1.7
29	38	26	17	19	30	27	30	34	2.1	58	47	1.5
30	26	355	13	19	---	24	25	27	1.9	38	19	1.5
31	19	---	13	24	---	21	---	22	---	28	5.9	---
MEAN	16.4	39.6	27.3	33.8	101	39.4	16.1	65.3	8.96	86.4	8.46	6.75
MAX	260	355	81	325	480	215	108	489	54	848	47	61
MIN	2.4	6.6	11	6.3	21	11	6.6	13	1.9	.91	2.1	1.5
IN.	.74	1.72	1.22	1.52	4.25	1.77	.70	2.93	.39	3.88	.38	.29

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	11.9	33.6	47.0	51.3	60.7	75.5	56.4	31.0	19.6	18.7	19.2	14.3
MAX	78.8	139	162	244	147	179	200	106	118	138	216	115
(WY)	1956	1933	1984	1979	1939	1936	1983	1984	1972	1938	1971	1938
MIN	.67	.90	1.59	1.14	3.92	15.2	7.20	3.78	1.11	.37	.44	.47
(WY)	1965	1966	1966	1981	1934	1985	1985	1963	1965	1966	1964	1965

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	37.3		36.5	
HIGHEST ANNUAL MEAN			67.1	1979
LOWEST ANNUAL MEAN			14.5	1965
HIGHEST DAILY MEAN	848	Jul 27	4740	Aug 28 1971
LOWEST DAILY MEAN	.91	Jul 16	0	Jul 29 1965
INSTANTANEOUS PEAK FLOW	3620	Jul 26	15900a	Aug 28 1971
INSTANTANEOUS PEAK STAGE	9.33	Jul 26	13.84b	Aug 28 1971
INSTANTANEOUS LOW FLOW	.4	Sep 16	0	Jul 17 1968
ANNUAL RUNOFF (INCHES)	19.7		19.3	
10 PERCENTILE	74		75	
50 PERCENTILE	15		12	
95 PERCENTILE	1.7		.64	

a From rating curve extended above 1,700 ft^3/s on basis of slope-area measurement 0.7 mi downstream (adjusted to present site) at gage height 11.90 ft
b From high-water mark in gage house

01398000 NESHANIC RIVER AT REAVILLE, NJ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1957, 1962, 1979 to current year.

COOPERATION.--Field data and samples for laboratory analyses provided by New Jersey Department of Environmental Protection Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1987 15...	1400	3.6	471	8.8	9.5	11.5	100	<0.8	230	23
FEB 1988 04...	1300	491	191	7.1	1.5	14.0	101	3.6	1300	>2400
MAR 29...	1200	28	405	9.4	12.5	16.8	157	E1.4	170	23
MAY 18...	1330	44	279	7.5	15.5	8.0	80	4.1	>24000	>2400
JUL 11...	0930	1.4	357	8.2	26.0	6.2	77	<1.0	230	79
AUG 16...	1030	2.8	367	7.2	26.0	8.2	102	E1.8	790	220

DATE	HARD-NESS TOTAL (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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (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)
OCT 1987 15...	200	55	15	22	2.4	82	77	54	0.1
FEB 1988 04...	45	11	4.2	11	2.5	20	18	20	0.2
MAR 29...	120	32	10	22	2.1	--	42	61	0.1
MAY 18...	91	25	7.0	17	3.0	44	48	23	0.2
JUL 11...	150	40	13	15	1.4	83	81	10	0.1
AUG 16...	140	36	12	18	2.2	81	75	13	0.2

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHOROUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1987 15...	8.4	283	0.009	1.11	0.08	0.49	1.6	0.044	2.8
FEB 1988 04...	6.9	86	0.029	1.64	--	--	--	0.222	13
MAR 29...	9.9	179	0.020	1.82	0.02	0.30	2.1	0.048	3.0
MAY 18...	6.4	156	0.059	0.92	0.20	1.1	2.0	0.144	7.7
JUL 11...	5.8	216	0.010	0.66	<0.05	0.55	1.2	0.040	4.5
AUG 16...	3.2	208	0.063	1.05	0.05	0.68	1.7	0.064	3.5

01398000 NESHANIC RIVER AT REAVILLE, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
MAY 1988 18...	1330	<0.5	20	1	<10	40	1	<1	7

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
MAY 1988 18...	1000	<5	130	<0.10	3	<1	20	4

01398045 BACK BROOK TRIBUTARY NEAR RINGOES, NJ

LOCATION.--Lat 40°25'41", long 74°49'52", Hunterdon County, Hydrologic Unit 02030105, on right upstream wingwall of bridge on Wertsville Road, 2.1 mi east of Ringoes, 1.3 mi upstream from Back Brook, and 2.3 mi southwest of Wertsville.

DRAINAGE AREA.--1.98 mi^2.

PERIOD OF RECORD.--October 1977 to September 1988 (discontinued).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 161.6 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records fair except below 1.0 ft^3/s and estimated daily discharges, which are poor. Several measurements of water temperature were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.05	.88	3.9	e.81	26	1.5	1.3	1.1	2.8	.09	.83	.14
2	.04	.81	2.1	e.66	23	1.4	1.3	.97	4.5	.11	.70	.12
3	1.4	.80	1.6	e.55	10	1.7	1.2	.94	.88	.07	.63	.11
4	.64	.80	1.5	e.66	22	28	1.4	.87	.71	.06	.59	3.8
5	.27	.81	1.3	e.50	4.1	10	1.4	1.9	.62	.06	.55	.54
6	.24	.87	1.1	e.45	2.4	3.6	1.2	8.8	.51	.10	.52	.24
7	.31	.87	.97	e.50	1.8	2.7	1.3	3.6	.44	.08	.49	.19
8	.26	.86	.95	e.60	1.3	2.2	1.5	1.5	.43	.05	.45	.16
9	.25	.87	.95	e.61	1.2	2.0	1.2	1.2	.48	.05	.43	.16
10	.25	12	.90	e.51	1.2	2.0	1.1	1.0	.41	.06	.43	.15
11	.24	23	.87	e.39	1.1	1.6	1.0	1.1	.34	.04	.41	.14
12	.25	5.7	.87	e.40	32	1.5	.99	.94	.32	.09	.42	.13
13	.26	3.2	.80	e.46	9.2	1.5	.95	.78	.29	.05	.41	.54
14	.26	2.0	.73	e.36	4.8	1.3	.94	.96	.27	.04	.35	.18
15	.28	1.5	8.5	e.32	31	1.2	.94	.67	.25	.03	.35	.15
16	.27	1.3	3.8	e.33	34	1.1	.91	.61	.39	.04	.29	.14
17	.27	1.2	1.7	e.34	6.5	1.1	.87	.63	.32	.64	.42	.14
18	.27	1.3	1.3	90	4.3	1.0	.97	3.2	.27	.20	.38	.15
19	.27	1.1	1.2	111	16	1.0	1.0	35	.25	2.2	.23	.15
20	.28	1.0	2.7	281	35	1.0	.90	41	.24	27	.26	.15
21	.34	.95	1.8	213	5.4	.93	.85	6.1	.23	19	.27	.15
22	.35	.87	1.5	4.0	2.8	.88	.80	3.3	.22	14	.15	.15
23	.35	.86	1.3	2.2	2.7	.87	.92	2.9	.19	25	.15	.16
24	.35	.87	1.2	1.8	2.4	.88	1.1	8.6	.10	50	.52	.17
25	.35	.80	1.2	1.8	1.9	.87	.91	16	.08	2.7	.50	.17
26	.35	.81	1.5	2.1	1.7	11	.86	4.0	.18	22	.11	.17
27	6.2	.80	1.2	1.6	1.7	10	1.5	1.9	.16	26	.09	.17
28	22	.78	1.2	1.7	1.8	2.3	18	1.2	.08	22	.08	.16
29	1.6	16	e.91	1.6	1.7	1.8	2.1	1.0	.08	3.0	6.9	.16
30	1.2	28	e.66	1.5	---	1.6	1.5	.79	.08	1.5	.32	.16
31	.98	---	e.70	4.5	---	1.4	---	.63	---	1.0	.17	---
MEAN	1.30	3.72	1.64	23.4	9.97	3.22	1.70	4.94	.54	7.01	.59	.30
MAX	22	28	8.5	281	35	28	18	41	4.5	50	6.9	3.8
MIN	.04	.78	.66	.32	1.1	.87	.80	.61	.08	.03	.08	.11
IN.	.76	2.10	.96	13.64	5.43	1.88	.96	2.88	.30	4.08	.35	.17

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	2.44	3.64	5.21	8.25	9.91	6.51	6.13	3.80	.96	2.02	1.62	2.40
MAX	20.0	8.89	11.8	23.8	44.3	11.8	16.5	10.2	2.10	7.01	13.4	22.6
(WY)	1980	1980	1978	1979	1979	1983	1983	1978	1982	1988	1979	1979
MIN	.08	.13	.24	.16	.46	.90	.49	.44	.13	.09	.04	.02
(WY)	1985	1985	1981	1981	1978	1985	1985	1986	1980	1983	1981	1981

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	4.87		4.38	
HIGHEST ANNUAL MEAN			11.0	1979
LOWEST ANNUAL MEAN			1.79	1985
HIGHEST DAILY MEAN	281	Jan 20	335	Feb 25 1979
LOWEST DAILY MEAN	.03	Jul 15	0	Oct 1 1978
INSTANTANEOUS PEAK FLOW	438	Jan 20	1290a	Aug 3 1979
INSTANTANEOUS PEAK STAGE	2.76	Jan 20	5.05	Aug 3 1979
INSTANTANEOUS LOW FLOW	.02	Jul 16	0	Jul 19 1986
ANNUAL RUNOFF (INCHES)	33.4		30.0	
10 PERCENTILE	8.9		7.1	
50 PERCENTILE	.75		.58	
95 PERCENTILE	.07		.03	

a From rating curve extended above 200 ft^3/s on basis of contracted-opening mesurement at gage height 4.86 ft
e Estimated

01398107 HOLLAND BROOK AT READINGTON, NJ

LOCATION.--Lat 40°33'30", long 74°43'50", Somerset County, Hydrologic Unit 02030105, on right bank 15 ft downstream from bridge on Old York Road, 0.9 mi southeast of Readington, and 2.5 mi upstream from mouth.

DRAINAGE AREA.--9.00 mi^2.

PERIOD OF RECORD.--June 1978 to current year.

REVISED RECORDS.--WDR NJ-80-1: 1978, 1979(P). WDR NJ-82-1: Drainage area.

GAGE.--Water-stage recorder, crest-stage gage, and concrete parking-block control. Datum of gage is 77.65 ft above National Geodetic Vertical Datum of 1929 (levels by Somerset County).

REMARKS.--No estimated daily discharges. Records good. Several measurements of water temperature were made during the year. Recording rain gage and gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.4	8.9	35	6.6	32	10	9.2	7.8	9.6	1.8	9.8	3.5
2	3.0	7.5	22	5.5	46	9.8	8.5	7.0	12	1.7	8.0	3.0
3	7.9	6.7	17	4.9	42	11	7.8	6.8	8.0	1.6	6.5	2.8
4	12	6.1	15	5.6	99	67	7.8	6.1	7.8	1.6	5.4	42
5	8.5	5.6	12	4.5	37	51	7.1	6.8	7.0	1.6	4.6	25
6	7.4	4.9	10	3.7	22	28	6.5	9.6	6.2	1.4	4.2	13
7	9.5	4.6	9.0	3.6	16	22	6.3	8.8	5.7	1.0	3.7	9.6
8	6.9	4.3	8.2	4.0	14	18	6.3	8.1	5.4	1.2	3.3	7.2
9	6.0	4.1	7.7	4.2	12	17	5.5	7.6	5.4	1.4	3.0	5.8
10	5.6	27	7.3	3.7	11	16	5.2	7.5	4.6	1.5	2.9	4.9
11	5.4	72	6.9	3.3	9.4	14	4.9	8.3	4.3	1.4	2.8	4.1
12	5.0	29	6.5	3.4	16	13	4.7	7.1	4.2	1.6	3.2	3.6
13	4.3	21	5.7	3.6	15	13	4.3	6.2	3.9	1.5	3.4	13
14	3.9	16	5.1	3.0	11	12	4.3	8.0	3.6	1.4	2.6	6.3
15	3.7	12	14	2.6	14	11	4.0	6.1	3.4	1.4	2.5	4.8
16	3.5	11	17	2.6	86	9.8	4.1	6.1	3.6	1.4	2.1	3.9
17	3.4	9.6	13	2.8	47	8.8	3.9	5.7	3.7	5.1	2.2	5.1
18	3.2	9.3	12	6.3	46	8.2	4.5	12	3.3	1.7	2.4	5.0
19	3.1	7.3	11	8.2	48	8.0	4.4	39	3.0	6.4	1.8	4.1
20	2.9	7.0	13	70	159	7.6	3.9	91	2.8	47	1.8	3.9
21	3.6	5.6	13	45	39	6.5	3.8	35	2.6	28	1.7	3.6
22	2.9	5.5	12	28	25	6.0	3.6	24	2.5	27	1.5	3.2
23	2.8	5.1	11	19	22	5.7	3.7	19	2.4	36	1.4	3.3
24	2.8	4.9	10	15	18	5.6	3.9	36	2.1	170	8.2	3.0
25	2.6	4.7	9.9	15	15	5.3	3.6	60	2.1	26	10	2.9
26	2.5	4.7	9.5	14	13	13	3.4	32	2.3	153	2.9	2.7
27	13	4.2	8.3	10	13	21	4.0	22	2.1	160	2.4	2.4
28	101	4.0	7.8	9.0	12	15	19	17	2.0	47	2.0	2.3
29	20	29	7.8	8.2	11	13	11	14	2.0	25	17	2.0
30	14	108	6.1	8.3	---	11	9.2	12	1.8	17	8.1	2.0
31	11	---	5.8	9.3	---	10	---	9.8	---	12	4.4	---
MEAN	9.19	15.0	11.2	10.7	32.8	15.1	5.95	17.6	4.31	25.3	4.38	6.60
MAX	101	108	35	70	159	67	19	91	12	170	17	42
MIN	2.5	4.0	5.1	2.6	9.4	5.3	3.4	5.7	1.8	1.0	1.4	2.0
IN.	1.18	1.86	1.44	1.38	3.93	1.93	.74	2.26	.53	3.24	.56	.82

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	5.79	14.5	19.9	22.8	25.6	24.9	26.8	17.7	7.28	7.61	5.65	5.11
MAX	20.9	34.4	56.1	102	56.4	49.5	59.4	43.0	16.7	26.4	26.6	17.2
(WY)	1980	1986	1984	1979	1979	1983	1983	1984	1982	1984	1978	1979
MIN	1.10	2.85	1.93	1.93	4.69	7.05	3.02	5.68	3.25	1.63	1.23	1.13
(WY)	1983	1983	1981	1981	1980	1985	1985	1986	1981	1980	1983	1983

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	13.1		15.1	
HIGHEST ANNUAL MEAN			25.7	1979
LOWEST ANNUAL MEAN			7.06	1985
HIGHEST DAILY MEAN	170	Jul 24	504	Jan 21 1979
LOWEST DAILY MEAN	1.0	Jul 7	.37	Aug 28 1980
INSTANTANEOUS PEAK FLOW	928	Jul 26	1300	Jul 7 1984
INSTANTANEOUS PEAK STAGE	6.00	Jul 26	8.08	Jul 7 1984
INSTANTANEOUS LOW FLOW	.79	Jul 7	.22	Aug 28 1980
ANNUAL RUNOFF (INCHES)	19.8		22.8	
10 PERCENTILE	28		33	
50 PERCENTILE	6.8		5.7	
95 PERCENTILE	1.6		.87	

01398260 NORTH BRANCH RARITAN RIVER NEAR CHESTER, NJ

LOCATION.--Lat 40°46'16", long 74°37'34", Morris County, Hydrologic Unit 02030105, at bridge on State Route 24, 0.8 mi upstream from Burnett Brook, and 3.8 mi east of Chester.

DRAINAGE AREA.--7.57 mi^2.

PERIOD OF RECORD.--Water years 1964-65, 1967, 1976 to current year.

COOPERATION.--Field data and samples for laboratory analyses provided by New Jersey Department of Environmental Protection, Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epaidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1987										
26...	1045	E5.5	231	7.2	7.5	12.8	107	E1.9	490	350
FEB 1988										
17...	1045	E9.0	372	7.9	1.0	15.4	109	E0.4	110	920
MAR										
23...	1030	E6.4	247	8.0	5.0	13.4	105	2.4	<20	17
MAY										
24...	1045	E30	174	7.3	16.5	9.2	96	3.6	16000	>2400
JUL										
07...	1045	E4.0	262	7.5	19.5	9.2	101	E2.3	110	350
AUG										
03...	1045	E14	259	7.4	21.0	8.0	90	E2.0	80	220

DATE	HARD-NESS TOTAL (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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (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)
OCT 1987									
26...	80	19	7.8	15	2.3	51	14	26	0.1
FEB 1988									
17...	60	15	5.5	50	2.0	31	16	87	0.2
MAR									
23...	63	15	6.2	16	1.5	38	14	31	0.1
MAY									
24...	40	9.9	3.7	12	1.4	21	14	18	0.2
JUL									
07...	83	20	8.0	16	2.0	50	19	29	0.2
AUG									
03...	82	20	7.7	18	2.0	50	18	30	0.1

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHOROUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1987									
26...	18	133	0.048	1.31	0.76	1.1	2.4	0.349	3.4
FEB 1988									
17...	13	207	0.008	0.94	--	--	--	0.163	3.1
MAR									
23...	15	122	0.030	1.09	1.00	--	--	0.332	3.6
MAY									
24...	13	85	0.033	0.57	0.28	1.2	1.8	0.192	11
JUL									
07...	18	142	E0.103	2.08	<0.05	0.40	2.5	0.496	2.9
AUG									
03...	18	144	0.089	1.84	0.23	0.66	2.5	0.360	3.2

01398260 NORTH BRANCH RARITAN RIVER NEAR CHESTER, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
OCT 1987 26...	1045	<0.5	<10	<1	<10	30	1	<1	1

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
OCT 1987 26...	70	<5	<10	<0.10	<1	<1	<10	5

01398500 NORTH BRANCH RARITAN RIVER NEAR FAR HILLS, NJ

LOCATION.--Lat 40°42'30", long 74°38'11", Somerset County, Hydrologic Unit 02030105, on left bank 75 ft upstream from Ravine Lake Dam, 1.6 mi north of Far Hills, and 2.3 mi upstream from Peapack Brook.

DRAINAGE AREA.--26.2 mi^2.

PERIOD OF RECORD.--October 1921 to September 1975, October 1977 to current year. Operated as crest-stage gage, water years 1976-77. Monthly discharge only for some periods, published in WSP 1302.

REVISED RECORDS.--WSP 781: Drainage area. WSP 1552: 1922-23, 1924-25(M), 1935(M). WSP 1902: 1954.

GAGE.--Water-stage recorder and crest-stage gage above masonry dam. Datum of gage is 224.49 ft above National Geodetic Vertical Datum of 1929 (New Jersey Geological Survey bench mark). Prior to June 18, 1925, nonrecording gage in stilling box at left end of dam at same datum.

REMARKS.--Records good except for estimated daily discharges, which are fair. Records given herein include diversion by small turbine at dam (average discharge, 3.0 ft^3/s) and returned to river 1,000 ft downstream from Ravine Lake Dam. Turbine operating from Oct. 1-16 and Apr. 18 to Sept. 30. Flow regulated occasionally by operation of waste gate in dam (no gate opening this year). Recording rain gage, with telemeter, 500 ft downstream of station. Several measurements of water temperature were made during the year. Gage-height telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Stage of 7.6 ft, from floodmark, occurred July 23, 1919, discharge about 7,000 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	53	60	66	41	61	57	46	38	58	17	73	17
2	41	60	52	37	114	55	46	34	61	18	69	15
3	44	61	47	30	97	66	45	35	53	17	65	16
4	68	52	47	39	142	148	46	33	53	17	46	70
5	30	39	44	29	80	125	44	34	52	17	23	58
6	25	35	43	25	56	79	42	55	46	18	21	26
7	31	33	42	29	51	75	43	50	43	16	20	20
8	27	33	42	32	65	73	47	38	42	15	19	17
9	25	35	42	36	64	70	41	35	48	14	19	16
10	25	70	41	32	59	75	39	36	45	12	19	17
11	27	92	40	27	48	64	39	52	40	12	19	16
12	27	50	41	30	57	60	40	49	37	12	20	16
13	24	54	39	34	53	61	37	40	36	12	20	49
14	24	52	36	e30	47	59	36	44	32	12	18	33
15	24	47	71	e23	48	55	36	38	30	11	17	23
16	25	42	91	e35	80	53	37	36	31	11	16	22
17	27	40	47	e33	63	52	35	44	33	19	15	24
18	36	49	45	48	59	51	39	73	28	23	14	29
19	66	41	43	65	60	50	42	138	25	15	13	27
20	88	39	64	109	280	49	37	174	25	85	13	23
21	77	36	60	84	106	46	35	76	23	83	13	17
22	26	31	47	59	73	43	33	67	21	70	13	18
23	22	35	44	44	82	45	32	144	21	34	12	17
24	21	36	41	40	80	46	36	158	19	225	56	15
25	20	37	42	44	68	46	33	171	18	45	52	14
26	19	36	43	47	57	88	31	104	19	281	21	16
27	22	34	41	36	61	102	30	84	18	234	17	14
28	335	33	39	30	58	59	97	77	20	97	17	14
29	73	44	40	39	57	51	47	71	18	91	58	13
30	65	198	28	39	---	47	43	65	17	76	79	13
31	61	---	34	40	---	46	---	61	---	68	31	---
MEAN	47.7	50.1	46.5	40.8	76.8	64.4	41.1	69.5	33.7	54.1	29.3	22.8
MAX	335	198	91	109	280	148	97	174	61	281	79	70
MIN	19	31	28	23	47	43	30	33	17	11	12	13
IN.	2.10	2.14	2.05	1.80	3.16	2.83	1.75	3.06	1.44	2.38	1.29	.97

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	24.8	42.0	49.2	53.1	60.3	81.8	82.4	57.9	38.1	31.0	28.5	27.7
MAX	97.4	170	124	182	128	207	226	131	190	132	153	134
(WY)	1956	1928	1974	1979	1973	1936	1983	1984	1972	1984	1942	1971
MIN	6.29	9.22	8.43	6.76	22.1	22.8	26.8	20.0	10.5	4.41	4.55	3.61
(WY)	1954	1965	1981	1981	1934	1981	1985	1965	1965	1966	1965	1964

01398500 NORTH BRANCH RARITAN RIVER NEAR FAR HILLS, NJ

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	48.0		48.0	
HIGHEST ANNUAL MEAN			89.7	1928
LOWEST ANNUAL MEAN			17.7	1965
HIGHEST DAILY MEAN	335	Oct 28	1260	Apr 5 1984
LOWEST DAILY MEAN	11	Jul 15	.20	Oct 22 1953
INSTANTANEOUS PEAK FLOW	1650	Jul 26	6390a	Aug 28 1971
INSTANTANEOUS PEAK STAGE	4.37	Jul 26	7.28	Aug 28 1971
INSTANTANEOUS LOW FLOW	---		0.0	Several times
ANNUAL RUNOFF (INCHES)	24.9		24.9	
10 PERCENTILE	78		99	
50 PERCENTILE	41		33	
95 PERCENTILE	15		6.8	

a From rating curve extended above 2,000 ft^3/s on basis of computation of peak flow over dam
e Estimated

01399120 NORTH BRANCH RARITAN RIVER AT BURNT MILLS, NJ

LOCATION.--Lat 40°38'09", long 74°40'56", Somerset County, Hydrologic Unit 02030105, at bridge on Burnt Mills Road in Burnt Mills, 0.1 mi upstream from Lamington River, and 4.0 mi southwest of Far Hills.

DRAINAGE AREA.--63.8 mi^2.

PERIOD OF RECORD.--Water years 1964, 1977 to current year.

COOPERATION.--Field data and samples for laboratory analyses provided by New Jersey Department of Environmental Protection, Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
NOV 1987										
05...	1300	E60	211	7.6	11.5	10.8	100	E1.9	80	79
FEB 1988										
09...	1200	E110	260	7.2	0.0	14.3	97	<0.8	220	13
MAR										
23...	1330	E72	225	7.3	5.0	15.8	122	E1.9	<20	2
MAY										
31...	1200	E100	215	7.8	20.0	10.0	110	E1.2	330	130
JUL										
12...	1030	E22	265	7.2	24.5	6.3	76	E1.6	1300	>2400
AUG										
01...	1330	E80	280	7.5	23.0	7.6	88	<1.1	3500	1600

DATE	HARD-NESS TOTAL (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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (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)
NOV 1987									
05...	82	20	7.9	12	2.1	57	15	23	0.2
FEB 1988									
09...	76	19	6.9	19	1.3	44	18	35	0.2
MAR									
23...	75	18	7.3	15	1.3	51	18	24	0.1
MAY									
31...	73	18	6.7	12	1.4	45	22	21	0.3
JUL									
12...	94	23	8.9	17	2.6	64	23	26	0.1
AUG									
01...	78	19	7.5	12	1.7	55	18	23	0.1

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHOROUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
NOV 1987									
05...	14	128	0.021	0.82	0.21	0.50	1.3	0.164	2.9
FEB 1988									
09...	14	140	0.012	1.04	--	--	--	0.080	1.8
MAR									
23...	11	125	0.023	--	0.02	<0.20	--	--	2.5
MAY									
31...	15	123	0.020	0.88	<0.05	0.27	1.2	0.098	3.1
JUL									
12...	12	151	0.020	--	<0.05	0.09	--	0.183	3.5
AUG									
01...	14	128	E0.009	E0.84	<0.05	0.49	--	0.073	3.0

01399120 NORTH BRANCH RARITAN RIVER AT BURNT MILLS, NJ

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	NITROGEN,NH4 + ORG. TOT IN BOT MAT (MG/KG AS N)	CARBON, INORGANIC, TOT IN BOT MAT (G/KG AS C)	CARBON, INORG + ORGANIC TOT. IN BOT MAT (MG/KG AS C)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC TOTAL IN BOTTOM MATERIAL (UG/G AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)
NOV 1987 05...	1300	<0.5	120	0.1	0.5	20	<1	4	<10	40	<1

DATE	CADMIUM RECOV. FM BOTTOM MATERIAL (UG/G AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, RECOV. FM BOTTOM MATERIAL (UG/G)	COBALT, RECOV. FM BOTTOM MATERIAL (UG/G AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, RECOV. FM BOTTOM MATERIAL (UG/G AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, RECOV. FM BOTTOM MATERIAL (UG/G AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, RECOV. FM BOTTOM MATERIAL (UG/G AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)
NOV 1987 05...	<1	2	<10	<50	3	4	260	6300	<5	<10	30

DATE	MANGANESE, RECOV. FM BOTTOM MATERIAL (UG/G)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY RECOV. FM BOTTOM MATERIAL (UG/G AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, RECOV. FM BOTTOM MATERIAL (UG/G AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, TOTAL IN BOTTOM MATERIAL (UG/G)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, RECOV. FM BOTTOM MATERIAL (UG/G AS ZN)	PHENOLS TOTAL (UG/L)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)
NOV 1987 05...	330	0.10	<0.10	4	<10	<1	<1	10	30	2	2

DATE	PCN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDOSULFAN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)
NOV 1987 05...	<1.0	<0.1	2.0	0.1	<0.1	0.1	<0.2	<0.1	<0.1	<0.1	<0.1

DATE	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARATHION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRITHION, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL IN BOTTOM MATERIAL (UG/KG)	PARATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	PERTHANE IN BOTTOM MATERIAL (UG/KG)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TRITHION, TOTAL IN BOTTOM MATERIAL (UG/KG)
NOV 1987 05...	<0.1	<0.1	<0.1	<10	<0.1	<0.1	<0.1	<0.1	<1.00	<10	<0.1

01399200 LAMINGTON (BLACK) RIVER NEAR IRONIA, NJ

LOCATION.--Lat 40°50'07", long 74°38'40", Morris County, Hydrologic Unit 02030105, on left bank 15 ft upstream from bridge on Ironia Road, 1.0 mi below Succasunna Brook, 1.3 mi northwest of Ironia, and 4.4 mi northeast of Chester.

DRAINAGE AREA.--10.9 mi^2.

PERIOD OF RECORD.--Water years 1977 to current year.

COOPERATION.--Field data and samples for laboratory analyses provided by the New Jersey Department of Environmental Protection Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, EC BROTH (MPN)	STREPTOCOCCI FECAL (MPN)
NOV 1987										
05...	1245	E12	403	7.2	13.0	7.5	74	E2.2	<20	130
FEB 1988										
17...	1215	E20	441	7.6	3.0	11.9	91	7.3	50	22
MAR										
23...	1200	E15	505	7.8	7.5	10.2	86	>9.6	170	>2400
MAY										
24...	1215	E40	327	7.1	19.5	5.1	57	E2.0	490	>2400
JUL										
07...	1215	E5.7	524	7.3	23.0	3.1	37	<0.6	20	110
AUG										
03...	1200	E15	418	7.2	25.5	4.0	50	E1.8	330	1600

DATE	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
NOV 1987									
05...	110	27	11	35	3.6	83	20	50	0.1
FEB 1988									
17...	100	25	9.9	50	3.3	86	24	78	0.2
MAR									
23...	110	27	11	47	3.4	96	21	70	0.1
MAY									
24...	77	18	7.7	27	1.9	58	16	40	0.2
JUL									
07...	120	27	12	51	5.1	94	26	75	0.2
AUG									
03...	110	24	11	39	2.9	72	21	61	0.1

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHOROUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
NOV 1987									
05...	11	207	0.156	2.53	0.44	0.84	3.4	0.492	5.4
FEB 1988									
17...	11	253	0.026	1.29	--	--	--	0.537	8.1
MAR									
23...	11	248	<0.044	1.52	3.10	--	--	0.646	10
MAY									
24...	8.1	154	0.079	0.59	0.57	0.95	1.5	0.235	7.8
JUL									
07...	9.8	262	E0.242	2.52	0.38	1.1	3.6	0.544	5.7
AUG									
03...	8.3	210	0.163	2.41	0.30	1.1	3.5	0.230	7.2

01399200 LAMINGTON (BLACK) RIVER NEAR IRONIA, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	NITROGEN, NH4 + ORG. TOT IN BOT MAT (MG/KG AS N)	CARBON, INORGANIC, TOT IN BOT MAT (G/KG AS C)	CARBON, INORG + ORGANIC TOT. IN BOT MAT (MG/KG AS C)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC TOTAL IN BOTTOM MATERIAL (UG/G AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM RECOV. FM BOTTOM MATERIAL (UG/G AS CD)
NOV 1987 05...	1245	<0.5	590	0.2	3.7	<10	<1	2	<10	50	<1	<1
MAY 1988 24...	1215	<0.5	--	--	--	50	1	--	<10	<10	1	--

DATE	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, RECOV. FM BOTTOM MATERIAL (UG/G)	COBALT, RECOV. FM BOTTOM MATERIAL (UG/G AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, RECOV. FM BOTTOM MATERIAL (UG/G AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, RECOV. FM BOTTOM MATERIAL (UG/G AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, RECOV. FM BOTTOM MATERIAL (UG/G AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, RECOV. FM BOTTOM MATERIAL (UG/G)
NOV 1987 05...	2	<10	<50	7	10	210	4100	<5	<10	60	120
MAY 1988 24...	<1	--	--	41	--	540	--	<5	--	100	--

DATE	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY RECOV. FM BOTTOM MATERIAL (UG/G AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, RECOV. FM BOTTOM MATERIAL (UG/G AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, TOTAL IN BOTTOM MATERIAL (UG/G)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, RECOV. FM BOTTOM MATERIAL (UG/G AS ZN)	PHENOLS TOTAL (UG/L)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	PCN, TOTAL IN BOTTOM MATERIAL (UG/KG)
NOV 1987 05...	<0.10	<0.10	<1	<10	1	<1	<10	30	2	12	<1.0
MAY 1988 24...	<0.10	--	6	--	<1	--	10	--	<1	--	--

DATE	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDOSULFAN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)
NOV 1987 05...	<0.1	6.0	0.2	2.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3
MAY 1988 24...	--	--	--	--	--	--	--	--	--	--	--

DATE	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARATHION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRITHION, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL IN BOTTOM MATERIAL (UG/KG)	PARATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	PERTHANE IN BOTTOM MATERIAL (UG/KG)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TRITHION, TOTAL IN BOTTOM MATERIAL (UG/KG)
NOV 1987 05...	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.00	<10	<0.1
MAY 1988 24...	--	--	--	--	--	--	--	--	--	--	--

01399500 LAMINGTON (BLACK) RIVER NEAR POTTERSVILLE, NJ

LOCATION.--Lat 40°43'39", long 74°43'50", Morris County, Hydrologic Unit 02030105, on right bank 1.1 mi upstream from bridge on State Highway 512, 1.2 mi northwest of Pottersville, and 5.5 mi upstream from Cold Brook. Water-quality samples collected at bridge 1.1 mi downstream from gage at high flows.

DRAINAGE AREA.--32.8 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1921 to current year. Monthly discharge only for October and November 1921, published in WSP 1302. Prior to October 1952, published as "Black River near Pottersville".

REVISED RECORDS.--WSP 741: 1932. WSP 781: Drainage area. WSP 1552: 1922, 1924-29(M), 1931(M), 1933-34(M), 1938(P), 1939(M), 1940, 1941(M), 1942-46(P), 1947(M), 1948-49(P), 1951-52(P), 1953(M). WDR-NJ-80-1: Correction 1979(P).

GAGE.--Water-stage recorder. Concrete control since July 1, 1937. Datum of gage is 284.14 ft above National Geodetic Vertical Datum of 1929 (levels from New Jersey Geological Survey bench mark). Prior to July 1, 1922, nonrecording gage on downstream side of highway bridge at Pottersville, 1.1 mi downstream at different datum.

REMARKS.--No estimated daily discharges. Records fair except for periods Jan. 8-20, 22-23, 27-31, Feb. 1, 5, 9-11, which are poor. Flow regulated occasionally by pond above station. Several measurements of water temperature, other than those published, were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	52	56	45	58	65	55	57	56	20	67	41
2	29	49	54	44	62	64	51	51	55	20	57	42
3	37	48	56	61	55	73	48	45	58	19	49	41
4	52	44	57	44	77	112	47	40	57	19	44	76
5	41	41	55	50	77	106	45	43	55	18	39	64
6	38	37	53	54	75	93	43	61	50	18	35	41
7	46	35	51	40	86	95	43	55	47	17	31	38
8	46	33	51	37	77	91	45	49	44	17	27	37
9	43	32	52	37	79	77	44	45	46	16	25	34
10	40	59	56	37	81	86	42	40	44	16	23	30
11	40	63	51	37	84	91	40	45	43	15	22	25
12	38	57	51	37	77	89	39	48	41	15	21	21
13	36	57	51	38	67	87	37	45	39	15	21	37
14	34	60	54	38	80	82	36	46	37	15	20	30
15	32	60	61	38	75	78	36	40	35	14	19	24
16	31	59	55	38	78	74	38	36	33	14	17	23
17	30	58	53	38	72	71	37	40	32	28	17	24
18	29	58	55	38	72	67	38	70	32	23	17	24
19	28	56	57	38	78	65	39	99	30	18	16	22
20	27	51	58	43	198	62	37	146	30	65	16	20
21	30	48	57	49	119	58	35	113	29	54	16	20
22	28	51	56	39	95	53	32	113	27	78	14	18
23	27	48	54	46	114	50	32	145	26	76	15	17
24	26	45	53	62	111	50	35	160	24	163	45	16
25	26	45	52	54	89	52	33	154	24	103	44	15
26	25	49	51	50	77	70	32	131	23	145	32	14
27	32	47	48	54	77	83	31	112	22	164	36	13
28	82	47	46	50	71	69	90	99	22	115	35	13
29	35	55	45	52	67	71	57	87	21	99	53	12
30	44	92	49	54	---	68	60	74	20	90	55	12
31	47	---	62	56	---	60	---	65	---	79	44	---
MEAN	36.5	51.2	53.5	45.1	83.7	74.6	42.6	75.9	36.7	50.6	31.4	28.1
MAX	82	92	62	62	198	112	90	160	58	164	67	76
MIN	25	32	45	37	55	50	31	36	20	14	14	12
IN.	1.28	1.74	1.88	1.59	2.75	2.62	1.45	2.67	1.25	1.78	1.10	.96

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	33.8	49.9	58.9	64.1	71.6	90.7	88.9	65.5	45.2	37.6	34.0	33.6
MAX	116	163	170	225	144	230	239	122	191	165	126	123
(WY)	1956	1928	1974	1979	1973	1936	1984	1948	1972	1984	1928	1971
MIN	5.69	11.2	15.4	11.7	28.0	32.0	25.9	19.0	10.1	5.48	5.61	3.76
(WY)	1931	1965	1981	1981	1934	1981	1985	1965	1965	1965	1966	1964

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	50.8		56.0	
HIGHEST ANNUAL MEAN			104	1928
LOWEST ANNUAL MEAN			20.5	1965
HIGHEST DAILY MEAN	198	Feb 20	905	Jan 25 1979
LOWEST DAILY MEAN	12	Sep 29	1.5	Oct 4 1930
INSTANTANEOUS PEAK FLOW	597	May 23	3460a	Jul 7 1984
INSTANTANEOUS PEAK STAGE	3.47	May 23	5.94b	Jul 7 1984
INSTANTANEOUS LOW FLOW	12	Sep 28	1.3	Oct 4 1930
ANNUAL RUNOFF (INCHES)	21.0		23.2	
10 PERCENTILE	85		114	
50 PERCENTILE	46		44	
95 PERCENTILE	17		11	

a From rating curve extended above 380 ft^3/s on basis of slope-area measurement at gage height 4.71 ft
b From floodmark

01399500 LAMINGTON (BLACK) RIVER NEAR POTTERSVILLE, NJ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1977 to current year.

COOPERATION.--Field data and samples for laboratory analyses provided by the New Jersey Department of Environmental Protection, Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1987										
26...	1245	25	252	7.5	8.0	13.2	112	E1.2	20	250
FEB 1988										
17...	1330	71	243	7.7	1.5	14.9	107	E0.1	<20	34
MAR										
23...	1330	49	284	8.2	6.5	12.2	99	E1.4	<20	79
MAY										
24...	1345	157	--	7.3	19.0	9.8	107	E1.9	790	>2400
JUL										
07...	1330	18	273	7.8	22.5	8.9	103	2.4	110	240
AUG										
03...	1330	49	240	7.6	24.5	8.2	99	<1.2	50	1600

DATE	HARD-NESS TOTAL (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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (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)
OCT 1987									
26...	75	17	7.9	20	2.5	56	15	31	0.1
FEB 1988									
17...	60	14	6.0	25	2.1	39	15	43	0.2
MAR									
23...	68	16	6.9	22	1.7	47	15	35	0.1
MAY									
24...	42	10	4.1	11	1.1	29	19	17	0.2
JUL									
07...	74	17	7.7	19	1.5	50	20	33	0.3
AUG									
03...	75	18	7.3	20	1.7	59	21	31	0.2

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1987									
26...	11	138	0.005	0.52	<0.05	0.55	1.1	0.083	4.1
FEB 1988									
17...	12	141	0.010	1.15	--	--	--	0.089	2.7
MAR									
23...	11	136	0.021	1.39	0.48	--	--	0.077	3.2
MAY									
24...	8.5	88	0.016	0.39	0.09	0.80	1.2	0.136	9.2
JUL									
07...	14	142	E0.010	1.00	0.09	0.44	1.4	0.077	3.0
AUG									
03...	16	151	0.011	0.42	0.07	0.69	1.1	0.400	10

01399500 LAMINGTON (BLACK) RIVER NEAR POTTERSVILLE, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
OCT 1987 26...	1245	<0.5	<10	<1	<10	30	1	<1	2

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
OCT 1987 26...	190	<5	<10	<0.10	<1	7	<10	2

01399510 UPPER COLD BROOK NEAR POTTERSVILLE, NJ

LOCATION.--Lat 40°43'16", long 74°45'09", Hunterdon County, Hydrologic Unit 02030105, on right bank along a private dirt road, 400 ft downstream from the former Pottersville Reservoir, and 1.5 mi west of Pottersville.

DRAINAGE AREA.--2.18 mi^2.

PERIOD OF RECORD.--October 1972 to current year.

REVISED RECORDS.--WDR-NJ-84-1: 1975(P), 1980-83(P).

GAGE.--Water-stage recorder and rock outcrop control. Datum of gage is 451.57 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Flow regulated by Pottersville Reservoir, 400 ft above station, until August 1982 when dam was demolished. Several measurements of water temperature were made during the year.

REVISIONS.--The date and gage height of the revision for water year 1979 as published in WDR NJ-84-1 was found to be in error. The peak occurred on Jan. 24, 1979, and the gage height was 3.17 ft. These figures supercede those published in that report.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	2.1	6.5	2.8	e4.9	4.3	2.9	2.9	4.0	1.4	2.0	1.2
2	1.6	1.9	5.1	2.5	e6.7	4.3	2.8	2.8	4.1	1.4	1.8	1.2
3	3.5	1.9	4.4	2.4	e5.6	5.4	2.7	2.8	3.7	1.3	1.6	1.1
4	4.0	1.9	4.2	2.6	e8.1	14	2.8	2.6	3.9	1.3	1.6	9.9
5	2.1	1.8	3.7	2.9	e5.9	7.7	2.6	4.0	3.5	1.3	1.5	3.0
6	1.9	1.8	3.4	3.1	e4.7	5.8	2.5	5.1	3.1	1.3	1.5	1.7
7	2.5	1.8	3.2	e1.9	e5.0	5.6	2.7	3.5	3.0	1.2	1.4	1.5
8	1.9	1.7	3.2	e2.2	e4.1	5.0	2.6	3.0	2.8	1.2	1.3	1.4
9	1.8	1.8	3.0	e2.1	e4.4	5.0	2.4	2.8	3.5	1.2	1.3	1.3
10	1.7	5.4	2.9	e2.1	e4.3	5.0	2.3	2.8	2.9	1.2	1.3	1.3
11	1.9	4.5	2.9	e2.2	e4.2	4.4	2.3	3.7	2.7	1.1	1.3	1.2
12	1.8	3.4	3.0	e2.1	e4.2	4.4	2.3	2.9	2.5	1.2	1.3	1.2
13	1.7	3.7	2.8	e2.2	e3.6	4.3	2.2	2.7	2.4	1.2	1.3	3.1
14	1.7	2.9	2.7	e2.2	e4.4	4.1	2.1	3.3	2.3	1.1	1.2	1.5
15	1.7	2.4	8.0	e2.1	e3.7	3.8	2.3	2.6	2.2	1.1	1.2	1.3
16	1.7	2.3	5.0	e2.1	e5.2	3.8	2.3	2.5	2.2	1.1	1.1	1.2
17	1.7	2.3	3.8	e2.1	4.3	3.6	2.2	3.2	2.2	2.8	1.1	1.4
18	1.7	2.5	3.3	e2.3	4.5	3.5	2.5	8.4	2.1	1.5	1.1	1.5
19	1.7	2.1	3.2	e2.6	7.7	3.5	2.3	12	2.0	1.2	1.1	e1.5
20	1.7	2.1	4.6	e6.1	33	3.6	2.1	16	2.0	5.4	1.1	e1.4
21	2.2	2.0	3.7	e10	7.9	3.2	2.1	6.2	1.9	3.1	1.1	e1.5
22	1.8	2.0	3.2	e3.9	6.0	3.1	2.1	7.5	1.8	3.5	1.0	e1.3
23	1.7	2.1	3.0	e4.7	7.1	3.1	2.1	17	1.7	2.9	1.1	e1.3
24	1.7	2.1	2.9	e5.3	5.9	3.2	2.2	9.3	1.6	15	4.0	e1.2
25	1.7	1.9	2.9	e4.3	5.0	3.1	2.0	14	1.6	2.1	2.6	e1.2
26	1.7	1.9	3.0	e4.8	4.5	6.6	1.9	7.1	1.7	18	1.3	e1.2
27	7.9	1.9	2.7	e3.9	4.6	6.5	2.4	5.8	1.6	7.8	1.5	e1.1
28	16	1.9	2.7	e3.5	4.4	3.6	11	5.3	1.5	3.5	1.2	e1.1
29	3.1	14	2.7	e3.8	4.5	3.1	3.6	4.9	1.5	2.5	4.9	e1.0
30	2.4	26	2.8	e3.9	---	2.9	3.2	4.4	1.5	2.0	2.2	e1.1
31	2.1	---	2.6	e3.7	---	2.8	---	4.1	---	2.6	1.4	---
MEAN	2.66	3.54	3.58	3.30	6.15	4.59	2.72	5.65	2.45	3.02	1.59	1.70
MAX	16	26	8.0	10	33	14	11	17	4.1	18	4.9	9.9
MIN	1.6	1.7	2.6	1.9	3.6	2.8	1.9	2.5	1.5	1.1	1.0	1.0
IN.	1.41	1.81	1.90	1.75	3.04	2.43	1.39	2.99	1.25	1.60	.84	.87

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	1.81	2.96	4.58	4.78	5.09	5.75	6.69	5.06	3.20	2.74	1.57	1.65
MAX	4.05	8.37	10.6	12.4	8.46	9.30	15.0	10.5	6.45	12.1	3.48	4.58
(WY)	1980	1973	1984	1979	1984	1978	1983	1984	1975	1984	1975	1975
MIN	.62	.93	.43	.08	2.03	2.09	1.72	2.30	1.49	.90	.38	.16
(WY)	1981	1981	1981	1981	1980	1985	1985	1985	1985	1980	1980	1980

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	3.41		3.82	
HIGHEST ANNUAL MEAN			7.07	1984
LOWEST ANNUAL MEAN			1.74	1985
HIGHEST DAILY MEAN	33	Feb 20	125	Jul 7 1984
LOWEST DAILY MEAN	1.0	Aug 22	.03	Aug 28 1980
INSTANTANEOUS PEAK FLOW	149	May 23	2000a	Jul 7 1984
INSTANTANEOUS PEAK STAGE	1.64	May 23	3.91	Jul 7 1984
INSTANTANEOUS LOW FLOW	.94	Jul 15	---	
ANNUAL RUNOFF (INCHES)	21.2		23.8	
10 PERCENTILE	5.4		7.0	
50 PERCENTILE	2.4		2.3	
95 PERCENTILE	1.2		.54	

a From rating curve extended above 20 ft^3/s on basis of slope-area measurement of peak flow
e Estimated

01399525 AXLE BROOK NEAR POTTERSVILLE, NJ

LOCATION.--Lat 40°41'40", long 74°43'05", Somerset County, Hydrologic Unit 02030105, on right upstream wingwall of bridge on Black River Road, 1.3 mi south of Pottersville, and 0.3 mi upstream from mouth.

DRAINAGE AREA.--1.22 mi^2.

PERIOD OF RECORD.--October 1977 to September 1988 (discontinued). Prior to October 1984, published as "Lamington (Black) River tributary No. 2 near Pottersville".

GAGE.--Water-stage recorder. Wooden control since October 1982. Datum of gage is 172.74 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those below 1.0 ft^3/s and estimated daily discharges, which are poor. Several measurements of water temperature were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.49	.70	.97	.82	7.9	.66	.71	.37	.39	e.11	.60	.46
2	.45	.58	.65	.77	13	.69	.66	.35	.46	e.08	.55	.44
3	1.5	.47	.52	.73	4.3	1.2	.63	.38	.38	e.07	.53	.44
4	1.8	.40	.51	.79	21	15	.66	.32	.44	e.05	.51	12
5	.52	.37	.42	.73	4.8	2.6	.59	.46	.39	e.05	.50	1.0
6	.46	.34	.38	.75	1.3	1.5	.55	.93	.30	e.05	.50	.58
7	2.6	.35	.36	.72	1.1	1.5	.59	.52	.27	e.06	.49	.53
8	.60	.34	.37	.75	.97	1.4	.62	.38	.25	e.04	.49	.50
9	.58	.35	.34	.77	.92	1.5	.54	.35	.36	e.04	.49	.50
10	.58	9.8	.32	.75	.89	1.6	.51	.34	.25	e.04	.48	.49
11	.62	6.7	.32	e.79	.86	1.1	.48	.92	.24	e.03	.48	.48
12	.61	1.1	.31	e.79	1.2	1.1	.44	.47	.24	e.05	.48	.47
13	.57	.79	.27	e.76	1.1	1.2	.41	.39	.21	e.05	.49	2.5
14	.57	.56	.25	e.73	.85	1.1	.39	.59	.19	e.04	.48	.36
15	.55	.45	9.7	e.77	1.2	.98	.41	.37	.18	e.04	.47	.33
16	.57	.40	1.5	e.83	9.6	.92	.42	.34	.17	e.04	.42	.29
17	.57	.40	.81	e.88	3.6	.88	.37	.35	.17	.14	.41	.33
18	.60	.76	.78	e1.9	5.2	.86	.45	3.6	.15	.12	.44	.35
19	.65	.39	.86	e2.4	9.3	.86	.43	13	e.88	.07	.38	.33
20	.66	.38	2.3	e5.7	33	.80	.36	14	e.69	1.3	.42	.33
21	1.0	.33	1.2	6.2	2.0	.65	.33	1.7	e.74	1.3	.42	.34
22	.79	.31	1.0	1.8	1.5	.62	.29	1.3	e.42	1.2	.32	.33
23	.76	.31	.94	1.4	2.3	.64	.30	6.4	e.18	9.6	.27	.32
24	.86	.33	.90	1.3	1.3	.67	.37	2.7	e.13	18	.73	.31
25	.84	.33	.91	1.8	.86	.63	.29	16	e.12	.98	.87	.30
26	.81	.32	.91	1.6	.70	3.7	.28	1.8	e.19	69	.47	.30
27	2.2	.30	.86	1.4	.72	4.1	.28	1.2	e.13	10	.43	.29
28	29	.29	.84	1.4	.85	1.1	3.5	.88	e.13	5.5	.42	.29
29	1.5	12	.86	1.4	.77	.92	.48	.63	e.14	2.1	2.2	.28
30	1.1	16	.78	1.4	---	.81	.42	.48	e.13	1.2	.64	.28
31	.85	---	.78	1.8	---	.72	---	.40	---	.74	.49	---
MEAN	1.78	1.87	1.03	1.44	4.59	1.68	.56	2.32	.30	3.94	.54	.86
MAX	29	16	9.7	6.2	33	15	3.5	16	.88	69	2.2	12
MIN	.45	.29	.25	.72	.70	.62	.28	.32	.12	.03	.27	.28
IN.	1.68	1.71	.97	1.36	4.06	1.59	.51	2.19	.27	3.72	.51	.79

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	.95	2.27	3.10	3.70	3.17	3.55	3.29	2.77	.72	1.04	.66	.66
MAX	2.97	4.80	7.90	12.7	5.74	6.80	7.81	8.58	2.15	5.21	3.20	2.07
(WY)	1980	1986	1978	1979	1979	1980	1983	1981	1979	1984	1978	1979
MIN	.08	.58	.11	.04	.75	.74	.43	.37	.23	.04	.02	.00
(WY)	1983	1983	1981	1981	1980	1981	1985	1986	1987	1983	1980	1980

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	1.74		2.15	
HIGHEST ANNUAL MEAN			3.41	1984
LOWEST ANNUAL MEAN			.94	1985
HIGHEST DAILY MEAN	69	Jul 26	200	May 11 1981
LOWEST DAILY MEAN	.03	Jul 11	0	Jul 20 1980
INSTANTANEOUS PEAK FLOW	914	Jul 26	955	Jul 07 1984
INSTANTANEOUS PEAK STAGE	6.13	Jul 26	6.30	Jul 07 1984
INSTANTANEOUS LOW FLOW	.06	Jul 12	0	Many days
ANNUAL RUNOFF (INCHES)	19.4		24.0	
10 PERCENTILE	2.1		3.9	
50 PERCENTILE	.59		.52	
95 PERCENTILE	.11		.02	

e Estimated

01399670 SOUTH BRANCH ROCKAWAY CREEK AT WHITEHOUSE STATION, NJ

LOCATION.--Lat 40°37'10", long 74°46'30", Hunterdon County, Hydrologic Unit 02030105, on right bank 1,700 ft upstream from bridge on U.S. Route 22, 0.4 mi northeast of Whitehouse Station, and 0.8 mi upstream from mouth.

DRAINAGE AREA.--12.3 mi^2.

PERIOD OF RECORD.--October 1986 to current year. March 1977 to September 1986, water-stage recorder 1,700 ft downstream, at datum 8.07 ft lower (sta. 01399690).

GAGE.--Water-stage recorder. Datum of gage is 121.5 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good except those below 5.0 ft^3/s, which are fair. Releases from Round Valley Reservoir enter stream directly above station (see Raritan River basin, reservoirs in). Several measurements of water temperature were made during the year.

REVISIONS.--The maximum discharge for water year 1987 has been revised to 886 ft^3/s, Apr. 4, 1987, gage height, 7.35 ft; revised daily discharges, in cubic feet per second, for periods in water year 1987 are given below. These figures supercede those published in the report for 1987.

Nov. 21.....207 Nov. 26.....197 Dec. 3.....217 Dec. 25.....268 Apr. 4.....387

	TOTAL	MEAN	MAX	MIN
November 1986	1149.7	38.3	207	7.8
December 1986	1432	46.2	268	18
April 1987	1372	45.7	387	20

CAL YR	1986	TOTAL	9403.7	MEAN	25.8	MAX	268	MIN 2.2
WTR YR	1987	TOTAL	9299.0	MEAN	25.5	MAX	387	MIN 3.8

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.1	12	38	12	38	18	15	7.6	14	17	13	5.7
2	6.5	11	26	11	56	17	14	6.9	22	17	11	4.6
3	18	11	21	8.6	43	20	14	7.2	11	17	9.4	4.2
4	36	10	20	11	92	76	14	6.3	12	17	7.8	72
5	13	9.7	18	7.4	33	52	13	8.9	11	17	6.6	31
6	10	8.8	16	6.8	22	28	12	22	9.0	17	5.8	13
7	14	8.6	15	9.0	17	25	12	13	8.7	17	5.0	10
8	9.8	8.5	23	9.5	18	23	13	8.4	8.9	17	4.2	8.1
9	8.9	8.7	15	9.9	17	22	11	6.9	11	17	3.8	6.8
10	8.2	36	13	8.8	16	23	10	7.0	9.7	16	3.6	5.7
11	9.0	79	13	7.4	15	19	10	14	8.7	13	3.5	4.8
12	8.7	29	13	9.2	20	18	9.9	9.6	8.4	15	11	4.4
13	7.6	25	11	9.1	18	19	9.7	6.9	8.5	12	12	38
14	6.9	19	11	6.8	15	18	9.4	12	9.3	12	4.3	13
15	6.7	15	35	7.0	16	16	9.6	6.4	56	9.3	3.4	8.2
16	6.5	14	34	6.7	59	16	10	6.2	18	7.3	2.9	6.2
17	6.5	13	18	7.2	39	15	9.1	6.1	17	26	5.4	8.7
18	6.7	20	15	17	42	14	10	32	16	15	7.8	11
19	6.2	13	14	19	37	14	11	62	16	9.2	3.0	7.1
20	6.3	12	27	75	208	14	8.9	104	16	34	3.1	6.3
21	11	11	21	51	46	13	8.5	33	16	42	3.0	6.0
22	7.0	8.8	16	30	30	12	7.6	22	17	32	2.5	5.1
23	6.5	9.4	15	19	32	12	7.7	19	17	21	2.6	5.1
24	6.5	10	14	17	28	12	9.4	40	16	132	22	6.5
25	6.7	9.7	14	20	23	12	7.3	108	17	16	33	4.7
26	6.5	9.4	15	22	20	35	6.9	37	18	121	6.9	4.9
27	8.5	8.4	13	15	20	45	7.1	23	18	110	4.6	3.9
28	151	7.9	12	12	20	19	48	18	18	51	3.9	3.8
29	24	39	13	12	20	17	11	15	18	23	33	3.3
30	17	185	9.4	12	---	16	9.8	13	18	17	22	3.9
31	14	---	10	15	---	15	---	11	---	18	8.8	---
MEAN	14.9	22.1	17.7	15.6	36.6	21.8	11.6	22.3	15.5	29.2	8.67	10.5
MAX	151	185	38	75	208	76	48	108	56	132	33	72
MIN	6.2	7.9	9.4	6.7	15	12	6.9	6.1	8.4	7.3	2.5	3.3
IN.	1.40	2.00	1.66	1.46	3.21	2.04	1.06	2.09	1.40	2.74	.81	.96

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	35.0	30.9	35.9	38.4	31.0	33.0	36.9	25.6	18.8	27.4	36.5	35.4
MAX	116	64.0	91.6	93.3	51.1	55.0	85.0	56.1	34.8	80.5	128	146
(WY)	1981	1981	1981	1981	1979	1978	1983	1984	1980	1984	1980	1980
MIN	7.15	6.58	14.2	8.31	16.7	10.2	3.80	11.9	9.57	7.33	5.49	4.19
(WY)	1982	1982	1985	1985	1985	1985	1985	1977	1981	1983	1983	1983

01399670 SOUTH BRANCH ROCKAWAY CREEK AT WHITEHOUSE STATION, NJ--Continued

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	18.8		32.7	
HIGHEST ANNUAL MEAN			55.2	1981
LOWEST ANNUAL MEAN			14.3	1985
HIGHEST DAILY MEAN	208	Feb 20	600	Jan 26 1978
LOWEST DAILY MEAN	2.5	Aug 22	1.4	Oct 20 1983
INSTANTANEOUS PEAK FLOW	692	Jul 26	2190	Jul 7 1984
INSTANTANEOUS PEAK STAGE	6.46	Jul 26	15.89a	Jul 7 1984
INSTANTANEOUS LOW FLOW	2.3	Aug 16	.18	Oct 3 1984
10 PERCENTILE	36		84	
50 PERCENTILE	13		17	
95 PERCENTILE	4.2		4.1	

a Site and datum then in use

01399700 ROCKAWAY CREEK AT WHITEHOUSE, NJ

LOCATION.--Lat 40°37'49", long 74°44'11", Hunterdon County, Hydrologic Unit 02030105, on right bank at bridge on Lamington Road, 1.4 mi northeast of Whitehouse, and 1.8 mi upstream from mouth.

DRAINAGE AREA.--37.1 mi^2.

PERIOD OF RECORD.--Water years 1977 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: April 1977 to September 1978.
WATER TEMPERATURES: April 1977 to September 1978.
SEDIMENT ANALYSES: October 1976 to September 1978.

COOPERATION.--Field data and samples for laboratory analyses provided by New Jersey Department of Environmental Protection, Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, EC BROTH (MPN)	STREPTOCOCCI FECAL (MPN)
OCT 1987										
19...	1030	E19	283	8.1	10.0	12.3	109	E1.7	130	79
FEB 1988										
04...	1000	E610	201	7.1	1.0	14.7	104	3.4	2400	>2400
MAR										
29...	1030	E49	203	9.3	10.0	15.4	135	<0.8	50	21
MAY										
18...	1030	E47	223	7.6	15.5	8.0	80	2.9	16000	>2400
JUL										
11...	1300	E11	254	9.2	26.5	8.6	108	E1.7	230	170
AUG										
25...	1100	E59	182	8.3	20.0	8.0	89	E2.3	5400	>2400

DATE	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
OCT 1987									
19...	96	23	9.4	11	1.8	72	22	13	0.1
FEB 1988									
04...	44	11	4.0	14	1.8	26	15	23	0.1
MAR									
29...	69	17	6.4	11	1.4	47	28	15	0.1
MAY									
18...	73	18	6.9	9.9	1.5	51	20	13	0.2
JUL									
11...	99	24	9.6	11	1.6	74	26	16	0.1
AUG									
25...	63	16	5.5	10	1.8	45	17	12	0.1

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1987									
19...	14	137	0.008	1.23	<0.05	0.62	1.8	0.070	2.4
FEB 1988									
04...	7.7	92	0.030	0.66	--	--	--	0.352	16
MAR									
29...	12	119	0.020	1.01	0.02	0.40	1.4	0.064	3.7
MAY									
18...	12	112	0.038	1.20	0.50	0.86	2.1	0.119	5.8
JUL									
11...	13	146	0.027	1.67	<0.05	0.27	1.9	0.173	3.0
AUG									
25...	10	99	0.031	1.87	0.06	0.87	2.7	0.200	5.0

01399700 ROCKAWAY CREEK AT WHITEHOUSE, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
OCT 1987 19...	1030	<0.5	20	<1	<10	40	<1	<10	1
MAY 1988 18...	1030	--	20	1	<10	30	1	<1	2

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
OCT 1987 19...	100	<5	20	<0.10	<1	1	<10	3
MAY 1988 18...	1000	<5	140	<0.10	4	<1	<10	<1

01399780 LAMINGTON (BLACK) RIVER AT BURNT MILLS, NJ

LOCATION.--Lat 40°38'04", long 74°41'13", Somerset County, Hydrologic Unit 02030105, at bridge on Burnt Mills Road in Burnt Mills, 1,400 ft upstream from mouth, and 2.4 mi southwest of Greater Cross Roads.

DRAINAGE AREA.--100 mi^2.

PERIOD OF RECORD.--Water years 1964, 1976 to current year.

COOPERATION.--Field data and samples for laboratory analyses provided by New Jersey Department of Environmental Protection, Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
NOV 1987										
05...	1100	E91	207	7.7	11.5	11.0	101	E1.9	50	110
FEB 1988										
09...	1030	E170	218	7.2	0.0	14.6	100	<0.8	40	17
MAR										
23...	1100	E110	240	7.3	4.5	13.4	103	E1.4	<20	22
MAY										
31...	1030	E150	234	7.8	21.0	9.9	111	E1.2	790	130
JUL										
12...	1130	E35	290	7.3	24.5	6.3	76	E1.5	790	540
AUG										
01...	1045	E120	250	7.8	23.5	7.1	83	<1.1	330	350

DATE	HARD-NESS TOTAL (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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (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)
NOV 1987									
05...	78	18	8.1	12	7.6	57	19	21	0.1
FEB 1988									
09...	70	17	6.7	16	1.6	45	18	26	0.2
MAR									
23...	75	18	7.4	14	1.3	52	18	22	0.1
MAY									
31...	70	17	6.8	12	1.4	50	20	19	0.3
JUL									
12...	94	22	9.4	14	1.7	71	23	21	0.1
AUG									
01...	73	18	6.9	12	2.4	55	23	21	0.1

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHOROUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
NOV 1987									
05...	11	131	0.008	0.69	0.33	E0.26	--	0.133	4.5
FEB 1988									
09...	13	125	0.008	1.36	--	--	--	0.042	2.2
MAR									
23...	11	123	0.020	--	0.04	0.20	--	--	2.9
MAY									
31...	12	118	0.010	0.76	<0.05	0.45	1.2	0.088	4.2
JUL									
12...	12	146	0.026	>0.94	0.06	<0.05	--	0.123	3.1
AUG									
01...	14	130	E0.009	0.67	0.05	0.64	1.3	M0.240	7.8

01399780 LAMINGTON (BLACK) RIVER AT BURNT MILLS, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	NITRO-GEN,NH4 + ORG. TOT IN BOT MAT (MG/KG AS N)	CARBON, INOR-GANIC, TOT IN BOT MAT (G/KG AS C)	CARBON, INORG + ORGANIC TOT. IN BOT MAT (MG/KG AS C)	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)	COBALT, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS CO)	COPPER, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS CU)	IRON, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS FE)
NOV 1987 05...	1100	110	0.2	0.3	2	<1	<10	<50	7	5300

DATE	LEAD, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS PB)	MANGA-NESE, RECOV. FM BOT-TOM MA-TERIAL (UG/G)	MERCURY RECOV. FM BOT-TOM MA-TERIAL (UG/G AS HG)	NICKEL, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS NI)	SELE-NIUM, TOTAL IN BOT-TOM MA-TERIAL (UG/G)	ZINC, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS ZN)	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)
NOV 1987 05...	20	230	<0.10	<10	<1	40	<1	<1.0	<0.1	<1.0

DATE	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)	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 BOTTOM MATL. (UG/KG)
NOV 1987 05...	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

DATE	LINDANE TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	MALA-THION, TOTAL IN BOT-TOM MA-TERIAL (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)	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)	TOXA-PHENE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	TRI-THION, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)
NOV 1987 05...	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.00	<10	<0.1

01400000 NORTH BRANCH RARITAN RIVER NEAR RARITAN, NJ

LOCATION.--Lat 40°34'10", long 74°40'45", Somerset County, Hydrologic Unit 02030105, on right bank, 400 ft upstream from U.S. Highway 202, 1.4 mi upstream from confluence with South Branch, and 2.7 mi west of Raritan.

DRAINAGE AREA.--190 mi^2.

PERIOD OF RECORD.--June 1923 to current year. Monthly discharge only for June 1923, published in WSP 1302. Prior to October 1943, published as "at Milltown".

REVISED RECORDS.--WSP 1552: 1924-26, 1928-35. WDR NJ-79-1: 1971-78(P).

GAGE.--Water-stage recorder. Concrete control since Sept. 1, 1936. Datum of gage is 50.43 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 17, 1936, nonrecording gage at site 30 ft downstream at same datum.

REMARKS.--Records fair above 5,000 ft^3/s and good below. Releases from Round Valley Reservoir enter basin upstream of gage. Several measurements of water temperature were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	161	212	590	214	483	308	253	220	266	66	211	119
2	120	196	397	187	981	280	244	204	315	67	184	108
3	158	182	334	172	802	325	228	201	238	64	157	101
4	560	175	312	227	1330	1000	227	185	236	62	144	781
5	228	162	274	182	617	1060	218	184	229	69	132	574
6	164	145	242	212	435	526	204	345	201	67	121	203
7	235	138	222	307	359	473	205	306	185	61	110	151
8	184	132	216	e271	e348	440	222	214	177	59	98	131
9	154	133	211	e241	e313	418	202	195	186	58	90	120
10	141	415	202	e291	258	454	189	187	188	57	85	109
11	141	1130	197	e280	238	366	182	240	159	52	82	96
12	147	408	192	e229	297	334	178	246	148	56	112	88
13	132	352	183	e215	370	334	172	196	140	57	125	394
14	124	306	169	e282	343	315	166	233	133	51	82	198
15	122	257	397	e242	364	288	165	185	164	48	75	126
16	119	228	697	222	1000	266	174	167	127	44	68	103
17	113	217	300	207	666	254	163	170	124	112	71	109
18	112	255	241	242	608	241	166	413	119	117	86	132
19	108	214	228	352	521	239	193	787	109	72	63	108
20	107	195	364	1080	2460	230	165	1540	104	423	61	97
21	141	178	359	942	828	215	153	571	101	631	63	97
22	129	149	266	582	522	197	145	452	93	550	58	89
23	111	160	240	535	553	197	141	470	90	239	55	88
24	107	161	219	499	541	199	155	1060	84	2010	271	87
25	106	159	218	295	418	196	147	1660	79	383	384	78
26	104	153	222	411	344	491	139	744	81	635	131	75
27	125	147	204	376	343	762	138	519	80	2880	99	73
28	1940	143	193	221	328	372	677	431	76	657	96	70
29	381	213	198	182	316	314	295	377	73	382	274	69
30	257	2130	132	211	---	288	243	324	69	287	476	68
31	233	---	184	223	---	266	---	287	---	253	162	---
MEAN	225	301	271	327	586	376	205	429	146	341	136	155
MAX	1940	2130	697	1080	2460	1060	677	1660	315	2880	476	781
MIN	104	132	132	172	238	196	138	167	69	44	55	68

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	164	202	347	375	439	515	475	332	218	186	192	171
MAX	826	824	994	1416	948	1272	1368	911	1270	1291	1068	672
(WY)	1956	1973	1984	1979	1925	1936	1983	1984	1972	1984	1942	1975
MIN	26.6	46.1	73.1	79.4	109	163	117	84.1	46.4	25.5	22.3	14.8
(WY)	1931	1965	1966	1940	1934	1981	1985	1926	1965	1966	1932	1964

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	291		307	Unadjusted
HIGHEST ANNUAL MEAN			605	1984
LOWEST ANNUAL MEAN			120	1965
HIGHEST DAILY MEAN	2880	Jul 27	15300	Jul 7 1984
LOWEST DAILY MEAN	44	Jul 16	7.5	Sep 26 1964
INSTANTANEOUS PEAK FLOW	7050	Jul 27	28600a	Aug 28 1971
INSTANTANEOUS PEAK STAGE	8.78	Jul 27	15.47b	Aug 28 1971
INSTANTANEOUS LOW FLOW	41	Jul 16	3	Nov 28 1930
10 PERCENTILE	550		617	
50 PERCENTILE	204		183	
95 PERCENTILE	66		41	

a From rating curve extended above 15,000 ft^3/s
b From high-water mark in gage house
e Estimated

01400120 RARITAN RIVER AT RARITAN, NJ

LOCATION.--Lat 40°33'52", long 74°38'10", Somerset County, Hydrologic Unit 02030105, at bridge on South Branch-Raritan Road in Raritan, 1.7 mi upstream from Peters Brook, 3.5 mi northeast of South Branch, and 3.6 mi southeast of North Branch.

DRAINAGE AREA.--474 mi^2.

PERIOD OF RECORD.--Water years 1977 to current year.

COOPERATION.--Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1987										
22...	1030	E310	273	8.1	11.0	11.0	100	1.4	170	49
JAN 1988										
21...	1100	E2300	230	7.4	0.5	14.4	101	2.5	790	5400
MAR										
28...	1100	E950	225	8.5	10.0	13.7	120	2.9	110	33
JUN										
02...	1125	E1300	224	7.6	19.5	8.1	89	3.0	--	--
JUL										
11...	0930	E230	--	8.2	27.5	7.6	97	--	20	40
AUG										
17...	0915	E200	259	8.5	26.0	7.6	93	3.3	<200	200

DATE	HARD-NESS TOTAL (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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (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)
OCT 1987									
22...	99	24	9.5	15	2.2	74	23	23	0.2
JAN 1988									
21...	56	14	5.2	21	2.6	28	18	35	0.2
MAR									
28...	65	16	6.2	14	1.6	42	22	23	0.4
JUN									
02...	77	19	7.1	13	1.8	48	22	23	0.3
JUL									
11...	85	20	8.4	13	1.7	62	28	18	0.1
AUG									
17...	100	24	10	15	2.0	74	26	20	0.1

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1987									
22...	6.4	148	0.011	0.87	0.09	0.61	1.5	0.060	3.6
JAN 1988									
21...	8.5	121	0.016	1.35	--	--	--	0.139	6.3
MAR									
28...	9.4	118	0.021	1.08	0.01	--	--	0.052	5.8
JUN									
02...	9.4	124	0.029	1.29	<0.05	0.77	2.1	0.181	5.6
JUL									
11...	6.4	133	0.018	0.70	0.07	0.32	1.0	0.133	3.4
AUG									
17...	4.8	146	0.011	0.47	0.08	0.62	1.1	0.132	3.9

01400120 RARITAN RIVER AT RARITAN, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	NITROGEN, NH4 + ORG. TOT IN BOT MAT (MG/KG AS N)	CARBON, INORGANIC, TOT IN BOT MAT (G/KG AS C)	CARBON, INORG + ORGANIC TOT. IN BOT MAT (MG/KG AS C)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC TOTAL IN BOTTOM MATERIAL (UG/G AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM RECOV. FM BOTTOM MATERIAL (UG/G AS CD)
OCT 1987 22...	1030	<0.5	150	0.1	3.5	<10	<1	6	<10	30	<1	<1

DATE	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, RECOV. FM BOTTOM MATERIAL (UG/G)	COBALT, RECOV. FM BOTTOM MATERIAL (UG/G AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, RECOV. FM BOTTOM MATERIAL (UG/G AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, RECOV. FM BOTTOM MATERIAL (UG/G AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, RECOV. FM BOTTOM MATERIAL (UG/G AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, RECOV. FM BOTTOM MATERIAL (UG/G)
OCT 1987 22...	<1	<10	<50	1	7	160	6400	30	<10	20	590

DATE	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY RECOV. FM BOTTOM MATERIAL (UG/G AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, RECOV. FM BOTTOM MATERIAL (UG/G AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, TOTAL IN BOTTOM MATERIAL (UG/G)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, RECOV. FM BOTTOM MATERIAL (UG/G AS ZN)	PHENOLS TOTAL (UG/L)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	PCN, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1987 22...	<0.10	<0.10	<1	10	<1	<1	<10	50	<1	<1	<1.0

DATE	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDOSULFAN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1987 22...	<0.1	1.0	<0.1	0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

DATE	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARATHION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRITHION, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL IN BOTTOM MATERIAL (UG/KG)	PARATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	PERTHANE IN BOTTOM MATERIAL (UG/KG)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TRITHION, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1987 22...	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.00	<10	<0.1

01400300 PETERS BROOK NEAR RARITAN, NJ

LOCATION.--Lat 40°35'37", long 74°37'51", Somerset County, Hydrologic Unit 02030105, on left bank 12 ft upstream from bridge on Garretson Road, 1.5 mi north of Raritan, and 2.5 mi from mouth.

DRAINAGE AREA.--4.19 mi^2.

PERIOD OF RECORDS.--May 1978 to current year.

REVISED RECORD.--WDR NJ-79-1: 1978(P).

GAGE.--Water-stage recorder. Datum of gage is 68.71 ft above National Geodetic Vertical Datum of 1929 (levels by Somerset County).

REMARKS.--No estimated daily discharges. Records poor. Several measurements of water temperature were made during the year. Recording rain gage and gage-height telemeters at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.87	1.6	5.4	1.1	19	2.2	1.9	1.6	3.8	.32	1.3	1.4
2	.66	1.2	4.8	1.1	32	2.0	1.8	1.4	3.5	.33	1.2	1.2
3	15	1.2	1.7	.88	14	3.0	1.7	1.4	1.4	.31	1.1	1.2
4	12	1.2	1.5	1.1	49	58	1.9	1.3	1.6	.31	1.1	51
5	1.9	1.1	1.2	.94	5.5	13	1.7	2.2	1.2	.31	1.0	8.3
6	1.2	1.1	1.0	.78	2.9	4.5	1.6	4.7	.89	.30	1.1	2.3
7	3.2	1.0	.91	.75	2.3	3.6	1.9	2.6	.77	.30	.97	1.6
8	1.2	1.0	.91	.82	2.1	3.0	2.0	1.6	.79	.31	.92	1.4
9	1.1	1.0	.91	.88	2.0	3.0	1.6	1.4	1.2	.33	.83	1.4
10	.78	29	.91	.83	2.0	3.4	1.5	1.4	.85	.33	.84	1.3
11	1.0	37	.97	.79	1.8	2.5	1.4	3.7	.71	.41	.87	1.2
12	.92	6.9	1.0	.80	16	2.3	1.4	1.8	.65	.43	15	1.2
13	.71	3.3	.85	.86	11	2.4	1.3	1.5	.58	.35	2.5	21
14	.68	2.0	.77	.79	4.0	2.3	1.3	3.1	.48	.31	1.2	2.4
15	.70	1.5	22	.74	12	2.1	1.4	1.4	.46	.30	1.1	1.5
16	.68	1.3	8.3	.72	69	1.8	1.7	1.3	.45	.36	.87	1.3
17	.69	1.2	2.4	.72	16	1.8	1.3	1.1	.47	11	1.4	2.9
18	.65	1.9	1.5	15	15	1.7	2.4	14	.45	.92	1.0	2.0
19	.62	1.1	1.3	9.0	17	1.7	1.9	28	.42	4.0	.83	1.4
20	.60	1.0	10	85	56	1.8	1.4	33	.40	60	.88	1.2
21	1.4	.91	4.0	18	7.0	1.6	1.3	3.9	.38	51	.86	1.2
22	80	.86	2.1	6.8	3.6	1.5	1.2	2.5	.37	26	.82	1.1
23	.72	.83	1.7	2.8	3.9	1.5	1.3	2.0	.36	18	.81	1.9
24	.71	.91	1.3	2.1	3.3	1.5	1.4	3.8	.35	72	18	1.6
25	.74	.86	1.3	4.7	2.6	1.5	1.3	31	.34	3.8	27	1.4
26	.74	.85	1.9	11	2.3	26	1.2	4.2	.40	30	2.1	1.1
27	5.6	.82	1.3	3.6	2.6	25	1.9	2.2	.37	32	1.5	1.0
28	80	.76	1.5	1.8	2.9	3.7	20	1.7	.35	4.0	1.3	.99
29	3.4	19	1.4	1.3	2.6	2.6	2.3	1.5	.35	2.3	20	.97
30	2.4	60	1.0	1.5	---	2.0	2.0	1.3	.34	1.8	4.6	.97
31	2.1	---	.88	5.5	---	1.9	---	1.2	---	1.7	1.8	---
MEAN	4.64	6.08	2.80	5.89	13.1	5.96	2.23	5.28	.82	10.4	3.70	3.98
MAX	80	60	22	85	69	58	20	33	3.8	72	27	51
MIN	.60	.76	.77	.72	1.8	1.5	1.2	1.1	.34	.30	.81	.97
IN.	1.28	1.62	.77	1.62	3.37	1.64	.59	1.45	.22	2.88	1.02	1.06

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	2.61	6.10	7.76	9.74	10.1	8.22	10.5	6.65	3.01	4.57	3.30	3.15
MAX	4.96	15.8	23.7	41.2	17.7	18.9	25.3	18.3	9.05	11.8	11.8	9.52
(WY)	1980	1987	1984	1979	1982	1980	1983	1984	1987	1984	1978	1985
MIN	.59	.56	.49	.24	1.39	1.37	.57	1.21	.82	.28	.04	.24
(WY)	1987	1979	1981	1981	1980	1985	1985	1986	1988	1983	1980	1984

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	5.39		6.27	
HIGHEST ANNUAL MEAN			9.37	1984
LOWEST ANNUAL MEAN			3.51	1985
HIGHEST DAILY MEAN	85	Jan 20	400	Jan 24 1979
LOWEST DAILY MEAN	.30	Jul 6	0	Jul 12 1978
INSTANTANEOUS PEAK FLOW	597	Oct 28	1090	Jul 7 1984
INSTANTANEOUS PEAK STAGE	5.93	Oct 28	8.15	Jul 7 1984
INSTANTANEOUS LOW FLOW	.23	Jul 14	0	Many days
ANNUAL RUNOFF (INCHES)	17.5		20.3	
10 PERCENTILE	16		12	
50 PERCENTILE	1.4		1.1	
95 PERCENTILE	.36		.09	

01400350 MACS BROOK AT SOMERVILLE, NJ

LOCATION.--Lat 40°34'26", long 74°37'06", Somerset County, Hydrologic Unit 02030105, on left upstream wingwall of culvert under access road from U.S. Highway 22 west to U.S. Highways 202 and 206, 1,200 ft upstream from Peters Brook, and 0.4 mi north of Somerville.

DRAINAGE AREA.--0.77 mi^2.

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 58.37 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good above 0.5 ft^3/s and fair below, except for the periods of estimated daily discharges, which are poor. Several measurements of water temperature were made during the year.

COOPERATION.--Gage-height record collected in cooperation with Somerset County.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.26	.16	.61	.18	3.4	.38	.44	.31	1.4	.11	.57	.41
2	.11	.77	.30	.20	6.9	.34	.38	.45	.94	.11	.49	.38
3	2.5	1.8	.26	e.16	3.2	.78	.38	.33	.36	.11	.46	.32
4	.96	1.3	.22	e.24	12	14	.47	.32	.35	.11	.42	11
5	.25	.25	.15	e.19	1.2	3.1	.38	.59	.28	.11	.36	2.3
6	.07	.16	.13	e.18	.57	1.1	.38	1.2	.25	.09	.31	.81
7	.96	.16	.12	e.18	.40	.87	.41	.62	.24	.07	.28	.50
8	.14	.19	.12	e.18	.39	.72	.52	.34	.20	.04	.20	.41
9	.07	.46	.12	e.17	.33	.69	.38	.32	.35	.06	.20	.38
10	.07	8.4	.12	e.15	.31	.79	.31	.25	.19	.07	.20	.35
11	.10	8.3	.16	e.16	.30	.48	.31	.84	.16	.03	.20	.31
12	.06	2.7	.15	e.16	4.2	.44	.25	.36	.16	.09	4.7	.31
13	.07	2.1	.11	e.13	2.6	.46	.23	.31	.17	.11	1.5	4.8
14	.09	.37	.11	e.11	.99	.38	.20	.58	.16	.11	.55	.87
15	.90	.26	5.3	e.11	4.3	.32	.29	.27	.15	.11	.42	.46
16	.04	1.6	1.9	e.10	14	.29	.25	.25	.15	.36	.37	.38
17	.05	1.5	.47	e.10	3.4	.25	.20	.30	.13	4.5	.59	.91
18	.06	2.2	.26	2.9	2.7	.25	.70	4.0	.13	.44	.42	.53
19	.07	.81	.20	2.2	5.5	.25	.32	7.0	.13	5.7	.37	.45
20	.16	.20	2.2	20	12	.29	.27	6.0	.11	25	.31	.38
21	1.4	.17	.77	4.7	1.5	.20	.23	1.1	.12	19	.27	.37
22	.08	.16	.33	1.6	.82	.19	.20	.66	.12	9.6	.28	.31
23	.71	.16	.28	.72	.87	.20	.24	.51	.11	8.2	.30	.66
24	.08	.17	.20	.50	.74	.21	.23	1.1	.11	15	5.6	.49
25	.06	.19	.21	1.1	.51	.20	.18	5.9	.11	1.1	5.4	.52
26	.49	.16	.37	2.3	.42	9.2	.16	1.0	.26	3.8	.73	.33
27	2.7	.16	.21	.81	.54	5.6	.82	.46	.14	5.8	.46	.31
28	12	.16	.21	.40	.53	.94	5.4	.38	.13	1.5	.38	.24
29	1.1	5.6	.21	.32	.44	.57	.59	.33	.13	.93	3.9	.18
30	1.0	7.7	.16	.37	---	.45	.43	.28	.13	.68	1.4	.17
31	.49	---	.16	1.3	---	.41	---	.25	---	.57	.55	---
MEAN	.87	1.61	.52	1.35	2.93	1.43	.52	1.18	.25	3.34	1.04	.99
MAX	12	8.4	5.3	20	14	14	5.4	7.0	1.4	25	5.6	11
MIN	.04	.16	.11	.10	.30	.19	.16	.25	.11	.03	.20	.17
IN.	1.31	2.33	.78	2.03	4.11	2.14	.75	1.77	.36	5.00	1.56	1.44

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	.39	1.88	1.76	1.56	2.24	2.10	3.13	1.67	.76	1.62	.77	.76
MAX	.87	4.09	4.33	3.12	2.94	4.26	6.51	4.26	1.48	3.41	2.08	2.81
(WY)	1988	1986	1984	1986	1984	1983	1983	1984	1987	1987	1987	1985
MIN	.05	.49	.47	.44	1.09	.41	.20	.22	.25	.06	.07	.04
(WY)	1987	1985	1986	1985	1987	1985	1985	1986	1988	1983	1983	1983

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	1.33		1.57	
HIGHEST ANNUAL MEAN			2.06	1984
LOWEST ANNUAL MEAN			.92	1985
HIGHEST DAILY MEAN	25	Jul 20	97	Apr 16 1986
LOWEST DAILY MEAN	.03	Jul 11	0	Jul 28 1983
INSTANTANEOUS PEAK FLOW	142	Jul 19	549	Apr 16 1986
INSTANTANEOUS PEAK STAGE	3.52	Jul 19	4.66	Apr 16 1986
INSTANTANEOUS LOW FLOW	.02	Jul 7	0	Many days
ANNUAL RUNOFF (INCHES)	23.5		27.8	
10 PERCENTILE	3.4		2.6	
50 PERCENTILE	.32		.24	
95 PERCENTILE	.08		.03	

e Estimated

01400500 RARITAN RIVER AT MANVILLE, NJ

LOCATION.--Lat 40°33'18", long 74°35'02", Somerset County, Hydrologic Unit 02030105, on left bank at downstream side of bridge on North Main Street (Finderne Avenue) at Manville, and 1.4 mi upstream from Millstone River.

DRAINAGE AREA.--490 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1903 to March 1907 (published as "at Finderne"), August 1908 to April 1915 (gage heights only, published in WSP 521), August 1921 to current year. Monthly discharge only for some periods, published in WSP 1302.

REVISED RECORDS.--WSP 1552: 1904, 1906, 1922, 1923(M), 1924-25, 1926-29(M), 1930, 1932-33(M), 1924-54. WDR NJ-75-1: 1964(M), 1969(M), 1970(P), 1971(P), 1972(P), 1973(P).

GAGE.--Water-stage recorder. Datum of gage is 20.61 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 15, 1923, nonrecording gage on downstream side of highway bridge at same site and datum. From Oct. 1, 1952 to Sept. 30, 1966, water-stage recorder at station at Bound Brook, above Calco Dam (station 01403000) used as auxiliary gage when stage is above 5.0 ft. In Oct. 1, 1966, water-stage recorder at station at Bound Brook, used as auxiliary gage, was moved downstream to present site (station 01403060). Between June 9, 1978 and June 7, 1979, gage temporarily relocated at site 1.4 mi downstream, just upstream of Millstone River, because of reconstruction of highway bridge.

REMARKS.--No estimated daily discharges. Records good. Records given herein represent flow at gage only. Slight diurnal fluctuation at low flow. Flow regulated by Spruce Run and Round Valley Reservoirs (see Raritan River basin, reservoirs in). Diversion to Round Valley Reservoir since March 1966 (see Raritan River basin, diversions). Prior to Sept. 1, 1986, water diverted 1,500 ft upstream from station by Johns-Manville Corporation and returned to river 600 ft downstream from Millstone River (see Raritan River basin, diversions). Several measurements of water temperature were made during the year. National Weather Service and New Jersey Water Supply Authority operate gage-height telemeters at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	387	531	2280	599	1080	794	617	588	709	226	508	268
2	337	478	1520	630	2370	738	604	490	1090	238	416	225
3	349	438	1040	568	2480	793	569	465	727	241	359	224
4	1630	411	903	480	2950	1630	564	431	642	236	317	1170
5	814	386	806	607	2100	3280	557	429	622	244	297	1880
6	492	357	716	771	1180	1760	505	783	563	243	281	560
7	533	333	602	952	877	1290	496	923	463	229	263	364
8	493	310	522	879	859	1170	534	633	432	239	251	301
9	429	304	525	828	779	1070	501	506	420	240	245	270
10	371	648	514	962	680	1100	447	462	472	233	234	250
11	359	3290	501	910	598	997	423	587	410	222	227	227
12	380	1590	484	878	966	888	380	772	370	236	286	213
13	350	1140	466	812	1280	876	344	564	348	233	319	779
14	321	918	431	1030	916	848	330	627	323	216	223	568
15	412	796	596	919	742	787	327	512	333	217	205	309
16	536	686	1990	832	3080	733	350	433	313	226	208	246
17	581	614	921	743	2250	701	343	416	310	566	215	266
18	509	657	659	792	1860	652	340	937	292	356	294	336
19	389	622	529	1200	1590	648	403	2370	267	235	237	266
20	300	504	694	3060	5100	625	344	4840	249	678	215	242
21	295	495	912	2510	2730	592	317	2350	241	1960	217	232
22	301	479	678	1700	1570	510	306	1760	232	2110	208	209
23	256	385	594	967	1370	496	289	1710	249	772	199	227
24	241	372	537	743	1540	485	311	3150	253	4950	659	265
25	230	365	517	690	1100	470	320	3600	227	1560	971	240
26	238	353	536	846	919	937	286	2490	243	988	361	221
27	273	341	504	594	879	1900	274	1710	231	6940	216	209
28	4050	323	457	482	856	964	1670	1200	213	2160	238	201
29	1520	401	460	460	824	752	933	1010	225	1120	385	198
30	779	6180	506	508	---	683	666	870	233	779	1440	212
31	620	---	894	533	---	652	---	771	---	619	435	---
MEAN	606	824	751	919	1570	962	478	1238	390	952	353	373
MAX	4050	6180	2280	3060	5100	3280	1670	4840	1090	6940	1440	1880
MIN	230	304	431	460	598	470	274	416	213	216	199	198

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	434	673	877	966	1093	1361	1166	771	504	470	465	456
MAX	2433	2460	2383	3856	2406	3260	3507	2168	2581	2542	2552	2068
(WY)	1904	1933	1984	1979	1925	1936	1983	1984	1972	1975	1955	1971
MIN	64.8	87.5	148	188	265	354	259	212	88.8	65.1	50.5	51.2
(WY)	1942	1932	1966	1966	1934	1981	1985	1926	1965	1955	1932	1941

01400500 RARITAN RIVER AT MANVILLE, NJ--Continued

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	783		768	
HIGHEST ANNUAL MEAN			1365	1984
LOWEST ANNUAL MEAN			309	1965
HIGHEST DAILY MEAN	6940	Jul 27	21600	Sep 22 1938
LOWEST DAILY MEAN	198	Sep 29	17a	Sep 19 1964
INSTANTANEOUS PEAK FLOW	10900	Jul 27	36300b	Aug 28 1971
INSTANTANEOUS PEAK STAGE	12.86	Jul 27	23.8c	Aug 28 1971
INSTANTANEOUS LOW FLOW	183	Jul 19	---	Sep 19 1964
10 PERCENTILE	1650		1580	
50 PERCENTILE	530		431	
95 PERCENTILE	221		95	

a Does not include water diverted to Johns-Manville plant
b From rating curve extended above 14,000 ft^3/s on basis of slope-area measurements at gage heights 14.9 and 20.42 ft
c From floodmark (backwater from Millstone River)

01400500 RARITAN RIVER AT MANVILLE, NJ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1923-25, 1959, 1962-73, 1976 to current year.

COOPERATION.--Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1987										
06...	1030	505	224	8.1	13.5	11.0	106	0.9	700	70
MAR 1988										
09...	1030	1080	218	7.3	6.0	12.1	97	0.3	110	70
30...	1030	679	239	9.2	12.0	14.7	135	2.6	31	5
JUN										
02...	0910	1380	217	7.6	20.0	7.6	84	2.4	>2400	>2400
JUL										
12...	1030	243	--	8.2	27.0	6.8	85	--	--	--
AUG										
09...	1045	248	251	8.7	28.0	8.1	103	--	80	80

DATE	HARD-NESS TOTAL (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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (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)
OCT 1987									
06...	78	19	7.5	12	2.3	54	22	18	0.1
MAR 1988									
09...	67	16	6.5	15	1.5	41	21	24	0.1
30...	73	18	6.7	15	1.6	47	25	23	0.2
JUN									
02...	75	18	7.2	13	1.6	49	22	20	0.3
JUL									
12...	89	21	8.8	13	1.8	62	27	19	0.1
AUG									
09...	99	24	9.5	15	2.0	71	28	23	0.1

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1987									
06...	11	124	0.010	1.25	0.04	0.56	1.8	0.147	4.3
MAR 1988									
09...	10	119	0.012	1.46	--	--	--	0.050	2.4
30...	6.3	124	0.025	0.78	0.02	0.60	1.4	0.043	4.9
JUN									
02...	9.7	121	0.021	1.15	<0.05	0.64	1.8	0.121	5.7
JUL									
12...	6.6	134	0.017	0.71	<0.05	0.34	1.1	0.128	3.2
AUG									
09...	4.4	149	0.015	0.53	0.10	0.49	1.0	0.080	3.7

01400500 RARITAN RIVER AT MANVILLE, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE)	BORON, TOTAL RECOV-ERABLE (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)
OCT 1987 14...	1045	<0.5	<10	5	<10	130	<1	<10	15

DATE	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
OCT 1987 14...	570	<5	50	0.20	2	1	10	3

01400540 MILLSTONE RIVER NEAR MANALAPAN, NJ

LOCATION.--Lat 40°15'44", long 74°25'13", Middlesex County, Hydrologic Unit 02030105, at bridge on State Route 33, 1.3 mi west of Manalapan, 5.5 mi east of Hightstown, and 8.4 mi above Rocky Brook.

DRAINAGE AREA.--7.37 mi^2.

PERIOD OF RECORD.--Water years 1960 to 1964, June 1981 to current year.

COOPERATION.--Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1987										
26...	1030	E5.0	101	6.6	8.0	9.9	83	3.1	20	49
JAN 1988										
25...	1200	E16	--	6.5	2.5	12.5	92	<1.2	<20	49
APR										
05...	1200	E11	--	7.1	13.0	10.4	100	<1.0	<20	4
JUN										
20...	0930	E3.7	104	7.2	20.5	7.4	82	<0.7	110	350
JUL										
12...	0930	E2.2	97	6.7	23.5	8.3	99	3.2	220	>2400
AUG										
30...	1330	E3.7	115	7.2	20.0	8.3	92	<1.0	460	540

DATE	HARD-NESS TOTAL (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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (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)
OCT 1987									
26...	34	7.0	4.0	6.7	3.2	15	18	11	0.1
JAN 1988									
25...	31	6.4	3.6	6.5	2.2	6.0	19	15	0.2
APR									
05...	29	5.8	3.5	6.4	3.2	7.0	17	12	0.2
JUN									
20...	30	6.0	3.6	5.7	2.3	13	14	10	0.2
JUL									
12...	28	5.9	3.3	6.0	2.1	14	13	11	0.2
AUG									
30...	30	6.1	3.7	6.2	2.3	15	10	10	0.2

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHOROUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1987									
26...	9.9	69	0.007	1.21	0.05	0.73	1.9	0.098	4.7
JAN 1988									
25...	9.4	66	0.012	1.77	0.10	--	--	0.056	1.8
APR									
05...	7.3	60	0.010	1.51	0.05	<0.20	--	0.055	2.8
JUN									
20...	9.0	59	0.021	1.91	0.07	0.44	2.3	0.093	4.0
JUL									
12...	7.4	57	0.019	1.48	0.08	0.34	1.8	0.133	6.7
AUG									
30...	9.5	57	0.006	0.89	0.09	0.29	1.2	0.089	3.3

01400540 MILLSTONE RIVER NEAR MANALAPAN, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	NITRO-GEN,NH4 + ORG. TOT IN BOT MAT (MG/KG AS N)	CARBON, INOR-GANIC, TOT IN BOT MAT (G/KG AS C)	CARBON, INORG + ORGANIC TOT. IN BOT MAT (MG/KG AS C)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC TOTAL IN BOT-TOM MA-TERIAL (UG/G AS AS)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE)	BORON, TOTAL RECOV-ERABLE (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM RECOV. FM BOT-TOM MA-TERIAL (UG/G AS CD)
OCT 1987 26...	1030	<0.5	200	0.5	9.2	10	1	8	<10	10	<1	<1
JUN 1988 20...	0930	<0.5	--	--	--	20	2	--	<10	20	<1	--

DATE	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, RECOV. FM BOT-TOM MA-TERIAL (UG/G)	COBALT, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, RECOV. FM BOT-TOM MA-TERIAL (UG/G)
OCT 1987 26...	<1	30	<50	4	2	2800	15000	<5	<10	100	56
JUN 1988 20...	<1	--	--	3	--	3000	--	<5	--	70	--

DATE	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY RECOV. FM BOT-TOM MA-TERIAL (UG/G AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	NICKEL, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, TOTAL IN BOT-TOM MA-TERIAL (UG/G)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS ZN)	PHENOLS TOTAL (UG/L)	PCB, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	PCN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)
OCT 1987 26...	<0.10	<0.10	2	<10	<1	<1	10	30	5	--	--
JUN 1988 20...	<0.10	--	10	--	<1	--	20	--	3	--	--

DATE	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)	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)
OCT 1987 26...	<0.1	1.0	2.2	3.6	3.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
JUN 1988 20...	--	--	--	--	--	--	--	--	--	--	--

DATE	HEPTA-CHLOR EPOXIDE TOT. IN BOTTOM MATL. (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 BOTTOM MATL. (UG/KG)	METHYL PARA-THION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRI-THION, TOT. IN BOTTOM MATL. (UG/KG)	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)	TOXA-PHENE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	TRI-THION, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)
OCT 1987 26...	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.00	<10	<0.1
JUN 1988 20...	--	--	--	--	--	--	--	--	--	--	--

01400650 MILLSTONE RIVER AT GROVERS MILL, NJ

LOCATION.--Lat 40°19'19", long 74°36'31", Mercer County, Hydrologic Unit 02030105, at bridge on Millstone Road in Grovers Mill, 0.3 mi upstream from Cranbury Brook, and 2.7 mi north of Dutch Neck.

DRAINAGE AREA.--43.4 mi^2.

PERIOD OF RECORD.--Water years 1976 to current year.

COOPERATION.--Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1987										
19...	1030	E26	181	6.8	13.0	5.1	48	1.3	220	20
FEB 1988										
08...	1230	E84	205	6.8	1.5	12.8	90	1.0	80	<20
APR										
12...	1215	E40	207	6.7	13.0	13.0	124	2.7	49	26
JUN										
13...	0900	E20	209	6.5	20.5	3.2	35	8.3	330	17
JUL										
25...	1110	E28	170	6.1	24.0	3.6	43	2.0	130	1300
AUG										
08...	1315	E9.1	212	6.8	26.5	7.6	95	4.5	110	50

DATE	HARD-NESS TOTAL (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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (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)
OCT 1987									
19...	44	10	4.5	12	3.9	12	20	25	0.3
FEB 1988									
08...	46	11	4.5	14	3.9	16	23	23	0.2
APR									
12...	47	11	4.8	14	3.1	11	25	23	0.3
JUN									
13...	47	11	4.8	14	4.0	12	19	23	0.3
JUL									
25...	47	11	4.8	12	3.7	14	29	17	0.2
AUG									
08...	53	13	5.0	15	4.0	17	22	22	0.3

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHOROUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1987									
19...	8.1	91	0.087	3.62	0.37	0.70	4.3	0.300	4.2
FEB 1988									
08...	8.5	98	0.021	2.15	--	--	--	0.264	4.7
APR									
12...	6.6	94	0.071	2.35	1.60	2.6	4.9	0.388	4.8
JUN									
13...	8.5	92	0.540	3.40	1.55	2.0	5.4	0.372	5.7
JUL									
25...	8.2	94	0.144	1.19	0.41	0.95	2.1	0.342	6.5
AUG									
08...	0.71	92	0.039	5.43	0.05	0.97	6.4	0.370	4.9

01400650 MILLSTONE RIVER AT GROVERS MILL, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	NITRO-GEN,NH4 + ORG. TOT IN BOT MAT (MG/KG AS N)	CARBON, INOR-GANIC, TOT IN BOT MAT (G/KG AS C)	CARBON, INORG + ORGANIC TOT. IN BOT MAT (MG/KG AS C)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC TOTAL IN BOT-TOM MA-TERIAL (UG/G AS AS)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE)	BORON, TOTAL RECOV-ERABLE (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM RECOV. FM BOT-TOM MA-TERIAL (UG/G AS CD)
OCT 1987 19...	1030	--	30	0.1	29	--	--	11	--	--	--	1
JUN 1988 13...	0900	<0.5	--	--	--	<10	2	--	<10	<10	1	--

DATE	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, RECOV. FM BOT-TOM MA-TERIAL (UG/G)	COBALT, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, RECOV. FM BOT-TOM MA-TERIAL (UG/G)
OCT 1987 19...	--	20	<50	--	20	--	15000	--	50	--	140
JUN 1988 13...	<1	--	--	4	--	1100	--	12	--	60	--

DATE	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY RECOV. FM BOT-TOM MA-TERIAL (UG/G AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	NICKEL, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, TOTAL IN BOT-TOM MA-TERIAL (UG/G)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS ZN)	PHENOLS TOTAL (UG/L)	PCB, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	PCN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)
OCT 1987 19...	--	0.17	--	10	--	<1	--	110	--	<1	<1.0
JUN 1988 13...	<0.10	--	3	--	<1	--	10	--	2	--	--

DATE	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)	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)
OCT 1987 19...	<0.1	64	51	69	51	0.4	<0.1	<0.1	0.8	<0.1	<0.1
JUN 1988 13...	--	--	--	--	--	--	--	--	--	--	--

DATE	HEPTA-CHLOR EPOXIDE TOT. IN BOTTOM MATL. (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 BOTTOM MATL. (UG/KG)	METHYL PARA-THION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRI-THION, TOT. IN BOTTOM MATL. (UG/KG)	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)	TOXA-PHENE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)	TRI-THION, TOTAL IN BOT-TOM MA-TERIAL (UG/KG)
OCT 1987 19...	0.6	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.00	<10	<0.1
JUN 1988 13...	--	--	--	--	--	--	--	--	--	--	--

01400730 MILLSTONE RIVER AT PLAINSBORO, NJ

LOCATION.--Lat 40°19'27", long 74°36'51", Mercer County, Hydrologic Unit 02030105, on left bank 30 ft upstream from bridge on AMTRAK railroad, 100 ft downstream from Cranbury Road, 0.2 mi upstream from Bear Brook, and 0.9 mi southwest of Plainsboro.

DRAINAGE AREA.--65.8 mi^2.

PERIOD OF RECORD.--May 1964 to September 1975, March 26 to September 30, 1987.

GAGE.--Water-stage recorder and crest-stage gage. Operated as a crest-stage gage water years 1976-86. Datum of gage is 53.41 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Occasional diversion for irrigation above station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	88	194	57	113	85	e76	71	45	11	45	18
2	31	71	174	65	155	78	67	61	111	12	36	15
3	35	64	115	70	284	75	64	54	113	11	33	13
4	95	60	90	67	311	91	64	51	95	10	26	55
5	142	58	83	61	376	230	66	52	65	8.7	20	167
6	163	54	80	54	287	255	63	81	53	9.3	19	123
7	127	51	72	48	165	175	59	156	46	12	19	92
8	86	50	65	48	110	128	74	159	42	10	14	50
9	99	48	62	51	83	72	74	92	42	6.7	11	33
10	84	67	62	52	66	77	56	68	44	7.1	12	27
11	69	164	78	53	74	79	48	66	42	7.2	12	23
12	62	192	89	48	295	73	45	81	39	8.9	11	21
13	58	199	90	48	616	71	42	92	32	7.6	12	32
14	55	139	77	49	417	71	41	75	30	5.7	17	41
15	50	93	85	44	180	71	42	62	27	6.0	11	35
16	48	75	158	39	262	64	55	54	25	5.2	7.9	30
17	46	67	191	37	336	60	59	57	24	33	8.9	24
18	45	65	155	60	246	57	55	84	29	45	21	26
19	44	63	97	104	157	57	58	202	34	29	15	25
20	e43	63	91	216	193	56	60	343	37	26	13	25
21	e43	58	102	425	257	54	52	333	30	33	16	22
22	e42	53	105	327	185	50	45	200	28	185	17	21
23	e39	51	91	227	123	49	44	97	27	226	14	20
24	e38	52	80	130	111	50	57	127	22	204	63	18
25	e38	52	75	103	100	50	58	146	15	132	79	18
26	e39	53	77	147	88	86	53	134	18	159	60	18
27	42	52	78	199	82	242	45	110	19	667	44	18
28	337	50	75	187	86	e260	89	82	15	350	31	18
29	335	56	72	121	88	e183	108	66	12	150	62	16
30	231	144	67	99	---	e127	91	56	11	59	50	15
31	132	---	58	93	---	e103	---	50	---	54	20	---
MEAN	87.8	78.4	96.4	107	202	103	60.3	108	39.1	80.3	26.4	35.3
MAX	337	199	194	425	616	260	108	343	113	667	79	167
MIN	24	48	58	37	66	49	41	50	11	5.2	7.9	13
IN.	1.54	1.33	1.69	1.88	3.31	1.80	1.02	1.90	.66	1.41	.46	.60

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	58.8	81.2	133	113	134	131	119	95.6	77.1	96.3	84.8	72.2
MAX	116	222	265	205	209	187	232	165	158	371	260	184
(WY)	1972	1973	1974	1975	1973	1968	1973	1972	1973	1975	1971	1971
MIN	17.5	20.2	32.9	32.2	81.0	86.9	38.0	37.3	18.4	7.32	3.65	16.5
(WY)	1971	1966	1966	1966	1968	1966	1966	1965	1965	1966	1966	1970

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	85.1		98.0	
HIGHEST ANNUAL MEAN			146	1975
LOWEST ANNUAL MEAN			49.0	1966
HIGHEST DAILY MEAN	667	Jul 27	3480	Jul 21 1975
LOWEST DAILY MEAN	5.2	Jul 16	1.9	Aug 10 1966
INSTANTANEOUS PEAK FLOW	752	Jul 27	3970	Jul 21 1975
INSTANTANEOUS PEAK STAGE	3.92	Jul 27	8.96	Jul 21 1975
ANNUAL RUNOFF (INCHES)	17.6		20.2	
10 PERCENTILE	185		195	
50 PERCENTILE	60		64	
95 PERCENTILE	12		15	

e Estimated

01401000 STONY BROOK AT PRINCETON, NJ

LOCATION.--Lat 40°19'59", long 74°40'56", Mercer County, Hydrologic Unit 02030105, at bridge on U.S. Highway 206, 1.6 mi southwest of Princeton, and 4.0 mi upstream from Carnegie Lake.

DRAINAGE AREA.--44.5 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1953 to current year.

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Datum of gage is 62.23 ft above National Geodetic Vertical Datum of 1929 (levels from New Jersey Geological Survey bench mark).

REMARKS.--No estimated daily discharges. Records good. Since July 1959 some regulation by several small reservoirs, combined capacity, 49,800,000 gal. Several measurements of water temperature, other than those published, were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.1	21	141	29	189	51	37	52	28	1.8	20	6.9
2	5.0	19	75	30	307	44	36	43	105	1.7	16	4.7
3	12	17	51	22	342	45	34	40	38	1.5	13	3.6
4	113	16	45	28	311	197	48	37	29	1.4	11	21
5	34	14	39	21	193	360	61	37	29	1.6	9.1	64
6	19	13	33	20	85	121	40	147	22	1.6	7.9	18
7	17	10	28	17	50	94	38	162	17	1.3	7.1	9.8
8	16	9.9	26	17	51	71	47	67	15	1.2	5.9	6.8
9	12	9.5	25	21	40	63	39	47	16	1.1	5.2	5.3
10	9.7	48	25	21	42	67	32	41	16	1.1	4.5	4.6
11	9.2	397	29	17	38	52	29	43	13	1.0	4.1	3.9
12	9.0	129	27	18	488	45	27	52	10	1.3	4.2	3.4
13	8.0	117	24	18	290	45	25	36	9.0	1.2	3.7	19
14	7.2	65	20	17	121	42	23	47	8.0	.94	3.2	20
15	6.5	45	68	12	174	38	23	36	7.1	.90	2.9	9.0
16	6.0	37	200	11	541	34	29	28	6.2	.98	2.5	5.9
17	6.1	34	73	13	192	31	24	29	8.7	5.2	6.2	5.0
18	5.5	34	47	39	137	29	24	87	11	3.7	9.7	5.7
19	5.1	29	40	117	130	29	28	372	7.0	2.8	6.5	5.4
20	4.8	26	56	1130	629	28	25	759	5.4	55	4.0	4.6
21	5.1	24	80	538	196	25	21	207	4.6	154	3.3	4.0
22	5.3	21	50	145	109	22	19	129	4.1	290	2.8	3.5
23	5.0	19	43	83	98	22	19	116	4.8	43	2.5	3.1
24	5.1	18	37	61	95	22	43	177	4.1	417	14	2.6
25	5.0	17	36	57	70	22	30	151	2.9	60	17	2.7
26	4.8	17	42	73	56	101	22	122	3.0	94	10	2.4
27	11	16	41	44	56	288	21	66	3.0	367	7.4	2.3
28	475	15	34	41	58	86	350	49	2.9	226	4.7	2.2
29	62	35	34	44	57	55	101	40	2.4	73	6.7	1.8
30	35	560	21	42	---	46	72	33	2.1	39	34	1.7
31	26	---	28	39	---	41	---	28	---	26	13	---
MEAN	30.7	61.1	49.0	89.8	177	71.5	45.6	106	14.5	60.5	8.45	8.43
MAX	475	560	200	1130	629	360	350	759	105	417	34	64
MIN	4.8	9.5	20	11	38	22	19	28	2.1	.90	2.5	1.7
IN.	.79	1.53	1.27	2.33	4.30	1.85	1.14	2.74	.36	1.57	.22	.21

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	24.3	52.7	88.8	88.8	110	128	106	58.6	27.5	31.5	31.8	28.0
MAX	120	212	244	306	203	231	296	164	135	216	240	158
(WY)	1980	1973	1987	1979	1971	1980	1983	1984	1973	1975	1955	1975
MIN	1.00	1.50	4.56	3.22	19.7	31.3	20.9	8.95	2.67	.56	.14	1.31
(WY)	1958	1966	1966	1981	1978	1985	1985	1963	1957	1957	1966	1970

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	59.9		64.5	
HIGHEST ANNUAL MEAN			109	1973
LOWEST ANNUAL MEAN			28.5	1966
HIGHEST DAILY MEAN	1130	Jan 20	3410	Aug 27 1971
LOWEST DAILY MEAN	.90	Jul 15	0	Aug 5 1966
INSTANTANEOUS PEAK FLOW	2290	Jan 20	8960a	Aug 28 1971
INSTANTANEOUS PEAK STAGE	7.47	Jan 20	14.26	Aug 28 1971
INSTANTANEOUS LOW FLOW	.78	Jul 16	0	Many days 1966
ANNUAL RUNOFF (INCHES)	18.3		19.7	
10 PERCENTILE	138		139	
50 PERCENTILE	27		22	
95 PERCENTILE	2.0		1.0	

a From rating extended above 4,000 ft^3/s on basis of contracted-opening measurement of peak flow

01401000 STONY BROOK AT PRINCETON, NJ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1956-75, 1978 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: October 1956 to September 1962, October 1963 to September 1964, October 1965 to June 1970.
SUSPENDED-SEDIMENT DISCHARGE: January 1956 to June 1970.

COOPERATION.--Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, EC BROTH (MPN)	STREPTOCOCCI FECAL (MPN)
OCT 1987										
08...	1330	15	238	8.5	12.5	12.5	118	1.5	220	170
09...	1400	15	243	8.6	11.0	13.2	118	--	--	--
DEC										
02...	1500	70	184	7.6	7.0	12.1	100	--	--	--
FEB 1988										
05...	1100	144	191	7.2	0.0	14.8	101	--	--	--
APR										
06...	1100	38	209	7.9	13.0	11.0	105	2.7	110	2400
12...	1130	25	226	7.9	11.5	11.7	108	--	--	--
JUN										
15...	1100	7.3	273	7.9	22.0	7.8	89	4.5	330	1300
JUL										
14...	1030	0.94	405	7.8	25.0	3.7	45	6.9	130	220
AUG										
04...	1230	11	222	8.4	28.0	9.6	122	4.8	130	700

DATE	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
OCT 1987									
08...	74	17	7.6	15	3.1	58	24	18	0.2
09...	78	18	8.0	15	3.1	59	23	20	0.2
DEC									
02...	56	13	5.6	12	2.8	32	23	16	0.2
FEB 1988									
05...	51	12	5.0	13	2.4	25	21	21	0.2
APR									
06...	64	15	6.5	13	1.7	40	28	18	0.1
12...	70	16	7.3	14	1.8	45	30	20	0.2
JUN									
15...	86	20	8.8	18	2.5	64	30	24	0.2
JUL									
14...	110	26	12	31	4.0	77	34	51	0.2
AUG									
04...	67	16	6.6	16	2.6	47	26	20	0.3

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1987									
08...	5.3	125	0.007	0.56	<0.05	0.83	1.4	0.147	4.7
09...	5.4	131	--	--	--	--	--	--	--
DEC									
02...	12	109	--	--	--	--	--	--	--
FEB 1988									
05...	11	105	--	--	--	--	--	--	6.6
APR									
06...	9.0	117	0.016	0.34	0.01	0.50	0.85	0.064	5.2
12...	8.9	127	--	--	--	--	--	--	--
JUN									
15...	3.6	145	0.014	0.19	0.09	0.50	0.69	0.081	4.2
JUL									
14...	8.4	213	0.004	<0.05	0.10	0.67	--	0.128	5.7
AUG									
04...	3.5	119	0.010	0.17	<0.05	0.23	0.40	0.100	5.1

01401000 STONY BROOK AT PRINCETON, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	CARBON, INORGANIC, TOT IN BOT MAT (G/KG AS C)	CARBON, INORG + ORGANIC TOT. IN BOT MAT (MG/KG AS C)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
OCT 1987 08...	1330	--	--	--	10	1	<10	40	<1	10	3
NOV 03...	1000	--	0.1	4.7	--	--	--	--	--	--	--
JUN 1988 15...	1100	<0.5	--	--	<10	1	<10	<10	2	<1	4

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	PCN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1987 08...	150	<5	20	<0.10	1	<1	10	1	--	--	--
NOV 03...	--	--	--	--	--	--	--	--	50	<1.0	<0.1
JUN 1988 15...	110	5	50	<0.10	2	<1	<10	3	--	--	--

DATE	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDOSULFAN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)
OCT 1987 08...	--	--	--	--	--	--	--	--	--	--	--
NOV 03...	12	2.7	<5.5	<24	0.2	0.6	<0.1	<0.1	<0.1	0.4	0.8
JUN 1988 15...	--	--	--	--	--	--	--	--	--	--	--

DATE	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARATHION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRITHION, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL IN BOTTOM MATERIAL (UG/KG)	PARATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	PERTHANE IN BOTTOM MATERIAL (UG/KG)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TRITHION, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1987 08...	--	--	--	--	--	--	--	--	--	--
NOV 03...	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.00	<10	<0.1
JUN 1988 15...	--	--	--	--	--	--	--	--	--	--

01401301 MILLSTONE RIVER AT CARNEGIE LAKE AT PRINCETON, N.J.

LOCATION.--Lat 40°22'11", long 74°37'15", Middlesex County, Hydrologic Unit 02030105, at right end of Carnegie Lake dam, 2.5 mi northeast of Princeton.

DRAINAGE AREA.--159 mi^2.

PERIOD OF RECORD.--October 1972 to September 1974, October 1987 to September 1988. Operated as crest-stage gage water years 1977-87. October and November 1924, May 1925, and January 1926 to September 1965, gage height only, published as "Lake Carnegie at Princeton" in NJ Special Reports 9, 12, 14, 16, 20, 31, and 37.

GAGE.--Water-stage recorder above dam. Datum of gage is 50.00 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1950, staff gage at left end of dam at datum 2.56 ft higher.

REMARKS.--No estimated daily discharges. Records fair. Water diverted to and from Delaware and Raritan Canal 2.0 mi upstream at aquaduct (see Raritan River basin diversions). Several measurements of water temperature were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 28, 1971 reached a stage of 7.09 ft, discharge, 13,000 ft^3/s, from rating curve extended above 4,000 ft^3/s on basis of computation of peak flow over dam. Flood of July 21, 1938 reached a stage of 6.76 ft, present datum.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	176	459	107	308	207	166	195	128	37	116	59
2	38	142	318	108	547	193	159	169	245	36	96	49
3	39	129	248	110	784	178	156	158	207	36	82	44
4	229	123	203	117	747	236	159	149	172	36	73	102
5	241	118	185	115	807	747	184	152	145	36	65	280
6	195	109	171	109	456	443	165	241	124	36	59	191
7	180	107	158	108	295	315	156	371	119	36	56	140
8	136	108	145	107	245	269	168	289	112	36	51	103
9	122	109	137	112	201	213	173	218	104	36	47	71
10	117	137	135	112	189	198	150	180	104	36	45	59
11	99	570	163	109	186	199	138	177	100	36	45	54
12	87	414	177	107	869	179	130	195	96	43	44	50
13	74	364	173	107	1510	173	125	182	87	39	44	70
14	69	293	154	107	631	172	122	189	80	37	44	93
15	62	234	189	103	375	171	123	165	75	35	42	73
16	59	189	416	94	1010	161	136	144	67	35	38	61
17	56	159	313	89	723	147	136	149	63	66	40	57
18	55	144	264	131	447	138	132	223	67	79	61	58
19	53	149	190	252	347	135	138	483	69	66	58	56
20	50	144	183	653	1170	135	136	1620	65	110	50	54
21	50	136	225	1090	642	130	128	737	63	202	46	53
22	46	129	203	651	387	126	124	413	63	524	44	52
23	44	126	178	374	297	119	124	286	56	279	43	50
24	43	124	156	287	284	117	164	313	50	552	98	45
25	44	127	149	253	261	119	149	308	47	260	135	45
26	44	128	154	285	227	191	136	311	42	246	110	45
27	51	126	156	299	212	593	125	246	43	1380	90	45
28	1000	122	146	277	215	372	433	208	42	724	64	45
29	612	144	140	220	212	252	291	176	39	326	69	43
30	371	721	125	195	---	202	234	156	38	181	126	43
31	245	---	109	197	---	178	---	136	---	134	89	---
MEAN	147	193	197	225	503	226	162	288	90.4	184	66.8	73.0
MAX	1000	721	459	1090	1510	747	433	1620	245	1380	135	280
MIN	35	107	109	89	186	117	122	136	38	35	38	43
IN.	1.06	1.36	1.43	1.63	3.41	1.64	1.14	2.09	.63	1.34	.48	.51

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	123	304	517	344	424	318	409	251	182	165	127	120
MAX	147	618	748	434	535	411	662	293	388	264	203	233
(WY)	1988	1973	1974	1973	1973	1973	1973	1973	1973	1973	1973	1974
MIN	111	99.9	197	225	234	226	162	170	69.9	45.0	112	53.4
(WY)	1973	1974	1988	1988	1974	1988	1988	1974	1974	1974	1988	1973

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	195		---	
HIGHEST ANNUAL MEAN			372	1973
LOWEST ANNUAL MEAN			198	1988
HIGHEST DAILY MEAN	1620	May 20	5780	Dec 21 1973
LOWEST DAILY MEAN	35	Oct 1	20	July 17 1974
INSTANTANEOUS PEAK FLOW	2100	May 20	8100	Jan 26 1978
INSTANTANEOUS PEAK STAGE	3.93	May 20	5.40	Jan 26 1978
INSTANTANEOUS LOW FLOW	32	Oct 1	---	
ANNUAL RUNOFF (INCHES)	16.7		---	
10 PERCENTILE	380		636	
50 PERCENTILE	136		188	
95 PERCENTILE	39		34	

01401440 MILLSTONE RIVER AT KINGSTON, NJ

LOCATION.--Lat 40°22'24", long 74°37'15", Middlesex County, Hydrologic Unit 02030105, at bridge on Lincoln Highway in Kingston, 0.2 mi downstream from the outflow of Carnegie Lake, and 3.0 mi northwest of Plainsboro.

DRAINAGE AREA.--172 mi^2, includes 8.0 mi^2 which drains into Delaware and Raritan Canal.

PERIOD OF RECORD.--Water years 1976 to current year.

COOPERATION.--Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, EC BROTH (MPN)	STREPTOCOCCI FECAL (MPN)
OCT 1987 19...	1030	E53	188	8.7	14.0	11.0	106	3.6	<20	20
FEB 1988 03...	1100	E610	207	7.0	1.0	14.3	100	2.7	1100	2200
APR 11...	1100	E140	196	7.4	12.0	10.8	100	3.3	8	<2
JUN 13...	1100	E74	202	7.3	22.5	8.1	93	3.3	23	33
JUL 19...	1000	E37	223	9.1	29.0	6.9	89	9.6	790	130
AUG 04...	0930	E83	149	9.2	29.5	7.8	101	9.3	<20	210

DATE	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
OCT 1987 19...	50	12	4.9	12	3.9	23	21	19	0.2
FEB 1988 03...	46	11	4.6	20	2.5	20	19	34	0.2
APR 11...	49	11	5.3	13	1.2	25	23	20	0.2
JUN 13...	55	13	5.5	12	3.0	31	22	19	0.2
JUL 19...	71	17	6.9	16	3.0	45	23	22	0.3
AUG 04...	45	11	4.3	9.2	3.0	24	22	12	0.2

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHOROUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1987 19...	4.0	91	0.031	1.51	0.09	0.94	2.4	0.110	6.0
FEB 1988 03...	8.3	112	0.019	1.17	--	--	--	0.124	5.5
APR 11...	6.1	95	0.044	1.44	0.26	0.80	2.2	0.105	5.1
JUN 13...	7.5	101	0.098	1.57	0.36	0.85	2.4	0.173	6.5
JUL 19...	3.8	119	0.010	<0.05	0.09	1.7	--	0.141	10
AUG 04...	8.0	84	0.023	0.20	<0.05	0.95	1.2	0.110	11

01401440 MILLSTONE RIVER AT KINGSTON, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	NITROGEN,NH4 + ORG. TOT IN BOT MAT (MG/KG AS N)	CARBON, INORGANIC, TOT IN BOT MAT (G/KG AS C)	CARBON, INORG + ORGANIC TOT. IN BOT MAT (MG/KG AS C)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC TOTAL IN BOTTOM MATERIAL (UG/G AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM RECOV. FM BOTTOM MATERIAL (UG/G AS CD)
OCT 1987 19...	1030	--	160	0.2	5.1	--	--	3	--	--	--	<1
JUN 1988 13...	1100	<0.5	--	--	--	<10	2	--	<10	<10	<1	--

DATE	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, RECOV. FM BOTTOM MATERIAL (UG/G)	COBALT, RECOV. FM BOTTOM MATERIAL (UG/G AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, RECOV. FM BOTTOM MATERIAL (UG/G AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, RECOV. FM BOTTOM MATERIAL (UG/G AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, RECOV. FM BOTTOM MATERIAL (UG/G AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, RECOV. FM BOTTOM MATERIAL (UG/G)
OCT 1987 19...	--	<10	<50	--	10	--	5600	--	20	--	80
JUN 1988 13...	<1	--	--	6	--	1500	--	17	--	170	--

DATE	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY RECOV. FM BOTTOM MATERIAL (UG/G AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, RECOV. FM BOTTOM MATERIAL (UG/G AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, TOTAL IN BOTTOM MATERIAL (UG/G)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, RECOV. FM BOTTOM MATERIAL (UG/G AS ZN)	PHENOLS TOTAL (UG/L)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	PCN, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1987 19...	--	<0.10	--	<10	--	<1	--	80	--	2	<1.0
JUN 1988 13...	<0.10	--	2	--	<1	--	20	--	1	--	--

DATE	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDOSULFAN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1987 19...	<0.1	4.0	0.9	1.7	1.5	0.1	0.5	<0.1	<0.1	<0.1	<0.1
JUN 1988 13...	--	--	--	--	--	--	--	--	--	--	--

DATE	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARATHION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRITHION, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL IN BOTTOM MATERIAL (UG/KG)	PARATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	PERTHANE IN BOTTOM MATERIAL (UG/KG)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TRITHION, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1987 19...	<0.1	<0.1	<0.1	<13	<0.1	<0.1	0.1	<0.1	<1.00	<10	<0.1
JUN 1988 13...	--	--	--	--	--	--	--	--	--	--	--

01401600 BEDEN BROOK NEAR ROCKY HILL, NJ

LOCATION.--Lat 40°24'52", long 74°39'02", Somerset County, Hydrologic Unit 02030105, at bridge on U.S. Route 206 at State Route 533, 0.7 mi upstream from Pike Run, 1.2 mi northwest of Rocky Hill, and 4.6 mi north of Princeton.

DRAINAGE AREA.--27.6 mi^2.

PERIOD OF RECORD.--Water years 1959-63, 1976 to current year.

COOPERATION.--Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, EC BROTH (MPN)	STREPTOCOCCI FECAL (MPN)
OCT 1987										
05...	1030	E39	203	7.5	11.5	10.5	97	1.9	>2400	920
08...	1030	12	232	7.5	11.5	8.3	76	--	--	--
DEC										
02...	1200	57	166	7.4	7.0	12.2	101	--	--	--
JAN 1988										
27...	1030	E53	254	7.4	0.0	15.4	104	2.0	40	20
FEB										
04...	1200	362	177	7.2	2.5	12.5	92	--	--	--
APR										
05...	1230	35	179	8.1	13.5	11.6	112	0.8	80	80
JUN										
15...	0900	E6.3	286	7.6	22.0	5.5	63	1.1	170	2400
JUL										
13...	1230	E0.80	682	7.8	23.5	6.6	78	--	270	130
AUG										
03...	1000	E13	270	7.8	24.5	7.3	87	1.5	330	700

DATE	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
OCT 1987									
05...	65	15	6.6	11	2.7	40	23	12	0.1
08...	77	18	7.8	12	2.8	49	27	16	0.1
DEC									
02...	56	13	5.7	9.3	2.1	28	22	12	0.2
JAN 1988									
27...	66	16	6.4	22	1.7	31	25	39	0.1
FEB									
04...	47	11	4.7	12	2.0	20	19	19	0.1
APR									
05...	56	13	5.7	10	1.5	32	26	14	0.1
JUN									
15...	86	20	8.7	21	2.5	53	35	28	0.3
JUL									
13...	230	54	22	43	4.5	66	160	55	<0.1
AUG									
03...	94	22	9.6	14	2.2	54	37	16	0.1

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1987									
05...	11	105	0.014	1.96	0.080	0.81	2.8	0.214	6.2
08...	9.9	133	--	--	--	--	--	--	--
DEC									
02...	14	103	--	--	--	--	--	--	--
JAN 1988									
27...	14	143	0.013	1.52	--	--	--	0.104	2.4
FEB									
04...	10	96	--	--	--	--	--	--	--
APR									
05...	13	107	0.021	0.835	0.041	0.40	1.2	0.113	3.5
JUN									
15...	6.3	154	0.060	1.23	0.160	0.57	1.8	0.238	4.1
JUL									
13...	8.8	387	0.083	1.07	0.110	0.69	1.8	0.688	6.5
AUG									
03...	4.4	138	0.034	1.73	0.070	0.41	2.1	0.110	4.3

01401600 BEDEN BROOK NEAR ROCKY HILL, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE)	BORON, TOTAL RECOV-ERABLE (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)
OCT 1987 05...	1030	<0.5	40	<1	<10	50	<1	20	5
JUN 1988 15...	0900	<0.5	<10	<1	<10	20	1	<1	4

DATE	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
OCT 1987 05...	380	<5	10	0.10	1	<1	<10	<1
JUN 1988 15...	130	<5	50	<0.10	1	1	<10	4

01401650 PIKE RUN AT BELLE MEAD, NJ

LOCATION.--Lat 40°28'05", long 74°38'57", Somerset County, Hydrologic Unit 02030105, on right bank 20 ft upstream of bridge on Township Line Road, 0.7 mi east of Belle Mead, 0.8 mi upstream of Cruser Brook, and 1.0 mi downstream of bridge on U.S. Route 206.

DRAINAGE AREA.--5.36 mi^2.

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

GAGE.--Water-stage recorder, crest-stage gage, and concrete parking-block control. Datum of gage is 58.85 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharge. Records fair. Several measurements of water temperature were made during the year. Recording rain-gage and gage-height telemeters at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1810, 13.5 ft, from floodmark, present datum, Aug. 28, 1971.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	3.2	12	2.2	29	5.1	4.4	2.8	3.1	.60	2.5	.73
2	.81	2.9	7.0	2.2	32	4.4	4.1	2.3	9.3	.57	2.2	.55
3	6.6	2.7	4.9	2.0	24	5.0	3.7	2.5	2.8	.51	1.8	.50
4	18	2.6	4.6	1.9	40	47	4.6	2.1	2.8	.44	1.5	22
5	4.0	2.5	3.8	2.0	12	22	4.3	2.7	2.7	.47	1.2	6.5
6	2.6	2.5	3.2	1.4	15	8.7	3.4	10	2.1	.44	1.0	2.1
7	4.0	2.4	2.6	1.5	15	7.0	3.4	7.0	1.8	.44	.89	1.2
8	2.5	2.3	2.4	1.7	3.9	6.0	4.3	3.3	1.5	.43	.81	.96
9	1.9	2.2	2.5	1.5	3.5	5.8	3.4	2.7	1.7	.41	.72	.83
10	1.6	26	2.5	1.1	3.3	5.8	3.1	2.7	1.5	.43	.64	.74
11	1.6	69	2.6	1.1	3.2	5.0	2.9	7.0	1.2	.36	.57	.65
12	1.7	14	2.6	1.4	18	4.6	2.8	5.9	1.1	.61	.56	.62
13	1.3	9.2	2.3	1.3	17	4.6	2.7	3.5	1.0	.52	.50	7.3
14	1.3	6.4	2.0	.82	20	4.2	2.5	5.8	1.0	.35	.50	2.0
15	1.2	5.0	15	1.2	28	3.8	2.6	3.4	.91	.31	.43	1.1
16	1.1	4.4	15	2.2	70	3.4	2.8	3.1	7.0	.29	.36	.89
17	1.1	4.0	6.5	2.7	16	3.2	2.5	3.0	22	17	.76	1.1
18	1.2	3.9	4.9	14	12	3.1	3.1	15	2.4	1.7	1.1	1.6
19	1.3	3.4	4.3	17	14	3.1	4.0	38	1.6	7.0	.38	.96
20	1.3	3.2	8.8	149	83	3.0	2.8	61	1.3	119	.33	.86
21	2.0	2.9	7.2	41	13	2.8	2.6	13	1.1	93	.37	.83
22	2.2	2.5	5.1	11	8.8	2.7	2.4	9.5	1.0	97	.31	.75
23	2.0	2.6	4.5	7.2	7.3	2.6	2.4	8.7	.97	15	.29	2.6
24	2.1	2.5	3.7	5.3	7.5	2.6	2.8	12	.85	104	6.1	3.5
25	1.9	2.4	3.6	4.9	5.9	2.6	2.4	19	.89	7.9	8.8	1.5
26	1.8	2.3	4.2	6.0	5.3	22	2.3	9.0	1.2	11	1.1	1.0
27	2.9	2.1	3.5	8.9	5.5	36	2.4	5.5	1.0	37	.73	.87
28	152	2.0	2.9	7.4	6.1	8.2	27	4.4	.88	13	.61	.78
29	7.6	8.6	3.0	5.0	5.8	6.2	5.9	3.6	.80	5.8	5.9	.68
30	4.8	79	3.2	3.0	---	5.5	4.3	3.0	.71	4.0	4.1	.65
31	3.7	---	1.9	5.4	---	4.8	---	2.6	---	3.2	1.2	---
MEAN	7.72	9.29	4.91	10.1	18.1	8.09	4.06	8.84	2.61	17.5	1.56	2.21
MAX	152	79	15	149	83	47	27	61	22	119	8.8	22
MIN	.81	2.0	1.9	.82	3.2	2.6	2.3	2.1	.71	.29	.29	.50
IN.	1.66	1.93	1.06	2.17	3.64	1.74	.85	1.90	.54	3.77	.33	.46

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	2.91	9.40	11.6	9.99	15.0	11.5	16.8	8.43	4.25	8.46	2.60	2.04
MAX	7.72	20.5	33.6	23.0	26.0	30.2	43.1	19.4	9.80	26.1	7.29	8.36
(WY)	1988	1987	1984	1982	1982	1983	1983	1984	1982	1984	1986	1985
MIN	.83	2.09	.74	.04	6.21	3.05	2.18	1.89	.81	.36	.16	.51
(WY)	1987	1985	1981	1981	1987	1981	1985	1986	1986	1980	1980	1983

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	7.90		8.66	
HIGHEST ANNUAL MEAN			14.3	1984
LOWEST ANNUAL MEAN			3.79	1981
HIGHEST DAILY MEAN	152	Oct 28	528	Jul 7 1984
LOWEST DAILY MEAN	.29	Jul 16	0	Aug 20 1980
INSTANTANEOUS PEAK FLOW	652	Oct 28	2010	Jul 7 1984
INSTANTANEOUS PEAK STAGE	7.18	Oct 28	11.76	Jul 7 1984
INSTANTANEOUS LOW FLOW	.25	Jul 16	0	Many days 1980
ANNUAL RUNOFF (INCHES)	20.0		21.9	
10 PERCENTILE	16		17	
50 PERCENTILE	2.8		2.2	
95 PERCENTILE	.42		.13	

01402000 MILLSTONE RIVER AT BLACKWELLS MILLS, NJ

LOCATION.--Lat 40°28'30", long 74°34'34", Somerset County, Hydrologic Unit 02030105, on left bank 30 ft downstream from highway bridge at Blackwells Mills, and 0.3 mi downstream from Six Mile Run.

DRAINAGE AREA.--258 mi^2.

PERIOD OF RECORD.--June 1903 to December 1904 (gage heights only), August 1921 to current year. Monthly discharge only for some periods, published in WSP 1302. Published as "at Millstone" 1903-04.

REVISED RECORDS.--WSP 1552: 1924-25(M), 1926.

GAGE.--Water-stage recorder. Concrete control since Nov. 18, 1933. Datum of gage is 26.97 ft above National Geodetic Vertical Datum of 1929. June 27, 1903 to Dec. 31, 1904, nonrecording gage at bridge 2.0 mi downstream at Millstone at different datum. Aug. 4, 1921 to Aug. 16, 1928, nonrecording gage at present site and datum.

REMARKS.--No estimated daily discharges. Records good except those above 1,200 ft^3/s, which are poor. Inflow from and losses to Delaware and Raritan Canal above station. Flow slightly regulated by Carnegie Lake, capacity, 310,000,000 gal and several smaller reservoirs, combined capacity, 49,800,000 gal. Several measurements of water temperature were made during the year. National Weather Service and New Jersey Water Supply Authority operate gage-height telemeters at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51	276	1040	167	690	325	279	294	182	60	207	99
2	46	217	563	170	1080	307	261	248	399	58	173	82
3	63	189	411	157	1390	290	248	229	300	58	148	73
4	550	171	315	173	1330	498	274	213	239	58	134	147
5	431	159	278	166	1320	1430	304	210	212	56	122	450
6	324	145	244	154	701	801	260	359	174	57	112	269
7	326	139	221	145	417	567	241	593	155	56	103	184
8	247	135	203	146	329	460	256	417	139	56	95	141
9	203	136	194	151	267	367	254	307	135	55	87	110
10	188	267	185	152	245	337	227	246	135	54	83	92
11	160	783	222	146	232	324	207	247	127	51	80	81
12	149	915	236	144	965	300	192	303	118	60	78	77
13	129	682	223	146	1840	284	180	257	112	64	75	221
14	120	513	200	144	1110	277	173	274	103	57	74	156
15	113	378	291	133	717	262	166	230	97	52	72	123
16	103	307	767	130	1860	246	198	195	90	51	66	100
17	97	269	512	126	1450	232	191	207	122	165	64	91
18	98	244	396	204	782	220	187	414	96	123	94	101
19	97	225	304	411	581	210	203	1020	92	106	88	92
20	89	214	310	1280	1990	207	188	2050	89	1090	78	87
21	93	198	361	1780	1500	201	176	1860	87	1390	72	83
22	89	174	316	1130	655	188	163	832	83	2390	67	77
23	83	166	280	595	494	184	155	578	83	822	66	78
24	81	163	247	432	448	176	238	680	76	1570	145	90
25	81	161	231	356	383	177	209	629	73	700	224	76
26	82	160	242	384	337	401	184	583	73	752	153	74
27	86	154	239	379	323	1200	166	396	71	2210	123	72
28	1910	148	219	336	337	685	801	312	69	1830	103	71
29	1350	175	212	272	338	440	526	259	65	752	98	68
30	599	1490	214	245	---	338	358	223	62	362	188	67
31	381	---	171	255	---	306	---	196	---	254	141	---
MEAN	272	312	318	342	831	395	249	479	129	497	110	118
MAX	1910	1490	1040	1780	1990	1430	801	2050	399	2390	224	450
MIN	46	135	171	126	232	176	155	195	62	51	64	67
IN.	1.21	1.35	1.42	1.53	3.48	1.76	1.08	2.14	.56	2.22	.49	.51

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	184	333	456	495	584	680	538	345	226	243	213	217
MAX	838	1113	1344	1743	1199	1383	1520	785	809	1808	1267	1277
(WY)	1928	1973	1984	1979	1925	1936	1983	1984	1946	1975	1971	1938
MIN	42.6	51.2	67.0	62.9	105	158	103	82.8	45.5	19.3	17.3	20.2
(WY)	1942	1966	1966	1981	1934	1985	1985	1963	1963	1966	1981	1980

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	336		375	
HIGHEST ANNUAL MEAN			690	1975
LOWEST ANNUAL MEAN			165	1985
HIGHEST DAILY MEAN	2390	Jul 22	17400	Aug 28 1971
LOWEST DAILY MEAN	46	Oct 2	5.0	Sep 16 1923
INSTANTANEOUS PEAK FLOW	2670	Jul 22	22200	Aug 28 1971
INSTANTANEOUS PEAK STAGE	7.46	Jul 22	18.68a	Aug 28 1971
INSTANTANEOUS LOW FLOW	42	Oct 2	5	Sep 16 1923
ANNUAL RUNOFF (INCHES)	17.7		19.7	
10 PERCENTILE	763		808	
50 PERCENTILE	205		197	
95 PERCENTILE	63		42	

a From high-water mark

01402540 MILLSTONE RIVER AT WESTON, NJ

LOCATION.--Lat 40°31'47", long 74°35'19", Somerset County, Hydrologic Unit 02030105, at bridge on Wilhouski Street in Weston, 50 ft upstream from Royce Brook, 0.8 mi southwest of Alma White College, and 1.9 mi north of Millstone.

DRAINAGE AREA.--271 mi^2, includes approximately 13 mi^2 which drains into Delaware and Raritan canal.

PERIOD OF RECORD.--Water years 1976 to current year.

COOPERATION.--Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, EC BROTH (MPN)	STREPTOCOCCI FECAL (MPN)
OCT 1987										
26...	1045	E90	277	7.4	11.0	9.4	84	2.1	130	49
FEB 1988										
01...	1030	E490	293	7.2	2.0	14.0	100	1.2	540	350
APR										
04...	1030	E270	219	7.2	12.5	9.3	87	2.4	130	80
JUN										
02...	1305	E520	189	7.1	20.5	5.7	64	3.5	3500	>24000
JUL										
18...	1100	E140	283	7.3	27.0	4.9	61	3.3	540	220
AUG										
17...	1100	E68	278	8.8	26.5	7.9	98	7.1	110	40

DATE	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
OCT 1987									
26...	79	18	8.2	19	4.8	39	33	26	0.2
FEB 1988									
01...	65	16	6.2	29	2.9	27	28	49	0.2
APR									
04...	59	14	5.8	14	2.2	28	37	20	0.2
JUN									
02...	57	13	5.9	13	2.7	30	27	16	0.3
JUL									
18...	86	18	10	20	5.0	40	42	26	0.3
AUG									
17...	91	21	9.3	19	4.1	45	43	23	0.2

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1987									
26...	5.5	138	0.014	2.69	0.11	0.82	3.5	0.376	4.7
FEB 1988									
01...	11	158	0.040	1.66	--	--	--	0.204	3.7
APR									
04...	9.1	119	0.063	1.54	0.68	--	--	--	5.2
JUN									
02...	9.6	105	0.029	1.58	0.06	0.98	2.6	0.317	7.5
JUL									
18...	6.2	151	0.098	2.76	0.40	0.86	3.6	0.763	6.1
AUG									
17...	9.4	156	0.024	1.64	<0.05	1.5	3.2	0.581	12

01402540 MILLSTONE RIVER AT WESTON, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	NITROGEN,NH4 + ORG. TOT IN BOT MAT (MG/KG AS N)	CARBON, INORGANIC, TOT IN BOT MAT (G/KG AS C)	CARBON, INORG + ORGANIC TOT. IN BOT MAT (MG/KG AS C)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC TOTAL IN BOTTOM MATERIAL (UG/G AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM RECOV. FM BOTTOM MATERIAL (UG/G AS CD)
OCT 1987 26...	1045	<0.5	300	0.1	4.5	10	1	12	<10	70	<1	<1
JUN 1988 02...	1305	<0.5	--	--	--	10	2	--	<10	40	1	--

DATE	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, RECOV. FM BOTTOM MATERIAL (UG/G)	COBALT, RECOV. FM BOTTOM MATERIAL (UG/G AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, RECOV. FM BOTTOM MATERIAL (UG/G AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, RECOV. FM BOTTOM MATERIAL (UG/G AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, RECOV. FM BOTTOM MATERIAL (UG/G AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, RECOV. FM BOTTOM MATERIAL (UG/G)
OCT 1987 26...	<1	<10	<50	9	10	410	11000	<5	30	120	800
JUN 1988 02...	2	--	--	12	--	1100	--	<5	--	110	--

DATE	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY RECOV. FM BOTTOM MATERIAL (UG/G AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, RECOV. FM BOTTOM MATERIAL (UG/G AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, TOTAL IN BOTTOM MATERIAL (UG/G)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, RECOV. FM BOTTOM MATERIAL (UG/G AS ZN)	PHENOLS TOTAL (UG/L)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	PCN, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1987 26...	0.30	<0.10	<1	20	<1	<1	20	120	3	<1	<1.0
JUN 1988 02...	<0.10	--	2	--	<1	--	20	--	<1	--	--

DATE	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDOSULFAN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1987 26...	0.1	3.0	0.4	1.1	1.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
JUN 1988 02...	--	--	--	--	--	--	--	--	--	--	--

DATE	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARATHION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRITHION, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL IN BOTTOM MATERIAL (UG/KG)	PARATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	PERTHANE IN BOTTOM MATERIAL (UG/KG)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TRITHION, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1987 26...	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.00	<10	<0.1
JUN 1988 02...	--	--	--	--	--	--	--	--	--	--	--

01402600 ROYCE BROOK TRIBUTARY NEAR BELLE MEAD, NJ

LOCATION.--Lat 40°29'56", long 74°39'05", Somerset County, Hydrologic Unit 02030105, on right bank 25 ft upstream from bridge on State Highway 514 (Amwell Road), 1,200 ft upstream from mouth, and 2.0 mi north of Belle Mead.

DRAINAGE AREA.--1.20 mi^2.

PERIOD OF RECORD.--October 1966 to September 1974, January 1980 to current year.

REVISED RECORDS.--WRD NJ-69: 1967, 1968. WDR NJ-85-1: 1980-84(P).

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Datum of gage is 66.98 ft above National Geodetic Vertical Datum of 1929. Prior to September 1974 at same site at datum 0.79 ft higher.

REMARKS.--Records fair except for periods of estimated discharges, which are poor. Some regulation from storm-water detention basin 542 ft upstream of gage since 1980. Several measurements of water temperature were made during the year. Recording rain gage and gage-height telemeters at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.30	.80	3.3	.51	18	.65	.60	e.42	e1.5	e.14	e.84	.65
2	.17	.70	1.8	.55	22	.55	.59	e.37	e3.0	e.14	e.75	.53
3	9.4	.62	1.2	.43	20	.74	.52	e.38	e.48	e.12	.68	.46
4	7.6	.60	1.1	.66	19	12	.70	e.34	e.51	e.12	.63	22
5	1.9	.60	.83	.45	3.6	5.5	.53	e.51	e.44	e.12	.49	4.4
6	1.2	.47	.66	.33	1.7	2.3	.50	e3.0	e.34	e.11	.46	1.6
7	2.5	.48	.56	.20	1.1	1.5	.49	e.92	e.30	e.11	.44	.90
8	.95	.49	.51	.32	.83	1.1	e.61	e.48	e.27	e.11	.39	.68
9	.75	.50	.51	.38	.61	.98	e.48	e.40	e.35	e.11	.36	.58
10	.62	16	.48	.32	.55	.79	e.45	e.40	e.28	e.12	.37	.49
11	.64	19	.70	.23	.49	.64	e.42	e2.0	e.23	e.12	.36	.45
12	.34	3.9	.61	.21	6.8	.59	e.41	e.69	e.21	e.16	.37	.46
13	.27	2.2	.48	.32	4.7	.57	e.38	e.48	e.19	e.13	.30	7.1
14	.23	1.5	.38	.23	2.1	.51	e.37	e1.5	e.18	e.10	.24	1.0
15	.16	1.0	7.0	.09	12	.46	e.39	e.45	e.16	e.10	.24	.63
16	.12	.83	3.7	.01	19	.43	e.45	e.42	e.49	e.10	.22	.50
17	.11	.74	1.6	.00	4.5	.36	e.37	e.41	e1.5	e6.0	1.8	1.5
18	.11	.81	1.1	2.4	2.9	.37	e.57	e6.0	e.30	e.35	.63	.77
19	.09	.59	.91	13	6.7	.34	e.59	e14	e.27	e3.0	.28	.50
20	.09	.59	3.2	30	17	.40	e.41	e18	e.25	e32	.27	.49
21	.77	.55	1.7	e12	3.4	.29	e.38	e2.5	e.23	e24	.24	.41
22	.32	.30	1.2	e4.0	1.8	.24	e.35	e1.5	e.22	e18	.17	.37
23	.31	.41	.97	e2.0	1.5	.25	e.36	e1.0	.21	e6.0	.19	1.1
24	.31	.42	.76	e1.5	1.3	.27	e.41	e3.0	.15	e32	12	.60
25	.31	.37	.74	e2.0	.95	.25	e.36	e9.0	.15	e3.0	12	.70
26	.21	.36	1.1	e3.0	.74	9.3	e.34	e3.0	e.21	e7.0	.99	.39
27	7.3	.31	.67	e2.5	.91	7.3	e.45	e1.5	e.19	e14	.63	.33
28	42	.31	.59	e1.5	1.0	2.0	e9.0	e.67	e.18	e3.5	.49	.30
29	2.3	7.1	.73	1.5	.82	e1.5	e.79	e.57	e.16	e2.0	9.4	.25
30	1.4	20	.38	1.0	---	.91	e.61	e.48	e.16	e1.5	2.8	.25
31	1.0	---	.50	3.4	---	.71	---	e.42	---	e1.1	.96	---
MEAN	2.70	2.75	1.29	2.74	6.07	1.74	.76	2.41	.44	5.01	1.61	1.68
MAX	42	20	7.0	30	22	12	9.0	18	3.0	32	12	22
MIN	.09	.30	.38	.00	.49	.24	.34	.34	.15	.10	.17	.25
IN.	2.60	2.56	1.24	2.64	5.46	1.67	.71	2.32	.41	4.82	1.55	1.56

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	1.39	2.76	3.56	2.66	3.70	3.35	3.21	1.96	1.30	2.04	2.15	1.92
MAX	3.40	7.55	8.85	6.25	7.37	7.06	8.25	5.66	5.00	7.17	9.71	12.5
(WY)	1967	1986	1984	1975	1981	1967	1983	1984	1972	1984	1971	1971
MIN	.20	.57	.30	.03	.69	.98	.41	.42	.07	.02	.01	.00
(WY)	1969	1974	1981	1981	1980	1985	1985	1986	1971	1968	1972	1972

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	2.43		2.49	
HIGHEST ANNUAL MEAN			3.86	1984
LOWEST ANNUAL MEAN			1.52	1981
HIGHEST DAILY MEAN	42	Oct 28	160	Aug 28 1971
LOWEST DAILY MEAN	0	Jan 17	0	Jul 10 1968
INSTANTANEOUS PEAK FLOW	325	Oct 28	1450	Aug 28 1971
INSTANTANEOUS PEAK STAGE	4.89	Oct 28	7.80	Aug 28 1971
INSTANTANEOUS LOW FLOW	0	Jan 16	0	Many days
ANNUAL RUNOFF (INCHES)	27.5		28.2	
10 PERCENTILE	6.3		5.3	
50 PERCENTILE	.50		.54	
95 PERCENTILE	.12		.02	

e Estimated

01403060 RARITAN RIVER BELOW CALCO DAM, AT BOUND BROOK, NJ

LOCATION.--Lat 40°33'05", long 74°32'54", Somerset County, Hydrologic Unit 02030105, on right bank 1,000 ft downstream from Calco Dam and Cuckold Brook, 1,400 ft upstream of bridge on Interstate 287, 1.2 mi downstream from Millstone River, and 1.2 mi southwest of Bound Brook.

DRAINAGE AREA.--785 mi^2 (includes 11 mi^2 which drains into the Delaware and Raritan Canal).

PERIOD OF RECORD.--September 1903 to March 1909, October 1944 to current year. Monthly discharge only for some periods, published in WSP 1302. Prior to October 1966 published as "Raritan River at Bound Brook" (station 01403000).

REVISED RECORDS.--WSP 1552: 1903-07, 1946(M), 1949, 1952(P).

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Sept. 12, 1903 to Mar. 31, 1909, nonrecording gages at highway bridge, 1.2 mi downstream at different datum. October 1944 to Sept. 30, 1966, water-stage recorder and concrete control at site 1,000 ft upstream at datum 18.06 ft higher.

REMARKS.--No estimated daily discharges. Records good. Water diverted 1.2 mi above station by Elizabethtown Water Co. for municipal supply (see Raritan River basin, diversions). Flow regulated by Spruce Run and Round Valley Reservoirs (see Raritan River basin, reservoirs in). Diversions to and releases from Round Valley Reservoir (see Raritan River basin, diversions and station 01399690). Slight diurnal fluctuations at low flow. Several measurements of water temperature were made during the year. New Jersey Water Supply Authority gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	242	727	3650	595	1630	1090	781	758	755	132	641	279
2	188	599	1900	540	3370	997	761	623	1300	146	518	214
3	181	507	1380	407	4040	1030	720	563	912	147	427	209
4	1530	464	1120	512	4560	2100	728	523	758	138	362	1000
5	964	424	993	436	3480	5180	771	522	705	144	307	2130
6	598	375	880	368	1940	2490	671	924	593	141	278	757
7	641	341	753	416	1250	1870	644	1360	478	132	252	465
8	537	313	657	442	1160	1590	683	926	431	143	228	353
9	414	300	650	462	1020	1370	659	710	419	156	203	288
10	350	675	635	536	927	1360	581	600	462	151	194	248
11	322	4190	647	481	833	1230	534	680	403	132	178	215
12	323	2450	650	482	1770	1070	473	911	348	158	220	196
13	307	1760	621	488	3120	1050	429	680	300	157	258	816
14	291	1330	559	565	2030	1010	411	747	259	127	171	627
15	343	1070	762	441	1490	928	403	623	245	122	141	336
16	471	891	2480	440	5360	856	444	512	238	128	136	250
17	523	782	1400	460	3890	810	439	489	315	653	137	262
18	452	787	1010	620	2630	754	434	1120	234	368	250	335
19	317	738	803	1210	2180	745	501	3020	207	240	210	255
20	235	608	931	3450	8150	727	434	7130	189	2590	188	223
21	225	575	1190	4430	4650	685	404	4340	171	4000	184	210
22	219	547	939	2850	2270	601	375	2430	152	4900	157	184
23	173	434	818	1560	1890	582	348	2050	166	1760	155	196
24	160	427	730	1150	1910	568	441	3580	168	6860	684	256
25	152	417	695	1030	1510	541	430	4130	146	2260	1100	220
26	168	413	724	1230	1250	1210	368	2830	187	1520	438	195
27	220	396	690	943	1200	3070	335	1790	163	9640	260	176
28	5360	372	620	763	1180	1660	2140	1380	131	4000	254	162
29	2910	456	623	648	1140	1120	1420	1150	140	1890	365	155
30	1330	5730	472	659	---	927	894	966	141	1070	1280	171
31	933	---	580	714	---	832	---	839	---	796	489	---
MEAN	680	970	986	946	2477	1292	622	1578	371	1445	344	379
MAX	5360	5730	3650	4430	8150	5180	2140	7130	1300	9640	1280	2130
MIN	152	300	472	368	833	541	335	489	131	122	136	155

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	643	1061	1487	1596	1771	2150	1798	1244	749	692	676	669
MAX	2953	3684	4172	5825	3232	3858	5326	2838	3883	4624	3576	3158
(WY)	1904	1973	1974	1979	1971	1978	1983	1984	1972	1975	1955	1975
MIN	113	138	178	179	485	454	230	340	117	84.7	69.9	76.1
(WY)	1958	1966	1966	1981	1980	1985	1985	1965	1965	1955	1957	1957

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	1004		1208 (1282a)	
HIGHEST ANNUAL MEAN			2046	1975
LOWEST ANNUAL MEAN			480	1985
HIGHEST DAILY MEAN	9640	Jul 27	34100	Aug 28 1971
LOWEST DAILY MEAN	122	Jul 15	37	Sep 6 1964
INSTANTANEOUS PEAK FLOW	12600	Jul 27	46100	Aug 28 1971
INSTANTANEOUS PEAK STAGE	25.93	Jul 27	37.47b	Aug 28 1971
INSTANTANEOUS LOW FLOW	70	Oct 3	---	
10 PERCENTILE	2260		2610	
50 PERCENTILE	604		633	
95 PERCENTILE	149		132	

a Adjusted for diversion by Elizabethtown Water Co. since 1944, and change in contents in Spruce Run Reservoir since 1964 and Round Valley Reservoir since 1966.
b From floodmark

01403150 WEST BRANCH MIDDLE BROOK NEAR MARTINSVILLE, NJ

LOCATION.--Lat 40°36'44", long 74°35'28", Somerset County, Hydrologic Unit 02030105, on left bank 150 ft upstream from bridge on Crim Road, 1.4 mi northwest of Martinsville, and 1.8 mi upstream from confluence with East Branch Middle Brook.

DRAINAGE AREA.--1.99 mi^2.

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

GAGE.--Water-stage recorder. Datum of gage is 240.48 ft above National Geodetic Vertical Datum of 1929 (levels by Somerset County).

REMARKS.--Records fair. Several measurements of water temperature were made during the year. Recording rain-gage and gage-height telemeters at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.27	.36	3.0	.77	16	1.7	1.3	1.1	.91	.40	.44	.11
2	.26	.37	1.6	.64	26	1.6	1.1	1.1	1.1	.40	.39	.12
3	8.5	.41	1.1	.51	11	2.8	1.1	1.1	.64	.39	.38	.13
4	3.5	.48	1.1	.68	35	36	1.2	.92	.68	.34	.37	23
5	.48	.79	.83	.54	4.0	9.4	1.0	1.3	.57	.31	.35	1.7
6	.33	1.2	.67	.50	1.8	3.5	.89	3.7	.47	.27	.35	.39
7	.72	1.1	.57	.48	e1.7	2.8	1.1	2.1	.41	.26	.35	.21
8	.34	1.1	.56	.58	e1.3	2.3	1.2	1.2	.39	.22	.29	.16
9	.29	1.1	.61	.57	1.0	2.3	.88	1.1	.46	.19	.26	.15
10	.29	21	.56	.48	1.0	2.3	.79	1.0	.38	.18	.23	.15
11	.32	16	.67	.52	.89	1.7	.78	2.1	.33	.15	.21	.15
12	.35	3.6	.68	.54	2.9	1.6	.72	1.3	.31	.19	3.7	.17
13	.38	2.0	.54	.50	2.9	1.6	.69	1.1	.29	.18	.27	9.1
14	.41	1.3	.48	.43	1.6	1.4	.66	1.9	.28	.16	.15	.43
15	.43	.88	15	.46	5.3	1.3	.67	1.0	.27	.15	.13	.20
16	.47	.76	4.6	.45	38	1.1	.76	.92	.28	.24	.12	.16
17	.48	.72	1.7	.42	11	1.1	.62	.93	.30	3.7	.13	.43
18	.52	.94	1.2	3.1	12	1.0	1.1	13	.28	.10	.12	.31
19	.52	.64	1.0	2.6	14	1.1	.93	27	.27	1.4	.08	.24
20	.58	.64	5.1	44	50	1.1	.77	24	.28	28	.08	.23
21	1.2	.55	2.2	17	5.6	.86	.64	3.6	.29	24	.07	.21
22	1.1	.53	1.4	4.9	2.7	.82	.59	2.3	.32	9.1	.04	.16
23	1.1	.56	1.2	2.2	3.8	.82	.59	2.3	.34	19	.04	.19
24	1.0	.62	.98	1.7	2.7	.89	.65	2.6	.34	33	6.5	.19
25	1.0	.52	1.1	2.3	2.0	.79	.55	20	.37	.85	12	.19
26	1.0	.49	1.2	2.4	1.7	20	.52	2.9	.42	20	.18	.15
27	21	.48	.92	1.4	1.7	17	.87	1.6	.43	15	.10	.14
28	40	.48	.82	1.1	1.9	2.7	18	1.2	.43	1.5	.08	.12
29	.91	14	.85	.92	2.0	1.9	1.9	.98	.41	.75	5.9	.12
30	.53	32	.63	1.0	---	1.5	1.5	.78	.38	.48	.64	.14
31	.42	---	.61	1.7	---	1.3	---	.67	---	.39	.18	---
MEAN	2.86	3.52	1.73	3.08	9.02	4.07	1.47	4.09	.42	5.20	1.10	1.30
MAX	40	32	15	44	50	36	18	27	1.1	33	12	23
MIN	.26	.36	.48	.42	.89	.79	.52	.67	.27	.10	.04	.11
IN.	1.66	1.97	1.00	1.78	4.89	2.36	.82	2.37	.24	3.02	.64	.73

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	1.19	3.31	4.07	3.28	5.18	4.97	6.55	4.00	1.53	2.37	.821	1.17
MAX	2.86	8.31	11.5	6.82	9.02	9.29	11.6	10.8	3.36	6.40	2.54	4.37
(WY)	1988	1987	1984	1982	1988	1980	1983	1984	1987	1984	1986	1985
MIN	.22	.67	.18	.12	.92	1.64	.74	.76	.41	.08	.12	.11
(WY)	1987	1981	1981	1981	1980	1985	1985	1986	1980	1980	1980	1980

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	3.14		3.20	
HIGHEST ANNUAL MEAN			5.05	1984
LOWEST ANNUAL MEAN			1.88	1981
HIGHEST DAILY MEAN	50	Feb 20	139	Apr 16 1986
LOWEST DAILY MEAN	.04	Aug 22	0	Sep 19 1980
INSTANTANEOUS PEAK FLOW	563	Oct 28	816	May 11 1981
INSTANTANEOUS PEAK STAGE	5.23	Oct 28	5.60	May 11 1981
INSTANTANEOUS LOW FLOW	.04	Jul 18	0	Sep 19 1980
ANNUAL RUNOFF (INCHES)	21.4		21.8	
10 PERCENTILE	8.4		5.8	
50 PERCENTILE	.78		.74	
95 PERCENTILE	.14		.07	

e Estimated

01403300 RARITAN RIVER AT QUEENS BRIDGE AT BOUND BROOK, NJ
(National stream-quality accounting network)

LOCATION.--Lat 40°33'34", long 74°31'41", Somerset County, Hydrologic Unit 02030105, at Queens Bridge on Main street in Bound Brook, 1.7 mi upstream of Fieldsville Dam.

DRAINAGE AREA.--804 mi^2.

PERIOD OF RECORD.--Water years 1964 to 1969, 1971 to 1973, 1978 and November 1981 to present. Published as "at Bound Brook" (station 01403000) 1964-66, and as "below Calco Dam at Bound Brook" (station 01403060) 1967-69.

REMARKS.--Instantaneous discharges are determined at Raritan River below Calco Dam at Bound Brook (station 01403060).

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS TOTAL (MG/L AS CACO3)
NOV 1987												
10...	1200	E350	268	7.6	9.0	8.4	10.2	88	3.3	K770	800	93
MAR 1988												
11...	0950	E1260	204	7.5	6.5	4.5	12.2	100	0.5	37	29	69
JUN												
21...	1045	E170	328	7.4	26.5	2.6	8.6	107	--	140	700	100
SEP												
15...	1530	E330	255	7.6	20.5	7.0	8.7	97	2.1	250	210	82

DATE	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	CARBONATE IT-FLD (MG/L AS CO3)	BICARBONATE IT-FLD (MG/L AS HCO3)	ALKALINITY, CARBONATE IT-FLD (MG/L - CACO3)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)
NOV 1987												
10...	23	8.7	17	3.6	--	74	--	--	38	23	0.2	9.3
MAR 1988												
11...	17	6.5	15	1.8	<1.0	55	45	45	24	23	0.2	10
JUN												
21...	24	9.9	21	3.5	<1.0	60	49	49	43	28	0.2	8.1
SEP												
15...	20	7.8	17	2.8	--	--	--	--	33	21	0.1	7.9

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	PHOSPHORUS DISSOLVED (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)
NOV 1987												
10...	171	--	--	--	0.020	2.30	0.25	0.260	0.80	0.190	0.150	0.120
MAR 1988												
11...	132	7	0.0	96	0.030	1.50	0.19	0.210	0.80	0.090	0.060	0.040
JUN												
21...	182	8	0.0	77	0.040	2.50	0.17	0.090	0.70	0.450	0.410	0.360
SEP												
15...	146	--	--	--	<0.010	1.70	0.07	0.040	0.50	0.230	0.230	0.170

DATE	TIME	ALUMINUM, DISSOLVED (UG/L AS AL)	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, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)
NOV 1987											
10...	1200	30	1	37	<0.5	<1	<1	<3	3	69	<5
MAR 1988											
11...	0950	20	<1	34	<0.5	<1	<1	<3	2	38	<5
JUN											
21...	1045	20	2	39	<0.5	<1	<1	<3	5	57	<5
SEP											
15...	1530	30	1	36	<0.5	<1	<1	<3	5	52	<5

01403300 RARITAN RIVER AT QUEENS BRIDGE AT BOUND BROOK, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	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 1987										
10...	7	260	<0.1	<10	4	<1	1.0	160	<6	9
MAR 1988										
11...	<4	48	<0.1	<10	<1	<1	<1.0	96	<6	4
JUN										
21...	7	87	<0.1	<10	3	<1	<1.0	1900	<6	7
SEP										
15...	<4	28	0.3	<10	1	<1	<1.0	150	<6	8

01403400 GREEN BROOK AT SEELEY MILLS, NJ

LOCATION.--Lat 40°39'53", long 74°24'10", Somerset County, Hydrologic Unit 02030105, on right bank at Seeley Mills, 250 ft downstream from Blue Brook, 300 ft downstream from bridge on Diamond Hill Road, and 0.5 mi northwest of Scotch Plains.

DRAINAGE AREA.--6.23 mi.^{2}

PERIOD OF RECORD.--Occasional low-flow measurements, water years 1959-64, 1969: annual maximum, water years 1969-79. June 1979 to current year. Fragmentary records 1944-53 in the files of the Geological Survey. Crest-stage data 1927-38, 1958-68 in files of Union County Park Commission.

REVISED RECORDS.--WDR-NJ 81-1: 1979(M). WDR-NJ 87-1: 1971(M), 1973(M), 1975(M).

GAGE.--Water-stage recorder. Datum of gage is 184.44 ft above National Geodetic Vertical Datum of 1929. From 1944 to 1953, water-stage recorder and masonry dam about 400 ft downstream above lower Seeley Mills dam at different datum. From July 1969 to May 1979, crest-stage gage about 450 ft downstream below lower Seeley Mills dam (washed out May 29, 1968) at different datum.

REMARKS.--Records fair. Several measurements of water temperature were made during the year. Recording rain gage and gage-height telemeters at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 23, 1938 reached an elevation of 196.5 ft, New Jersey Geological Survey datum, above lower Seeley Mills dam.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.5	5.2	15	5.3	25	9.1	7.1	5.7	6.3	2.9	4.9	3.5
2	2.4	4.8	11	4.7	29	8.5	7.0	5.3	6.9	2.8	4.4	3.3
3	14	4.8	9.1	4.1	25	10	6.7	5.1	6.1	2.8	4.2	3.3
4	15	4.6	9.4	4.9	56	47	7.1	4.8	6.8	2.8	4.1	20
5	3.6	4.2	8.2	11	24	28	6.4	8.7	5.1	2.8	3.9	6.3
6	3.2	4.1	7.3	21	14	17	6.0	14	4.6	3.0	3.7	4.1
7	6.7	3.9	7.1	9.7	12	13	8.4	8.8	4.2	2.9	3.6	3.8
8	3.1	3.9	6.8	6.3	9.5	11	6.8	6.3	4.1	2.8	3.5	3.6
9	2.9	3.9	6.7	5.4	8.9	11	5.7	5.7	4.9	2.8	3.7	3.6
10	2.8	28	6.7	5.3	8.3	10	5.3	5.7	4.1	2.9	3.6	3.5
11	3.2	30	8.2	6.6	7.6	8.7	5.1	18	3.8	2.7	3.6	3.4
12	2.8	19	6.9	5.9	12	8.2	5.0	8.0	3.7	3.3	3.6	3.3
13	2.7	16	6.3	4.9	11	8.1	4.8	6.5	3.6	2.8	3.5	14
14	2.7	11	5.4	6.5	8.0	8.1	4.8	8.1	3.6	2.7	3.4	4.2
15	2.7	8.6	e32	6.8	15	7.5	5.0	5.4	3.5	2.7	3.3	3.6
16	2.7	7.3	e20	8.0	43	7.1	5.2	5.2	4.1	3.0	3.1	3.3
17	2.7	6.9	e10	8.5	24	6.8	4.8	6.5	4.8	11	3.1	4.7
18	2.9	6.9	e8.7	15	20	6.7	6.2	35	3.6	4.3	3.1	4.0
19	2.9	6.1	e8.0	9.9	29	6.7	5.1	51	3.6	3.8	2.9	3.7
20	2.9	6.1	e14	52	85	6.8	4.6	42	3.6	56	3.0	3.6
21	4.6	4.9	e11	31	29	6.0	4.3	19	3.5	61	2.8	3.5
22	3.1	4.7	e9.7	19	18	5.5	4.0	13	3.2	59	2.8	3.3
23	2.9	4.8	e8.1	12	16	5.5	4.6	41	3.1	12	2.8	3.3
24	3.2	4.8	e7.4	9.7	15	5.5	4.5	38	2.9	40	20	3.2
25	3.1	4.6	e7.2	11	12	5.5	4.1	53	3.0	7.2	21	3.3
26	3.0	4.5	e7.9	12	11	24	3.6	25	3.2	149	3.8	3.3
27	21	4.4	e7.0	8.8	11	27	4.7	14	3.0	52	3.7	3.3
28	109	4.4	e6.7	17	10	12	26	10	2.9	22	3.4	3.3
29	15	20	6.6	19	9.7	9.1	6.7	8.8	2.9	9.8	12	3.1
30	8.5	40	5.3	6.6	---	8.0	6.7	7.5	2.9	6.6	5.3	3.3
31	5.7	---	12	9.5	---	7.4	---	6.4	---	5.5	4.0	---
MEAN	8.50	9.41	9.54	11.5	20.6	11.4	6.21	15.9	4.05	17.6	4.96	4.52
MAX	109	40	32	52	85	47	26	53	6.9	149	21	20
MIN	2.4	3.9	5.3	4.1	7.6	5.5	3.6	4.8	2.9	2.7	2.8	3.1
IN.	1.57	1.69	1.77	2.13	3.57	2.12	1.11	2.93	.73	3.25	.92	.81

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	4.56	9.21	13.0	9.72	13.2	16.0	22.8	12.0	5.77	7.00	3.77	4.36
MAX	10.8	22.4	46.9	19.2	20.9	36.5	41.1	30.9	10.4	18.9	6.32	10.0
(WY)	1980	1986	1984	1982	1984	1983	1983	1984	1982	1984	1987	1979
MIN	1.72	2.04	2.57	1.67	2.95	5.11	3.50	4.48	2.74	1.89	1.33	1.85
(WY)	1983	1982	1981	1981	1980	1985	1985	1986	1981	1980	1981	1982

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	10.3		10.1	
HIGHEST ANNUAL MEAN			18.2	1984
LOWEST ANNUAL MEAN			5.16	1981
HIGHEST DAILY MEAN	149	Jul 26	407	Apr 5 1984
LOWEST DAILY MEAN	2.4	Oct 2	0	Sep 11 1981
INSTANTANEOUS PEAK FLOW	823	Oct 28	6240a	Aug 2 1973
INSTANTANEOUS PEAK STAGE	4.31	Oct 28	16.1b	Aug 2 1973
INSTANTANEOUS LOW FLOW	2.1	Oct 3	0	Sep 1981
ANNUAL RUNOFF (INCHES)	22.4		21.9	
10 PERCENTILE	22		21	
50 PERCENTILE	6.0		4.4	
95 PERCENTILE	2.7		.93	

a From rating curve extended above 600 ft^3/s on basis of slope-area measurement of peak flow
b Site and datum then in use

01403535 EAST BRANCH STONY BROOK AT BEST LAKE AT WATCHUNG, NJ

LOCATION.--Lat 40°38'25", long 74°26'52", Somerset County, Hydrologic Unit 02030105, 700 ft upstream of dam on Best Lake in Watchung, 1,400 ft upstream of mouth, and 0.5 mi northeast of Watchung.

DRAINAGE AREA.--1.57 mi^2.

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

GAGE.--Water-stage recorder above concrete dam. Datum of gage is 193.87 ft above National Geodetic Vertical Datum of 1929 (levels by Somerset County).

REMARKS.--No estimated daily discharges. Records fair above 0.2 ft^3/s and poor below. Records given herein represent flow over dam and leakage through ports in dam. Several measurements of water temperature were made during the year. Recording rain gage and gage-height telemeters at station.

COOPERATION.--Gage-height record collected in cooperation with Somerset County.

AVERAGE DISCHARGE.--7 years, 2.90 ft^3/s, 22.49 in./yr.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of August 2, 1973, reached a stage of 5.4 ft, present datum, from floodmarks, discharge, 2,840 ft^3/s, by computation of flow over dam, embankment, and road.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.34	.92	3.5	1.1	6.7	2.4	1.7	1.8	2.1	.20	.97	.42
2	.28	1.2	2.3	.98	8.1	2.3	1.6	1.6	2.0	.20	.71	.39
3	2.8	1.3	1.9	.77	6.1	2.7	1.5	1.4	1.7	.19	.62	.36
4	2.9	1.3	2.1	.99	15	13	1.7	1.3	2.3	.15	.57	3.5
5	.74	1.3	1.6	.76	4.8	6.6	1.4	2.3	1.5	.10	.58	1.4
6	.57	1.5	1.2	.65	3.0	3.9	1.2	4.4	1.2	.06	.50	.60
7	1.6	1.9	1.1	.64	2.4	3.3	1.6	3.3	1.0	.01	.53	.48
8	.73	1.4	.96	.72	2.3	3.3	1.7	2.4	.86	.00	.54	.43
9	.52	.42	.87	.69	2.0	3.8	1.2	2.1	.95	.00	.57	.40
10	.50	6.9	.90	.65	1.9	2.9	1.1	1.9	.86	.00	.59	.40
11	.55	6.6	1.6	.57	1.7	2.5	1.0	4.6	.75	.00	.64	.36
12	.59	3.7	1.4	.60	3.1	2.3	.95	3.0	.69	.00	.63	.38
13	.51	3.2	1.0	.60	2.6	2.0	.83	2.2	.58	.00	.44	2.4
14	.49	2.3	.86	.50	2.0	1.8	.94	2.4	.59	.00	.38	.76
15	.62	1.9	8.4	.39	4.1	1.6	.87	1.8	.56	.00	.36	.50
16	.70	1.2	4.7	.26	13	1.4	1.0	1.7	.50	.00	.31	.40
17	.81	1.2	2.5	.10	5.9	1.2	.77	2.1	.50	.24	.31	.54
18	1.3	.98	2.0	2.6	5.4	1.3	1.1	11	.45	.31	.32	.54
19	1.6	.74	1.9	1.6	8.5	1.2	1.0	11	.45	.21	.32	.42
20	1.6	.75	3.7	18	21	1.1	.71	8.8	.45	11	.33	.40
21	2.1	.69	2.9	7.1	5.6	.92	.71	5.0	.42	14	.35	.40
22	1.4	.79	2.3	4.0	3.9	.86	.59	3.6	.40	8.6	.32	.37
23	1.6	.74	2.0	2.5	4.0	.86	.59	12	.42	2.0	.34	.36
24	1.6	.81	1.7	2.0	3.4	.86	.64	8.7	.38	10	3.5	.36
25	1.5	1.7	1.8	2.3	3.2	.76	.56	12	.36	1.3	4.8	.38
26	1.3	2.3	2.1	2.3	2.7	6.5	.51	5.7	.39	20	.61	.40
27	10	1.8	1.7	1.6	2.7	7.0	.54	4.1	.38	8.9	.50	.40
28	22	2.1	1.4	1.3	2.7	2.8	7.6	3.4	.31	4.7	.47	.41
29	2.1	6.5	1.5	1.3	2.6	2.4	2.3	3.1	.27	2.3	1.7	.36
30	1.3	11	1.0	1.4	---	2.0	2.2	3.0	.23	1.6	.89	.36
31	.94	---	.84	1.9	---	1.8	---	2.4	---	1.2	.52	---
MEAN	2.12	2.30	2.06	1.96	5.19	2.82	1.34	4.33	.78	2.82	.78	.63
MAX	22	11	8.4	18	21	13	7.6	12	2.3	20	4.8	3.5
MIN	.28	.42	.84	.10	1.7	.76	.51	1.3	.23	.00	.31	.36
IN.	1.55	1.64	1.51	1.44	3.56	2.07	.95	3.18	.56	2.07	.57	.45

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	.96	2.77	3.40	2.44	3.95	3.75	5.25	3.30	1.56	1.67	.77	.73
MAX	2.12	5.73	10.1	4.46	5.75	9.02	10.2	7.69	2.87	4.53	1.51	2.07
(WY)	1988	1986	1984	1982	1984	1983	1983	1984	1982	1984	1987	1985
MIN	.24	.90	.52	.07	1.96	1.67	.82	1.25	.76	.36	.10	.25
(WY)	1987	1983	1981	1981	1987	1981	1985	1986	1981	1980	1980	1983

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	2.25		2.56	
HIGHEST ANNUAL MEAN			4.47	1984
LOWEST ANNUAL MEAN			1.48	1981
HIGHEST DAILY MEAN	22	Oct 28	79	Apr 5 1984
LOWEST DAILY MEAN	0	Jul 8-16	0	Aug 30 1980
INSTANTANEOUS PEAK FLOW	340	Oct 28	484	Jul 7 1984
INSTANTANEOUS PEAK STAGE	2.28	Oct 28	2.56	Jul 7 1984
INSTANTANEOUS LOW FLOW	0	Jul 8	0	Many days
ANNUAL RUNOFF (INCHES)	19.5		22.1	
10 PERCENTILE	5.3		5.3	
50 PERCENTILE	1.3		.98	
95 PERCENTILE	.20		.19	

01403540 STONY BROOK AT WATCHUNG, NJ

LOCATION.--Lat 40°38'12", long 74°27'06", Somerset County, Hydrologic Unit 02030105, on right bank at Watchung Borough Administration Building, 150 ft downstream from bridge on Watchung Avenue, and 2.9 mi upstream from confluence with Green Brook.

DRAINAGE AREA.--5.51 mi^2.

PERIOD OF RECORD.--October 1974 to current year.

REVISED RECORDS.--WDR NJ-86-1: 1973 (P).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 172.24 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except for period of estimated daily discharge, which are fair. Occasional regulation from Watchung and Best Lakes directly upstream from station. Several measurements of water temperature were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 2, 1973, reached a stage of 14.5 ft, from floodmark, discharge, 10,500 ft^3/s, from slope-area measurements of peak flow.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.3	3.9	13	4.8	29	8.6	6.8	6.7	6.2	1.1	4.1	2.3
2	1.9	3.5	9.1	4.7	31	7.8	6.4	30	6.5	1.0	3.4	2.1
3	8.1	3.4	7.3	4.1	24	8.7	6.0	4.0	5.3	1.0	3.0	1.6
4	12	3.4	7.5	4.7	55	46	6.6	2.0	6.2	1.0	2.8	15
5	3.5	3.0	6.3	4.4	19	26	6.0	2.9	5.1	1.0	2.4	6.4
6	2.8	2.8	5.5	e3.9	12	14	5.3	5.0	4.2	.97	2.3	3.1
7	5.9	2.6	4.9	e3.8	9.8	12	6.3	8.1	3.4	.96	2.1	2.4
8	3.1	2.7	4.8	4.2	9.4	10	6.7	7.4	3.2	.99	1.9	2.1
9	2.5	2.4	4.8	4.0	8.9	10	5.4	6.5	3.5	.92	1.7	1.9
10	2.4	26	4.6	3.7	8.4	9.8	4.8	6.2	3.2	.91	1.6	1.8
11	2.4	29	5.7	e3.8	7.7	8.7	4.6	12	2.6	.84	1.6	1.6
12	2.5	14	5.1	e3.7	12	8.2	4.5	8.2	2.5	.91	1.8	1.6
13	2.2	12	4.5	e3.8	11	8.1	4.2	6.6	4.4	1.1	1.7	10
14	2.0	9.2	4.0	e3.6	8.2	7.6	4.1	7.3	1.2	.98	1.6	4.1
15	1.9	7.0	29	e3.7	14	7.1	4.1	5.5	1.3	.89	1.5	2.5
16	1.9	5.9	17	e3.7	57	6.6	4.4	5.0	1.7	.86	1.4	1.9
17	1.8	5.6	9.0	e3.6	23	6.3	3.9	5.8	2.1	3.9	1.3	2.4
18	1.9	5.4	7.2	9.7	20	6.0	4.8	32	1.8	1.6	1.3	2.9
19	1.9	4.7	6.5	8.8	26	5.9	5.0	38	1.6	1.5	1.2	2.2
20	1.9	4.6	12	63	82	5.8	3.9	36	1.5	33	1.2	1.9
21	2.6	4.0	9.1	28	23	5.3	3.7	17	1.4	47	1.3	1.8
22	2.1	3.6	7.2	16	15	4.9	3.3	13	1.5	37	1.2	1.7
23	1.8	3.7	6.5	11	15	4.8	3.3	32	1.4	6.4	1.2	1.7
24	1.8	3.8	5.7	9.0	14	4.8	3.7	35	1.2	34	12	1.6
25	1.9	3.4	5.8	10	11	4.5	3.3	37	1.3	6.1	16	1.6
26	2.0	3.1	6.3	10	9.9	25	3.2	19	1.4	79	2.9	1.5
27	12	2.9	5.4	7.7	9.9	29	4.0	13	1.4	36	2.3	1.6
28	81	2.8	5.0	7.0	9.4	10	29	11	1.2	15	2.2	1.5
29	7.9	20	5.3	6.8	9.1	8.6	8.2	9.7	1.2	8.1	6.4	1.3
30	5.5	48	5.0	6.8	---	7.8	7.6	6.6	1.2	5.9	5.2	1.3
31	4.5	---	4.8	8.7	---	7.2	---	6.7	---	4.7	2.6	---
MEAN	6.06	8.21	7.55	8.73	20.1	10.8	5.77	14.0	2.69	10.8	3.01	2.85
MAX	81	48	29	63	82	46	29	38	6.5	79	16	15
MIN	1.8	2.4	4.0	3.6	7.7	4.5	3.2	2.0	1.2	.84	1.2	1.3
IN.	1.27	1.66	1.58	1.83	3.94	2.26	1.17	2.94	.54	2.26	.63	.58

e Estimated

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	4.99	8.76	12.6	13.7	13.5	17.2	17.8	11.7	5.99	6.88	3.50	4.66
MAX	15.1	22.2	37.1	37.5	20.1	31.9	38.3	29.3	18.0	32.1	8.08	18.6
(WY)	1976	1978	1984	1979	1988	1983	1983	1984	1975	1975	1975	1975
MIN	1.31	1.94	1.79	1.08	3.60	5.60	3.89	3.42	2.27	1.27	.81	.87
(WY)	1983	1977	1981	1981	1980	1985	1985	1986	1980	1977	1981	1983

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	8.36		10.1	
HIGHEST ANNUAL MEAN			16.0	1984
LOWEST ANNUAL MEAN			5.60	1981
HIGHEST DAILY MEAN	82	Feb 20	358	Jul 14 1975
LOWEST DAILY MEAN	.84	Jul 11	0	Sep 18 1982
INSTANTANEOUS PEAK FLOW	757	Oct 28	4420a	Jul 14 1975
INSTANTANEOUS PEAK STAGE	5.38	Oct 28	10.40	Jul 14 1975
INSTANTANEOUS LOW FLOW	.50	Jul 16	0	Sep 13 1982
ANNUAL RUNOFF (INCHES)	20.6		24.9	
10 PERCENTILE	19		22	
50 PERCENTILE	4.4		4.4	
95 PERCENTILE	1.1		.69	

a From rating curve extended above 500 ft^3/s on basis of slope area measurement of peak flow
e Estimated

01405000 LAWRENCE BROOK AT FARRINGTON DAM, NJ

LOCATION.--Lat 40°27'00", long 74°27'05", Middlesex County, Hydrologic Unit 02030105, on left bank 300 ft upstream from Farrington Dam, 0.7 mi southwest of Milltown, and 5.4 mi upstream from mouth.

DRAINAGE AREA.--34.4 mi^2.

PERIOD OF RECORD.--May 1927 to current year.

REVISED RECORDS.--WSP 781: Drainage area. WSP 1432: 1959(P).

GAGE.--Water-stage recorder above concrete dam. Datum of gage is 25.8 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records fair except those below 15 ft^3/s, which are poor. Records given herein include flow over dam and through blowoff gates. Gates were open June 14 to July 18. Flow regulated by Farrington Lake, capacity, 655,250,000 gal. Several measurements of water temperature were made during the year.

COOPERATION.--Water-stage recorder inspected by and records of gate openings furnished by employees of City of New Brunswick.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	26	69	16	79	27	25	20	14	6.1	25	7.9
2	9.9	23	41	18	109	24	22	18	37	6.1	22	7.1
3	15	23	31	16	119	24	20	18	22	6.0	17	6.9
4	83	24	31	20	123	55	22	18	20	6.0	16	52
5	28	32	28	14	95	113	24	19	17	6.0	14	107
6	19	31	23	11	47	57	20	52	14	6.0	12	31
7	24	25	21	11	29	41	22	71	13	6.0	11	18
8	22	24	20	11	25	32	26	30	11	6.0	9.8	14
9	17	26	20	11	20	29	20	19	12	6.0	8.7	11
10	14	63	21	11	20	28	18	18	14	6.0	7.5	9.8
11	15	130	36	11	20	24	17	29	13	5.9	7.2	8.5
12	16	74	34	11	155	21	16	34	12	5.9	7.1	7.5
13	15	48	27	14	118	22	16	22	11	5.9	6.9	53
14	13	36	23	14	61	20	16	29	9.6	5.9	6.8	26
15	13	29	51	13	61	20	17	21	7.5	5.9	6.7	13
16	13	26	92	13	140	18	26	19	6.8	5.9	6.5	9.6
17	13	23	44	13	81	18	19	26	6.5	6.0	6.4	8.5
18	13	24	34	36	55	18	18	84	6.4	6.1	6.7	9.4
19	13	24	28	55	51	18	21	136	6.3	6.2	6.6	9.0
20	13	23	34	140	165	18	17	138	6.3	75	6.6	8.1
21	15	20	36	120	88	17	16	77	6.2	100	6.5	7.2
22	16	17	26	74	50	16	15	51	6.2	187	6.4	7.0
23	16	18	23	43	44	16	16	40	6.1	47	6.4	6.9
24	14	18	23	31	38	16	35	78	6.1	65	26	7.2
25	14	18	23	35	32	16	24	38	6.1	29	38	7.2
26	13	20	23	37	29	67	19	32	6.1	202	17	7.1
27	17	20	23	30	29	127	17	22	6.1	359	11	7.0
28	216	19	20	22	30	61	89	20	6.1	109	9.1	6.9
29	64	29	23	18	29	37	43	18	6.1	55	9.5	6.7
30	37	119	18	18	---	29	27	17	6.1	40	14	6.6
31	30	---	16	22	---	27	---	15	---	31	11	---
MEAN	26.8	34.4	31.0	29.3	67.0	34.1	23.4	39.6	10.7	45.6	11.8	16.2
MAX	216	130	92	140	165	127	89	138	37	359	38	107
MIN	9.9	17	16	11	20	16	15	15	6.1	5.9	6.4	6.6
(†)	+0.7	+0.5	-0.6	-0.3	-0.1	0	0	-0.2	-2.2	+2.2	-0.3	-0.4
MEAN‡	27.1	34.9	29.5	29.0	66.9	34.1	23.4	39.4	8.5	47.8	11.5	15.8

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	21.1	35.1	42.2	47.4	55.1	66.4	56.0	40.6	25.2	27.3	22.3	25.1
MAX	132	133	123	143	126	142	124	84.1	89.7	198	113	131
(WY)	1928	1973	1974	1979	1973	1936	1983	1979	1973	1975	1971	1975
MIN	2.90	.00	4.77	.30	4.58	19.3	15.2	11.7	7.76	4.00	2.35	3.96
(WY)	1981	1954	1966	1966	1980	1981	1966	1965	1966	1966	1965	1983

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	30.7		38.4	
AVERAGE‡	30.7		38.4	
HIGHEST ANNUAL MEAN			75.1	1975
LOWEST ANNUAL MEAN			15.7	1981
HIGHEST DAILY MEAN	359	Jul 27	2040	Jul 21 1975
LOWEST DAILY MEAN	5.9	Jul 11	0	Jul 12 1930
INSTANTANEOUS PEAK FLOW	816	Jul 26	4920a	Jul 21 1975
INSTANTANEOUS PEAK STAGE	25.54	Jul 26	26.93	Jul 21 1975
INSTANTANEOUS LOW FLOW	5.9	Jul 11	0	Many days
ANNUAL RUNOFF (INCHES)	12.1		15.2	
10 PERCENTILE	70		81	
50 PERCENTILE	20		22	
95 PERCENTILE	5.9		5.0	

a From rating curve extended above 1,100 ft^3/s on basis of weir formula.
† Change in contents, in cubic feet per second, in Farrington Lake.
‡ Adjusted for change in contents

01405302 MATCHAPONIX BROOK AT MUNDY AVENUE AT SPOTSWOOD, NJ

LOCATION.--Lat 40°23'22", long 74°22'55", Middlesex County, Hydrologic Unit 02030105, at bridge on Mundy Avenue in Spotswood, 0.2 mi upstream from mouth, 0.5 mi east of De Voe Lake dam, and 3.4 mi southeast of Tanners Corners.

DRAINAGE AREA.--44.1 mi^2.

PERIOD OF RECORD.--Water years 1976 to current year.

COOPERATION.--Field data and samples for laboratory analyses provided by New Jersey Department of Environmental Protection, Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1987										
28...	1300	E260	204	4.5	11.0	7.6	70	5.9	1300	>2400
FEB 1988										
09...	1345	E58	256	7.2	1.5	14.0	99	<1.0	<20	7
MAY										
02...	1215	E61	--	6.4	12.0	9.8	91	<0.3	<20	4
JUN										
14...	1130	E22	321	6.9	21.0	6.8	76	E1.5	20	79
JUL										
13...	1330	E7.1	384	6.4	25.5	7.4	91	<0.7	70	240
AUG										
30...	1230	E53	375	6.2	21.0	7.4	83	<0.3	230	350

DATE	HARD-NESS TOTAL (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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (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)
OCT 1987									
28...	44	12	3.3	7.6	5.2	<1.0	48	17	0.1
FEB 1988									
09...	51	14	3.9	16	3.4	1.0	46	25	0.2
MAY									
02...	55	16	3.6	15	3.1	3.0	47	20	0.2
JUN									
14...	83	27	3.9	22	4.9	19	50	25	0.2
JUL									
13...	98	32	4.3	32	6.0	19	59	39	0.1
AUG									
30...	78	25	3.9	28	5.7	7.0	59	29	0.2

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHOROUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1987									
28...	6.0	100	0.008	1.16	0.31	1.4	2.6	0.802	16
FEB 1988									
09...	10	119	0.013	1.88	--	--	--	0.110	2.7
MAY									
02...	9.0	116	0.007	3.02	0.09	0.30	3.3	0.033	2.5
JUN									
14...	12	156	0.047	6.86	<0.05	--	--	--	3.1
JUL									
13...	12	196	0.151	8.20	0.91	1.0	9.2	0.044	3.8
AUG									
30...	12	167	0.009	8.85	0.08	0.41	9.3	0.382	3.2

01405302 MATCHAPONIX BROOK AT MUNDY AVENUE AT SPOTSWOOD, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
OCT 1987 28...	1300	<0.5	950	3	<10	30	<1	5	12
JUN 1988 14...	1130	<0.5	<10	<1	<10	30	<1	<1	3

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
OCT 1987 28...	11000	6	480	<0.10	19	<1	120	5
JUN 1988 14...	530	<5	120	<0.10	8	<1	20	3

01405340 MANALAPAN BROOK AT FEDERAL ROAD NEAR MANALAPAN, NJ

LOCATION.--Lat 40°17'46", long 74°23'53", Middlesex County, Hydrologic Unit 02030105, at bridge on Federal Road, 2.6 mi north of Manalapan, 3.1 mi southwest of Matchaponix, 3.3 mi downstream of Still House Brook, and 4.1 mi northeast of Applegarth.

DRAINAGE AREA.--20.9 mi^2.

PERIOD OF RECORD.--Water years 1976 to current year.

COOPERATION.--Field data and samples for laboratory analyses provided by New Jersey Department of Environmental Protection, Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
NOV 1987										
09...	1100	E16	124	6.4	10.5	10.0	89	<0.9	170	540
JAN 1988										
25...	1045	E27	--	5.9	1.5	12.3	88	<0.6	<20	46
APR										
05...	1030	E28	--	6.7	13.0	10.3	99	<0.9	<20	79
JUN										
20...	1200	E13	114	6.7	22.5	8.0	93	<0.9	230	540
JUL										
12...	1130	E8.7	129	7.0	24.0	8.1	97	<1.1	260	>2400
AUG										
30...	1100	E23	--	7.2	20.0	8.6	95	<1.0	700	1600

DATE	HARD-NESS TOTAL (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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (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)
NOV 1987									
09...	34	7.5	3.6	6.5	3.2	9.0	21	13	0.2
JAN 1988									
25...	34	8.1	3.4	5.9	2.8	4.0	26	13	0.2
APR									
05...	33	7.4	3.5	6.5	3.3	5.0	24	12	0.2
JUN									
20...	36	8.3	3.8	6.8	2.6	10	20	13	0.3
JUL									
12...	37	8.9	3.7	6.8	2.8	10	23	14	0.2
AUG									
30...	38	8.6	4.0	7.9	2.9	10	25	15	0.2

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHOROUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
NOV 1987									
09...	12	72	0.005	0.55	0.02	0.37	0.92	0.109	2.7
JAN 1988									
25...	11	73	0.009	1.17	0.12	--	--	0.061	2.2
APR									
05...	9.2	69	0.016	1.14	0.11	0.20	1.3	0.055	2.7
JUN									
20...	11	72	0.029	1.53	0.10	0.48	2.0	0.097	4.0
JUL									
12...	9.2	75	0.010	0.94	0.06	0.76	1.7	0.085	3.4
AUG									
30...	9.9	79	0.003	0.44	0.08	0.29	0.73	0.076	3.8

01405340 MANALAPAN BROOK AT FEDERAL ROAD NEAR MANALAPAN, NJ

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	NITROGEN, NH4 + ORG. TOT IN BOT MAT (MG/KG AS N)	CARBON, INORGANIC, TOT IN BOT MAT (G/KG AS C)	CARBON, INORG + ORGANIC TOT. IN BOT MAT (MG/KG AS C)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC TOTAL IN BOTTOM MATERIAL (UG/G AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM RECOV. FM BOTTOM MATERIAL (UG/G AS CD)
NOV 1987 09...	1100	520	1.5	8.9	30	1	16	<10	40	<1	<1

DATE	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, RECOV. FM BOTTOM MATERIAL (UG/G)	COBALT, RECOV. FM BOTTOM MATERIAL (UG/G AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, RECOV. FM BOTTOM MATERIAL (UG/G AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, RECOV. FM BOTTOM MATERIAL (UG/G AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, RECOV. FM BOTTOM MATERIAL (UG/G AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, RECOV. FM BOTTOM MATERIAL (UG/G)
NOV 1987 09...	2	<10	<50	6	3	2600	3500	<5	<10	120	150

DATE	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY RECOV. FM BOTTOM MATERIAL (UG/G AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, RECOV. FM BOTTOM MATERIAL (UG/G AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, TOTAL IN BOTTOM MATERIAL (UG/G)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, RECOV. FM BOTTOM MATERIAL (UG/G AS ZN)	PHENOLS TOTAL (UG/L)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	PCN, TOTAL IN BOTTOM MATERIAL (UG/KG)
NOV 1987 09...	0.10	<0.10	9	10	<1	<1	20	60	3	5	<1.0

DATE	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDOSULFAN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)
NOV 1987 09...	0.1	3.0	2.9	4.5	3.0	0.1	0.7	<0.1	0.8	<0.1	<0.1

DATE	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	METHYL PARATHION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRITHION, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL IN BOTTOM MATERIAL (UG/KG)	PARATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	PERTHANE IN BOTTOM MATERIAL (UG/KG)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TRITHION, TOTAL IN BOTTOM MATERIAL (UG/KG)
NOV 1987 09...	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.00	<10	<0.1

01405400 MANALAPAN BROOK AT SPOTSWOOD, NJ

LOCATION.--Lat 40°23'22", long 74°23'27", Middlesex County, Hydrologic Unit 02030105, on right bank of DeVoe Lake Dam in Spotswood, 0.1 mi upstream from Cedar Brook, and 0.6 mi upstream from confluence with Matchaponix Brook.

DRAINAGE AREA.--40.7 mi^2.

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

REVISED RECORDS.--WSP 1722: 1957-60.

GAGE.--Water-stage recorder above concrete dam. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Duhernal Water System). January 1957 to September 1966 at datum 17.72 ft higher.

REMARKS.--Records good. Discharge given herein includes flow through waste gates when open. Gates open Feb. 5 to Mar. 25. Some regulation by Lake Manalapan, Helmetta Pond, and DeVoe Lake. Several measurements of water temperature were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	41	127	38	85	e52	45	45	30	12	22	16
2	24	38	72	48	108	e49	44	41	66	12	20	18
3	25	37	52	40	169	e48	44	40	62	12	20	19
4	89	40	47	42	157	e57	45	39	42	11	18	33
5	101	35	49	39	e175	e114	46	40	36	11	17	75
6	54	33	44	37	e104	e100	43	59	32	10	17	51
7	52	31	40	36	e96	e82	43	105	29	10	17	33
8	56	29	37	34	e72	e69	48	72	27	9.6	17	27
9	42	29	36	36	e53	e59	44	49	27	10	14	24
10	35	38	37	35	e51	e57	40	43	29	9.6	13	23
11	32	123	47	34	e48	e54	39	46	27	9.6	12	22
12	31	129	57	34	e118	e50	39	62	25	9.9	15	21
13	28	90	57	34	e253	e48	37	53	23	11	16	26
14	26	64	45	33	e309	e46	36	47	21	11	14	30
15	25	51	49	30	e244	e37	37	41	21	10	14	25
16	25	44	129	30	e124	e23	43	38	20	9.7	12	16
17	25	41	113	30	e138	e34	43	37	19	29	12	13
18	24	42	65	39	e89	e36	40	55	23	27	14	64
19	24	43	55	74	e73	e38	43	144	26	20	14	72
20	24	39	55	127	e95	e38	42	196	22	20	14	21
21	25	36	65	220	e93	e37	38	157	20	24	14	18
22	24	33	55	178	e74	e35	35	76	19	68	14	14
23	24	31	48	91	e66	e34	36	62	18	63	14	14
24	23	33	44	63	e61	e36	47	64	16	62	37	13
25	23	34	43	59	e56	e35	44	61	14	47	44	11
26	23	34	45	102	e52	34	38	65	16	105	33	11
27	26	33	46	109	e51	104	35	54	16	199	26	10
28	131	31	42	63	e54	126	63	44	16	70	22	10
29	150	38	41	47	e55	119	67	39	14	44	25	9.3
30	75	113	38	46	---	91	50	35	12	32	32	9.2
31	50	---	35	51	---	48	---	33	---	25	17	---
MEAN	43.3	47.8	55.3	60.6	108	57.7	43.1	62.6	25.6	32.4	19.0	24.9
MAX	150	129	129	220	309	126	67	196	66	199	44	75
MIN	23	29	35	30	48	23	35	33	12	9.6	12	9.2
IN.	1.23	1.31	1.57	1.72	2.85	1.64	1.18	1.77	.70	.92	.54	.68

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	40.3	59.4	77.5	78.7	84.6	94.1	88.1	68.2	45.9	44.0	41.4	40.1
MAX	81.5	154	156	186	139	164	154	148	109	141	112	119
(WY)	1976	1978	1984	1978	1979	1958	1983	1984	1968	1975	1971	1971
MIN	13.7	21.7	27.4	21.1	44.0	37.0	31.1	26.5	17.4	4.40	5.56	11.6
(WY)	1983	1966	1981	1981	1980	1985	1985	1977	1966	1966	1966	1965

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	48.2		63.9	
HIGHEST ANNUAL MEAN			100.6	1973
LOWEST ANNUAL MEAN			34.3	1981
HIGHEST DAILY MEAN	309	Feb 14	1390	May 30 1968
LOWEST DAILY MEAN	9.2	Sep 30	0	Jun 16 1957
INSTANTANEOUS PEAK FLOW	286	Jul 27	1650a	May 30 1968
INSTANTANEOUS PEAK STAGE	18.5	Jul 27	19.9	May 30 1968
INSTANTANEOUS LOW FLOW	9.2	Sep 30	0	Some days
ANNUAL RUNOFF (INCHES)	16.1		21.3	
10 PERCENTILE	97		123	
50 PERCENTILE	39		47	
95 PERCENTILE	12		15	

a Waste gates open
e Estimated

01405440 MANALAPAN BROOK AT BRIDGE STREET AT SPOTSWOOD, NJ

LOCATION.--Lat 40°23'26", long 74°23'26", Middlesex County, Hydrologic Unit 02030105, at bridge on Bridge Street in Spotswood, 150 ft downstream from Cedar Brook, and 400 ft below DeVoe Lake Dam.

DRAINAGE AREA.--43.9 mi^2.

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

COOPERATION.--Field data and samples for laboratory analyses provided by New Jersey Department of Environmental Protection, Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPN method and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1987										
28...	1045	E160	112	4.7	11.5	8.1	75	5.3	1300	>2400
FEB 1988										
09...	1245	E60	142	7.2	2.0	11.6	83	<0.8	20	23
MAY										
02...	1030	E46	--	5.9	12.0	10.2	94	<0.7	<20	13
JUN										
14...	1300	E22	124	6.1	23.0	6.9	80	E1.6	230	220
JUL										
13...	1130	E11	116	5.4	24.0	7.5	89	<0.8	170	540
AUG										
30...	1130	E35	140	5.8	20.0	8.7	95	<0.6	130	110

DATE	HARD-NESS TOTAL (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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (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)
OCT 1987									
28...	23	4.6	2.7	4.6	2.8	1.0	20	10	0.1
FEB 1988									
09...	30	6.5	3.3	7.6	2.2	<1.0	26	14	0.2
MAY									
02...	29	6.3	3.3	7.3	2.1	2.0	27	14	0.2
JUN									
14...	30	6.4	3.5	9.6	2.4	3.0	24	14	0.2
JUL									
13...	29	5.9	3.5	9.3	2.1	3.0	22	15	0.1
AUG									
30...	31	6.4	3.7	9.6	2.5	3.0	28	15	0.2

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHOROUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1987									
28...	5.8	52	--	--	--	--	--	--	21
FEB 1988									
09...	8.3	68	0.008	1.15	--	--	--	0.395	9.2
MAY									
02...	5.1	66	0.004	0.63	0.02	<0.20	--	0.033	3.1
JUN									
14...	5.1	67	0.008	1.01	0.18	0.50	1.5	<0.020	3.4
JUL									
13...	3.6	63	0.004	1.07	0.10	0.18	1.2	0.031	2.6
AUG									
30...	3.4	71	0.004	0.80	<0.05	0.28	1.1	0.443	3.0

01405440 MANALAPAN BROOK AT BRIDGE STREET AT SPOTSWOOD, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
OCT 1987 28...	1045	<0.5	390	1	<10	50	<1	2	11
JUN 1988 14...	1300	<0.5	50	<1	<10	20	1	<1	2

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
OCT 1987 28...	1100	<5	50	<0.10	6	<1	90	4
JUN 1988 14...	1200	<5	40	<0.10	4	<1	20	3

01405500 SOUTH RIVER AT OLD BRIDGE, NJ

LOCATION.--Lat 40°24'22", long 74°22'08", Middlesex County, Hydrologic Unit 02030105, on right abutment of Duhernal Dam, 0.6 mi south of Old Bridge, 2.3 mi upstream from Deep Run, and 9.1 mi upstream from mouth.

DRAINAGE AREA.--94.6 mi^2.

PERIOD OF RECORD.--August 1939 to September 1988 (discontinued).

REVISED RECORDS.--WSP 1902: 1957. WDR NJ-82-1: 1975-80(P).

GAGE--Water-stage recorder above concrete dam. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except for periods when waste gates were open, Mar. 21 to June 30, Aug. 4-30, which are poor. Records include flow over dam and through waste gates when open. Flow past this station is affected by pumpage from well fields for industrial use by Duhernal Water System. Some regulation by Duhernal Lake, capacity, 138,000,000 gal, Lake Manalapan, DeVoe Lake, and several small ponds in headwater tributaries.

AVERAGE DISCHARGE.--49 years, 142 ft^3/s, unadjusted.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	65	113	328	94	225	135	e144	e122	e72	19	45	19
2	62	99	194	130	276	125	e136	e109	e181	20	40	18
3	e53	89	154	115	444	128	e136	e104	e173	22	36	18
4	e231	90	142	110	399	162	e137	e102	e101	22	e41	34
5	e266	84	152	107	591	377	e141	e105	e85	22	e47	200
6	147	76	134	96	e275	313	e133	e157	e77	22	e54	139
7	140	70	116	84	e220	230	e132	e275	e70	21	e63	66
8	173	67	118	83	e169	198	e144	e188	e65	20	e70	44
9	117	66	113	87	156	168	e135	e127	e67	20	e63	36
10	90	83	107	89	150	163	e124	e108	e74	20	e60	33
11	78	330	140	81	139	156	e121	e115	e66	20	e56	30
12	77	359	183	80	344	141	e119	e148	e59	20	e60	29
13	73	239	158	81	958	138	e114	e129	e54	21	e59	38
14	65	179	134	82	e737	135	e110	e116	e50	22	e54	65
15	61	147	139	79	e516	111	e111	e103	e50	20	e52	46
16	59	125	357	78	379	68	e127	e95	e47	19	e46	35
17	58	112	301	78	413	99	e127	e88	e45	54	e45	31
18	57	110	180	99	258	105	e115	e131	e54	74	e49	46
19	57	115	151	235	225	105	e123	e341	e60	47	e47	108
20	56	103	153	333	308	106	e121	e513	e51	40	e44	45
21	55	97	187	579	313	103	e107	e432	e46	46	e44	34
22	53	86	158	456	217	97	e107	e205	e44	199	e42	30
23	53	78	135	243	191	96	e101	e163	e42	176	e38	28
24	52	80	122	182	171	98	e137	e160	e38	184	e88	27
25	51	83	116	173	152	98	e131	e154	e34	143	e121	27
26	51	82	122	290	135	149	e108	e172	e37	219	e81	27
27	52	79	126	299	131	407	e97	e136	e37	380	e54	27
28	298	75	111	e164	140	294	e168	e107	e37	183	e45	27
29	418	91	110	e123	143	189	e180	e96	e33	116	e50	26
30	198	301	104	e115	---	159	e125	e86	e29	75	e65	25
31	142	---	87	e119	---	e154	---	e80	---	54	20	---
MEAN	110	124	156	160	303	162	127	160	62.6	74.8	54.2	45.3
MAX	418	359	357	579	958	407	180	513	181	380	121	200
MIN	51	66	87	78	131	68	97	80	29	19	20	18
IN.	1.34	1.46	1.90	1.95	3.45	1.97	1.50	1.95	.74	.91	.66	.53

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	81.1	137	166	174	196	224	200	152	103	101	87.0	85.5
MAX	206	381	423	485	376	410	461	439	318	445	333	326
(WY)	1980	1973	1984	1979	1979	1984	1983	1984	1968	1945	1948	1971
MIN	27.0	31.9	48.7	42.7	77.7	94.2	67.2	58.0	30.3	7.74	6.35	14.8
(WY)	1971	1966	1966	1981	1980	1985	1966	1977	1965	1966	1966	1943

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	128		142	
HIGHEST ANNUAL MEAN			261	1984
LOWEST ANNUAL MEAN			68.4	1966
HIGHEST DAILY MEAN	958	Feb 13	3740	Aug 28 1971
LOWEST DAILY MEAN	18	Sep 2	0	Sep 16 1967
INSTANTANEOUS PEAK FLOW	1100	Feb 13	4250a	Sep 15 1944
INSTANTANEOUS PEAK STAGE	10.69	Feb 13	11.71	Aug 28 1971
INSTANTANEOUS LOW FLOW	---		0	Several days
ANNUAL RUNOFF (INCHES)	18.3		20.4	
10 PERCENTILE	256		284	
50 PERCENTILE	105		96	
95 PERCENTILE	23		24	

a Waste gate open
e Estimated

RESERVOIRS IN RARITAN RIVER BASIN

01396790 SPRUCE RUN RESERVOIR.--Lat 40°38'30", long 74°55'19", Hunterdon County, Hydrologic Unit 02030105, at dam on Spruce Run, 0.5 mi north of Clinton, and 0.6 mi upstream from mouth. DRAINAGE AREA, 41.3 mi^2. PERIOD OF RECORD, November 1963 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by earthfill dam with concrete spillway; dam completed in October 1963 with crest of spillway at elevation 273.00 ft. Usable capacity, 11,000,000,000 gal. Dead storage 300,000 gal. Reservoir used for water supply and recreation. Outflow mostly regulated by gates. Water is released to maintain minimum flow on the South Branch Raritan River and, at times, for municipal supply. Records given herein represent usable capacity.

COOPERATION.--Records provided by New Jersey Water Supply Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 11,640,000,000 gal, Apr. 2, 1970, elevation, 274.38 ft; minimum observed, 3,100,000,000 gal, Oct. 18, 1983, elevation, 246.68 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 11,200,000,000 gal, May 20, elevation, 273.37 ft; minimum observed, 9,770,000,000 gal, July 17, elevation, 270.05 ft.

REVISED RECORDS.--WDR NJ-84-1: (M). WDR NJ-85-1: 1984.

01397050 ROUND VALLEY RESERVOIR.--Lat 40°36'39", long 74°50'42", Hunterdon County, Hydrologic Unit 02030105, at main dam on Prescott Brook, 1.8 mi south of Lebanon, 3.2 mi upstream from mouth, and 4.5 mi west of Whitehouse. DRAINAGE AREA, 5.7 mi^2. PERIOD OF RECORD, March 1966 to current year. Nonrecording gage read daily. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by earthfill dam at main dam on Prescott Brook and two dams on South Branch Rockaway River at Lebanon; storage began in March 1966. Capacity at spillway level, 55,000,000,000 gal, elevation, 385.00 ft. Reservoir is used primarily for storage and is filled by pumping from South Branch Raritan River at Hamden Pumping Station (see following page). Outflow is controlled by operation of gates in pipe in dams. Water is released into South Branch Rockaway Creek and Prescott Brook.

COOPERATION.--Records provided by New Jersey Water Supply Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 55,400,000,000 gal, June 15, 1975, elevation, 385.63 ft; minimum observed (after first filling), 37,100,000,000 gal, Feb. 9, 1981, elevation, 361.30 ft.

EXTREMES FOR CURRENT YEAR: Maximum contents observed, 53,870,000,000 gal, May 27, elevation, 383.57 ft; minimum observed, 52,850,000,000 gal, Nov. 27, elevation, 382.35 ft.

REVISED RECORDS.--WDR NJ-85-1: 1984.

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

Date	01396790 SPRUCE RUN RESERVOIR Elevation (feet)*	Contents (million gallons)	Change in contents (equivalent in ft^3/s)	01397050 ROUND VALLEY RESERVOIR Elevation (feet)*	Contents (million gallons)	Change in contents (equivalent in ft^3/s)
Sept. 30.....	272.94	10,980	-	382.57	53,070	-
Oct. 31.....	272.48	10,810	-8.5	382.44	52,940	-6.5
Nov. 30.....	273.19	11,120	+16.0	382.52	53,020	+4.1
Dec. 31.....	272.57	10,840	-14.0	382.40	52,900	-6.0
CAL YR 1987....	-	-	+16.6-	-	-	+9.7
Jan. 31.....	272.23	10,660	-9.0	382.49	52,990	+4.5
Feb. 29.....	272.92	10,970	+16.5	382.82	53,220	+12.3
Mar. 31.....	272.59	10,990	-6.5	382.97	53,370	+7.5
Apr. 30.....	272.99	11,000	+7.7	383.07	53,470	+5.2
May 31.....	272.98	10,990	-0.5	383.55	53,850	+19.0
June 30.....	272.15	10,640	-18.1	383.22	53,560	-15.0
July 31.....	271.56	10,370	-13.5	383.61	53,860	+15.0
Aug. 31.....	270.79	10,080	-14.5	383.29	53,600	-13.0
Sept. 30.....	270.63	10,000	-4.1	382.80	53,200	-20.6
WTR YR 1988....	-	-	-4.1	-	-	+0.5

* Elevation at 0800 on first day of following month.

DIVERSIONS IN RARITAN RIVER BASIN

01396920 Water is diverted 4.0 mi upstream from the gaging station on South Branch Raritan River at Stanton (see station 01397000), at the Hamden Pumping Station, for storage in Round Valley Reservoir. Records provided by New Jersey Water Supply Authority.
REVISED RECORDS.--WDR NJ-85-1: 1984.

01400509 Elizabethtown Water Company diverts water from the Raritan and Millstone Rivers just upstream from the mouth of the Millstone River at Manville. Records given herein represent the total diversion from both rivers. Records provided by the Elizabethtown Water Company.

01400836 Water is diverted from Carnegie Lake (Millstone River) at Princeton to the Delaware and Raritan Canal at the aqueduct 2.3 mi upstream from the gaging station on the Delaware and Raritan Canal at Kingston (station 01460500). Negative discharge indicates flow from Canal to Carnegie Lake. Records provided by New Jersey Water Supply Authority.
REVISED RECORDS.--WDR NJ-85-1: 1984.

01402910 Water is diverted from the Raritan River just below the Millstone River to the Delaware and Raritan Canal at Ten Mile Lock for municipal supply. Negative discharge indicates flow from Canal to Millstone River. Records provided by the New Jersey Water Supply Authority.
REVISED RECORDS.--WDR NJ-85-1: 1984.

01460570 Elizabethtown Water Company diverts water from the Delaware and Raritan Canal 1200 ft downstream from Ten Mile Lock at Manville for municipal supply. Records provided by the Elizabethtown Water Company.

DIVERSIONS, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

MONTH	01396920 HAMDEN PUMPING STATION	01400509 RARITAN AND MILLSTONE RIVERS	01400836 CARNEGIE LAKE	01402910 TEN MILE LOCK DIVERSION	01460570 DELAWARE AND RARITAN CANAL
October	0	148	2.2	7.1	18.8
November	0	155	-1.2	-24.7	6.0
December	0	149	-4.6	-34.1	9.7
CAL YR 1987	5.8	150	-4.0	-10.3	15.1
January	0	157	0	-34.2	11.8
February	0	146	0	-48.7	22.4
March	0	159	0	-50.2	5.0
April	0	162	0	-52.2	1.5
May	0	155	-0.7	-46.6	15.2
June	0	164	0	-14.9	27.8
July	0	152	0	-21.4	38.8
August	0	164	0	-20.4	29.0
September	0	140	0	-18.9	30.5
WTR YR 1988	0	154	-0.4	-29.9	18.0

01407500 SWIMMING RIVER NEAR RED BANK, NJ

LOCATION.--Lat 40°19'10", long 74°06'55", Monmouth County, Hydrologic Unit 02030104, on left bank 50 ft upstream from spillway at Swimming River Reservoir, 3.3 mi southwest of Red Bank, and 4.8 mi upstream from mouth. Water-quality samples collected at bridge on Swimming River Road, 800 ft downstream from gaging station.

DRAINAGE AREA.--49.2 mi^2.

PERIOD OF RECORD.--August 1922 to current year.

REVISED RECORDS.--WDR NJ-83-1. Drainage area. WSP 891: 1939.

GAGE.--Water-stage recorder above concrete dam. Datum of gage is 30.00 ft above National Geodetic Vertical Datum of 1929. Prior to Jan. 19, 1962, at site 800 ft upstream at datum 17.67 ft lower. Jan. 19 to Mar. 30, 1962, nonrecording gage, 700 ft upstream at datum 13.87 ft lower.

REMARKS.--Records good above 10 ft^3/s and fair below. Records given herein represent flow over spillway and flow or leakage through blowoff gates. Diversion above station for municipal supply. Flow regulated by Swimming River Reservoir. Several measurements of water temperature were made during the year.

COOPERATION.--Water-stage recorder inspected by and record of diversion furnished by New Jersey-American Water Co. (formerly Monmouth Consolidated Water Co.).

EXTREMES OUTSIDE PERIOD OF RECORD.--A flood in July 1919 reached a stage of 7.84 ft (site and datum then in use), from floodmark, discharge about 11,800 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	14	65	14	e42	37	30	24	7.0	.00	.00	.00
2	.59	11	41	16	e55	35	29	19	7.7	.00	.00	.00
3	.37	9.8	32	14	e100	34	29	19	16	.00	.00	.00
4	18	8.8	34	19	e120	57	32	18	18	.00	.00	.00
5	28	7.7	36	17	e130	182	34	18	17	.00	.00	.00
6	20	5.8	31	14	e60	71	30	60	13	.00	.00	.00
7	22	4.5	28	11	e50	50	31	112	8.2	.00	.00	.00
8	25	3.7	26	11	e45	40	37	43	5.2	.00	.00	.00
9	18	3.0	26	13	e40	38	33	33	3.6	.00	.00	.00
10	13	5.8	26	11	e35	39	27	29	2.9	.00	.00	.00
11	10	90	48	8.8	e40	37	24	38	2.6	.00	.00	.00
12	8.8	79	49	7.4	e430	34	21	53	1.4	.00	.00	.00
13	7.0	38	32	6.7	e300	34	19	35	.45	.00	.00	.00
14	5.2	29	23	5.9	e97	34	18	29	.07	.00	.00	.00
15	4.7	24	37	4.7	e84	32	18	24	.00	.00	.00	.00
16	3.5	20	178	3.8	e160	31	26	19	.00	.00	.00	.00
17	2.4	18	50	3.0	e150	29	24	20	.00	.00	.00	.00
18	1.9	18	31	4.9	71	27	21	43	.00	.00	.00	.00
19	1.3	17	26	22	58	27	25	253	.00	.00	.00	.00
20	.96	15	29	124	152	26	23	160	.00	.00	.00	.00
21	.77	14	35	184	82	25	20	74	.00	.00	.00	.00
22	.60	9.1	27	100	49	24	17	42	.00	.00	.00	.00
23	.39	7.0	25	e75	45	24	14	33	.00	.00	.00	.00
24	.23	6.0	21	e45	46	25	20	34	.00	.00	.00	.00
25	.13	5.1	20	e55	41	24	20	34	.00	.00	.00	.00
26	.01	5.1	22	e150	37	53	16	33	.00	.00	.00	.00
27	.02	5.0	21	e75	38	165	14	26	.00	.00	.00	.00
28	20	4.6	18	e50	44	57	29	19	.00	.00	.00	.00
29	31	8.0	23	e45	38	37	33	15	.00	.00	.00	.00
30	23	79	19	e40	---	35	27	11	.00	.00	.00	.00
31	18	---	16	e40	---	33	---	8.9	---	.00	.00	---
MEAN	9.22	18.8	35.3	38.4	91.0	45.0	24.7	44.5	3.44	.00	.00	.00
MAX	31	90	178	184	430	182	37	253	18	.00	.00	.00
MIN	.01	3.0	16	3.0	35	24	14	8.9	.00	.00	.00	.00
(†)	40.6	41.9	37.0	48.4	45.0	43.9	45.3	42.2	36.9	36.0	42.9	34.7
MEAN ‡	49.8	60.7	72.3	86.8	13.6	88.9	70.0	86.7	40.3	36.0	42.9	34.7

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	41.5	59.3	71.2	80.5	95.5	104	94.9	70.1	49.3	42.2	38.6	40.2
MAX	163	208	196	248	201	184	209	183	135	187	128	210
(WY)	1944	1973	1978	1978	1979	1984	1980	1984	1972	1938	1955	1938
MIN	.00	.00	.00	.00	37.8	18.1	2.93	4.07	.00	.00	.00	.00
(WY)	1971	1981	1981	1981	1980	1985	1962	1985	1985	1966	1957	1980

01407500 SWIMMING RIVER NEAR RED BANK, NJ--Continued

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	25.7		65.4	
MEAN ‡	66.9		80.5	
HIGHEST ANNUAL MEAN			122	1928
LOWEST ANNUAL MEAN			9.76	1985
HIGHEST DAILY MEAN	430	Feb 12	3050	Oct 27 1943
LOWEST DAILY MEAN	0	Jun 15	0	Apr 29 1925
INSTANTANEOUS PEAK FLOW	860	Feb 12	8910a	Oct 27 1943
INSTANTANEOUS PEAK STAGE	5.79	Feb 12	8.96	Oct 27 1943
INSTANTANEOUS LOW FLOW	0	Many days	0	Many days
ANNUAL RUNOFF (INCHES)	18.46 ‡		22.54 ‡	
10 PERCENTILE	56		127	
50 PERCENTILE	17		49	
95 PERCENTILE	0		0	

a Site and datum then in use, from rating curve extended above 1,000 ft^3/s on basis of weir formula.
e Estimated
† Diversion and change in contents in Swimming River Reservoir, in cubic feet per second.
‡ Adjusted for diversion and change in contents.

01407705 SHARK RIVER NEAR NEPTUNE CITY, NJ

LOCATION.--Lat 40°11'56", long 74°04'14", Monmouth County, Hydrologic Unit 02030104, on left bank 100 ft upstream from bridge on Remsen Mill Road, 0.3 mi downstream from Robins Swamp Brook, and 1.7 mi west of Neptune City.

DRAINAGE AREA.--9.96 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1966 to current year.

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Datum of gage is 7.05 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Diversion above station by New Jersey American Water Co. (formerly Monmouth Consolidated Water Co.) for municipal supply (records given herein) and by farmers for irrigation. Several measurements of water temperature were made during the year.

COOPERATION.--Water-stage recorder inspected by and records of diversion provided by New Jersey-American Water Co.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	5.1	11	8.6	20	16	18	19	10	4.8	3.3	e1.5
2	5.0	4.9	3.5	10	29	15	17	24	44	4.8	2.4	e1.0
3	3.3	5.0	7.3	7.2	42	15	17	23	14	4.7	2.0	e.70
4	39	4.9	6.7	8.1	46	34	18	24	10	4.8	1.8	e2.0
5	9.0	4.9	3.9	8.0	34	50	17	26	8.6	5.1	5.5	e3.5
6	5.4	4.7	6.5	5.2	20	23	17	44	7.3	5.2	4.4	e2.5
7	9.4	4.8	5.8	e6.0	16	19	20	33	6.4	5.7	2.5	e1.5
8	5.7	5.1	5.4	e6.5	15	17	20	19	6.1	5.9	1.8	e.80
9	4.4	5.1	5.3	e6.7	15	17	18	16	7.7	5.9	1.7	e.90
10	3.8	15	5.5	e6.5	15	17	17	15	7.6	5.4	1.7	e1.3
11	3.7	33	19	e5.7	15	15	16	17	6.0	3.9	1.7	e.90
12	3.6	19	12	e6.5	170	15	16	18	5.2	4.1	1.7	e1.4
13	3.3	8.7	8.2	e6.5	62	15	15	15	4.7	3.7	2.4	e2.0
14	3.1	9.8	6.6	e6.0	26	14	12	14	4.6	3.1	1.9	e2.5
15	3.0	7.9	25	e5.0	23	14	13	14	4.2	2.6	4.5	e1.5
16	3.0	6.8	31	e6.0	63	13	15	14	5.6	2.3	4.3	e.60
17	3.1	6.7	8.8	e6.7	28	13	14	14	11	2.9	1.4	e1.0
18	3.6	9.1	3.6	e13	22	13	14	42	11	3.0	1.7	e1.5
19	3.2	7.2	3.3	17	20	13	15	72	6.2	2.3	1.8	e1.3
20	3.3	6.7	14	60	42	13	14	35	5.3	2.5	.71	e1.0
21	3.7	5.8	12	58	25	12	11	25	4.5	2.7	.66	.70
22	3.3	7.1	9.0	31	19	12	5.7	18	3.9	5.0	1.6	.56
23	3.4	7.7	7.8	17	19	12	12	15	3.6	4.3	1.2	.57
24	3.5	4.6	7.4	13	18	12	20	14	3.3	8.4	18	.31
25	3.6	4.6	7.9	18	16	12	16	21	3.3	3.5	19	2.2
26	3.8	4.6	9.0	42	16	32	15	17	3.6	2.6	e9.0	1.2
27	7.4	4.4	7.6	24	16	55	15	12	4.6	5.4	e.90	1.3
28	44	4.3	7.2	17	17	24	29	11	5.1	3.7	e1.5	1.1
29	6.4	17	10	16	17	20	20	9.3	4.7	3.6	e2.0	.71
30	6.4	33	7.4	15	---	19	19	9.6	5.1	3.3	e2.5	.24
31	5.5	---	6.1	16	---	18	---	11	---	3.4	e2.0	---
MEAN	7.06	8.92	9.15	15.2	30.6	19.0	16.2	21.3	7.57	4.15	3.47	1.28
MAX	44	33	31	60	170	55	29	72	44	8.4	19	3.5
MIN	3.0	4.3	3.3	5.0	15	12	5.7	9.3	3.3	2.3	.66	.24
(†)	6.2	7.4	2.8	4.1	0	0	2.7	6.0	6.2	6.2	6.3	7.7

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	9.38	13.5	18.3	16.7	16.2	21.7	20.8	15.7	9.58	10.2	9.86	8.61
MAX	28.1	31.7	44.2	41.1	32.9	50.2	48.3	38.9	21.9	30.1	22.3	22.3
(WY)	1980	1978	1970	1978	1979	1984	1983	1984	1975	1984	1978	1978
MIN	2.81	1.73	4.11	3.57	3.79	6.53	6.39	3.51	2.13	3.47	3.47	1.28
(WY)	1982	1982	1981	1981	1974	1986	1985	1986	1986	1985	1988	1988

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	11.9		14.2	Unadjusted
†	4.6		---	
HIGHEST ANNUAL MEAN			24.9	1984
LOWEST ANNUAL MEAN			6.80	1981
HIGHEST DAILY MEAN	170	Feb 12	560	Dec 26 1969
LOWEST DAILY MEAN	.24	Sep 30	0	Sep 20 1981
INSTANTANEOUS PEAK FLOW	276	Feb 12	1010	Aug 10 1987
INSTANTANEOUS PEAK STAGE	4.95	Feb 12	7.84	Dec 26 1969
INSTANTANEOUS LOW FLOW	0	Many days	0	Many days
10 PERCENTILE	24		29	
50 PERCENTILE	7.3		8.2	
95 PERCENTILE	1.1		1.6	

e Estimated
† Diversion, in cubic feet per second, from Shark River by New Jersey-American Water Co., for municipal supply.

01407705 SHARK RIVER NEAR NEPTUNE CITY, NJ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1976 to current year.

COOPERATION.--Field data and samples for laboratory analyses provided by New Jersey Department of Environmental Protection, Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1987										
29...	1030	6.3	244	6.2	9.0	9.7	84	E2.0	20	25
JAN 1988										
26...	1000	40	365	5.7	2.5	14.1	104	E1.6	<20	>2400
MAY										
10...	1145	15	182	7.4	13.0	9.1	87	<1.0	<20	22
JUN										
21...	0915	4.6	169	6.6	18.0	7.4	78	<0.8	40	170
JUL										
14...	1230	3.2	177	6.4	23.0	8.7	102	<1.2	270	1600
AUG										
17...	1100	--	168	7.2	20.0	6.1	68	<1.1	110	240

DATE	HARD-NESS TOTAL (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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (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)
OCT 1987									
29...	87	26	5.4	11	5.0	1.0	86	15	0.4
JAN 1988									
26...	36	11	2.1	45	2.6	4.0	36	74	0.1
MAY									
10...	41	13	2.0	11	2.7	12	30	18	0.2
JUN									
21...	47	15	2.2	11	2.3	18	28	18	0.1
JUL									
14...	52	17	2.2	11	2.6	20	29	18	0.1
AUG									
17...	57	19	2.3	11	3.1	29	24	18	0.1

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1987									
29...	11	160	0.006	0.24	0.05	0.52	0.77	0.090	5.4
JAN 1988									
26...	7.7	181	0.024	0.38	0.31	--	--	<0.020	6.6
MAY									
10...	11	95	0.012	0.33	--	--	--	0.054	3.7
JUN									
21...	13	100	0.009	0.58	0.08	0.33	0.91	0.066	3.6
JUL									
14...	13	105	0.012	0.80	0.16	0.29	1.1	0.085	2.8
AUG									
17...	14	109	0.004	0.38	0.07	0.37	0.75	0.051	3.5

01407705 SHARK RIVER NEAR NEPTUNE CITY, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
JUN 1988 21...	0915	<0.5	50	<1	<10	10	<1	<1	1

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
JUN 1988 21...	2300	<5	60	<0.10	7	<1	30	3

01407760 JUMPING BROOK NEAR NEPTUNE CITY, NJ

LOCATION.--Lat 40°12'13", long 74°03'58", Monmouth County, Hydrologic Unit 02030104, on left bank 50 ft downstream from dam on Jumping Brook Reservoir, 0.8 mi upstream from mouth, and 1.4 mi west of Neptune City. Water-quality samples collected at bridge on Corlies Avenue, 600 ft downstream from gaging station.

DRAINAGE AREA.--6.46 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1966 to current year. Records for water years 1976-83 are unpublished but are available in the files of New Jersey District Office.

REVISED RECORDS.--WDR-84-1: drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 13.76 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those below 10 ft^3/s and above 150 ft^3/s, which are fair. Diversion above station by New Jersey-American Water Co. (formerly Monmouth Consolidated Water Co.) for municipal supply (records given herein) and by farmers for irrigation. Several measurements of water temperature, other than those published, were made during the year.

COOPERATION.--Water-stage recorder inspected by and records of diversion provided by New Jersey-American Water Co. (formerly Monmouth Consolidated Water Co.).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.1	3.9	8.8	5.3	7.9	6.0	5.6	4.4	4.5	1.8	1.8	e1.3
2	2.9	3.7	5.3	6.1	13	5.8	5.6	4.0	28	1.8	1.5	e1.2
3	4.6	3.6	4.5	4.3	20	6.0	5.5	4.1	5.3	1.8	1.4	e1.1
4	25	3.6	6.6	5.6	25	19	6.1	4.0	4.5	1.7	1.3	e3.4
5	5.0	3.6	4.9	5.2	14	29	5.8	5.7	3.9	1.7	5.1	e7.1
6	3.4	3.4	4.1	4.1	7.3	8.8	5.4	22	3.4	1.6	8.8	e2.6
7	6.7	3.3	3.7	3.8	5.7	7.5	10	16	2.9	1.5	2.8	e1.3
8	3.9	3.3	3.6	4.2	5.6	6.6	7.3	5.9	3.2	1.4	2.2	e1.0
9	3.0	3.3	3.6	4.3	5.6	6.4	5.7	4.8	4.0	2.0	1.9	e1.4
10	2.8	12	3.9	4.2	5.6	6.5	5.2	4.5	3.6	2.2	1.8	e1.9
11	2.7	30	14	4.1	5.5	5.2	5.0	5.6	3.0	1.7	1.7	e1.3
12	2.9	14	6.7	4.2	233	5.6	4.8	5.2	2.9	2.4	1.7	e1.6
13	2.6	7.0	4.7	4.3	20	5.9	4.5	4.1	2.6	2.1	1.6	e2.6
14	2.6	5.1	4.1	3.9	9.4	5.6	4.3	4.1	2.3	1.8	1.6	e3.0
15	2.8	4.4	21	3.7	9.1	5.4	4.7	3.7	2.1	1.4	1.2	e1.5
16	2.7	4.1	27	3.7	32	5.1	6.6	3.6	2.4	1.3	1.1	e.80
17	2.9	4.0	6.9	3.8	12	5.1	4.8	3.9	6.1	1.9	1.5	e1.4
18	2.7	5.8	5.0	16	8.7	5.0	5.3	26	5.2	2.1	2.0	e2.5
19	2.7	4.3	4.5	16	7.8	5.1	5.4	31	3.0	1.6	1.5	e2.0
20	2.7	4.0	9.6	47	24	5.2	4.6	16	2.7	1.8	1.7	e1.2
21	3.0	3.8	6.8	30	9.8	4.9	4.2	18	2.5	1.8	1.9	e.90
22	2.8	3.6	4.9	15	7.4	4.7	4.2	7.2	2.2	5.8	e1.8	e.90
23	2.9	6.0	4.5	8.0	7.2	4.7	4.8	5.5	2.1	4.6	e1.4	e1.0
24	2.9	4.2	4.1	6.7	7.3	4.9	10	5.8	2.1	7.4	e18	e.80
25	2.8	3.4	4.3	13	6.4	4.9	5.1	10	2.0	3.3	e11	e2.1
26	2.7	3.4	5.4	27	5.9	21	4.5	7.2	2.1	2.5	e2.5	e1.7
27	6.2	3.4	4.5	8.8	6.1	34	4.4	5.0	1.9	5.4	e.60	e1.3
28	41	3.3	4.1	6.1	6.8	8.7	20	4.4	1.9	2.8	e1.4	e1.2
29	6.9	12	6.8	5.2	6.4	6.9	6.8	4.0	1.8	2.3	e2.2	e.90
30	4.6	31	4.6	5.4	---	6.1	5.1	3.9	1.8	2.2	e2.7	e.60
31	4.2	---	3.8	6.1	---	5.8	---	3.6	---	1.9	e1.7	---
MEAN	5.44	6.68	6.65	9.20	18.4	8.43	6.04	8.17	3.87	2.44	2.88	1.72
MAX	41	31	27	47	233	34	20	31	28	7.4	18	7.1
MIN	2.6	3.3	3.6	3.7	5.5	4.7	4.2	3.6	1.8	1.3	.60	.60
(†)	.54	.02	0	0	0	0	0	0	0	0	.45	1.07

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	6.10	9.60	11.8	13.1	12.5	14.5	15.6	10.9	7.29	6.67	6.55	6.30
MAX	14.3	47.3	30.5	55.5	62.1	47.1	66.5	30.6	23.7	17.6	15.4	24.2
(WY)	1972	1978	1970	1979	1979	1984	1980	1984	1972	1986	1987	1971
MIN	1.97	1.89	2.78	1.94	3.53	3.86	3.29	2.08	2.11	2.44	1.52	1.25
(WY)	1982	1982	1981	1981	1968	1985	1985	1977	1986	1988	1982	1982

01407760 JUMPING BROOK NEAR NEPTUNE CITY, NJ--Continued
WATER-DISCHARGE RECORDS--Continued

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	6.62		10.1	Unadjusted
(†)	.17			
HIGHEST ANNUAL MEAN			20.4	1979
LOWEST ANNUAL MEAN			4.05	1981
HIGHEST DAILY MEAN	233	Feb 12	954	Jan 21 1979
LOWEST DAILY MEAN	.60	Aug 27	.12	Sep 15 1981
INSTANTANEOUS PEAK FLOW	640a	Feb 12	1830a	Sep 12 1971
INSTANTANEOUS PEAK STAGE	5	Feb 12	7.00	Dec 16 1974
INSTANTANEOUS LOW FLOW	.81	Aug 17	0	Jun 7 1971
10 PERCENTILE	13		19	
50 PERCENTILE	3.8		4.9	
95 PERCENTILE	1.3		1.4	

a From rating curve extended above 150 ft^3/s.
e Estimated
† Diversion, in cubic feet per second, from Jumping Brook, by New Jersey-American Water Co., for municipal supply.

01407760 JUMPING BROOK NEAR NEPTUNE CITY, NJ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1976 to current year.

COOPERATION.--Field data and samples for laboratory analyses provided by New Jersey Department of Environmental Protection, Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, EC BROTH (MPN)	STREPTOCOCCI FECAL (MPN)
OCT 1987										
29...	1030	7.0	168	5.0	10.5	9.8	87	E2.1	80	350
JAN 1988										
26...	1130	26	424	5.1	1.5	14.9	107	E1.5	110	>2400
MAY										
10...	1245	4.7	165	6.6	15.0	9.7	96	<1.1	<20	17
JUN										
21...	1100	2.5	162	6.2	21.5	11.2	127	<0.9	130	220
JUL										
14...	1030	1.9	172	6.3	23.0	8.5	100	<1.7	170	430
AUG										
17...	1000	1.5	190	7.3	23.0	7.5	89	<0.7	20	170

DATE	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
OCT 1987									
29...	31	8.4	2.4	9.7	3.0	<1.0	32	16	0.2
JAN 1988									
26...	29	8.7	1.8	64	2.0	3.0	26	110	0.1
MAY									
10...	32	8.7	2.4	13	2.3	3.0	29	22	0.1
JUN									
21...	46	14	2.6	12	2.5	9.0	33	24	0.2
JUL									
14...	46	14	2.8	13	2.7	8.0	27	25	0.1
AUG									
17...	60	19	3.0	10	2.6	20	27	23	0.2

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1987									
29...	7.6	80	0.009	0.15	0.14	0.50	0.66	0.100	6.8
JAN 1988									
26...	4.2	219	0.018	0.24	0.08	--	--	0.065	6.7
MAY									
10...	7.7	87	0.008	0.22	--	--	--	0.024	4.2
JUN									
21...	7.7	101	0.006	0.75	0.23	0.50	1.3	0.048	4.9
JUL									
14...	8.3	98	<0.003	0.76	0.11	0.47	1.2	0.099	4.9
AUG									
17...	9.9	107	<0.003	0.51	0.07	0.30	0.81	0.051	3.0

01407760 JUMPING BROOK NEAR NEPTUNE CITY, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	NITROGEN,NH4 + ORG. TOT IN BOT MAT (MG/KG AS N)	CARBON, INORGANIC, TOT IN BOT MAT (G/KG AS C)	CARBON, INORG + ORGANIC TOT. IN BOT MAT (MG/KG AS C)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC TOTAL IN BOTTOM MATERIAL (UG/G AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM RECOV. FM BOTTOM MATERIAL (UG/G AS CD)
OCT 1987 29...	1030	<0.5	60	<0.1	1.4	740	<1	1	<10	30	1	<1

DATE	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, RECOV. FM BOTTOM MATERIAL (UG/G)	COBALT, RECOV. FM BOTTOM MATERIAL (UG/G AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, RECOV. FM BOTTOM MATERIAL (UG/G AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, RECOV. FM BOTTOM MATERIAL (UG/G AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, RECOV. FM BOTTOM MATERIAL (UG/G AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, RECOV. FM BOTTOM MATERIAL (UG/G)
OCT 1987 29...	2	<10	<50	24	6	1800	23000	<5	20	120	11

DATE	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY RECOV. FM BOTTOM MATERIAL (UG/G AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, RECOV. FM BOTTOM MATERIAL (UG/G AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, TOTAL IN BOTTOM MATERIAL (UG/G)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, RECOV. FM BOTTOM MATERIAL (UG/G AS ZN)	PHENOLS TOTAL (UG/L)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	PCN, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1987 29...	<0.10	0.15	7	<10	<1	<1	90	20	2	17	<1.0

DATE	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDOSULFAN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1987 29...	<0.1	16	0.2	0.5	1.8	0.9	<0.1	<0.1	<0.1	<0.1	<0.2

DATE	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARATHION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRITHION, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL IN BOTTOM MATERIAL (UG/KG)	PARATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	PERTHANE IN BOTTOM MATERIAL (UG/KG)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TRITHION, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1987 29...	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.00	<10	<0.1

01407997 MARSH BOG BROOK AT SQUANKUM, NJ

LOCATION.--Lat 40°10'01", long 74°09'33", Monmouth County, Hydrologic Unit 02040301, at bridge on Squankum-Yellow Brook Road in Squankum, and 0.2 mi upstream from mouth.

DRAINAGE AREA.--4.91 mi^2.

PERIOD OF RECORD.--Water years 1971-74, 1976 to current year.

COOPERATION.--Field data and samples for laboratory analyses provided by New Jersey Department of Environmental Protection, Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, EC BROTH (MPN)	STREPTOCOCCI FECAL (MPN)
JAN 1988										
26...	1330	E46	--	5.3	1.5	13.5	97	<1.1	<20	>2400
APR										
26...	1000	E2.4	--	6.7	9.5	10.7	94	<1.2	20	17
JUN										
10...	0930	E2.5	114	6.8	13.0	6.2	59	E1.5	110	540
JUL										
07...	1015	E0.30	164	6.6	18.5	7.5	80	<1.2	2200	920
AUG										
03...	1030	E0.20	177	6.7	23.5	5.9	69	<0.5	110	>2400

DATE	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
JAN 1988									
26...	24	7.2	1.4	8.2	1.8	3.0	23	14	0.2
APR									
26...	26	7.8	1.7	6.0	1.9	4.0	24	11	0.2
JUN									
10...	29	8.7	1.7	6.4	2.7	8.0	24	11	0.2
JUL									
07...	49	15	2.9	8.2	3.9	8.0	40	14	0.2
AUG									
03...	50	15	3.0	10	4.4	8.0	40	14	0.2

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JAN 1988									
26...	8.4	66	0.007	0.25	0.08	--	--	0.046	6.7
APR									
26...	11	66	0.007	0.08	0.10	<0.20	--	--	4.0
JUN									
10...	12	72	0.007	0.59	0.29	0.77	1.4	0.075	9.9
JUL									
07...	13	102	E0.006	0.56	0.40	0.85	1.4	0.082	4.1
AUG									
03...	11	102	<0.003	0.80	0.29	0.55	1.3	0.060	4.4

01407997 MARSH BOG BROOK AT SQUANKUM, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
JUN 1988 10...	0930	<0.5	80	1	<10	<10	1	2	4

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
JUN 1988 10...	5500	<5	70	<0.10	6	<1	90	2

01408000 MANASQUAN RIVER AT SQUANKUM, NJ

LOCATION.--Lat 40°09'47", Long 74°09'21", Monmouth County, Hydrologic Unit 02040301, on right bank 50 ft upstream from northbound bridge on State Highway 547 (Squankum Park Road) in Squankum, and 0.4 mi downstream from Marsh Bog Brook.

DRAINAGE AREA.--44.0 mi^2.

PERIOD OF RECORD.--July 1931 to current year. Monthly discharge only for July 1931, published in WSP 1302.

REVISED RECORDS.--WDR NJ-83-1: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 18.82 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 13, 1940, water-stage recorder at site 80 ft upstream at same datum.

REMARKS.--Records good except for estimated daily discharges and periods Jan. 4-18 and June 17 to Sept. 30, which are fair. Diversion by New Jersey-American Water Company at Hospital Road, 1.2 mi downstream (records given herein). Several measurements of water temperature were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	41	88	50	e81	70	59	52	42	25	20	18
2	37	39	62	60	e101	65	59	49	127	25	20	18
3	34	39	52	49	e157	66	58	51	57	23	19	17
4	141	39	55	45	e144	88	61	48	48	23	19	32
5	63	39	55	42	e151	202	62	54	44	21	20	63
6	49	36	46	38	e114	103	56	115	40	21	21	25
7	68	35	43	35	e118	88	63	127	38	22	19	22
8	52	34	42	37	e117	79	63	71	40	21	17	20
9	45	34	42	37	e99	74	57	57	54	21	17	19
10	42	49	42	35	e61	75	54	53	51	22	17	18
11	40	171	71	33	e57	68	53	92	39	21	18	18
12	40	116	65	34	e431	66	52	84	35	24	18	18
13	39	77	51	35	e277	66	51	58	33	24	17	49
14	37	60	46	32	e184	63	48	59	32	21	17	30
15	37	52	66	31	e152	59	53	55	32	21	17	24
16	36	48	176	32	e152	57	61	47	43	20	16	21
17	36	46	85	32	e147	58	51	51	87	24	16	19
18	36	49	66	67	121	57	51	127	77	28	17	24
19	35	46	57	e100	107	58	58	236	49	20	16	20
20	34	43	73	e179	188	56	51	171	38	21	17	21
21	34	41	76	e197	118	53	49	112	34	26	18	20
22	34	38	60	e137	92	52	47	84	33	63	17	19
23	33	38	55	e113	89	53	46	76	32	29	16	18
24	33	40	51	e95	86	53	71	67	29	62	66	18
25	33	39	51	e79	77	52	54	73	27	30	35	18
26	32	38	55	e159	73	101	50	84	27	24	23	19
27	35	37	54	e116	72	191	50	63	27	36	19	19
28	173	35	49	e108	78	101	103	56	28	27	18	18
29	70	49	51	e104	74	78	67	51	26	25	20	18
30	52	152	49	e78	---	69	57	48	27	23	24	18
31	47	---	44	e57	---	62	---	45	---	21	19	---
MEAN	49.2	53.3	60.6	72.5	128	76.9	57.2	77.9	43.2	26.3	20.4	22.7
MAX	173	171	176	197	431	202	103	236	127	63	66	63
MIN	32	34	42	31	57	52	46	45	26	20	16	17
IN.	1.29	1.35	1.59	1.90	3.14	2.01	1.45	2.04	1.10	.69	.54	.58

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	51.1	72.0	83.5	90.5	99.8	113.7	102.4	78.6	57.5	52.3	49.9	51.5
MAX	130.4	230.8	212.4	217.7	214.0	221.3	218.4	163.2	126.2	200.5	107.9	183.3
(WY)	1972	1978	1978	1979	1979	1984	1983	1984	1968	1938	1948	1938
MIN	22.1	22.3	26.4	30.7	43.6	47.2	40.3	38.8	26.6	19.9	16.7	16.7
(WY)	1964	1966	1966	1981	1932	1985	1985	1955	1957	1966	1932	1932
(†)	0.8	2.4	4.6	0	0	2.5	2.9	1.3	0.5	3.2	7.2	7.4

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	57.1		75.1	
HIGHEST ANNUAL MEAN			130.5	1978
LOWEST ANNUAL MEAN			40.5	1966
HIGHEST DAILY MEAN	431	Feb 12	1720	Nov 8 1977
LOWEST DAILY MEAN	16	Aug 16	14	Aug 24 1932
INSTANTANEOUS PEAK FLOW	337	May 19	2940	Sep 21 1938
INSTANTANEOUS PEAK STAGE	4	May 19	12.45	Sep 21 1938
INSTANTANEOUS LOW FLOW	14	Aug 16	8.1	Aug 6 1981
ANNUAL RUNOFF (INCHES)	17.6		23.2	
10 PERCENTILE	109		133	
50 PERCENTILE	49		55	
95 PERCENTILE	18		23	

e Estimated
† Diversion, in cubic feet per second, by New Jersey-American Water Company, for municipal use.

01408120 NORTH BRANCH METEDECONK RIVER NEAR LAKEWOOD, NJ

LOCATION.--Lat 40°05'30", long 74°09'10", Ocean County, Hydrologic Unit 02040301, on upstream right bank at bridge on State Route 549, 1.0 mi upstream from confluence with South Branch Metedeconk River, and 2.3 mi east of Lakewood.

DRAINAGE AREA.--34.9 mi^2.

PERIOD OF RECORD.--October 1972 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 3.89 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 17, 1977, gage located on upstream left side of bridge. Nov. 17, 1977 to Dec. 19, 1984, gage located on the downstream side of bridge.

REMARKS.--Records good. Several measurements of water temperature were made during the year. Gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	e45	e95	42	54	53	48	45	33	21	e16	15
2	28	e35	75	47	65	50	46	41	87	20	e15	14
3	27	e34	56	45	100	49	45	41	63	20	e15	14
4	92	e35	51	e48	107	64	46	40	42	19	e16	23
5	83	e33	49	e47	e120	124	50	42	36	19	e16	50
6	64	e32	43	e46	e98	110	45	76	32	19	e16	28
7	55	e31	40	e40	e81	86	50	102	29	19	e17	18
8	45	e31	38	e38	e71	65	52	79	27	19	e14	16
9	39	e30	37	e37	e61	57	47	55	31	19	e13	15
10	34	e43	37	e36	e49	55	43	45	35	20	e14	15
11	31	e105	60	e33	47	52	40	e53	29	18	13	14
12	30	e115	62	e34	193	50	39	e59	26	25	13	14
13	29	e85	51	e35	265	49	38	e54	24	25	13	27
14	27	e65	43	e33	e136	48	39	e48	22	20	12	35
15	26	e52	58	e31	e107	46	38	e41	21	19	12	19
16	e26	e42	103	e35	111	45	44	e36	27	17	11	16
17	e28	e40	91	e37	109	44	42	e37	96	18	11	15
18	e26	e42	75	60	98	43	40	e69	99	21	15	16
19	e25	e41	54	82	83	43	45	e141	72	19	13	16
20	e25	e40	58	120	98	43	43	e146	39	19	13	15
21	e26	e39	63	159	94	42	40	e116	33	19	14	14
22	e25	e37	56	128	80	40	36	e89	29	25	13	14
23	e26	e33	49	104	67	40	36	e69	26	30	12	14
24	e25	e34	44	84	62	40	72	e52	24	43	62	13
25	e24	e36	44	65	57	41	59	e50	23	36	70	14
26	e23	e37	49	e84	53	66	44	e60	23	21	26	15
27	e30	e36	47	e85	52	130	39	e54	22	e24	17	14
28	e105	e34	43	e77	57	115	76	e45	22	e22	16	14
29	e88	e44	51	e69	56	84	72	e41	22	e22	15	13
30	e59	e100	49	e56	---	60	54	e37	21	e19	19	13
31	e55	---	46	49	---	51	---	e34	---	e17	17	---
MEAN	40.5	46.9	55.4	60.8	90.7	60.8	46.9	61.2	37.2	21.7	18.0	17.8
MAX	105	115	103	159	265	130	76	146	99	43	70	50
MIN	23	30	37	31	47	40	36	34	21	17	11	13
IN.	1.34	1.50	1.83	2.01	2.80	2.01	1.50	2.02	1.19	.72	.60	.57

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	45.0	64.3	78.9	79.6	76.7	83.6	89.0	64.1	50.4	44.5	37.2	37.9
MAX	71.8	141	129	153	153	160	153	110	89.6	107	61.0	70.1
(WY)	1980	1973	1978	1979	1979	1984	1984	1984	1984	1984	1978	1979
MIN	24.4	26.1	34.6	25.2	42.7	38.8	35.8	27.1	26.0	21.7	15.2	17.8
(WY)	1982	1982	1981	1981	1980	1981	1985	1977	1986	1988	1981	1988

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	46.4		62.5	
HIGHEST ANNUAL MEAN			91.5	1984
LOWEST ANNUAL MEAN			34.7	1981
HIGHEST DAILY MEAN	265	Feb 13	838	Feb 25 1979
LOWEST DAILY MEAN	11	Aug 16	11	Aug 28 1981
INSTANTANEOUS PEAK FLOW	302	Feb 12	1370a	Nov 8 1977
INSTANTANEOUS PEAK STAGE	6.48	Feb 12	9.28	Nov 8 1977
INSTANTANEOUS LOW FLOW	11	Aug 16	11	Aug 28 1981
ANNUAL RUNOFF (INCHES)	18.1		24.3	
10 PERCENTILE	89		116	
50 PERCENTILE	41		48	
95 PERCENTILE	14		20	

a From rating curve extended above 500 ft^3/s
e Estimated

01408500 TOMS RIVER NEAR TOMS RIVER, NJ
(National stream quality accounting network station)

LOCATION.--Lat 39°59'10", long 74°13'29", Ocean County, Hydrologic Unit 02040301, on left bank 500 ft downstream of bridge on State Route 527 (Oak Ridge Parkway), 1.9 mi downstream from Union Branch, and 2.6 mi northwest of Toms River.

DRAINAGE AREA.--123 mi.^{2}

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1928 to current year. Monthly discharge only for October, November 1928, published in WSP 1302.

REVISED RECORDS.--WSP 1702: 1938. WDR NJ-76-1: 1975(M). WDR NJ-77-1: 1976.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 8.10 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except for estimated daily discharge, which are fair. Several measurements of water temperature, other than those published, were made during the year. Diversions by Toms River Chemical Co., 800 ft. upstream; the effluent is returned by pipeline directly into the Atlantic Ocean, thus bypassing station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	111	210	208	163	196	208	206	190	137	70	e73	72
2	113	178	224	166	209	203	192	178	174	74	e68	68
3	113	159	218	165	250	198	184	169	188	72	e66	66
4	184	148	194	168	280	210	179	164	183	72	e65	77
5	193	140	181	168	319	268	181	164	169	71	e65	107
6	211	132	170	151	318	284	176	198	156	71	e64	109
7	218	128	160	150	279	324	176	240	141	70	e67	94
8	192	124	156	151	241	308	180	253	130	69	e62	80
9	173	121	148	150	208	262	177	248	126	70	e60	74
10	158	134	144	149	195	234	165	210	134	e68	e60	74
11	145	192	162	144	193	215	162	201	132	e70	62	71
12	136	218	175	146	336	204	159	192	125	e73	62	66
13	131	249	177	144	341	199	155	197	114	e72	61	73
14	125	261	168	143	e320	193	150	177	108	e73	59	84
15	121	241	173	138	e310	190	149	160	102	e71	54	80
16	118	206	204	e150	e350	185	156	151	97	e67	52	72
17	117	183	217	e160	e400	180	159	147	97	e67	51	68
18	110	177	233	e170	e370	175	156	177	102	e74	59	68
19	112	169	221	184	341	174	155	234	103	e71	60	68
20	112	162	203	237	333	172	160	272	96	e72	63	67
21	113	156	199	290	309	170	156	319	90	e68	67	65
22	115	146	197	320	306	166	148	333	86	e84	63	62
23	115	138	188	354	290	161	145	300	85	e89	60	60
24	111	136	178	331	260	162	182	246	81	e117	95	61
25	107	138	173	280	240	160	188	215	80	e97	131	55
26	104	139	177	268	225	181	187	215	81	e101	117	60
27	107	138	178	258	213	246	172	207	77	e90	94	61
28	174	135	175	256	208	272	199	188	77	e84	82	60
29	190	145	181	233	211	311	203	173	75	e90	77	58
30	207	195	172	209	---	291	205	158	71	e82	79	58
31	224	---	157	196	---	235	---	144	---	e77	78	---
MEAN	144	167	184	200	278	217	172	207	114	77.3	70.2	71.3
MAX	224	261	233	354	400	324	206	333	188	117	131	109
MIN	104	121	144	138	193	160	145	144	71	67	51	55
IN.	1.35	1.51	1.73	1.87	2.43	2.04	1.56	1.94	1.03	.72	.66	.65

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	156	202	226	246	257	294	285	246	189	159	158	152
MAX	325	475	447	506	455	541	573	461	463	439	345	414
(WY)	1972	1973	1973	1978	1973	1958	1984	1958	1968	1938	1967	1971
MIN	83.3	85.5	96.1	104	141	144	120	119	96.8	77.3	57.9	69.7
(WY)	1942	1966	1966	1981	1934	1985	1985	1977	1977	1988	1966	1943

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	158		214	
HIGHEST ANNUAL MEAN			335.0	1978
LOWEST ANNUAL MEAN			130	1981
HIGHEST DAILY MEAN	400	Feb 17	1910	Sep 23 1938
LOWEST DAILY MEAN	51	Aug 17	47	Aug 31 1966
INSTANTANEOUS PEAK FLOW	470	Feb 14	2000a	Sep 23 1938
INSTANTANEOUS PEAK STAGE	6.24	Feb 14	12.50b	Sep 23 1938
INSTANTANEOUS LOW FLOW	49	Aug 16	46	Aug 31 1966
ANNUAL RUNOFF (INCHES)	17.5		23.6	
10 PERCENTILE	259		359	
50 PERCENTILE	159		187	
95 PERCENTILE	62		83	

a From rating curve extended above 1,500 ft^3/s
b From floodmark
e Estimated

01408500 TOMS RIVER NEAR TOMS RIVER, NJ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1963 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: November 1974 to September 1981 (discontinued).
WATER TEMPERATURE: November 1963 to May 1966, November 1974 to September 1981 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS TOTAL (MG/L AS CACO3)
NOV 1987												
24...	1000	137	67	5.5	5.0	1.3	12.0	93	0.3	K6	190	11
JAN 1988												
26...	1130	268	74	5.0	2.5	1.8	13.6	101	1.7	K5	K160	11
MAR												
29...	1130	316	74	4.2	10.5	2.5	10.9	97	0.6	K8	3900	10
MAY												
31...	0800	147	58	5.1	19.0	2.7	7.7	83	1.1	80	4000	11
JUL												
26...	1000	E101	78	6.1	21.5	3.7	7.7	86	1.1	230	1800	15
SEP												
27...	1045	64	73	6.4	16.5	1.8	8.9	90	0.7	37	150	13

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	CAR-BONATE IT-FLD (MG/L AS CO3)	BICAR-BONATE IT-FLD (MG/L AS HCO3)	ALKA-LINITY, CARBON-ATE IT-FLD (MG/L - CACO3)	ALKA-LINITY WAT WH TOT FET 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)
NOV 1987												
24...	2.6	1.2	5.8	1.2	<1.0	1.2	1.0	1	16	12	0.1	5.3
JAN 1988												
26...	2.3	1.2	5.3	1.1	--	--	--	--	15	9.0	0.1	4.8
MAR												
29...	2.3	1.0	4.8	2.5	<1.0	<0.1	<0.1	<1	23	8.3	0.1	3.1
MAY												
31...	2.4	1.2	6.0	1.2	<1.0	0.4	0.3	1	17	8.7	0.3	4.3
JUL												
26...	3.5	1.4	6.9	1.4	<1.0	1.7	1.4	3	14	10	0.1	5.7
SEP												
27...	3.0	1.4	7.7	1.7	<1.0	5.5	4.5	6	10	12	<0.1	5.0

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	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, AM-MONIA + ORGANIC TOTAL (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)
NOV 1987												
24...	47	5	1.8	81	<0.010	0.44	0.20	0.210	<0.20	0.020	<0.010	<0.010
JAN 1988												
26...	42	11	8.0	50	<0.010	0.32	0.15	0.120	0.40	0.020	0.010	<0.010
MAR												
29...	47	--	--	--	<0.010	0.20	0.06	0.050	0.40	0.020	0.010	<0.010
MAY												
31...	44	8	3.2	86	<0.010	0.47	0.21	0.200	0.80	0.030	0.020	<0.010
JUL												
26...	47	5	0.0	93	<0.010	0.64	0.17	0.180	0.70	0.040	0.010	<0.010
SEP												
27...	48	12	3.7	22	0.100	0.94	0.10	0.140	0.40	0.030	0.030	<0.010

01408500 TOMS RIVER NEAR TOMS RIVER, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	ALUMINUM, DISSOLVED (UG/L AS AL)	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, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)
JAN 1988											
26...	1130	200	<1	25	<0.5	<1	<1	<3	2	370	30
MAR											
29...	1130	210	<1	28	<0.5	<1	<1	<3	2	340	25
JUL											
26...	1000	50	<1	30	0.6	<1	<1	<3	2	130	<5
SEP											
27...	1045	60	<1	27	<0.5	1	<1	<3	1	180	<5

DATE	LITHIUM DISSOLVED (UG/L AS LI)	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)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)
JAN 1988										
26...	<4	50	<0.1	<10	4	<1	<1.0	19	<6	20
MAR										
29...	<4	39	<0.1	<10	4	<1	<1.0	16	<6	19
JUL										
26...	<4	38	<0.1	<10	2	<1	<1.0	21	<6	25
SEP										
27...	<4	30	<0.1	<10	2	<1	<1.0	19	<6	15

01409280 WESTECUNK CREEK AT STAFFORD FORGE, NJ

LOCATION.--Lat 39°40'00", long 74°19'12", Ocean County, Hydrologic Unit 02040301, 75 ft downstream from dam, 0.2 mi south of Stafford Forge, 1.2 mi downstream from Log Swamp Branch, and 2.0 mi west of Staffordville.

DRAINAGE AREA.--15.8 mi^2.

PERIOD OF RECORD.--October 1973 to September 1988 (discontinued). Occasional low-flow measurements, water years 1969-73, at site 400 ft downstream.

REVISED RECORDS.--WDR NJ-83-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 6.36 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 6, 1981, water-stage recorder and wooden control at site 50 ft upstream at datum 9.42 ft higher.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Flow regulated by dam 75 ft upstream. Several measurements of water temperature were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	24	26	23	27	34	31	20	34	24	26	28
2	29	24	24	23	26	30	30	20	41	25	24	24
3	32	24	23	24	28	29	29	20	40	24	23	23
4	48	23	24	25	37	31	30	20	38	23	22	25
5	51	23	24	24	42	34	30	22	36	23	23	29
6	45	23	25	24	32	33	29	38	33	23	23	33
7	44	23	24	24	33	31	30	54	32	23	25	28
8	40	23	24	25	27	29	34	48	32	23	20	25
9	35	23	24	24	24	29	32	38	34	23	18	23
10	32	24	23	23	24	29	29	37	35	23	18	18
11	29	29	24	23	23	29	28	40	33	17	e18	14
12	27	36	23	23	39	28	26	31	32	14	e19	14
13	25	34	23	23	48	28	25	30	30	13	e19	16
14	25	30	23	22	40	27	25	30	29	13	18	17
15	26	26	25	22	45	27	27	31	29	12	19	18
16	26	24	28	22	50	26	28	31	28	12	17	18
17	25	24	29	22	52	25	28	31	30	13	16	24
18	24	27	28	22	49	25	32	34	32	15	18	24
19	24	25	28	22	43	25	30	42	30	16	16	27
20	24	24	27	26	46	25	28	47	29	17	17	21
21	24	25	25	32	46	25	26	43	29	18	18	14
22	23	27	24	41	42	25	24	41	28	24	17	13
23	23	27	24	40	41	24	21	42	28	35	17	13
24	23	25	23	37	35	25	31	40	28	33	19	18
25	23	24	24	36	30	25	30	42	28	32	21	23
26	23	23	24	36	34	30	29	47	28	30	21	23
27	24	22	24	33	32	44	26	45	26	31	25	21
28	36	21	23	32	29	44	27	40	25	30	29	21
29	36	22	24	31	33	38	22	38	25	29	28	20
30	31	25	26	34	---	35	22	36	25	28	29	19
31	26	---	28	30	---	37	---	35	---	26	28	---
MEAN	30.1	25.1	24.8	27.4	36.4	29.9	28.0	35.9	30.9	22.3	21.0	21.1
MAX	51	36	29	41	52	44	34	54	41	35	29	33
MIN	23	21	23	22	23	24	21	20	25	12	16	13
IN.	2.20	1.78	1.81	2.00	2.49	2.18	1.98	2.62	2.18	1.63	1.53	1.49

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	26.9	28.7	31.4	34.2	36.3	38.0	40.0	35.1	31.0	28.4	27.8	25.5
MAX	37.3	50.7	48.3	57.7	63.8	69.2	75.7	54.8	56.7	51.1	46.8	37.3
(WY)	1980	1978	1984	1979	1979	1979	1984	1984	1984	1978	1978	1978
MIN	16.6	17.6	21.5	19.6	23.5	24.3	20.9	16.2	16.7	13.8	18.0	13.6
(WY)	1986	1986	1986	1986	1977	1982	1985	1986	1976	1985	1985	1985

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	27.7		31.9	
HIGHEST ANNUAL MEAN			46.9	1978
LOWEST ANNUAL MEAN			19.7	1986
HIGHEST DAILY MEAN	54	May 7	218	Feb 26 1979
LOWEST DAILY MEAN	12	Jul 15	1.1	Sep 18 1981
INSTANTANEOUS PEAK FLOW	59	Feb 14	256	Jul 4 1978
INSTANTANEOUS PEAK STAGE	11.07	Feb 14	3.70a	Jul 4 1978
INSTANTANEOUS LOW FLOW	---		0	May 17 1974
ANNUAL RUNOFF (INCHES)	23.8		27.4	
10 PERCENTILE	40		48	
50 PERCENTILE	26		30	
95 PERCENTILE	17		17	

a Site and datum then in use
e Estimated

01409387 MULLICA RIVER AT OUTLET OF ATSION LAKE, AT ATSION, NJ

LOCATION.--Lat 39°44'25", long 74°43'37", Burlington County, Hydrologic Unit 02040301, at bridge on U.S. Route 206 in Atsion, at outlet of Atsion Lake, and 0.2 mi upstream from Wesickaman Creek.

DRAINAGE AREA.--26.7 mi^2.

PERIOD OF RECORD.--Water years 1976 to current year.

COOPERATION.--Field data and samples for laboratory analyses provided by New Jersey Department of Environmental Protection, Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1987										
22...	1000	E24	38	5.8	10.5	6.6	59	<1.1	<20	2
JAN 1988										
27...	1000	E82	52	5.0	2.0	11.5	83	<0.5	<20	13
MAR										
24...	1030	E34	48	5.2	8.0	11.5	97	E1.3	<20	7
JUN										
15...	1115	E19	47	5.0	27.0	6.1	76	E2.2	<20	23
JUL										
26...	1030	E19	34	5.0	24.5	9.3	111	<0.9	50	180
AUG										
09...	1000	E11	100	5.0	26.0	6.3	77	0.9	<20	170

DATE	HARD-NESS TOTAL (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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (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)
OCT 1987									
22...	5	1.1	0.54	2.6	0.6	<1.0	7.7	5.1	0.1
JAN 1988									
27...	7	1.8	0.70	3.0	0.8	<1.0	15	6.5	0.1
MAR									
24...	8	1.8	0.89	3.1	0.8	<1.0	8.3	4.9	0.1
JUN									
15...	6	1.2	0.61	6.0	0.8	9.0	11	5.2	0.1
JUL									
26...	5	1.1	0.57	1.9	0.6	2.0	12	4.0	0.1
AUG									
09...	5	1.1	0.51	2.2	1.2	2.0	18	5.1	0.1

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHOROUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1987									
22...	3.5	21	<0.003	0.06	0.09	0.46	0.52	<0.200	4.4
JAN 1988									
27...	4.2	32	0.008	0.11	--	--	--	<0.020	7.9
MAR									
24...	2.4	22	0.013	--	0.01	--	--	--	4.5
JUN									
15...	3.8	34	0.012	0.19	0.09	0.56	0.75	0.099	15
JUL									
26...	3.1	25	0.009	0.12	0.15	0.54	0.67	0.030	11
AUG									
09...	3.9	33	0.011	0.19	0.14	0.74	0.93	0.040	10

01409387 MULLICA RIVER AT OUTLET OF ATSION LAKE, AT ATSION, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
OCT 1987 22...	1000	<0.5	110	<1	<10	<1	<1	4

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
OCT 1987 22...	520	6	20	0.10	<1	<1	10	4

01409400 MULLICA RIVER NEAR BATSTO, NJ

LOCATION.--Lat 39°40'28", long 74°39'55", Atlantic County, Hydrologic Unit 02040301, on right bank 2.4 mi upstream from Sleeper Branch, and 2.5 mi north of Batsto.

DRAINAGE AREA.--46.7 mi^2.

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

REVISED RECORDS.--WRD-NJ 1969: 1958(M), 1960(M), 1967-68(M), WDR NJ-83-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 11.93 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Some regulation from upstream cranberry bogs and Atsion Lake. Diversions from Sleeper Branch enter river upstream of gage. Several measurements of water temperature were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	121	108	79	118	183	109	81	65	29	27	28
2	35	116	89	75	119	116	98	78	75	29	24	26
3	36	107	88	e72	142	107	90	77	65	30	23	21
4	50	93	97	e71	160	91	88	76	62	28	23	26
5	50	79	96	e70	173	87	83	85	61	26	22	34
6	52	66	89	e69	164	85	78	110	60	28	21	31
7	61	59	83	e68	160	90	82	124	58	30	23	30
8	63	54	78	e67	143	118	104	122	57	30	21	28
9	59	51	74	e68	129	139	114	123	58	37	21	34
10	56	56	71	e69	118	132	113	125	58	28	21	34
11	53	80	79	68	111	120	113	125	60	25	23	29
12	52	90	78	70	166	110	109	126	43	26	18	26
13	49	95	74	67	237	104	102	120	41	23	17	28
14	47	103	72	66	223	98	94	111	40	22	17	26
15	45	103	80	65	249	93	88	100	39	23	16	25
16	43	98	93	62	267	90	86	86	37	22	15	23
17	43	90	91	62	254	86	82	78	40	23	16	24
18	44	87	88	73	237	80	79	82	46	30	21	25
19	47	80	90	80	224	72	79	101	46	29	20	23
20	47	76	95	114	226	71	77	119	43	27	22	23
21	46	70	96	165	216	69	74	122	40	26	25	22
22	45	64	92	168	202	67	70	128	37	28	24	23
23	40	63	91	173	201	66	69	135	36	30	24	22
24	37	63	88	181	207	66	75	118	35	33	29	20
25	36	63	86	177	195	48	73	122	33	35	35	23
26	34	64	90	181	188	55	74	117	31	35	33	23
27	36	65	88	162	192	97	74	105	29	30	30	23
28	59	66	84	150	203	116	84	96	28	30	28	23
29	76	73	86	143	199	126	87	85	28	30	28	24
30	89	101	78	127	---	126	83	76	28	28	37	25
31	105	---	75	119	---	119	---	71	---	27	33	---
MEAN	50.7	79.9	86.0	103	187	97.6	87.7	104	46.0	28.3	23.8	25.7
MAX	105	121	108	181	267	183	114	135	75	37	37	34
MIN	34	51	71	62	111	48	69	71	28	22	15	20

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	68.2	92.3	122	141	145	158	153	123	78.8	70.1	72.2	60.8
MAX	129	305	304	311	292	312	358	254	159	159	253	223
(WY)	1976	1973	1973	1978	1979	1958	1983	1958	1979	1969	1958	1975
MIN	24.1	22.0	29.8	29.3	71.3	59.1	50.3	53.6	32.3	21.9	20.2	19.4
(WY)	1966	1966	1966	1981	1981	1985	1985	1965	1977	1977	1977	1980

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	76.2		107	
HIGHEST ANNUAL MEAN			168	1973
LOWEST ANNUAL MEAN			50.4	1966
HIGHEST DAILY MEAN	267	Feb 16	1630	Feb 26 1979
LOWEST DAILY MEAN	15	Aug 16	7.5	Sep 6 1966
INSTANTANEOUS PEAK FLOW	269	Feb 16	1840	Feb 26 1979
INSTANTANEOUS PEAK STAGE	2.84	Feb 16	6.14	Feb 26 1979
INSTANTANEOUS LOW FLOW	14	Aug 17	7	Sep 6 1966
10 PERCENTILE	135		205	
50 PERCENTILE	71		87	
95 PERCENTILE	23		26	

e Estimated

01409416 HAMMONTON CREEK AT WESCOATVILLE, NJ

LOCATION.--Lat 39°38'02", long 74°43'05", Atlantic County, Hydrologic Unit 02040301, at bridge on Chestnut Road in Wescoatville, 1.1 mi southwest of Nesco, 1.7 mi upstream from Norton Branch, and 3.8 mi southwest of Batsto.

DRAINAGE AREA.--9.57 mi^2, revised.

PERIOD OF RECORD.--Water years 1974 to current year.

COOPERATION.--Field data and samples for laboratory analyses provided by New Jersey Department of Environmental Protection, Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1987										
22...	1330	E6.1	--	6.5	10.0	3.8	34	5.9	70	920
JAN 1988										
27...	1130	E40	112	6.3	1.0	8.2	57	4.7	<20	23
MAR										
24...	1330	E13	120	6.5	11.0	11.7	106	E1.3	<20	23
JUN										
15...	1300	E5.5	206	6.8	23.0	7.0	81	E6.3	700	430
JUL										
26...	1200	E6.9	--	5.8	21.5	4.6	52	E4.4	230	920
AUG										
09...	1300	E3.2	180	5.9	23.5	4.5	53	>4.3	1700	350

DATE	HARD-NESS TOTAL (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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (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)
OCT 1987									
22...	46	11	4.6	12	4.7	7.0	27	19	0.2
JAN 1988									
27...	27	6.9	2.4	8.8	3.4	13	18	13	0.2
MAR									
24...	16	3.6	1.6	9.8	2.4	18	9.9	11	0.1
JUN									
15...	29	8.3	2.1	19	3.6	43	18	18	0.8
JUL									
26...	13	3.1	1.2	13	2.5	2.0	14	17	0.1
AUG									
09...	20	5.0	1.8	25	5.2	2.0	19	24	0.2

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHOROUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1987									
22...	11	94	0.123	3.23	2.24	3.3	6.6	1.22	12
JAN 1988									
27...	6.5	67	0.018	1.78	--	--	--	0.532	11
MAR									
24...	6.8	58	0.021	--	--	--	--	--	8.2
JUN									
15...	9.3	105	0.102	0.69	--	--	--	1.14	12
JUL									
26...	5.7	58	0.177	2.61	5.30	6.0	8.6	1.50	12
AUG									
09...	9.9	91	0.146	3.87	4.70	5.1	9.0	2.01	15

01409416 HAMMONTON CREEK AT WESCOATVILLE, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
OCT 1987 22...	1330	<0.5	40	<1	<10	--	1	<1	41
JUN 1988 15...	1300	<0.5	20	<1	<10	30	2	<1	26

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
OCT 1987 22...	1100	10	20	5.3	<1	1	20	10
JUN 1988 15...	810	6	40	<0.10	17	<1	40	6

01409500 BATSTO RIVER AT BATSTO, NJ

LOCATION.--Lat 39°38'33", long 74°39'00", Burlington County, Hydrologic Unit 02040301, on right bank 30 ft downstream from bridge on State Highway 542 at Batsto, and 1.0 mi upstream from mouth.

DRAINAGE AREA.--67.8 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1927 to current year. Monthly discharge only for April to September 1939, published in WSP 1302.

REVISED RECORDS.--WSP 1432: 1930, 1933, 1936, 1938. WDR NJ-83-1: Drainage area.

GAGE.--Water-stage recorder. Concrete control since Oct. 12, 1939; prior to Mar. 24, 1939, wooden control at site 50 ft downstream. Datum of gage is 1.4 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Considerable regulation at times by sluice gates prior to December 1954 and by automatic Bascule and sluice gates since July 1959 at Batsto Lake, 300 ft upstream, capacity, about 60,000,000 gal. Several measurements of water temperature, other than those published, were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	68	120	115	98	131	123	132	101	95	52	52	51
2	65	120	125	95	135	120	123	97	96	52	51	49
3	68	113	125	92	144	118	117	94	93	51	49	48
4	83	104	124	91	162	120	113	95	91	52	48	50
5	89	95	119	93	172	132	109	100	87	53	48	62
6	85	88	112	90	174	152	105	110	84	52	47	61
7	86	83	105	86	159	161	90	117	79	51	51	56
8	86	80	99	86	148	156	109	134	75	50	48	52
9	82	78	95	86	136	150	126	134	75	53	46	51
10	76	84	93	86	127	143	128	123	75	63	45	51
11	73	90	96	85	122	136	115	119	73	58	45	48
12	70	110	101	83	144	129	98	121	72	57	45	48
13	69	119	104	81	199	124	90	129	68	61	42	50
14	66	120	104	81	273	119	92	125	67	58	42	51
15	65	117	104	80	274	115	98	116	65	54	42	50
16	65	112	114	79	247	111	103	109	63	50	41	48
17	64	106	121	80	239	109	101	100	65	52	42	48
18	68	104	120	88	239	104	101	101	75	59	48	49
19	66	100	115	98	214	103	100	111	81	56	47	49
20	64	97	111	115	202	102	100	123	73	53	49	48
21	64	97	111	139	193	100	98	137	67	51	51	48
22	62	92	113	183	185	98	96	140	64	53	49	46
23	62	87	112	210	175	96	97	134	62	55	46	45
24	64	86	107	197	164	94	103	140	61	56	51	45
25	62	84	107	182	151	94	103	157	58	55	65	52
26	60	85	110	170	140	103	102	150	58	52	62	54
27	68	82	111	167	133	126	100	150	55	53	53	50
28	92	80	111	164	128	146	106	137	55	57	49	50
29	99	80	105	152	125	158	106	124	54	55	51	46
30	108	104	108	142	---	153	105	112	53	52	57	47
31	115	---	99	134	---	142	---	102	---	50	54	---
MEAN	74.6	97.2	110	117	174	124	106	121	71.3	54.1	48.9	50.1
MAX	115	120	125	210	274	161	132	157	96	63	65	62
MIN	60	78	93	79	122	94	90	94	53	50	41	45
IN.	1.27	1.60	1.86	1.98	2.76	2.11	1.74	2.05	1.17	.92	.83	.82

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	87.6	114	125	140	151	171	156	144	105	91.9	101	92.5
MAX	241	307	302	280	361	353	322	279	242	257	332	242
(WY)	1959	1973	1973	1949	1939	1958	1970	1958	1948	1938	1958	1960
MIN	43.9	43.4	48.4	55.6	75.9	79.5	71.8	65.1	50.9	40.6	42.0	44.5
(WY)	1966	1966	1966	1966	1931	1981	1985	1977	1977	1977	1957	1977

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	95.2		122	
HIGHEST ANNUAL MEAN			193	1958
LOWEST ANNUAL MEAN			66.2	1966
HIGHEST DAILY MEAN	274	Feb 15	2000	Aug 20 1939
LOWEST DAILY MEAN	41	Aug 16	5.7	Oct 4 1959
INSTANTANEOUS PEAK STAGE	---		8.7a	Aug 20 1939
ANNUAL RUNOFF (INCHES)	19.1		24.5	
10 PERCENTILE	145		208	
50 PERCENTILE	94		102	
95 PERCENTILE	47		51	

a From floodmark

01409500 BATSTO RIVER AT BATSTO, NJ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1925, 1956, 1962-63, 1976 to current year.

COOPERATION.--Field data and samples for laboratory analyses provided by New Jersey Department of Environmental Protection, Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, EC BROTH (MPN)	STREPTOCOCCI FECAL (MPN)
OCT 1987										
07...	1100	78	49	6.3	14.5	9.3	92	<1.0	<20	8
JAN 1988										
27...	1330	167	44	5.8	0.5	11.8	82	<1.0	<20	14
MAR										
21...	1030	100	40	5.8	5.5	10.6	84	<0.8	<20	5
JUN										
23...	1000	62	36	5.7	25.5	6.5	80	<0.9	<20	130
JUL										
26...	1330	52	40	5.4	23.0	10.2	118	<0.9	<20	17
AUG										
15...	1100	42	42	5.3	27.0	7.0	88	<1.0	<20	13

DATE	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
OCT 1987									
07...	8	1.8	0.81	2.1	0.8	2.0	9.4	4.7	0.1
JAN 1988									
27...	17	4.0	1.6	4.1	1.7	<1.0	16	6.9	0.1
MAR									
21...	11	2.4	1.3	2.9	1.2	2.0	11	5.6	0.1
JUN									
23...	5	1.1	0.59	2.1	0.5	2.0	7.3	4.0	0.2
JUL									
26...	5	1.1	0.50	2.7	0.8	2.0	5.5	3.8	<0.1
AUG									
15...	4	1.0	0.44	2.4	0.6	2.0	7.9	5.2	<0.1

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1987									
07...	5.6	27	E0.003	0.05	0.05	0.36	0.41	0.068	3.6
JAN 1988									
27...	5.3	40	0.007	<0.05	--	--	--	<0.020	6.1
MAR									
21...	4.2	30	0.005	--	--	--	--	--	4.7
JUN									
23...	4.8	22	0.011	0.10	<0.05	0.22	0.32	<0.020	5.2
JUL									
26...	4.0	20	0.007	<0.05	<0.05	0.32	--	0.035	4.7
AUG									
15...	4.0	23	<0.003	0.14	<0.05	0.24	0.39	0.051	3.8

01409500 BATSTO RIVER AT BATSTO, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
JUN 1988 23...	1000	--	40	1	<10	<10	<1	1	5

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
JUN 1988 23...	2100	<5	30	<0.10	3	<1	10	4

01409510 BATSTO RIVER AT PLEASANT MILLS, NJ

LOCATION.--Lat 39°37'55", long 74°38'40", Burlington County, Hydrologic Unit 02040301, on right bank, 0.4 mi upstream from Mullica River, and 0.5 mi southeast of Pleasant Mills.

DRAINAGE AREA.--73.6 mi^2.

PERIOD OF RECORD.--July 1958 to current year. Annual maximum only published for 1958 to 1965.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is -8.6 ft below National Geodetic Vertical Datum of 1929. Gage-height record converted to elevation above or below (-) National Geodetic Vertical Datum of 1929 for publication.

REMARKS.--Summaries for months with short periods of no gage-height record have been estimated with negligible or no loss of accuracy unless otherwise noted. Some periods cannot be estimated and are noted by dash (--) lines.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation recorded, 7.2 ft, Mar. 7, 1962; minimum recorded (1966-87), -0.67 ft, Jan. 2, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum elevation recorded, 4.15 ft, Nov. 11; minimum recorded, 0.09 ft, Aug. 16.

Summaries of tide elevations during year are as follows:

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	3.22	4.15	3.70	3.64	3.95	3.03	4.12	3.57	3.64	3.23	3.39	3.42
high tide	Date	27	11	29	20	12	20	8	7	3	1	26	29
Minimum	Elevation	0.49	0.56	0.58	0.21	0.47	0.15	0.16	0.21	0.12	0.11	0.09	0.20
low tide	Date	25	9	31	14	10	24	21	4	23	1,8	16	22
Mean high tide		2.65	2.58	2.61	2.21	2.55	2.38	2.83	2.82	2.70	2.61	2.67	2.69
Mean water level		1.66	1.67	1.68	1.37	1.69	1.32	1.82	1.78	1.55	1.38	1.45	1.46
Mean low tide		0.78	0.88	0.82	0.68	0.93	0.44	0.67	0.62	0.35	0.27	0.32	0.32

01409810 WEST BRANCH WADING RIVER NEAR JENKINS, NJ

LOCATION.--Lat 39°41'17", long 74°32'54", Burlington County, Hydrologic Unit 02040301, on right bank 900 ft downstream from Godfrey Bridge on Washington-Jenkins Road, 2.2 mi downstream from Hospitality Brook, and 1.2 mi southwest of Jenkins.

DRAINAGE AREA.--84.1 mi^2.

PERIOD OF RECORD.--October 1974 to current year.

REVISED RECORDS.--WDR NJ-77-1: 1976. WDR NJ-81-1: 1975(P), 1976(P), 1977(P), 1978(P), 1979(P), 1980(P).

GAGE.--Water-stage recorder. Datum of gage is 10.17 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Some regulation by cranberry bogs and small ponds. Several measurements of water temperature were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	53	156	113	99	136	129	115	109	77	43	54	e42
2	43	106	92	98	141	137	113	108	92	42	45	e41
3	64	89	78	92	182	123	113	98	87	42	43	e40
4	152	93	74	111	193	124	153	93	80	40	43	e50
5	146	71	67	116	195	165	181	95	86	40	40	e82
6	103	67	59	101	176	156	182	142	80	38	38	e65
7	93	66	55	93	154	141	165	214	77	39	37	e50
8	92	63	53	95	143	155	163	184	73	37	37	e45
9	85	60	51	102	137	157	144	145	74	57	34	e46
10	102	70	50	98	131	169	118	140	69	98	31	e48
11	102	119	66	93	126	158	111	136	59	61	e30	e45
12	93	129	67	90	228	129	122	116	69	61	e33	e52
13	86	119	65	90	315	108	122	107	60	73	e30	e46
14	75	110	60	88	271	100	112	100	55	60	e31	e48
15	66	102	72	83	247	107	116	94	50	51	e34	e44
16	63	96	98	81	313	104	130	90	47	47	e35	e42
17	79	92	89	81	295	101	135	85	50	45	e34	e44
18	64	94	78	100	250	100	136	93	89	51	e50	e47
19	54	95	76	122	216	85	137	128	97	44	e42	e47
20	58	90	81	166	219	82	127	194	94	44	e43	e45
21	53	85	88	221	204	83	118	187	80	43	e46	e46
22	63	77	85	202	184	79	123	173	71	47	e48	e45
23	64	75	86	171	168	80	112	212	64	56	e44	e48
24	76	81	86	162	163	81	127	204	59	69	e52	e52
25	95	77	89	158	150	83	143	205	54	58	e60	e60
26	79	71	102	197	138	98	156	211	52	47	e54	e52
27	71	66	104	192	132	172	191	191	49	80	e45	49
28	142	64	98	167	131	182	207	161	47	73	e49	44
29	133	67	103	141	126	152	161	135	46	57	e50	42
30	116	109	88	130	---	129	130	115	46	50	e52	45
31	137	---	88	129	---	120	---	85	---	45	e48	---
MEAN	87.2	88.6	79.4	125	188	122	139	140	67.8	52.8	42.3	48.4
MAX	152	156	113	221	315	182	207	214	97	98	60	82
MIN	43	60	50	81	126	79	111	85	46	37	30	40
IN.	1.20	1.18	1.09	1.71	2.42	1.68	1.84	1.92	.90	.72	.58	.64

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	97.7	122	130	192	177	206	209	179	110	96.6	94.1	72.2
MAX	237	261	270	379	313	389	418	326	210	239	278	190
(WY)	1976	1978	1978	1979	1979	1979	1983	1979	1984	1978	1978	1975
MIN	50.4	69.3	58.7	54.6	102	93.0	98.8	72.1	47.5	29.9	35.6	38.9
(WY)	1983	1979	1981	1981	1977	1985	1985	1986	1986	1977	1977	1982

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	98.1		140	
HIGHEST ANNUAL MEAN			224	1978
LOWEST ANNUAL MEAN			73.9	1985
HIGHEST DAILY MEAN	315	Feb 13	1260	Feb 27 1979
LOWEST DAILY MEAN	30	Aug 11	23	Jul 24 1977
INSTANTANEOUS PEAK FLOW	322	Feb 13	1320	Feb 26 1979
INSTANTANEOUS PEAK STAGE	13.03	Feb 13	16.14	Feb 26 1979
INSTANTANEOUS LOW FLOW	26	Aug 10	22	Jul 24 1977
ANNUAL RUNOFF (INCHES)	15.8		22.7	
10 PERCENTILE	171		273	
50 PERCENTILE	88		104	
95 PERCENTILE	41		39	

e Estimated

01409815 WEST BRANCH WADING RIVER AT MAXWELL, NJ
(National stream-quality accounting network station)

LOCATION.--Lat 39°40'30", long 74°32'28", Burlington County, Hydrologic Unit 02040301, at bridge on State Highway 563 in Maxwell, 1.6 mi southeast of Washington, 1.8 mi southwest of Jenkins, and 2.2 mi upstream from confluence with Oswego River.

DRAINAGE AREA.--85.9 mi^2.

PERIOD OF RECORD.--Water years 1976 to current year.

REMARKS.--Water-stage recorder located at station 01409810.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY. (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS TOTAL (MG/L AS CACO3)
NOV 1987												
24...	0900	E83	44	4.5	5.0	3.9	11.5	88	0.3	K8	88	4
JAN 1988												
29...	1130	E144	59	4.0	0.5	2.2	13.4	91	0.6	<1	120	4
MAR												
29...	0815	E155	46	4.2	10.0	1.8	9.7	85	0.2	K3	660	4
MAY												
31...	1330	E87	43	4.2	20.5	3.8	7.2	80	1.1	K8	640	3
JUL												
26...	0800	E48	37	4.2	20.0	5.8	7.6	84	0.8	K20	40	3
SEP												
27...	0900	E50	39	4.3	15.0	2.8	7.9	77	0.6	K7	147	3

DATE	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	CAR-BONATE IT-FLD (MG/L AS CO3)	BICAR-BONATE IT-FLD (MG/L AS HCO3)	ALKA-LINITY, CARBON-ATE IT-FLD (MG/L - CACO3)	ALKA-LINITY WAT WH TOT FET 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)
NOV 1987												
24...	0.81	0.36	2.4	0.7	<1.0	<0.1	<0.1	<1	8.5	4.5	0.1	5.5
JAN 1988												
29...	0.84	0.53	2.5	0.2	<1.0	<0.1	<0.1	<1	14	4.4	0.1	5.2
MAR												
29...	0.76	0.48	2.4	1.7	<1.0	<0.1	<0.1	<1	11	4.1	0.1	3.5
MAY												
31...	0.55	0.30	2.1	0.5	<1.0	<0.1	<0.1	<1	8.2	4.1	0.2	5.0
JUL												
26...	0.72	0.37	2.1	0.6	--	--	--	--	5.5	4.0	0.1	5.7
SEP												
27...	0.64	0.39	2.3	0.6	--	--	--	--	5.8	4.3	<0.1	5.4

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	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, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHOROUS TOTAL (MG/L AS P)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P)	PHOS-PHOROUS ORTHO, DIS-SOLVED (MG/L AS P)
NOV 1987												
24...	23	6	0.0	73	<0.010	<0.10	0.04	0.040	<0.20	0.010	<0.010	<0.010
JAN 1988												
29...	29	3	0.0	91	<0.010	<0.10	0.02	0.020	0.40	0.010	<0.010	<0.010
MAR												
29...	25	6	0.0	90	<0.010	<0.10	<0.01	0.010	0.30	0.010	<0.010	<0.010
MAY												
31...	21	10	0.0	92	<0.010	<0.10	0.03	<0.010	0.30	0.020	0.010	<0.010
JUL												
26...	20	10	0.0	65	--	--	--	--	--	--	--	--
SEP												
27...	20	40	0.0	7	<0.010	<0.10	<0.01	<0.010	0.20	<0.010	<0.010	<0.010

01409815 WEST BRANCH WADING RIVER AT MAXWELL, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	ALUMINUM, DISSOLVED (UG/L AS AL)	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, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)
JAN 1988											
29...	1130	210	<1	14	<0.5	<1	<1	<3	3	500	28
MAR											
29...	0815	170	<1	17	<0.5	<1	<1	<3	3	410	<5
JUL											
26...	0800	120	<1	14	<0.5	<1	<1	<3	5	250	7
SEP											
27...	0900	130	<1	15	<0.5	<1	<1	<3	2	220	5

DATE	LITHIUM DISSOLVED (UG/L AS LI)	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)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)
JAN 1988										
29...	<4	25	<0.1	<10	11	<1	<1.0	8	<6	17
MAR										
29...	<4	15	<0.1	<10	3	<1	<1.0	7	<6	8
JUL										
26...	<4	14	<0.1	<10	1	<1	<1.0	7	<6	38
SEP										
27...	<4	13	<0.1	<10	1	<1	<1.0	6	<6	9

01410000 OSWEGO RIVER AT HARRISVILLE, NJ

LOCATION.--Lat 39°39'47", long 74°31'26", Burlington County, Hydrologic Unit 02040301, on right bank 50 ft downstream from bridge on State Highway Spur 563 at Harrisville, and 0.5 mi upstream from confluence with West Branch Wading River.

DRAINAGE AREA.--72.5 mi^2.

WATER DISCHARGE RECORDS

PERIOD OF RECORD.--October 1930 to current year. Monthly discharge only for some periods, published in WSP 1302. Prior to October 1955, published as "East Branch Wading River at Harrisville".

REVISED RECORDS.--WDR NJ-83-1: Drainage area.

GAGE.--Water-stage recorder. Concrete control since June 23, 1939. Datum of gage is 4.62 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Figures given herein represent flow over main spillway and through bypass channel. Flow regulated by Harrisville Pond 200 ft above station, capacity, about 30,000,000 gal and by ponds and cranberry bogs 5 to 10 mi upstream. Several measurements of water temperature, other than those published, were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	45	77	55	81	94	93	76	52	25	34	29
2	41	42	70	53	83	83	82	63	61	25	26	28
3	42	59	60	49	102	77	72	58	60	32	26	27
4	66	88	54	61	110	79	68	57	56	34	29	35
5	61	62	49	61	110	95	66	57	52	29	31	50
6	53	45	46	52	98	106	63	61	48	30	25	42
7	73	45	43	48	85	107	68	119	46	28	31	37
8	78	45	43	53	81	92	80	138	44	25	28	34
9	67	46	43	54	78	81	76	122	48	33	23	34
10	50	62	44	52	76	78	67	110	53	31	22	35
11	46	81	53	51	73	68	62	101	50	32	24	34
12	43	93	54	51	144	85	59	91	45	33	24	42
13	41	91	51	53	190	76	61	90	41	34	23	33
14	41	67	47	52	132	63	53	136	38	34	24	33
15	40	58	54	50	156	60	54	133	36	31	26	32
16	38	52	68	50	193	44	56	92	34	29	25	31
17	47	49	69	50	190	39	54	69	40	26	23	33
18	48	50	67	62	162	38	53	74	40	31	33	34
19	41	47	64	73	140	40	57	99	35	27	26	34
20	41	45	65	107	140	42	55	127	37	26	28	34
21	43	45	62	129	132	37	51	117	29	26	31	33
22	39	62	57	124	119	38	48	107	29	32	34	34
23	38	48	53	113	110	40	47	122	30	34	24	29
24	37	43	51	103	103	42	59	118	29	38	32	34
25	36	42	51	97	95	42	61	112	28	35	35	39
26	36	51	58	109	91	65	59	110	28	31	32	38
27	40	51	60	102	86	117	66	88	27	40	31	35
28	89	42	57	91	89	128	74	78	26	39	37	33
29	75	47	60	83	98	119	121	70	26	36	33	32
30	57	73	58	81	---	105	92	64	25	36	31	32
31	50	---	52	82	---	98	---	57	---	37	30	---
MEAN	49.6	55.9	56.1	72.6	115	73.5	65.9	94.1	39.8	31.6	28.4	34.3
MAX	89	93	77	129	193	128	121	138	61	40	37	50
MIN	36	42	43	48	73	37	47	57	25	25	22	27
IN.	.79	.86	.89	1.15	1.72	1.17	1.01	1.50	.61	.50	.45	.53

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	63.6	83.3	85.3	102	106	117	113	96.4	71.5	66.6	74.6	61.0
MAX	176	234	200	242	210	220	253	198	155	201	207	163
(WY)	1959	1973	1973	1979	1939	1958	1970	1979	1984	1938	1933	1938
MIN	28.6	30.8	27.1	33.9	53.2	51.9	41.3	43.9	33.7	24.2	23.9	24.4
(WY)	1966	1966	1966	1966	1931	1985	1985	1942	1966	1977	1957	1951

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	59.6		86.6	
HIGHEST ANNUAL MEAN			138	1978
LOWEST ANNUAL MEAN			41.4	1966
HIGHEST DAILY MEAN	193	Feb 16	1220	Aug 20 1939
LOWEST DAILY MEAN	22	Aug 10	4.0	Jun 23 1967
INSTANTANEOUS PEAK FLOW	202	Feb 16	1390a	Aug 20 1939
INSTANTANEOUS PEAK STAGE	3.47	Feb 16	9.54b	Aug 20 1939
INSTANTANEOUS LOW FLOW	20	Aug 17	0c	Oct 26 1932
ANNUAL RUNOFF (INCHES)	11.2		16.2	
10 PERCENTILE	107		153	
50 PERCENTILE	52		72	
95 PERCENTILE	26		31	

a From rating curve extended above 640 ft^3/s
b From high-water mark in gage house
c While pond filling

01410000 OSWEGO RIVER AT HARRISVILLE, NJ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1962-63, 1976 to current year.

COOPERATION.--Field data and samples for laboratory analyses provided by New Jersey Department of Environmental Protection, Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrietns were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1987										
21...	1000	43	39	4.3	14.0	9.0	88	E2.2	<20	920
JAN 1988										
27...	1045	103	51	4.1	1.0	14.8	103	<0.7	<20	2
MAR										
15...	1030	62	40	4.2	7.0	10.4	--	<0.8	<20	350
MAY										
17...	1030	67	38	4.1	18.0	8.5	91	E1.5	<20	2
JUL										
25...	1130	36	46	5.0	23.5	7.8	91	<0.7	80	33
AUG										
08...	1230	29	40	4.4	23.0	7.0	81	<0.7	<20	13

DATE	HARD-NESS TOTAL (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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (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)
OCT 1987									
21...	8	1.9	0.83	5.4	2.3	<1.0	6.7	--	0.1
JAN 1988									
27...	4	0.70	0.50	2.5	0.9	<1.0	13	4.4	0.1
MAR									
15...	4	0.90	0.41	2.3	0.8	<1.0	8.1	3.9	0.1
MAY									
17...	4	0.76	0.45	2.6	0.5	<1.0	11	5.1	0.2
JUL									
25...	6	1.3	0.64	2.4	0.8	<1.0	7.9	3.3	0.1
AUG									
08...	3	0.54	0.30	1.7	0.7	<1.0	5.5	3.0	0.1

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1987									
21...	6.0	--	<0.003	<0.05	0.09	0.27	--	<0.020	2.8
JAN 1988									
27...	6.5	29	0.006	<0.05	--	--	--	<0.020	4.4
MAR									
15...	4.7	21	0.003	--	0.02	0.30	--	--	5.4
MAY									
17...	2.8	23	0.006	0.06	<0.05	0.23	0.30	<0.020	5.4
JUL									
25...	6.8	23	0.004	<0.05	<0.05	0.21	--	0.026	3.1
AUG									
08...	5.8	18	0.007	0.15	<0.05	0.26	0.41	0.040	3.1

01410000 OSWEGO RIVER AT HARRISVILLE, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
OCT 1987 21...	1000	120	<1	<10	<10	<1	<1	2

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
OCT 1987 21...	340	<5	<10	<0.10	<1	<1	20	3

01410150 EAST BRANCH BASS RIVER NEAR NEW GRETNA, NJ

LOCATION.--Lat 39°37'23", long 74°26'30", Burlington County, Hydrologic Unit 02040301, on left bank upstream of bridge on Stage Road, 0.7 mi west of Lake Absegami, 2.2 mi north of New Gretna, and 5.3 mi upstream from mouth.

DRAINAGE AREA.--8.11 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Occasional low-flow measurements, water years 1969 to 1974. January 1978 to current year.

REVISED RECORDS.--WDR NJ-81-1: 1978-80(P).

GAGE.--Water-stage recorder. Datum of gage is 1.10 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Some regulation by Lake Absegami. Several measurements of water temperature, other than those published, were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	10	14	11	12	15	12	10	11	8.0	8.1	8.0
2	9.8	10	12	11	13	14	12	9.7	14	8.0	8.1	7.5
3	9.8	10	11	11	18	14	12	9.7	13	7.7	8.0	7.2
4	16	10	11	13	18	15	13	9.5	12	7.3	7.9	8.7
5	15	10	11	13	17	19	13	12	13	7.5	7.8	12
6	12	9.9	11	11	14	17	12	23	11	7.4	7.8	9.6
7	11	9.8	11	11	12	14	13	31	11	7.0	8.8	8.1
8	11	9.8	10	12	11	14	15	23	10	7.1	8.1	7.7
9	10	9.8	10	12	11	14	14	16	12	7.1	8.0	7.7
10	10	10	10	11	11	14	13	14	13	7.6	7.9	8.0
11	10	14	12	11	11	13	13	13	11	6.9	8.0	7.7
12	10	15	12	11	29	13	14	13	10	7.4	7.9	7.3
13	10	13	11	11	33	13	13	13	9.5	8.3	7.5	7.7
14	10	11	11	11	23	13	12	12	9.1	7.3	7.1	7.9
15	9.8	11	11	11	19	13	12	12	8.6	6.7	7.0	7.3
16	9.7	11	13	10	30	13	13	12	8.4	6.4	6.8	7.1
17	9.7	10	12	10	29	13	12	12	8.4	6.3	7.1	7.2
18	9.7	11	11	12	23	13	12	15	9.4	6.4	8.5	7.8
19	9.6	11	11	14	20	13	12	24	9.2	6.5	8.0	7.7
20	9.6	11	11	21	25	13	11	26	8.8	6.6	8.8	7.4
21	9.8	11	11	24	23	13	10	20	8.5	6.7	9.5	7.2
22	9.7	10	11	19	19	12	9.6	17	8.4	12	8.5	7.0
23	9.6	10	11	14	18	12	9.7	17	8.3	19	7.9	6.8
24	9.5	10	11	13	18	11	14	15	8.6	17	9.2	7.0
25	9.4	10	11	13	17	11	13	17	8.5	12	9.4	8.2
26	9.4	10	12	17	16	16	11	20	8.5	9.1	8.5	8.5
27	10	10	12	15	16	31	9.9	17	8.4	12	7.8	7.7
28	16	10	11	12	16	25	12	14	8.3	11	7.8	7.3
29	14	11	12	11	15	17	12	13	8.4	9.7	8.0	7.2
30	11	14	12	11	---	14	11	12	8.2	8.9	9.3	7.0
31	11	---	11	11	---	12	---	12	---	8.2	8.6	---
MEAN	10.7	10.8	11.3	12.8	18.5	14.6	12.2	15.6	9.88	8.68	8.12	7.78
MAX	16	15	14	24	33	31	15	31	14	19	9.5	12
MIN	9.4	9.8	10	10	11	11	9.6	9.5	8.2	6.3	6.8	6.8
IN.	1.52	1.48	1.61	1.83	2.46	2.08	1.68	2.22	1.36	1.23	1.15	1.07

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	10.9	12.3	14.5	18.2	18.2	19.8	22.4	19.7	15.7	13.0	11.4	10.4
MAX	19.9	18.1	23.4	35.0	29.8	36.8	38.6	30.3	27.2	25.8	24.6	18.3
(WY)	1980	1980	1984	1978	1979	1979	1984	1984	1984	1978	1978	1978
MIN	8.13	8.75	9.78	9.28	11.4	10.5	9.06	8.95	8.11	7.80	7.97	7.18
(WY)	1983	1982	1986	1981	1981	1981	1985	1985	1986	1985	1986	1986

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	11.7		14.9	
HIGHEST ANNUAL MEAN			21.8	1984
LOWEST ANNUAL MEAN			9.60	1985
HIGHEST DAILY MEAN	33	Feb 13	131	Jul 4 1978
LOWEST DAILY MEAN	6.3	Jul 17	6.3	Jul 21 1985
INSTANTANEOUS PEAK FLOW	35	Feb 12	260	Jul 4 1978
INSTANTANEOUS PEAK STAGE	4.62	Feb 12	5.87	Jul 4 1978
INSTANTANEOUS LOW FLOW	5.9	Jul 16	5.6	Jul 8 1986
ANNUAL RUNOFF (INCHES)	19.6		24.9	
10 PERCENTILE	17		27	
50 PERCENTILE	11		12	
95 PERCENTILE	6.9		7.5	

01410150 EAST BRANCH BASS RIVER NEAR NEW GRETNA, NJ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1976 to current year.

COOPERATION.--Field data and samples for laboratory analyses provided by New Jersey Department of Environmental Protection, Division of Water Resources. Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1987										
19...	1130	9.6	37	5.0	13.0	6.0	57	<1.1	<20	33
JAN 1988										
27...	1215	15	49	4.1	1.5	12.4	87	<0.7	<20	14
MAR										
15...	1200	13	37	4.3	6.5	9.6	--	<0.9	<20	350
MAY										
17...	1300	12	38	4.4	17.5	9.3	98	<1.1	<20	33
JUL										
25...	1330	11	40	4.6	22.0	8.2	93	E2.0	<20	2
AUG										
08...	1000	8.6	38	4.7	19.5	6.6	72	<0.3	20	48

DATE	HARD-NESS TOTAL (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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (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)
OCT 1987									
19...	5	0.96	0.52	2.4	0.7	<1.0	9.2	4.8	0.1
JAN 1988									
27...	4	0.60	0.70	3.1	0.6	<1.0	11	5.5	0.1
MAR									
15...	4	0.63	0.58	3.2	5.4	<1.0	7.2	5.2	0.1
MAY									
17...	2	0.43	0.31	1.5	11	<1.0	4.7	2.6	0.2
JUL									
25...	12	2.8	1.3	3.2	1.2	9.0	8.2	5.7	0.1
AUG									
08...	4	0.69	0.51	2.8	0.6	1.0	8.8	5.8	0.1

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHOROUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1987									
19...	5.9	25	0.003	0.03	<0.05	0.26	0.30	<0.020	2.8
JAN 1988									
27...	6.9	28	0.006	<0.05	--	--	--	0.020	5.3
MAR									
15...	6.9	29	0.003	--	0.02	<0.20	--	--	3.5
MAY									
17...	4.7	25	0.007	0.10	<0.05	0.14	0.24	<0.020	4.5
JUL									
25...	5.2	33	0.005	0.05	<0.05	0.35	0.40	0.044	4.4
AUG									
08...	9.1	29	0.008	0.22	<0.05	0.39	0.61	0.030	4.5

01410150 EAST BRANCH BASS RIVER NEAR NEW GRETNA, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	NITROGEN,NH4 + ORG. TOT IN BOT MAT (MG/KG AS N)	CARBON, INORGANIC, TOT IN BOT MAT (G/KG AS C)	CARBON, INORG + ORGANIC TOT. IN BOT MAT (MG/KG AS C)	ARSENIC TOTAL IN BOTTOM MATERIAL (UG/G AS AS)	CADMIUM RECOV. FM BOTTOM MATERIAL (UG/G AS CD)	CHROMIUM, RECOV. FM BOTTOM MATERIAL (UG/G)	COBALT, RECOV. FM BOTTOM MATERIAL (UG/G AS CO)	COPPER, RECOV. FM BOTTOM MATERIAL (UG/G AS CU)	IRON, RECOV. FM BOTTOM MATERIAL (UG/G AS FE)
OCT 1987 19...	1130	80	<0.1	1.4	2	<1	<10	<50	<1	1800

DATE	LEAD, RECOV. FM BOTTOM MATERIAL (UG/G AS PB)	MANGANESE, RECOV. FM BOTTOM MATERIAL (UG/G)	MERCURY RECOV. FM BOTTOM MATERIAL (UG/G AS HG)	NICKEL, RECOV. FM BOTTOM MATERIAL (UG/G AS NI)	SELENIUM, TOTAL IN BOTTOM MATERIAL (UG/G)	ZINC, RECOV. FM BOTTOM MATERIAL (UG/G AS ZN)	PCB, TOTAL IN BOTTOM MATERIAL (UG/KG)	PCN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ALDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	CHLORDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1987 19...	<10	<10	<0.10	<10	<1	<10	<1	<1.0	<0.1	<1.0

DATE	DDD, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDE, TOTAL IN BOTTOM MATERIAL (UG/KG)	DDT, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIAZINON, TOTAL IN BOTTOM MATERIAL (UG/KG)	DIELDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDOSULFAN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ETHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTACHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)
OCT 1987 19...	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

DATE	LINDANE TOTAL IN BOTTOM MATERIAL (UG/KG)	MALATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	METHOXYCHLOR, TOT. IN BOTTOM MATL. (UG/KG)	METHYL PARATHION, TOT. IN BOTTOM MATL. (UG/KG)	METHYL TRITHION, TOT. IN BOTTOM MATL. (UG/KG)	MIREX, TOTAL IN BOTTOM MATERIAL (UG/KG)	PARATHION, TOTAL IN BOTTOM MATERIAL (UG/KG)	PERTHANE IN BOTTOM MATERIAL (UG/KG)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TRITHION, TOTAL IN BOTTOM MATERIAL (UG/KG)
OCT 1987 19...	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.00	<10	<0.1

01410784 GREAT EGG HARBOR RIVER NEAR SICKLERVILLE, NJ

LOCATION.--Lat 39°44'02", long 74°57'05", Camden County, Hydrologic Unit 02040302, at bridge on Sicklerville-New Freedom Road (Spur 536), 1.5 mi northeast of Sicklerville, and 2.7 mi upstream of New Brooklyn Lake dam.

DRAINAGE AREA.--15.1 mi^2.

PERIOD OF RECORD.--Water years 1972 to current year.

COOPERATION.--Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, EC BROTH (MPN)	STREPTOCOCCI FECAL (MPN)
OCT 1987 08...	1030	E14	85	5.5	11.5	6.7	62	1.3	--	--
FEB 1988 02...	1000	E17	104	6.3	7.0	8.0	66	1.5	<20	60
MAR 24...	1015	E9.8	111	6.4	10.0	8.6	75	3.2	2	540
MAY 18...	1000	E12	118	6.3	15.0	5.3	53	3.2	700	2200
JUL 25...	1000	E6.0	152	6.1	20.0	3.6	40	1.7	220	330
AUG 31...	1000	E6.7	140	6.6	15.0	7.2	72	2.5	490	1300

DATE	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
OCT 1987 08...	18	4.4	1.7	7.2	2.2	6.0	16	9.6	0.1
FEB 1988 02...	17	4.1	1.6	8.8	2.2	10	15	13	0.2
MAR 24...	20	5.0	1.9	9.6	2.7	11	14	11	0.1
MAY 18...	23	5.7	2.1	11	2.7	10	15	13	0.2
JUL 25...	34	8.6	3.0	13	2.9	7.0	31	15	0.1
AUG 31...	27	6.6	2.5	14	2.9	14	20	16	<0.1

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1987 08...	6.7	52	0.015	1.04	0.17	1.0	2.1	0.272	15
FEB 1988 02...	6.9	58	0.018	0.69	--	--	--	0.294	12
MAR 24...	3.6	54	0.029	1.01	0.80	--	--	0.332	7.6
MAY 18...	3.1	59	0.045	1.37	0.35	1.2	2.5	0.402	15
JUL 25...	6.0	84	0.083	1.38	0.16	0.73	2.1	0.466	8.1
AUG 31...	6.7	77	0.008	1.73	<0.05	0.51	2.2	0.476	8.4

01410784 GREAT EGG HARBOR RIVER NEAR SICKLERVILLE, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
OCT 1987 08...	1030	<0.5	170	<1	<10	20	1	<10	3

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
OCT 1987 08...	600	8	20	<0.10	1	<1	20	<1

01410820 GREAT EGG HARBOR RIVER NEAR BLUE ANCHOR, NJ

LOCATION.--39°40'09", long 74°54'49", Camden County, Hydrologic Unit 02040302, downstream side of bridge on Broad Lane Road, 1.9 mi southwest of Blue Anchor, and 2.1 mi downstream from confluence of Fourmile Branch.

DRAINAGE AREA.--37.3 mi^2.

PERIOD OF RECORD.--Water years 1972 to current year.

COOPERATION.--Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, EC BROTH (MPN)	STREPTOCOCCI FECAL (MPN)
OCT 1987										
08...	0900	E42	66	5.0	12.0	7.8	73	1.1	--	--
FEB 1988										
02...	0930	E52	81	6.0	8.5	9.3	79	0.2	<20	170
MAR										
24...	0930	E35	76	6.2	9.0	9.9	85	1.0	<2	350
MAY										
18...	0930	E41	73	6.1	15.5	6.8	69	1.5	130	540
JUL										
25...	0930	E26	86	6.1	20.0	6.2	68	3.7	540	1600
AUG										
31...	0900	E26	81	6.3	16.0	7.4	75	1.5	330	1300

DATE	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
OCT 1987									
08...	15	3.6	1.5	5.7	1.4	4.0	12	10	0.1
FEB 1988									
02...	14	3.1	1.6	6.5	1.6	4.0	12	11	0.1
MAR									
24...	15	3.3	1.7	6.1	1.7	7.0	9.2	8.4	0.1
MAY									
18...	16	3.5	1.7	6.5	1.7	7.0	14	11	0.2
JUL									
25...	17	3.5	2.0	8.1	2.2	8.0	16	10	<0.1
AUG									
31...	17	3.7	1.9	7.5	1.9	9.0	14	11	<0.1

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1987									
08...	6.7	43	--	0.60	<0.05	0.64	1.2	--	14
FEB 1988									
02...	5.5	44	0.009	0.93	--	--	--	0.098	10
MAR									
24...	4.6	39	0.011	1.21	0.03	--	--	0.098	5.4
MAY									
18...	4.2	47	0.013	1.08	0.12	0.80	1.9	0.164	7.8
JUL									
25...	5.8	52	0.013	0.85	0.06	0.93	1.8	0.235	4.7
AUG									
31...	6.7	52	0.006	0.93	<0.05	0.30	1.2	0.178	7.3

01410820 GREAT EGG HARBOR RIVER NEAR BLUE ANCHOR, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
MAY 1988 18...	0930	<0.5	90	1	<10	30	1	<1	2

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
MAY 1988 18...	810	<5	20	<0.10	5	<1	<10	4

01411000 GREAT EGG HARBOR RIVER AT FOLSOM, NJ

LOCATION.--Lat 39°35'42", long 74°51'06", Atlantic County, Hydrologic Unit 02040302, on left bank 25 ft upstream from bridge on State Highway 54, 1.0 mi south of Folsom, and 2.0 mi upstream from Pennypot Stream.

DRAINAGE AREA.--57.1 mi^2.

PERIOD OF RECORD.--September 1925 to current year. Prior to October 1947, published as "Great Egg River at Folsom".

REVISED RECORDS.--WSP 1432: 1928(M), 1933. WDR NJ-83-1: Drainage area.

GAGE.--Water-stage recorder. Concrete control since Nov. 26, 1934. Datum of gage is 53.32 ft above National Geodetic Vertical Datum of 1929. Prior to Mar. 6, 1941, water-stage recorder at site 100 ft downstream at same datum. Mar. 6 to Oct. 5, 1941, nonrecording gage at site 145 ft downstream at datum 0.25 ft higher.

REMARKS.--Records good. Several measurements of water temperature were made during the year. Satellite rain-gage and gage-height telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45	171	91	e71	85	83	91	81	61	28	35	42
2	48	141	97	e70	87	80	84	77	59	28	33	38
3	47	116	96	e68	95	78	79	71	58	27	32	36
4	61	96	91	e67	104	79	76	68	56	27	31	38
5	67	81	82	e66	115	92	75	69	54	27	29	49
6	74	71	75	e64	115	105	73	83	51	26	29	56
7	79	66	69	62	110	123	81	104	48	26	29	54
8	75	62	65	59	96	122	99	121	47	25	28	47
9	66	60	62	59	84	109	117	131	48	25	28	42
10	57	62	61	59	78	98	129	117	48	27	28	40
11	53	78	66	59	76	89	118	101	45	27	28	38
12	50	89	73	58	98	83	102	95	44	29	26	36
13	48	105	76	58	139	79	88	87	41	34	25	36
14	46	115	74	58	205	78	80	81	39	34	25	36
15	45	110	72	59	212	75	76	75	38	31	24	37
16	44	99	e78	55	209	73	75	70	36	28	23	36
17	43	87	e81	55	182	e73	74	67	38	27	24	36
18	43	79	e78	60	165	e69	72	68	48	29	29	36
19	43	74	e85	71	149	e64	74	85	43	32	32	36
20	42	70	e84	90	138	e62	74	104	38	32	32	35
21	41	67	e82	111	130	e64	72	123	36	30	34	34
22	40	63	e81	149	129	e60	69	131	35	31	34	32
23	40	61	e79	175	123	e59	67	120	33	35	32	31
24	39	59	e77	158	114	e60	71	104	32	40	36	30
25	39	59	e76	133	105	e53	74	98	32	43	54	32
26	39	58	e78	120	98	e54	72	101	31	43	58	34
27	42	58	e79	114	91	e80	69	101	31	42	52	36
28	79	56	e77	119	88	e103	73	96	30	47	42	33
29	97	60	e76	115	85	e103	80	83	30	46	39	30
30	153	79	e71	100	---	e103	84	72	29	41	44	30
31	184	---	e70	87	---	e97	---	66	---	38	46	---
MEAN	60.3	81.7	77.5	85.5	121	82.3	82.3	91.9	42.0	32.4	33.6	37.5
MAX	184	171	97	175	212	123	129	131	61	47	58	56
MIN	39	56	61	55	76	53	67	66	29	25	23	30
IN.	1.22	1.60	1.56	1.73	2.28	1.66	1.61	1.86	.82	.65	.68	.73

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	60.7	80.2	93.0	102	108	121	115	94.9	72.1	61.9	64.1	61.3
MAX	148	213	212	203	228	229	234	199	149	187	182	215
(WY)	1939	1973	1973	1936	1939	1958	1983	1958	1948	1938	1967	1940
MIN	27.8	30.1	35.1	39.3	50.7	60.1	53.9	47.1	34.4	22.1	19.3	25.6
(WY)	1931	1932	1966	1981	1931	1981	1985	1955	1977	1966	1966	1964

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	68.8		86.3	
HIGHEST ANNUAL MEAN			133	1973
LOWEST ANNUAL MEAN			44.4	1931
HIGHEST DAILY MEAN	212	Feb 15	1300	Sep 3 1940
LOWEST DAILY MEAN	23	Aug 16	15	Aug 29 1966
INSTANTANEOUS PEAK FLOW	232	Feb 14	1440	Sep 3 1940
INSTANTANEOUS PEAK STAGE	4.87	Feb 14	9.09	Sep 3 1940
INSTANTANEOUS LOW FLOW	23	Aug 15	15	Sep 6 1957
ANNUAL RUNOFF (INCHES)	16.4		20.5	
10 PERCENTILE	115		150	
50 PERCENTILE	67		74	
95 PERCENTILE	28		31	

e Estimated

01411110 GREAT EGG HARBOR RIVER AT WEYMOUTH, NJ

LOCATION.--Lat 39°30'50", long 74°46'47", Atlantic County, Hydrologic Unit 02040302, at bridge on U.S. Route 322 in Weymouth, 0.5 mi upstream from Deep Run, and 20.9 mi upstream from mouth.

DRAINAGE AREA.--154 mi^2.

PERIOD OF RECORD.--Water years 1975 to current year.

COOPERATION.--Analyses of fecal coliform and fecal streptococci by the MPN method, and water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, FECAL, EC BROTH (MPN)	STREP-TOCOCCI FECAL (MPN)
OCT 1987										
14...	0900	E130	52	5.2	10.0	9.9	87	1.0	8	79
FEB 1988										
02...	0900	E240	66	5.0	7.5	11.0	91	0.2	13	50
MAR										
24...	0900	E170	59	5.7	8.0	10.8	90	0.7	2	49
MAY										
24...	0900	E320	54	4.9	19.0	6.8	74	1.0	17	70
JUL										
25...	0900	E110	56	5.9	20.5	11.0	123	1.0	49	920
AUG										
31...	0930	E120	60	6.0	17.0	8.1	84	1.2	350	1300

DATE	HARD-NESS TOTAL (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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY LAB (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)
OCT 1987									
14...	10	2.1	1.2	4.8	1.3	4.0	9.6	8.4	0.2
FEB 1988									
02...	10	1.9	1.2	4.6	1.1	1.0	12	9.3	0.1
MAR									
24...	10	2.2	1.2	4.4	1.3	2.0	8.9	7.3	0.1
MAY									
24...	10	2.0	1.1	4.3	1.1	1.0	14	9.3	0.2
JUL									
25...	10	2.0	1.3	5.1	1.4	4.0	8.0	7.5	0.1
AUG									
31...	12	2.6	1.3	5.8	1.2	3.0	6.8	7.9	<0.1

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHOROUS TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 1987									
14...	6.5	37	0.003	0.57	0.06	0.45	1.0	0.060	4.9
FEB 1988									
02...	5.7	36	0.006	0.52	--	--	--	0.027	7.6
MAR									
24...	5.3	32	0.008	0.65	0.06	--	--	0.030	5.2
MAY									
24...	4.4	37	0.012	0.20	0.09	0.66	0.86	0.066	16
JUL									
25...	5.8	34	0.007	0.47	0.06	0.44	0.91	0.088	8.8
AUG									
31...	6.8	34	<0.003	0.52	<0.05	0.32	0.84	0.610	4.7

01411110 GREAT EGG HARBOR RIVER AT WEYMOUTH, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
OCT 1987 14...	0900	<0.5	80	<1	<10	<10	<1	<10	11

DATE	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
OCT 1987 14...	550	5	<10	<0.10	2	1	30	3

01411300 TUCKAHOE RIVER AT HEAD OF RIVER, NJ

LOCATION.--Lat 39°18'25", long 74°49'15", Cape May County, Hydrologic Unit 02040302, on right bank at highway bridge on State Route 49, 0.2 mi upstream from McNeals Branch, 0.4 mi southeast of Head of River, and 3.7 mi west of Tuckahoe.

DRAINAGE AREA.--30.8 mi^2.

PERIOD OF RECORD.--December 1969 to current year.

REVISED RECORDS.--WDR NJ-78-1: 1975(M), 1976(M).

GAGE.--Water-stage recorder, wooden control, and downstream tidal crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Occasional regulation by ponds above station. There is a fish gate in the left control. Fish gate open Mar. 30 to June 14. Several measurements of water temperature were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988, MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	21	40	27	31	36	37	35	25	12	10	14
2	13	20	32	26	31	34	35	33	24	12	10	e12
3	14	18	27	24	41	33	34	32	24	11	9.5	e11
4	21	18	25	30	46	35	33	32	23	11	9.2	e15
5	21	17	24	31	47	42	35	37	23	10	8.8	e25
6	18	16	23	27	41	41	34	59	20	10	8.5	e22
7	19	16	21	25	34	37	e58	97	19	9.7	8.2	e18
8	18	16	21	26	32	35	e119	80	18	9.5	7.8	e14
9	17	15	21	26	31	33	109	56	37	14	7.6	e14
10	15	19	20	25	30	35	74	48	36	20	7.6	e15
11	15	e28	26	25	30	33	55	43	30	15	7.9	e14
12	15	31	27	23	75	32	e46	42	25	14	7.7	e16
13	14	27	25	23	126	33	e44	38	21	14	7.0	e13
14	14	24	23	23	95	33	41	35	20	13	6.5	e13
15	14	21	25	23	65	31	39	33	20	12	6.4	11
16	13	20	29	23	83	30	38	32	17	10	6.3	10
17	14	19	29	22	94	29	37	31	17	9.7	6.7	10
18	14	21	26	28	73	29	36	35	19	9.7	9.2	11
19	13	22	24	34	56	29	37	62	18	9.6	9.5	11
20	14	21	25	53	57	29	36	80	16	9.5	13	11
21	14	20	25	80	55	28	34	64	15	9.3	19	9.9
22	14	19	24	64	48	28	32	51	14	12	15	9.6
23	13	19	23	46	44	27	31	44	13	19	12	9.5
24	13	19	22	38	43	27	32	38	13	21	14	9.3
25	13	19	23	36	40	27	31	43	13	18	15	16
26	13	19	30	45	38	34	30	49	13	13	12	20
27	16	19	32	42	37	72	29	45	13	15	11	16
28	35	19	29	35	39	76	38	39	12	16	9.9	13
29	41	22	31	32	37	52	40	34	12	13	12	12
30	33	34	29	30	---	43	38	31	12	12	22	11
31	25	---	26	30	---	39	---	28	---	11	20	---
MEAN	17.4	20.6	26.0	33.0	51.7	36.2	43.7	45.4	19.4	12.7	10.6	13.5
MAX	41	34	40	80	126	76	119	97	37	21	22	25
MIN	13	15	20	22	30	27	29	28	12	9.3	6.3	9.3
IN.	.65	.75	.97	1.23	1.81	1.36	1.58	1.70	.70	.48	.40	.49

STATISTICS OF MONTHLY FLOW DATA FOR PERIOD OF RECORD, BY WATER YEAR (WY)

MEAN	26.7	35.6	44.3	53.9	58.4	65.6	69.7	55.5	41.6	28.5	24.3	20.9
MAX	55.1	81.4	94.3	101	101	144	174	112	83.7	50.3	55.6	46.3
(WY)	1972	1973	1973	1978	1973	1979	1983	1983	1984	1972	1971	1971
MIN	15.1	18.1	19.4	16.0	28.7	30.9	21.3	20.0	14.8	12.7	10.6	7.04
(WY)	1978	1975	1981	1981	1977	1985	1985	1977	1977	1988	1988	1980

SUMMARY STATISTICS	FOR 1988 WATER YEAR		FOR PERIOD OF RECORD	
AVERAGE FLOW	27.4		43.6	
HIGHEST ANNUAL MEAN			64.3	1984
LOWEST ANNUAL MEAN			22.4	1977
HIGHEST DAILY MEAN	126	Feb 13	464	May 31 1984
LOWEST DAILY MEAN	6.3	Aug 16	1.3	Sep 3 1980
INSTANTANEOUS PEAK FLOW	130	Feb 13	510	May 31 1984
INSTANTANEOUS PEAK STAGE	4.77	Feb 13	7.01a	Mar 29 1984
INSTANTANEOUS LOW FLOW	5.8	Aug 16	---	
ANNUAL RUNOFF (INCHES)	12.1		19.2	
10 PERCENTILE	46		85	
50 PERCENTILE	24		33	
95 PERCENTILE	9.0		14	

a Tide affected
e Estimated

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 tha stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use i 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 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 recor stations.

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 stages may have been obtained, and discharge measurements may have been made for purposes of establishing the stage-discharge relation, but these are not published herein. The years given in the period of record represent water years for which the annual maximum has been determined. The gage heights are heights on the upstream side of the bridge, above the dam or at the discontinued continuous-record gaging station unless otherwise noted.

Annual maximum discharge at crest-stage partial-record stations during water year 1988

Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Annual Maximum		
					Date	Gage height (ft)	Discharg (ft^3/s
		Hackensack River basin					
*01378385	Tenakill Brook at Closter, NJ	Lat 40°58'29", long 73°58'06, Bergen County, Hydrologic Unit 02030103, at bridge on High Street in Closter, 0.7 mi upstream from mouth. Datum of gage is 23.85 ft above National Geodetic Vertical Datum of 1929.	8.56	1965-88	11-30-88	b1.65	247
*01378590	Metzler Brook at Englewood, NJ	Lat 40°54'29", long 73°59'13", Bergen County, Hydrologic Unit 02030103, at bridge on Lantana Avenue in Englewood, and 1.6 mi upstream from mouth. Datum of gage is 43.10 ft above National Geodetic Vertical Datum of 1929.	1.54	1965-88	11-30-87	b1.61	134
		Passaic River basin					
01378690	Passaic River near Bernardsville, NJ	Lat 40°44'03", long 74°32'26", Somerset County, Hydrologic Unit 02030103, at bridge on U.S. Route 202, 1.8 mi northeast of Bernardsville, and 3.0 mi upstream from Great Brook. Datum of gage is 238.07 ft above National Geodetic Vertical Datum of 1929.	8.83	1968-76, 1977-88	10-29-87	b12.81	417
01379845	Rockaway River at Warren Street, at Dover, NJ	Lat 40°53'08", long 74°33'36", Morris County, Hydrologic Unit 02030103, on left bank, 100 ft upstream from bridge on Warren Street, in Dover, 4.0 mi west of Denville and 6 mi southeast of Lake Hopatcong. Datum of gage is 561.83 ft above National Geodetic Vertical Datum of 1929.	52.1	1981-88	12-01-87	4.81	900
01387880	Pond Brook at Oakland, NJ	Lat 41°01'36", long 74°14'04", Bergen County, Hydrologic Unit 02030103, at bridge on NJ Route 208 in Oakland, 0.2 mi upstream from former site at Franklin Avenue (prior to October 1975), 0.6 mi upstream from mouth, and 1.5 mi northwest of Frnaklin Lakes. Datum of gage is 276.97 ft above National Geodetic Vertical Datum of 1929.	6.76	1968-71, 1976-88	11-30-87	2.50	500

Annual maximum discharge at crest-stage partial-record stations during water year 1988

Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Annual Maximum: Date	Annual Maximum: Gage height (ft)	Annual Maximum: Discharge (ft^3/s)
		Passaic River basin--Continued					
01389030	Preakness (Singac) Brook near Preakness, NJ	Lat 40°56'55", long 74°13'25", Passaic County, Hydrologic Unit 02030103, at bridge on Ratzer Road, 1.0 mi north of Preakness, and 2.0 mi upstream from Naachtpunkt Brook. Datum of gage is 230.8 ft above National Geodetic Vertical Datum of 1929.	3.24	1979-88	11-29-88	b4.69	800
01389534	Peckman River at Ozone Avenue, at Verona, NJ	Lat 40°50'42", long 74°14'09", Passaic County, Hydrologic Unit 02030103, at bridge on Ozone Avenue in Verona, 4.0 mi west of Clifton and 1.0 mi southwest of Cedar Grove Reservoir. Datum of gage is 300.08 ft above National Geodetic Vertical Datum of 1929.	4.45	1945, 1979-88	7-26-88	3.46	730
01389765	Molly Ann Brook at North Haledon, NJ	Lat 40°57'11", long 74°11'07", Passaic County, Hydrologic Unit 02030103, at bridge on Overlook Avenue in North Haldeon, 1.5 mi west of Hawthorne and 0.5 mi upstream from Oldham Pond Dam. Datum of gage is 209.68 ft above National Geodetic Vertical Datum of 1929.	3.89	1945, 1979-88	7-24-88	7.36	900
01389900	Fleischer Brook at Market Street, at Elmwood Park, NJ	Lat 40°53'57", long 74°06'54", Bergen County, Hydrologic Unit 02030103, at culvert on Market Street in Elmood Park (formerly East Paterson), and 2.0 mi upstream from mouth. Datum of gage is 35.31 ft above National Geodetic Vertical Datum of 1929.	1.37	1967-88	2-20-88	1.86	105
*01390450	Saddle River at Upper Saddle River, NJ	Lat 41°03'32", long 74°05'44", Bergen County, Hydrologic Unit 02030103, at culvert on Lake Street in Upper Saddle River, and 1.3 mi downstream from Pine Brook. Datum of gage is 186.11 ft above National Geodetic Vertical Datum of 1929.	10.9	1966-88	10-27-87	5.61	1,750
01390810	Hohokus Brook at Allendale, NJ	Lat 41°01'37", long 74°08'44", Bergen County, Hydrologic Unit 02030103, at bridge on Brookside Avenue in Allendale, and 0.2 mi downstream from Valentine Brook. Datum of gage is 277.46 ft above National Geodetic Vertical Datum of 1929.	9.11	1969-88	11-30-87 4-04-87	6.01 6.00	553 d550
01390900	Ramsey Brook at Allendale, NJ	Lat 41°01'44", long 74°08'07", Bergen County, Hydrologic Unit 02030103, at bridge on Brookside Avenue in Allendale and 0.6 mi upstream from Hohokus Brook. Datum of gage is 270.79 ft above National Geodetic Vertical Datum of 1929.	2.55	1975-87	11-30-87 4-04-87	b3.02 bd3.31	350 d350
01392500	Second River at Belleville, NJ	Lat 40°47'17", long 74°10'19", Essex County, Hydrologic Unit 02030103, on Mill Street in Branch Brook Park at Belleville, 300 ft downstream from Franklin Avenue, and 1,100 ft downstream from Hendricks Pond dam. Datum of gage is 62.6 ft above National Geodetic Vertical Datum of 1929.	11.6	1937-64‡, 1963-88	7-20-88	6.43	2,740

Annual maximum discharge at crest-stage partial-record stations during water year 1988

Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Annual Maximum		
					Date	Gage height (ft)	Discharg (ft^3/s
		Raritan River basin					
01397500	Walnut Brook near Flemington, NJ	Lat 40°30'55", long 74°52'52", Hunterdon County, Hydrologic Unit 02030105, bank 1.2 mi northwest of Flemington, and 2.3 mi upstream from mouth. Datum of gage is 267.33 ft above National Geodetic Vertical Datum of 1929.	2.24	1936-61‡, 1963-88	7-27-88	2.80	380
01399690	South Branch Rockaway Creek at Whitehouse Station, NJ	Lat 40°37'24", long 74°46'01", Hunterdon County, Hydrologic Unit 02030105, on right upstream wingwall of bridge on U.S. Route 22, 0.6 mi north of Whitehouse Station, 0.9 mi west of Whitehouse, and 0.3 mi upstream from mouth.	13.2	1977-86‡, 1987-88 (discontinued)	7-26-88	8.98	740
01399700	Rockaway Creek at Whitehouse, NJ	Lat 40°37'55", long 74°44'11", Hunterdon County, Hydrologic Unit 02030105, on right bank at bridge on Lamington Road, 1.4 mi northeast of Whitehouse, and 1.8 mi upstream from mouth. Datum of gage is 99.64 ft. National Geodetic Vertical Datum of 1929.	37.1	1959-62, 1964-65, 1977-84‡, 1985-87	10-28-87	6.35	g1,780
01399830	North Branch Raritan River at North Branch, NJ	Lat 40°36'00", long 74°40'27", Somerset County, Hydrologic Unit 02030105, on right bank 5 ft upstream from bridge on State Highway 28 in North Branch, 0.1 mi south of River Brook, and 3.6 mi upstream from confluence with South Branch Raritan River. Datum of gage is 56.94 ft above National Geodetic Vertical Datum of 1929.	174	1977-81‡, 1982-88	7-27-88	12.04	7,120
01400630	Millstone River at Southfield Road, near Grovers Mill, NJ	Lat 40°18'12", long 74°34'33", Mercer County, Hydrologic Unit 02030105, at bridge on Southfield Road, 0.2 mi southeast at Grovers Mill, 3.5 mi southwest of Cranbury, and 3.0 mi upstream of Bear Brook. Datum of gage is 62.63 ft above National Geodetic Vertical Datum of 1929.	41.0	1971,75, 1979-88	10-27-87	5.85	740
01400775	Bear Brook at Route 535, near Locust Corner, NJ	Lat 40°16'41", long 74°34'39" Mercer County, Hydrologic Unit 02030105, at bridge on State Route 535, 0.9 mi southwest of Locust Corner, 2.0 mi east of Hightstown, and 4.2 mi above mouth. Datum of gage is 73.75 ft above National Geodetic Vertical Datum of 1929.	6.69	1971,75, 1979-88	10-28-87	5.19	318

Annual maximum discharge at crest-stage partial-record stations during water year 1988

Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Annual Maximum Date	Annual Maximum Gage height (ft)	Annual Maximum Discharge (ft^3/s)
		Raritan River basin--Continued					
01400795	Bear Brook at Route 571, near Grovers Mill, NJ	Lat 40°17'41", long, 74°35'34", Mercer County, Hydrologic Unit 02030105, at bridge on Route Princeton - Hightstown Road), 1.2 mi upstream of Grovers Mill Pond, 1.4 mi east of Princeton Junction, and 2.9 mi west of U.S. Route 130 and Hightstown.	9.28	1986-88	11-30-87	9.20	330
01400822	Little Bear Brook at Penns Neck, NJ	Lat 40°19'21", long 74°37'37", Mercer County, Hydrologic Unit 02030105, at downstream side of bridge on Alexander Road, 0.9 mi southeast of Penns Neck, 2.8 mi southwest of Plainsboro and 1.0 mi above mouth. Datum of gage is 53.96 ft above National Geodetic Vertical Datum of 1929.	1.84	1971,1975, 1979-88	10-06-88	1.05	64
01400900	Stony Brook at Glenmoore, NJ	Lat 40°21'55", long 74°47'14", Mercer County, Hydrologic Unit 02030105, at highway bridge on Spur State Route 518, 200 ft east of tracks of CONRAIL, at Glenmoore, and 2.0 mi southwest of Hopewell. Datum of gage is 159.1 ft above National Geodetic Vertical Datum of 1929.	17.0	1957-88	1-20-88	4.05	2,500
*01400930	Baldwin Creek at Pennington, NJ	Lat 40°20'18", long 74°47'50", Mercer County, Hydrologic Unit 02030105, at bridge on State Route 31, 0.8 mi north of Pennington, and 0.9 mi upstream from Baldwin Lake dam. Datum of gage is 161.69 ft above National Geodetic Vertical Datum of 1929.	1.99	1960-88	1-20-88	4.05	125
01400950	Hart Brook near Pennington, NJ	Lat 40°19'17", long 74°45'38", Mercer County, Hydrologic Unit 02030105, at culvert on Federal City Road, 1.6 mi upstream of mouth, and 1.7 mi southeast of Pennington. Datum of gage after July 1, 1975 is 163.32 ft above National Geodetic Vertical Datum of 1929.	.57	1968-88	11-30-87	5.61	66
01401160	Duck Pond Run near Princeton Junction, NJ	Lat 40°17"47", long 74°38'47", Mercer County, Hydrologic Unit 02030105, on right bank upstream from bridge on Clarksville Road, 1.5 mi southwest of Princeton Junction, and 4.0 mi south of Princeton. Datum of gage is 72.50 ft above National Geodetic Vertical Datum of 1929.	1.35	1980-88	11-30-87	4.68	130
01401301	Millstone River at Carnegie Lake, at Princeton, NJ	Lat 40°22'11", long 74°37'15", Middlesex County, Hydrologic Unit 02030105, at right end of Carnegie Lake dam, 2.5 mi northeast of Princeton. Datum of gage is 50.00 ft above National Geodetic Vertical Datum of 1929.	159	1977-88	5-20-88	3.93	2,020
01401595	Rock Brook near Blawenburg, NJ	Lat 40°25'47", long 74°41'05", Somerset County, Hydrologic Unit 02030105, at bridge on Burnt Hill Road, 0.7 mi upstream from mouth, 1.0 mi northeast of Blawenburg, and 2.8 mi northwest of Rocky Hill. Datum of gage is 63.45 ft above National Geodetic Vertical Datum of 1929.	9.03	1967-88	c8-13-87 7-28-8	0.98 b3.28	3.7 610

Annual maximum discharge at crest-stage partial-record stations during water year 1988

Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Annual Maximum		
					Date	Gage height (ft)	Discha (ft^3/
		Raritan River basin--Continued					
01401600	Beden Brook near Rocky Hill, NJ	Lat 40°24'52", long 74°39'02", Somerset County, Hydrologic Unit 02030105, at bridge on U.S. Route 206, 0.7 mi upstream from Pike Run, 1.2 mi northwest of Rocky Hill, and 4.6 mi north of Princeton. Datum of gage is 38.09 ft above National Geodetic Vertical Datum of 1929.	27.6	1967-88	1-20-88	7.00	1,410
01401870	Six Mile Run near Middlebush, NJ	Lat 40°28'12", long 74°32'42", Somerset County, Hydrologic Unit, 02030105, at bridge on South Middlebush Road, 1.6 mi upstream from mouth, and 2.1 mi south of Middlebush. Datum of gage is 39.91 ft above National Geodetic Vertical Datum of 1929.	10.7	1966-88	7-22-88	8.18	2,400
01403395	Blue Brook at Seeleys Pond Dam, near Berkeley Heights, NJ	Lat 40°40'02", long 74°24'13", Union County, Hydrologic Unit 02030105, on wall on right bank, upstream from Seeleys Pond spillway, 300 ft north of Scotch Plains, 1.0 mi west of Mountainside, and 4.5 mi southeast of Berkeley Heights. Datum of gage is 202.05 ft National Geodetic Vertical Datum of 1929.	3.59	1973, 1981-88	10-28-87	4.64	195
01403500	Green Brook at Plainfield, NJ	Lat 40°36'53", Long 74°25'55", Union County, Hydrologic Unit 02030105, on left bank 20 ft downstream from bridge on Sycamore Avenue in Plainfield and 1.0 mi upstream from Stony Brook. Datum of gage is 70.37 ft above National Geodetic Vertical Datum of 1929.	9.75	1938-84‡, 1985-88	10-27-87	3.50	825
		Navesink River basin					
01407290	Big Brook at Marlboro, NJ	Lat 40°19'10", long 74°12'52", Monmouth County, Hydrologic Unit 02030104, downstream side of bridge on Hillsdale Road, 1.7 mi east of Marlboro, and 3.0 mi northwest of Colts Neck.	6.42	1980-88	2-12-88	b6.00	660
		Manasquan River basin					
*01407830	Manasquan River near Georgia, NJ	Lat 40°12'36", long 74°16'41", Monmouth County, Hydrologic Unit 02040301, at culvert on Jacksons Mill Road near Georgia, and 0.5 mi upstream from Debois Creek. Datum of gage is 70.47 ft above National Geodetic Vertical Datum of 1929. Revised Records--WDR NJ-87-1.	10.6	1969-88	2-12-88	10.94	540
*01408015	Mingamahone Brook at Farmingdale, NJ	Lat 40°11'38", long 74°09'42", Monmouth County, Hydrologic Unit 02040301, at bridge on Belmar Road in Farmingdale, and 3.0 mi upstream from mouth. Datum of gage is 48.64 ft above National Geodetic Vertical Datum of 1929.	6.20	1969-88	2-12-88	4.15	103

Annual maximum discharge at crest-stage partial-record stations during water year 1988

Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Annual Maximum		
					Date	Gage height (ft)	Discharge (ft^3/s)
		Manasquan River basin--Continued					
*01408030	Manasquan River at Allenwood, NJ	Lat 40°08'35", long 74°07'03", Monmouth County, Hydrologic Unit 02040301, at bridge on Hospital Road at Allenwood, and 1.5 mi downstream from Mill Run. Datum of gage is 3.56 ft above National Geodetic Vertical Datum of 1929.	63.9	1969-88	2-12-88	b7.57	1,350
		Great Egg Harbor River basin					
01410810	Fourmile Branch at New Brooklyn, NJ	Lat 39°41'47", long 74°56'25", Camden County, Hydrologic Unit 02040302, on left bank 70 ft upstream from bridge on Malaga Road, 0.3 mi northeast of New Brooklyn, 0.3 mi upstream from mouth. Datum of gage is 101.04 ft above National Geodetic Vertical Datum of 1929.	7.74	1972-79‡, 1980-88	2-12-88	4.29	88

* Also a low-flow partial-record station.
** Also a tidal crest-stage station.
† Discharge not determined.
‡ Operated as a continuous-record gaging station.
< Less than the following figure.
b Downstream side of bridge.
c Not previously published.
d Revised.
e Estimated.
f Peak gage height below recordable level.
g Discharge may have been high on July 26, 1988 when gage was clogged.

Low-flow partial-record stations

Measurements of streamflow in New Jersey made at low-flow partial-record stations are given in the following table. Most of these measurements were made during periods of base flow when streamflow is primarily from groundwater storage. These measurements, when correlated with the simultaneous discharge of a nearby stream where 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 1988

Station No.	Station Name	Location	Drainage area (mi^2)	Period of record	Measurements	
					Date	Discharge (ft^3/s)
		Hudson River basin				
01367700	Wallkill River at Franklin, NJ	Lat 41°06'43", long 74°35'21", Sussex County, Hydrologic Unit 02020007, at bridge on Franklin Avenue (Route 631) at Franklin, 100 ft downstream of Franklin Pond and 0.5 mi northeast of State Route 23.	29.4	1959-64 1982-83, 1985, 1987-88	9-27-88	4.3
01368950	Black Creek near Vernon, NJ	Lat 41°13'21", long 74°28'33", Sussex County, Hydrologic Unit 02020007, at bridge on Appalachian Trail, 0.7 mi northwest of Maple Grange, and 1.7 mi northeast of Vernon.	17.3	1977-86, 1988	9-26-88	5.3
		Passaic River basin				
01378700	Passaic River at outlet of Osborn Pond, at Osborn Mills, NJ	Lat 40°43'09", long 74°31'52", Somerset County, Hydrologic Unit 02030103, 800 ft downstream from dam on Osborn Pond, 0.9 mi above Penns Brook, and 1.3 mi northeast of Basking Ridge.	10.0	1961-63, 1968, 1987-88	4-06-88 7-14-88	15 4.3
01379200	Dead River near Millington, NJ	Lat 40°56", long 74°31'26", Morris County, Hydrologic Unit 02030103, at bridge on King George Road (Spur State Route 527), 100 ft upstream from mouth, 2.0 mi south of Millington, and 4.2 mi south of Basking Ridge.	20.8	1962-67, 1973-75, 1986-88	4-06-88 7-14-88	21 4.6
01379560	Passaic River at Florham Park, NJ	Lat 40°45'21", long 74°21'45", Morris County, Hydrologic Unit 02030103, at bridge on Passaic Avenue, 0.2 mi downstream of Slough Brook and 1.5 mi northeast of Chatham.	124	1988	4-11-88 7-14-88	94 28
01379570	Passaic River at Hanover, NJ	Lat 40°48'02", long 74°21'34", Morris County, Hydrologic Unit 02030103, at bridge on State Route 10, 0.6 mi southeast of Hanover, 3.5 mi southeast of Whippany, and 4.8 mi above Rockaway River.	128	1961-63, 1968, 1987-88	4-11-88 7-14-88	121 34
01381200	Rockaway River at Pine Brook, NJ	Lat 40°51'42, long 74°20'53", Morris County, Hydrologic Unit 02030103,at bridge on U.S. Route 46, 0.9 mi west of Pine Brook, and 1.1 mi upstream of Whippany River.	136	1963-73, 1979-81, 1983-88	4-11-88 7-14-88 9-23-88	32 25 28
01381800	Whippany River near Pine Brook, NJ	Lat 40°50'42", long 74°20'51", Morris County, Hydrologic Unit 02030103, at bridge on Edwards Road, 0.3 mi upstream from mouth, and 1.3 mi southwest of Pine Brook.	68.5	1963-68, 1978, 1979-81, 1983-88	4-11-88 7-14-88 9-23-88	68 31 38
01382000	Passaic River at Two Bridges, NJ	Lat 40°53'50", long 74°16'23", Essex County, Hydrologic Unit 02030103, at bridge on Two Bridges Road, just above confluence with Pompton River, 0.3 mi northeast of Two Bridges and 2.6 mi northwest of Little Falls.	361	1963-68, 1983-84, 1986-88	4-12-88 7-17-88	244 127

Discharge measurements made at low-flow partial-record stations during water year 1988--Continued

Station No.	Station Name	Location	Drainage area (mi^2)	Period of record	Measurements	
					Date	Discharge (ft^3/s)
		Passaic River basin--Continued				
01389000	Pompton River at Two Bridges, NJ	Lat 40°53'52", long 74°16'22", Essex County, Hydrologic Unit 02030103, at bridge on Two Bridges Road, just upstream of mouth, 0.3 mi northeast of Two Bridges and 2.6 mi northeast of Little Falls.	372	1963-68, 1984, 1986-88	4-12-88	43
01389100	Singac Brook at Singac, NJ	Lat 40°53'57", long 74°15'57", Passaic County, Hydrologic Unit 02030103, at bridge on Fairfield Road, between U.S. Routes 80 and 46, 60 ft upstream from mouth, 1.2 mi northwest of Signac and 1.8 mi northwest of Little Falls.	11.1	1963-67, 1983-84, 1986-88	6-30-88 9-09-88	16 16
01389140	Deepavaal Brook at Two Bridges, NJ	Lat 40°53'14", long 74°16'00", Essex County, Hydrologic Unit 02030103, at bridge on Little Falls Road, 400 ft upstream from Passaic River and 0.8 mi southeast of Two Bridges.	7.59	1970, 1983-84, 1988	4-06-88 6-30-88	5.2 2.0
		Raritan River basin				
01396180	Drakes Brook at Bartley, NJ	Lat 40°48'43", long 74°43'45", Morris County, Hydrologic Unit 02030105, at bridge on Bartley Road, 0.25 mi upstream from mouth, 0.9 mi southwest of Bartley and 2.5 mi of Chester.	16.6	1964-73, 1975-76, 1988	9-09-88	10
01396280	South Branch Raritan River at Middle Valley, NJ	Lat 40°45'40", long 74°49'18", Morris County, Hydrologic Unit 02030105, at bridge on Middle Valley Road, at Middle Valley, 200 ft northwest of West Mill Road (State Route 513), and 0.2 mi upstream of CONRAIL railroad bridge.	47.7	1963-67, 1973, 1975, 1982-83, 1985-88	9-28-88	26
01397290	Assiscong Creek at Bartles Corners, NJ	Lat 40°32'23", long 74°50'52" Hunterdon County, Hydrologic Unit 02030105, at bridge on River Road, 0.3 mi upstream from mouth, 1.5 mi north of Flemington, and 2.8 mi west of Three Bridges.	2.98	1981-88	7-01-88 9-08-88	.28 1.3
01397800	Neshanic River near Flemington, NJ	Lat 40°28'46", long 74°51'29" Hunterdon County, Hydrologic Unit 02030105, at bridge on Kuhl Road, 200 ft downstream from confluence of First Neshanic River and Second Neshanic River, 1.4 mi south of Flemington, and 2.1 mi west of Reaville.	11.4	1981-88	6-30-88 9-08-88	.33 1.7
01397900	Third Neshanic River near Ringoes, NJ	Lat 40°27'31", long 74°52'05", Hunterdon County, Hydrologic Unit 02030105, at bridge on Eitts Road, 2.0 mi upstream from mouth, 2.1 mi north of Ringoes, and 3.0 mi southwest of Reaville.	9.24	1981-88	6-30-88 9-08-88	1.7 2.4
01398052	Back Brook near Reaville, NJ	Lat 40°27'32", long 74°49'24", Hunterdon County, Hydrologic Unit 02030105, at bridge on Manners Road, 0.6 mi upstream from mouth, 0.8 mi northwest of Wertsville, and 1.5 mi southeast of Reaville.	11.4	1981-88	6-30-88 9-08-88	.34 2.9

Discharge measurements made at low-flow partial-record stations during water year 1988--Continued

Station No.	Station Name	Location	Drainage area (mi^2)	Period of record	Measurements	
					Date	Discharge (ft^3/s)
		Raritan River basin--Continued				
01398075	Pleasant Run at Centerville, NJ	Lat 40°32'17", long 74°45'17", Hunterdon County, Hydrologic Unit 02030105, at bridge on Old York Road in Centerville, 2.4 mi northwest of Neshanic Station, 2.5 mi upstream from mouth, and 2.7 mi northwest of Three Bridges.	8.11	1982-88	7-01-88 9-08-88	.64 5.1
01398260	North Branch Raritan River near Chester, NJ	Lat 40°46'16", long 74°37'34", Morris County, Hydrologic Unit 02030105, at bridge on State Route 24, 0.8 mi upstream from Burnett Brook, and 3.8 mi east of Chester.	7.57	1964-67, 1980-88	9-28-88	3.0
01399190	Lamington (Black) River at Succasunna, NJ	Lat 40°51'03", long 74°38'02", Morris County, Hydrologic Unit 02030105, bridge on Righter Road, 0.7 mi south of Succasunna, and 0.4 mi upstream from Succasunna Brook.	7.37	1977-87a, 1988	3-16-88 7-01-88 8-05-88 9-09-88	13 3.8 7.0 4.7
01399200	Lamington (Black) River near Ironia, NJ	Lat 40°50'07", long 74°38'40", Morris County, Hydrologic Unit 02030105, at bridge on Ironia Road, 1.0 mi downstream of Succasunna Brook and 1.3 mi northwest of Ironia.	10.9	1964-72, 1976-87a, 1988	3-16-88 7-01-88 8-05-88 9-09-88	21 4.2 9.4 7.3
*01399700	Rockaway Creek near Whitehouse, NJ	Lat 40°37'49", long 74°44'11", Hunterdon County, Hydrologic Unit 02030105, at bridge on Lamington Road, 1.4 mi northeast of Whitehouse, and 1.8 mi upstream from mouth.	37.1	1959-62, 1964-65, 1973, 1977-84‡ 1986-88	9-28-88	17
01400540	Millstone River near Manalapan, NJ	Lat 40°15'44", long 74°25'13", Monmouth County, Hydrologic Unit 02030105, at bridge on State Route 33, 1.3 mi west of Manalapan, 5.5 mi east of Hightstown and 8.4 mi upstream of Rocky Brook.	7.37	1960-62, 1964, 1971-72, 1985, 1987-88	9-29-88	2.5
*01400900	Stony Brook at Glenmoore, NJ	Lat 40°21'55", long 74°14", Mercer County, Hydrologic Unit 02030105, at bridge on Pennington-Hopewell Road (State Route 518 Spur), at Glenmoore, at entrance to Hopewell Valley Country Club, 0.3 mi downstream of unnamed tributary and 2.6 mi north of Pennington.	17.0	1957-62, 1964, 1969-71, 1985-88	11-19-87	7.3
*01400930	Baldwin Creek at Pennington, NJ	Lat 40°20'18", long 74°47'50", Mercer County, Hydrologic Unit 02030105 at bridge on U.S. Route 31, 450 ft downstream of unnamed tributary, 0.4 mi north of Pleasant Valley Road and 0.8 mi from Pennington.	1.99	1957-59, 1963, 1965-69, 1972, 1985-88	11-20-87	1.2
*01400947	Stony Brook at Pennington, NJ	Lat 40°19'50", long 74°46'05", Mercer County, Hydrologic Unit 02030105, 25 ft upstream from dam on Stony Brook at Old Mill Road, 1.3 mi east of Pennington and 1.4 mi downstream from Baldwin Creek.	26.7	1965-69, 1971-72, 1985-88	11-19-87	17
01400970	Honey Branch near Rosedale, NJ	Lat 40°20'26", long 74°44'39", Mercer County, Hydrologic Unit 02030105, at bridge on Elm Ridge Road, 0.2 mi above mouth, and 1.2 mi west of Rosedale.	3.83	1957-59, 1968-73, 1975, 1985-88	11-19-87	3.1

Discharge measurements made at low-flow partial-record stations during water year 1988--Continued

Station No.	Station Name	Location	Drainage area (mi^2)	Period of record	Measurements	
					Date	Discharge (ft^3/s)
		Raritan River basin--Continued				
01401100	Stony Brook at Clarksville, NJ	Lat 40°18'34", long 74°40'52", Mercer County, Hydrologic Unit 02030105, at bridge on State Route 533 (Quaker Road) 600 ft upstream of Duck Pond Run, 0.9 mi north of Clarksville and 2.7 mi southwest of Penns Neck.	46.5	1959-62, 1964, 1988	11-19-87	35
01401520	Beden Brook near Hopewell, NJ	Lat 40°23'02", long 74°44'28", Mercer County, Hydrologic Unit 02030105, at bridge on Aunt Molly Road, 0.8 mi upstream from Province Line Road and 1.2 mi east of Hopewell.	6.67	1965, 1987-88	11-20-87	4.1
01401590	Rock Brook at Blawenberg, NJ	Lat 40°24'40", long 74°42'10", Somerset County, Hydrologic Unit 02030105, at bridge on Great Road, 0.3 mi north of Blawenburg, 1.7 mi upstream of mouth and 3.7 mi west of Rocky Hill.	8.0	1962-67, 1971-72, 1987-88	c8-13-87 11-19-87	2.6 6.7
*01401595	Rock Brook near Blawenberg, NJ	Lat 40°25'47", long 74°41'05", Somerset County, Hydrologic Unit 02030105, at bridge on Burnt Hill Road, 0.7 mi upstream from mouth, 1.0 mi northeast of Blawenberg, and 2.8 mi northwest of Rocky Hill.	9.03	1967-88	11-19-87	7.2
*01401600	Beden Brook near Rocky Hill, NJ	Lat 40°24'52", long 74°39'02", Somerset County, Hydrologic Unit 02030105, at bridge on U.S. Route 206 and State Route 533, 0.7 mi upstream from Pike Run, 1.2 mi northwest of Rocky Hill and 4.6 mi north of Princeton.	27.6	1959-63, 1965-67, 1971-72, 1977, 1979-83, 1986-88	11-19-87 4-05-88 9-27-88	22 35 2.6
01404060	Ambrose Brook at Middlesex, NJ	Lat 40°03", long 74°31'02", Middlesex County, Hydrologic Unit 02030105, at dam, 900 ft upstream from bridge on State Route 18 in Middlesex, and 0.7 mi upstream from mouth.	13.9	1979-88	7-01-88 9-09-88	2.2 3.8
01405170	Milford Brook at Englishtown, NJ	Lat 40°18'02", long 74°20'07", Monmouth County, Hydrologic Unit 02030105, at bridge on Conmack Road, 0.6 mi upstream from McGellairds Brook, 1.2 mi east of Englishtown, and 2.0 mi southwest of Gordons Corner.	4.86	1982, 1984-88	7-01-88 9-09-88	1.6 2.0
01405180	McGellairds Brook at Englishtown, NJ	Lat 40°18'06", long 74°21'26", Monmouth County, Hydrologic Unit 02030105, at bridge on Wilson Avenue in Englishtown, 0.8 mi downstream from Milford Brook, 1.0 mi southeast of Monmouth-Middlesex County line, and 5.5 mi northwest of Freehold.	14.9	1982, 1984-88	7-01-88 9-09-88	5.0 7.4
01405210	Pine Brook at Clarks Mills, NJ	Lat 40°18'58", long 74°19'51", Monmouth County, Hydrologic Unit 02030105, at bridge on Winthrop Drive, 1.3 mi east of Clarks Mills, 1.9 mi upstream of Matchaponix Brook, and 4.8 mi northwest of Freehold.	4.66	1982, 1984-88	7-01-88 9-09-88	1.9 2.2
01405240	Matchaponix Brook near Englishtown, NJ	Lat 40°19'21", long 74°21'35", Middlesex County, Hydrologic Unit 0203105, at bridge on Union Hill Road, 1.9 mi north of Englishtown, 2.8 mi northwest of Gordons Corner and 3.9 mi upstream of Barclay Brook.	29.1	1979-88	7-01-88 9-08-88	12 21

Discharge measurements made at low-flow partial-record stations during water year 1988--Continued

Station No.	Station Name	Location	Drainage area (mi^2)	Period of record	Measurements	
					Date	Discharge (ft^3/s)
		Raritan River Basin--Continued				
01405285	Barclay Brook near Englishtown, NJ	Lat 40°20'53", long 74°21'27", Middlesex County, Hydrologic Unit 02030105, at bridge on State Route 527 (Old Bridge-Englishtown Road), 0.6 mi south of Redshaw Corner, 0.9 mi upstream from mouth, and 3.5 mi north of Englishtown.	4.94	1979-88	7-01-88 9-08-88	.52 1.1
01405300	Matchaponix Brook at Spotswood, NJ	Lat 40 22'53", long 74°22'51", Middlesex County, Hydrologic Unit 02030105, 0.9 mi southeast of Spotswood, 1.1 mi upstream from confluence with Manalapan Brook, and 2.3 mi southwest of Old Bridge.	43.9	1952-67a, 1968-88b	7-01-88	22
01405335	Manalapan Brook near Manalapan, NJ	Lat 40 16'45", long 74°22'53", Monmouth County, Hydrologic Unit 02030105, at bridge on South Main Street, 1.8 mi northeast of Manalapan, 1.8 mi southwest of Englishtown, and 5.6 mi southeast of Jamesburg.	16.0	1979-88	7-01-88 9-08-88	5.8 7.0
01406000	Deep Run near Browntown, NJ	Lat 40°22'30", long 74°18'14", Middlesex County, Hydrologic Unit 02030105, upstream from highway bridge, 0.7 mi downstream from the Middlesex-Monmouth County line, and 1.8 mi south of Browntown.	8.07	1933-40‡, 1982, 1984-88	7-01-88 9-08-88	1.2 2.3
		Matawan Creek basin				
01407012	Gravelly Brook at Church Street, at Matawan, NJ	Lat 40°4'27", long 74°05'18", Monmouth County, Hydrologic Unit 02030104, at bridge on Church Road, 0.5 mi east of intersection of State Routes 34 and 79, and 0.9 mi upstream of the mouth.	2.36	1987-88	6-30-88 9-12-88	1.6 1.7
01407026	Wilkson Creek at Church Street, at Matawan, NJ	Lat 40°24'24", long 74°14'18", Monmouth County, Hydrologic Unit 02030104, at bridge on Church Street, 0.7 mi east of Matawan, 2.2 mi southeast of Keyport and 2.6 mi upstream of mouth.	1.37	1987-88	6-30-88 9-12-88	1.4 1.8
		East Creek basin				
01407055	East Creek at North Centerville, NJ	Lat 40°25'32", long 74°09'58", Monmouth County, Hydrologic Unit 02030104, at bridge on Middle Road, 0.2 mi west of intersection of Union Road and Middle Road at North Centerville, 2.0 mi upstream from mouth.	2.56	1969, 1986-88	6-30-88 9-09-88	.75 1.4
		Waackaack Creek basin				
01407070	Waackaack Creek at Middle Road, near Keansburg, NJ	Lat 40°25'23", long 74°08'12", Monmouth County, Hydrologic Unit 02030104, at bridge on Middle Road at community of Philips Mills, 1.4 mi south of Keansburg and 3.1 mi upstream from mouth.	4.30	1987-88	6-30-88 9-09-88	2.8 2.7
		Compton Creek basin				
01407102	Town Brook at Church Street, at New Monmouth, NJ	Lat 40°24'52", long 74°06'00", Monmouth County, Hydrologic Unit 02030104, at bridge on Church Street, at New Monmouth, 0.2 mi upstream of mouth and 1.1 mi south of Port Monmouth.	3.35	1987-88	6-30-88 9-12-88	1.7 1.1

Discharge measurements made at low-flow partial-record stations during water year 1988--Continued

Station No.	Station Name	Location	Drainage area (mi^2)	Period of record	Measurements	
					Date	Discharge (ft^3/s)
		Navesink River basin				
01407532	Poricy Brook at Red Bank, NJ	Lat 40°21'25", long 74°05'18" Monmouth County, Hydrologic Unit 02030104, at bridge on Navesink River Road, 200 ft downstream of Poricy Pond, 0.4 mi upstream of mouth and 1.0 mi northwest of Red Bank.	2.54	1987-88	9-09-88	1.4
		Mullica River basin				
01410215	Clarks Mill Stream at Port Republic, NJ	Lat 39°30'23", long 74°30'21", Atlantic County, Hydrologic Unit 02040301, at bridge on State Route 575, 0.5 mi upstream of Mill Pond and 1.0 mi east of Port Republic.	8.61	1986-88	6-29-88 9-08-88	4.6 5.1
01410225	Morses Mill Stream at Port Republic, NJ	Lat 39°30'48", long 74°30'30", Atlantic County, Hydrologic Unit 02040301, at bridge on State Alternate Route 561 (Moss Mill Road), 0.6 mi upstream of Mill Pond and 1.2 mi southwest of Port Republic.	8.25	1986-88	6-29-88 9-08-88	3.0 3.8
		Great Egg Harbor River basin				
01411170	Great Egg Harbor River at Mays Landing, NJ	Lat 39°27'13", long 74°44'04", Atlantic County, Hydrologic Unit 02040302, at bridge on Route 559, at outlet of Lake Lenape, 0.4 mi west of intersection of State Route 50 with U.S. Route 40 in Mays Landing.	205	1988	6-29-88	120
01411250	English Creek near Scullville, NJ	Lat 39°22'07", long 74°39'46", Atlantic Coutny, Hydrologic Unit 02040302, at bridge on School House Road, 1.8 mi upstream from State Route 559, at the community of English Creek, and 2.5 mi northwest of Scullville.	3.80	1986-88	6-29-88 9-08-88	4.0 2.8
		Patcong Creek basin				
01411305	Mill Branch near Northfield, NJ	Lat 39°23'23", long 74°35'37", Atlantic County, Hydrologic Unit 02040302, at bridge on County Route 684 (Spruce Rd), 0.4 mi downstream of Cedar Branch, 1.1 mi south of Cardiff and 4.5 mi northwest of Northfield.	7.47	1986-88	6-29-88 9-08-88	4.5 5.0

* Also a crest-stage partial-record station.
a Operated as a continuous-record gaging station by U.S. Geological Survey.
b Operated as a continuous-record gaging station by Duhernal Water Company. Recorder charts on file in U.S. Geological Survey, West Trenton Office.
c Revised.
‡ Operated as a continuous-record gaging station.

Discharge measurements at miscellaneous sites

Measurements of streamflow at points other than gaging stations are given in the following table. Those that are measurements of base flow are designated by an asterisk (*).

Discharge measurements made at miscellaneous sites during water year 1988

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements	
					Date	Discharge (ft^3/s)
		Hudson River basin				
01367631 Morris Lake outlet stream	Wallkill River	Lat 41°02'21", long 74°36'29", Sussex County, Hydrologic Unit 02020007, at outlet of Morris Lake (Glen Lake), 1.3 mi upstream of Wallkill River, and 1.6 mi east of Sparta.	--	--	7-01-88	0
01367770 Wallkill River	Rondout Creek	Lat 40°11'38", long 74°34'32" Sussex County, Hydrologic Unit 02020007, at bridge on Glenwood Road, 0.6 mi upstream of Papakating Creek, 1.7 mi southwest of Independence Corner and 2.0 mi southeast of Sussex.	60.8	1977-82, 1985, 1987	9-26-88	*17
		Passaic River basin				
01379530 Canoe Brook	Passaic River	Lat 40°45'21", long 74°21'43", Essex County, Hydrologic Unit 02030103, just downstream of Commonwealth Water Company pumping station, 0.5 mi upstream of mouth, and 2.0 mi north of Summit.	11.0	1933-60ac, 1961-87bc	2-18-88 3-24-88 5-03-88 5-20-88 @ 1110 5-20-88 @ 1235 6-23-88 8-04-88	0 2.8 0 77 67 .17 1.6
01379650 Rockaway River	Passaic River	Lat 40°59'38", long 74°31'24", Morris County, Hydrologic Unit 02030103, in Woodstock, 650 ft downstream of Oak Ridge Lake dam, 0.3 mi upstream of Longwood Lake and 2.0 mi south of Petersburg.	17.5	1986-87	10-06-87	49
01379660 Rockaway River	Passaic River	Lat 40°58'37", long 74°32'50" Morris County, Hydrologic Unit 02030103, 300 ft downstream of wooden bridge, 600 ft downstream of Longwood Lake and 1.6 mi southwest of Woodstock.	7.16	1987	10-06-87	53
01379805 Rockaway River	Passaic River	Lat 40°53'29", long 74°34'10", Morris County, Hydrologic Unit 02030103, 0.5 mi upstream from Jackson Brook, 0.7 mi downstream from Green Pond Brook and 2.0 mi east of Roxbury.	46.3	1983-86	6-23-88 7-06-88 @ 1030 7-06-88 @ 1130 7-06-88 @ 1646 7-06-88 @ 1722 7-07-88 @ 0916 7-07-88 @ 0953 7-07-88 @ 1103 7-07-88 @ 1141 7-07-88 @ 1437 7-07-88 @ 1514 8-23-88 @ 1042 8-23-88 @ 1125 8-23-88 @ 1334 8-23-88 @ 1425 8-23-88 @ 1540 8-23-88 @ 1632	*28 *26 *25 *22 *22 *20 *21 *22 *22 *19 *19 *16 *16 *17 *17 *17 *17
01379807 Rockaway River	Passaic River	Lat 40°53'21", long 74°34'06", Morris County, Hydrologic Unit 02030103, at Waterworks Bridge on Rutgers Street at Dover, 0.3 mi upstream of Jackson Brook and 0.9 mi downstream of Green Pond Brook.	47.0	1983-84, 1986	6-13-88	28

Discharge measurements made at miscellaneous sites during water year 1988--Continued

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements Date	Measurements Discharge (ft^3/s)
		Passaic River basin--Continued				
01379808 Rockaway River	Passaic River	Lat 40°53'17", long 74°34'09", Morris County, Hydrologic Unit 02030103, 0.2 mi upstream of Jackson Brook, 0.7 mi downstream from Green Pond Brook and 2.1 mi east of Roxbury.	47.1	1983-87	7-06-88 @ 1116 7-06-88 @ 1229 7-06-88 @ 1419 7-06-88 @ 1510 7-07-88 @ 0914 7-07-88 @ 1012 7-07-88 @ 1108 7-07-88 @ 1146 7-07-88 @ 1429 7-07-88 @ 1507 8-23-88 @ 1017 8-23-88 @ 1140 8-23-88 @ 1330 8-23-88 @ 1413 8-23-88 @ 1538 8-23-88 @ 1633	*23 *23 *25 *25 *20 *21 *20 *20 *21 *22 *17 *17 *16 *16 *16 *16
01379809 Rockaway River	Passaic River	Lat 40°53'12", long 74°34'06", Morris County, Hydrologic Unit 02030103, 300 ft upstream of Jackson Brook, 0.5 east of Wharton, and 1.0 mi downstream of Green Pond Brook.	47.2	1984	7-06-88 @ 1458 7-06-88 @ 1538 7-06-88 @ 1616 7-06-88 @ 1655 7-07-88 @ 0917 7-07-88 @ 0957 7-07-88 @ 1136 7-07-88 @ 1230 7-07-88 @ 1430 7-07-88 @ 1509 8-23-88 @ 1011 8-23-88 @ 1115 8-23-88 @ 1300 8-23-88 @ 1410 8-23-88 @ 1513 8-23-88 @ 1557	*22 *22 *25 *24 *24 *22 *19 *19 *18 *19 *16 *16 *17 *17 *16 *16
01380000 Beaver Brook	Rockaway River	Lat 40°57'38", long 74°27'43", Morris County, Hydrologic Unit 02030103, 50 ft below sluice gates at outlet of Splitrock Reservoir, 2 mi northeast of Hibernia, and 3.5 mi upstream of mouth of Hibernia Brook.	5.50	1925-46ac, 1976-87bc	10-05-87 11-10-87 12-21-87 3-23-88 5-04-88 6-08-88 8-04-88	12 12 12 *5.0 *6.2 *2.3 *1.9
01388910 Pompton River	Passaic River	Lat 40°54'52", long 74°16'15", Passaic County, Hydrologic Unit 02030103, at bridge on U.S. Route 202 at Mountain View, 0.1 mi downstream of Packanack Brook and 1.3 mi upstream of mouth.	371	1987	4-12-88 7-14-88	350 *49
01389802 Passaic River	Newark Bay	Lat 40°54'57", long 74°10'55", Passaic County, Hydrologic Unit 02030103, on right bank, 10 ft upstream from Passaic Falls in Paterson and 1.5 mi downstream from Peckman River. Note: these flows are only over the falls not through hydroelectric plant.	779	--	12-22-87 3-23-88 3-38-88 4-18-88 4-22-88 @ 0900 4-22-88 @ 1000 5-25-88 7-12-88 9-06-88	16 782 1790 218 108 103 3160 132 813
01389882 Dundee Canal	Passaic River	Lat 40°52'45", long 74°07'21", Passaic County, Hydrologic Unit 02030103, at bridge on Ackerman Avenue at Clifton, 0.4 mi downstream from Dundee Dam and 1.2 mi upstream from Passaic Street Bridge.	--	1986-87	10-08-87 11-03-87	5.2 0
01389895 Passaic River	Newark Bay	Lat 40°52'45", long 74°07'14", Bergen County, Hydrologic Unit 02030103, at bridge on Outwater Lane at Garfield, 0.4 mi downstream from Dundee Dam and 1.2 mi upstream from bridge on Passaic Street.	806	1970-71, 1986-87	11-03-87	2,060
01391200 Saddle River	Passaic River	Lat 40°56'30", long 74°05'36", Bergen County, Hydrologic Unit 02030103, at bridge on Century Road, at Fair Lawn, and 0.8 mi downstream of Hohokus Brook.	45.2	1978, 1981, 1983, 1986-87	9-23-88	*32

Discharge measurements made at miscellaneous sites during water year 1988--Continued

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements	
					Date	Discharge (ft^3/s)
		Rahway River basin				
01393950 West Branch Rahway River	Rahway River	Lat 40°47'02", long 74°16'27", Essex County, Hydrologic Unit 02030104, at bridge on Indian Avenue, at West Orange, 1.1 mi downstream from bridge at Interstate 280 and 1.2 mi upstream from Orange Reservoir.	2.52	1983, 1985-86	9-23-88	*.27
		Raritan River basin				
01396350 South Branch Raritan River	Raritan River	Lat 40°43'14", long 74°50'16", Morris County, Hydrologic Unit 02030105, at bridge on Main Street in Califon, and 2.5 mi northwest of Mountainville.	58.5	1975-76	9-09-88	*45
01396535 South Branch Raritan River	Raritan River	Lat 40°39'49", long 74°53'52", Hunterdon County, Hydrologic Unit 02030105, at bridge on Arch Street in High Bridge, 0.9 mi northeast of Mariannes Corner and 4.3 mi northeast of Norton.	68.8	1978-81, 1983, 1985-87	9-28-88	*40
01396588 Spruce Run	South Branch Raritan River	Lat 40°40'41", long 74°55'06", Hunterdon County, Hydrologic Unit 02030105, 800 ft downstream of Rocky Run, 0.3 mi upstream of bridge on Van Syckel Road and 1.6 mi southeast of Glen Gardner.	15.5	1979, 1981-83, 1985-87	9-28-88	*5.3
01397400 South Branch Raritan River	Raritan River	Lat 40°31'01", long 74°48'10", Hunterdon County, Hydrologic Unit 02030105, at bridge on Main Street in Three Bridges, 1.4 mi downstream from Bushkill Brook, and 3.0 mi northeast of Flemington.	181	1976 1978-81, 1983, 1985-87	9-27-88	*126
01399120 North Branch Raritan River	Raritan River	Lat 40°38'09", long 74°40'56" Somerset County, Hydrologic Unit 02030105, at bridge on Burnt Mills Road, 0.1 mi upstream from Lamington River, 0.3 mi east of Burnt Mills, and 4.0 mi southwest of Far Hills.	63.8	1964 1975-78, 1981-83, 1985-87	9-29-88	*32
01399300 Lamington River	North Branch Raritan River	Lat 40°47'13", long 74°43'13", Morris County, Hydrologic Unit 02030105, at bridge on New Furnace Road, 0.1 mi downstream from Tanners Brook and 0.6 mi north of Milltown.	23.2	--	9-09-88	*32
01399780 Lamington River	North Branch Raritan River	Lat 40°38'09", long 74°41'13", Somerset County, Hydrologic Unit 02030105, at bridge on Walsh Road at Burnt Mills, 0.2 mi upstream from North Branch Raritan River, and 4.4 mi southwest of Far Hills.	100	1964, 1973, 1975-78, 1981-83, 1985-87	9-29-88	*39
01400120 Raritan River	Raritan Bay	Lat 40°33'42", long 74°38'10", Somerset County, Hydrologic Unit 02030105, at bridge on River Road in Raritan, and 3.5 mi northeast of South Branch.	474	1975-81, 1983, 1985-87	9-27-88	224
01400583 Millstone River	Raritan River	Lat 40°17'36", long 74°31'39", Mercer County, Hydrologic Unit, 02030105, at bridge on Old Cranbury Road, 1.0 mi upstream of Rocky Brook and 1.6 mi north of Hightstown.	20.7	1987	5-19-88	76
01400591 Rocky Brook	Millstone River	Lat 40°15'10", long 74°30'11", Mercer County, Hydrologic Unit, 02030105, at bridge on Milford Road, at outlet of Etra Lake, 1.2 mi upstream of Peddie Lake and 1.6 mi southeast of Hightstown.	9.08	1987	5-19-88	31

Discharge measurements made at miscellaneous sites during water year 1988--Continued

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements	
					Date	Discharge (ft^3/s)
		Raritan River basin--Continued				
01400599 Rocky Brook	Millstone River	Lat 40°16'37", long 74°32'06", Mercer County, Hydrologic Unit 02030105, at bridge on U.S. Route 130 at Hightstown and 0.4 mi northeast of intersection of U.S. Route 130 and County Route 571.	14.4	1971-72, 1987	5-19-88	101
01400650 Millstone River	Raritan River	Lat 40°19'19", long 74°86'31", Mercer County, Hydrologic Unit 02030105, at bridge on road between Grovers Mills and Plainsboro, 0.4 mi north of Grovers Mills, and 0.5 mi upstream of Big Bear Brook.	43.4	1981, 1985	9-27-88	*14
01400725 Cranbury Brook	Millstone River	Lat 40°19'34", long 74°36'11", Middlesex County, Hydrologic Unit 02030105, at bridge on Maple Avenue at outlet of Plainsboro Pond in Plainsboro and 0.7 mi upstream of mouth.	22.1	1967, 1971-72, 1987	5-19-88	55
01400870 Stony Brook tributary No. 3	Stony Brook	Lat 40°24'12", long 74°48'07" Mercer County, Hydrologic Unit 02030105, at bridge on Van Dyke Road, 0.2 mi east of Stony Brook Road and 2.0 mi northwest of Hopewell.	1.0	1970, 1987	11-20-87	*1.2
01400880 Stony Brook	Millstone River	Lat 40°22'53", long 74°48'11", Mercer County, Hydrologic Unit 02030105, downstream of unnamed tributary, 0.8 mi and 1.4 mi east of Woodsville.	2.12	1985-87	11-19-87	*7.8
01400907 Stony Brook Branch	Stony Brook	Lat 40°21'33", long 74°47'56", Mercer County, Hydrologic Unit 02030105, at bridge on State Route 31, and 2.2 mi north of Pennington 1.0 mi upstream of mouth.	1.00	1987	11-19-87	*.58
01400910 Stony Brook Branch	Stony Brook	Lat 40°21'07", long 74°47'04", Mercer County, Hydrologic Unit 02030105, 1,000 ft upstream from Titus Mill Road, at mouth of Pennington and 1.8 mi east of State Route 31.	1.46	1985-87	11-19-87	*1.8
01400920 Stony Brook	Millstone River	Lat 40°20'21", long 74°46'42", Mercer County, Hydrologic Unit 02030105, 250 ft upstream from confluence with Baldwin Creek in, Hopewell Township, and 1.1 mi northwest of intersection of East Delaware Avenue and Main Street in Pennington Borough.	23.5	1963, 1971-72, 1985-87	11-20-87	*11
01400923 Baldwin Creek	Stony Brook	Lat 40°20'26", long 74°48'38", Mercer County, Hydrologic Unit 02030105, at bridge on unimproved road, 0.1 mi north of Yard Road, 0.2 mi upstream of unnamed tributary and 1.3 mi northwest of Pennington.	0.58	1985-87	11-20-87	*0.27
01400925 Baldwin Creek	Stony Brook	Lat 40°21'21", long 74°48'07", Mercer County, Hydrologic Unit 02030105, at bridge on Yard Road, 200 ft upstream of unnamed tributary, 0.3 mi west of State Route 31 and 1.0 north of Pennington.	1.07	1985-87	11-20-87	*.68
01400927 Baldwin Creek tributary	Baldwin Creek	Lat 40°20'15", long 74°47'56", Mercer County, Hydrologic Unit 02030105, 450 ft upstream of bridge on State Route 31, 0.2 mi south of Yard Road, 0.4 mi north of Pleasant Valley Road and 0.8 mi from Pennington.	.43	1985-87	11-20-87	*.30

Discharge measurements made at miscellaneous sites during water year 1988--Continued

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements	
					Date	Discharge (ft^3/s)
		Raritan River basin--Continued				
01400932 Baldwin Creek	Stony Brook	Lat 40°20'26", long 74°46'48", Mercer County, Hydrologic Unit 02030105, just downstream from earthfill dam at Baldwin Lake, 1,000 ft upstream from mouth, and 1.1 mi northeast of Pennington.	2.52	1962-70c, 1985-87	11-20-87	*1.8
01400936 Lewis Brook	Stony Brook	Lat 40°19'53", long 74°47'32", Mercer County, Hydrologic Unit 02030105, at bridge on North Main Street, 0.2 mi north of Delaware Avenue at Brookside Avenue, one street south of Franklin Avenue at Pennington and 0.6 mi upstream of mouth.	.32	1985-87	11-19-87	*.29
01400938 Lewis Brook	Stony Brook	Lat 40°20'02", long 74°46'58", Mercer County, Hydrologic Unit 02030105, 200 ft upstream from mouth, 0.3 mi northeast of intersection of King George and Mount Rose Roads in Pennington.	.53	1971-72, 1985-87	11-19-87	*.86
01400939 Lewis Brook tributary	Lewis Brook	Lat 40°20'00", long 74°46'57", Mercer County, Hydrologic Unit 02030105, 100 ft upstream from mouth and 0.3 mi northeast of intersection of King George Road and Mount Rose Road in Pennington.	.08	1971-72, 1985-87	11-19-87	*.05
01400940 Stony Brook	Millstone River	Lat 40°19'55", long 74°46'39", Mercer County, Hydrologic Unit 02030105, at bridge on Mt. Rose Road (Pennington-Rocky Hill Road), 100 ft east of King George Road, 100 ft upstream of unnamed tributary and 1.2 mi east of Pennington.	25.1	1985-87	11-19-87	*14
01400941 Stony Brook tributary No. 4	Stony Brook	Lat 40°19'52", long 74°46'42", Mercer County, Hydrologic Unit 02030105, 100 ft upstream from mouth near Mount Rose Road at Pennington, 0.2 mi downstream from Federal City Road.	.32	1971-72, 1985-87	11-19-87	*.23
01400942 Stony Brook tributary No. 5	Stony Brook	Lat 40°18'49", long 74°47'09", Mercer County, Hydrologic Unit 02030105, at bridge on Pennington-Lawrenceville Road at Baldwins Corner, 1.0 mi south of Pennington and 1.5 mi upstream from mouth	.81	1985-87	11-19-87	*.45
01400944 Stony Brook tributary No. 5	Stony Brook	Lat 40°19'14", long 74°46'45", Mercer County, Hydrologic Unit 02030105, at north end of Oak Street, 400 ft upstream of unnamed lake and 0.7 mi south of Pennington.	.17	1985-87	11-19-87	*0.23
01400945 Stony Brook tributary No. 5	Stony Brook	Lat 40°19'43", long 74°46'12", Mercer County, Hydrologic Unit 02030105, at bridge on Federal City Road, east of Pennington, and 0.1 mi upstream from mouth.	1.62	1985-87	11-19-87	*.89
01400950 Hart Brook	Stony Brook	Lat 40°19'17", long 74°45'38", Mercer County, Hydrologic Unit 02030105, at culvert on Federal City Road, 1.0 mi upstream from mouth and 1.7 mi southeast of Pennington.	.57	1985-87	11-19-87	*.43

Discharge measurements made at miscellaneous sites during water year 1988--Continued

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements	
					Date	Discharge (ft^3/s)
		Raritan River basin--Continued				
01400951 Hart Brook	Stony Brook	Lat 40°19'52", long 74°45'23", Mercer County, Hydrologic Unit 02030105, 0.2 mi upstream from Stony Brook, 0.6 mi downstream from Blackwells Road, 1.9 mi east of Pennington, and 1.9 mi southwest of Rosedale.	1.25	1965, 1985-87	11-20-87	*.96
01400952 Stony Brook tributary No. 2	Stony Brook	Lat 40°20'08", long 74°44'48", Mercer County, Hydrologic Unit 02030105, 0.3 mi upstream of Honey Branch, 1.3 mi west of Rosedale, and 2.4 mi east of Pennington.	.49	1965, 1985-87	11-20-87	*.44
01400953 Honey Branch	Stony Brook	Lat 40°21'27", long 74°45'58", Mercer County, Hydrologic Unit 02030105, at bridge on Wargo Road, 0.5 mi upstream of Pennington-Rocky Hill Road and 0.8 mi north of Centerville.	.70	1985-87	11-19-87	*.43
01400960 Honey Branch	Stony Brook	Lat 40°21'17", long 74°45'29", Mercer County, Hydrologic Unit 02030105, at bridge on Mount Rose Road, 0.6 mi northeast of Centerville, 1.4 mi southeast of Mount Rose and 2.5 mi northeast of Pennington.	1.28	1985-87	11-19-87	*.77
01400962 Honey Branch tributary	Honey Branch	Lat 40°21'22", long 74°45'22", Mercer County, Hydrologic Unit 02030105, at bridge on Bayberry Road (formerly Van Kirk Road), 0.1 above mouth, and 2.7 mi northeast of Pennington.	.58	1965, 1968-69, 1985-87	11-19-87	*.17
01400974 Stony Brook	Millstone River	Lat 40°20'35", long 74°43'33", Mercer County, Hydrologic Unit 02030105, at bridge on Carter Road in Rosedale, 1.2 mi downstream from Honey Branch.	34.2	1965, 1971-72, 1985-87	11-19-87	*21
01400978 Cleveland Brook	Stony Brook	Lat 40°21'24", long 74°45'51", Mercer County, Hydrologic Unit 02030105, 800 ft upstream from Cleveland Brook Road, 1.4 mi north of Rosedale and 1.8 mi upstream of mouth	.41	1985-87	11-19-87	*.17
01400985 Stony Brook	Millstone River	Lat 40°21'09", long 74°42'39", Mercer County, Hydrologic Unit 02030105, at bridge on Province Line Road, 0.6 mi downstream of Cleveland Brook and 1.2 mi northeast of Rosedale.	36.2	1985-87	11-19-87	*28
01400990 Palmer Lake outlet stream	Stony Brook	Lat 40°21'16", long 74°41'52", Mercer County, Hydrologic Unit 02030105, at bridge on Elm Road at Princeton, 0.6 mi downstream of Palmer Lake and 0.6 mi upstream of mouth.	15.4	1987	11-19-87	*1.6
01400998 Stony Brook tributary No. 6	Stony Brook	Lat 40°20'03", long 74°41'52", Mercer County, Hydrologic Unit 02030105, at bridge on private estate, 0.6 mi north of Coxs Corner and 1.8 mi southwest of Princeton, 300 ft upstream of mouth.	9.74	1987	11-19-87	*1.1

Discharge measurements made at miscellaneous sites during water year 1988--Continued

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements	
					Date	Discharge (ft^3/s)
		Raritan River basin--Continued				
01401510 Beden Brook	Millstone River	Lat 40°23'12", long, 74°46'00", Mercer County, Hydrologic Unit 02030105, at bridge on Louellen Avenue at Hopewell, 400 ft west of W. Broad Street and 1.1 mi upstream from Hopewell-Princeton Road (State Route 569).	.55	1985, 1987	11-19-87	*.06
01401513 Beden Brook	Millstone River	Lat 40°23'02", long 74°44'42", Somerset County, Hydrologic Unit 02030105, 1,200 ft upstream from Aunt Molly Road, 0.9 mi southeast of Hopewell, and 2.8 mi southwest of Blawenburg.	1.91	1965, 1985, 1987	11-20-87	*1.2
01401515 Beden Brook tributary	Beden Brook	Lat 40°23'58", long 74°45'16", Mercer County, Hydrologic Unit 02030105, at bridge on dead end road, 0.1 mi west of Hopewell-Amwell Road, 0.85 mi northeast of Hopewell and 1.4 mi upstream of mouth.	2.66	1985, 1987	11-20-87	*1.6
01401517 Beden Brook	Millstone River	Lat 40°23'02", long 74°44'38", Somerset County, Hydrologic Unit 02030105, at left bank, 900 ft upstream from Aunt Molly Road, 1.0 mi southeast of Hopewell, and 2.7 mi southwest of Blawenburg.	4.3	1965, 1985, 1987	11-20-87	*2.5
01401518 Beden Brook tributary No. 2	Beden Brook	Lat 40°23'01", long 74°44'32" Somerset County, Hydrologic Unit 02030105, at right bank, 200 ft upstream from Aunt Molly Road, 1.0 mi southeast of Hopewell, and 2.6 mi southwest of Blawenburg.	.32	1965, 1985, 1987	11-20-87	*.17
01401525 Beden Brook	Millstone River	Lat 40°23'25", long 74°43'52", Mercer County, Hydrologic Unit 02030105, at bridge on Province Line Road, 900 ft upstream of unnamed tributary and 0.6 mi south of Stoutsburg.	7.84	1985, 1987	11-20-87	*4.6
01401530 Beden Brook	Millstone River	Lat 40°23'40", long 74°42'05", Somerset County, Hydrologic Unit 02030105, at bridge on Great Road, 0.9 mi south of Blawenburg and 2.4 mi upstream of Rock Brook.	11.8	1987	11-20-87	*8.2
01401535 Beden Brook	Millstone River	Lat 40°24'20", long 74°40'44", Somerset County, Hydrologic Unit 02030105, at bridge on County Route 518 (Georgetown-Franklin Turnpike), 0.5 mi upstream of Rock Brook and 1.3 mi east of Blawenburg.	15.3	1987	11-19-87	*11
01401540 Rock Brook	Beden Brook	Lat 40°26'44", long 74°44'52", Somerset County, Hydrologic Unit 02030105, at bridge on Montgomery Road, 0.3 mi north of Amwell, 0.5 mi upstream of Cat Tail Brook and 4.2 mi north of Hopewell.	3.84	1987	11-19-87	*.20
01402540 Millstone River	Raritan River	Lat 40°31'47", long 74°35'19", Somerset County, Hydrologic Unit 02030105, at bridge on Wilhouski Street in Weston, 0.8 mi southwest of Alma White College, and 1.9 mi north of Millstone.	271	1979-81, 1985-87	9-27-88	*61
01405302 Matchaponix Brook	South River	Lat 40°23'22", long 74°22'55", Middlesex County, Hydrologic Unit 02030105, at bridge on Mundy Avenue in Spotswood, 0.2 mi upstream from mouth, 0.5 mi east of DeVoe Lake Dam and 3.4 mi southeast of Tanners Corners.	44.1	1980, 1982, 1986	9-29-88	*8.5

Discharge measurements made at miscellaneous sites during water year 1988--Continued

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements	
					Date	Discharge (ft^3/s)
		Raritan River basin--Continued				
01405340 Manalapan Brook	South River	Lat 40°17'46", long 74°23'53", Middlesex County, Hydrologic Unit 02030105, at bridge on Federal Road, 2.0 mi west of Englishtown, 2.6 mi north of Manalapan, and 3.0 mi downstream from Still House Brook.	20.9	1979-81, 1986-87	9-29-88	*5.8
01405435 Cedar Brook	Manalapan Brook	Lat 40°23'26", long 74°23'31" Middlesex County, Hydrologic Unit 02030105, 50 ft upstream from mouth in Spotswood and 4.3 mi south of South River.	3.85	1943, 1949-50, 1957-87f	12-14-87	*3.4
		Manasquan River basin				
01407997 Marsh Bog Brook	Manasquan River	Lat 40°10'01", long 74°09'33", Monmouth County, Hydrologic Unit 02040301, at bridge on Yellow Brook Road at Squankum, 0.2 mi upstream from mouth.	4.91	1966, 1972-74, 1978-82, 1985-87	9-29-88	*.10
		Mullica River basin				
01409387 Mullica River	Great Bay	Lat 39°44'25", long 74°43'37", Burlington County, Hydrologic Unit 02040301, at bridge on U.S. Route 206 in Atsion, at outlet of Atsion Lake and 0.2 mi upstream from Wesickman Creek.	26.7	1980-81, 1985-87	9-20-88	14
01409416 Hammonton Creek	Mullica River	Lat 39°38'02", long 74°43'05", Atlantic County, Hydrologic Unit 02040301, at bridge on Chestnut Road, 0.4 mi south of Wescoatville and 1.6 mi upstream from Norton Branch.	9.57	1974, 1978-81, 1983, 1985-87	9-29-88	*2.0
01409815 West Branch Wading River	Wading River	Lat 39°40'30", long 74°32'28", Burlington County, Hydrologic Unit 02040301, at bridge on State Highway 563 in Maxwell, 1.6 mi southeast of Washington, 1.8 mi southwest of Jenkins, and 2.2 mi upstream from confluence with Oswego River.	85.9	1985-87	e5-17-85 e7-30-86 e8-19-87 9-27-88	*58 389 *76 43
		Absecon Creek basin				
01410500 Absecon Creek	Absecon Bay	Lat 39°25'45", long 74°31'16", Atlantic County, Hydrologic Unit 02040302, on right bank 30 ft downstream from Doughty Pond Dam of Atlantic City Water Department, 1.0 mi west of Absecon and 3.4 mi upstream from mouth.	16.6	1923-29c, 1933-38c, 1946-85cg, 1987g	6-29-88 9-08-88	*d.10 *.76
		Great Egg Harbor River basin				
01410820 Great Egg Harbor River	Great Egg Harbor Bay	Lat 39°40'09", long 74°54'49", Camden County, Hydrologic Unit 02040302, at bridge on Broad Lane Road, 2.1 mi downstream from confluence of Fourmile Branch and 1.9 mi southwest of Blue Anchor.	37.2	1972-80c, 1985-87	9-21-88	*24
01411110 Great Egg Harbor River	Great Egg Harbor Bay	Lat 39°30'50", long 74°46'47", Atlantic County, Hydrologic Unit 02040302, at bridge on U.S. Route 322 in Weymouth, 0.5 mi upstream from Deep Run and 20.9 mi upstream from mouth.	154	1978-81, 1985-87	9-27-88	73

a Discharge records published in reports of the New Jersey Department of Environmental Protection.
b Discharge records on file in U.S. Geological Survey Office, West Trenton, New Jersey.
c Operated as continuous-recording gaging station.
d Estimated.
e Not previously published.
f Operated as continuous gaging station by Duhernal Water Company.
g Also a tidal crest-stage partial-record station.

The following table contains annual maximum elevations 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 unless otherwise noted. Only the maximum elevation is given. Information on some other high elevations 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 elevation has been determined.

Annual maximum elevation at tidal crest-stage partial-record stations during water year 1988

Station No.	Station name	Location	Period of record	Annual Maximum Date	Annual Maximum Elevation NGVD* (ft)
01406700	Raritan River at Perth Amboy, NJ	Lat 40°30'31", long 74°17'30", Middlesex County, Hydrologic Unit 02030104, on upstream left bridge pier of Victory Bridge on State Route 35 in Perth Amboy, 0.5 mi downstream from Garden State Parkway bridge, and 1.5 mi upstream from mouth of Raritan River.	1967-70‡, 1980-88	1-20-88	5.87
01407030	Luppatatong Creek at Keyport, NJ	Lat 40°26'08", long 74°12'27", Monmouth County, Hydrologic Unit 02030104, on left bank upstream side of Front Street bridge in Keyport, 0.1 mi upstream from mouth, and 2.0 mi northwest of Matawan.	1980-88	11-11-87	6.09
01409145	Manahawkin Bay near Manahawkin, NJ	Lat 39°40'13", long 74°12'54", Ocean County, Hydrologic Unit 02040301, at west end of State Route 72 bridge over Manahawkin Bay, 2.5 mi northwest of Ship Bottom, and 3.1 mi southeast of Manahawkin.	1965-88	11-11-87	3.55
01409285	Little Egg Harbor at Beach Haven, NJ	Lat 39°33'10", long 74°15'07", Ocean County, Hydrologic Unit 02040301, in Beach Haven at U.S. Coast Guard station, 6.0 mi southeast of Tuckerton and 7.4 mi southeast of Ship Bottom.	1979-88	11-11-87	4.37
01409510	Batsto River at Pleasant Mills, NJ	Lat 39°37'55", long 74°38'40", Ocean County, Hydrologic Unit 02040301, on right bank, 0.5 mi upstream from mouth, and 1.0 mi southeast of Pleasant Mills.	1958-88‡	11-11-87	4.15
01410100	Mullica River near Port Republic, NJ	Lat 39°33'12", long 74°27'46", Atlantic County, Hydrologic Unit 02040301, on right bank on bulkhead piling at south end of U.S. Route 9 and Garden State Parkway bridge over Mullica River, 2.8 mi northeast of Port Republic, and 2.8 mi south of New Gretna.	1965-88	11-11-87	4.43
01410500	Absecon Creek at Absecon, NJ	Lat 39°25'45", long 74°31'16", Atlantic County, Hydrologic Unit 02040302, on right abutment of bridge on Mill Road, 50 ft downstream of former gaging station, 1 mi west of Absecon, and 3.4 mi upstream from mouth.	1923-29‡, 1933-38‡, 1946-84‡, 1985-88	11-11-87	5.03
01410570	Beach Thorofare at Atlantic City, NJ	Lat 39°21'56", long 74°26'44", Atlantic County, Hydrologic Unit 02040302, on west abutment south side of AMTRAK railroad swivel bridge in Atlantic City, 0.5 mi northeast of Bader Field airport, and 2.7 mi northeast of Ventnor City.	1978‡, 1969-88	1-20-88	4.86

Annual maximum elevation at tidal crest-stage partial-record stations during water year 1988--Continued

Station No.	Station name	Location	Period of record	Annual Maximum	
				Date	Elevation NGVD* (ft)
01411300	Tuckahoe River at Head of River, NJ	Lat 39°18'25", long 74°49'15", Cape May County, Hydrologic Unit 02040302, downstream right abutment of highway bridge on State Route 49, 0.2 mi upstream from McNeals Branch, 0.4 mi southeast of Head of River, and 3.7 mi west of Tuckahoe.	1979-88‡	4-08-88	4.28
01411320	Great Egg Harbor Bay at Ocean City, NJ	Lat 39°17'03", long 74°34'41", Cape May County, Hydrologic Unit 02040302, on bulkhead at west end of 7th Street (prior to October 1974, gage was located at 5th Street), Ocean City, and 2.5 mi southeast of Somers Point.	1965-88	1-20-88	5.26
01411360	Great Channel at Stone Harbor, NJ	Lat 39°03'26", long 74°45'53", Cape May County, Hydrologic Unit 02040302, on boat-ramp piling near east end of bridge at west end of Borough of Stone Harbor, 3.7 mi southeast of Cape May Court House, and 3.9 mi southwest of Avalon.	1965-88	11-11-87	5.25

* National Geodetic Vertical Datum of 1929 (NGVD).
‡ Operated as a continuous-record gaging station.

ATLANTIC COUNTY

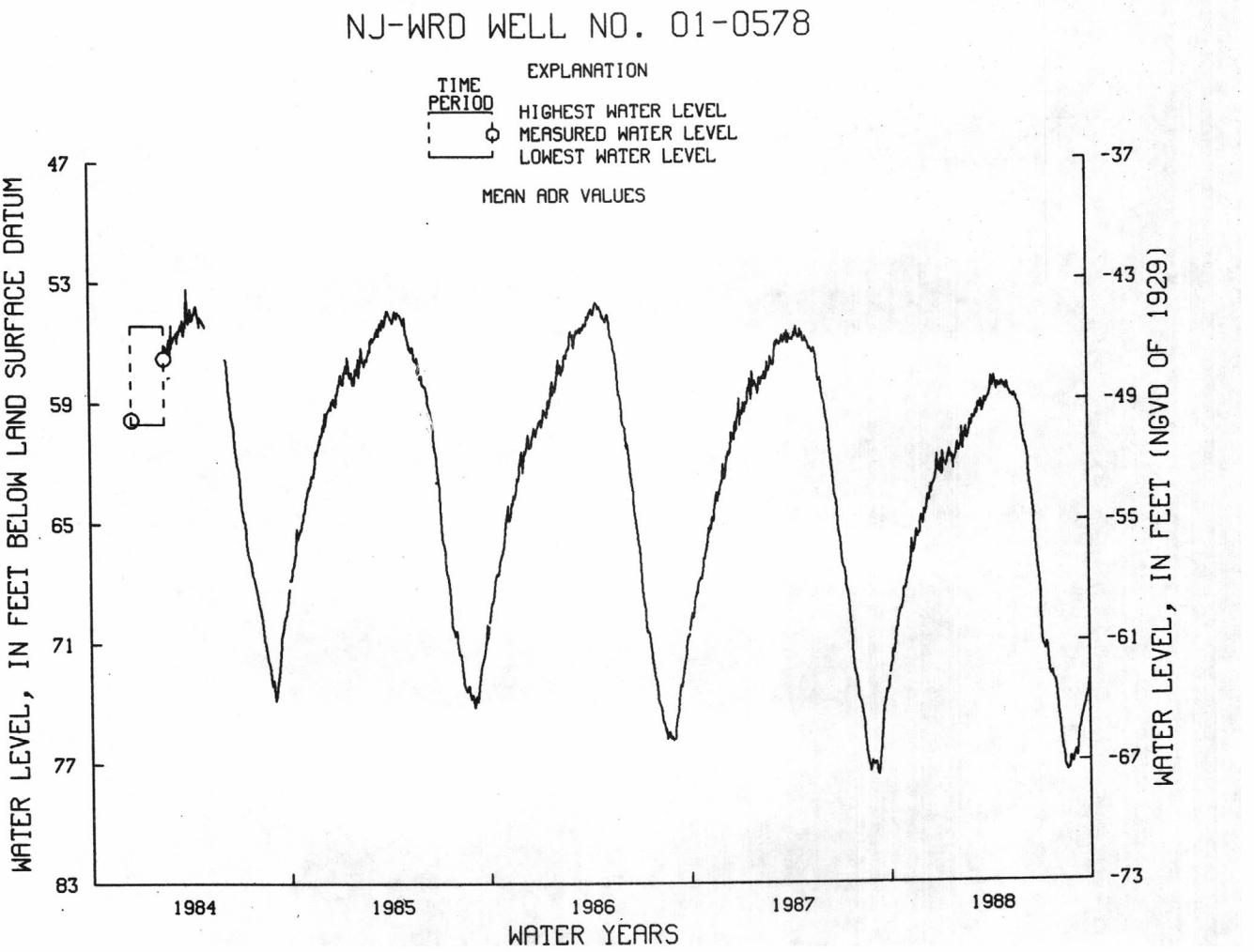
391827074371001. Local I.D., Jobs Point Obs. NJ-WRD Well Number, 01-0578.
LOCATION.--Lat 39°18'26", long 74°37'09", Hydrologic Unit 02040302, on the west side of the Garden State Parkway at interchange 29, Somers Point.
Owner: U.S. Geological Survey.
AQUIFER.--Atlantic City 800-foot sand of the Kirkwood Formation of Miocene age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 8 in, depth 680 ft, screened 670 to 680 ft.
INSTRUMENTATION.--Digital water-level recorder--60-minute punch. Water-level extremes recorder, May 1977 to February 1984.
DATUM.--Land-surface datum is 10.00 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Top edge of recorder shelf, 9.34 ft above land-surface datum.
REMARKS.--Water level affected by tidal fluctuation and nearby pumping.
PERIOD OF RECORD.--October 1959 to June 1975, May 1977 to current year. Records for 1975 to 1980 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 29.10 ft below land-surface datum, Apr. 13, 1961; lowest, 78.41 ft below land-surface datum, Sept. 8, 1987.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	71.99	67.25	64.35	62.67	61.38	59.92	58.76	58.45	61.02	70.28	74.64	76.69
10	71.38	66.64	64.07	62.11	61.29	59.54	58.36	58.53	61.51	71.28	76.20	75.54
15	70.29	66.39	63.34	62.05	60.86	59.14	58.16	58.74	63.08	71.13	77.17	74.96
20	69.40	65.41	63.15	61.43	60.31	59.24	58.32	58.83	64.22	72.63	77.49	74.32
25	68.97	65.56	62.73	61.70	60.54	59.27	58.35	59.08	66.00	72.72	76.87	73.76
EOM	68.27	64.73	62.38	61.91	60.28	58.92	58.27	60.20	67.52	73.30	76.82	73.00
MEAN	70.19	66.31	63.55	62.03	60.92	59.47	58.31	58.80	63.38	71.55	76.36	74.99

WTR YR 1988 MEAN 65.51 HIGH 57.05 APR 13 LOW 78.11 AUG 19



ATLANTIC COUNTY

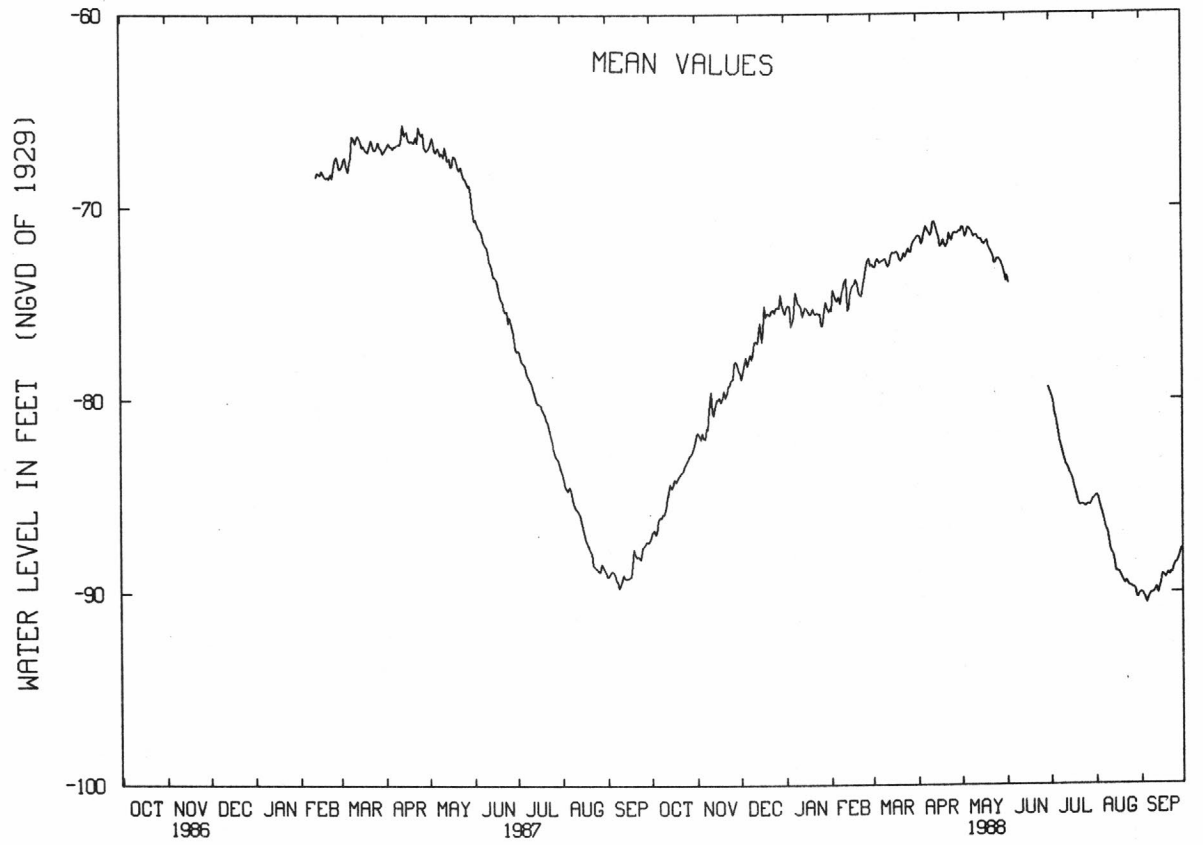
391955074250701. Local I.D., ACOW 1 Obs. NJ-WRD Well Number 01-0711.
LOCATION.--Lat 39°19'55", long 74°25'07", in the Atlantic Ocean, 1.9 miles offshore of Atlantic City
Owner: U.S. Geological Survey.
AQUIFER.--Atlantic City 800-foot sand of the Kirkwood Formation of Miocene age.
WELL CHARACTERISTICS.-- Drilled artesian observation well, diameter 4 in, depth 871 ft, screened 820 to 850 ft.
INSTRUMENTATION.--Digital data logger with differential pressure transducers and conductivity cells. Recorder located on sea floor, about 33 ft below NGVD.
DATUM.-- 0.00 ft, National Geodedic Vertical Datum of 1929.
Measuring point: Deck of drilling platform at time when transducers were set at bottom of well.
REMARKS.--Water level affected by tidal fluctuation and nearby pumping. Elevation of differential pressure transducers was determined by direct measurement from the deck of the drilling platform. Elevation of the deck of the drilling platform was determined by survey by the U.S. Geological Survey, National Mapping Division. Specific conductance extremes for 1988 water year - maximum 171 us/cm, minimum 166 us/cm.
PERIOD OF RECORD.--February 1987 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 63.72 ft below NGVD , April 14,16, 1987; lowest, 92.42 ft below NGVD, August 30, 1988.

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	-86.85	-81.66	-77.74	-76.18	-74.80	-72.67	-71.80	-71.41	---	-81.04	-85.80	-90.56
10	-85.89	-80.48	-77.58	-74.98	-74.23	-72.68	-71.46	-71.53	---	-82.95	-87.27	-90.05
15	-84.54	-79.94	-75.97	-75.17	-74.54	-72.35	-71.32	-71.67	---	-83.89	-88.89	-89.54
20	-83.89	-79.47	-75.47	-75.25	-74.00	-72.68	-71.89	-72.07	---	-85.27	-89.41	-88.99
25	-83.35	-78.94	-75.46	-75.50	-73.60	-72.40	-71.74	-72.86	---	-85.54	-89.69	-88.49
EOM	-82.17	-78.46	-75.39	-75.40	-73.04	-71.69	-71.20	-73.45	-79.33	-85.12	-90.09	-87.96
MEAN	-84.62	-80.16	-76.51	-75.39	-74.24	-72.55	-71.46	-71.93	---	-83.65	-88.18	-89.37

WTR YR 1988 HIGH -68.78 MAY 2 LOW -92.42 AUG 30



ATLANTIC COUNTY

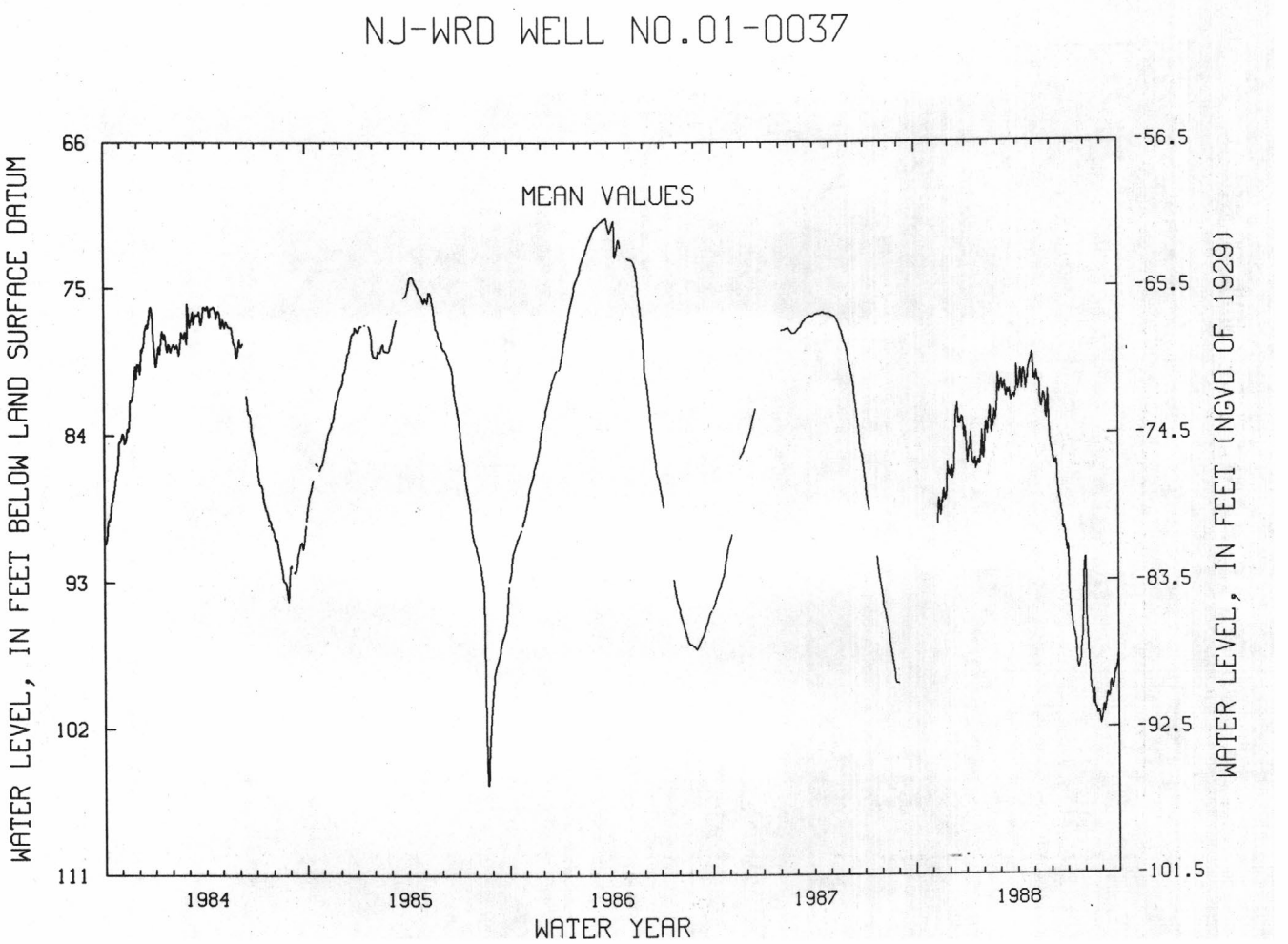
392153074250101. Local I.D., Galen Hall Obs. NJ-WRD Well Number, 01-0037.
LOCATION.--Lat 39°21'51", long 74°24'59", Hydrologic Unit 02040302, near the intersection of Pacific and Congress Avenues, Atlantic City.
Owner: Atlantic City Municipal Utilities Authority.
AQUIFER.--Atlantic City 800-foot sand of the Kirkwood Formation of Miocene age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 6 in, depth 837 ft, screened 782 to 837 ft.
INSTRUMENTATION.--Digital water-level recorder--60-minute punch. Water-level extremes recorder, May 1977 to July 1980.
DATUM.--Land-surface datum is 9.54 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Front edge of cutout in recorder housing, 0.90 ft above land-surface datum.
REMARKS.--Water level affected by tidal fluctuation and nearby pumping. Water level affected by USGS aquifer test, August 16-23, 1985. Missing record from October 1 to November 9 was due to damage by construction equipment.
PERIOD OF RECORD.--January 1949 to August 1975, May 1977 to current year. Records for 1949 to 1975 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 52.58 ft below land-surface datum, Mar. 7, 1962; lowest, 105.70 ft below land-surface datum, Aug. 22, 1985. (see remarks)

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	---	---	85.96	84.81	83.25	80.65	81.08	80.77	85.25	93.96	95.59	101.14
10	---	89.48	86.03	84.79	83.08	80.78	81.00	80.67	85.57	95.82	98.97	99.91
15	---	88.81	82.11	85.56	83.94	81.27	80.19	82.35	87.53	96.41	100.56	99.48
20	---	87.64	83.37	85.86	82.53	81.59	80.49	81.47	88.76	98.37	100.75	99.44
25	---	87.70	83.10	85.71	81.78	81.75	79.79	83.06	89.66	97.40	101.02	98.67
EOM	---	86.49	84.08	85.30	81.44	81.06	79.31	84.45	91.14	92.07	101.48	97.37
MEAN	---	87.83	84.26	85.29	83.01	81.39	80.32	81.71	87.54	95.65	99.08	99.57

WTR YR 1988 MEAN 87.80 HIGH 78.91 APR 29 LOW 102.01 AUG 29



ATLANTIC COUNTY

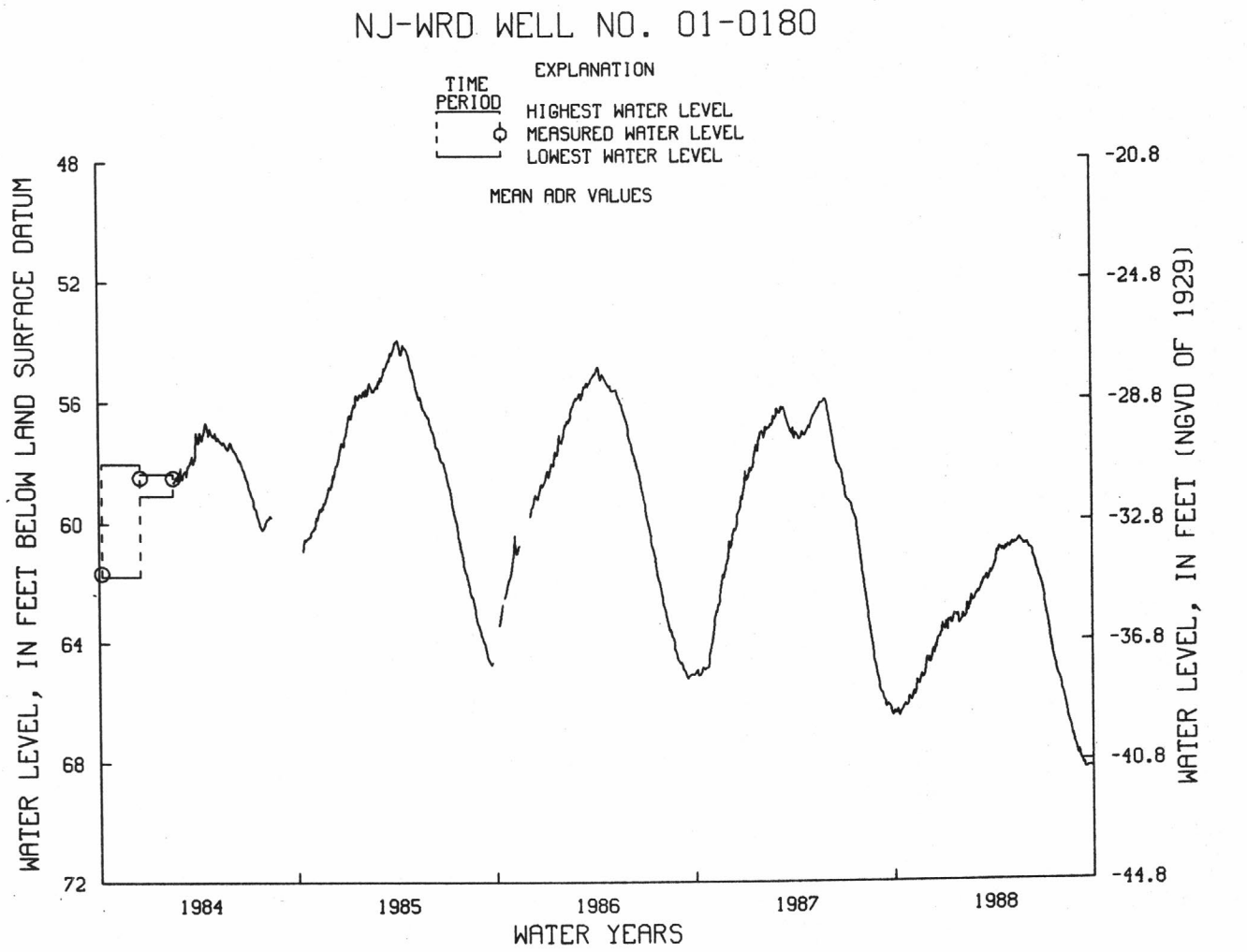
392754074270101. Local I.D., Oceanville 1 Obs. NJ-WRD Well Number, 01-0180.
LOCATION.--Lat 39°27'54", long 74°27'01", Hydrologic Unit 02040302, at Edwin B. Forsythe National Wildlife Refuge, Brigantine Division, Oceanville, Galloway Township.
Owner: U.S. Geological Survey.
AQUIFER.--Atlantic City 800-foot sand of the Kirkwood Formation of Miocene age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 8 in, depth 570 ft, screened 560 to 570 ft.
INSTRUMENTATION.--Digital water-level recorder--60-minute punch. Water-level extremes recorder, April 1977 to February 1984.
DATUM.--Land-surface datum is 27.17 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Top edge of bushing, 2.30 ft above land-surface datum.
REMARKS.--Water level affected by tidal fluctuation and nearby pumping.
PERIOD OF RECORD.--October 1959 to August 1975, April 1977 to current year. Records for 1975 to 1981 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 33.62 ft below land-surface datum, Apr. 13, 1961; lowest, 68.36 ft below land-surface datum, Sept. 29,30, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	66.39	65.66	64.55	63.49	63.16	62.37	61.41	60.87	60.85	62.83	65.68	67.69
10	66.47	65.62	64.50	63.35	63.17	62.12	61.06	60.72	60.92	63.34	66.02	68.04
15	66.28	65.45	64.21	63.39	62.91	61.93	60.91	60.73	61.26	63.97	66.50	68.24
20	66.12	65.10	63.94	63.09	62.48	61.82	60.97	60.62	61.62	64.55	66.83	68.24
25	66.11	65.14	63.76	63.10	62.62	61.90	60.94	60.66	61.89	64.95	67.18	68.21
EOM	65.96	64.56	63.57	63.38	62.41	61.66	60.86	60.78	62.17	65.27	67.63	68.30
MEAN	66.21	65.37	64.16	63.33	62.88	62.04	61.05	60.74	61.35	63.99	66.53	68.11

WTR YR 1988 MEAN 63.82 HIGH 60.44 MAY 18 LOW 68.36 SEP 29,30



ATLANTIC COUNTY

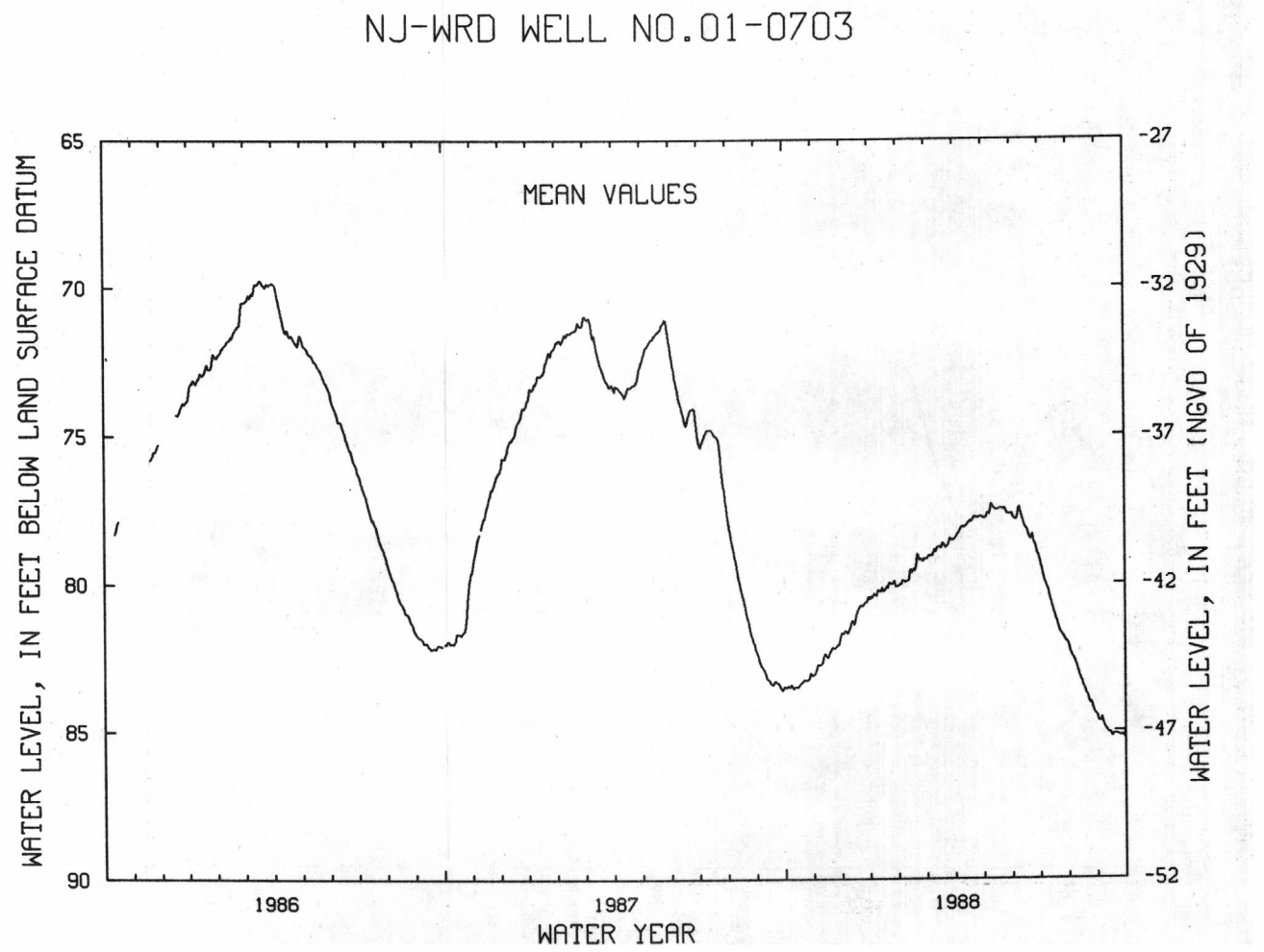
393232074263901. Local I.D., FAA-TW-Pomona Obs. NJ-WRD Well Number, 01-0703.
LOCATION.--Lat 39°26'39", long 74°32'32", Hydrologic Unit 02040302, at the NAFEC Atlantic City Airport, Egg Harbor Township.
Owner: U.S. Geological Survey
AQUIFER.--Atlantic City 800-foot sand of the Kirkwood Formation of Miocene age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 4 in, depth 570 ft, screened 560 to 570 ft.
INSTRUMENTATION.--Digital water-level recorder--60 minute punch.
DATUM.--Land-surface datum is 38 ft above National Geodedic Vertical Datum of 1929, from topographic map.
Measuring point: Top edge of recorder shelf, 1.75 ft above land-surface datum.
REMARKS.--Water level affected by nearby pumping.
PERIOD OF RECORD.--October 1985 to current year. Records for 1985 to 1986 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 69.74 ft below land-surface datum, March 18, 1986; lowest, 85.26 ft below land-surface datum, Sept. 29, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	83.47	82.73	81.59	80.35	79.91	79.09	78.31	77.78	77.84	79.80	82.49	84.55
10	83.52	82.65	81.45	80.24	79.89	78.85	78.08	77.34	77.57	80.21	82.92	84.95
15	83.45	82.46	81.22	80.25	79.59	78.78	77.97	77.52	78.08	80.85	83.36	85.14
20	83.30	82.17	80.76	80.00	79.00	78.66	77.91	77.49	78.45	81.42	83.77	85.10
25	83.22	82.13	80.64	79.96	79.23	78.70	77.80	77.47	78.66	81.78	84.08	85.16
EOM	83.07	81.70	80.49	80.04	79.16	78.52	77.76	77.67	79.09	82.04	84.48	84.89
MEAN	83.34	82.41	81.09	80.18	79.55	78.82	78.01	77.58	78.17	80.86	83.40	84.99

WTR YR 1988 MEAN 80.70 HIGH 77.30 MAY 10 LOW 85.26 SEP 29



ATLANTIC COUNTY

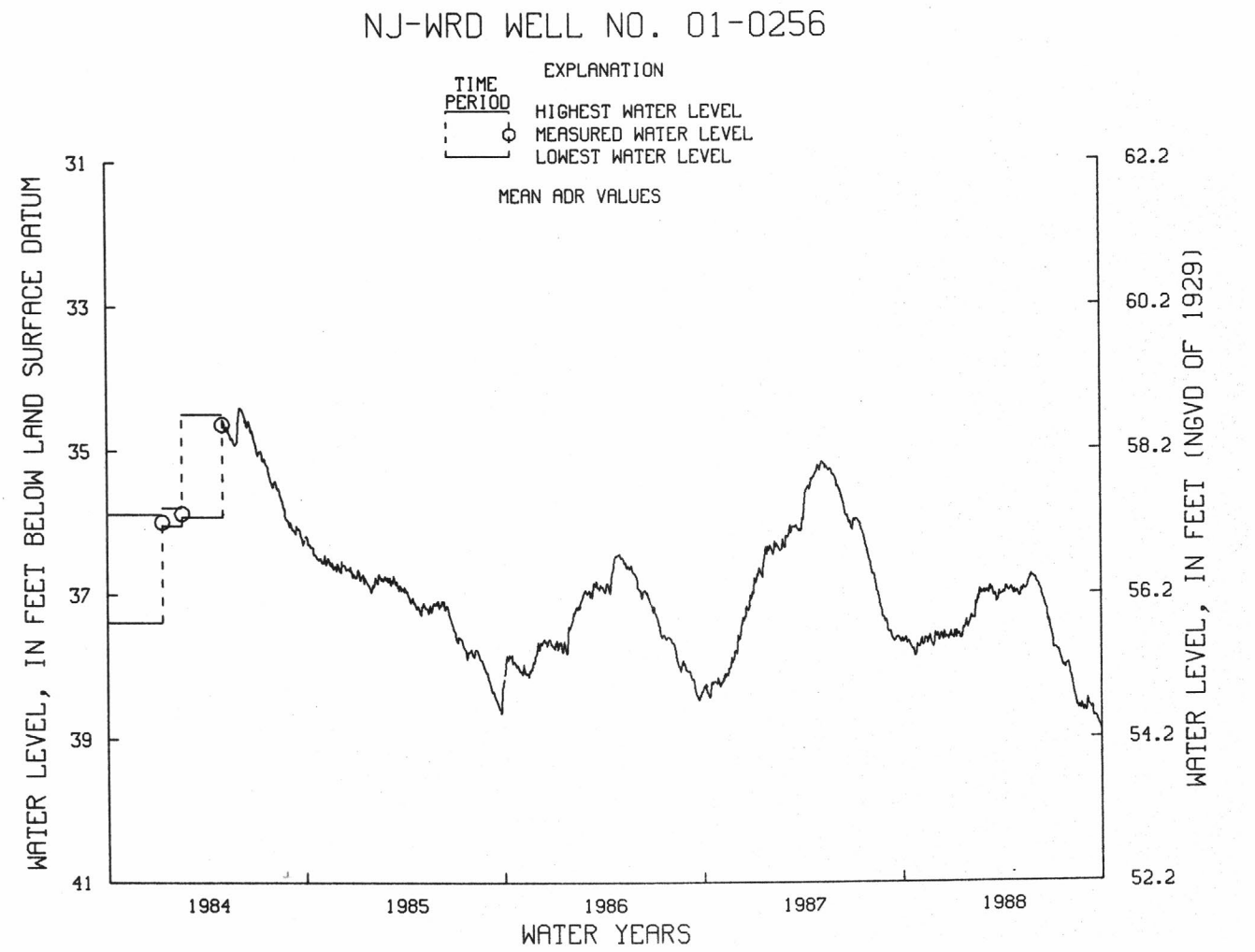
393333074442401. Local I.D., Scholler 1 Obs. NJ-WRD Well Number, 01-0256.
LOCATION.--Lat 39°33'33", long 74°44'26", Hydrologic Unit 02040302, at Scholler Brothers plant, near intersection of Weymouth and Second Roads, Elwood, Hamilton Township.
Owner: Scholler Brothers Incorporated.
AQUIFER.--Kirkwood-Cohansey aquifer system of Miocene age.
WELL CHARACTERISTICS.--Drilled water-table observation well, diameter 8 in, depth 275 ft, screened 254 to 275 ft.
INSTRUMENTATION.--Digital water-level recorder--60-minute punch. Water-level extremes recorder, May 1977 to April 1984.
DATUM.--Land-surface datum is 93.19 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Top edge of recorder shelf, 2.66 ft above land-surface datum.
PERIOD OF RECORD.--April 1962 to August 1975, May 1977 to current year. Records for 1962 to 1975 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 27.18 ft below land-surface datum, Mar. 20, 1963; lowest, 39.56 ft below land-surface datum, Sept. 13, 1966.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	37.64	37.61	37.57	37.56	37.32	36.98	36.97	37.03	36.85	37.77	38.13	38.46
10	37.68	37.67	37.59	37.56	37.33	36.89	36.93	36.91	36.93	37.75	38.34	38.55
15	37.70	37.66	37.56	37.62	37.10	36.95	36.95	36.94	37.06	37.82	38.49	38.65
20	37.77	37.57	37.58	37.50	36.93	37.01	36.96	36.82	37.19	37.97	38.58	38.71
25	37.84	37.70	37.59	37.41	36.99	37.10	36.99	36.73	37.39	38.01	38.53	38.80
EOM	37.73	37.53	37.59	37.42	36.97	37.01	36.99	36.79	37.54	37.96	38.60	38.90
MEAN	37.71	37.65	37.58	37.53	37.14	37.00	36.96	36.89	37.10	37.86	38.42	38.67

WTR YR 1988 MEAN 37.55 HIGH 36.68 MAY 25 LOW 38.91 SEP 29,30



BURLINGTON COUNTY

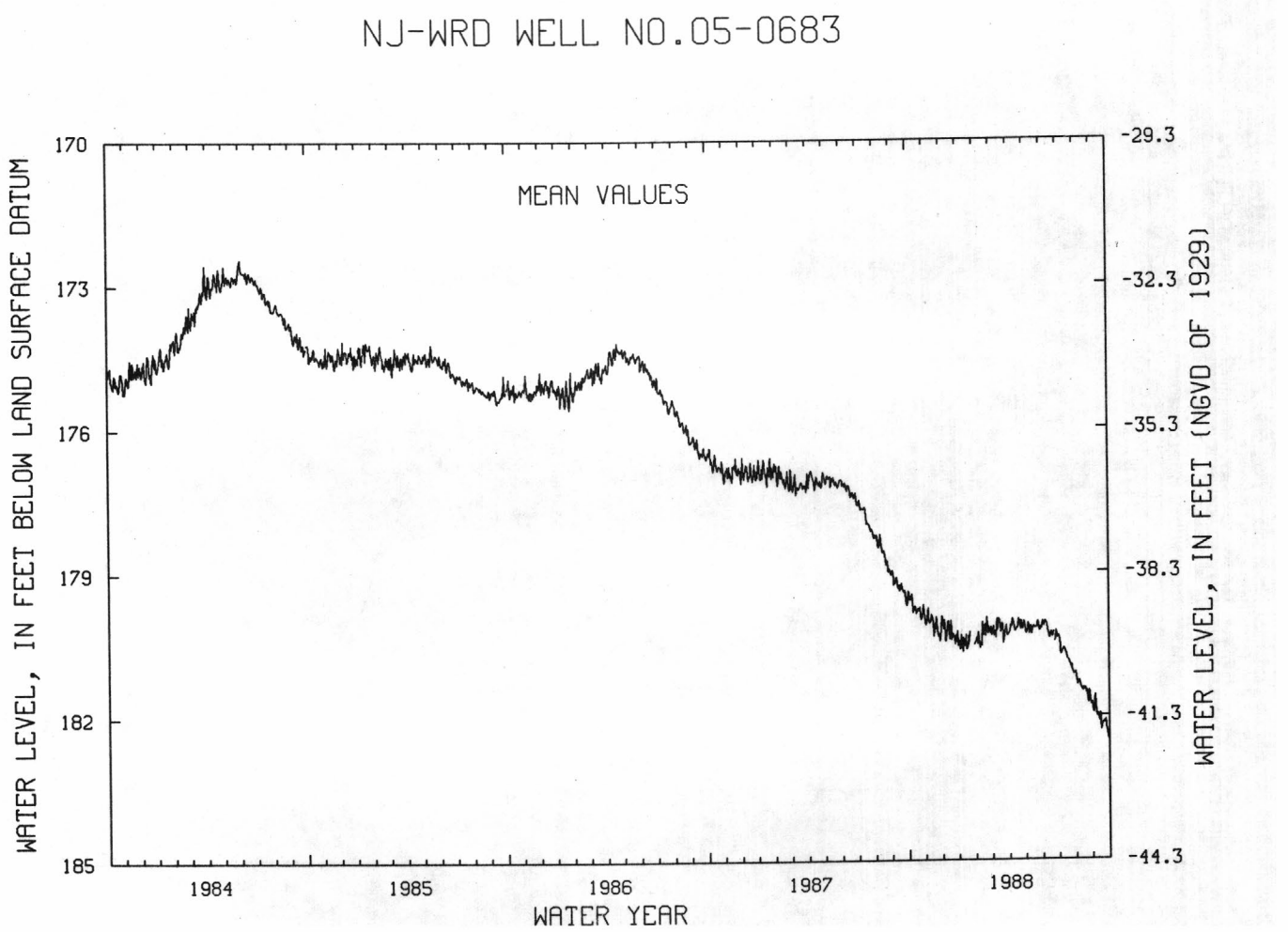
395122074301701. Local I.D., Butler Place 1 Obs. NJ-WRD Well Number, 05-0683.
LOCATION.--Lat 39°51'22", long 74°30'17", Hydrologic Unit 02040301, in Lebanon State Forest, Woodland Township.
Owner: U.S. Geological Survey.
AQUIFER.--Potomac-Raritan-Magothy aquifer system, undifferentiated, of Cretaceous age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 8 in, depth 2,117 ft, screened 2,102 to 2,117 ft.
INSTRUMENTATION.--Digital water-level recorder--60-minute punch.
DATUM.--Land-surface datum is 140.66 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Top of coupling, 2.80 ft above land-surface datum.
PERIOD OF RECORD.--October 1964 to August 1975, March 1977 to current year. Records for 1964 to 1977 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 143.20 ft below land-surface datum, Feb. 25, 1965; lowest, 182.52 ft below land-surface datum, Sept. 29, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	179.57	179.74	180.11	180.45	180.39	180.32	180.11	180.21	180.06	180.72	181.32	181.57
10	179.81	180.01	180.17	180.51	180.48	179.98	180.12	180.13	180.22	180.59	181.42	181.96
15	179.82	180.27	180.17	180.59	180.15	180.02	180.16	180.23	180.36	180.72	181.41	182.14
20	179.78	179.93	180.27	180.24	179.94	180.11	180.11	180.15	180.31	180.91	181.48	182.15
25	179.92	180.34	180.31	---	180.25	180.31	180.14	180.01	180.41	181.02	181.48	182.25
EOM	180.02	179.91	180.49	180.47	180.23	180.32	180.14	180.12	180.32	181.09	181.81	182.47
MEAN	179.75	180.09	180.26	180.47	180.28	180.22	180.13	180.17	180.23	180.80	181.48	182.09

WTR YR 1988 MEAN 180.50 HIGH 179.34 OCT 1 LOW 182.52 SEP 29

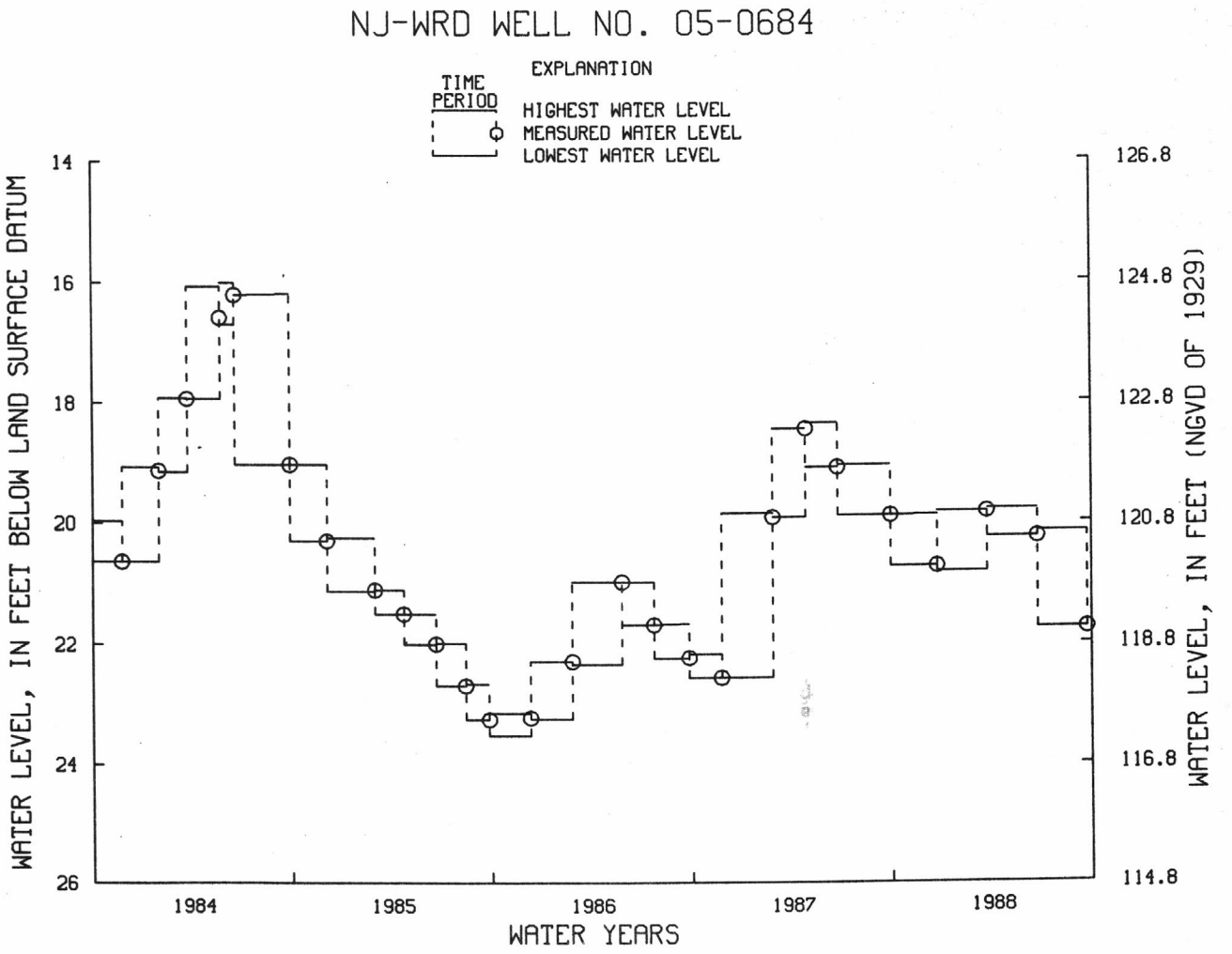


BURLINGTON COUNTY

395122074301702. Local I.D., Butler Place 2 Obs. NJ-WRD Well Number, 05-0684.
LOCATION.--Lat 39°51'22", long 74°30'17", Hydrologic Unit 02040301, in Lebanon State Forest, Woodland Township.
Owner: U.S. Geological Survey.
AQUIFER.--Kirkwood-Cohansey aquifer system of Miocene age.
WELL CHARACTERISTICS.--Drilled water-table observation well, diameter 4 in, depth 170 ft, screened 160 to 170 ft.
INSTRUMENTATION.--Water-level extremes recorder, March 1977 to current year. Water-level recorder, May 1965 to April 1975.
DATUM.--Land-surface datum is 140.82 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Front edge of cutout in recorder housing, 2.67 ft above land-surface datum.
PERIOD OF RECORD.--May 1965 to April 1975, March 1977 to current year. Records for 1965 to 1981 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 15.14 ft below land-surface datum, Feb. 15, 1973; lowest, 23.53 ft below land-surface datum, between Sept. 26, and Dec. 11, 1985.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

WATER-LEVEL EXTREMES			MEASURED WATER LEVEL	
PERIOD	HIGHEST WATER LEVEL	LOWEST WATER LEVEL	DATE	WATER LEVEL
SEPT. 29, 1987 TO DEC. 23, 1987	19.88	20.73	DEC. 23, 1987	20.73
DEC. 23, 1987 TO MAR. 23, 1988	19.83	20.82	MAR. 23, 1988	19.83
MAR. 23, 1988 TO JUNE 23, 1988	19.79	20.25	JUNE 23, 1988	20.25
JUNE 23, 1988 TO SEPT. 22, 1988	20.16	21.75	SEPT. 22, 1988	21.75



CAMDEN COUNTY

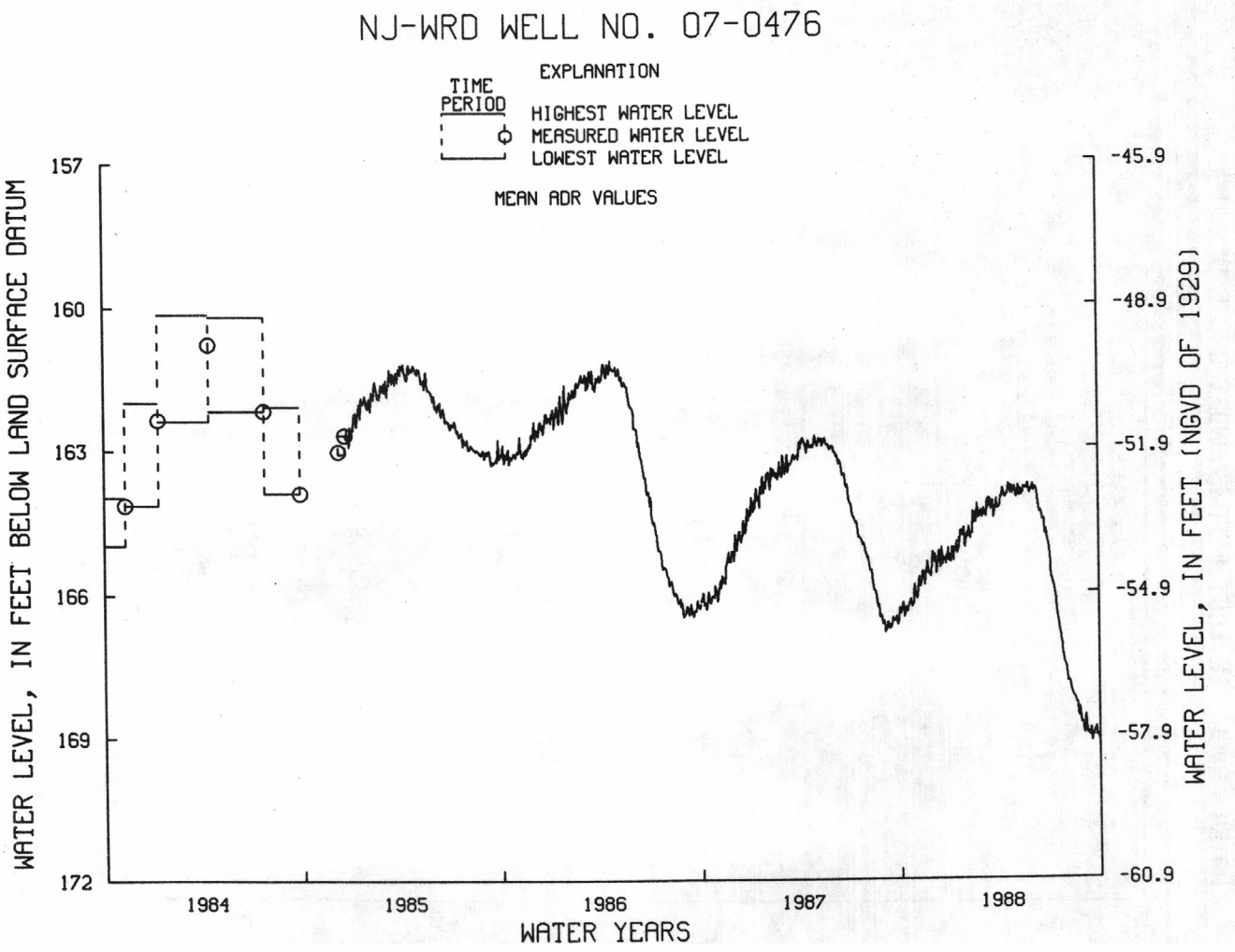
394215074561701. Local I.D., New Brooklyn Park 1 Obs. NJ-WRD Well Number, 07-0476.
LOCATION.--Lat 39°42'15", long 74°56'17", Hydrologic Unit 02040302, on eastern shore of New Brooklyn Lake about 900 ft upstream of Route 536, Winslow Township.
Owner: U.S. Geological Survey.
AQUIFER.--Potomac-Raritan-Magothy aquifer system, undifferentiated, of Cretaceous age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 4 in, depth 1,495 ft, screened 1,485 to 1,495 ft.
INSTRUMENTATION.--Digital water-level recorder--60-minute punch. Water-level extremes recorder, February 1977 to December 1984.
DATUM.--Land-surface datum is 111.13 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Top of coupling, 1.75 ft above land-surface datum.
PERIOD OF RECORD.--February 1963 to August 1975, February 1977 to current year. Records for 1963 to 1981 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 120.16 ft below land-surface datum, March 6, 1963; lowest, 169.15 ft below land-surface datum, Sept. 16, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	166.35	165.68	165.33	165.19	164.75	164.43	164.04	163.96	163.87	165.69	167.88	168.58
10	166.47	165.75	165.33	165.17	164.78	164.09	163.98	163.87	164.10	165.91	168.06	168.91
15	166.35	165.82	165.25	165.18	164.41	164.09	163.98	163.95	164.36	166.35	168.16	169.00
20	166.17	165.35	165.28	164.77	164.18	164.14	163.91	163.86	164.51	166.82	168.31	168.93
25	166.21	165.62	165.24	164.71	164.45	164.30	163.93	163.75	164.82	167.19	168.41	168.96
EOM	166.08	165.16	165.31	164.90	164.39	164.27	163.91	163.87	165.03	167.53	168.82	169.08
MEAN	166.25	165.67	165.32	165.03	164.56	164.27	163.96	163.91	164.33	166.45	168.23	168.93

WTR YR 1988 MEAN 165.58 HIGH 163.69 MAY 25 LOW 169.15 SEP 16



CAMDEN COUNTY

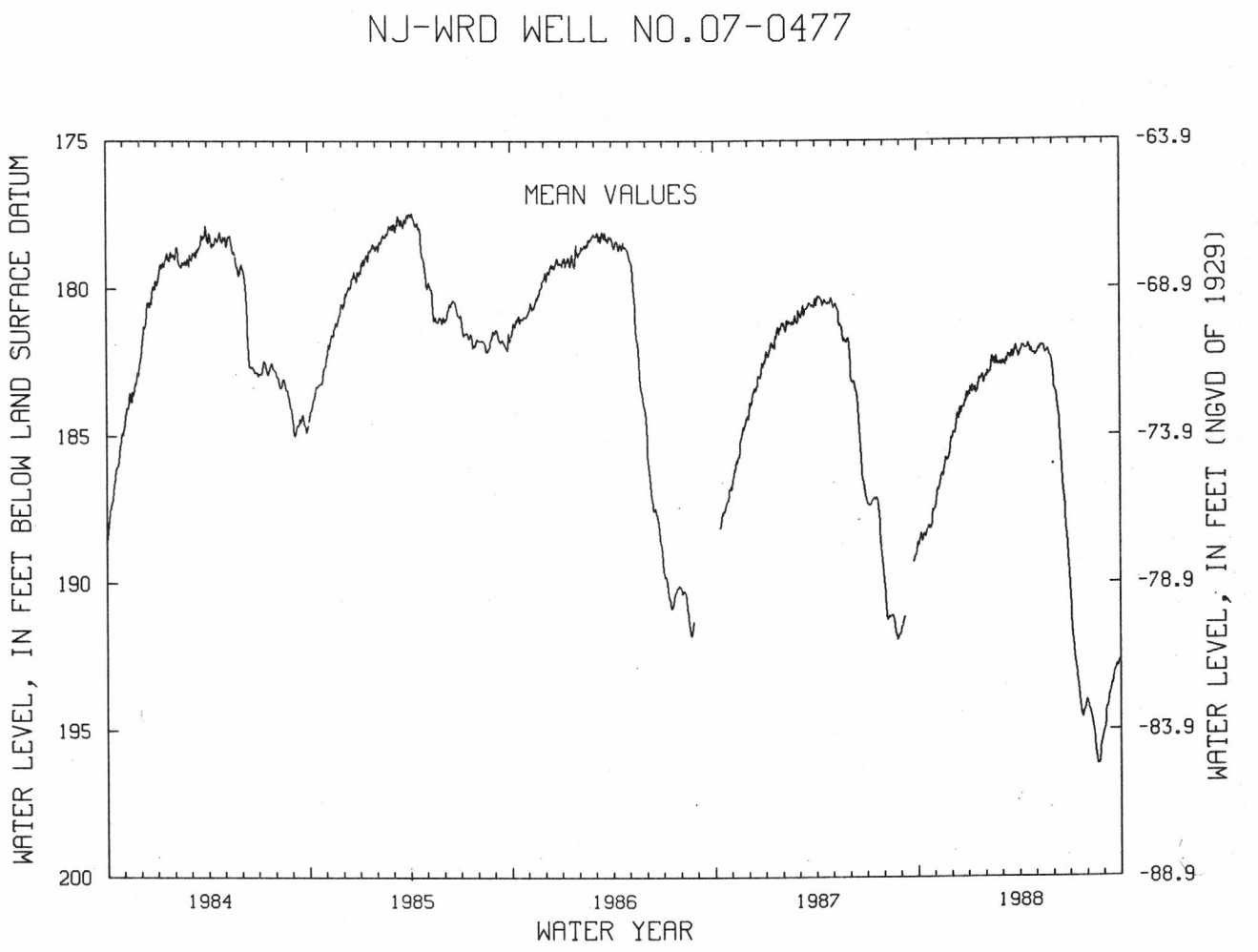
394215074561702. Local I.D., New Brooklyn Park 2 Obs. NJ-WRD Well Number, 07-0477.
LOCATION.--Lat 39°42'15", long 74°56'17", Hydrologic Unit 02040302, on eastern shore of New Brooklyn Lake about 900 ft upstream of Route 536, Winslow Township.
Owner: U.S. Geological Survey.
AQUIFER.--Upper aquifer, Potomac-Raritan-Magothy aquifer system of Cretaceous age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 6 in, depth 839 ft, screened 829 to 839 ft.
INSTRUMENTATION.--Digital water-level recorder--60-minute punch.
DATUM.--Land-surface datum is 111.13 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Top edge of recorder shelf, 3.30 ft above land-surface datum.
PERIOD OF RECORD.--January 1963 to August 1975, March 1977 to current year. Records for 1963 to 1975 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 131.54 ft below land-surface datum, Mar. 6, 1963; lowest, 196.20 ft below land-surface datum, Aug. 19,20, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	188.48	186.79	184.88	183.44	182.88	182.59	182.11	182.24	183.45	191.57	194.27	194.22
10	188.53	186.64	184.57	183.41	182.83	182.37	181.96	181.96	184.18	192.66	194.72	193.78
15	188.39	186.38	184.21	183.56	182.44	182.25	182.04	181.97	185.40	193.31	195.44	193.43
20	188.12	185.75	184.05	183.13	182.34	182.14	182.05	182.20	187.00	194.32	196.18	192.95
25	188.05	185.77	183.81	182.98	182.61	182.16	182.18	182.14	188.27	194.45	195.62	192.86
EOM	187.51	185.11	183.68	183.03	182.56	182.30	182.31	182.69	189.72	193.97	195.10	192.60
MEAN	188.22	186.27	184.31	183.31	182.66	182.34	182.10	182.17	185.85	193.16	195.18	193.50

WTR YR 1988 MEAN 186.61 HIGH 181.86 MAY 13 LOW 196.20 AUG 19,20



CAMDEN COUNTY

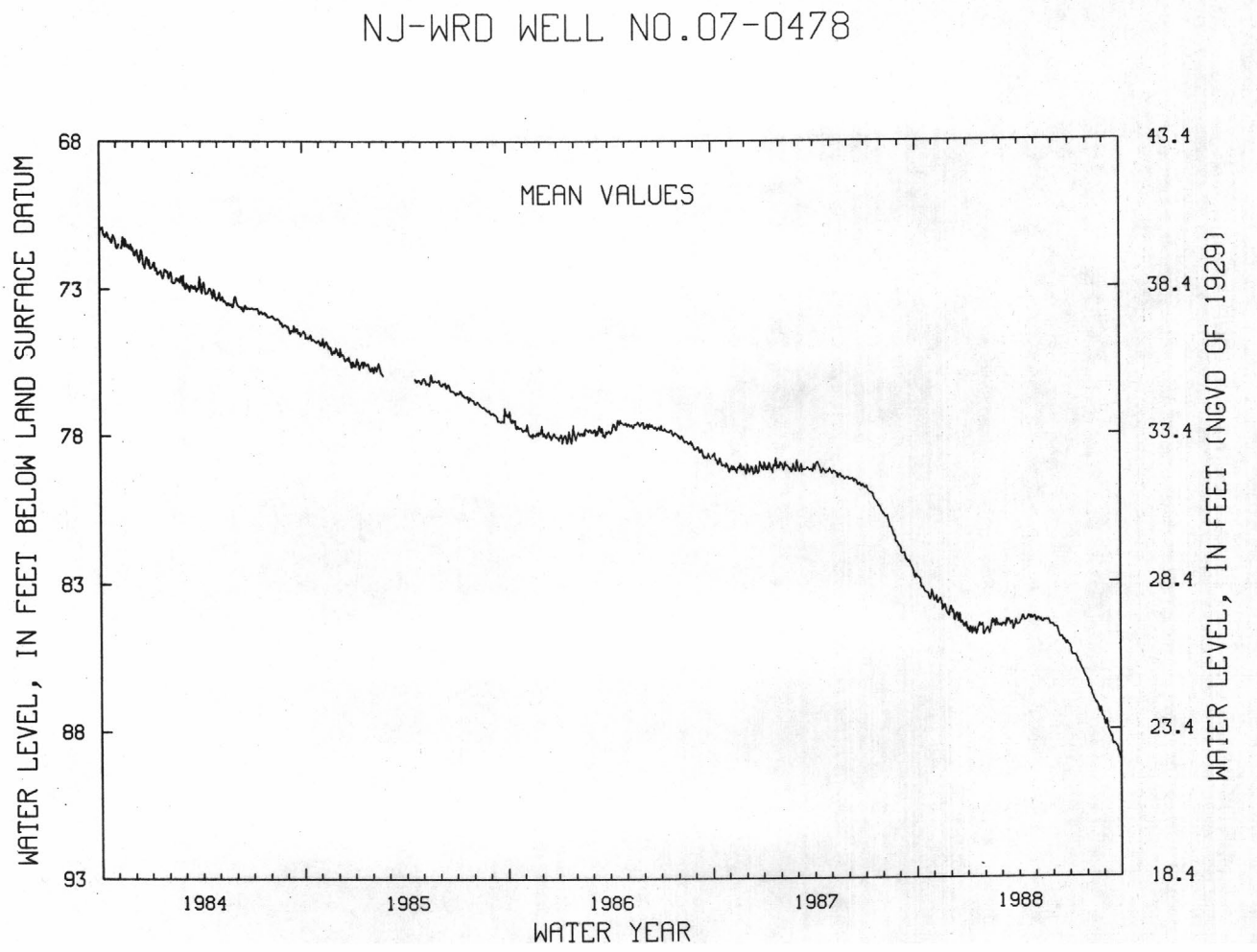
394215074561703. Local I.D., New Brooklyn Park 3 Obs. NJ-WRD Well Number, 07-0478.
LOCATION.--Lat 39°42'15", long 74°56'17", Hydrologic Unit 02040302, on eastern shore of New Brooklyn Lake about 900 ft upstream of Route 536, Winslow Township.
Owner: U.S. Geological Survey.
AQUIFER.--Wenonah-Mount Laurel aquifer of Cretaceous age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 6 in, depth 530 ft, screened 520 to 530 ft.
INSTRUMENTATION.--Digital water-level recorder--60-minute punch.
DATUM.--Land-surface datum is 111.45 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Top of 6 inch coupling, 2.10 ft above land-surface datum.
PERIOD OF RECORD.--December 1962 to August 1975, March 1977 to current year. Records for 1962 to 1975 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 58.53 ft below land-surface datum, Dec. 18, 1962; lowest, 89.08 ft below land-surface datum, Sept. 30, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	82.84	83.44	83.98	84.54	84.56	84.44	84.29	84.31	84.53	85.46	86.61	87.68
10	83.17	83.67	84.14	84.62	84.66	84.25	84.22	84.26	84.66	85.47	86.84	88.12
15	83.29	83.82	84.22	84.74	84.38	84.27	84.27	84.36	84.88	85.63	87.03	88.37
20	83.36	83.74	84.33	84.48	84.25	84.33	84.19	84.27	84.96	85.86	87.19	88.55
25	83.55	84.06	84.42	84.50	84.47	84.50	84.20	84.26	85.11	86.02	87.28	88.78
EOM	83.49	83.81	84.60	84.69	84.46	84.45	84.19	84.46	85.11	86.28	87.69	89.08
MEAN	83.21	83.77	84.24	84.59	84.49	84.42	84.24	84.32	84.80	85.73	87.05	88.37

WTR YR 1988 MEAN 84.93 HIGH 82.65 OCT 1 LOW 89.08 SEP 30



CAMDEN COUNTY

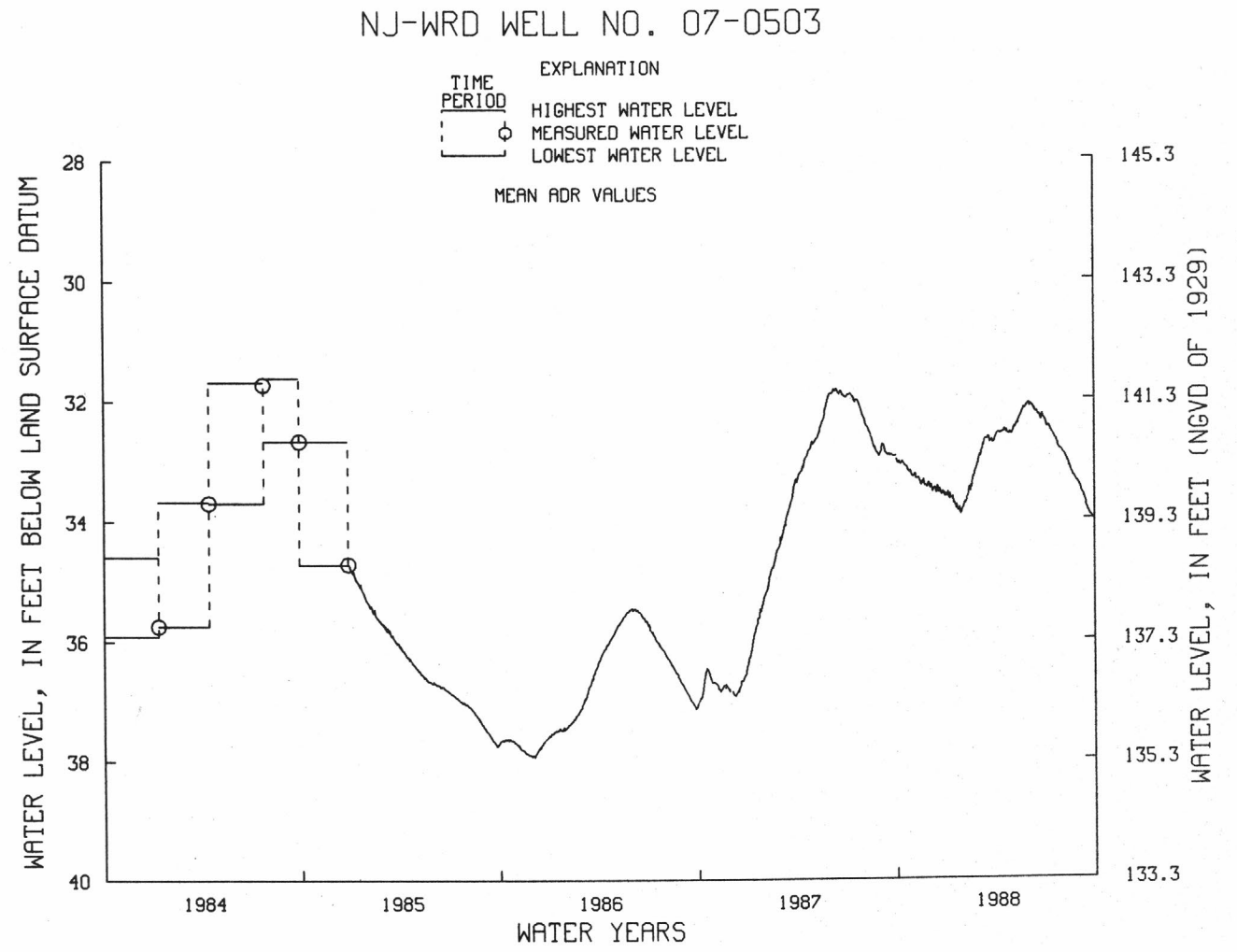
394440074593101. Local I.D., Winslow WC 5 Obs. NJ-WRD Well Number, 07-0503.
LOCATION.--Lat 39°44'40", long 74°59'31", Hydrologic Unit 02040302, about 1,000 ft east of intersection of Cross Keys-Berlin and Erial-Williamstown Roads, Winslow Township.
Owner: Winslow Water Company.
AQUIFER.--Kirkwood-Cohansey aquifer system of Miocene age.
WELL CHARACTERISTICS.--Drilled water-table observation well, diameter 6 in, depth 76 ft, screened 71 to 76 ft.
INSTRUMENTATION.--Digital water-level recorder--60-minute punch. Water-level extremes recorder, November 1977 to December 1984.
DATUM.--Land-surface datum is 173.26 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Top edge of recorder shelf, 1.00 ft above land surface datum.
PERIOD OF RECORD.--December 1972 to current year. Records for 1972 to 1980 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 26.78 ft below land-surface datum, May 20-21, 1973; lowest, 38.35 ft below land-surface datum, between June 3 and Oct. 6, 1981.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	33.06	33.25	33.49	33.63	33.73	32.96	32.60	32.50	32.09	32.48	32.91	33.48
10	33.05	33.32	33.48	33.65	33.62	32.77	32.57	32.41	32.17	32.48	33.02	33.61
15	33.08	33.42	33.44	33.71	33.44	32.67	32.55	32.34	32.22	32.59	33.12	33.78
20	33.09	33.33	33.49	33.75	33.28	32.66	32.56	32.23	32.27	32.67	33.23	33.90
25	33.21	33.43	33.53	33.80	33.15	32.71	32.59	32.14	32.31	32.79	33.30	33.96
EOM	33.28	33.37	33.57	33.84	33.04	32.68	32.60	32.08	32.33	32.86	33.40	34.01
MEAN	33.11	33.36	33.52	33.73	33.45	32.76	32.57	32.32	32.21	32.62	33.14	33.75

WTR YR 1988 MEAN 33.04 HIGH 32.03 JUN 1 LOW 34.02 SEP 29,30



CUMBERLAND COUNTY

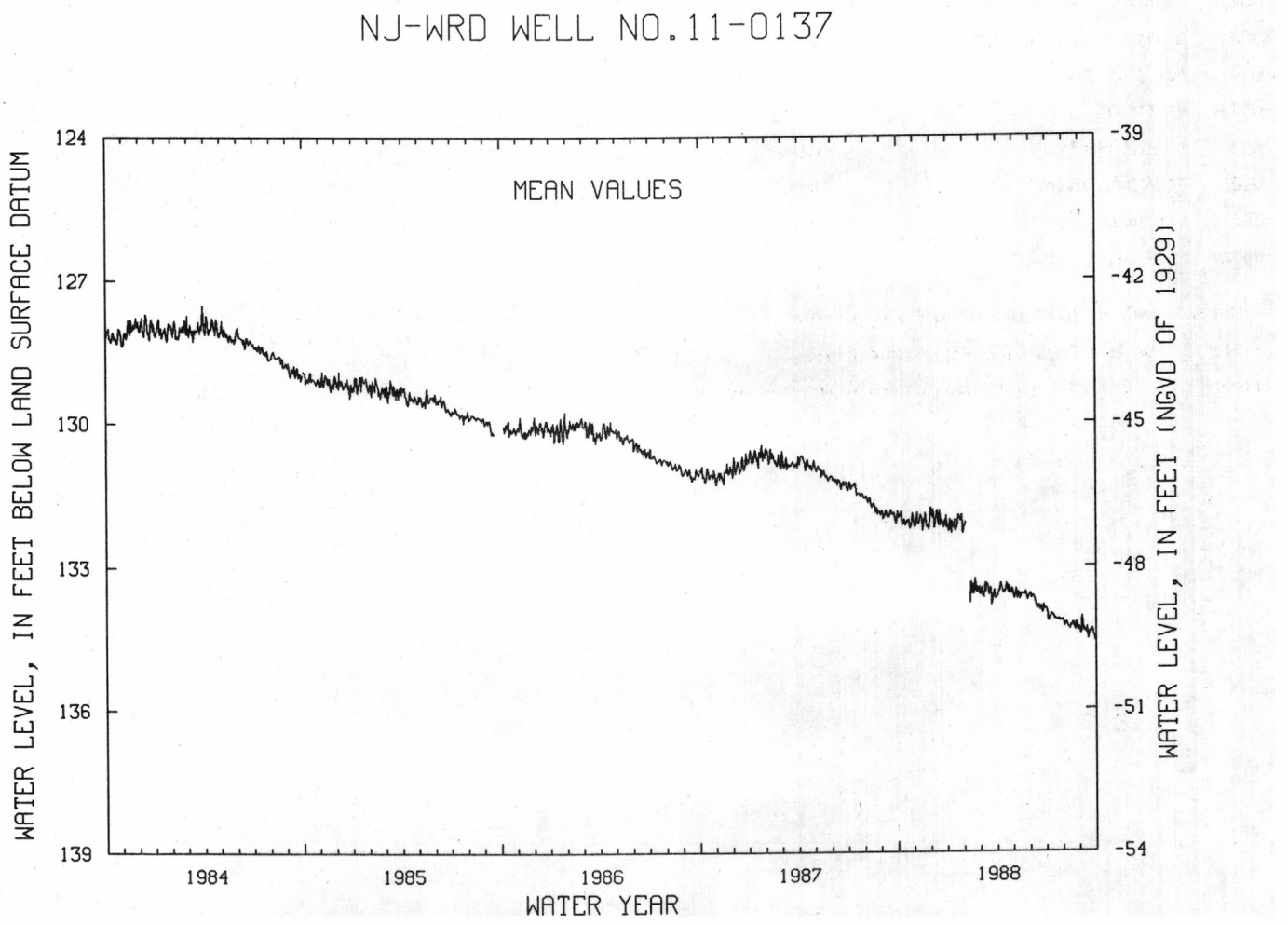
392512074521206. Local I.D., Ragovin 2100 Obs. NJ-WRD Well Number 11-0137.
LOCATION.--Lat 39°25'14", long 74°52'17", Hydrologic Unit 02040302, in wooded area off Harriet Avenue, 1.5 mi southeast of Milmay, Maurice River Township.
Owner: Sam DeRosa.
AQUIFER.--Potomac-Raritan-Magothy aquifer system, undifferentiated, of Cretaceous age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 5 in, depth 2,093 ft, perforated casing 2083 to 2,093 ft.
INSTRUMENTATION.--Digital water-level recorder--60-minute punch.
DATUM.--Land-surface datum is 85 ft above National Geodedic Vertical Datum of 1929, by altimeter.
Measuring point: Top edge of recorder shelf, 2.40 ft above land-surface datum.
REMARKS.--This well is perforated in a saline zone of the aquifer system (Luzier, 1980,p. 8-12). An equivalent freshwat head is obtained by multiplying the column of water in the well by the ratio of density of water in the well to the density of freshwater. In 1974, the density of water was 1.011 grams per milliliter at 20 deg. C and a plus 17 foot correction was needed to obtain the equivalent freshwater head. Well was pumped on February 3, 1988. After pumping, the water-level did not recover to its previous level. The perforated area may have been partially clogged.
PERIOD OF RECORD.--October 1974 to April 1975, February 1977 to current year. Records for 1974 to 1977 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 115.82 ft below land-surface datum, Apr. 3, 1975; lowest, 134.57 ft below land-surface datum, Sept. 29,30, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	131.96	131.88	131.93	132.14	---	133.62	133.51	133.60	133.65	134.15	134.24	134.05
10	132.12	132.04	131.97	132.18	---	133.34	133.47	133.54	133.74	133.99	134.28	134.30
15	132.11	132.21	131.95	132.25	133.43	133.40	133.50	133.65	133.88	134.05	134.24	134.40
20	132.05	131.89	132.03	131.93	133.25	133.49	133.49	133.59	133.89	134.14	134.19	134.37
25	132.14	132.18	132.05	131.94	133.53	133.67	133.54	133.51	133.95	134.13	134.15	134.41
EOM	132.14	131.77	132.18	132.18	133.52	133.68	133.55	133.63	133.86	134.11	134.33	134.55
MEAN	132.04	132.06	132.03	132.12	133.35	133.56	133.50	133.61	133.78	134.08	134.25	134.37

WTR YR 1988 MEAN 133.23 HIGH 131.73 NOV 30 LOW 134.57 SEP 29,30



GLOUCESTER COUNTY

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	DEPTH OF WELL (FT.)	ELEV.** OF LAND SURFACE DATUM (FT.NGVD)	DATE OF MEASURMENT	WATER LEVEL (FT.)*
15-039	CIFALOGLIO,S	1	393148	745822	123	110	10/28/1987	8.45
							3/ 2/1988	7.27
15-198	LESHAY BROS	1965 WELL	393944	745934	141	130	10/28/1987	10.74
							3/ 2/1988	8.46
15-568	RALPH SMITH FARM	1	394305	750307	97	140	10/26/1987	18.79
							3/ 1/1988	17.82
15-726	SMITH, JOHN	AURA ORCHARDS	394130	750921	62	140	10/28/1987	13.23
							3/ 3/1988	10.08
15-734	DASE , DENNIS	DASE 1	393523	745912	110	138	10/28/1987	19.18
							3/ 2/1988	19.26
15-745	FRANKLIN TWP SANITARY LANDFILL	DUMP NORTH	393608	750257	35	124	10/29/1987	28.24
							3/ 2/1988	26.70
15-754	DEAN, GEORGE	DEAN 1	393934	751033	58	143	10/28/1987	14.31
							3/ 3/1988	10.35
15-759	MESIANO , JIM	MESIANO 1	394232	750126	135	159	10/28/1987	37.57
							3/ 2/1988	37.60
15-760	WILLIAMS , RONALD	RW 1	394020	745611	30	115	10/29/1987	16.82
							3/ 2/1988	14.26
15-761	LUCAS , HARRY	LUCAS IRR 1	394142	745818	38	130	10/28/1987	12.88
							3/ 2/1988	12.53
15-763	MOORE , EAYRE	MOORE 2	393525	750521	60	109	10/29/1987	20.65
							3/ 2/1988	19.08
15-764	SCAFONIS , FELIX	SCAFONIS D	393708	750143	49	130	10/29/1987	20.42
							3/ 2/1988	19.48
15-792	THE PLANT PLACE INC	PP 1	393928	750434	75	110	10/28/1987	12.40
							3/ 3/1988	10.46
15-793	FERRUCCI, MARY	FERRUCCI 10	393448	745606	150	110	10/28/1987	11.56
							3/ 2/1988	11.02
15-795	SMITH, FRED	FRED SMITH-1965	394140	750312	100	150	10/29/1987	14.41
							3/ 2/1988	12.69
15-796	SMITH , FRED	SMITH 5	394238	750308	90	160	10/29/1987	18.60
							3/ 2/1988	17.49
15-801	CHILLARI , JOE	CHILLARI 1	394227	750522	85	144	10/28/1987	15.04
							3/ 2/1988	12.92
15-804	FRANKLIN TWP BOARD OF EDUCATION	MALAGA SCHOOL 1	393428	750244	100	110	10/29/1987	31.13
							3/ 2/1988	30.26
15-808	GLASSBORO WATER DEPT	GLASS OBS 1	394319	750725	60	122	10/29/1987	27.80
							3/ 2/1988	28.05
15-810	ELK TWP MUA	ELK 1	394021	750827	63	144	10/28/1987	15.57
							3/ 3/1988	13.02
15-811	SHOEMAKER , G	SHOEMAKER 1	394055	751412	32	140	10/28/1987	19.64
							3/ 3/1988	18.91
15-812	CORONA PUMPS	CORONA 1	393805	745554	100	123	10/28/1987	29.12
							3/ 2/1988	27.13
15-840	DEVAULT, HARRY	DEVAULT 1	393744	750735	34	110	10/28/1987	4.70
							3/ 3/1988	4.07
15-846	U S GEOL SURVEY	CARPENTER 126	394053	750453	10	126	10/28/1987	7.24
							3/ 2/1988	3.35
15-1016	DUFFIELD, CLAUDE	DUFFIELD 2	393633	750630	60	129	10/29/1987	24.75
							3/ 2/1988	23.93

* - Water level in feet below land surface datum

** - Elevations are from USGS topographic maps

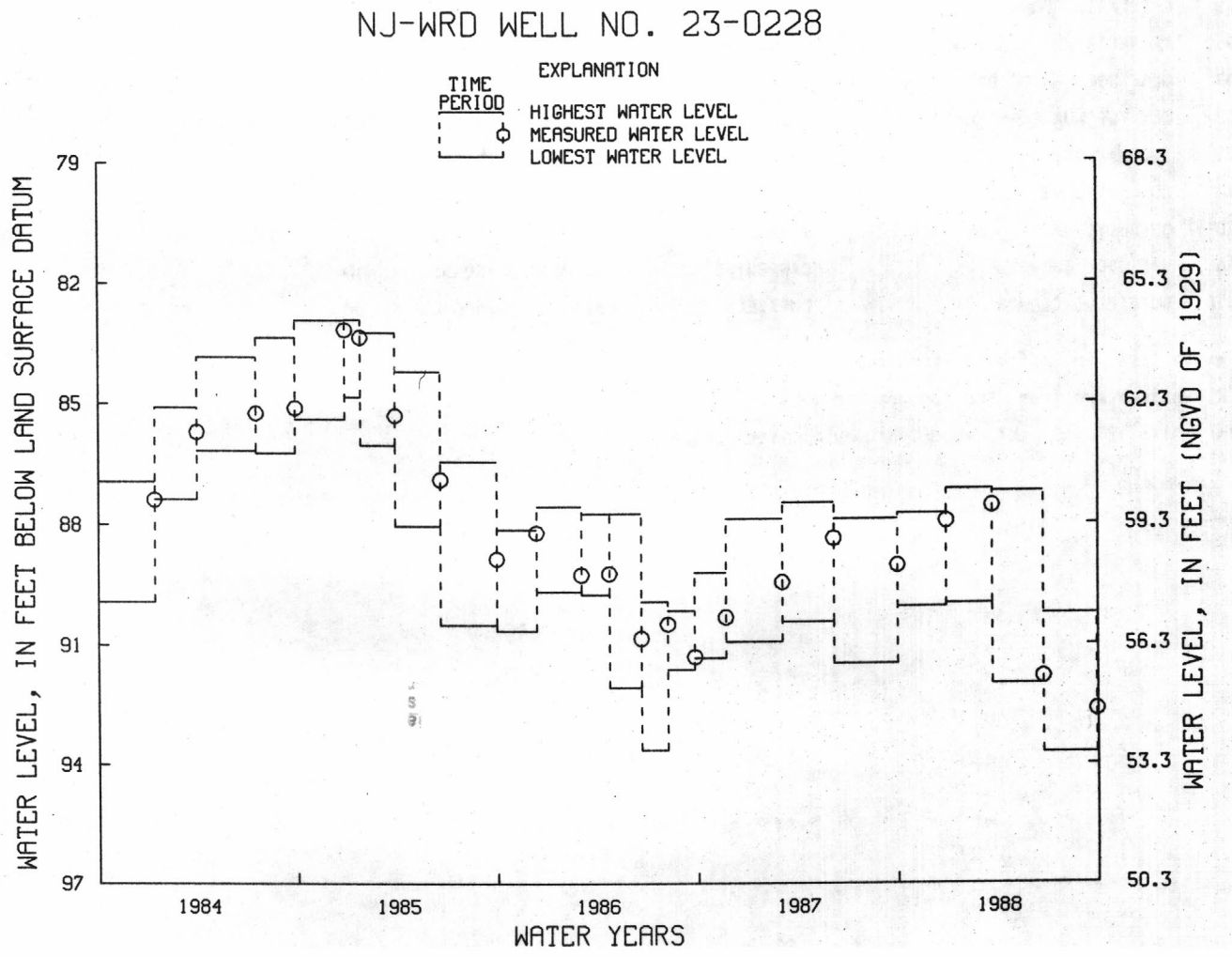
Aquifer unit: 121CKKD - Kirkwood-Cohansey aquifer system

MIDDLESEX COUNTY

402015074275701. Local I.D., Forsgate 3 Obs. NJ-WRD Well Number, 23-0228.
LOCATION.--Lat 40°20'15", long 74°27'57", Hydrologic Unit 02030105, on Hanover Lane at Rossmoor, Monroe Township.
Owner: Monroe Township Municipal Utilities Authority.
AQUIFER.--Old Bridge aquifer, Potomac-Raritan-Magothy aquifer system of Cretaceous age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 6 in, depth 138 ft, screened 128 to 138 ft.
INSTRUMENTATION.--Water-level extremes recorder, January 1977 to current year. Water-level recorder, October 1961 to August 1967, August 1968 to August 1975.
DATUM.--Land-surface datum is 147.34 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Front edge of cutout in recorder housing, 1.40 ft below land-surface datum.
REMARKS.--Water level affected by nearby pumping.
PERIOD OF RECORD.--October 1961 to August 1967, August 1968 to August 1975, January 1977 to current year. Records for 1961 to 1975 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 70.32 ft below land-surface datum, May 6, 1962; lowest, 93.72 ft below land-surface datum, between June 22 and Sept. 28, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

WATER-LEVEL EXTREMES			MEASURED WATER LEVEL	
PERIOD	HIGHEST WATER LEVEL	LOWEST WATER LEVEL	DATE	WATER LEVEL
SEPT. 30, 1987 TO DEC. 28, 1987	87.75	90.05	DEC. 28, 1987	87.93
DEC. 28, 1987 TO MAR. 21, 1988	87.15	89.98	MAR. 21, 1988	87.56
MAR. 21, 1988 TO JUNE 22, 1988	87.21	91.97	JUNE 22, 1988	91.80
JUNE 22, 1988 TO SEPT. 28, 1988	90.24	93.72	SEPT. 28, 1988	92.63

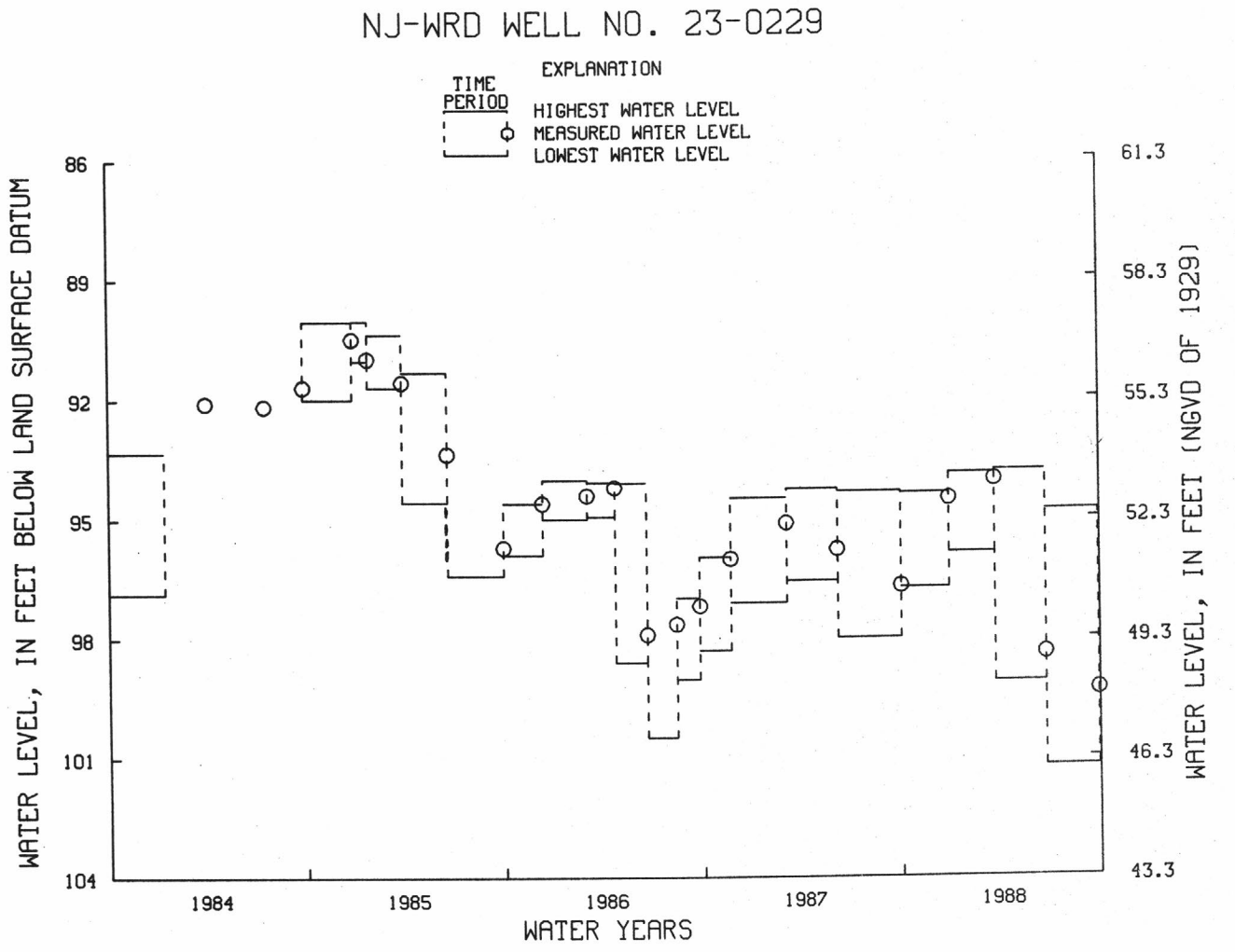


MIDDLESEX COUNTY

402015074275702. Local I.D., Forsgate 4 Obs. NJ-WRD Well Number, 23-0229.
LOCATION.--Lat 40°20'15", long 74°27'57", Hydrologic Unit 02030105, on Hanover Lane at Rossmoor, Monroe Township.
Owner: Monroe Township Municipal Utilities Authority.
AQUIFER.--Farrington aquifer, Potomac-Raritan-Magothy aquifer system of Cretaceous age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 6 in, depth 330 ft screened 319 to 330 ft.
INSTRUMENTATION.--Water-level extremes recorder, January 1977 to current year. Water-level recorder, April 1965 to August 1967, August 1968 to August 1975.
DATUM.--Land-surface datum is 147.34 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Front edge of cutout in recorder housing, 1.50 ft below land-surface datum.
REMARKS.--Water level affected by nearby pumping.
PERIOD OF RECORD.--April 1965 to August 1967, August 1968 to August 1975, January 1977 to current year. Records for 1965 to 1975 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 80.09 ft below land-surface datum, July 16, 1973; lowest, 101.23 ft below land-surface datum, between June 22 and Sept. 28, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

WATER-LEVEL EXTREMES			MEASURED WATER LEVEL	
PERIOD	HIGHEST WATER LEVEL	LOWEST WATER LEVEL	DATE	WATER LEVEL
SEPT. 30, 1987 TO DEC. 28, 1987	94.37	96.73	DEC. 28, 1987	94.51
DEC. 28, 1987 TO MAR. 21, 1988	93.87	95.86	MAR. 21, 1988	94.04
MAR. 21, 1988 TO JUNE 22, 1988	93.82	99.09	JUNE 22, 1988	98.38
JUNE 22, 1988 TO SEPT. 28, 1988	94.81	101.23	SEPT. 28, 1988	99.30



MIDDLESEX COUNTY

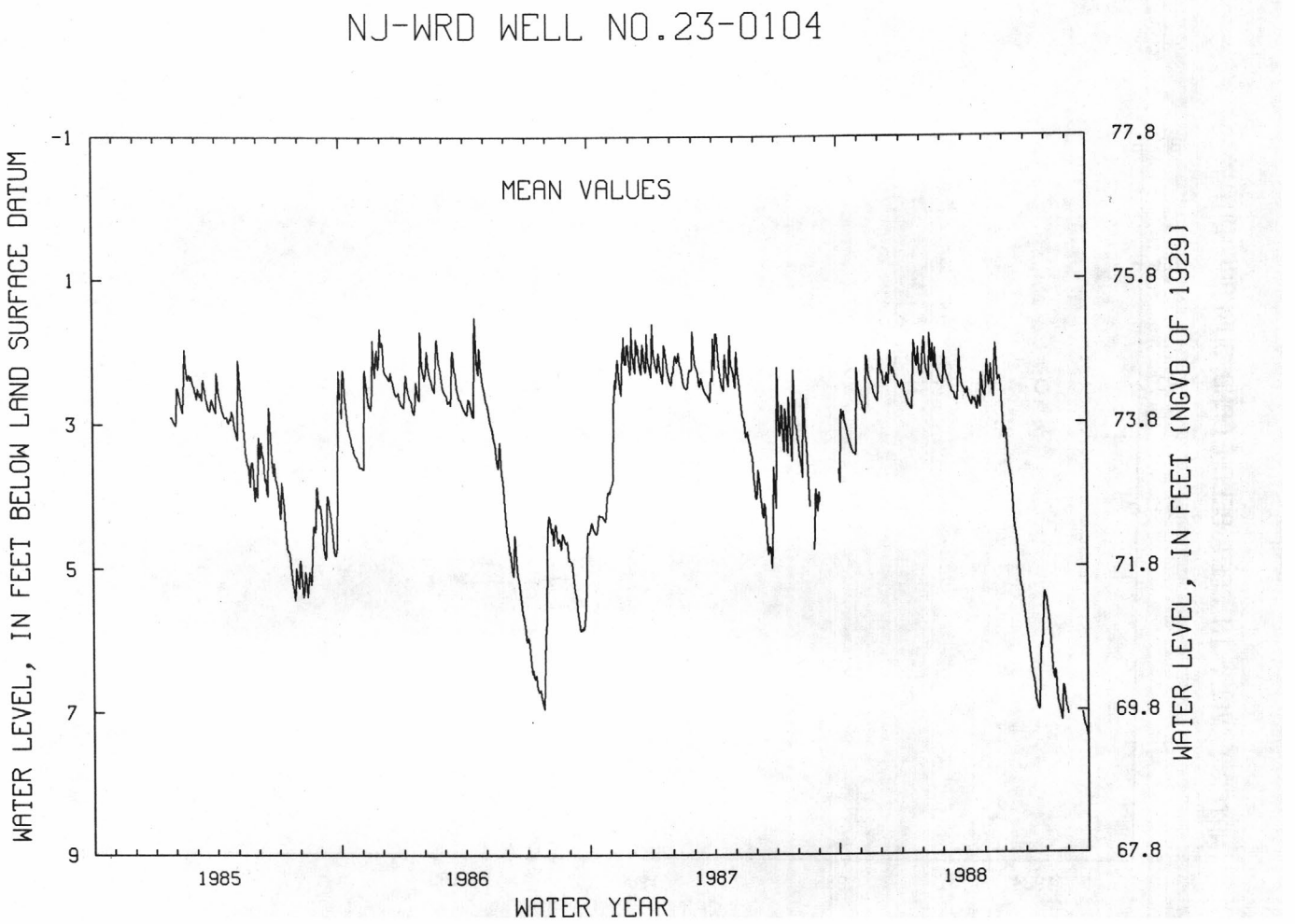
402143074185201. Local I.D., Morrell 1 Obs NJ-WRD Well Number 23-0104.
LOCATION.--Lat 40°21'43", long 74°18'49", Hydrologic Unit 02030105, on the north side of Texas Road, about .4 mi. east of Route 9, Old Bridge Township
OWNER: Olympia and York Bridge Development Corp.
AQUIFER.--Englishtown aquifer of Cretaceous age.
WELL CHARACTERISTICS.--Dug water-table observation well, diameter 17 in, depth 11 ft, cased with precast concrete rings.
INSTRUMENTATION.--Digital water-level recorder--60-minute punch.
DATUM.--Land-surface datum is 76.75 ft above National Geodedic Vertical Datum of 1929.
Measuring point: Top inside edge of concrete ring, .20 ft above land-surface datum.
REMARKS.--Well depth was 6 ft before deepening in September 1932. Missing record from September 2-21 was due to recorder malfunction.
PERIOD OF RECORD.--October 1923 to July 1975, January 1985 to current year. Periodic manual measurements August 1975 to December 1984. Records for 1973 to 1985 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 1.18 ft below land-surface datum, August 27, 1971; lowest, 10.40 ft below land surface datum, October 13, 1953. Well was dry, August to September 1932, before deepening.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	2.81	2.72	2.31	2.49	1.96	2.01	2.56	2.63	3.29	6.02	5.82	---
10	2.99	2.64	2.48	2.69	2.38	2.36	2.63	2.48	3.70	6.38	6.40	---
15	3.17	2.34	2.23	2.78	2.16	2.51	2.75	2.53	4.33	6.75	6.62	---
20	3.34	2.46	2.23	1.85	1.96	2.60	2.71	1.91	4.75	6.99	7.00	---
25	3.41	2.64	2.40	2.15	2.36	2.68	2.66	2.37	5.27	6.07	6.66	7.19
EOM	2.56	1.98	2.52	2.31	2.39	2.44	2.47	3.09	5.62	5.42	6.98	7.38
MEAN	3.12	2.53	2.34	2.42	2.17	2.42	2.63	2.44	4.33	6.23	6.52	---

WTR YR 1988 MEAN 3.50 HIGH 1.36 FEB 12 LOW 7.39 SEP 30



MIDDLESEX COUNTY

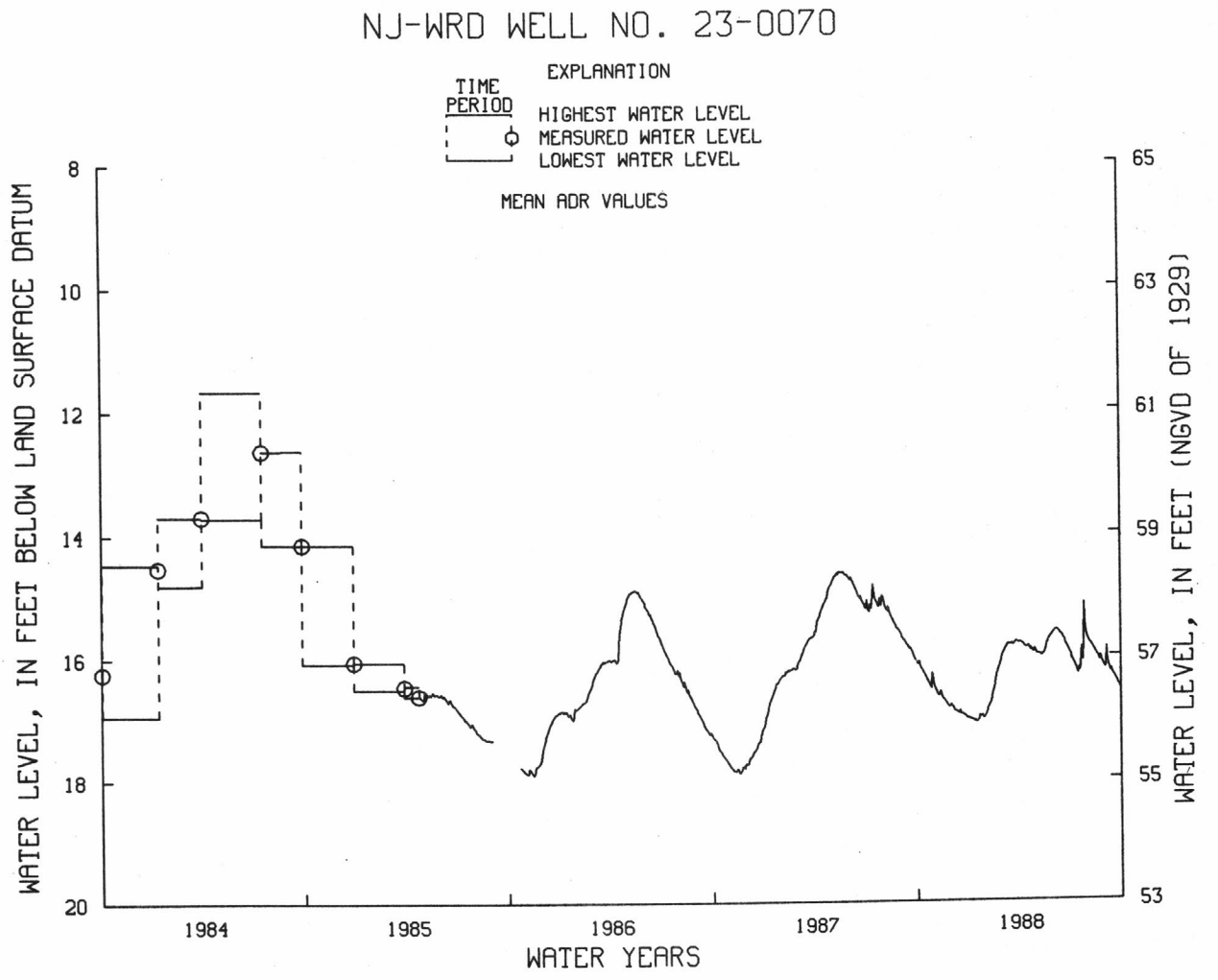
402553074271701. Local I.D., Robert Fischer Obs. NJ-WRD Well Number, 23-0070.
LOCATION.--Lat 40°25'55", long 74°27'19", Hydrologic Unit 02030105, about 1,800 ft southeast of Weber School on Hardenburg Lane, East Brunswick Township.
Owner: Robert D. Fischer.
AQUIFER.--Farrington aquifer, Potomac-Raritan-Magothy aquifer system of Cretaceous age.
WELL CHARACTERISTICS.--Dug water-table observation well, diameter 4.5 ft, depth 21 ft, lined with concrete blocks.
INSTRUMENTATION.--Digital water-level recorder--60-minute punch. Water-level extremes recorder, January 1977 to April 1985.
DATUM.--Land-surface datum is 73.00 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Top of angle iron at bottom of shelter doors, 1.70 ft above land-surface datum.
REMARKS.--Well deepened October 29, 1965 from 17 to 21 ft.
PERIOD OF RECORD.--June 1936 to April 1975, January 1977 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 8.88 ft below land-surface datum, Apr. 26-27, 1939; lowest, 19.11 ft below land-surface datum, between July 24 and Oct. 6, 1981; well was dry many times, 1963-1965 before deepening.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	16.09	16.55	16.84	17.01	16.83	15.94	15.79	15.98	15.59	16.06	15.79	15.87
10	16.21	16.64	16.89	17.04	16.75	15.84	15.83	15.97	15.60	16.16	15.86	16.21
15	16.30	16.66	16.91	17.07	16.55	15.81	15.86	15.99	15.65	16.27	15.93	16.28
20	16.39	16.71	16.93	17.03	16.32	15.80	15.88	15.81	15.73	16.19	16.01	16.37
25	16.48	16.79	16.95	16.97	16.17	15.81	15.92	15.72	15.84	16.09	16.01	16.46
EOM	16.45	16.80	17.00	16.98	16.05	15.79	15.92	15.64	15.93	15.68	16.17	16.54
MEAN	16.29	16.67	16.91	17.02	16.52	15.85	15.85	15.88	15.70	16.00	15.95	16.30

WTR YR 1988 MEAN 16.24 HIGH 14.79 JUL 26 LOW 17.07 JAN 14-20



MONMOUTH COUNTY

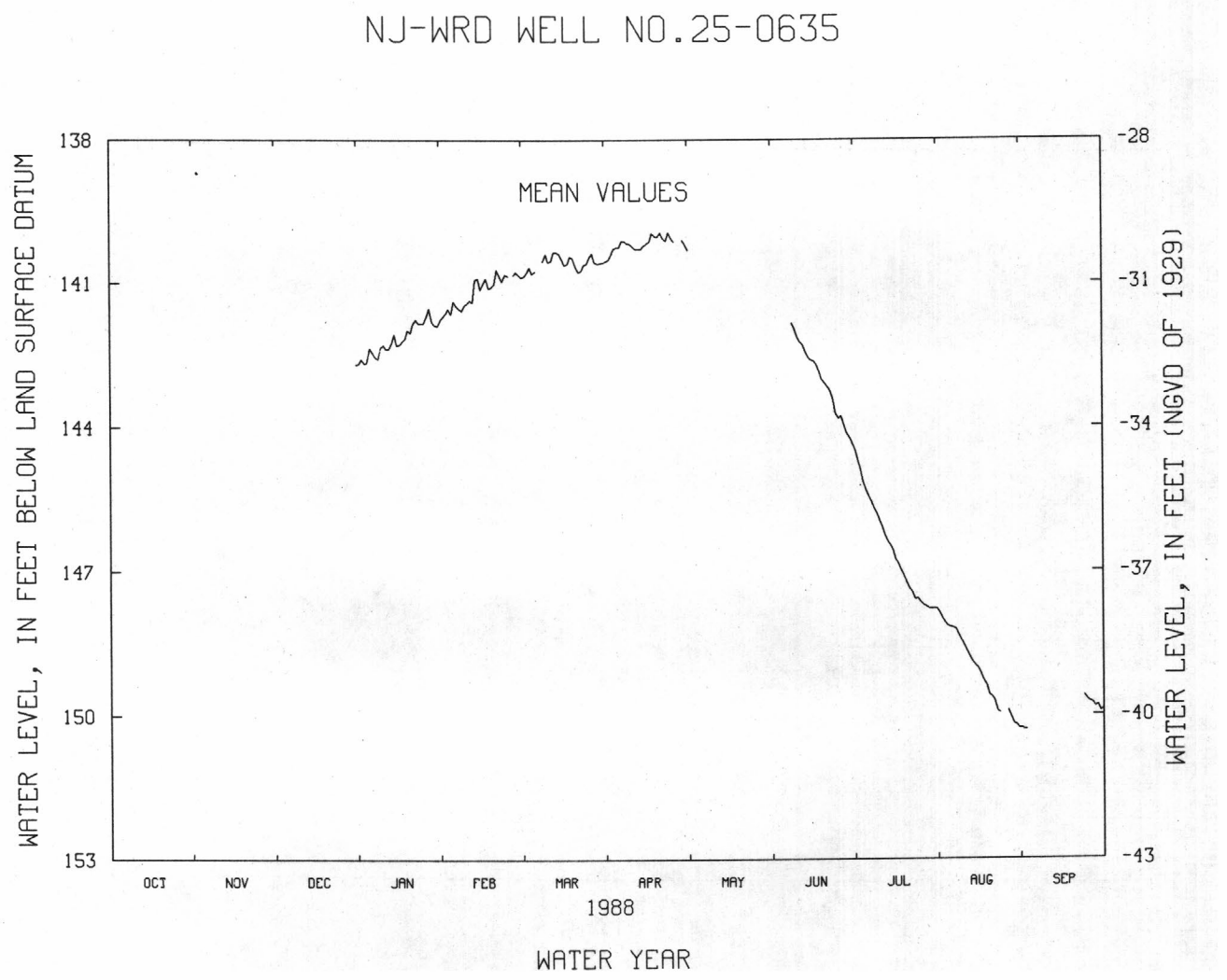
401105074120201. Local I.D., Howell Twp. 1 Obs. NJ-WRD Well Number, 25-0635.
LOCATION.--Lat 40°11'05", long 74°12'02", Hydrologic Unit 02040301, on the south side of Peskin Rd., about 5000 ft east of the intersection of Georgia Tavern and Peskin Roads, Howell Twp.
Owner: U.S. Geological Survey.
AQUIFER.--Potomac-Raritan-Magothy aquifer system, undifferentiated, of Cretaceous age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 4 in, depth 1360 ft, screened 1226 to 1240, 1280 to 1290 and 1320 to 1330 ft.
INSTRUMENTATION.--Digital water-level recorder--60-minute punch.
DATUM.--Land-surface datum is 110 ft above National Geodetic Vertical Datum of 1929, from topographic map.
Measuring point: Top edge of recorder shelf, 2.10 ft above land-surface datum.
REMARKS.--Missing record from May 2 to June 7 and from September 3-22 was due to recorder malfunction.
PERIOD OF RECORD.--December 1987 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 139.88 ft below land-surface datum, April 21, 1988; lowest, 150.32 ft below land-surface datum, Sept. 2, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	---	---	---	142.43	141.47	140.80	140.25	---	---	145.30	148.16	---
10	---	---	---	142.36	141.36	140.39	140.18	---	142.14	145.92	148.55	---
15	---	---	---	142.28	140.99	140.38	140.21	---	142.60	146.57	149.01	---
20	---	---	---	141.84	140.71	140.47	140.03	---	143.09	147.26	149.62	---
25	---	---	---	141.67	---	140.59	140.06	---	143.82	147.64	---	149.73
EOM	---	---	142.67	141.70	140.82	140.56	140.18	---	144.32	147.78	150.28	149.88
MEAN	---	---	---	142.12	141.14	140.58	140.17	---	143.05	146.57	149.09	---

WTR YR 1988 HIGH 139.88 APR 21 LOW 150.32 SEP 2



MONMOUTH COUNTY

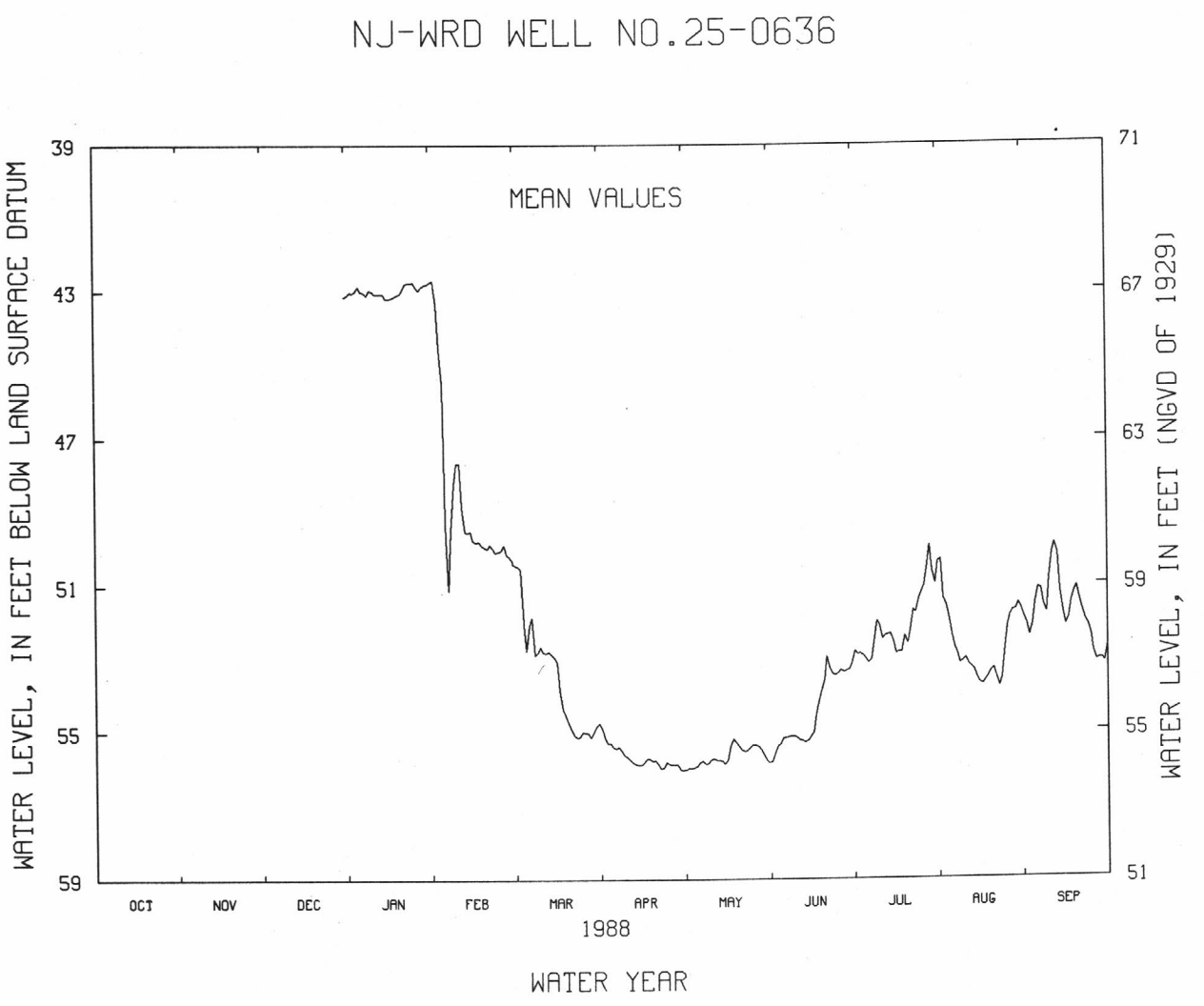
401105074120202. Local I.D., Howell Twp. 2 Obs. NJ-WRD Well Number, 25-0636.
LOCATION.--Lat 40°11'05", long 74°12'02", Hydrologic Unit 02040301, on the south side of Peskin Rd., about 5000 ft east of the intersection of Georgia Tavern and Peskin Roads, Howell Twp.
Owner: U.S. Geological Survey.
AQUIFER.--Vincentown Formation of Paleocene age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 4 in, depth 100 ft, screened 85 to 95 ft.
INSTRUMENTATION.--Digital water-level recorder--60-minute punch.
DATUM.--Land-surface datum is 110 ft above National Geodetic Vertical Datum of 1929, from topographic map.
Measuring point: Top edge of recorder shelf, 1.20 ft above land-surface datum.
REMARKS.--Water level affected by nearby pumping.
PERIOD OF RECORD.--December 1987 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 42.64 ft below land-surface datum, Jan. 25, 1988; lowest, 56.09 ft below land-surface datum, April 29, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	---	---	---	43.00	51.11	52.76	55.38	55.93	55.17	53.01	52.38	51.12
10	---	---	---	43.06	48.83	52.67	55.66	55.75	55.15	52.08	53.01	50.17
15	---	---	---	43.19	49.80	52.94	55.88	55.87	55.14	52.57	53.68	52.14
20	---	---	---	42.96	49.86	54.73	55.77	55.37	53.59	52.60	53.30	51.47
25	---	---	---	42.88	49.89	54.99	55.86	55.35	53.40	51.21	52.17	52.86
EOM	---	---	43.10	42.72	50.38	54.75	56.03	55.83	53.13	50.38	51.88	52.70
MEAN	---	---	---	42.96	49.11	53.49	55.69	55.66	54.44	52.09	52.68	51.78

WTR YR 1988 HIGH 42.64 JAN 25 LOW 56.09 APR 29



MONMOUTH COUNTY

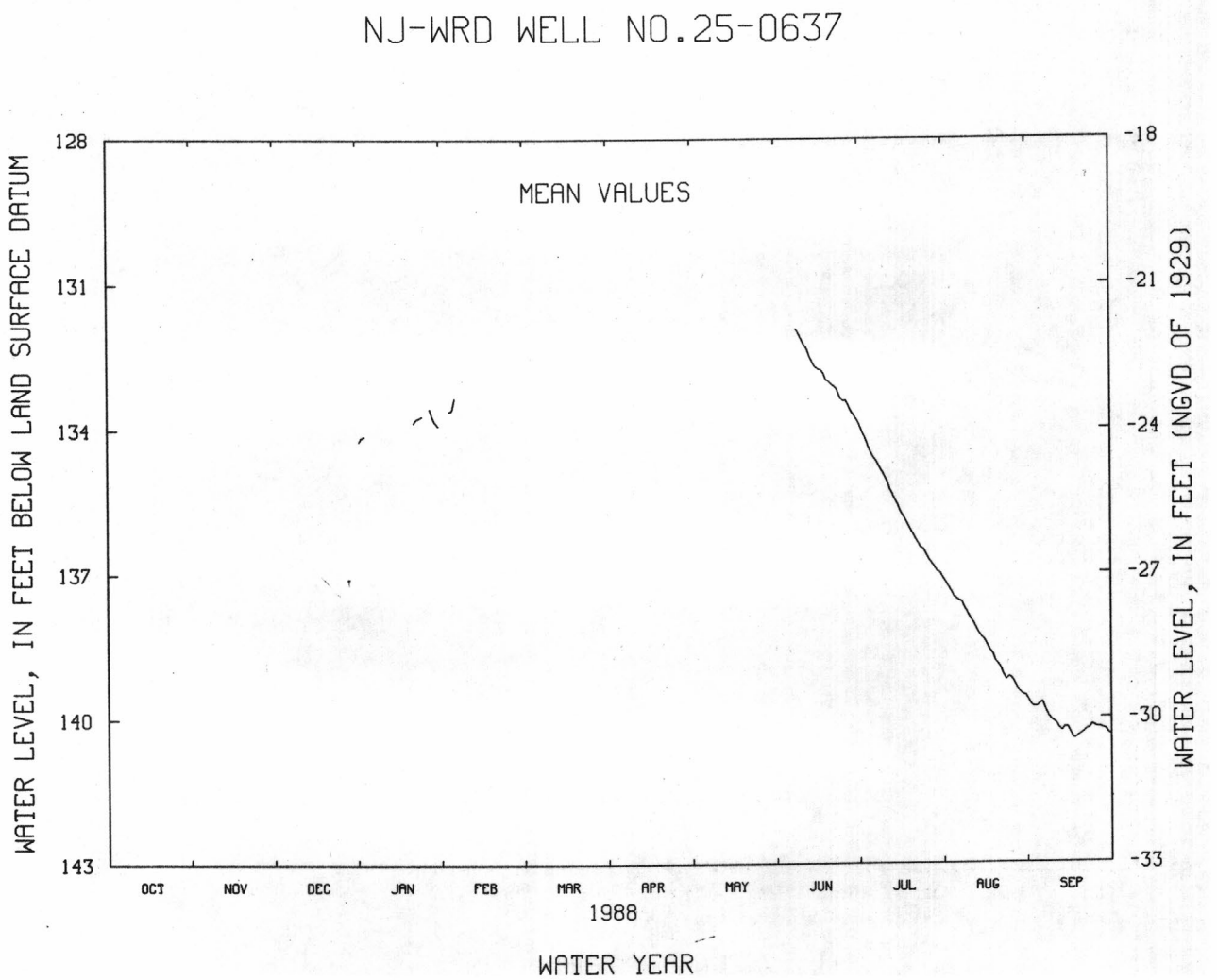
401105074120203. Local I.D., Howell Twp. 3 Obs. NJ-WRD Well Number, 25-0637.
LOCATION.--Lat 40°11'05", long 74°12'02", Hydrologic Unit 02040301, on the south side of Peskin Rd., about 5000 ft east of the intersection of Georgia Tavern and Peskin Roads, Howell Twp.
Owner: U.S. Geological Survey.
AQUIFER.--Wenonah-Mount Laurel aquifer of Cretaceous age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 4 in, depth 324 ft, screened 307 to 317 ft.
INSTRUMENTATION.--Digital water-level recorder--60-minute punch.
DATUM.--Land-surface datum is 110 ft above National Geodetic Vertical Datum of 1929, from topographic map
Measuring point: Top edge of recorder shelf, 1.80 ft above land-surface datum.
REMARKS.--Missing record from January 3-19 and from January 30 to June 7 was due to recorder malfunction.
PERIOD OF RECORD.--December 1987 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 131.88 ft below land-surface datum, June 8, 1988; lowest, 140.45 ft below land-surface datum, Sept. 17, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	---	---	---	---	---	---	---	---	---	134.47	137.53	139.68
10	---	---	---	---	---	---	---	---	132.14	134.96	137.94	140.12
15	---	---	---	---	---	---	---	---	132.70	135.60	138.38	140.30
20	---	---	---	133.84	---	---	---	---	133.03	136.16	138.89	140.30
25	---	---	---	---	---	---	---	---	133.41	136.60	139.19	140.20
EOM	---	---	134.22	---	---	---	---	---	133.80	137.07	139.63	140.36
MEAN	---	---	---	---	---	---	---	---	132.91	135.64	138.47	140.14

WTR YR 1988 HIGH 131.88 JUN 8 LOW 140.45 SEP 17



MONMOUTH COUNTY

401105074120204. Local I.D., Howell Twp. 4 Obs. NJ-WRD Well Number, 25-0638.
LOCATION.--Lat 40°11'05", long 74°12'02", Hydrologic Unit 02040301, on the south side of Peskin Rd., about 5000 ft east of the intersection of Georgia Tavern and Peskin Roads, Howell Twp.
Owner: U.S. Geological Survey.
AQUIFER.--Englishtown aquifer of Cretaceous age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 4 in, depth 499 ft, screened 483 to 493 ft.
INSTRUMENTATION.--Digital water-level recorder--60-minute punch.
DATUM.--Land-surface datum is 110 ft above National Geodetic Vertical Datum of 1929, from topographic map
Measuring point: Top edge of recorder shelf, 1.80 ft above land-surface datum.
PERIOD OF RECORD.--December 1987 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 155.76 ft below land-surface datum, June 2, 1988; lowest, 164.45 ft below land-surface datum, Sept. 30, 1988.

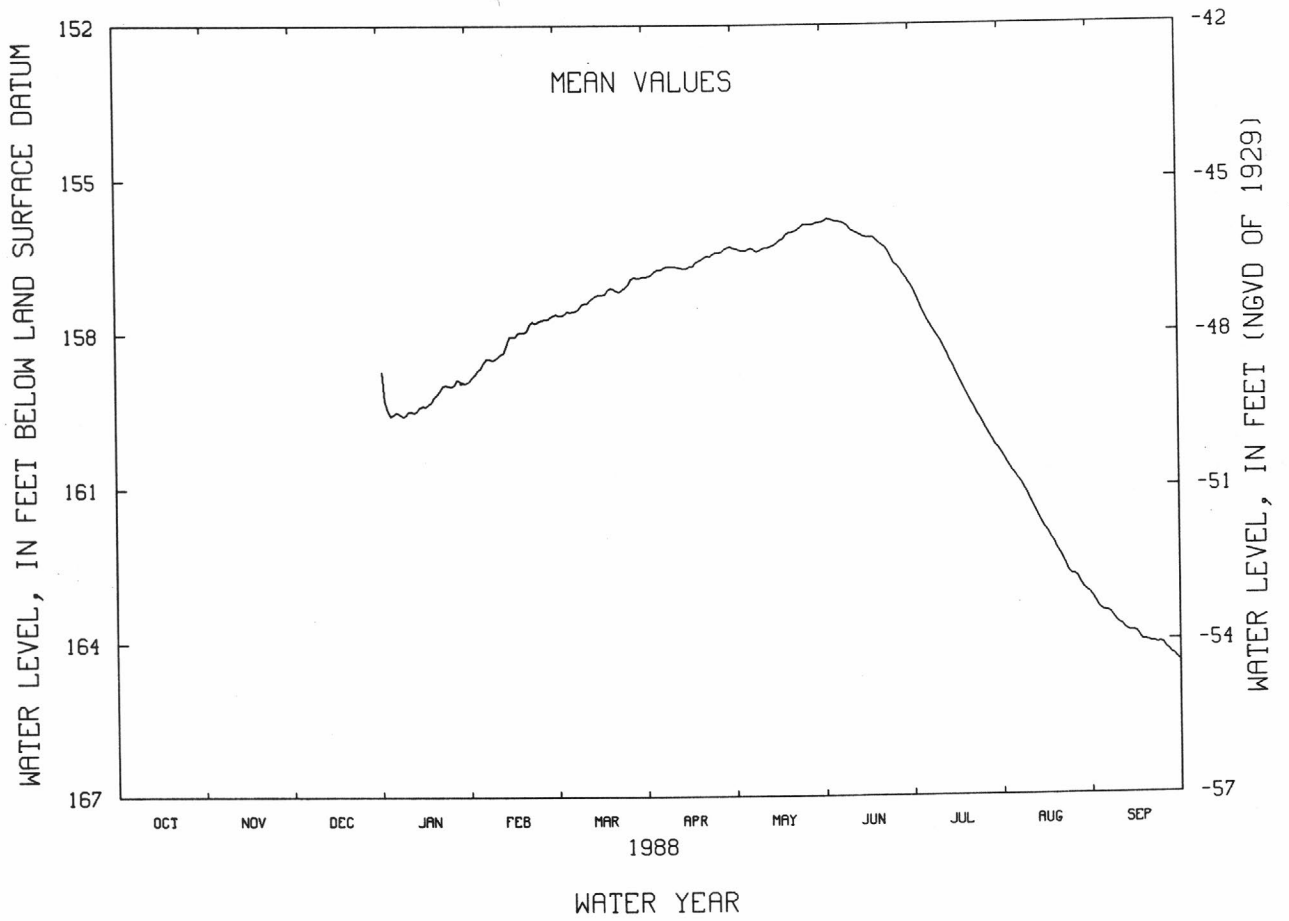
WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	---	---	---	159.50	158.46	157.55	156.74	156.38	155.81	157.62	160.78	163.44
10	---	---	---	159.49	158.37	157.41	156.67	156.38	155.96	158.09	161.25	163.71
15	---	---	---	159.39	158.04	157.24	156.71	156.27	156.11	158.65	161.81	163.85
20	---	---	---	159.09	157.80	157.09	156.55	156.03	156.24	159.26	162.30	164.05
25	---	---	---	158.98	157.70	157.08	156.41	155.88	156.64	159.76	162.71	164.16
EOM	---	---	158.71	158.84	157.61	156.88	156.30	155.83	157.01	160.31	163.14	164.44
MEAN	---	---	---	159.24	158.10	157.27	156.61	156.15	156.19	158.78	161.85	163.87

WTR YR 1988 HIGH 155.76 JUN 2 LOW 164.45 SEP 30

NJ-WRD WELL NO.25-0638



MONMOUTH COUNTY

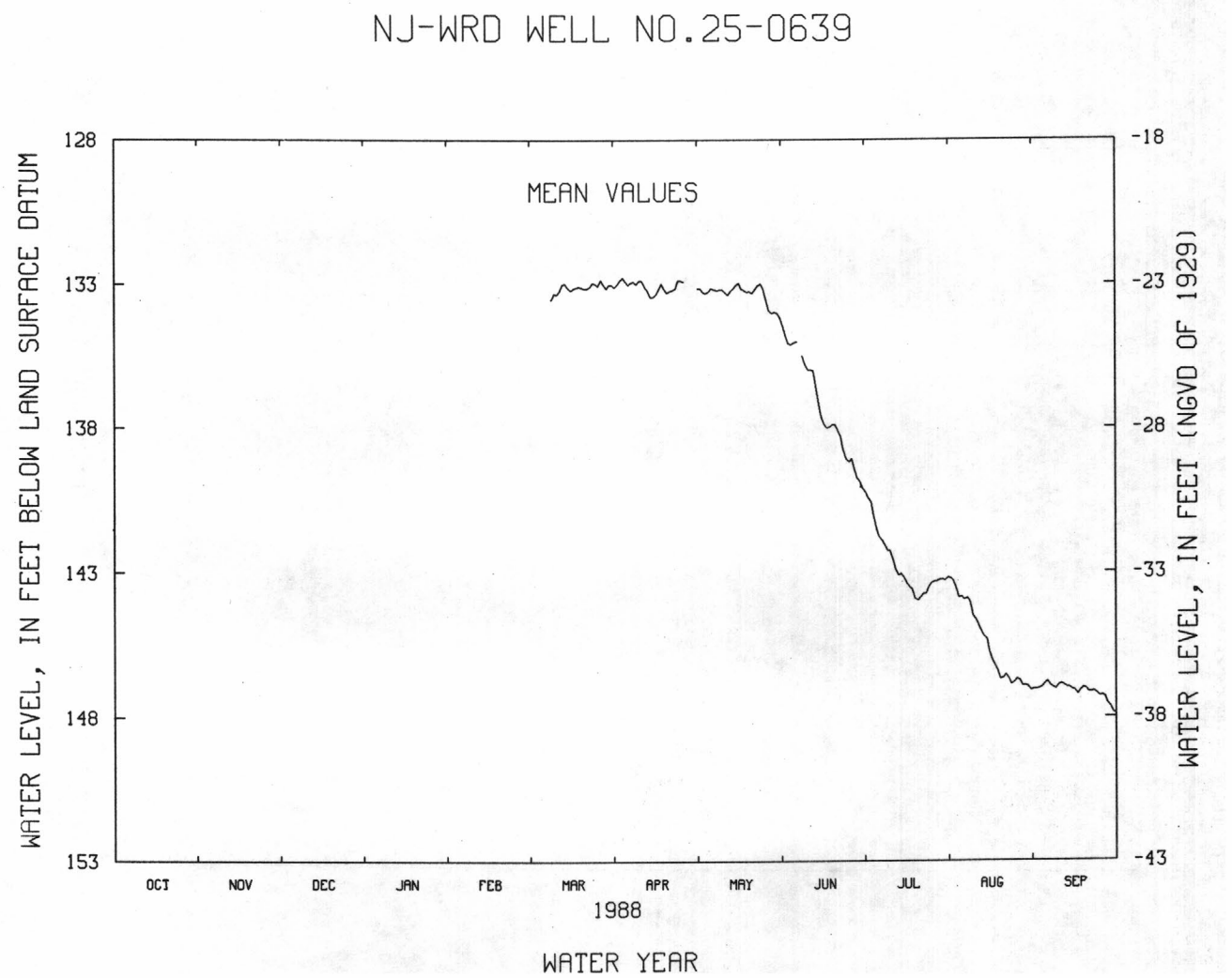
401105074120205. Local I.D., Howell Twp. 5 Obs. NJ-WRD Well Number, 25-0639.
LOCATION.--Lat 40°11'05", long 74°12'02", Hydrologic Unit 02040301, on the south side of Peskin Rd., about 5000 ft east of the intersection of Georgia Tavern and Peskin Roads, Howell Twp.
Owner: U.S. Geological Survey.
AQUIFER.--Upper aquifer, Potomac-Raritan-Magothy aquifer system of Cretaceous age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 4 in, depth 907 ft, screened 891 to 901 ft.
INSTRUMENTATION.--Digital water-level recorder--60-minute punch.
DATUM.--Land-surface datum is 110 ft above National Geodetic Vertical Datum of 1929, from topographic map
Measuring point: Top edge of recorder shelf, 3.60 ft above land-surface datum.
PERIOD OF RECORD.--March 1988 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 132.73 ft below land-surface datum, April 4, 1988; lowest, 147.92 ft below land-surface datum, Sept. 29,30, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	---	---	---	---	---	---	132.90	133.25	135.04	141.49	143.83	146.78
10	---	---	---	---	---	133.31	132.88	133.19	136.00	142.26	144.61	146.85
15	---	---	---	---	---	133.10	133.43	133.05	137.60	143.18	145.75	147.09
20	---	---	---	---	---	133.10	133.29	133.26	137.89	143.95	146.64	147.15
25	---	---	---	---	---	132.98	132.87	133.16	139.18	143.38	146.68	147.27
EOM	---	---	---	---	---	133.02	---	134.15	140.10	143.18	147.04	147.90
MEAN	---	---	---	---	---	133.11	133.06	133.33	137.29	142.74	145.55	147.14

WTR YR 1988 HIGH 132.73 APR 4 LOW 147.92 SEP 29,30



MONMOUTH COUNTY

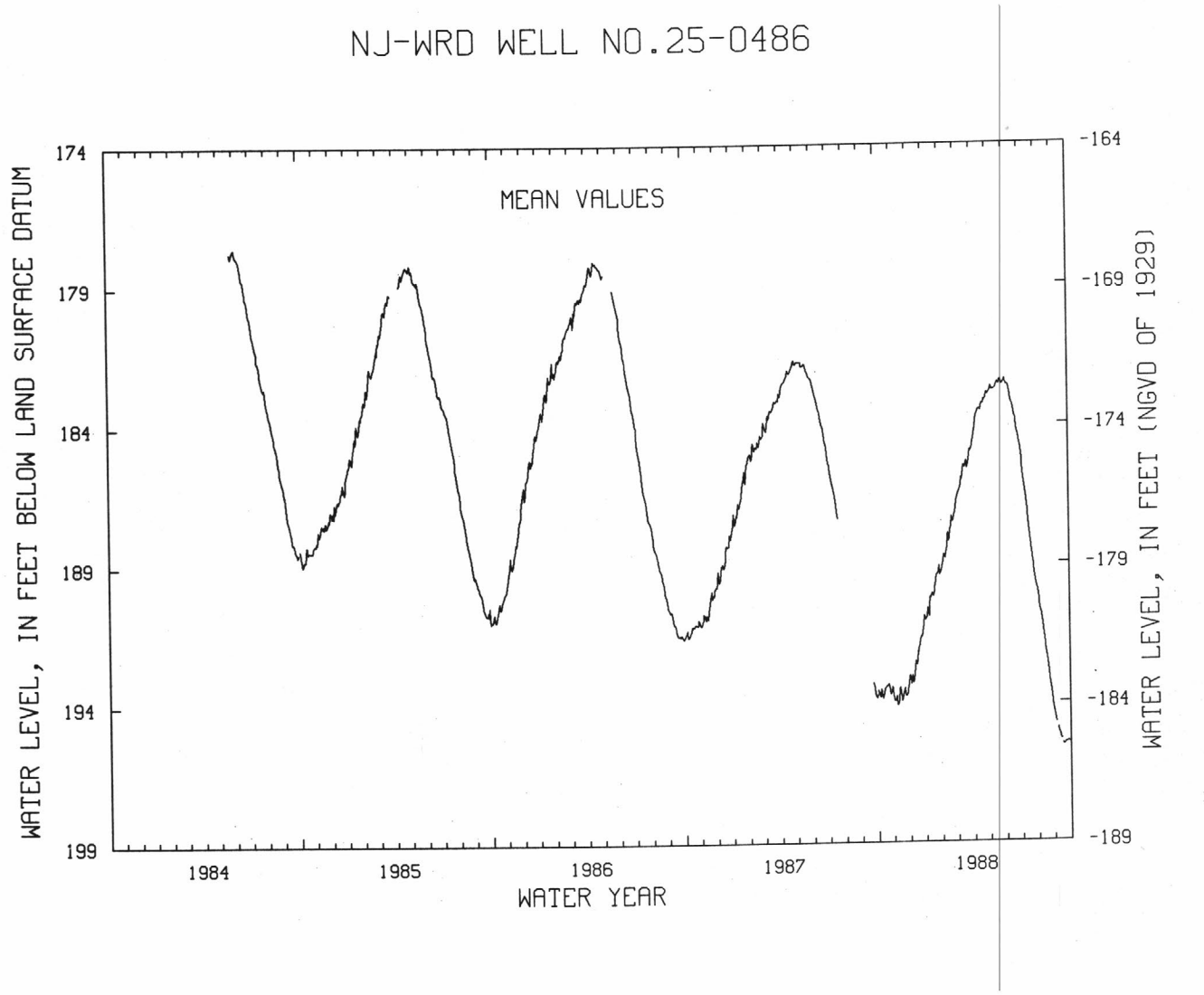
400711074020201. Local I.D., DOE - Sea Girt Obs. NJ-WRD Well Number, 25-0486.
LOCATION.--Lat 40°07'11", long 74°02'02", Hydrologic Unit 02030104, at the National Guard Camp, Sea Girt, Manasquan Boro.
Owner: State of New Jersey.
AQUIFER.--Wenonah-Mount Laurel aquifer of Cretaceous age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 4 in, depth 988 ft, perforated casing 604 to 614 ft.
INSTRUMENTATION.--Digital water-level recorder--60-minute punch.
DATUM.--Land-surface datum is 10 ft above National Geodedic Vertical Datum of 1929, from topographic map
Measuring point: Top edge of recorder shelf, 3.20 ft above land-surface datum.
REMARKS.--Water level affected by tidal fluctuation and nearby pumping. Missing record from July 20 to September 21, 1987 was due to recorder malfunction.
PERIOD OF RECORD.--May 1984 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 176.58 ft below land-surface datum, May 25, 1984; lowest, 195.60 ft below land-surface datum, Sept. 17, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	193.79	193.75	192.99	190.64	188.68	186.48	184.25	182.94	182.59	185.78	190.62	---
10	193.83	193.90	192.96	190.24	188.50	185.94	183.71	182.77	182.77	186.58	191.21	195.16
15	193.44	193.80	192.48	190.18	188.10	185.51	183.51	182.81	183.26	187.48	192.05	---
20	193.37	193.56	191.91	189.63	187.33	185.34	183.31	182.52	183.71	188.42	192.76	195.49
25	193.67	193.72	191.47	189.29	187.26	185.32	183.15	182.44	184.29	189.19	193.48	195.45
EOM	193.81	193.07	191.04	189.26	186.78	184.80	182.89	182.53	184.80	189.92	194.41	195.47
MEAN	193.57	193.72	192.23	190.00	187.99	185.75	183.59	182.69	183.38	187.63	192.19	195.27

WTR YR 1988 MEAN 188.96 HIGH 182.35 JUN 2 LOW 195.60 SEP 17

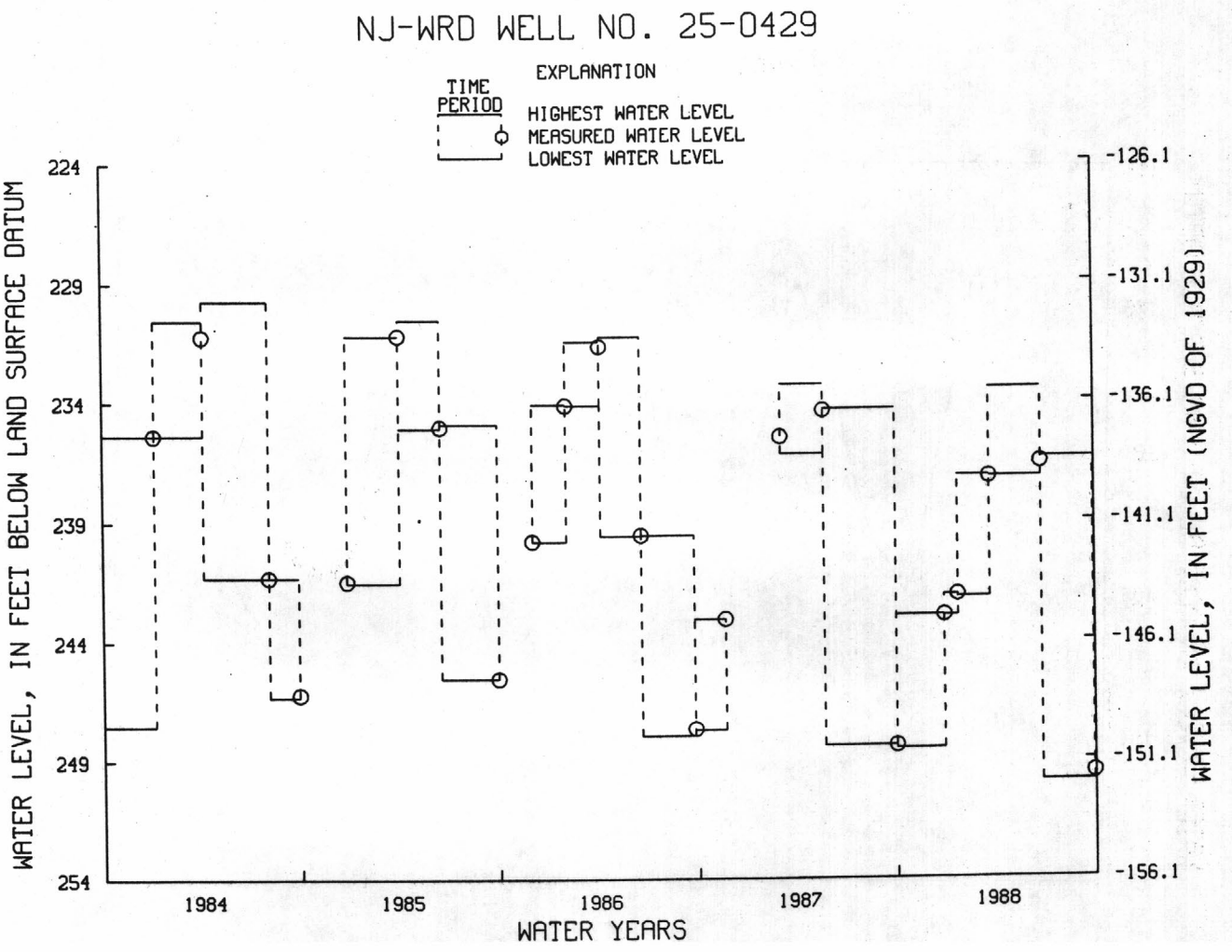


MONMOUTH COUNTY

400832074082101. Local I.D., Allaire State Park C Obs. NJ-WRD Well Number, 25-0429.
LOCATION.--Lat 40°08'34", long 74°08'34", Hydrologic Unit 02040301, about 1.3 mi southeast of Lower Squankum, in Allaire State Park, Wall Township.
Owner: U.S. Geological Survey.
AQUIFER.--Englishtown aquifer of Cretaceous age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 6 in, depth 633 ft, screened 623 to 633 ft.
INSTRUMENTATION.--Water-level extremes recorder, February 1977 to current year. Water-level recorder, January 1964 to July 1975.
DATUM.--Land-surface datum is 97.93 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Front edge of cutout in recorder housing, 1.64 ft above land-surface datum.
PERIOD OF RECORD.--January 1964 to July 1975, February 1977 to current year. Records for 1964 to 1975 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 141.05 ft below land-surface datum, Apr. 8, 1964; lowest, 249.89 ft below land-surface datum, between June 24 and Sept. 28, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

WATER-LEVEL EXTREMES			MEASURED WATER LEVEL	
PERIOD	HIGHEST WATER LEVEL	LOWEST WATER LEVEL	DATE	WATER LEVEL
SEPT. 30, 1987 TO DEC. 28, 1987	242.95	248.52	DEC. 28, 1987	242.95
DEC. 28, 1987 TO JAN. 22, 1988	242.09	242.97	JAN. 22, 1988	242.09
JAN. 22, 1988 TO MAR. 21, 1988	237.15	242.20	MAR. 21, 1988	237.20
MAR. 21, 1988 TO JUNE 24, 1988	233.51	237.21	JUNE 24, 1988	236.60
JUNE 24, 1988 TO SEPT. 28, 1988	236.41	249.89	SEPT. 28, 1988	249.56



MONMOUTH COUNTY

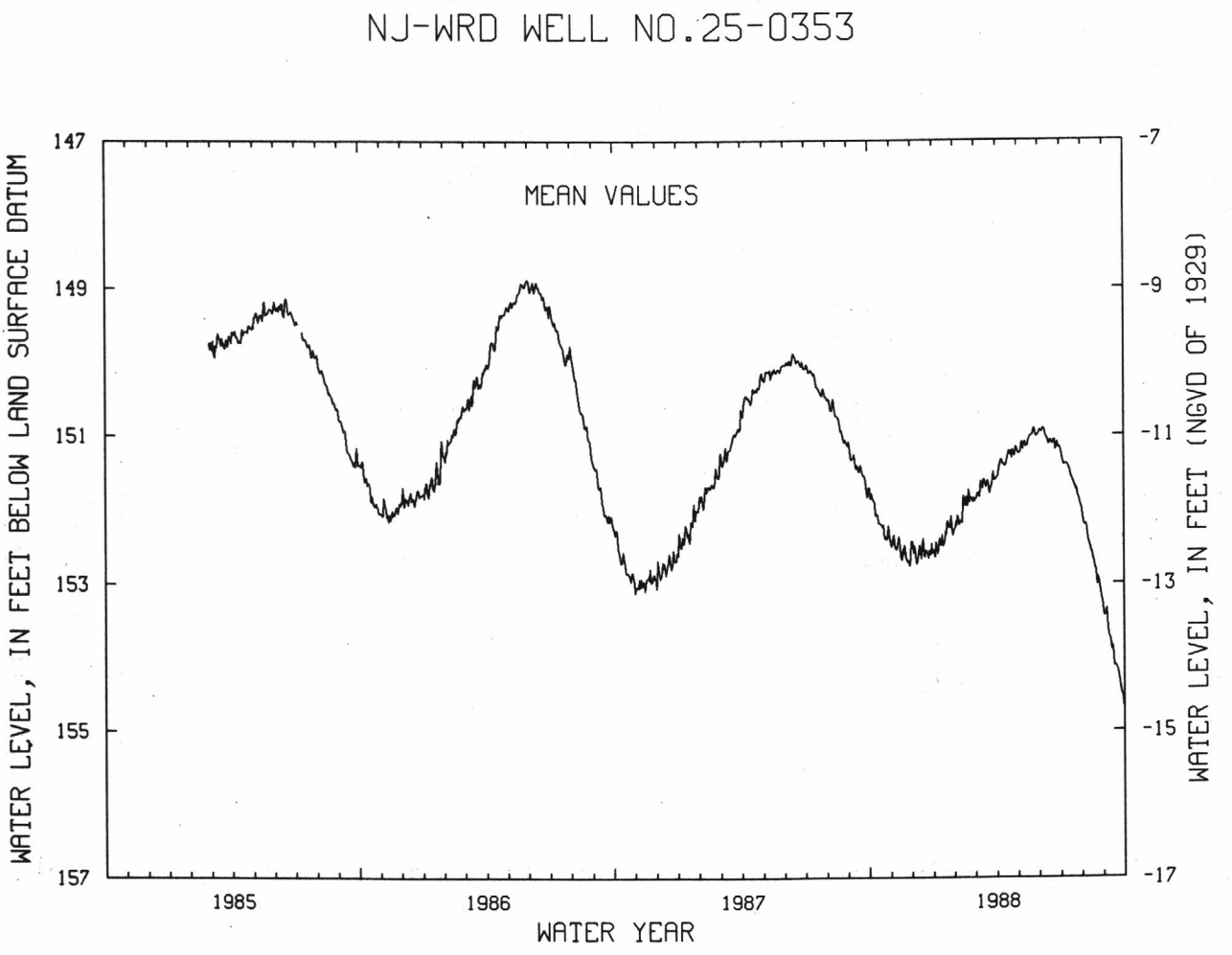
401542074053001. Local I.D., Ft. Monmouth 1-NCO. NJ-WRD Well Number, 25-0353.
LOCATION.--Lat 40°15'42", long 74°05'30", Hydrologic Unit 02030104, at Training Center, Wyckoff Rd. and Wayside Rd. New Shrewsbury Borough.
Owner: U.S. Army.
AQUIFER.--Wenonah-Mount Laurel aquifer of Cretaceous age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 4 in, depth 327 ft, screened 321 to 327 ft.
INSTRUMENTATION.--Digital water-level recorder--60-minute punch.
DATUM.--Land surface datum is 140 ft above National Geodedic Vertical Datum of 1929, from topographic map.
Measuring point: Top edge of recorder shelf, 1.50 ft above land surface datum.
PERIOD OF RECORD.--February 1985 to current year. Records for 1985 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level 148.88 ft below land surface datum, May 31-Jun. 2, 1985; lowest, 154.69 ft below land surface datum Sep. 30, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	151.86	152.34	152.53	152.48	152.11	151.82	151.42	151.21	150.93	151.39	152.21	153.34
10	152.08	152.53	152.59	152.46	152.15	151.62	151.38	151.11	151.01	151.37	152.39	153.73
15	152.17	152.63	152.56	152.49	151.91	151.60	151.37	151.14	151.12	151.49	152.57	153.99
20	152.24	152.48	152.57	152.22	151.73	151.61	151.27	150.99	151.11	151.65	152.79	154.17
25	152.37	152.72	152.56	152.18	151.88	151.69	151.24	150.91	151.18	151.75	152.92	154.41
EOM	152.44	152.43	152.61	152.26	---	151.59	151.19	150.99	151.16	151.96	153.30	154.69
MEAN	152.13	152.55	152.57	152.38	151.99	151.70	151.34	151.08	151.05	151.56	152.64	153.99

WTR YR 1988 MEAN 152.08 HIGH 150.88 JUN 1,2,5,6 LOW 154.69 SEP 30



MONMOUTH COUNTY

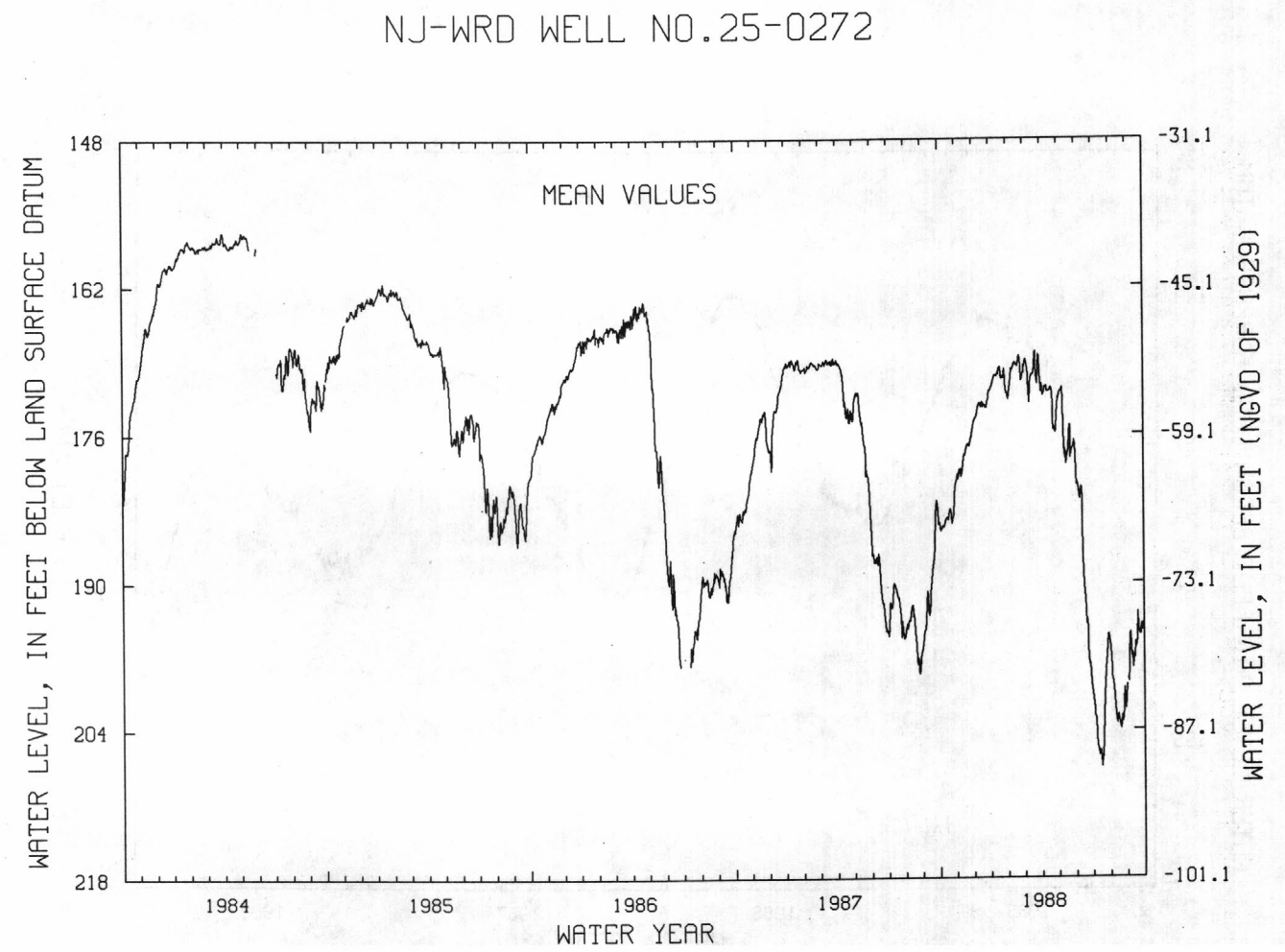
402208074145201. Local I.D., Marlboro 1 Obs. NJ-WRD Well Number, 25-0272.
LOCATION.--Lat 40°22'08", long 74°14'52", Hydrologic Unit 02030104, on the west side of New Jersey Route 79, 0.9 mi south of Morganville, Marlboro Township.
Owner: Marlboro Township Municipal Utilities Authority.
AQUIFER.--Farrington aquifer, Potomac-Raritan-Magothy aquifer system of Cretaceous age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 6 in, depth 680 ft, screened 670 to 680 ft.
INSTRUMENTATION.--Digital water-level recorder--60-minute punch.
DATUM.--Land-surface datum is 116.93 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Top edge of recorder shelf, 2.50 ft above land-surface datum.
REMARKS.--Water level affected by nearby pumping.
PERIOD OF RECORD.--January 1973 to July 1975, March 1977 to current year. Records for 1973 to 1977 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 144.06 ft below land-surface datum, Apr. 4, 1973; lowest, 207.78 ft below land-surface datum, Jul. 16, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	184.92	179.39	174.41	170.96	170.61	169.26	172.29	172.00	180.76	202.84	199.17	195.14
10	184.56	179.63	173.19	170.47	169.72	172.61	171.53	175.63	181.02	205.87	202.49	198.15
15	183.89	177.99	173.17	169.80	169.39	170.38	172.00	178.84	189.10	206.51	202.80	195.98
20	183.06	177.00	173.22	170.82	168.94	168.39	172.18	175.96	193.96	202.66	203.42	194.41
25	183.82	176.58	173.04	169.85	170.82	171.26	175.66	177.54	197.80	197.50	201.38	194.66
EOM	180.42	175.35	171.83	172.37	170.23	171.61	172.57	177.94	200.49	195.77	---	194.18
MEAN	183.77	178.07	173.39	170.81	170.07	170.24	172.79	175.80	189.01	202.04	201.44	195.84

WTR YR 1988 MEAN 181.93 HIGH 167.78 MAR 21 LOW 207.78 JUL 16

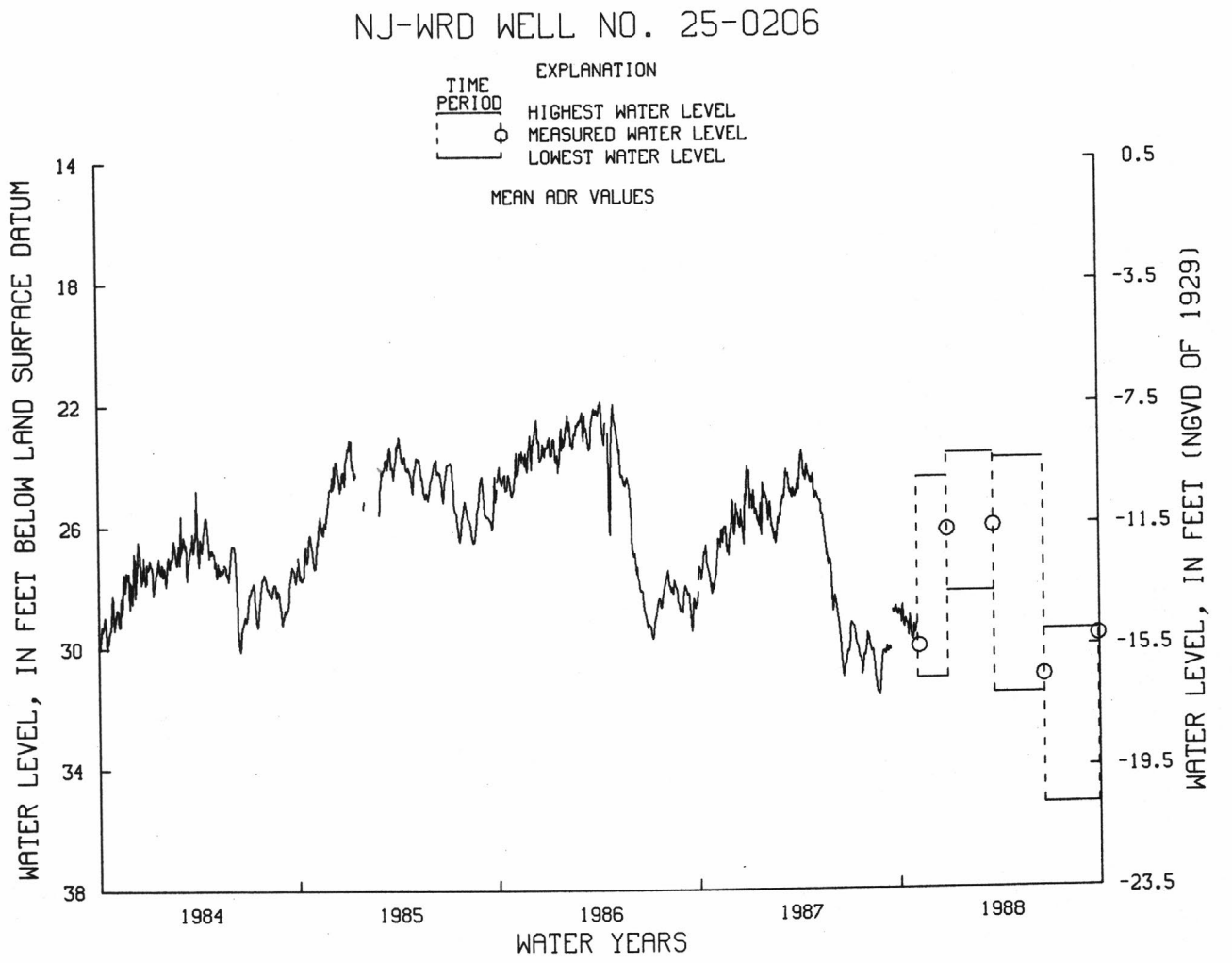


MONMOUTH COUNTY

402626074114204. Local I.D., Keyport Borough WD 4 Obs. NJ-WRD Well Number, 25-0206.
LOCATION.--Lat 40°26'25", long 74°11'45", Hydrologic Unit 02030104, at the unused Myrtle Avenue Water Plant, Keyport.
Owner: Keyport Borough Water Department.
AQUIFER.--Old Bridge aquifer, Potomac-Raritan-Magothy aquifer system of Cretaceous age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 8 in, depth 249 ft, screened 225 to 249 ft.
INSTRUMENTATION.--Water-level extremes recorder. Digital water-level recorder, June 1978 to November 1987.
DATUM.--Land-surface datum is 14.47 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Top edge of recorder shelf, 2.30 ft above land-surface datum.
REMARKS.--Water level affected by tidal fluctuation. Water level affected by USGS aquifer test, April 22-28, 1986.
PERIOD OF RECORD.--June 1978 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 20.57 ft below land-surface datum, Mar. 27, 1986; lowest, 35.22 ft below land-surface datum, between June 20 and Sept. 28, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

WATER-LEVEL EXTREMES			MEASURED WATER LEVEL	
PERIOD	HIGHEST WATER LEVEL	LOWEST WATER LEVEL	DATE	WATER LEVEL
NOV. 2, 1987 TO DEC. 28, 1987	24.44	31.06	DEC. 28, 1987	26.17
DEC. 28, 1987 TO MAR. 21, 1988	23.65	28.19	MAR. 21, 1988	26.06
MAR. 21, 1988 TO JUNE 20, 1988	23.83	31.57	JUNE 20, 1988	30.99
JUNE 20, 1988 TO SEPT. 28, 1988	29.50	35.22	SEPT. 28, 1988	29.67



MORRIS COUNTY

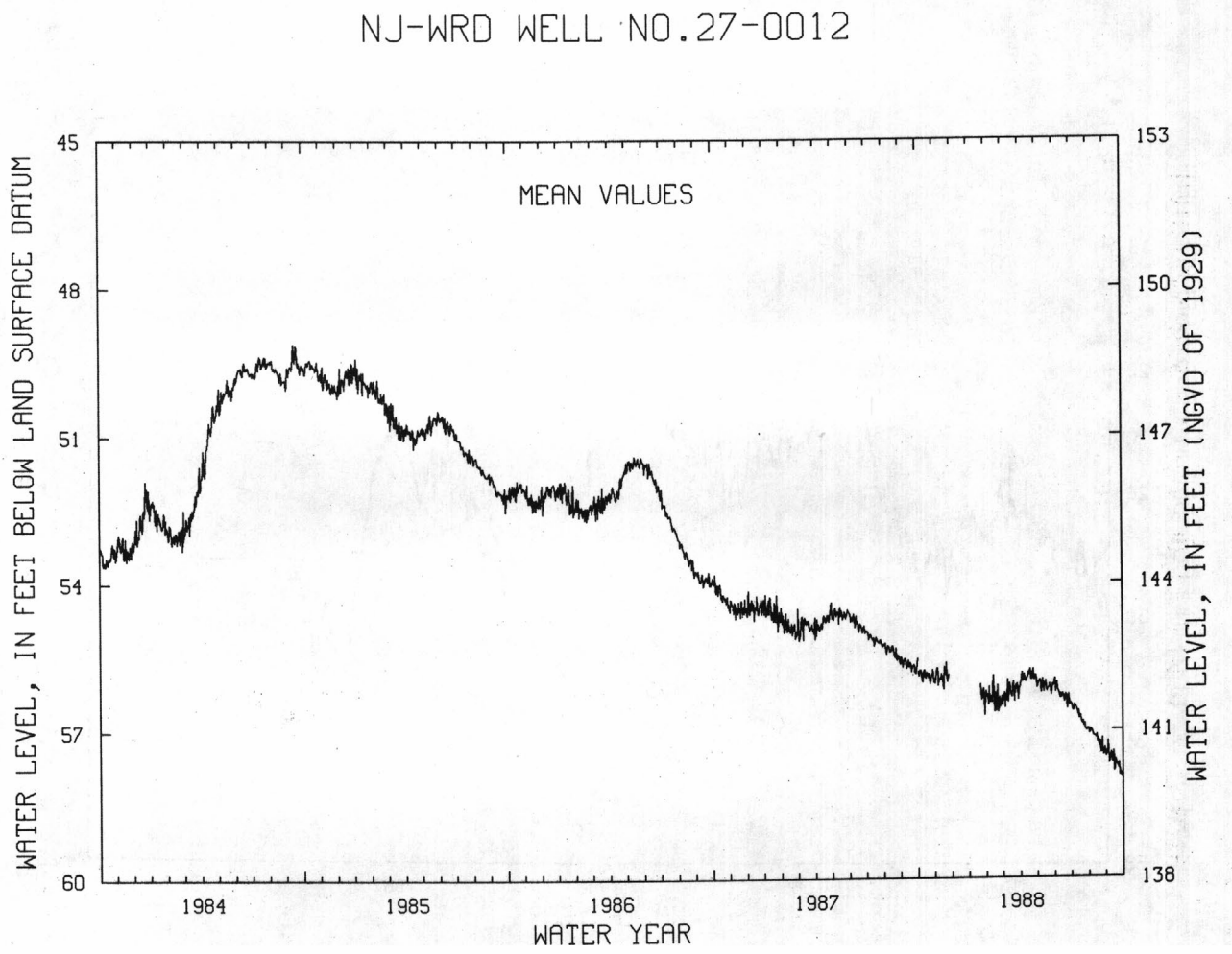
404639074230001. Local I.D., Briarwood School Obs. NJ-WRD Well Number, 27-0012.
LOCATION.--Lat 40°46'39", long 74°23'00", Hydrologic Unit 02030103, at Briarwood School, Florham Park Borough.
Owner: U.S. Geological Survey.
AQUIFER.--Stratified drift of Pleistocene age.
WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in, depth 110 ft, screened 100 to 110 ft.
INSTRUMENTATION.--Digital water-level recorder--60-minute punch.
DATUM.--Land-surface datum is 198 ft above National Geodedic Vertical Datum of 1929, by altimeter.
Measuring point: Top edge of recorder shelf, 3.00 ft above land-surface datum.
REMARKS.--Missing record from November 25 to January 11 was due to vandalism.
PERIOD OF RECORD.--March 1967 to May 1975, April 1977 to current year. Records for 1967 to 1975 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 34.17 ft below land-surface datum, June 3, 1968; lowest, 58.05 ft below land-surface datum, Sept. 29, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	55.84	55.86	---	---	56.43	56.54	56.01	56.04	56.02	56.60	57.00	57.41
10	55.84	55.98	---	---	56.43	56.15	55.97	55.96	56.35	56.56	57.12	57.53
15	55.82	56.16	---	---	56.24	56.26	55.83	56.10	56.26	56.78	57.10	57.84
20	55.84	55.62	---	56.06	56.09	56.22	55.94	56.16	56.27	56.88	57.24	57.69
25	55.85	---	---	56.15	56.46	56.17	55.98	56.17	56.34	56.98	57.31	57.87
EOM	56.04	---	---	56.31	56.38	56.11	56.14	56.02	56.45	56.98	57.55	57.82
MEAN	55.88	55.91	---	56.32	56.38	56.24	55.94	56.11	56.30	56.76	57.23	57.66

WTR YR 1988 MEAN 56.44 HIGH 55.52 OCT 27 LOW 58.05 SEP 29

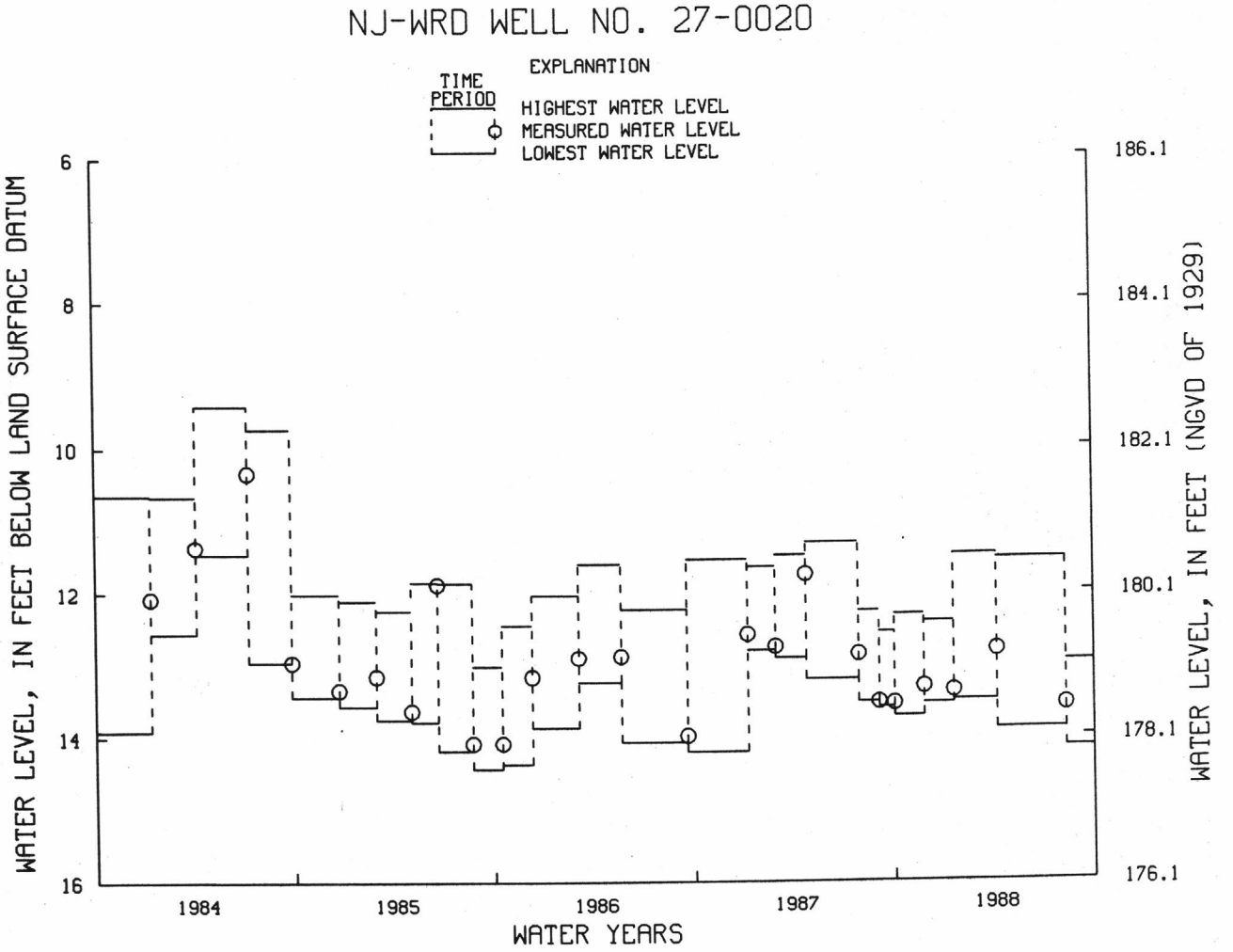


MORRIS COUNTY

405027074232301. Local I.D., Troy Meadows 1 Obs. NJ-WRD Well Number, 27-0020.
LOCATION.--Lat 40°50'27", long 74°23'23", Hydrologic Unit 02030103, on the east side of Beverwyck Road, 0.8 mi north of intersection with Troy Road, Parsippany-Troy Hills Township.
Owner: U.S. Geological Survey.
AQUIFER.--Stratified drift of Pleistocene age.
WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in, depth 89 ft, screened 79 to 89 ft.
INSTRUMENTATION.--Water-level extremes recorder, April 1977 to current year. Water-level recorder, December 1965 to July 1970.
DATUM.--Land-surface datum is 192.07 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Front edge of cutout in recorder housing, 3.32 ft above land-surface datum.
PERIOD OF RECORD.--December 1965 to July 1970, April 1977 to current year. Periodic manual measurements, December 1970 to February 1975. Records for 1965 to 1981 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 6.00 ft below land-surface datum, Mar. 15-16, 1967 and June 15, 1968; lowest, 15.77 ft below land-surface datum, between Feb. 10 and May 31, 1978.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

WATER-LEVEL EXTREMES			MEASURED WATER LEVEL	
PERIOD	HIGHEST WATER LEVEL	LOWEST WATER LEVEL	DATE	WATER LEVEL
OCT. 1, 1987 TO NOV. 25, 1987	12.32	13.72	NOV. 25, 1987	13.31
NOV. 25, 1987 TO JAN. 18, 1988	12.42	13.54	JAN. 18, 1988	13.37
JAN. 18, 1988 TO APR. 6, 1988	11.49	13.50	APR. 6, 1988	12.81
APR. 6, 1988 TO AUG. 10, 1988	11.55	13.90	AUG. 10, 1988	13.57
AUG. 10, 1988 TO OCT. 11, 1988	12.97	14.16	OCT. 11, 1988	14.06



MORRIS COUNTY

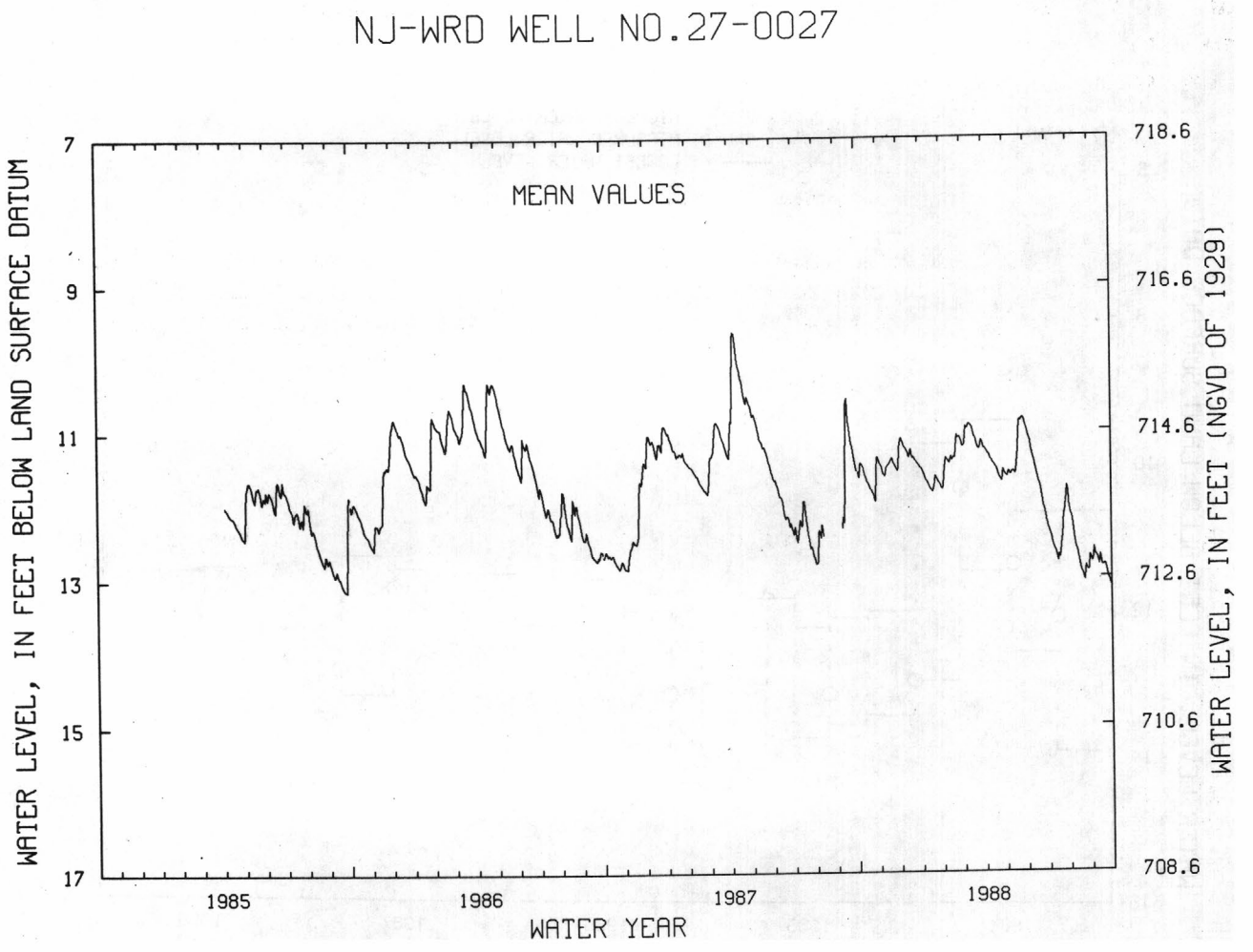
405531074361901. Local I.D., Berkshire Valley TW-9. NJ-WRD Well Number, 27-0027.
LOCATION.--Lat 40°55'31", long 74°36'19", Hydrologic Unit 02030103, about 1,000 ft east of the intersection of Lower Berkshire Valley Rd and Minnisink Rd., Jefferson Township.
Owner: State of New Jersey.
AQUIFER.--Stratified drift of Pleistocene age.
WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in, depth 98 ft, screened 78 to 98 ft.
INSTRUMENTATION.--Digital water-level recorder--60-minute punch.
DATUM.--Land-surface datum is 725.64 ft above National Geodedic Vertical Datum of 1929 (levels by Woodward-Clyde Consultants).
Measuring point: Top of 6 inch casing, 2.25 ft above land surface datum.
PERIOD OF RECORD.--April 1985 to current year. Periodic manual measurments November 1981 to March 1985.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 9.62 ft below land-surface datum, Apr. 6, 1987; lowest, 13.17 ft below land-surface datum, Sept. 25, 1985

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	11.43	11.50	11.16	11.61	11.37	10.94	11.30	11.63	11.13	12.43	12.23	12.60
10	11.56	11.59	11.26	11.71	11.44	10.91	11.38	11.61	11.36	12.58	12.56	12.73
15	11.69	11.46	11.32	11.80	11.41	10.97	11.46	11.58	11.58	12.75	12.78	12.75
20	11.79	11.37	11.35	11.69	11.13	11.14	11.56	11.02	11.76	12.59	12.97	12.83
25	11.90	11.49	11.43	11.70	11.09	11.25	11.67	10.84	12.03	12.13	12.85	12.99
EOM	11.40	11.23	11.51	11.79	11.20	11.23	11.58	10.95	12.26	11.98	12.73	13.13
MEAN	11.64	11.47	11.32	11.70	11.32	11.08	11.47	11.30	11.60	12.40	12.67	12.84

WTR YR 1988 MEAN 11.74 HIGH 10.82 MAY 26,27 LOW 13.14 SEP 30



MORRIS COUNTY

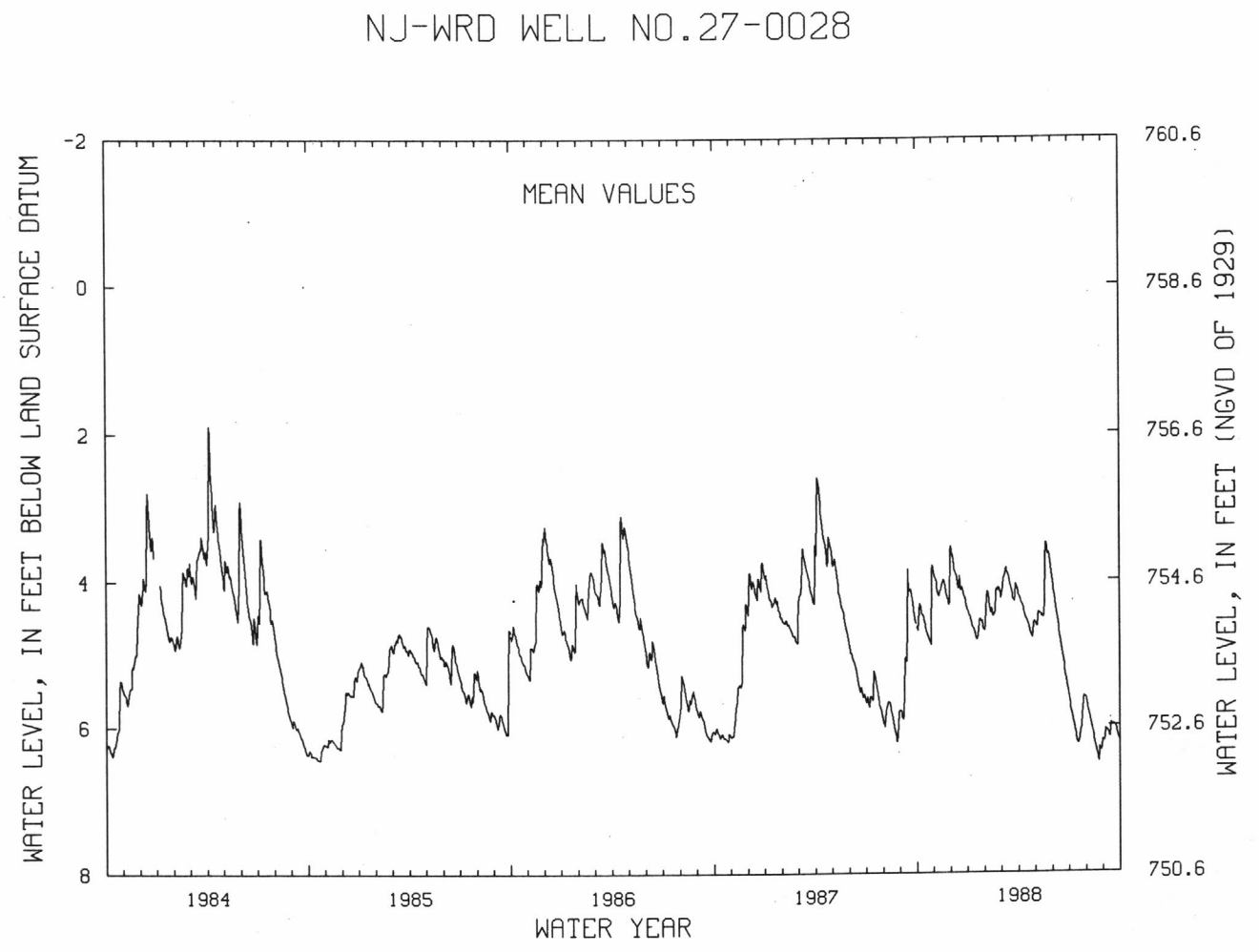
410207074270001. Local I.D., Green Pond TW5 Obs. NJ-WRD Well Number, 27-0028.
LOCATION.--Lat 41°02'07", long 74°27'00", Hydrologic Unit 02030103, about 500 ft east of Route 513 and 1.1 mi south of the intersection with Route 23, Rockaway Township.
Owner: State of New Jersey.
AQUIFER.--Stratified drift of Pleistocene age.
WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in, depth 120 ft, screened 80 to 120 ft.
INSTRUMENTATION.--Digital water-level recorder--60-minute punch.
DATUM.--Land-surface datum is 758.56 ft above National Geodetic Vertical Datum of 1929 (levels by Woodward-Clyde Consultants).
Measuring point: Top edge of recorder shelf, 1.20 ft above land-surface datum.
PERIOD OF RECORD.--November 1981 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 1.35 ft below land-surface datum, Apr. 5, 1984; lowest, 6.49 ft below land-surface datum, Aug. 23, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	4.32	4.03	3.74	4.53	4.16	3.99	4.28	4.64	4.22	5.80	5.80	6.05
10	4.47	4.22	3.92	4.66	4.40	3.83	4.39	4.46	4.53	5.99	5.99	6.10
15	4.60	4.05	4.08	4.79	4.49	3.97	4.53	4.50	4.81	6.19	6.18	5.97
20	4.75	4.02	4.10	4.69	4.18	4.15	4.64	3.50	5.07	6.17	6.37	5.99
25	4.86	4.26	4.22	4.56	4.11	4.29	4.77	3.63	5.33	5.83	6.30	6.09
EOM	3.90	3.62	4.41	4.69	4.21	4.16	4.57	3.97	5.57	5.62	6.19	6.21
MEAN	4.52	4.10	4.03	4.64	4.30	4.08	4.50	4.16	4.82	5.92	6.12	6.08

WTR YR 1988 MEAN 4.77 HIGH 3.49 MAY 20,21 LOW 6.49 AUG 23

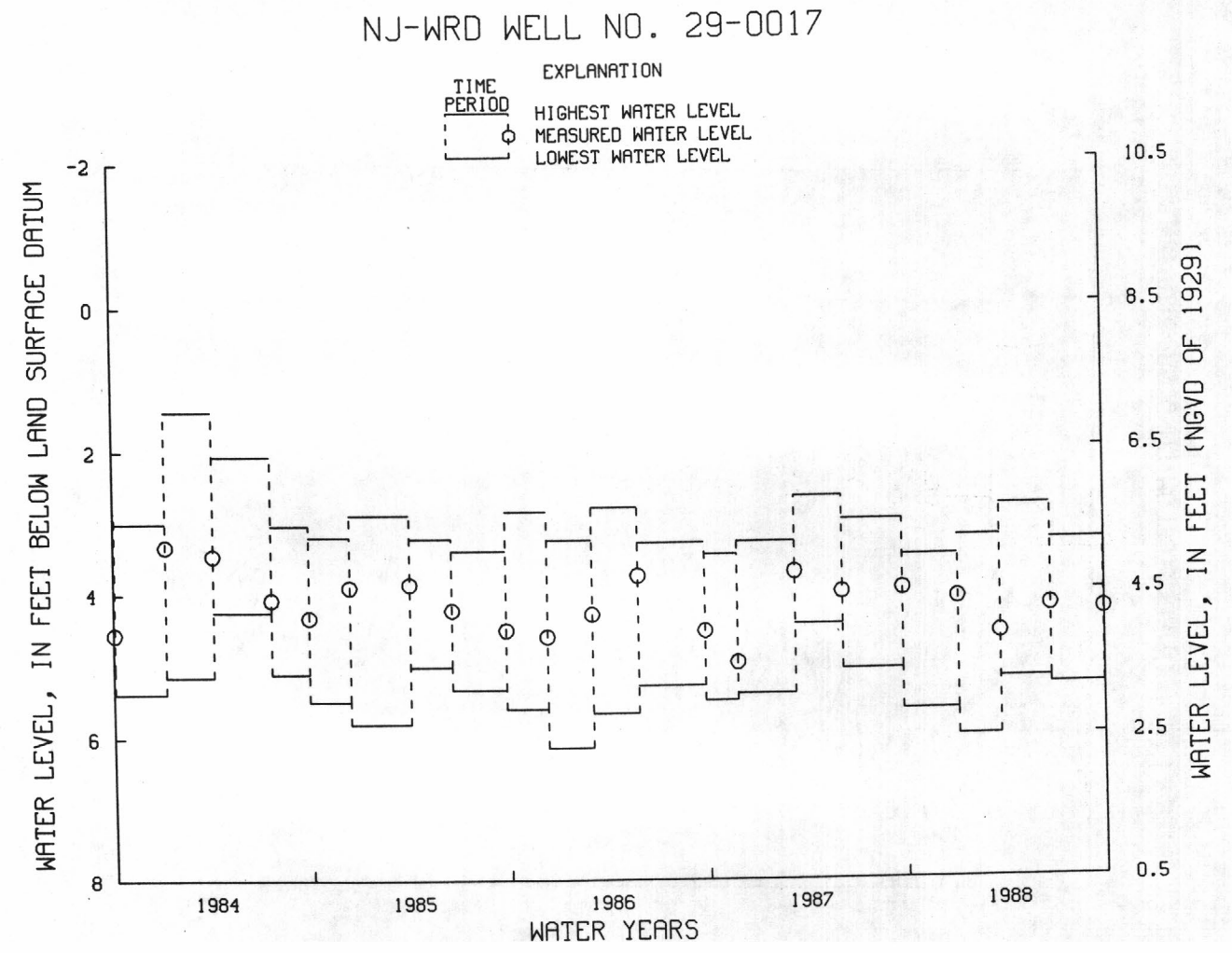


OCEAN COUNTY

394829074053501. Local I.D., Island Beach 1 Obs. NJ-WRD Well Number, 29-0017.
LOCATION.--Lat 39°48'29", long 74°05'35", Hydrologic Unit 02040301, in Island Beach State Park, about 6.6 mi south of main entrance, Berkeley Township.
Owner: U.S. Geological Survey.
AQUIFER.--Kirkwood-Cohansey aquifer system of Miocene age.
WELL CHARACTERISTICS.--Drilled water-table observation well, diameter 6 in, depth 397 ft, screened 377 to 397 ft.
INSTRUMENTATION.--Water-level extremes recorder, February 1977 to current year. Water-level recorder, July 1962 to March 1975.
DATUM.--Land-surface datum is 8.50 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Front edge of cutout in recorder housing, 3.40 ft above land-surface datum.
REMARKS.--Water level affected by tidal fluctuation.
PERIOD OF RECORD.--July 1962 to March 1975, February 1977 to current year. Records for 1962 to 1975 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 0.05 ft below land-surface datum, Dec. 6, 1962; lowest, 6.14 ft below land-surface datum, between Dec. 13, 1978 and Jan. 10, 1979 and between Dec. 11, 1985 and Mar. 3, 1986.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

WATER-LEVEL EXTREMES			MEASURED WATER LEVEL	
PERIOD	HIGHEST WATER LEVEL	LOWEST WATER LEVEL	DATE	WATER LEVEL
SEPT. 25, 1987 TO JAN. 4, 1988	3.50	5.63	JAN. 4, 1988	4.09
JAN. 4, 1988 TO MAR. 22, 1988	3.24	6.00	MAR. 22, 1988	4.58
MAR. 22, 1988 TO JUNE 23, 1988	2.81	5.21	JUNE 23, 1988	4.21
JUNE 23, 1988 TO SEPT. 29, 1988	3.30	5.30	SEPT. 29, 1988	4.27

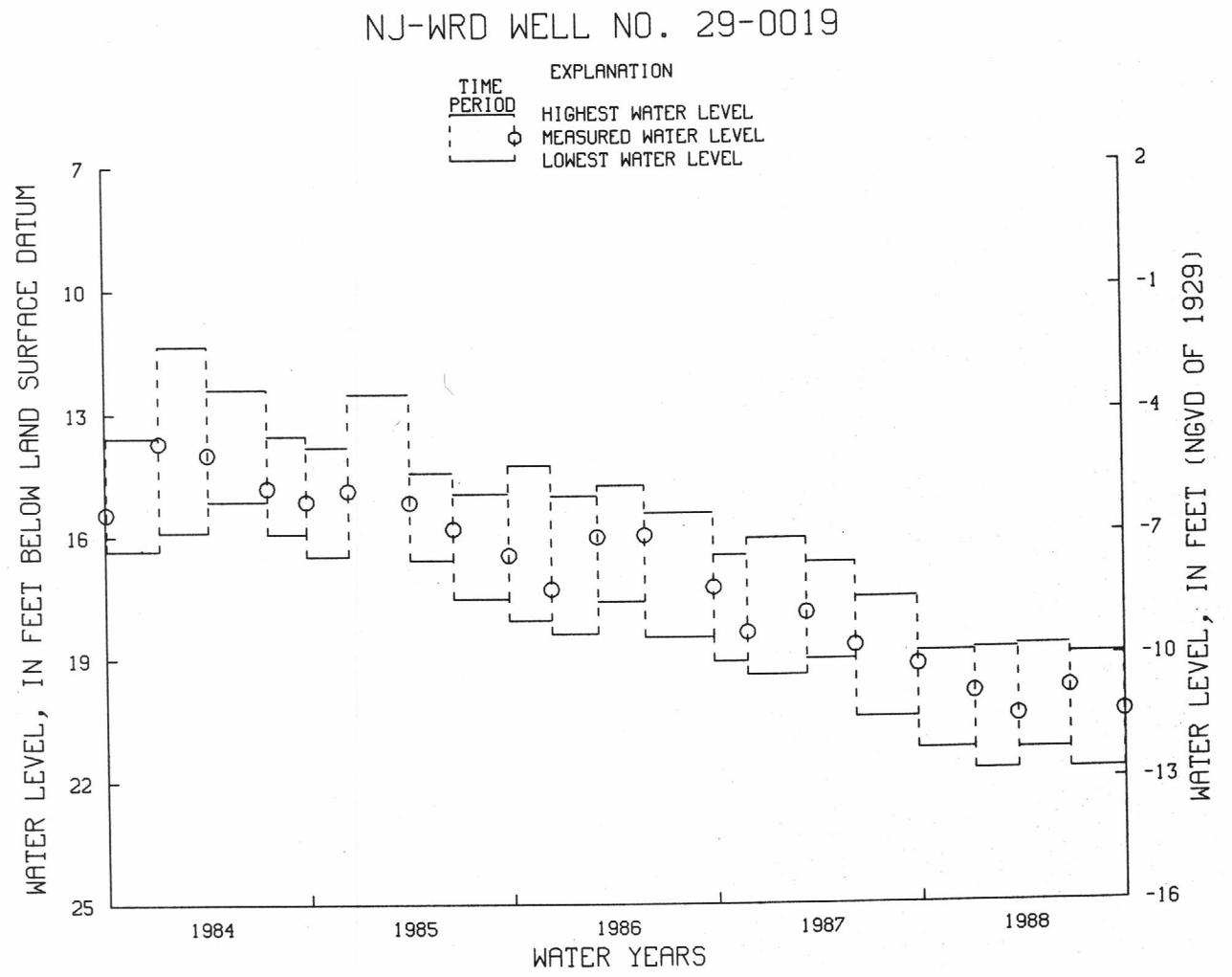


OCEAN COUNTY

394829074053503. Local I.D., Island Beach 3 Obs. NJ-WRD Well Number, 29-0019.
LOCATION.--Lat 39°48'29", long 74°05'35", Hydrologic Unit 02040301, in Island Beach State Park, about 6.6 mi south of main entrance, Berkeley Township.
Owner: U.S. Geological Survey.
AQUIFER.--Potomac-Raritan-Magothy aquifer system, undifferentiated, of Cretaceous age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 8 in, depth 2,756 ft, screened 2,736 to 2,756 ft.
INSTRUMENTATION.--Water-level extremes recorder, February 1977 to current year. Water-level recorder, November 1968 to March 1975.
DATUM.--Land-surface datum is 9.02 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Front edge of cutout in recorder housing, 5.11 ft above land-surface datum.
REMARKS.--Water level affected by tidal fluctuation.
PERIOD OF RECORD.--November 1968 to March 1975, February 1977 to current year. Records for 1968 to 1975 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 5.95 ft above land-surface datum, Apr. 23, 1969; lowest, 21.76 ft below land-surface datum, between Jan. 4 and Mar. 22, and between June 23 and Sept. 29, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

WATER-LEVEL EXTREMES			MEASURED WATER LEVEL	
PERIOD	HIGHEST WATER LEVEL	LOWEST WATER LEVEL	DATE	WATER LEVEL
SEPT. 25, 1987 TO JAN. 4, 1988	18.86	21.24	JAN. 4, 1988	19.86
JAN. 4, 1988 TO MAR. 22, 1988	18.81	21.76	MAR. 22, 1988	20.43
MAR. 22, 1988 TO JUNE 23, 1988	18.73	21.27	JUNE 23, 1988	19.77
JUNE 23, 1988 TO SEPT. 29, 1988	18.95	21.76	SEPT. 29, 1988	20.37



OCEAN COUNTY

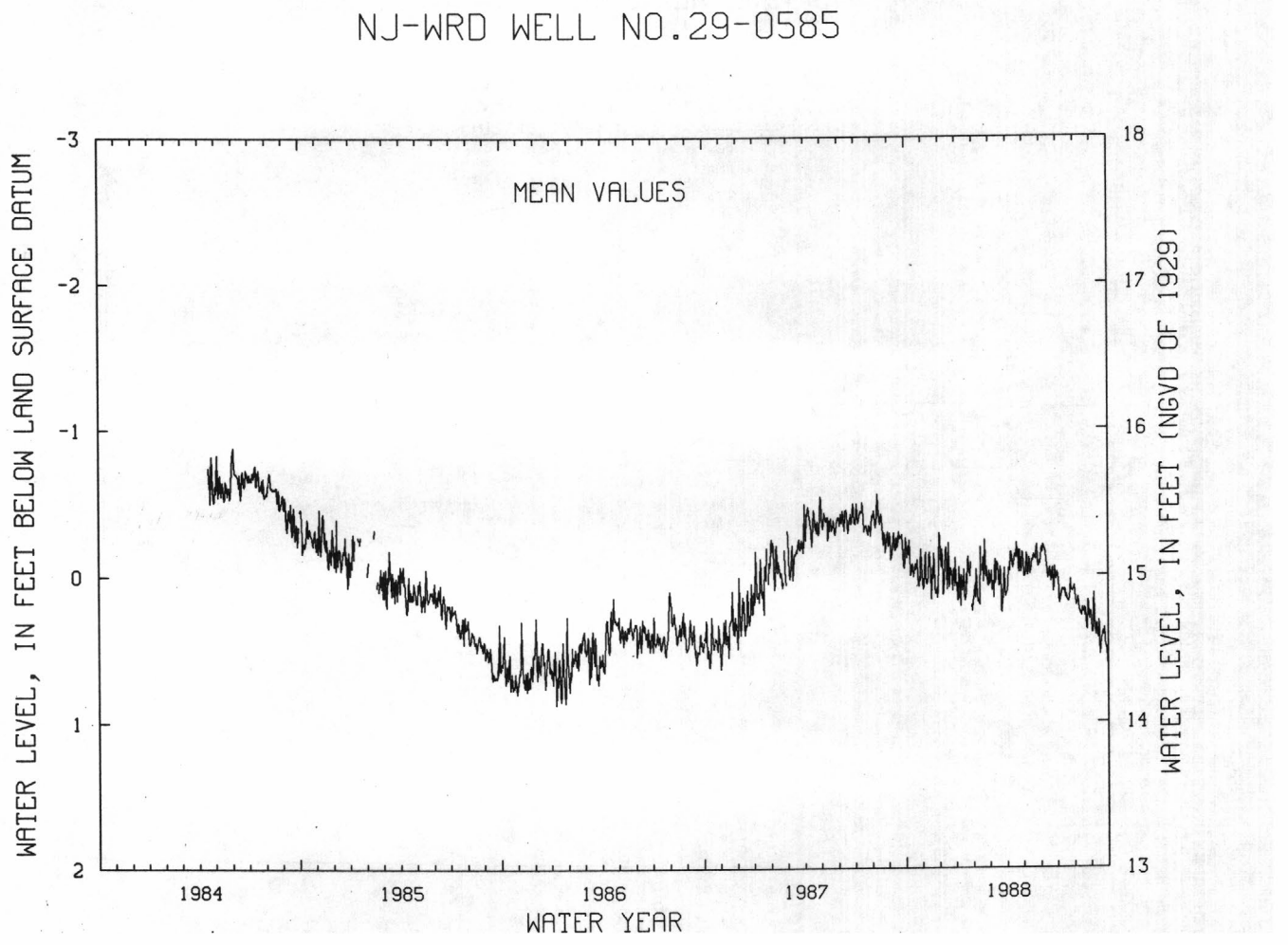
395028074104401. Local I.D., DOE-Forked River Obs. NJ-WRD Well Number, 29-0585.
LOCATION.--Lat 39°50'28", long 74°10'44", Hydrologic Unit 02040301, at the Forked River Game Farm, Forked River, Lacey Township.
Owner: State of New Jersey.
AQUIFER.--Piney Point aquifer of Eocene age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 4 in, depth 959 ft, perforated casing 412 to 422 ft.
INSTRUMENTATION.--Digital water-level recorder--60-minute punch.
DATUM.--Land-surface datum is 15 ft above National Geodedic Vertical Datum of 1929, from topographic map.
Measuring point: Top edge of recorder shelf, 3.80 ft above land-surface datum.
PERIOD OF RECORD.--April 1984 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 0.83 ft above land-surface datum, June 1, 1984; lowest, 0.90 ft below land-surface datum, Jan. 24,25, 1986.

WATER LEVEL, IN FEET ABOVE (-) OR BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	-0.14	-0.16	-0.11	0.05	0.06	0.10	-0.04	-0.03	-0.21	0.19	0.19	0.12
10	-0.01	0.01	-0.05	0.07	0.17	-0.11	-0.10	-0.12	-0.09	0.09	0.25	0.33
15	-0.03	0.13	-0.09	0.17	-0.03	-0.07	-0.14	-0.03	0.00	0.11	0.22	0.45
20	-0.06	-0.15	-0.05	-0.09	-0.24	-0.02	-0.12	-0.13	0.00	0.18	0.23	0.42
25	0.01	0.12	-0.04	-0.09	0.06	0.16	-0.07	-0.21	0.07	0.07	0.17	0.46
EOM	0.05	-0.29	0.07	0.16	0.01	0.12	-0.08	-0.12	-0.02	0.07	0.31	0.56
MEAN	-0.07	0.00	-0.03	0.07	0.03	0.05	-0.08	-0.08	-0.06	0.11	0.24	0.40

WTR YR 1988 MEAN 0.05 HIGH -0.33 NOV 30 LOW 0.62 SEP 29



OCEAN COUNTY

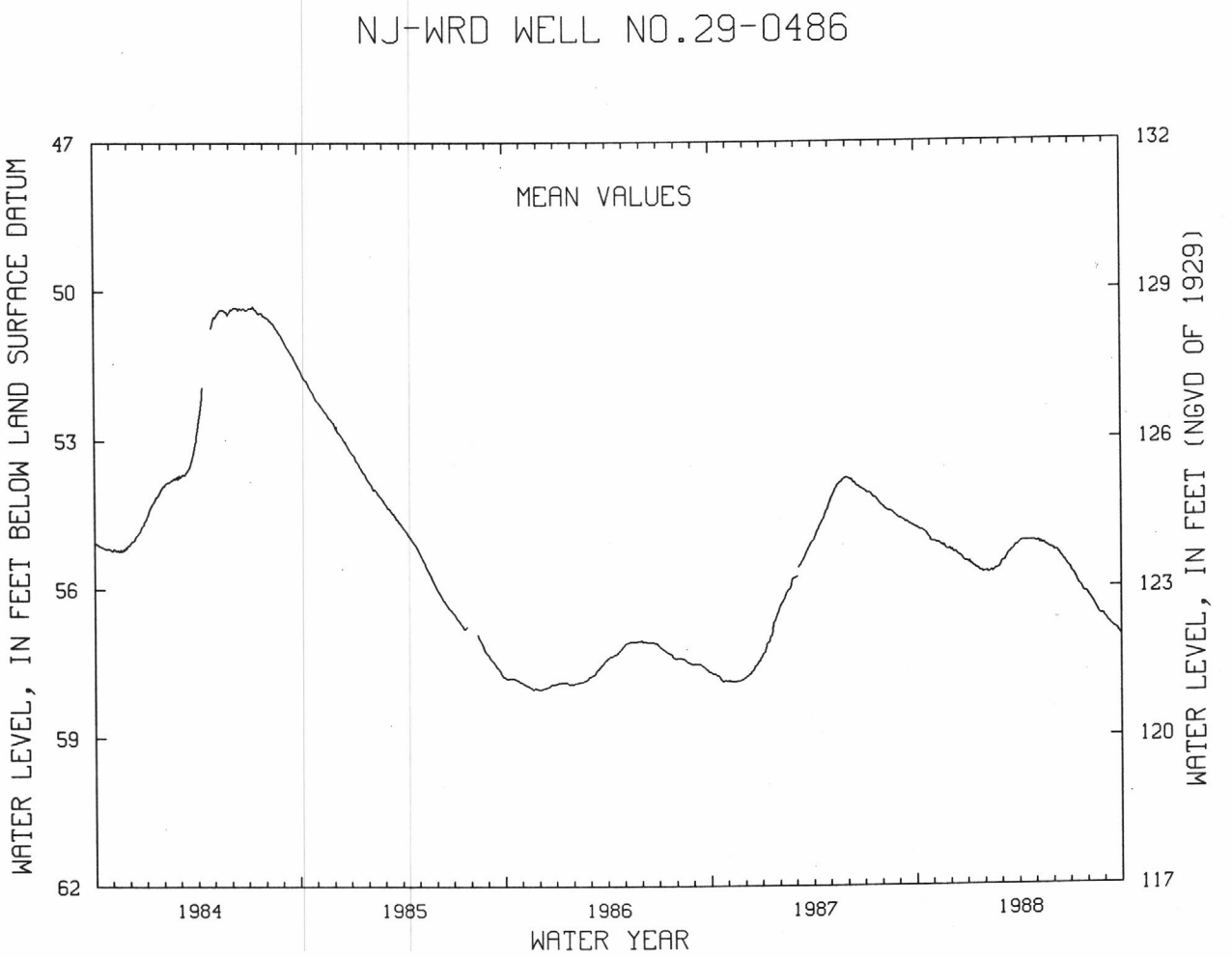
395714074223401. Local I.D., Crammer Obs. NJ-WRD Well Number, 29-0486.
LOCATION.--Lat 39°57'14", long 74°22'34", Hydrologic Unit 02040301, about 800 ft east of Central Railroad of New Jersey, Whiting, Manchester Township.
Owner: Whiting Bible Church.
AQUIFER.--Kirkwood-Cohansey aquifer system of Miocene age.
WELL CHARACTERISTICS.--Water-table observation well, diameter 8 in, depth 69 ft, slotted steel casing, gravel packed.
INSTRUMENTATION.--Digital water-level recorder--60-minute punch.
DATUM.--Land-surface datum is 179.05 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Top of 8-inch coupling, 0.90 ft above land-surface datum.
REMARKS.--Originally a dug well in which slotted casing was installed on March 31, 1966, and the well deepened from 60 to 69 ft.
PERIOD OF RECORD.--May 1952 to current year. Records for 1952 to 1962 are unpublished and are available in files of New Jersey District office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 47.80 ft below land-surface datum, June 9-14, 20-29, 1973; lowest, 58.02 ft below land surface datum, Nov. 21,22,29-30, Dec. 1-8, 1985. Well was dry, November 1957 to February 1958, December 1965, before deepening.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	54.81	55.07	55.27	55.53	55.70	55.48	55.09	55.10	55.27	55.71	56.21	56.68
10	54.85	55.11	55.29	55.56	55.70	55.40	55.07	55.10	55.32	55.80	56.30	56.76
15	54.86	55.16	55.32	55.61	55.67	55.32	55.07	55.15	55.39	55.91	56.40	56.81
20	54.92	55.15	55.38	55.62	55.62	55.26	55.07	55.18	55.47	55.99	56.52	56.86
25	55.00	55.23	55.43	55.66	55.61	55.20	55.07	55.18	55.54	56.10	56.57	56.93
EOM	55.07	55.20	55.48	55.70	55.55	55.14	55.07	55.24	55.61	56.13	56.63	57.00
MEAN	54.90	55.15	55.36	55.60	55.66	55.32	55.08	55.15	55.40	55.91	56.41	56.82

WTR YR 1988 MEAN 55.56 HIGH 54.77 OCT 1 LOW 57.00 SEP 30

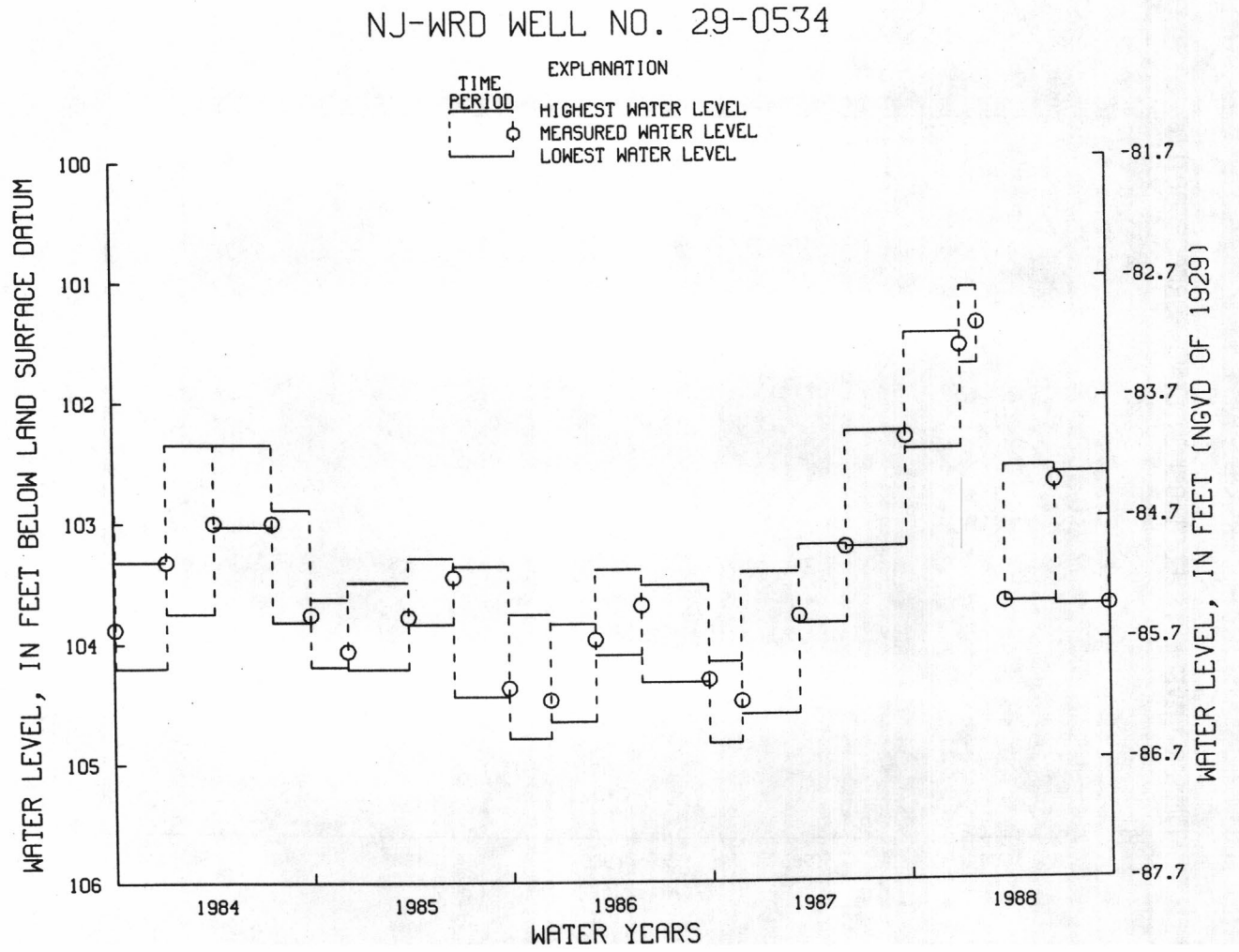


OCEAN COUNTY

395609074124001. Local I.D., Toms River TW 2 Obs. NJ-WRD Well Number, 29-0534.
LOCATION.--Lat 39°56'09", long 74°12'40", Hydrologic Unit 02040301, about 200 ft east of Double Trouble Road on the north side of Jakes Branch, South Toms River.
Owner: U.S. Geological Survey.
AQUIFER.--Englishtown aquifer of Cretaceous age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 8 in, depth 1,146 ft, screened 1,080 to 1,146 ft.
INSTRUMENTATION.--Water-level extremes recorder, February 1977 to current year. Water-level recorder, December 1965 to March 1975.
DATUM.--Land-surface datum is 18.34 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Front edge of cutout in recorder housing, 1.70 ft above land-surface datum.
Remarks.--The well was pumped February 5, 1988. After pumping, the water level did not recover to its previous level. The screen may have been partially clogged.
PERIOD OF RECORD.--December 1965 to March 1975, February 1977 to current year. Records for 1965 to 1975 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 48.37 ft below land-surface datum, May 28, 1966; lowest, 104.91 ft below land-surface datum, between Sept. 29 and Dec. 21, 1982.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

WATER-LEVEL EXTREMES			MEASURED WATER LEVEL	
PERIOD	HIGHEST WATER LEVEL	LOWEST WATER LEVEL	DATE	WATER LEVEL
SEPT. 25, 1987 TO JAN. 4, 1988	101.46	102.42	JAN. 4, 1988	101.57
JAN. 4, 1988 TO FEB. 5, 1988	101.08	101.72	FEB. 5, 1988	101.38
FEB. 5, 1988 TO MAR. 22, 1988	---	---	MAR. 22, 1988	103.69
MAR. 22, 1988 TO JUNE 23, 1988	102.57	103.69	JUNE 23, 1988	102.70
JUNE 23, 1988 TO SEPT. 29, 1988	102.63	103.72	SEPT. 29, 1988	103.72



OCEAN COUNTY

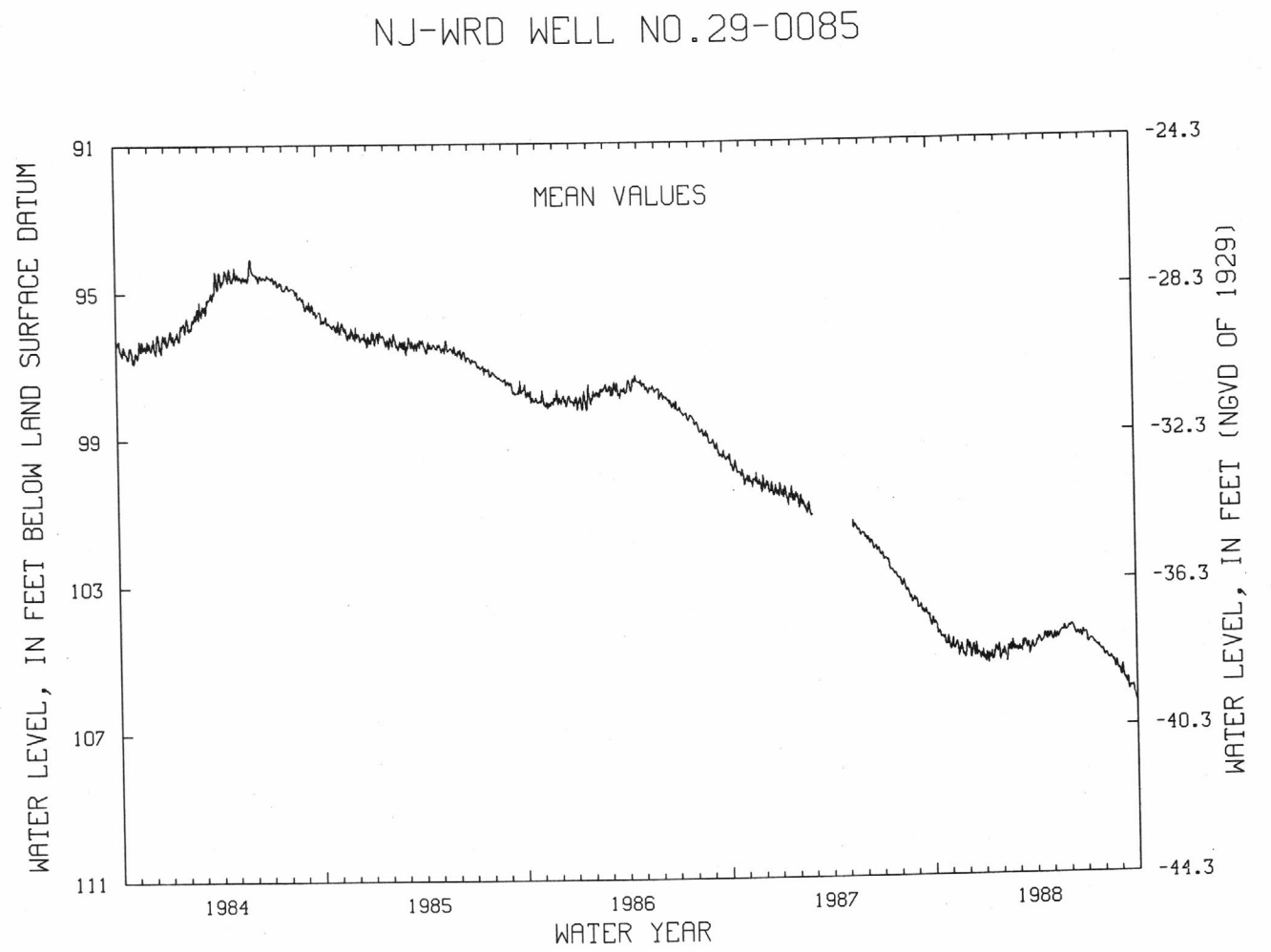
395930074142101. Local I.D., Toms River Chem 84 Obs. NJ-WRD Well Number, 29-0085.
LOCATION.--Lat 39°59'29", long 74°14'20", Hydrologic Unit 02040301, at Toms River Plant, Ciba-Geigy Corporation, Dover Township.
Owner: Ciba-Geigy Corporation.
AQUIFER.--Potomac-Raritan-Magothy aquifer system, undifferentiated, of Cretaceous age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 8 in, depth 1,480 ft, screened 1,460 to 1,480 ft.
INSTRUMENTATION.--Digital water-level recorder--60-minute punch.
DATUM.--Land-surface datum is 66.71 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Top edge of recorder shelf, 2.70 ft above land-surface datum.
PERIOD OF RECORD.--July 1968 to July 1975, March 1977 to current year. Records for 1968 to 1975 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 62.32 ft below land-surface datum, July 19, 1968 and Feb. 9, 1969; lowest, 106.37 ft below land-surface datum, Sept. 29, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	104.19	104.59	104.81	105.08	104.95	104.95	104.69	104.61	104.30	104.77	105.12	105.39
10	104.46	104.85	104.90	105.13	105.23	104.68	104.66	104.50	104.42	104.64	105.20	105.74
15	104.53	105.01	104.93	105.21	104.83	104.70	104.68	104.57	104.53	104.71	105.15	105.92
20	104.56	104.73	104.98	104.89	104.66	104.77	104.60	104.42	104.52	104.83	105.25	105.97
25	104.71	105.06	105.01	104.87	104.93	104.93	104.58	104.29	104.57	104.88	105.26	106.11
EOM	104.80	104.66	105.16	105.07	104.91	104.90	104.56	104.38	104.48	104.95	105.57	106.33
MEAN	104.47	104.87	104.96	105.06	104.94	104.86	104.64	104.50	104.44	104.77	105.25	105.89

WTR YR 1988 MEAN 104.89 HIGH 103.98 OCT 1 LOW 106.37 SEP 29



OCEAN COUNTY

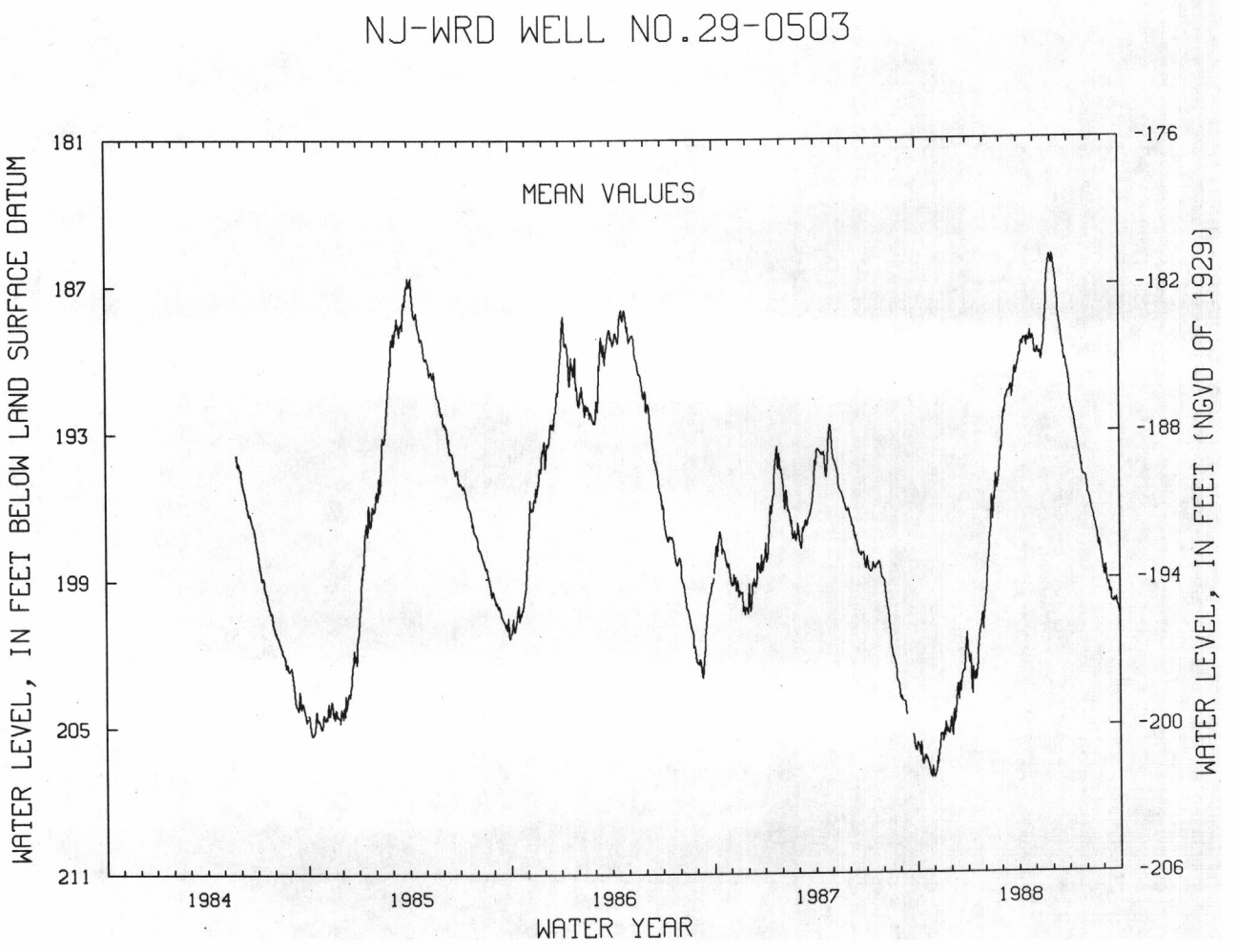
400210074031001. Local I.D., Mantoloking 6 Obs. NJ-WRD Well Number, 29-0503.
LOCATION.--Lat 40°02'10", long 74°03'10", Hydrologic Unit 02040301, at the Bay Avenue water treatment plant, Mantoloking.
Owner: New Jersey - American Water Company.
AQUIFER.--Englishtown aquifer of Cretaceous age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 8 in, depth 906 ft, screened 845 to 906 ft.
INSTRUMENTATION.--Digital water-level recorder--60-minute punch.
DATUM.--Land-surface datum is 5 ft above National Geodedic Vertical Datum of 1929, from topographic map.
Measuring point: Top edge of recorder shelf, 2.40 ft above land-surface datum.
REMARKS.--Water level affected by tidal fluctuation and nearby pumping.
PERIOD OF RECORD.--May 1984 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 185.32 ft below land-surface datum, Jun. 3,4, 1988; lowest, 207.49 ft below land-surface datum, Oct. 31, 1987.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	206.20	206.29	204.33	202.89	198.29	192.54	189.89	189.79	186.02	191.77	195.58	198.50
10	206.58	205.89	204.02	203.02	197.05	191.55	189.44	189.75	187.27	192.38	196.09	199.22
15	206.26	205.48	203.35	202.87	196.06	191.36	189.18	189.85	188.50	193.05	196.53	199.83
20	206.45	204.86	202.93	201.42	194.72	191.11	189.29	188.41	189.46	193.90	197.10	199.85
25	207.04	205.29	202.18	200.52	194.76	190.96	189.25	186.45	190.06	194.57	197.54	200.04
EOM	207.09	204.64	202.00	200.10	193.68	190.37	189.37	186.10	190.63	194.83	198.60	200.42
MEAN	206.43	205.64	203.36	201.94	196.27	191.61	189.40	188.55	188.33	193.20	196.73	199.60

WTR YR 1988 MEAN 196.77 HIGH 185.32 JUN 3,4 LOW 207.49 OCT 31



OCEAN COUNTY

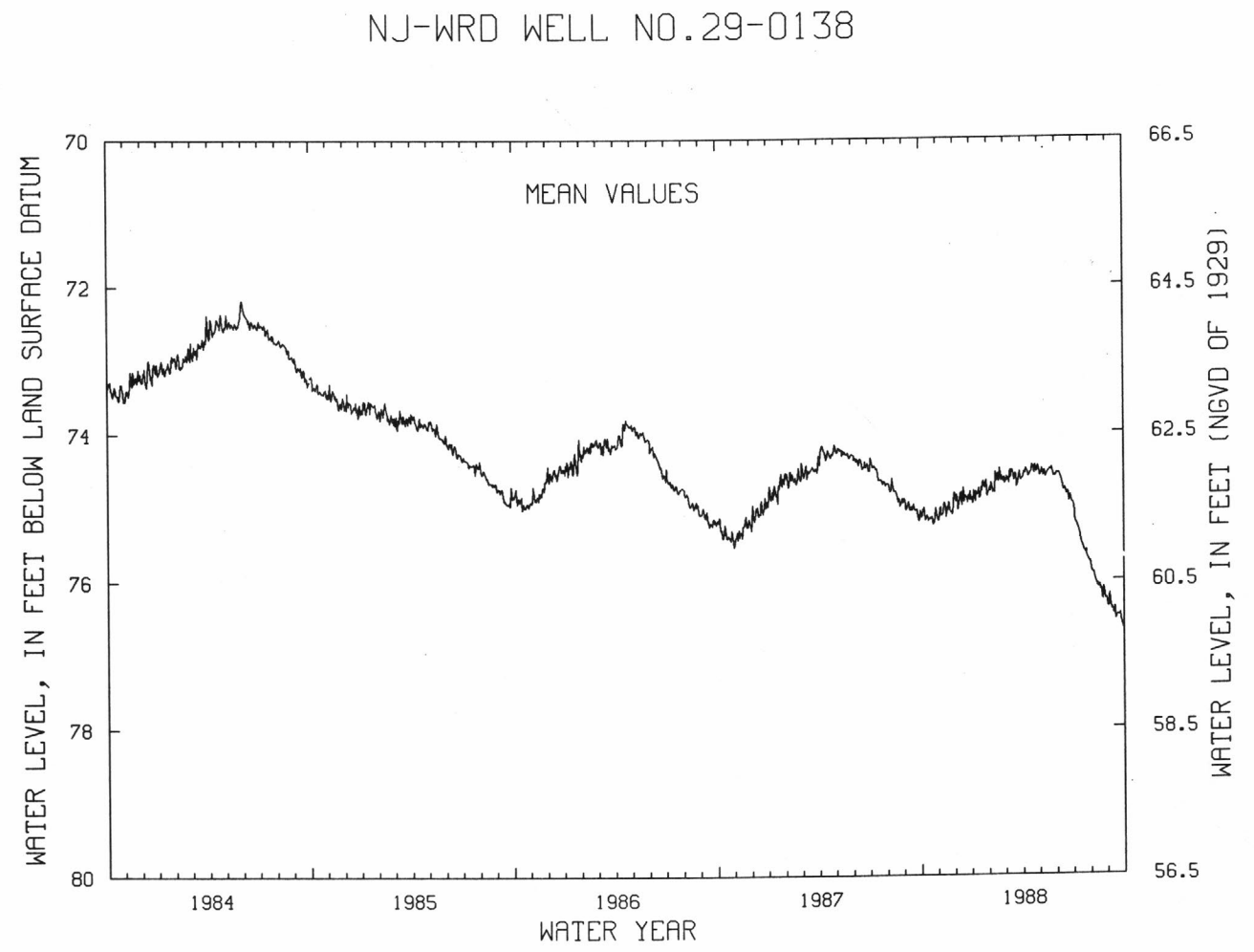
400416074270101. Local I.D., Colliers Mills TW 1 Obs. NJ-WRD Well Number, 29-0138.
LOCATION.--Lat 40°04'14", long 74°27'02", Hydrologic Unit 02040301, along western shore of Colliers Mills Pond, Jackson Township.
Owner: U.S. Geological Survey.
AQUIFER.--Englishtown aquifer of Cretaceous age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 6 in, depth 427 ft, screened 417 to 427 ft.
INSTRUMENTATION.--Digital water-level recorder--60-minute punch.
DATUM.--Land-surface datum is 136.52 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Top of 6 inch coupling, 2.20 ft above land-surface datum.
PERIOD OF RECORD.--February 1964 to July 1975, March 1977 to current year. Records for 1964 to 1975 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 52.02 ft below land-surface datum, Feb. 19, 1964; lowest, 76.69 ft below land-surface datum, Sep. 29, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	75.07	75.01	74.90	74.85	74.73	74.66	74.55	74.56	74.55	75.21	75.91	76.18
10	75.17	75.08	74.91	74.85	74.79	74.52	74.55	74.52	74.67	75.30	76.01	76.39
15	75.17	75.12	74.86	74.88	74.59	74.54	74.56	74.60	74.78	75.46	76.06	76.47
20	75.16	74.94	74.86	74.69	74.49	74.58	74.51	74.50	74.82	75.60	76.12	76.48
25	75.21	75.08	74.86	74.69	74.66	74.68	74.51	74.48	74.92	75.65	76.10	76.55
EOM	75.16	74.82	74.91	74.81	74.65	74.65	74.51	74.59	74.95	75.75	76.29	76.66
MEAN	75.14	75.05	74.90	74.81	74.68	74.62	74.54	74.55	74.74	75.45	76.07	76.45

WTR YR 1988 MEAN 75.08 HIGH 74.43 APR 18,24 LOW 76.69 SEP 29

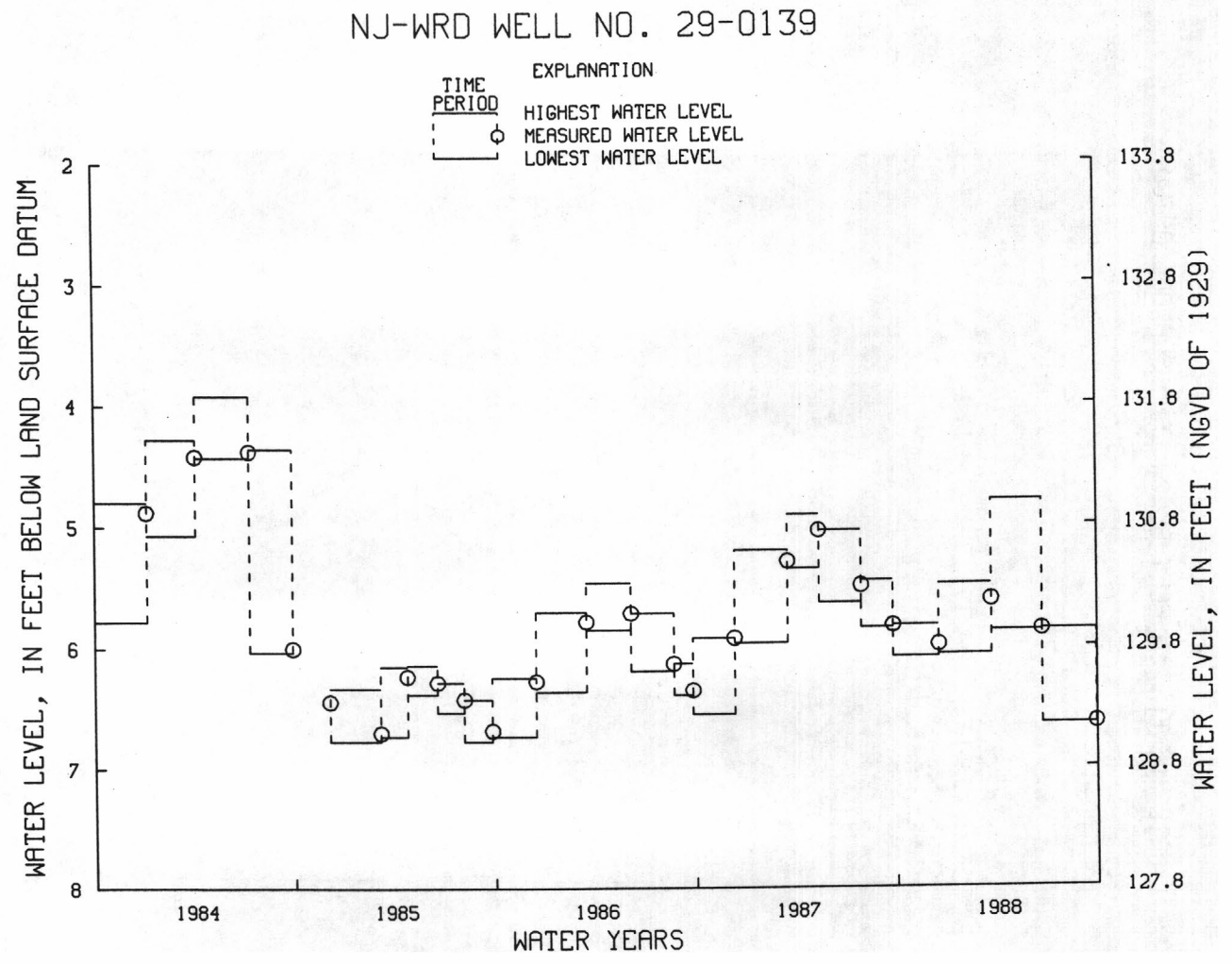


OCEAN COUNTY

400416074270102. Local I.D., Colliers Mills TW 2 Obs. NJ-WRD Well Number, 29-0139.
LOCATION.--Lat 40°04'14", long 74°27'02", Hydrologic Unit 02040301, along western shore of Colliers Mills Pond, Jackson Township.
Owner: U.S. Geological Survey.
AQUIFER.--Vincentown Formation of Paleocene age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 6 in, depth 171 ft, screened 161 to 171 ft.
INSTRUMENTATION.--Water-level extremes recorder, October 1976 to current year. Water-level recorder, January 1964 to August 1975.
DATUM.--Land-surface datum is 135.76 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Front edge of cutout in recorder housing, 3.10 ft above land-surface datum.
PERIOD OF RECORD.--January 1964 to August 1975, October 1976 to current year. Records for 1964 to 1981 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 3.92 ft below land-surface datum, between Apr. 3 and July 11, 1984; lowest, 6.77 ft below land-surface datum, between Dec. 4, 1984 and Mar. 6, 1985 and between Aug. 6 and Sept. 26, 1985.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

WATER-LEVEL EXTREMES			MEASURED WATER LEVEL	
PERIOD	HIGHEST WATER LEVEL	LOWEST WATER LEVEL	DATE	WATER LEVEL
SEPT. 25, 1987 TO DEC. 17, 1987	5.82	6.08	DEC. 17, 1987	5.98
DEC. 17, 1987 TO MAR. 22, 1988	5.48	6.06	MAR. 22, 1988	5.61
MAR. 22, 1988 TO JUNE 22, 1988	4.80	5.87	JUNE 22, 1988	5.86
JUNE 22, 1988 TO SEPT. 29, 1988	5.86	6.64	SEPT. 29, 1988	6.63

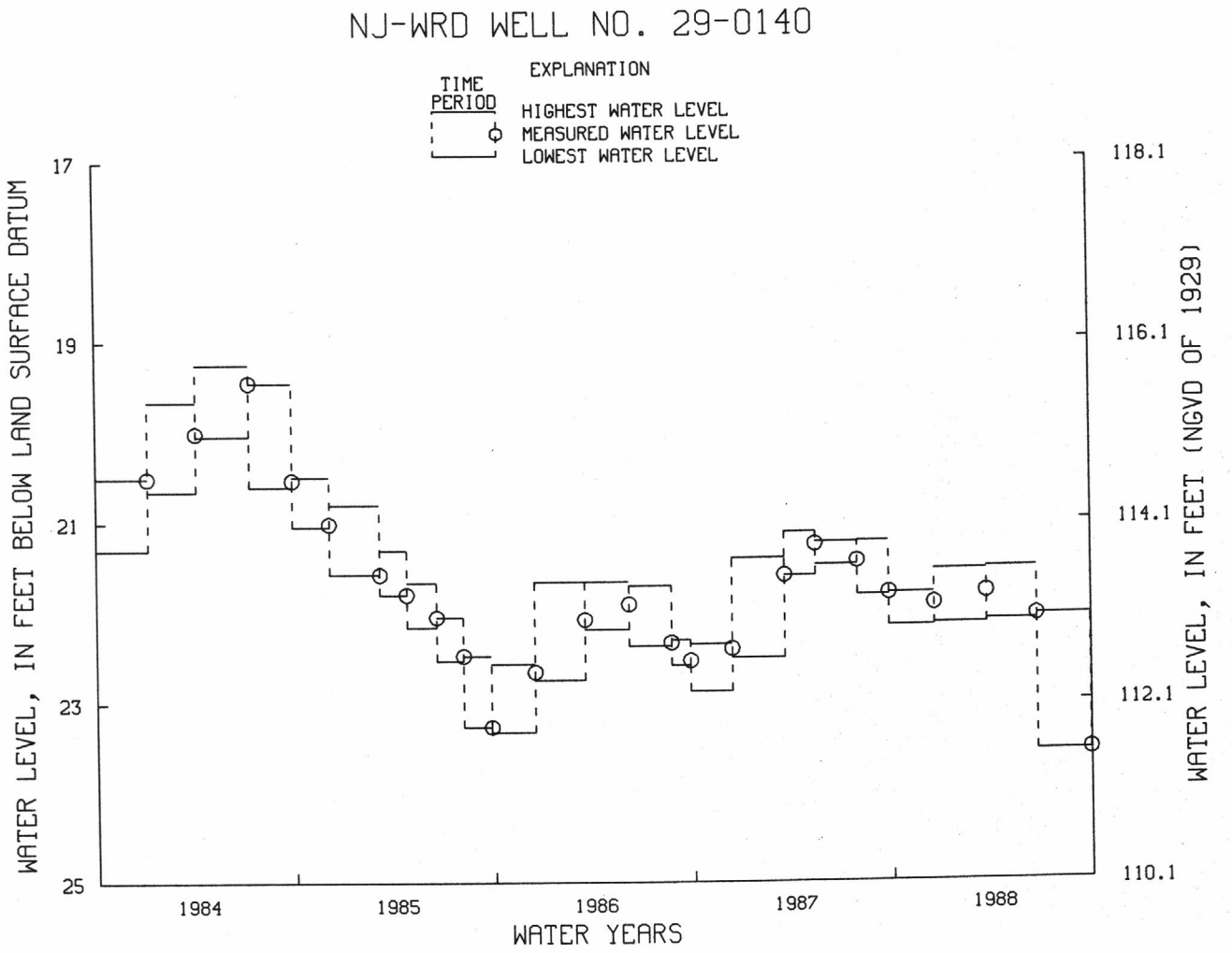


OCEAN COUNTY

400416074270103. Local I.D., Colliers Mills TW 3 Obs. NJ-WRD Well Number, 29-0140.
LOCATION.--Lat 40°04'14", long 74°27'02", Hydrologic Unit 02040301, along western shore of Colliers Mills Pond, Jackson Township.
Owner: U.S. Geological Survey.
AQUIFER.--Wenonah-Mount Laurel aquifer of Cretaceous age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 6 in, depth 267 ft, screened 257 to 267 ft.
INSTRUMENTATION.--Water-level extremes recorder, October 1976 to current year. Water-level recorder, January 1964 to July 1975.
DATUM.--Land-surface datum is 135.15 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Front edge of cutout in recorder housing, 3.49 ft above land-surface datum.
PERIOD OF RECORD.--January 1964 to July 1975, October 1976 to current year. Records for 1964 to 1975 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 15.72 ft below land-surface datum, May 9, 1964; lowest, 23.56 ft below land-surface datum, between June 22 and Sept. 29, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

WATER-LEVEL EXTREMES			MEASURED WATER LEVEL	
PERIOD	HIGHEST WATER LEVEL	LOWEST WATER LEVEL	DATE	WATER LEVEL
SEPT. 25, 1987 TO DEC. 17, 1987	21.79	22.15	DEC. 17, 1987	21.91
DEC. 17, 1987 TO MAR. 22, 1988	21.54	22.13	MAR. 22, 1988	21.79
MAR. 22, 1988 TO JUNE 22, 1988	21.52	22.10	JUNE 22, 1988	22.05
JUNE 22, 1988 TO SEPT. 29, 1988	22.05	23.56	SEPT. 29, 1988	23.55

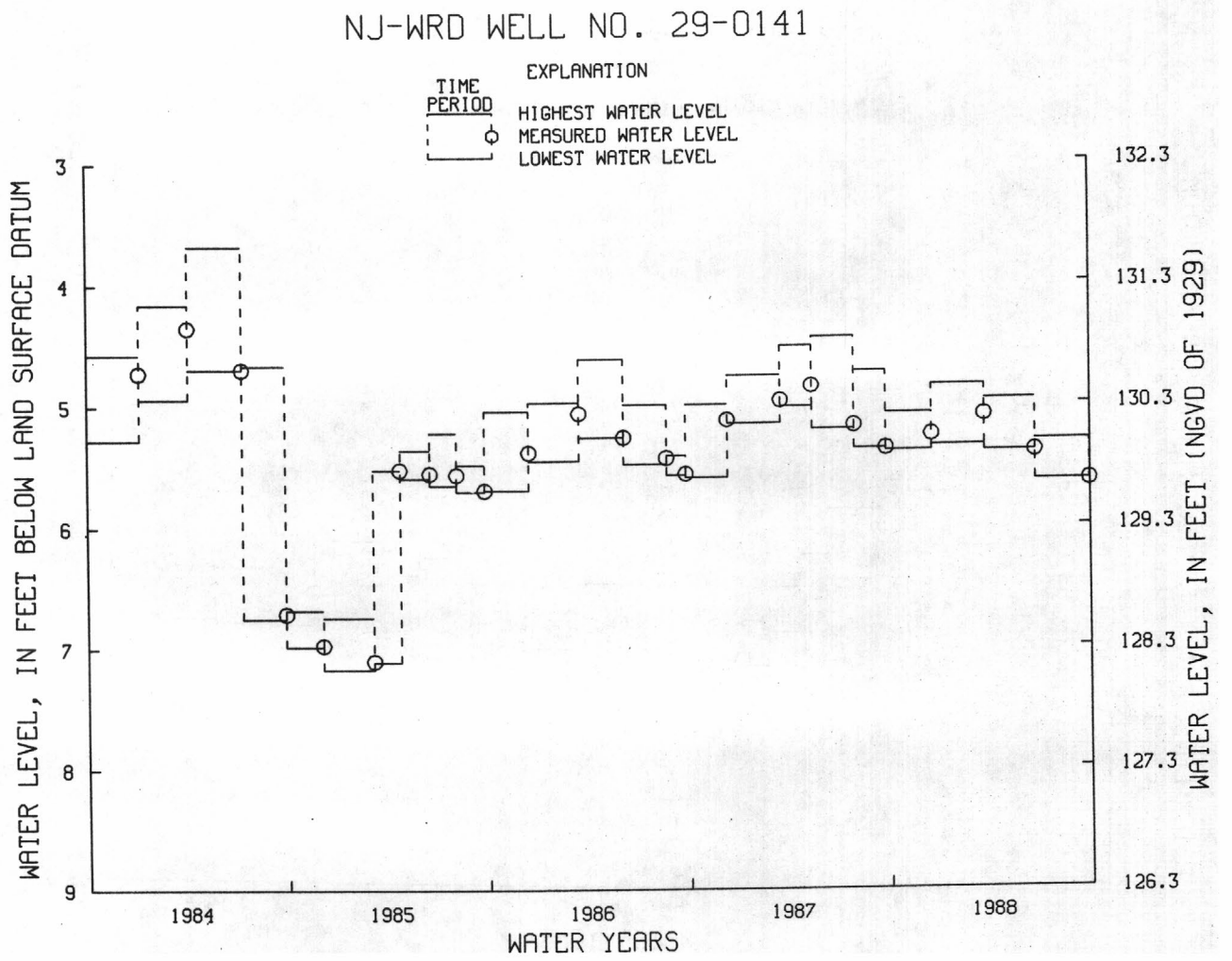


OCEAN COUNTY

400416074270104. Local I.D., Colliers Mills TW 4 Obs. NJ-WRD Well Number, 29-0141.
LOCATION.--Lat 40°04'14", long 74°27'02", Hydrologic Unit 02040301, along western shore of Colliers Mills Pond, Jackson Township.
Owner: U.S. Geological Survey.
AQUIFER.--Kirkwood-Cohansey aquifer system of Miocene age.
WELL CHARACTERISTICS.--Drilled water-table observation well, diameter 6 in, depth 71 ft, gravel-filled hole 46 to 71 ft.
INSTRUMENTATION.--Water-level extremes recorder, October 1976 to current year. Water-level recorder, March 1964 to April 1975.
DATUM.--Land-surface datum is 135.31 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Front edge of cutout in recorder housing, 2.86 ft above land-surface datum.
REMARKS.--Water level affected by stage of Colliers Mills Pond.
PERIOD OF RECORD.--March 1964 to April 1975, October 1976 to current year. Records for 1964 to 1981 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 3.68 ft below land-surface datum, between Apr. 3 and July 11, 1984; lowest, 7.17 ft below land-surface datum, between Dec. 4, 1984 and Mar. 6, 1985.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

WATER-LEVEL EXTREMES			MEASURED WATER LEVEL	
PERIOD	HIGHEST WATER LEVEL	LOWEST WATER LEVEL	DATE	WATER LEVEL
SEPT. 25, 1987 TO DEC. 17, 1987	5.07	5.38	DEC. 17, 1987	5.25
DEC. 17, 1987 TO MAR. 22, 1988	4.84	5.34	MAR. 22, 1988	5.09
MAR. 22, 1988 TO JUNE 22, 1988	4.96	5.39	JUNE 22, 1988	5.39
JUNE 22, 1988 TO SEPT. 29, 1988	5.30	5.63	SEPT. 29, 1988	5.63



UNION COUNTY

404106074171901. Local I.D., Union County Park Obs. NJ-WRD Well Number, 39-0119.
LOCATION.--Lat 40°41'06", long 74°17'19", Hydrologic Unit 02030104, at Galloping Hill Golf Course, Kenilworth.
Owner: Union County Park Commission.
AQUIFER.--Passaic Formation of Jurassic-Triassic age.
WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 6 in, length of casing unknown, depth 290 ft, open hole.
INSTRUMENTATION.--Digital water-level recorder--60-minute punch.
DATUM.--Land-surface datum is 69.00 ft above National Geodetic Vertical Datum of 1929.
Measuring point: Top edge of recorder shelf, 2.30 ft above land-surface datum.
REMARKS.--Water level affected by nearby pumping. Water quality data for 1988 is published elsewhere in this report.
PERIOD OF RECORD.--June 1943 to May 1975, July 1984 to current year. Periodic manual measurements, August 1976 to April 1984. Records for 1975 to 1983 are unpublished and are available in files of New Jersey District Office.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 3.06 ft below land-surface datum, June 2, 1952; lowest, 16.05 ft below land-surface datum, June 29, 1966.

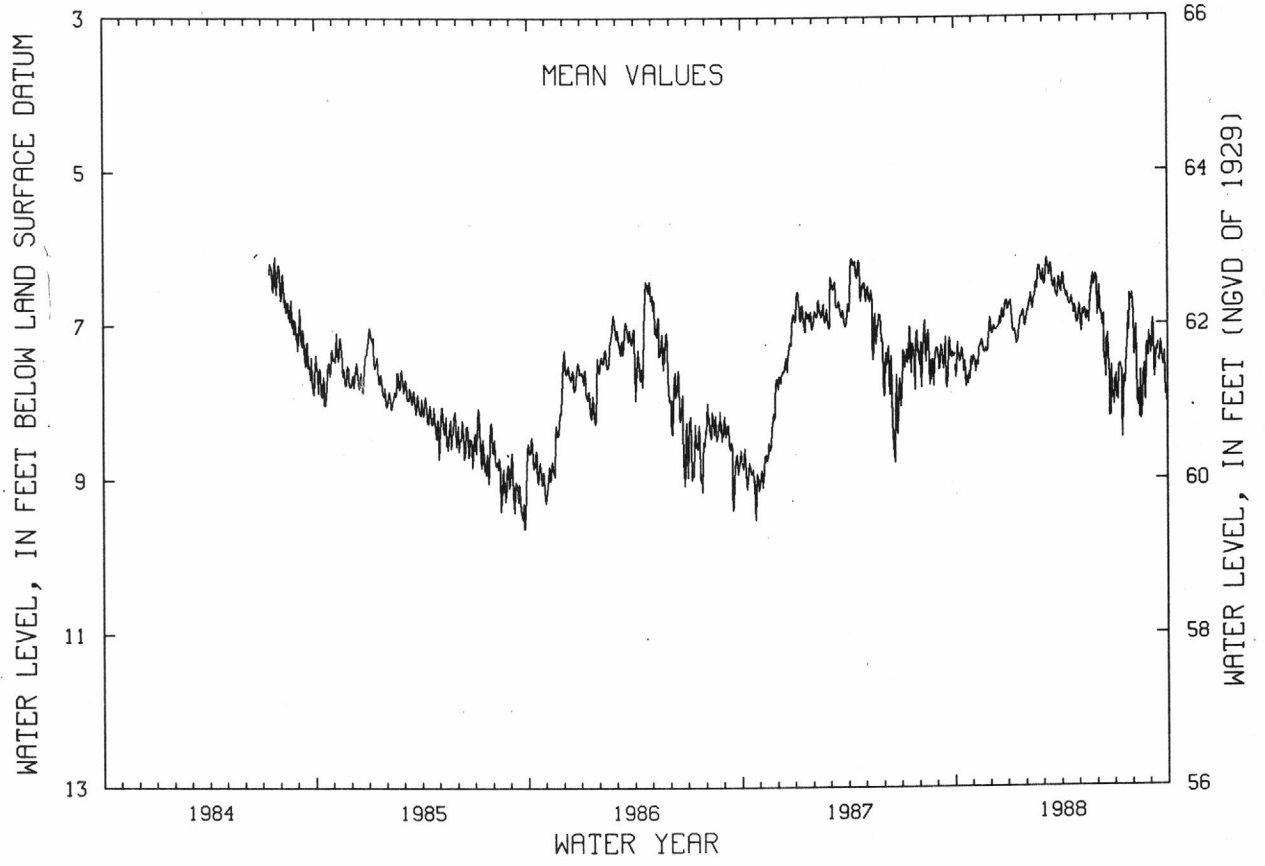
WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	7.22	7.47	7.06	6.83	6.71	6.29	6.45	7.09	6.50	7.96	7.31	6.93
10	7.45	7.52	7.07	7.07	6.74	6.27	6.61	6.79	7.02	7.51	7.98	7.37
15	7.45	7.21	7.00	7.24	6.55	6.33	6.74	6.83	7.42	8.47	7.84	7.45
20	7.79	7.32	6.86	6.97	6.32	6.41	6.75	6.72	7.40	7.78	7.67	7.38
25	7.60	7.36	6.74	6.81	6.39	6.65	6.74	6.34	8.17	6.91	7.35	7.36
EOM	7.46	6.90	6.79	6.91	6.28	6.58	6.85	6.40	8.04	6.60	7.18	7.69
MEAN	7.51	7.32	6.93	6.97	6.54	6.41	6.69	6.71	7.32	7.46	7.57	7.43

WTR YR 1988 MEAN 7.07 HIGH 6.08 MAR 7 LOW 8.65 JUL 15

NJ-WRD WELL NO.39-0119



GROUND-WATER LEVELS - SECONDARY OBSERVATION WELLS
OTHER SITES FOR WHICH DATA ARE AVAILABLE

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	AQUIFER UNIT	WC	PERIOD OF RECORD
01-387	RAMBERG, RALPH	AMATOL 8	393557	744114	121CKKD	W	1961-1986
01-496	US GEOL SURVEY	USGS 4-H-2	394029	743957	121CKKD	W	1963-1986
01-542	US GEOL SURVEY	WHARTON 2G	394028	744000	121CKKD	W	1960-1986
01-545	US GEOL SURVEY	WHARTON 11	394058	744022	121CKKD	W	1957-1986
01-775	ATLANTIC CITY MUA	FAA INTERMED	392639	743232	121CKKD	W	1985-P
01-776	ATLANTIC CITY MUA	FAA SHALLOW	392639	743232	121CKKD	W	1985-P
05-029	US GEOL SURVEY	OSWEGO LAKE 1	394208	742645	121CKKD	W	1962-1986
05-030	US GEOL SURVEY	OSWEGO LAKE 2	394208	742645	121CKKD	W	1962-1986
05-407	US GEOL SURVEY	ATSION 1	394422	744309	124PNPN	A	1963-P
05-408	US GEOL SURVEY	ATSION 2	394422	744309	121CKKD	W	1963-P
05-409	US GEOL SURVEY	ATSION 3	394422	744309	121CKKD	W	1963-P
05-570	US GEOL SURVEY	MOUNT	394106	743623	121CKKD	W	1955-P
05-628	US GEOL SURVEY	PENN SF SHALLOW	394452	742819	121CKKD	W	1936-P
05-630	US GEOL SURVEY	PENN SF DEEP	394513	742806	121CKKD	W	1963-P
05-676	US GEOL SURVEY	COYLE AIRPORT	394914	742546	124PNPN	A	1962-P
09-011	CAPE MAY CITY WD	CMCWD 1 OBS	385612	745457	121CNSY	A	1967-1986
09-048	US GEOL SURVEY	CANAL 5	385748	745533	121CNSY	A	1957-1986
09-080	US GEOL SURVEY	CAPE MAY 42CC	390213	745056	121CNSY	A	1957-P
09-081	US GEOL SURVEY	CAPE MAY 23HB	390211	745055	112HLBC	W	1957-P
13-013	COMMONWEALTH WC	CANOE BROOK 30	404452	742116	112SFDF	U	1950-P
13-014	EAST ORANGE WD	NEUTRAL ZONE	404454	742021	112SFDF	U	1926-P
13-017	WALSH BROS	BALLENTINE 8	404401	740834	231PSSC	A	1949-P
21-088	US GEOL SURVEY	HONEYBRANCH 10	402128	744613	231PSSC	W	1968-P
23-159	DUHERNAL WC	DUHERNAL OBS 5	402353	742152	211ODBG	W	1939-1986
23-180	DUHERNAL WC	DUHERNAL OBS 1	402438	742129	211ODBG	W	1938-1986
23-181	PERTH AMBOY WD	RUNYON 123	402442	742136	211ODBG	W	1955-1986
23-194	PERTH AMBOY WD	RUNYON 1	402536	742018	211FRNG	A	1934-P
23-265	CHEVRON OIL CO	11	403211	741612	211FRNG	W	1950-1986
23-270	AMER CYANAMID	TEST 2	403231	741616	211FRNG	W	1950-1986
23-273	NJ WATER POLICY	PLAINSBORO POND	401932	743529	211MRPAM	U	1970-P
23-291	MONROE TWP MUA	OBS 1-1961	402109	743013	211FRNG	A	1965-P
23-292	MONROE TWP MUA	OBS 2-1961	402109	743012	211ODBG	W	1961-P
23-306	PHELPS DODGE CO	PHELPS DODGE 3	402147	742847	211FRNG	A	1969-P
23-344	SAYREVILLE WD	SWD 2	402558	742013	211ODBG	W	1968-P
23-351	SAYREVILLE WD	SWD 1	402605	741959	211ODBG	W	1968-P
23-365	DUHERNAL WC	DUH SAY 4	402633	742120	211FRNG	A	1932-P
23-433	NJ WATER POLICY	SO RIVER 4	402555	742133	211ODBG	W	1968-1986
23-439	SOUTH RIVER WD	SRWD 2R	402633	742200	211FRNG	A	1968-P
23-482	AMER CYANAMID	TEST 1	403242	741617	211FRNG	A	1950-P
23-516	NOVAK, W	HULSART	402123	741849	211EGLS	W	1936-1984
25-250	GORDONS CRNR WC	VILLAGE 215	401918	741529	211EGLS	A	1971-P
27-001	US GEOL SURVEY	RECREATION FLD	404432	742252	112SFDF	U	1967-P
27-002	US GEOL SURVEY	W B DRIVER 1	404738	742406	112SFDF	U	1966-P
27-003	US GEOL SURVEY	W B DRIVER 2	404748	742419	112SFDF	U	1966-P
27-004	US GEOL SURVEY	CLEMENS	404816	742359	112SFDF	U	1966-P
27-005	US GEOL SURVEY	SANDOZ CHEM CO	404826	742347	112SFDF	U	1966-P
27-006	US GEOL SURVEY	GREEN ACRES	404937	742200	112SFDF	U	1967-P
27-014	US GEOL SURVEY	ESSO SIX INCH	404705	742452	112SFDF	U	1967-P
27-015	MORRISTOWN ARPT	T2	404743	742522	112SFDF	U	1960-P
27-017	MADISON BORO WD	MBWD 4	404508	742402	112SFDF	U	1958-P
27-022	INT PIPE	INT PIPE	405209	742638	112SFDF	U	1963-P
27-023	RANDOLPH WD	RWD MT FR 2	404921	743356	400PCMB	U	1964-P
29-018	US GEOL SURVEY	IS BEACH 2	394829	740535	124PNPN	A	1962-P
29-020	US GEOL SURVEY	IS BEACH 4	394829	740535	121CKKD	W	1962-P
29-425	US GEOL SURVEY	WEBBS MILLS 2	395322	742252	124PNPN	A	1962-P
29-513	US GEOL SURVEY	GARDEN ST PKY 1	394744	741418	121CKKD	W	1962-P
29-514	US GEOL SURVEY	GARDEN ST PKY 2	394744	741418	121CKKD	W	1962-P
29-530	PT PLEASANT WD	PPWD 6	400454	740413	211EGLS	A	1988-P
29-532	PT PLEASANT WD	PPWD 3	400459	740359	211EGLS	A	1986-1988
31-011	WANAQUE WD	HASKELL	410209	741708	112SFDF	W	1965-1982
39-058	MAGRUDER COLOR	SCHWEITZER	404113	741216	231PSSC	A	1956-P
39-102	WHITE LABS INC	LAB 3	404027	741644	231PSSC	A	1952-P
39-115	WHITE LABS INC	LAB 4	404043	741618	231PSSC	A	1952-P
39-133	ORIT CORP	HATFIELD OBS	403726	741623	231PSSC	A	1959-1987

See figure 13 for well locations.
P - Present
Aquifer unit: see definition of terms
WC - (Water Condition): A-Artesian, W-Water table, U-Undetermined
Data available in the files of the New Jersey District Office.

QUALITY OF GROUND WATER - SALTWATER MONITORING NETWORK
WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
ATLANTIC COUNTY

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	LATITUDE	LONGITIDE	ELEV. LAND SURF. (FT. NGVD)	SCREENED INTERVAL (FT.)	AQUIFER UNIT
01-367	LONGPORT WD	LONGPORT 2	391859	743122	10	750 - 800	122KRKDL
01-582	NJ WATER CO	NJWC 5	391906	743629	15	79 - 99	121CKKD
01-589	NJ WATER CO	NJWC 9	391924	743550	19	129 - 159	121CKKD
01-370	MARGATE CITY WD	MCWD 6	391928	743055	10	748 - 798	122KRKDL
01-592	SOMERS POINT SA	SOM PT-1	391957	743606	8	80 - 110	121CKKD
01-353	NJ WATER CO	SHORE-KIRKLIN	392001	743522	10	56 - 71	121CKKD
01-598	VENTNOR CITY WD	VCWD 9	392030	742852	8	740 - 800	122KRKDL
01-549	NJ WATER CO	SHORE-MILL RD	392157	743317	25	117 - 152	121CKKD
01-039	BRIGANTINE WD	NEW 4	392329	742348	10	733 - 788	122KRKDL
01-042	BRIGANTINE WD	BWD 2-14TH ST	392456	742121	12	718 - 778	122KRKDL
01-013	NJ WATER CO	SHORE-ABSECON1	392554	743027	22	178 - 205	121CKKD

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	DATE OF SAMPLE	TEMPER-ATURE (DEG C)	SPE-CIFIC CONDUCT-ANCE (US/CM)	PH (UNITS)	CHLORIDE DIS-SOLVED (MG/L AS CL)
01-367	LONGPORT WD	LONGPORT 2	8/16/1988	19.5	175	7.2	7.3
01-582	NJ WATER CO	NJWC 5	8/17/1988	14.5	138	5.0	21
01-589	NJ WATER CO	NJWC 9	8/17/1988	14.0	641	4.2	180
01-370	MARGATE CITY WD	MCWD 6	8/16/1988	19.5	166	7.2	7.4
01-592	SOMERS POINT SA	SOM PT-1	8/16/1988	14.0	67	5.4	11
01-353	NJ WATER CO	SHORE-KIRKLIN	8/17/1988	14.5	122	5.2	17
01-598	VENTNOR CITY WD	VCWD 9	8/16/1988	19.5	153	7.2	5.3
01-549	NJ WATER CO	SHORE-MILL RD	8/17/1988	14.0	121	5.0	14
01-039	BRIGANTINE WD	NEW 4	8/16/1988	20.5	145	7.8	3.8
01-042	BRIGANTINE WD	BWD 2-14TH ST	8/16/1988	20.0	83	7.4	2.4
01-013	NJ WATER CO	SHORE-ABSECON1	8/17/1988	14.0	52	4.9	6.6

Aquifer unit:

121CKKD - Kirkwood-Cohansey aquifer system
122KRKDL - Atlantic City 800-foot sand of the Kirkwood Formation

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

BERGEN COUNTY

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	ELEV. LAND SURF. (FT. NGVD)	OPEN OR SCREENED INTERVAL (FT.)	AQUIFER UNIT
03-0203	SIKA CHEMICAL COMPANY	SIKA 1	404819	0740639	55	25 - 302	231BRCK
03-0234	HOKE INC	1-NORTH	405621	0735748	40	72 - 279	231BRCK
03-0232	RIDGEWOOD COUNTRY CLUB	3-CLUB HOUSE	405646	0740438	70	54 - 306	231BRCK
03-0228	RIDGEWOOD VILLAGE WD	E SADDLE RIVER	405916	0740519	80	35 - 280	231BRCK
03-0230	RIDGEWOOD VILLAGE WD	AMES 3	410022	0741052	366	44 - 352	231BRCK
03-0034	RAMSEY BORO WATER DEPARTMENT	SPRING ST	410426	0740835	345	104 - 600	231BRCK

NJ-WRD WELL NUMBER	DATE	TEMPERATURE WATER (DEG C)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE IT-FLD (MG/L AS HCO3)	CARBONATE IT-FLD (MG/L AS CO3)
03-0203	09-13-88	12.5	1830	7.4	1000	330	43	47	1.1	99	<1.0
03-0234	09-14-88	13.5	476	7.6	210	66	11	19	1.5	184	<1.0
03-0232	09-12-88	12.0	436	7.3	210	56	17	10	0.9	172	<1.0
03-0228	05-04-88	12.0	479	7.9	210	52	19	20	1.0	206	<1.0
03-0230	03-07-88	11.5	588	7.1	250	45	34	18	1.3	206	<1.0
03-0034	03-02-88	11.5	493	7.4	190	43	21	23	1.0	148	<1.0

NJ-WRD WELL NUMBER	DATE	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)
03-0203	09-13-88	85	950	75	0.1	34	1540	<0.01	2.5	0.07	0.4
03-0234	09-14-88	150	33	28	0.1	21	284	0.01	3.1	<0.01	0.4
03-0232	09-12-88	141	35	17	<0.1	18	255	<0.01	3.7	<0.01	0.3
03-0228	05-04-88	174	25	37	0.1	18	284	<0.01	2.5	<0.01	<0.2
03-0230	03-07-88	165	22	53	0.1	18	313	<0.01	4.7	<0.01	--
03-0034	03-02-88	124	34	48	0.3	21	272	<0.01	1.7	0.03	0.2

NJ-WRD WELL NUMBER	DATE	PHOSPHOROUS DISSOLVED (MG/L AS P)	PHOSPHOROUS ORTHO, DISSOLVED (MG/L AS P)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)
03-0203	09-13-88	<0.01	<0.01	<10	5	<1	<1	<1	32	<5	11
03-0234	09-14-88	0.02	0.01	<10	<1	<1	1	11	<3	<5	<1
03-0232	09-12-88	0.04	0.03	<10	2	<1	<1	<1	4	<5	<1
03-0228	05-04-88	0.02	<0.01	10	1	<1	<1	1	<3	<5	<1
03-0230	03-07-88	--	<0.01	<10	2	1	<1	4	4	<5	<1
03-0034	03-02-88	0.02	0.01	<10	10	<1	1	1	30	<5	7

NJ-WRD WELL NUMBER	DATE	MERCURY DISSOLVED (UG/L AS HG)	ZINC, DISSOLVED (UG/L AS ZN)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	PHENOLS TOTAL (UG/L)	DI-CHLORO-BROMO-METHANE TOTAL (UG/L)	CARBON-TETRA-CHLORIDE TOTAL (UG/L)	1,2-DI-CHLORO-ETHANE TOTAL (UG/L)	BROMOFORM TOTAL (UG/L)	CHLORO-DI-BROMO-METHANE TOTAL (UG/L)	CHLOROFORM TOTAL (UG/L)
03-0203	09-13-88	<0.1	9	0.9	<1	<0.2	<0.2	<0.2	<0.2	<0.2	0.3
03-0234	09-14-88	<0.1	5	0.6	<1	<0.2	<0.2	<0.2	<0.2	<0.2	0.4
03-0232	09-12-88	<0.1	4	0.7	<1	--	--	--	--	--	--
03-0228	05-04-88	<0.1	3	0.8	2	<0.2	<0.2	<0.2	<0.2	<0.2	0.5
03-0230	03-07-88	<0.1	5	0.6	2	<0.2	<0.2	<0.2	<0.2	<0.2	0.4
03-0034	03-02-88	<0.1	8	0.7	2	--	--	--	--	--	--

QUALITY OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

BERGEN COUNTY

NJ-WRD WELL NUMBER	DATE	TOLUENE TOTAL (UG/L)	BENZENE TOTAL (UG/L)	CHLORO-BENZENE TOTAL (UG/L)	CHLORO-ETHANE TOTAL (UG/L)	ETHYL-BENZENE TOTAL (UG/L)	METHYL-BROMIDE TOTAL (UG/L)	METHYL-CHLO-RIDE TOTAL (UG/L)	METHYL-ENE CHLO-RIDE TOTAL (UG/L)	TETRA-CHLORO-ETHYL-ENE TOTAL (UG/L)	TRI-CHLORO-FLUORO-METHANE TOTAL (UG/L)
03-0203	09-13-88	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	7.7	<0.2
03-0234	09-14-88	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	25	<0.2
03-0232	09-12-88	--	--	--	--	--	--	--	--	--	--
03-0228	05-04-88	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.6	<0.2
03-0230	03-07-88	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
03-0034	03-02-88	--	--	--	--	--	--	--	--	--	--

NJ-WRD WELL NUMBER	DATE	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)	1,1,2-TRI-CHLORO-ETHANE TOTAL (UG/L)	1,1,2,2 TETRA-CHLORO-ETHANE TOTAL (UG/L)	1,2-DI-CHLORO-BENZENE TOTAL (UG/L)	1,2-DI-CHLORO-PROPANE TOTAL (UG/L)	1,2-TRANSDI CHLORO-ETHENE TOTAL (UG/L)	1,3-DI-CHLORO-PROPENE TOTAL (UG/L)	1,3-DI-CHLORO-BENZENE TOTAL (UG/L)
03-0203	09-13-88	<0.2	0.5	0.8	<0.4	<0.2	<0.2	<0.2	2.4	<0.2	<0.2
03-0234	09-14-88	<0.2	<0.2	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
03-0232	09-12-88	--	--	--	--	--	--	--	--	--	--
03-0228	05-04-88	<0.2	1.3	4.6	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
03-0230	03-07-88	0.3	<0.2	0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
03-0034	03-02-88	--	--	--	--	--	--	--	--	--	--

NJ-WRD WELL NUMBER	DATE	1,4-DI-CHLORO-BENZENE TOTAL (UG/L)	2-CHLORO-ETHYL-VINYL-ETHER TOTAL (UG/L)	DI-CHLORO-DI-FLUORO-METHANE TOTAL (UG/L)	TRANS-1,3-DI-CHLORO-PROPENE TOTAL (UG/L)	CIS 1,3-DI-CHLORO-PROPENE TOTAL (UG/L)	1,2-DIBROMO ETHYL-ENE TOTAL (UG/L)	VINYL CHLO-RIDE TOTAL (UG/L)	TRI-CHLORO-ETHYL-ENE TOTAL (UG/L)	STYRENE TOTAL (UG/L)	XYLENE TOTAL WATER WHOLE TOT REC (UG/L)
03-0203	09-13-88	<0.2	<0.2	<0.2	<0.2	<0.2	--	<0.2	2.4	<0.2	<0.2
03-0234	09-14-88	<0.2	<0.2	<0.2	<0.2	<0.2	--	<0.2	<0.2	<0.2	<0.2
03-0232	09-12-88	--	--	--	--	--	--	--	--	--	--
03-0228	05-04-88	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
03-0230	03-07-88	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.2	<0.2	<0.2
03-0034	03-02-88	--	--	--	--	--	--	--	--	--	--

Aquifer Unit:
231BRCK-Brunswick Group (undifferentiated).

QUALITY OF GROUND WATER - SALTWATER MONITORING NETWORK
WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
CAPE MAY COUNTY

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	ELEV. LAND SURF. (FT. NGVD)	SCREENED INTERVAL (FT.)	AQUIFER UNIT
09-017	US COAST GUARD	USCG 1	385651	745310	11	292 - 322	121CNSY
09-018	US COAST GUARD	USCG 2	385652	745327	11	295 - 325	121CNSY
09-154	WILDWOOD WD	WWD 2	385932	744851	10	293 - 354	121CNSY
09-132	STONE HARBOR WD	SHWD 4	390301	744545	10	830 - 880	122KRKDL
09-166	STONE HARBOR WD	SHWD 5	390351	744504	7	820 - 860	122KRKDL
09-002	AVALON WD	AVALON WD 7-71	390420	744435	5	821 - 861	122KRKDL
09-004	AVALON WD	AVALON WD 6	390528	744338	10	880 - 920	122KRKDL
09-008	AVALON WD	AVALON WD 3	390621	744248	10	845 - 925	122KRKDL
09-126	SEA ISLE CITY WD	SICWD 5	390747	744241	7	731 - 802	122KRKDL
09-127	SEA ISLE CITY WD	SICWD 4	390847	744200	7	742 - 830	122KRKDL
09-129	SEA ISLE CITY WD	SICWD 2	390926	744131	7	744 - 861	122KRKDL
09-106	NJ WATER CO	SHORE DIV 7	391343	743755	8	760 - 810	122KRKDL
09-124	NJ WATER CO	SHORE DIV 13	391712	743340	8	757 - 840	122KRKDL

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	DATE OF SAMPLE	TEMPER-ATURE (DEG C)	SPE-CIFIC CONDUCT-ANCE (US/CM)	PH (UNITS)	CHLORIDE DIS-SOLVED (MG/L AS CL)
09-017	US COAST GUARD	USCG 1	8/23/1988	16.0	370	7.8	48
09-018	US COAST GUARD	USCG 2	8/23/1988	16.0	345	7.9	36
09-154	WILDWOOD WD	WWD 2	8/23/1988	16.5	682	7.6	140
09-132	STONE HARBOR WD	SHWD 4	8/23/1988	20.0	360	8.6	35
09-166	STONE HARBOR WD	SHWD 5	8/23/1988	20.0	300	8.5	18
09-002	AVALON WD	AVALON WD 7-71	8/23/1988	20.0	270	8.5	13
09-004	AVALON WD	AVALON WD 6	8/23/1988	20.0	395	8.6	49
09-008	AVALON WD	AVALON WD 3	8/23/1988	20.0	345	8.5	39
09-126	SEA ISLE CITY WD	SICWD 5	8/23/1988	17.0	300	---	16
09-127	SEA ISLE CITY WD	SICWD 4	8/23/1988	17.0	250	8.2	14
09-129	SEA ISLE CITY WD	SICWD 2	8/23/1988	17.0	243	8.1	13
09-106	NJ WATER CO	SHORE DIV 7	8/17/1988	19.5	204	8.1	11
09-124	NJ WATER CO	SHORE DIV 13	8/17/1988	20.0	198	8.0	9.7

Aquifer unit:

121CNSY - Cohansey Sand
122KRKDL - Atlantic City 800-foot sand of the Kirkwood Formation

QUALITY OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

GLOUCESTER COUNTY

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	ELEV. LAND SURF. (FT. NGVD)	OPEN OR SCREENED INTERVAL (FT.)	AQUIFER UNIT
15-0375	MONROE TWP MUA	MT MUA 7 1979	394010	0745845	148	118 - 147	121CKKD
15-0566	CECIL FIRE CO	CECIL 1	393842	0745655	110	108 - 128	121CKKD
15-0619	HOSPITALITY CK CAMPG INC	HOSPITALITY CMPG 1	393724	0745542	105	38 - 98	121CKKD
15-0726	SMITH, JOHN	AURA ORCHARDS	394130	0750921	140	52 - 62	121CKKD
15-0733	WROBEL, ANTHONY	WROBEL.H1	393457	0745839	135	100 - 110	121CKKD
15-0734	DASE, DENNIS	DASE #1	393523	0745912	138	100 - 110	121CKKD
15-0735	DEMATTO, LOU	DEMATTO #1	393940	0745746	140	75 - 80	121CKKD
15-0743	FRANKLIN TWP BD OF ED	LAKE SCHOOL 1	393411	0750022	111	83 - 98	121CKKD
15-0752	DECORA INC	DECORA 1	394054	0745700	128	105 - 120	121CKKD
15-0754	DEAN, GEORGE	DEAN 1	393934	0751033	143	48 - 58	121CKKD
15-0759	MESIANO, JIM	MESIANO 1	394232	0750126	159	130 - 135	121CKKD
15-0764	SCAFONIS, FELIX	SCAFONIS D	393708	0750143	130	44 - 49	121CKKD
15-0785	D & M BUILDERS	BEHL RD WELL	393917	0750149	143	52 - 56	121CKKD
15-0791	FRANKLIN TWP BD OF ED	CLR 1	393634	0750415	111	70 - 90	121CKKD
15-0793	FERRUCCI, MARY	FERRUCCI #10	393448	0745606	110	100 - 150	121CKKD
15-0801	CHILLARI, JOE	CHILLARI 1	394227	0750522	144	80 - 85	121CKKD
15-0802	WAWA INC	WAWA #1	394246	0750151	150	60 - 65	121CKKD
15-0804	FRANKLIN TWP BD OF ED	MALAGA #1	393428	0750244	110	100#	121CKKD
15-0805	FRANKLIN TWP BD OF ED	MAIN RD SCHOOL #1	393322	0745950	119	100#	121CKKD
15-0810	ELK TWP MUA	ELK #1	394021	0750827	144	58 - 63	121CKKD
15-0812	CORONA PUMPS	CORONA #1	393805	0745554	123	100#	121CKKD
15-0829	ZEE, DOUGLAS	ZEE WORKER	394258	0750836	141	25 - 29	121CKKD
15-0831	FRANKLIN TWP MUA	FRANKLIN ADMIN BLD	393539	0750348	104	80 - 85	121CKKD
15-1016	DUFFIELD, CLAUDE	DUFFIELD 2	393633	0750630	129	50 - 60	121CKKD
15-1017	HAYNICZ, H	SHOREWAY HOUSE	394025	0750548	136	80#	121CKKD
15-1019	WILLIAMS, RON	WILLIAMS GARDEN	394020	0745611	115	45#	121CKKD

NJ-WRD WELL NUMBER	DATE	TEMPERATURE WATER (DEG C)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE IT-FLD (MG/L AS HCO3)	ALKALINITY, CARBONATE IT-FLD (MG/L - CACO3)
15-0375	09-28-88	13.0	101	4.5	17	3.1	2.2	8.6	1.8	<1.0	<1.0
15-0566	09-26-88	14.0	135	4.3	31	4.3	4.9	7.7	2.7	--	--
15-0619	09-15-88	14.0	36	4.2	6	1.1	0.86	2.2	1.3	<1.0	1.0
15-0726	09-20-88	13.5	246	4.7	83	22	6.9	3.9	7.6	3.0	2.0
15-0733	09-29-88	13.5	145	4.7	46	2.9	9.2	5.1	1.7	<1.0	<1.0
15-0734	08-26-88	15.5	51	4.7	14	0.81	2.8	2.1	1.0	1.3	1.1
15-0735	09-23-88	17.5	125	4.4	21	3.5	3.0	12	4.3	<1.0	<1.0
15-0743	09-26-88	16.0	37	4.6	7	0.47	1.3	2.2	0.8	--	--
	02-16-89	13.5	33	4.4	6	0.44	1.2	2.1	0.8	1.8	1.5
15-0752	09-29-88	14.0	52	4.8	12	1.6	1.9	3.0	1.2	<1.0	<1.0
15-0754	09-19-88	14.0	190	4.4	71	18	6.2	2.2	5.4	<1.0	<1.0
15-0759	09-07-88	13.5	30	5.0	6	1.2	0.81	3.4	0.6	3.0	2.0
15-0764	09-27-88	12.5	21	5.3	3	0.31	0.48	1.6	0.7	7.0	6.0
15-0785	09-19-88	15.0	73	4.6	9	1.0	1.6	7.9	10	<1.0	<1.0
15-0791	09-15-88	15.0	28	4.4	9	2.1	0.99	2.9	1.0	<1.0	<1.0
15-0793	09-09-88	14.0	79	4.6	22	4.6	2.5	2.1	1.4	<1.0	<1.0
15-0801	08-25-88	15.5	57	4.9	14	3.3	1.4	3.3	1.0	2.1	1.7
15-0802	09-30-88	14.0	203	4.8	32	5.3	4.5	3.9	29	2.0	2.0
15-0804	09-09-88	14.0	45	4.8	9	2.1	1.0	4.0	0.9	<1.0	<1.0
15-0805	09-20-88	14.5	58	5.2	17	2.6	2.6	2.0	1.6	4.0	3.0
15-0810	09-08-88	19.0	140	5.2	46	8.1	6.2	2.5	2.7	4.0	4.0
15-0812	08-24-88	17.5	38	5.2	8	1.2	1.3	3.1	0.7	4.3	3.5
15-0829	09-22-88	15.5	256	5.2	120	28	11	2.4	1.3	10	8.0
15-0831	09-14-88	15.0	74	5.2	17	3.0	2.2	2.5	3.5	2.0	2.0
15-1016	09-20-88	14.0	47	4.8	12	2.5	1.5	2.8	0.9	4.0	3.0
15-1017	09-22-88	15.0	146	4.7	39	8.1	4.5	7.7	4.2	1.0	1.0
15-1019	09-28-88	12.5	74	4.8	12	1.8	1.9	4.8	2.7	1.0	1.0

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

GLOUCESTER COUNTY

NJ-WRD WELL NUMBER	DATE	ALKALINITY WAT WH TOT FET 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)	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 + ORGANIC DIS. (MG/L AS N)
15-0375	09-28-88	<1	11	11	<0.1	11	61	<0.01	2.5	<0.01	0.2
15-0566	09-26-88	1*	<0.2	12	<0.1	7.5	62	<0.01	5.0	<0.01	0.7
15-0619	09-15-88	<1	3.9	4.3	<0.1	12	31	<0.01	1.1	<0.01	0.2
15-0726	09-20-88	2	51	12	0.1	7.70	142	<0.01	6.4	<0.01	0.3
15-0733	09-29-88	<1	<0.2	14	<0.1	6.2	84	<0.01	9.7	0.01	0.3
15-0734	08-26-88	<1	0.5	7.7	0.1	6.4	32	<0.01	2.2	<0.01	0.3
15-0735	09-23-88	<1	<0.2	20	0.1	6.2	77	<0.01	6.0	<0.01	0.3
15-0743	09-26-88	2*	<0.2	3.9	<0.1	6.2	24	<0.01	1.6	<0.01	0.2
	02-16-89	<1	<0.2	3.9	<0.1	6.1	--	0.02	1.6	<0.01	<0.2
15-0752	09-29-88	1	0.3	4.6	<0.1	21	50	<0.01	3.4	0.02	0.5
15-0754	09-19-88	<1	26	10	0.1	7.9	120	<0.01	9.9	<0.01	0.4
15-0759	09-07-88	2	<0.2	3.8	<0.1	6.5	26	<0.01	1.6	<0.01	<0.2
15-0764	09-27-88	6	0.3	2.7	0.1	5.1	18	<0.01	0.31	<0.01	<0.2
15-0785	09-19-88	<1	0.8	9.9	<0.1	6.9	67	<0.01	5.9	0.44	0.9
15-0791	09-15-88	<1	6.6	4.2	<0.1	12	38	<0.01	1.7	<0.01	<0.2
15-0793	09-09-88	<1	11	5.7	0.1	8.1	49	<0.01	2.8	0.02	<0.2
15-0801	08-25-88	2	<0.2	4.1	0.1	7.9	43	<0.01	4.4	<0.01	0.4
15-0802	09-30-88	3	24	12	<0.1	7.5	127	<0.01	8.8	0.01	<0.2
15-0804	09-09-88	1	<0.2	3.8	<0.1	7.1	36	<0.01	3.5	0.02	<0.2
15-0805	09-20-88	5	4.8	5.3	<0.1	8.2	40	<0.01	2.3	<0.01	0.3
15-0810	09-08-88	4	25	11	<0.1	9.8	81	<0.01	3.0	<0.01	<0.2
15-0812	08-24-88	4	0.9	4.4	<0.1	6.2	30	0.01	2.1	0.06	0.3
15-0829	09-22-88	8	60	17	<0.1	10	158	<0.01	5.0	<0.01	<0.2
15-0831	09-14-88	4	<0.2	6.0	<0.1	6.5	46	<0.01	4.5	<0.01	<0.2
15-1016	09-20-88	2	0.5	4.2	<0.1	7.7	35	<0.01	2.8	<0.01	<0.2
15-1017	09-22-88	1	8.7	9.7	0.1	7.3	90	<0.01	8.7	<0.01	0.5
15-1019	09-28-88	2	<0.2	6.3	<0.1	5.2	46	<0.01	4.8	<0.01	0.3

NJ-WRD WELL NUMBER	DATE	PHOSPHORUS DIS-SOLVED (MG/L AS P)	PHOSPHORUS ORTHO, DIS-SOLVED (MG/L AS P)	ALUMINUM, DIS-SOLVED (UG/L AS AL)	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-SOLVD (UG/ AS C)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)
15-0375	09-28-88	0.01	<0.01	210	2	70	<0.5	<1	5	<3	<10
15-0566	09-26-88	<0.01	<0.01	120	<1	180	<0.5	<1	5	<3	210
15-0619	09-15-88	0.01	<0.01	100	<1	37	<0.5	<1	5	<3	20
15-0726	09-20-88	<0.01	<0.01	440	<1	94	<0.5	<1	5	5	<10
15-0733	09-29-88	0.01	0.01	140	<1	420	<0.5	<1	5	5	20
15-0734	08-26-88	0.02	<0.01	40	<1	130	<0.5	<1	5	<3	160
15-0735	09-23-88	0.02	<0.01	190	<1	150	<0.5	<1	5	5	70
15-0743	09-26-88	<0.01	<0.01	20	<1	60	<0.5	<1	5	<3	--
	02-16-89	<0.01	<0.01	20	<1	59	<0.5	<1	5	<3	10
15-0752	09-29-88	0.01	0.01	40	<1	66	<0.5	<1	5	<3	<10
15-0754	09-19-88	<0.01	<0.01	530	<1	120	<0.5	<1	5	4	20
15-0759	09-07-88	<0.01	0.02	<10	<1	19	0.5	<1	5	<3	40
15-0764	09-27-88	0.01	0.01	<10	<1	20	<0.5	1	5	<3	<10
15-0785	09-19-88	<0.01	<0.01	40	<1	100	<0.5	<1	5	<3	270
15-0791	09-15-88	<0.01	<0.01	350	<1	27	<0.5	<1	5	<3	60
15-0793	09-09-88	0.01	<0.01	340	<1	57	<0.5	<1	5	<3	10
15-0801	08-25-88	0.01	<0.01	<10	<1	49	<0.5	<1	5	<3	80
15-0802	09-30-88	0.01	<0.01	110	<1	130	<0.5	<1	5	<3	<10
15-0804	09-09-88	<0.01	<0.01	<10	<1	42	<0.5	<1	5	<3	20
15-0805	09-20-88	<0.01	<0.01	<10	<1	75	<0.5	<1	5	<3	290
15-0810	09-08-88	0.01	<0.01	20	<1	120	<0.5	<1	5	<3	40
15-0812	08-24-88	0.01	0.01	<10	1	36	<0.5	<1	5	<3	<10
15-0829	09-22-88	<0.01	0.02	<10	<1	120	<0.5	<1	5	<3	230
15-0831	09-14-88	<0.01	<0.01	20	<1	84	<0.5	<1	5	<3	270
15-1016	09-20-88	<0.01	<0.01	40	<1	64	<0.5	<1	5	<3	20
15-1017	09-22-88	<0.01	<0.01	120	<1	190	<0.5	<1	5	<3	<10
15-1019	09-28-88	0.01	0.01	80	<1	97	<0.5	1	5	<3	10

QUALITY OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

GLOUCESTER COUNTY

NJ-WRD WELL NUMBER	DATE	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)	MERCURY DIS-SOLVED (UG/L AS HG)	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)
15-0375	09-28-88	160	10	<4	19	<0.1	<10	<10	<1	27	<6
15-0566	09-26-88	16	<10	<4	24	<0.1	<10	<10	<1	46	<6
15-0619	09-15-88	120	<10	<4	9	<0.1	<10	<10	<1	11	<6
15-0726	09-20-88	30	<10	<4	77	<0.1	<10	<10	<1	68	<6
15-0733	09-29-88	4	<10	<4	27	<0.1	<10	<10	<1	81	<6
15-0734	08-26-88	10	<10	<4	11	<0.1	<10	<10	<1	21	<6
15-0735	09-23-88	19	20	<4	35	<0.1	<10	<10	<1	22	<6
15-0743	09-26-88	10	--	<4	6	<0.1	<10	<10	<1	12	<6
	02-16-89	5	<10	<4	5	<0.1	<10	<10	<1	11	<6
15-0752	09-29-88	95	<10	10	92	<0.1	<10	<10	<1	130	<6
15-0754	09-19-88	52	60	<4	79	<0.1	<10	<10	<1	110	<6
15-0759	09-07-88	42	<10	<4	8	<0.1	<10	20	<1	15	<6
15-0764	09-27-88	280	40	<4	8	<0.1	<10	<10	<1	4	<6
15-0785	09-19-88	8	<10	<4	19	0.2	<10	<10	<1	13	<6
15-0791	09-15-88	450	<10	<4	14	<0.1	<10	<10	<1	11	<6
15-0793	09-09-88	72	<10	<4	17	<0.1	<10	<10	<1	29	<6
15-0801	08-25-88	13	<10	<4	9	<0.1	<10	<10	<1	17	<6
15-0802	09-30-88	250	<10	<4	39	<0.1	<10	<10	<1	35	<6
15-0804	09-09-88	12	30	<4	3	<0.1	<10	<10	<1	14	<6
15-0805	09-20-88	250	<10	<4	22	<0.1	<10	<10	<1	26	<6
15-0810	09-08-88	33	<10	<4	21	<0.1	<10	<10	<1	61	<6
15-0812	08-24-88	620	<10	<4	45	0.1	<10	<10	<1	11	<6
15-0829	09-22-88	450	20	<4	52	<0.1	<10	<10	<1	45	<6
15-0831	09-14-88	120	<10	<4	15	0.3	<10	<10	<1	26	<6
15-1016	09-20-88	190	20	<4	17	<0.1	<10	<10	<1	15	<6
15-1017	09-22-88	40	<10	<4	40	<0.1	<10	<10	<1	34	<6
15-1019	09-28-88	15	20	<4	20	0.2	<10	<10	<1	14	<6

NJ-WRD WELL NUMBER	DATE	ZINC, DIS-SOLVED (UG/L AS ZN)	RADON 222 TOTAL (PC/L)	DI-CHLORO-BROMO-METHANE TOTAL (UG/L)	CARBON-TETRA-CHLO-RIDE TOTAL (UG/L)	1,2-DI-CHLORO-ETHANE TOTAL (UG/L)	BROMO-FORM TOTAL (UG/L)	CHLORO-DI-BROMO-METHANE TOTAL (UG/L)	CHLORO-FORM TOTAL (UG/L)	TOLUENE TOTAL (UG/L)	BENZENE TOTAL (UG/L)
15-0375	09-28-88	11	84	--	--	--	--	--	--	--	--
15-0566	09-26-88	16	170	--	--	--	--	--	--	--	--
15-0619	09-15-88	98	330	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
15-0726	09-20-88	16	640	<0.2	<0.2	<0.2	<0.2	<0.2	0.6	<0.2	<0.2
15-0733	09-29-88	5	340	--	--	--	--	--	--	--	--
15-0734	08-26-88	10	200	--	--	--	--	--	--	--	--
15-0735	09-23-88	32	150	--	--	--	--	--	--	--	--
15-0743	09-26-88	14	210	--	--	--	--	--	--	--	--
	02-16-89	11	--	--	--	--	--	--	--	--	--
15-0752	09-29-88	7	<80	--	--	--	--	--	--	--	--
15-0754	09-19-88	85	500	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
15-0759	09-07-88	14	--	--	--	--	--	--	--	--	--
15-0764	09-27-88	--	--	--	--	--	--	--	--	--	--
15-0785	09-19-88	19	510	--	--	--	--	--	--	--	--
15-0791	09-15-88	38	250	--	--	--	--	--	--	--	--
15-0793	09-09-88	22	260	--	--	--	--	--	--	--	--
15-0801	08-25-88	12	--	--	--	--	--	--	--	--	--
15-0802	09-30-88	58	520	--	--	--	--	--	--	--	--
15-0804	09-09-88	7	410	--	--	--	--	--	--	--	--
15-0805	09-20-88	6	200	--	--	--	--	--	--	--	--
15-0810	09-08-88	390	320	--	--	--	--	--	--	--	--
15-0812	08-24-88	52	360	--	--	--	--	--	--	--	--
15-0829	09-22-88	7	480	--	--	--	--	--	--	--	--
15-0831	09-14-88	45	390	--	--	--	--	--	--	--	--
15-1016	09-20-88	25	230	--	--	--	--	--	--	--	--
15-1017	09-22-88	5	230	--	--	--	--	--	--	--	--
15-1019	09-28-88	870	320	<0.2	<0.2	<0.2	<0.2	<0.2	0.2	<0.2	<0.2

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

GLOUCESTER COUNTY

NJ-WRD WELL NUMBER	DATE	CHLORO-BENZENE TOTAL (UG/L)	CHLORO-ETHANE TOTAL (UG/L)	ETHYL-BENZENE TOTAL (UG/L)	METHYL-BROMIDE TOTAL (UG/L)	METHYL-CHLO-RIDE TOTAL (UG/L)	METHYL-ENE CHLO-RIDE TOTAL (UG/L)	TETRA-CHLORO-ETHYL-ENE TOTAL (UG/L)	TRI-CHLORO-FLUORO-METHANE TOTAL (UG/L)	1,1-DI-CHLORO-ETHANE TOTAL (UG/L)	1,1-DI-CHLORO-ETHYL-ENE TOTAL (UG/L)
15-0375	09-28-88	--	--	--	--	--	--	--	--	--	--
15-0566	09-26-88	--	--	--	--	--	--	--	--	--	--
15-0619	09-15-88	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
15-0726	09-20-88	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.2	<0.2	<0.2	<0.2
15-0733	09-29-88	--	--	--	--	--	--	--	--	--	--
15-0734	08-26-88	--	--	--	--	--	--	--	--	--	--
15-0735	09-23-88	--	--	--	--	--	--	--	--	--	--
15-0743	09-26-88	--	--	--	--	--	--	--	--	--	--
	02-16-89	--	--	--	--	--	--	--	--	--	--
15-0752	09-29-88	--	--	--	--	--	--	--	--	--	--
15-0754	09-19-88	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
15-0759	09-07-88	--	--	--	--	--	--	--	--	--	--
15-0764	09-27-88	--	--	--	--	--	--	--	--	--	--
15-0785	09-19-88	--	--	--	--	--	--	--	--	--	--
15-0791	09-15-88	--	--	--	--	--	--	--	--	--	--
15-0793	09-09-88	--	--	--	--	--	--	--	--	--	--
15-0801	08-25-88	--	--	--	--	--	--	--	--	--	--
15-0802	09-30-88	--	--	--	--	--	--	--	--	--	--
15-0804	09-09-88	--	--	--	--	--	--	--	--	--	--
15-0805	09-20-88	--	--	--	--	--	--	--	--	--	--
15-0810	09-08-88	--	--	--	--	--	--	--	--	--	--
15-0812	08-24-88	--	--	--	--	--	--	--	--	--	--
15-0829	09-22-88	--	--	--	--	--	--	--	--	--	--
15-0831	09-14-88	--	--	--	--	--	--	--	--	--	--
15-1016	09-20-88	--	--	--	--	--	--	--	--	--	--
15-1017	09-22-88	--	--	--	--	--	--	--	--	--	--
15-1019	09-28-88	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.2	<0.2	<0.2	<0.2

NJ-WRD WELL NUMBER	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-DI-CHLORO-BENZENE TOTAL (UG/L)	1,2-DI-CHLORO-PROPANE TOTAL (UG/L)	1,2-TRANSDI CHLORO-ETHENE TOTAL (UG/L)	1,3-DI-CHLORO-PROPENE TOTAL (UG/L)	1,3-DI-CHLORO-BENZENE TOTAL (UG/L)	1,4-DI-CHLORO-BENZENE TOTAL (UG/L)
15-0375	09-28-88	--	--	--	--	--	--	--	--	--
15-0566	09-26-88	--	--	--	--	--	--	--	--	--
15-0619	09-15-88	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
15-0726	09-20-88	1.6	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
15-0733	09-29-88	--	--	--	--	--	--	--	--	--
15-0734	08-26-88	--	--	--	--	--	--	--	--	--
15-0735	09-23-88	--	--	--	--	--	--	--	--	--
15-0743	09-26-88	--	--	--	--	--	--	--	--	--
	02-16-89	--	--	--	--	--	--	--	--	--
15-0752	09-29-88	--	--	--	--	--	--	--	--	--
15-0754	09-19-88	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
15-0759	09-07-88	--	--	--	--	--	--	--	--	--
15-0764	09-27-88	--	--	--	--	--	--	--	--	--
15-0785	09-19-88	--	--	--	--	--	--	--	--	--
15-0791	09-15-88	--	--	--	--	--	--	--	--	--
15-0793	09-09-88	--	--	--	--	--	--	--	--	--
15-0801	08-25-88	--	--	--	--	--	--	--	--	--
15-0802	09-30-88	--	--	--	--	--	--	--	--	--
15-0804	09-09-88	--	--	--	--	--	--	--	--	--
15-0805	09-20-88	--	--	--	--	--	--	--	--	--
15-0810	09-08-88	--	--	--	--	--	--	--	--	--
15-0812	08-24-88	--	--	--	--	--	--	--	--	--
15-0829	09-22-88	--	--	--	--	--	--	--	--	--
15-0831	09-14-88	--	--	--	--	--	--	--	--	--
15-1016	09-20-88	--	--	--	--	--	--	--	--	--
15-1017	09-22-88	--	--	--	--	--	--	--	--	--
15-1019	09-28-88	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

GLOUCESTER COUNTY

NJ-WRD WELL NUMBER	DATE	2-CHLORO-ETHYL-VINYL-ETHER TOTAL (UG/L)	DI-CHLORO-DI-FLUORO-METHANE TOTAL (UG/L)	TRANS-1,3-DI-CHLORO-PROPENE TOTAL (UG/L)	CIS 1,3-DI-CHLORO-PROPENE TOTAL (UG/L)	VINYL CHLO-RIDE TOTAL (UG/L)	TRI-CHLORO-ETHYL-ENE TOTAL (UG/L)	STYRENE TOTAL (UG/L)	1,2-DIBROMO ETHANE WATER WHOLE TOTAL (UG/L)	XYLENE TOTAL WATER WHOLE TOT REC (UG/L)
15-0375	09-28-88	--	--	--	--	--	--	--	--	--
15-0566	09-26-88	--	--	--	--	--	--	--	--	--
15-0619	09-15-88	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	--	<0.2
15-0726	09-20-88	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
15-0733	09-29-88	--	--	--	--	--	--	--	--	--
15-0734	08-26-88	--	--	--	--	--	--	--	--	--
15-0735	09-23-88	--	--	--	--	--	--	--	--	--
15-0743	09-26-88	--	--	--	--	--	--	--	--	--
	02-16-89	--	--	--	--	--	--	--	--	--
15-0752	09-29-88	--	--	--	--	--	--	--	--	--
15-0754	09-19-88	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	--	<0.2
15-0759	09-07-88	--	--	--	--	--	--	--	--	--
15-0764	09-27-88	--	--	--	--	--	--	--	--	--
15-0785	09-19-88	--	--	--	--	--	--	--	--	--
15-0791	09-15-88	--	--	--	--	--	--	--	--	--
15-0793	09-09-88	--	--	--	--	--	--	--	--	--
15-0801	08-25-88	--	--	--	--	--	--	--	--	--
15-0802	09-30-88	--	--	--	--	--	--	--	--	--
15-0804	09-09-88	--	--	--	--	--	--	--	--	--
15-0805	09-20-88	--	--	--	--	--	--	--	--	--
15-0810	09-08-88	--	--	--	--	--	--	--	--	--
15-0812	08-24-88	--	--	--	--	--	--	--	--	--
15-0829	09-22-88	--	--	--	--	--	--	--	--	--
15-0831	09-14-88	--	--	--	--	--	--	--	--	--
15-1016	09-20-88	--	--	--	--	--	--	--	--	--
15-1017	09-22-88	--	--	--	--	--	--	--	--	--
15-1019	09-28-88	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2

\# Total depth of well

* Laboratory determination

Aquifer Unit:
121CKKD - Kirkwood-Cohansey aquifer system

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

HUNTERDON COUNTY

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	ELEV. LAND SURF. (FT. NGVD)	OPEN OR SCREENED INTERVAL (FT.)	AQUIFER UNIT
19-0050	HORSMAN, KEN	REPLACEMENT-81	402633	0744711	305	50 - 350	231LCKG
19-0019	BERTRAND, JOHN	BERTRAND 1	403541	0744824	325	67 - 150	231BRCK
19-0028	CLINTON TWP	STP 6	403737	0745440	180	76 - 475	230TRSC
19-0069	UNION TWP BOARD OF EDUCATION	UNION TWP HS	403750	0745811	375	61.5 - 148	230TRSC

NJ-WRD WELL NUMBER	DATE	TEMPERATURE WATER (DEG C)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE IT-FLD (MG/L AS HCO3)	CARBONATE IT-FLD (MG/L AS CO3)
19-0050	08-17-88	14.5	362	7.6	150	46	7.9	25	1.5	183	<1.0
19-0019	06-07-88	12.0	199	6.4	77	19	7.1	7.4	0.4	50	<1.0
19-0028	05-13-88	12.5	342	8.0	160	35	18	17	0.7	167	<1.0
19-0069	03-03-88	12.5	342	7.0	150	39	12	8.2	0.8	113	<1.0

NJ-WRD WELL NUMBER	DATE	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)
19-0050	08-17-88	148	25	12	0.7	22	236	<0.01	1.3	<0.01	0.2
19-0019	06-07-88	45	31	6.0	0.3	40	142	<0.01	1.3	<0.01	1.1
19-0028	05-13-88	138	22	17	0.3	17	209	--	--	--	--
19-0069	03-03-88	93	16	33	0.2	23	193	<0.01	1.0	0.02	<0.2

NJ-WRD WELL NUMBER	DATE	PHOSPHORUS DISSOLVED (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)
19-0050	08-17-88	0.02	0.01	<10	3	<1	<1	3	4	<5	6
19-0019	06-07-88	0.06	0.02	--	<1	<1	2	51	<3	<5	<1
19-0028	05-13-88	--	--	10	9	<1	<1	1	<3	<5	<1
19-0069	03-03-88	0.16	0.16	<10	3	<1	<1	3	35	<5	3

NJ-WRD WELL NUMBER	DATE	MERCURY DISSOLVED (UG/L AS HG)	ZINC, DISSOLVED (UG/L AS ZN)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	PHENOLS TOTAL (UG/L)	DI-CHLORO-BROMO-METHANE TOTAL (UG/L)	CARBON-TETRA-CHLORIDE TOTAL (UG/L)	1,2-DI-CHLORO-ETHANE TOTAL (UG/L)	BROMOFORM TOTAL (UG/L)	CHLORO-DI-BROMO-METHANE TOTAL (UG/L)	CHLOROFORM TOTAL (UG/L)
19-0050	08-17-88	<0.1	270	0.5	--	--	--	--	--	--	--
19-0019	06-07-88	<0.1	120	1.4	<1	--	--	--	--	--	--
19-0028	05-13-88	<0.1	4	0.7	2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
19-0069	03-03-88	0.2	16	0.4	2	--	--	--	--	--	--

NJ-WRD WELL NUMBER	DATE	TOLUENE TOTAL (UG/L)	BENZENE TOTAL (UG/L)	CHLOROBENZENE TOTAL (UG/L)	CHLOROETHANE TOTAL (UG/L)	ETHYLBENZENE TOTAL (UG/L)	METHYLBROMIDE TOTAL (UG/L)	METHYL-CHLORIDE TOTAL (UG/L)	METHYLENE CHLORIDE TOTAL (UG/L)	TETRACHLOROETHYLENE TOTAL (UG/L)	TRICHLOROFLUOROMETHANE TOTAL (UG/L)
19-0050	08-17-88	--	--	--	--	--	--	--	--	--	--
19-0019	06-07-88	--	--	--	--	--	--	--	--	--	--
19-0028	05-13-88	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
19-0069	03-03-88	--	--	--	--	--	--	--	--	--	--

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

HUNTERDON COUNTY

NJ-WRD WELL NUMBER	DATE	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)	1,1,2-TRI-CHLORO-ETHANE TOTAL (UG/L)	1,1,2,2 TETRA-CHLORO-ETHANE TOTAL (UG/L)	1,2-DI-CHLORO-BENZENE TOTAL (UG/L)	1,2-DI-CHLORO-PROPANE TOTAL (UG/L)	1,2-TRANSDI CHLORO-ETHENE TOTAL (UG/L)	1,3-DI-CHLORO-PROPENE TOTAL (UG/L)	1,3-DI-CHLORO-BENZENE TOTAL (UG/L)
19-0050	08-17-88	--	--	--	--	--	--	--	--	--	--
19-0019	06-07-88	--	--	--	--	--	--	--	--	--	--
19-0028	05-13-88	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
19-0069	03-03-88	--	--	--	--	--	--	--	--	--	--

NJ-WRD WELL NUMBER	DATE	1,4-DI-CHLORO-BENZENE TOTAL (UG/L)	2-CHLORO-ETHYL-VINYL-ETHER TOTAL (UG/L)	DI-CHLORO-DI-FLUORO-METHANE TOTAL (UG/L)	TRANS-1,3-DI-CHLORO-PROPENE TOTAL (UG/L)	CIS 1,3-DI-CHLORO-PROPENE TOTAL (UG/L)	1,2-DIBROMO ETHYL-ENE TOTAL (UG/L)	VINYL CHLO-RIDE TOTAL (UG/L)	TRI-CHLORO-ETHYL-ENE TOTAL (UG/L)	STYRENE TOTAL (UG/L)	XYLENE TOTAL WATER WHOLE TOT REC (UG/L)
19-0050	08-17-88	--	--	--	--	--	--	--	--	--	--
19-0019	06-07-88	--	--	--	--	--	--	--	--	--	--
19-0028	05-13-88	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
19-0069	03-03-88	--	--	--	--	--	--	--	--	--	--

Aquifer Unit
231LCKG - Lockatong Formation
231BRCK - Brunswick Formation (undifferentiated)
230TRSC - Triassic System

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

MERCER COUNTY

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	ELEV. LAND SURF. (FT. NGVD)	OPEN OR SCREENED INTERVAL (FT.)	AQUIFER UNIT
21-0277	HOPEWELL BORO	4-LOUELLEN ST	402314	0744611	200	50 - 380	231BRCK

NJ-WRD WELL NUMBER	DATE	TEMPERATURE WATER (DEG C)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	HARDNESS TOTAL (MG/L AS (CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE IT-FLD (MG/L AS HCO3)	CARBONATE IT-(MG/L AS CO3)
21-0277	03-21-88	13.0	455	..	..	..	..	..	3.1	..	..
	03-01-88	13.0	462	7.6	200	59	13	13	1.1	177	<1.0

NJ-WRD WELL NUMBER	DATE	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN,AMMONIA + ORGANIC DIS. (MG/L AS N)
21-0277	03-21-88	..	32	23	0.1	..	..	<0.01	4.2	<0.01	0.3
	03-01-88	149	30	23	0.1	22	270	<0.01	4.8	0.02	<0.2

NJ-WRD WELL NUMBER	DATE	PHOSPHORUS DISSOLVED (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)
21-0277	03-21-88	0.05	0.04	..	4	..	..	..	..	..	..
	03-01-88	0.06	0.05	<10	1	<1	<1	4	6	<5	<1

NJ-WRD WELL NUMBER	DATE	MERCURY DISSOLVED (UG/L AS HG)	ZINC, DISSOLVED (UG/L AS ZN)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	PHENOLS TOTAL (UG/L)	DI-CHLOROBROMOMETHANE TOTAL (UG/L)	CARBONTETRACHLORIDE TOTAL (UG/L)	1,2-DICHLOROETHANE TOTAL (UG/L)	BROMOFORM TOTAL (UG/L)	CHLORODIBROMOMETHANE TOTAL (UG/L)	CHLOROFORM TOTAL (UG/L)
21-0277	03-21-88	<0.1	..	0.9	4	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
	03-01-88	<0.1	16	0.8	1	<0.2	<0.2	<0.2	<0.2	<0.2	0.2

NJ-WRD WELL NUMBER	DATE	TOLUENE TOTAL (UG/L)	BENZENE TOTAL (UG/L)	CHLOROBENZENE TOTAL (UG/L)	CHLOROETHANE TOTAL (UG/L)	ETHYLBENZENE TOTAL (UG/L)	METHYLBROMIDE TOTAL (UG/L)	METHYLCHLORIDE TOTAL (UG/L)	METHYLENE CHLORIDE TOTAL (UG/L)	TETRACHLOROETHYLENE TOTAL (UG/L)	TRICHLOROFLUOROMETHANE TOTAL (UG/L)
21-0277	03-21-88	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	12	<3.0
	03-01-88	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	12	<0.2

NJ-WRD WELL NUMBER	DATE	1,1-DICHLOROETHANE TOTAL (UG/L)	1,1-DICHLOROETHYLENE TOTAL (UG/L)	1,1,1-TRICHLOROETHANE TOTAL (UG/L)	1,1,2-TRICHLOROETHANE TOTAL (UG/L)	1,1,2,2 TETRACHLOROETHANE TOTAL (UG/L)	1,2-DICHLOROBENZENE TOTAL (UG/L)	1,2-DICHLOROPROPANE TOTAL (UG/L)	1,2-TRANSDICHLOROETHENE TOTAL (UG/L)	1,3-DICHLOROPROPENE TOTAL (UG/L)	1,3-DICHLOROBENZENE TOTAL (UG/L)
21-0277	03-21-88	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
	03-01-88	<0.2	<0.2	0.3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2

QUALITY OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

MERCER COUNTY

NJ-WRD WELL NUMBER	DATE	1,4-DI-CHLORO-BENZENE TOTAL (UG/L)	2-CHLORO-ETHYL-VINYL-ETHER TOTAL (UG/L)	DI-CHLORO-DI-FLUORO-METHANE TOTAL (UG/L)	TRANS-1,3-DI-CHLORO-PROPENE TOTAL (UG/L)	CIS 1,3-DI-CHLORO-PROPENE TOTAL (UG/L)	1,2-DIBROMO ETHYL-ENE TOTAL (UG/L)	VINYL CHLO-RIDE TOTAL (UG/L)	TRI-CHLORO-ETHYL-ENE TOTAL (UG/L)	STYRENE TOTAL (UG/L)	XYLENE TOTAL WATER WHOLE TOT REC (UG/L)
21-0277	03-21-88	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
	03-01-88	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	1.1	<0.2	<0.2

Aquifer Unit:
231SCKN-Stockton Formation.

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

MIDDLESEX COUNTY

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	ELEV. LAND SURF. (FT. NGVD)	OPEN OR SCREENED INTERVAL (FT.)	AQUIFER UNIT
23-1116	PRINCETON UNIVERSITY	FORRESTAL NO 3	402045	0743648	115	406*	231SCKN
23-0936	COLUMBIAN CHEMICALS	ELEVEN	402258	0743340	80	26.5 - 305	231LCKG
23-1083	JOHNSON & JOHNSON CO	IRRIGATION-UNUSED	402630	0742959	110	20 - 409	231BRCK
23-1053	RUTGERS UNIVERSITY	RUTGERS GOLF COURSE	403110	0742812	60	55 - 300	231BRCK
23-1079	CAPTIVE PLASTICS	BACKUP-1983	403330	0742843	60	50 - 230	231BRCK
23-1072	MIDDLESEX WATER COMPANY	TINGLEY 2	403536	0742228	80	74 - 560	231BRCK

NJ-WRD WELL NUMBER	DATE	TEMPERATURE WATER (DEG C)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE IT-FLD (MG/L AS HCO3)	CARBONATE IT-FLD (MG/L AS CO3)
23-1116	05-18-88	--	--	--	--	--	--	--	--	--	--
	05-18-88	--	--	--	--	--	--	--	--	--	--
	05-18-88	--	--	--	--	--	--	--	--	--	--
23-0936	06-22-88	12.5	618	7.0	180	48	15	33	5.9	140	<1.0
23-1083	09-15-88	12.5	732	7.1	330	99	19	28	1.5	260	<1.0
23-1053	08-17-88	13.0	2330	7.3	1100	370	45	79	4.1	132	<1.0
23-1079	09-13-88	13.5	1030	7.6	550	140	48	25	1.7	157	<1.0
23-1072	09-23-88	12.5	2000	7.4	1200	410	43	40	2.6	148	<1.0

NJ-WRD WELL NUMBER	DATE	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)
23-1116	05-18-88	--	--	--	--	--	--	--	--	--	--
	05-18-88	--	--	--	--	--	--	--	--	--	--
	05-18-88	--	--	--	--	--	--	--	--	--	--
23-0936	06-22-88	118	120	14	0.3	34	341	<0.01	<0.10	0.09	<0.2
23-1083	09-15-88	215	47	79	0.2	31	437	<0.01	<0.10	0.28	0.4
23-1053	08-17-88	111	1300	13	0.1	22	1900	<0.01	<0.10	0.26	0.6
23-1079	09-13-88	129	430	18	0.1	22	767	<0.01	1.20	<0.01	<0.2
23-1072	09-23-88	121	1200	17	0.1	19	1810	<0.01	1.10	0.13	0.4

NJ-WRD WELL NUMBER	DATE	PHOSPHOROUS DISSOLVED (MG/L AS P)	PHOSPHOROUS ORTHO, DISSOLVED (MG/L AS P)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)
23-1116	05-18-88	--	--	--	--	--	--	--	--	--	--
	05-18-88	--	--	--	--	--	--	--	--	--	--
	05-18-88	--	--	--	--	--	--	--	--	--	--
23-0936	06-22-88	<0.01	0.02	<10	3	<1	<1	<1	1400	<5	790
23-1083	09-15-88	0.15	0.09	<10	<1	<1	<1	2	3600	<5	710
23-1053	08-17-88	0.01	<0.01	20	6	<1	2	<1	170	<5	320
23-1079	09-13-88	0.02	0.02	<10	3	<1	<1	<1	5	<5	<1
23-1072	09-23-88	<0.01	0.01	<10	2	<1	3	1	240	<5	15

NJ-WRD WELL NUMBER	DATE	MERCURY DISSOLVED (UG/L AS HG)	ZINC, DISSOLVED (UG/L AS ZN)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	PHENOLS TOTAL (UG/L)	DICHLOROBROMOMETHANE TOTAL (UG/L)	CARBONTETRACHLORIDE TOTAL (UG/L)	1,2-DICHLOROETHANE TOTAL (UG/L)	BROMOFORM TOTAL (UG/L)	CHLORODIBROMOMETHANE TOTAL (UG/L)	CHLOROFORM TOTAL (UG/L)
23-1116	05-18-88	--	--	--	--	<0.2	1.4	<0.2	<0.2	<0.2	<0.2
	05-18-88	--	--	--	--	<0.2	1.4	<0.2	<0.2	<0.2	0.5
	05-18-88	--	--	--	--	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
23-0936	06-22-88	<0.1	19	2.0	4	--	--	--	--	--	--
23-1083	09-15-88	<0.10	<3	1.9	1	--	--	--	--	--	--
23-1053	08-17-88	<0.1	16	0.3	--	--	--	--	--	--	--
23-1079	09-13-88	<0.1	12	0.4	<1	<0.2	<0.2	<0.2	<0.2	<0.2	0.2
23-1072	09-23-88	<0.1	20	0.4	<1	--	--	--	--	--	--

QUALITY OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

MIDDLESEX COUNTY

NJ-WRD WELL NUMBER	DATE	TOLUENE TOTAL (UG/L)	BENZENE TOTAL (UG/L)	CHLORO-BENZENE TOTAL (UG/L)	CHLORO-ETHANE TOTAL (UG/L)	ETHYL-BENZENE TOTAL (UG/L)	METHYL-BROMIDE TOTAL (UG/L)	METHYL-CHLO-RIDE TOTAL (UG/L)	METHYL-ENE CHLO-RIDE TOTAL (UG/L)	TETRA-CHLORO-ETHYL-ENE TOTAL (UG/L)	TRI-CHLORO-FLUORO-METHANE TOTAL (UG/L)
23-1116	05-18-88	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	270	<0.2
	05-18-88	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	240	<0.2
	05-18-88	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	240	<0.2
23-0936	06-22-88	--	--	--	--	--	--	--	--	--	--
23-1083	09-15-88	--	--	--	--	--	--	--	--	--	--
23-1053	08-17-88	--	--	--	--	--	--	--	--	--	--
23-1079	09-13-88	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.2	45	1.1
23-1072	09-23-88	--	--	--	--	--	--	--	--	--	--

NJ-WRD WELL NUMBER	DATE	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)	1,1,2-TRI-CHLORO-ETHANE TOTAL (UG/L)	1,1,2,2 TETRA-CHLORO-ETHANE TOTAL (UG/L)	1,2-DI-CHLORO-BENZENE TOTAL (UG/L)	1,2-DI-CHLORO-PROPANE TOTAL (UG/L)	1,2-TRANSDI CHLORO-ETHENE TOTAL (UG/L)	1,3-DI-CHLORO-PROPENE TOTAL (UG/L)	1,3-DI-CHLORO-BENZENE TOTAL (UG/L)
23-1116	05-18-88	<0.2	5.1	7.2	<0.2	<0.2	<0.2	<0.2	8.0	<0.2	<0.2
	05-18-88	<0.2	4.3	7.0	<0.2	<0.2	<0.2	<0.2	8.3	<0.2	<0.2
	05-18-88	<0.2	4.2	6.1	<0.2	<0.2	<0.2	<0.2	9.2	<0.2	<0.2
23-0936	06-22-88	--	--	--	--	--	--	--	--	--	--
23-1083	09-15-88	--	--	--	--	--	--	--	--	--	--
23-1053	08-17-88	--	--	--	--	--	--	--	--	--	--
23-1079	09-13-88	1.2	11	15	<1.9	<0.2	<0.2	<0.2	0.7	<0.2	<0.2
23-1072	09-23-88	--	--	--	--	--	--	--	--	--	--

NJ-WRD WELL NUMBER	DATE	1,4-DI-CHLORO-BENZENE TOTAL (UG/L)	2-CHLORO-ETHYL-VINYL-ETHER TOTAL (UG/L)	DI-CHLORO-DI-FLUORO-METHANE TOTAL (UG/L)	TRANS-1,3-DI-CHLORO-PROPENE TOTAL (UG/L)	CIS 1,3-DI-CHLORO-PROPENE TOTAL (UG/L)	1,2-DIBROMO ETHYL-ENE TOTAL (UG/L)	VINYL CHLO-RIDE TOTAL (UG/L)	TRI-CHLORO-ETHYL-ENE TOTAL (UG/L)	STYRENE TOTAL (UG/L)	XYLENE TOTAL WATER WHOLE TOT REC (UG/L)
23-1116	05-18-88	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	360	<0.2	<0.2
	05-18-88	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	330	<0.2	<0.2
	05-18-88	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	320	<0.2	<0.2
23-0936	06-22-88	--	--	--	--	--	--	--	--	--	--
23-1083	09-15-88	--	--	--	--	--	--	--	--	--	--
23-1053	08-17-88	--	--	--	--	--	--	--	--	--	--
23-1079	09-13-88	<0.2	<0.2	<0.2	<0.2	<0.2	--	<0.2	0.8	<0.2	<0.2
23-1072	09-23-88	--	--	--	--	--	--	--	--	--	--

* Total depth of well.

Aquifer units:
231SCKN - Stockton Formation
231LCKG - Lockatong Formation
231BRCK - Brunswick Group (undifferentiated).

QUALITY OF GROUND WATER - SALTWATER MONITORING NETWORK
WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MIDDLESEX COUNTY

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	ELEV. LAND SURF. (FT. NGVD)	SCREENED INTERVAL (FT.)	AQUIFER UNIT
23-735	PERTH AMBOY WD	RUNYON 8R	402524	741940	10	70 - 85	2110DBG
23-571	PERTH AMBOY WD	PERTH AMBOY 7	402531	741932	15	67 - 82	2110DBG
23-195	PERTH AMBOY WD	PERTH AMBOY 5	402537	742001	15	50 - 80	2110DBG
23-196	PERTH AMBOY WD	PERTH AMBOY 1A	402537	742020	20	201 - 261	211FRNG
23-570	PERTH AMBOY WD	PERTH AMBOY 6	402538	741950	15	60 - 80	2110DBG
23-551	SOUTH RIVER WD	SRWD 6	402548	742155	47	155 - 208	211FRNG
23-434	SOUTH RIVER WD	SRWD 2	402556	742141	20	173 - 198	211FRNG
23-438	SOUTH RIVER WD	SRWD 5	402559	742142	20	132 - 182	211FRNG
23-355	SAYREVILLE WD	SWD A	402614	741950	30	72 - 82	2110DBG
23-367	SAYREVILLE WD	SWD G	402624	741944	46	56 - 87	2110DBG
23-368	SAYREVILLE WD	I	402626	741936	58	83 - 94	2110DBG
23-371	HERCULES POWDER	HERCULES 5	402638	742022	48	182 - 228	211FRNG
23-376	HERCULES POWDER	HERCULES 3	402649	742025	41	180 - 220	211FRNG
23-205	OLD BRIDGE MUA	LAWRENCE HAR 8	402700	741454	60	193 - 213	2110DBG
23-206	OLD BRIDGE MUA	LAWRENCE HAR 9	402700	741454	60	360 - 395	211FRNG
23-384	HERCULES POWDER	HERCULES 1REBT	402705	742023	54	170 - 225	211FRNG
23-1056	MIDDLESEX COUNTY	MCUA 3	402743	742216	5	43 - 53	211FRNG
23-401	SAYREVILLE WD	MORGAN P	402744	741628	44	254 - 288	211FRNG
23-403	SAYREVILLE WD	SWD Q-1973	402745	741631	40	78 - 136	2110DBG
23-411	SOUTH AMBOY WD	SAWD 8	402822	741630	10	209 - 234	211FRNG
23-414	SOUTH AMBOY WD	SAWD 10	402825	741632	10	38 - 48	2110DBG

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	DATE OF SAMPLE	TEMPER-ATURE (DEG C)	SPE-CIFIC CONDUCT-ANCE (US/CM)	PH (UNITS)	CHLORIDE DIS-SOLVED (MG/L AS CL)
23-735	PERTH AMBOY WD	RUNYON 8R	8/16/1988	11.5	378	4.0	43
23-571	PERTH AMBOY WD	PERTH AMBOY 7	8/16/1988	11.5	264	4.0	22
23-195	PERTH AMBOY WD	PERTH AMBOY 5	8/16/1988	12.0	321	4.5	55
23-196	PERTH AMBOY WD	PERTH AMBOY 1A	8/16/1988	13.5	980	5.7	250
23-570	PERTH AMBOY WD	PERTH AMBOY 6	8/16/1988	12.0	384	3.9	53
23-551	SOUTH RIVER WD	SRWD 6	8/17/1988	12.5	74	5.6	10
23-434	SOUTH RIVER WD	SRWD 2	8/17/1988	13.0	160	5.1	16
23-438	SOUTH RIVER WD	SRWD 5	8/17/1988	13.0	110	5.7	16
23-355	SAYREVILLE WD	SWD A	8/16/1988	13.0	258	4.6	40
23-367	SAYREVILLE WD	SWD G	8/16/1988	12.0	198	4.7	25
23-368	SAYREVILLE WD	I	8/16/1988	12.5	385	3.9	12
23-371	HERCULES POWDER	HERCULES 5	8/23/1988	12.5	8,400	5.5	2,400
23-376	HERCULES POWDER	HERCULES 3	8/23/1988	12.0	6,600	5.6	2,100
23-205	OLD BRIDGE MUA	LAWRENCE HAR 8	8/18/1988	12.5	63	5.1	6.6
23-206	OLD BRIDGE MUA	LAWRENCE HAR 9	8/18/1988	13.5	65	6.1	1.9
23-384	HERCULES POWDER	HERCULES 1REBT	8/23/1988	13.5	1,100	5.8	330
23-1056	MIDDLESEX COUNTY	MCUA 3	11/17/1987	---	---	---	5,800
23-401	SAYREVILLE WD	MORGAN P	8/16/1988	12.0	73	6.1	4.3
23-403	SAYREVILLE WD	SWD Q-1973	8/16/1988	13.0	203	4.4	26
23-411	SOUTH AMBOY WD	SAWD 8	8/17/1988	13.0	78	6.2	6.7
23-414	SOUTH AMBOY WD	SAWD 10	8/17/1988	13.0	324	4.1	43

* Total depth of well.

Aquifer unit:

2110DBG - Old Bridge aquifer, Potomac-Raritan-Magothy aquifer system
211FRNG - Farrington aquifer, Potomac-Raritan-Magothy aquifer system

QUALITY OF GROUND WATER - SALTWATER MONITORING NETWORK
WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MONMOUTH COUNTY

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	ELEV. LAND SURF. (FT. NGVD)	SCREENED INTERVAL (FT.)	AQUIFER UNIT
25-233	MANASQUAN WD	MWD 6	400710	740329	10	180*	121CKKD
25-234	MANASQUAN WD	MWD 3	400712	740328	15	118*	121CKKD
25-235	MANASQUAN WD	MWD 2R	400712	740328	21	103 - 118	121CKKD
25-387	SPRING LK HT WD	SPRING LK HGT1	400857	740309	60	570 - 600	211MLRW
25-391	SPRING LK HT WD	SPRING LK HGT4	400928	740211	20	485 - 560	211MLRW
25-018	BELMAR BORO WD	10 (2 ELECT)	401038	740146	20	581*	211EGLS
25-026	BELMAR BORO WD	BWD 4 ELEC(11)	401102	740045	15	601 - 671	211EGLS
25-001	ALLENHURST WD	AWD 4	401401	740025	17	525 - 565	211EGLS
25-117	HIGHLANDS WD	HWD 4	402401	735920	20	630 - 680	2110DBG
25-119	HIGHLANDS WD	HWD 3	402403	735923	15	719 - 779	2110DBG
25-006	ATLAN HIGH WD	AHWD 1	402437	740236	20	519 - 582	2110DBG
25-513	ATLAN HIGH WD	AHWD 5	402442	740242	20	506 - 548	2110DBG
25-282	BAYSHORE SEW AU	BAYSHORE 1	402507	741344	10	245 - 260	2110DBG
25-197	KEYPORT BORO WD	KEYPORT 7	402535	741214	35	304 - 354	2110DBG
25-191	KEANSBURG MUA	KWD 6	402620	740741	10	302 - 362	2110DBG
25-195	KEANSBURG MUA	KWD 5A	402621	740743	10	290 - 350	2110DBG
25-196	KEANSBURG MUA	KWD 3	402628	740744	12	308 - 348	2110DBG
25-453	UNION BEACH WD	UBWD 3 1977	402632	741051	10	480 - 532	211FRNG
25-420	UNION BEACH WD	UBWD 2 1969	402634	741051	10	262 - 289	2110DBG
25-320	NAT. PARK SERVICE	FT HANCOCK 5A	402705	735959	14	838 - 878	211FRNG

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	DATE OF SAMPLE	TEMPER-ATURE (DEG C)	SPE-CIFIC CONDUCT-ANCE (US/CM)	PH (UNITS)	CHLORIDE DIS-SOLVED (MG/L AS CL)
25-233	MANASQUAN WD	MWD 6	9/15/1988	13.0	52	5.2	8.8
25-234	MANASQUAN WD	MWD 3	9/15/1988	13.5	83	4.8	14
25-235	MANASQUAN WD	MWD 2R	9/15/1988	13.5	102	4.8	14
25-387	SPRING LK HT WD	SPRING LK HGT1	9/15/1988	17.5	178	7.9	0.9
25-391	SPRING LK HT WD	SPRING LK HGT4	9/15/1988	---	183	7.9	0.9
25-018	BELMAR BORO WD	10 (2 ELECT)	9/15/1988	18.0	200	8.0	1.6
25-026	BELMAR BORO WD	BWD 4 ELEC(11)	9/15/1988	19.0	167	7.7	0.9
25-001	ALLENHURST WD	AWD 4	9/15/1988	17.5	186	7.3	1.5
25-117	HIGHLANDS WD	HWD 4	7/15/1988	19.5	98	6.5	1.0
25-119	HIGHLANDS WD	HWD 3	7/15/1988	20.5	103	6.6	1.1
25-006	ATLAN HIGH WD	AHWD 1	7/15/1988	16.5	94	6.6	1.2
25-513	ATLAN HIGH WD	AHWD 5	7/15/1988	16.5	91	6.6	1.3
25-282	BAYSHORE SEW AU	BAYSHORE 1	9/14/1988	13.0	95	6.0	4.2
25-197	KEYPORT BORO WD	KEYPORT 7	9/14/1988	14.0	111	6.2	16
25-191	KEANSBURG MUA	KWD 6	9/14/1988	13.5	288	6.2	75
25-195	KEANSBURG MUA	KWD 5A	9/14/1988	13.5	302	6.2	81
25-196	KEANSBURG MUA	KWD 3	9/14/1988	14.0	98	6.4	10
25-453	UNION BEACH WD	UBWD 3 1977	9/14/1988	14.5	79	6.6	2.4
25-420	UNION BEACH WD	UBWD 2 1969	9/14/1988	14.5	7,400	5.8	2,100
25-320	NAT. PARK SERVICE	FT HANCOCK 5A	7/15/1988	19.0	107	6.7	5.4

* Total depth of well.

Aquifer unit:

121CKKD - Kirkwood-Cohansey aquifer system
211MLRW - Wenonah-Mount Laurel aquifer
211EGLS - Englishtown aquifer
2110DBG - Old Bridge aquifer, Potomac-Raritan-Magothy aquifer system
211FRNG - Farrington aquifer, Potomac-Raritan-Magothy aquifer system

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

MORRIS COUNTY

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	ELEV. LAND SURF. (FT. NGVD)	OPEN OR SCREENED INTERVAL (FT.)	AQUIFER UNIT
27-0196	MONTVILLE TWP MUA	MONTVALE 3-LEE CT	405319	0742109	300	19 - 293	23103WG

NJ-WRD WELL NUMBER	DATE	TEMPERATURE WATER (DEG C)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE IT-FLD (MG/L AS HCO3)	CARBONATE IT-FLD (MG/L AS CO3)
27-0196	05-05-88	12.0	484	7.4	220	55	20	7.7	6.7	180	<1.0

NJ-WRD WELL NUMBER	DATE	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)
27-0196	05-05-88	149	35	39	0.1	27	288	<0.01	2.1	<0.01	<0.2

NJ-WRD WELL NUMBER	DATE	PHOSPHORUS DISSOLVED (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)
27-0196	05-05-88	0.02	<0.01	<10	2	<1	<1	<10	3	<10	<1

NJ-WRD WELL NUMBER	DATE	MERCURY DISSOLVED (UG/L AS HG)	ZINC, DISSOLVED (UG/L AS ZN)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	PHENOLS TOTAL (UG/L)	DI-CHLORO-BROMO-METHANE TOTAL (UG/L)	CARBON-TETRA-CHLORIDE TOTAL (UG/L)	1,2-DI-CHLORO-ETHANE TOTAL (UG/L)	BROMOFORM TOTAL (UG/L)	CHLORO-DI-BROMO-METHANE TOTAL (UG/L)	CHLOROFORM TOTAL (UG/L)
27-0196	05-05-88	<0.1	46	0.8	2	<0.2	<0.2	<0.2	<0.2	<0.2	0.2

NJ-WRD WELL NUMBER	DATE	TOLUENE TOTAL (UG/L)	BENZENE TOTAL (UG/L)	CHLOROBENZENE TOTAL (UG/L)	CHLOROETHANE TOTAL (UG/L)	ETHYLBENZENE TOTAL (UG/L)	METHYLBROMIDE TOTAL (UG/L)	METHYL-CHLORIDE TOTAL (UG/L)	METHYLENE CHLORIDE TOTAL (UG/L)	TETRACHLOROETHYLENE TOTAL (UG/L)	TRICHLOROFLUOROMETHANE TOTAL (UG/L)
27-0196	05-05-88	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2

NJ-WRD WELL NUMBER	DATE	1,1-DICHLOROETHANE TOTAL (UG/L)	1,1-DICHLOROETHYLENE TOTAL (UG/L)	1,1,1-TRICHLOROETHANE TOTAL (UG/L)	1,1,2-TRICHLOROETHANE TOTAL (UG/L)	1,1,2,2 TETRACHLOROETHANE TOTAL (UG/L)	1,2-DICHLOROBENZENE TOTAL (UG/L)	1,2-DICHLOROPROPANE TOTAL (UG/L)	1,2-TRANSDICHLOROETHENE TOTAL (UG/L)	1,3-DICHLOROPROPENE TOTAL (UG/L)	1,3-DICHLOROBENZENE TOTAL (UG/L)
27-0196	05-05-88	<0.2	<0.2	0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2

NJ-WRD WELL NUMBER	DATE	1,4-DICHLOROBENZENE TOTAL (UG/L)	2-CHLOROETHYLVINYLETHER TOTAL (UG/L)	DICHLORODIFLUOROMETHANE TOTAL (UG/L)	TRANS-1,3-DICHLOROPROPENE TOTAL (UG/L)	CIS 1,3-DICHLOROPROPENE TOTAL (UG/L)	1,2-DIBROMOETHYLENE TOTAL (UG/L)	VINYL CHLORIDE TOTAL (UG/L)	TRICHLOROETHYLENE TOTAL (UG/L)	STYRENE TOTAL (UG/L)	XYLENE TOTAL WATER WHOLE TOT REC (UG/L)
27-0196	05-05-88	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2

Aquifer unit:
23103WG - Third Watchung Flow

QUALITY OF GROUND WATER - SALTWATER MONITORING NETWORK
WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
OCEAN COUNTY

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	ELEV. LAND SURF. (FT. NGVD)	SCREENED INTERVAL (FT.)	AQUIFER UNIT
29-009	BEACH HAVEN WD	BHWD 8	393346	741430	5	572 - 656	122KRKDL
29-560	SURF CITY WD	SCWD 4	393938	741006	5	514 - 554	122KRKDL
29-111	HARVEY CDRS WD	HCWD 4	394134	740832	9	465 - 500	122KRKDL
29-607	BARNEGAT LT WD	BLWD 4	394454	740655	5	597 - 662	124PNPN
29-613	BERKELEY WC	PINEWALL	395248	741011	45	200*	121CKKD
29-022	SHORE WATER CO	SWC 1	395422	740458	7	175 - 200	121CKKD
29-023	SHORE WATER CO	SWC 2	395423	740458	7	490 - 527	124PNPN
29-697	ARLINGTON BEACH WC	ABWC 1	395443	740500	10	76 - 86	121CKKD
29-612	BERKELEY WC	BAYVILLE	395454	740906	20	90*	121CKKD
29-809	OCEAN GATE BORO WD	OGBWD 4	395527	740826	10	330 - 370	124PNPN
29-582	SEASIDE PARK WD	4-R	395547	740434	12	435 - 485	124PNPN
29-515	PINE BEACH WU	PBWU 1	395558	741013	30	135 - 197	121CKKD
29-537	SEASIDE HGTS WD	SHWD 2	395636	740439	4	400 - 430	124PNPN
29-538	SEASIDE HGTS WD	SHWD 1R	395636	740439	5	144 - 175	121CKKD
29-815	SEASIDE HGTS WD	SHWD 6-87	395643	740443	7	129 - 149	121CKKD
29-058	TOMS RIVER WC	TRWC 21	395715	741231	10	46 - 56	121CKKD
29-626	TOMS RIVER WC	TRWC 30	395721	741230	9	1700 - 1875	211MRPA
29-577	LAVALLETTE WD	LWD 5	395741	740437	7	1394 - 1498	211MRPA
29-454	LAVALLETTE WD	LWD 2	395808	740421	5	1009 - 1136	211EGLS
29-504	NJ WATER WC	MANTOLOKING 7	400210	740310	5	1263 - 1368	211MRPA
29-006	NJ WATER WC	BAY HEAD 6	400405	740244	10	778 - 818	211EGLS
29-531	PT PLEASANT WD	PPWD 5	400454	740414	18	1256 - 1342	211MRPA
29-533	PT PLEASANT WD	PPWD 4	400501	740455	7	45 - 75	121CKKD
29-579	PT PLEAS BCH WD	PPBWD 11	400512	740251	5	130 - 143	121CKKD
29-807	PT PLEAS BCH WD	PPBWD 12	400536	740251	5	108 - 132	121CKKD
29-523	PT PLEAS BCH WD	PPBWD 10	400551	740243	5	87 - 130	121CKKD

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	DATE OF SAMPLE	TEMPER-ATURE (DEG C)	SPE-CIFIC CONDUCT-ANCE (US/CM)	PH (UNITS)	CHLORIDE DIS-SOLVED (MG/L AS CL)
29-009	BEACH HAVEN WD	BHWD 8	8/10/1988	17.0	62	6.5	3.6
29-560	SURF CITY WD	SCWD 4	8/10/1988	16.0	58	6.4	3.2
29-111	HARVEY CDRS WD	HCWD 4	8/10/1988	16.0	67	6.5	2.9
29-607	BARNEGAT LT WD	BLWD 4	8/10/1988	18.0	344	8.3	1.9
29-613	BERKELEY WC	PINEWALL	7/29/1988	13.0	48	5.1	5.1
29-022	SHORE WATER CO	SWC 1	7/28/1988	14.5	54	5.9	5.0
29-023	SHORE WATER CO	SWC 2	7/28/1988	17.0	287	8.9	1.0
29-697	ARLINGTON BEACH WC	ABWC 1	7/28/1988	14.5	94	6.7	7.8
29-612	BERKELEY WC	BAYVILLE	7/29/1988	14.5	96	4.2	11
29-809	OCEAN GATE BORO WD	OGBWD 4	7/29/1988	14.5	160	7.4	3.3
29-582	SEASIDE PARK WD	4-R	7/28/1988	17.0	243	8.9	1.5
29-515	PINE BEACH WU	PBWU 1	7/29/1988	13.0	61	4.3	7.6
29-537	SEASIDE HGTS WD	SHWD 2	7/28/1988	17.0	218	8.7	1.9
29-538	SEASIDE HGTS WD	SHWD 1R	7/28/1988	15.5	960	6.3	260
29-815	SEASIDE HGTS WD	SHWD 6-87	7/28/1988	14.5	1,340	5.8	380
29-058	TOMS RIVER WC	TRWC 21	7/29/1988	14.5	147	5.7	24
29-626	TOMS RIVER WC	TRWC 30	7/29/1988	26.5	119	7.2	1.0
29-577	LAVALLETTE WD	LWD 5	8/ 9/1988	25.0	181	7.8	1.0
29-454	LAVALLETTE WD	LWD 2	8/ 9/1988	22.0	420	8.6	1.9
29-504	NJ WATER WC	MANTOLOKING 7	8/ 9/1988	24.5	157	7.5	1.0
29-006	NJ WATER WC	BAY HEAD 6	8/ 9/1988	21.0	201	8.2	1.1
29-531	PT PLEASANT WD	PPWD 5	8/ 9/1988	25.5	143	7.1	0.9
29-533	PT PLEASANT WD	PPWD 4	8/ 9/1988	14.0	178	5.4	20
29-579	PT PLEAS BCH WD	PPBWD 11	8/ 9/1988	14.0	1,100	6.6	360
29-807	PT PLEAS BCH WD	PPBWD 12	8/ 9/1988	14.5	1,100	6.6	370
29-523	PT PLEAS BCH WD	PPBWD 10	8/ 9/1988	14.5	975	6.8	280

* Total depth of well.

Aquifer unit:

121CKKD - Kirkwood-Cohansey aquifer system
122KRKDL - Atlantic City 800-foot sand of the Kirkwood Formation
124PNPN - Piney Point aquifer
211EGLS - Englishtown aquifer
211MRPA - Potomac-Raritan-Magothy aquifer system

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

PASSAIC COUNTY

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	ELEV. LAND SURF. (FT. NGVD)	OPEN OR SCREENED INTERVAL (FT.)	AQUIFER UNIT
31-0034	UPPER MONTCLAIR COUNTRY CLUB	3-IRRIGATION	405047	0741015	180	50 - 300	231BRCK
31-0033	MILES LABORATORIES	ARLINGTON AVE 3	405247	0740820	80	50 - 408	231BRCK

NJ-WRD WELL NUMBER	DATE	TEMPERATURE WATER (DEG C)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE IT-FLD (MG/L AS HCO3)
31-0034	08-19-88	12.5	477	6.9	200	54	16	14	0.8	132
31-0033	08-19-88	14.0	634	7.5	290	63	33	23	1.2	162

NJ-WRD WELL NUMBER	DATE	CARBONATE IT-FLD (MG/L AS CO3)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)
31-0034	08-19-88	<1.0	107	32	56	<0.1	22	282	<0.01	5.1
31-0033	08-19-88	<1.0	128	90	60	<0.1	19	393	<0.01	5.5

NJ-WRD WELL NUMBER	DATE	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	PHOSPHORUS DISSOLVED (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)
31-0034	08-19-88	<0.01	<0.2	0.06	0.05	--	<1	<1	<1
31-0033	08-19-88	<0.01	0.2	0.03	0.02	<10	4	<1	4

NJ-WRD WELL NUMBER	DATE	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	ZINC, DISSOLVED (UG/L AS ZN)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	PHENOLS TOTAL (UG/L)
31-0034	08-19-88	<1	14	<5	<1	<0.1	33	0.7	1
31-0033	08-19-88	<1	24	<5	<1	<0.1	<3	0.8	--

Aquifer Unit:
231BRCK - Brunswick Group (undifferentiated)

QUALITY OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

SOMERSET COUNTY

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	ELEV. LAND SURF. (FT. NGVD)	OPEN OR SCREENED INTERVAL (FT.)	AQUIFER UNIT
35-0019	GUYER, JACOB	FARM & NURSERY	402630	0743749	95	50 - 250	231BRCK
35-0036	REUBEN, ARTHUR	1-1961	403652	0743722	190	20 - 120	231BRCK

NJ-WRD WELL NUMBER	DATE	TEMPER-ATURE WATER (DEG C)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	HARD-NESS TOTAL (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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE IT-FLD (MG/L AS HCO3)
35-0019	08-17-88	13.0	725	7.4	340	91	28	19	1.9	174
35-0036	06-06-88	14.0	328	6.5	130	34	12	14	1.0	118

NJ-WRD WELL NUMBER	DATE	CAR-BONATE IT-FLD (MG/L AS CO3)	ALKA-LINITY WAT WH TOT FET 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)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)
35-0019	08-17-88	<1.0	142	220	9.9	0.1	24	500	<0.01	4.7
35-0036	06-06-88	<1.0	99	20	25	0.3	23	191	<0.01	0.73

NJ-WRD WELL NUMBER	DATE	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P)	PHOS-PHOROUS ORTHO, DIS-SOLVED (MG/L AS P)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC DIS-SOLVED (UG/L AS AS)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)
35-0019	08-17-88	<0.01	0.6	0.02	<0.01	7	8	<1	<1
35-0036	06-06-88	<0.01	0.2	--	--	<10	<1	<1	<1

NJ-WRD WELL NUMBER	DATE	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	ZINC, DIS-SOLVED (UG/L AS ZN)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	PHENOLS TOTAL (UG/L)
35-0019	08-17-88	3	<3	<5	3	<0.1	30	0.5	--
35-0036	06-06-88	39	<3	<5	<1	<0.1	9	1.2	2

Aquifer Unit:
231BRCK-Brunswick Group (undifferentiated).

WATER QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

UNION COUNTY

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	ELEV. LAND SURF. (FT. NGVD)	OPEN OR SCREENED INTERVAL (FT.)	AQUIFER UNIT
39-0119	UNION CO PARK	UNION CO PARK OBS	404106	0741719	69.00	290*	#

NJ-WRD WELL NUMBER	DATE	TEMPERATURE WATER (DEG C)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	HARDNESS TOTAL (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE IT-FLD (MG/L AS HCO3)	CARBONATE IT-FLD (MG/L AS CO3)
39-0119	09-14-88	12.0	695	7.90	330	92	24	22	1.5	99	<1.0

NJ-WRD WELL NUMBER	DATE	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)
39-0119	09-14-88	81	280	8.8	0.1	20	506	0.01	2.00	<0.01	<0.2

NJ-WRD WELL NUMBER	DATE	PHOSPHOROUS DISSOLVED (MG/L AS P)	PHOSPHOROUS ORTHO, DISSOLVED (MG/L AS P)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)
39-0119	09-14-88	0.02	0.01	<10	2	<1	1	<1	10	<5	<1

NJ-WRD WELL NUMBER	DATE	MERCURY DISSOLVED (UG/L AS HG)	ZINC, DISSOLVED (UG/L AS ZN)	CARBON, ORGANIC DISSOLVED (MG/L AS C)	PHENOLS TOTAL (UG/L)	DICHLOROBROMOMETHANE TOTAL (UG/L)	CARBONTETRACHLORIDE TOTAL (UG/L)	1,2-DICHLOROETHANE TOTAL (UG/L)	BROMOFORM TOTAL (UG/L)	CHLORODIBROMOMETHANE TOTAL (UG/L)	CHLOROFORM TOTAL (UG/L)
39-0119	09-14-88	<0.1	5	0.8	<1	<0.2	<0.2	<0.2	<0.2	<0.2	0.8

NJ-WRD WELL NUMBER	DATE	TOLUENE TOTAL (UG/L)	BENZENE TOTAL (UG/L)	CHLOROBENZENE TOTAL (UG/L)	CHLOROETHANE TOTAL (UG/L)	ETHYLBENZENE TOTAL (UG/L)	METHYLBROMIDE TOTAL (UG/L)	METHYLCHLORIDE TOTAL (UG/L)	METHYLENE CHLORIDE TOTAL (UG/L)	TETRACHLOROETHYLENE TOTAL (UG/L)	TRICHLOROFLUOROMETHANE TOTAL (UG/L)
39-0119	09-14-88	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.7	<0.2

NJ-WRD WELL NUMBER	DATE	1,1-DICHLOROETHANE TOTAL (UG/L)	1,1-DICHLOROETHYLENE TOTAL (UG/L)	1,1,1-TRICHLOROETHANE TOTAL (UG/L)	1,1,2-TRICHLOROETHANE TOTAL (UG/L)	1,1,2,2 TETRACHLOROETHANE TOTAL (UG/L)	1,2-DICHLOROBENZENE TOTAL (UG/L)	1,2-DICHLOROPROPANE TOTAL (UG/L)	1,2-TRANSDICHLOROETHENE TOTAL (UG/L)	1,3-DICHLOROPROPENE TOTAL (UG/L)	1,3-DICHLOROBENZENE TOTAL (UG/L)
39-0119	09-14-88	0.2	7.1	12	<0.2	<0.2	<0.2	<0.2	0.2	<0.2	<0.2

NJ-WRD WELL NUMBER	DATE	1,4-DICHLOROBENZENE TOTAL (UG/L)	2-CHLOROETHYLVINYLETHER TOTAL (UG/L)	DICHLORODIFLUOROMETHANE TOTAL (UG/L)	TRANS-1,3-DICHLOROPROPENE TOTAL (UG/L)	CIS 1,3-DICHLOROPROPENE TOTAL (UG/L)	VINYL CHLORIDE TOTAL (UG/L)	TRICHLOROETHYLENE TOTAL (UG/L)	STYRENE TOTAL (UG/L)	XYLENE TOTAL WATER WHOLE TOT REC (UG/L)
39-0119	09-14-88	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	2.1	<0.2	<0.2

* Total depth of well.

Aquifer Unit:
Passaic Formation of Jurassic-Triassic age

PAGE

Absecon Creek at Absecon..... 285
miscellaneous measurements..... 284
Accuracy of the records..... 15
Acknowledgments..... iii
ACOW 1 Observation well..... 289
Acre-foot, definition of..... 20
Adenosine triphosphate, definition of..... 20
Algae, definition of..... 20
Algal growth potential (AGP), definition of.... 20
Allaire State Park C observation well..... 312
Allendale, Hohokus Brook at..... 267
Ramsey Brook at..... 267
Allenwood, Manasquan River at..... 271
Ambrose Brook at Middlesex..... 275
Aquifer code list and geologic names..... 20
Aquifer, definition of..... 20
Artesian, definition of..... 21
Ash mass, definition of..... 21
Assiscong Creek at Bartles Corners..... 273
Atlantic City, Beach Thorofare at..... 285
Atlantic County, ground-water levels..... 288
ground-water quality..... 333
Atsion, Mullica River at outlet of Atsion Lake at..... 240
Awosting, Wanaque River at..... 84
Axle Brook near Pottersville..... 171

Back Brook near Reaville..... 273
tributary near Ringoes..... 157
Bacteria, definition of..... 21
Baldwin Creek at Pennington.....269,274
miscellaneous measurements..... 281
Baldwin Creek tributary, miscellaneous measurements..... 281
Barclay Brook near Englishtown..... 276
Bartles Corners, Assiscong Creek at..... 273
Bass River, East Branch, near New Gretna..... 255
Batsto, Mullica River near..... 242
Batsto River at Batsto..... 245
at Pleasant Mills.....248,285
Beach Haven, Little Egg Harbor at..... 285
Beach Thorofare at Atlantic City..... 285
Bear Brook at Route 535 near Locust Corner..... 268
near Grovers Mills..... 269
Beden Brook, miscellaneous measurements..... 283
near Hopewell..... 275
near Rocky Hill.....198,270,275
Beden Brook tributaries, miscellaneous measurements..... 283
Bedload, definition of..... 21
Bed material, definition of..... 21
Belle Mead, Pike Run at..... 200
Royce Brook tributary near..... 204
Belleville, Second River at..... 267
Benthic invertebrate, definition of..... 21
Bergen County, ground water quality..... 334
Berkeley Heights, Blue Brook at Seeleys Pond Dam near..... 270
Berkshire Valley, Rockaway River at..... 64
Berkshire Valley TW 9 observation well..... 318
Bernardsville, Passaic River near..... 266
Big Brook near Marlboro..... 270
Biochemical oxygen demand, definition of..... 21
Biomass, definition of..... 21
Black Creek near Vernon..... 48
Black River: See Lamington River
Blackwells Mills, Millstone River at..... 201
Blawenburg, Rock Brook near.....269,275
Blue Anchor, Great Egg Harbor River near..... 260
Blue Brook at Seeleys Pond Dam near Berkeley Heights..... 270
Blue green algae, definition of..... 24
Boonton Reservoir.....120,121
Boonton, Rockaway River above Reservoir, at.... 68
Rockaway River below Reservoir, at..... 70
Bottom material..... 21
Bound Brook, Raritan River below Calco Dam, at. 205
Raritan River at Queens Bridge at..... 207
Briarwood School observation well..... 316
Browntown, Deep Run near..... 276
Burlington County, ground-water levels..... 294
Burnt Mills, Lamington River at..... 176
North Branch Raritan River at..... 163
Butler Place 1 observation well..... 294
Butler Place 2 observation well..... 295

Camden County, ground-water levels..... 296
Canistear Reservoir.....120,121
Canoe Brook, miscellaneous measurements..... 278
Cape May County, ground-water quality..... 336
Carnegie Lake, Millstone River at, at Princeton 195
Cedar Brook, miscellaneous measurements..... 284
Cells/volume, definition of..... 21
Centerville, Pleasant Run at..... 274
Cfs-day, definition of..... 21
Charlotteburg Reservoir.....120,122
Chatham, Passaic River near..... 61
Chemical oxygen demand, definition of..... 21
Chester, North Branch Raritan River near.....159,274
Chlorophyll, definition of..... 22
Clarks Mills, Pine Brook at..... 275
Clarks Mills Stream at Port Republic..... 277
Clarksville, Stony Brook at..... 275
Cleveland Brook, miscellaneous measurements.... 282
Clinton Reservoir.....120,122
Clinton, Spruce Run at..... 147
Closter, Tenakill Brook at..... 266
Colliers Mills TW 1 observation well..... 327
Colliers Mills TW 2 observation well..... 328
Colliers Mills TW 3 observation well..... 329
Colliers Mills TW 4 observation well..... 330
Color unit, definition of..... 22
Commonwealth Water Company, diversions..... 123
Contents, definition of..... 22
Continuing record station, definition of..... 22
Control, definition of..... 22
Control structure, definition of..... 22
Cooperation..... 1
Crammer observation well..... 323
Cranberry Brook, miscellaneous measurements.... 281
Crest-stage partial-record stations..... 266
Cubic feet per second per square mile, definition of..... 22
Cubic foot per second, definition of..... 22
Cumberland County, ground-water levels..... 300

Dead River near Millington..... 272
Deep Run near Browntown..... 276
Definition of terms..... 20
De Forest Lake, NY..... 58
Diatoms, definition of..... 24
Discharge, definition of..... 22
Discharge measurements at miscellaneous sites.. 272
Discontinued continuous Water-Quality stations. 33
Discontinued gaging stations..... 32
Dissolved, definition of..... 22
Dissolved-solids concentration, definition of.. 22
DOE - Forked River observation well..... 322
DOE - Sea Girt observation well..... 311
Dover, Rockaway River at Warren Street, at..... 266
Downstream order and system..... 12
Drainage area, definition of..... 22
Drainage basin, definition of..... 22
Dry mass, definition of..... 21
Duck Pond Run near Princeton Junction..... 269
Dundee Canal, miscellaneous measurements..... 279

East Creek at North Centerville..... 276
Echo Lake.....121,122
Elizabeth River at Ursino Lake at Elizabeth.... 124
Elizabethtown Water Company, diversions..... 222
Elmwood Park, Fleischer Brook at Market Street at..... 267
Englewood, Metzler Brook at..... 266
English Creek near Scullville..... 277
Englishtown, Barclay Brook near..... 276
Matchaponix Brook near..... 275
McGelliards Brook at..... 275
Milford Brook near..... 275
Explanation of the Records..... 12

FAA-TW Pomona observation well..... 292
Fair Lawn, Saddle River at..... 113
Far Hills, North Branch Raritan River near..... 161
Farmingdale, Mingamahone Brook at..... 270
Farrington Dam, Lawrence Brook at..... 212
Fecal coliform bacteria, definition of..... 21
Fecal streptococcal bacteria, definition of.... 21
Fischer observation well..... 305
Fleischer Brook at Market Street at Elmwood Park 267
Flemington, Neshanic River near..... 273
Walnut Brook near..... 268
Folsom, Great Egg Harbor River at..... 262
Forsgate 3 observation well..... 302

PAGE

Forsgate 4 observation well..... 303
Fourmile Branch at New Brooklyn..... 271
Franklin, Wallkill River at..... 42,272
Ft. Monmouth 1-NCO observation well..... 313

Gage height, definition of..... 22
Gaging station, definition of..... 22
  Records..... 42
Galen Hall observation well..... 290
Georgia, Manasquan River near..... 270
Glen Gardner, Spruce Run at..... 141
  Spruce Run near..... 142
Glenmoore, Stony Brook at.....269,274
Gloucester County, ground water levels..... 301
  ground-water quality..... 337
Gloucester County Water-table Network..... 301
Great Channel at Stone Harbor..... 286
Great Egg Harbor Bay at Ocean City..... 286
Great Egg Harbor River at Folsom..... 262
  at Weymouth..... 263
  miscellaneous measurements..... 284
  near Blue Anchor..... 260
  near Sicklerville..... 258
Great Egg Harbor River basin, crest-stage
    partial-record stations in..... 271
  Discharge measurements at low-flow partial-
    record stations in..... 277
Green algae, definition of..... 24
Green Brook at Plainfield..... 270
  at Seeley Mills..... 209
Green Pond Brook at Picatinny Arsenal..... 65
  at Wharton..... 67
  below Picatinny Lake, at Picatinny Arsenal.. 66
Green Pond TW 5 observation well..... 319
Greenwood Lake.....121,122
Ground-water level records..... 288
Ground-water levels, explanation of records.... 17
  Data collection and computation..... 17
  Data Presentation..... 18
Ground-water quality, explanation of records... 18
  Data collection and computation..... 18
  Data presentation..... 18
Ground-water quality records..... 333
Grovers Mill, Bear Brook at Route 571 near..... 269
  Millstone River at..... 189
  Millstone River at Southfield Road near..... 268

Hackensack River at New Milford..... 55
  at Rivervale..... 51
  at West Nyack, NY..... 50
Hackensack River basin, diversions..... 57
  Elevations, reservoir and lake..... 56
  Maximum discharge at crest-stage partial-
    record stations..... 266
  Reservoirs in..... 56
Hackensack Water Co., diversions..... 57,123
Hamden Pumping Station, diversions..... 222
Hammonton Creek at Wescoatville..... 243
  miscellaneous measurements..... 284
Hanover, Passaic River at..... 272
Hardness, definition of..... 22
Harrisville, Oswego River at..... 252
Hart Brook, miscellaneous measurements..... 282
  near Pennington..... 269
Head of River, Tuckahoe River at.....265,286
High Bridge, South Branch Raritan River at Arch
  Street at..... 139
  South Branch Raritan River near..... 138
High tide, definition of..... 22
Hohokus Brook at Allendale..... 267
  at Ho-Ho-Kus..... 112
Holland Brook at Readington..... 158
Honey Branch, miscellaneous measurements..... 282
  near Rosedale..... 274
Honey Branch tributary, miscellaneous
  measurements..... 282
Hopewell, Beden Brook near..... 275
Howell Twp. 1 observation well..... 306
Howell Twp. 2 observation well..... 307
Howell Twp. 3 observation well..... 308
Howell Twp. 4 observation well..... 309
Howell Twp. 5 observation well..... 310
Hudson River basin, discharge measurements at
    low flow sites..... 272
Hunterdon County, ground-water quality..... 341

PAGE

Hydrologic Bench-Mark Network..... 12
Hydrologic bench-mark station, definition of... 22
Hydrologic conditions, summary of..... 1
Hydrologic station records..... 42
Hydrologic unit, definition of..... 22

Identifying estimated daily discharge..... 15
Instantaneous discharge, definition of..... 22
Introduction..... 1
Ironia, Lamington (Black) River near..... 165
Island Beach 1 observation well..... 320
Island Beach 3 observation well..... 321

Jenkins, West Branch Wading River near..... 249
Jersey City, diversion..... 123
Jobs Point observation well..... 288
Jumping Brook near Neptune City..... 228

Keansburg, Waackaack Creek at Middle Road near. 276
Keyport Borough WD 4 observation well..... 315
Keyport, Luppatatong Creek at..... 285
Kingston, Millstone River at..... 196

Lakes and reservoirs:
  Boonton Reservoir.....120,121
  Canistear Reservoir.....120,121
  Charlotteburg Reservoir.....120,122
  Clinton Reservoir.....120,122
  De Forest Lake..... 56
  Echo Lake.....121,122
  Farrington Reservoir..... 212
  Greenwood Lake.....121,122
  Monksville Reservoir.....121,122
  Oak Ridge Reservoir.....120,122
  Oradell Reservoir..... 56
  Round Valley Reservoir..... 221
  Splitrock Reservoir.....120,121
  Spruce Run Reservoir..... 221
  Swimming River Reservoir..... 223
  Tappan, Lake..... 56
  Wanaque Reservoir.....121,122
  Woodcliff Lake..... 56
Lakewood, North Branch Metedeconk River near... 235
Lamington (Black) River at Burnt Mills..... 176
  miscellaneous measurements..... 270
  near Ironia..... 165
  near Pottersville..... 167
Land surface datum, definition of..... 22
Latitude - Longitude system..... 12
Lawrence Brook at Farrington Dam..... 204
Little Bear Brook at Penns Neck..... 269
Little Egg Harbor at Beach Haven..... 285
Little Falls, Passaic River at..... 106
Locust Corner, Bear Brook at Route 535 near.... 268
Lodi, Saddle River at..... 115
Low-flow partial-record stations..... 272
Low tide, definition of..... 22
Luppatatong Creek at Keyport..... 285

Macopin Intake Dam, Pequannock River at..... 83
Macs Brook at Somerville..... 182
Mahwah, Ramapo River near..... 92
Mahwah River near Suffern, NY..... 91
Manahawkin Bay near Manahawkin..... 285
Manalapan Brook at Bridge Street at Spotswood.. 218
  at Federal Road near Manalapan..... 215
  at Spotswood..... 217
  miscellaneous measurements..... 284
  near Manalapan..... 276
Manalapan, Millstone River near.....187,274
Manasquan River at Allenwood..... 271
  at Squankum..... 234
  near Georgia..... 270
Manasquan River basin, crest-stage partial-
    record stations in..... 270
  Discharge measurements at miscellaneous sites 284
Mantoloking 6 observation well..... 326
Manville, Raritan River at..... 183
Marlboro, Big Brook near..... 270
Marlboro 1 observation well..... 314
Marsh Bog Brook at Squankum..... 232
  miscellaneous measurements..... 284
Martinsville, West Branch Middle Brook near.... 206
Matawan, Wilkson Creek at Church Street at..... 276
Matchaponix Brook near Englishtown..... 275

PAGE

Matchaponix Brook at Mundy Avenue at Spotswood.. 213
at Spotswood..... 276
miscellaneous measurements..... 283
Maxwell, West Branch Wading River at..... 250
McGelliards Brook at Englishtown..... 275
Mean concentration, definition of..... 25
Mean discharge, definition of..... 22
Mean high or low tide, definition of..... 22
Measuring point..... 22
Mercer County, ground-water quality..... 344
Metamorphic stage, definition of..... 23
Metedeconk River, North Branch, near Lakewood.. 235
Methylene blue active substance, definition of. 23
Metzler Brook at Englewood..... 266
Micrograms per gram, definition of..... 23
Micrograms per liter, definition of..... 23
Middle Brook, West Branch, near Martinsville... 206
Middlebush, Six Mile Run near..... 270
Middlesex, Ambrose Brook at..... 275
Middlesex County, ground-water levels..... 302
ground-water quality..... 346
Middle Valley, South Branch Raritan River at...136,273
Milford Brook at Englishtown..... 275
Mill Branch near Northfield..... 277
Milligrams per liter, definition of..... 23
Millington, Dead River near..... 272
Passaic River near..... 58
Millstone River at Blackwells Mills..... 201
at Carnegie Lake at Princeton..... 195
at Grovers Mill..... 189
at Kingston..... 196
at Southfield Road near Grovers Mill..... 268
at Plainsboro..... 191
at Weston..... 202
miscellaneous measurements.....280,281
near Manalapan.....187,274
Mingamahone Brook at Farmingdale..... 270
Miscellaneous sites, discharge measurement at.. 278
Molly Ann Brook at North Haledon..... 267
Monksville Reservoir.....121,122
Monmouth County, ground-water levels..... 306
ground-water quality..... 349
Morrell observation well..... 304
Morris County, ground-water levels..... 316
ground-water quality..... 350
Morristown, Whippany River at..... 74
Morses Mill Stream at Port Republic..... 277
Mulhockaway Creek at Van Syckel..... 144
Mullica River at outlet of Atsion Lake
at Atsion..... 240
miscellaneous measurements..... 284
near Batsto..... 242
near Port Republic..... 285

National Geodetic Vertical Datum of 1929
(NGVD of 1929)..... 23
National stream-quality accounting network
(NASQUAN), definition of..... 12,23
National Trends Network..... 12,23
Natural substrate, definition of..... 25
Navesink River basin, crest-stage partial-
record in..... 270
Neptune City, Jumping Brook near..... 228
Shark River near..... 225
Neshanic River at Reaville..... 154
near Flemington..... 273
Newark, City of, diversions..... 123
New Brooklyn, Fourmile Branch at..... 271
New Brooklyn Park 1 observation well..... 296
New Brooklyn Park 2 observation well..... 297
New Brooklyn Park 3 observation well..... 298
New Gretna, East Branch Bass River near..... 255
New Milford, Hackensack River at..... 55
New Monmouth, Town Brook, at Church Street, at. 276
NJ-WRD well number..... 23
North Branch, North Branch Raritan River at.... 268
North Centerville, East Creek at..... 276
Northfield, Mill Creek near..... 277
North Haledon, Molly Ann Brook at..... 267
North Jersey District Water Supply Commission,
diversions..... 123
Numbering system for wells and miscellaneous
sites..... 11
Nyack, NY, diversions..... 57

Oakland, Pond Brook at..... 266
Oak Ridge Reservoir.....120,122
Ocean City, Great Egg Harbor Bay at..... 286
Ocean County, ground-water levels..... 320
ground-water quality..... 351
Oceanville 1 observation well..... 291
Old Bridge, South River at..... 220
Open or screened interval, definition of..... 23
Oradell Reservoir..... 56
Organic mass, definition of..... 21
Organism count/area, definition of..... 23
Organism count/volume, definition of..... 23
Organism, definition of..... 23
Osborn Mills, Passaic River at Outlet of
Osborn Pond at..... 272
Oswego River at Harrisville..... 252
Other records available..... 15

Packanack Lake, Pompton River at..... 102
Palmer Lake, miscellaneous measurements..... 282
Papakating Creek at Sussex..... 46
Parameter code..... 23
Partial-record stations, crest-stage..... 266
Definition of..... 23
Low-flow..... 272
Tidal Crest-stage..... 285
Particle size, definition of..... 23
classification..... 23
Pascack Brook at Westwood..... 54
Passaic County, ground-water quality..... 351
Passaic, Third River at..... 119
Passaic River at Little Falls..... 106
at Hanover..... 272
at Outlet of Osborn Pond at Osborn Mills.... 272
at Pine Brook..... 79
at Two Bridges..... 81,272
below Pompton River at Two Bridges..... 104
miscellaneous measurements.....278,279
near Bernardsville..... 266
near Chatham..... 61
near Millington..... 58
Passaic River basin, crest-stage partial-record
stations in..... 266
Discharge measurements at low-flow partial-
record stations in..... 272
Discharge measurements at miscellaneous
sites..... 278
Diversions..... 123
Gaging-station records in..... 58
Reservoirs in,..... 120
Elevation..... 121
Passaic Valley Water Commission, diversions.... 123
Peckman River, at Ozone Avenue at Verona..... 267
Pennington, Baldwin Creek at.....269,274
Hart Brook near..... 269
Stony Brook at..... 274
Penns Neck, Little Bear Brook at..... 269
Pequannock River at Macopin Intake Dam..... 83
Percent composition, definition of..... 24
Periphyton, definition of..... 24
Perth Amboy, Raritan River at..... 285
Pesticides, definition of..... 24
Peters Brook near Raritan..... 181
Phytoplankton, definition of..... 24
Picatinny Arsenal, Green Pond Brook at..... 65
Green Pond Brook below Picatinny Lake at.... 66
Picocurie, definition of..... 24
Pike Run at Belle Mead..... 200
Pine Brook at Clarks Mills..... 275
Pine Brook, Passaic River at..... 79
Rockaway River at..... 72,272
Whippany River near..... 77,272
Plainfield, Green Brook at..... 270
Plainsboro, Millstone River at..... 191
Plankton, definition of..... 24
Pleasant Mills, Batsto River at.....248,285
Pleasant Run at Centerville..... 274
Polychlorinated biphenyls, definition of..... 24
Pompton Lakes, Ramapo River at..... 96
Pompton Plains, Pompton River at..... 100
Pompton River at Packanack Lake..... 102
at Pompton Plains..... 100
at Two Bridges..... 273
Pond Brook at Oakland..... 266
Poricy Brook at Red Bank..... 277
Port Republic, Clarks Mills Stream at..... 277
Morses Mill Stream at..... 277
Mullica River near..... 285
Pottersville, Axle Brook near..... 171

	PAGE
Pottersville, Lamington (Black) River near	167
Upper Cold Brook near	170
Preakness (Signac) Brook near Preakness	267
Princeton Junction, Duck Pond Run near	269
Princeton, Millstone River at Carnegie Lake at	195
Stony Brook at	192
Publications, current NJ projects	18
techniques of water-resource investigations	31
Radiochemical program	12,24
Ragovin 2100 observation well	300
Rahway River at Rahway	132
Robinsons Branch, at Rahway	135
near Springfield	129
West Branch, at West Orange	127
miscellaneous measurements	280
Ramapo River at Pompton Lakes	96
at Suffern, NY	90
diversions	123
near Mahwah	92
Ramsey Brook at Allendale	267
Raritan, Peters Brook near	181
North Branch Raritan River near	178
Raritan River at	179
Raritan River at Manville	183
at Perth Amboy	285
at Queens Bridge at Bound Brook	207
below Calco Dam, at Bound Brook	205
miscellaneous measurements	280
North Banch, at Burnt Mills	163
miscellaneous measurements	280
near Chester	159,274
near Far Hills	161
at North Branch	268
near Raritan	178
South Branch at Arch Street at High Bridge	139
at Middle Valley	136,273
at Stanton	150
at Three Bridges	152
miscellaneous measurements	280
near High Bridge	138
Raritan River basin, crest-stage partial-record stations in	268
Discharge measurements at low-flow partial-record stations in	273
Discharge measurements at miscellaneous site	280
Diversions	222
Reservoirs in	221
Elevation	221
Readington, Holland Brook at	158
Reaville, Back Brook near	273
Neshanic River at	154
Records collected by other agencies	1
Records of stage and water discharge	13
Recoverable from bottom material, definition of	24
Red Bank, Poricy Brook at	277
Swimming River near	223
References, selected	26
Remark Codes for water-quality data	17
Reservoirs: See Lakes and reservoirs	
Return period, definition of	24
Ridgewood, Saddle River at	111
Ringoes, Back Brook tributary near	157
Third Neshanic River near	273
Ringwood Creek near Wanaque	85
River mile, definition of	24
Rivervale, Hackensack River at	51
Robinsons Branch Rahway River at Rahway	135
Rockaway Creek at Whitehouse	174,268,274
South Branch, at Whitehouse	172,268
Rockaway River above Reservoir, at Boonton	68
at Berkshire Valley	64
at Warren Street at Dover	266
at Pine Brook	72,272
below Reservoir, at Boonton	70
miscellaneous measurements	278,279
Rock Brook near Blawenburg	269,274
miscellaneous measurements	280,283
Rocky Hill, Beden Brook near	198,270,275
Rosedale, Honey Branch near	274
Round Valley Reservoir data	221
Royce Brook tributary near Belle Mead	204
Runoff in inches, definition of	24
Saddle River at Lodi	115
at Fair Lawn	113
Saddle River at Ridgewood	111
at Upper Saddle River	267
miscellaneous measurements	279
Scholler 1 observation well	293
Screened interval, definition of	24
Scullville, English Creek near	277
Secondary wells	332
Second River at Belleville	267
Sediment	16
Sediment, definition of	24
Seeley Mills, Green Brook at	209
Shark River near Neptune City	225
Sicklerville, Great Egg Harbor River near	258
Singac Brook at Singac	273
Six Mile Run near Middlebush	270
Sodium-adsorption-ratio, definition of	25
Solute, definition of	25
Somerset County, ground-water quality	353
Somerville, Macs Brook at	182
South River at Old Bridge	220
Special networks and programs	12
Specific conductance, definition of	25
Splitrock Reservoir	120,121
Spotswood, Manalapan Brook at Bridge Street at	218
Manalapan Brook at	217
Matchaponix Brook at	276
at Mundy Avenue, at	213
Springfield, Rahway River near	129
Spring Valley Water Company, diversions	57
Spruce Run at Clinton	147
at Glen Gardner	141
miscellaneous measurements	280
near Glen Gardner	142
Spruce Run Reservoir	221
Squankum, Manasquan River at	234
Marsh Bog Brook at	232
Stafford Forge, Westecunk Creek at	239
Stage and water-discharge records, explanation of	13
Stage-discharge relation, definition of	25
Stanton, South Branch Raritan River at	150
Station Identification numbers	12
Stone Harbor, Great Channel at	286
Stony Brook at Clarksville	275
at Glenmoore	269,274
at Pennington	274
at Princeton	192
at Watchung	211
East Branch, at Best Lake at Watchung	210
miscellaneous measurements	281,282
Stony Brook Branch, miscellaneous measurement	281
Stony Brook tributaries, miscellaneous measurements	281,282
Streamflow, definition of	25
Streamflow, summary of	1
Substrate, definition of	25
Suffern, NY, Mahwah River near	91
Ramapo River at	90
Surface area, definition of	25
Surface-Water Quality,	15
Arrangement	15
Classification	15
Data Presentation	16
Laboratory measurements	16
On-site measurements	15
Sediment	16
Water-temperature	16
Surface-Water Quality records	42
Surficial bed material, definition of	25
Suspended, recoverable, definition of	25
Suspended-sediment concentration, definition of	25
Suspended sediment, definition of	25
Suspended-sediment discharge, definition of	25
Suspended-sediment load, definition of	25
Suspended, total, definition of	26
Sussex, Papakating Creek at	46
Wallkill River near	44
Swimming River near Red Bank	223
Tappan, Lake	56
Taxonomy, definition of	26
Tenakill Brook at Closter	266
Ten Mile Lock, diversions	222
Terms, definition of	20
Thermograph, definition of	26
Third Neshanic River near Ringoes	273

	PAGE
Third River at Passaic	119
Three Bridges, South Branch Raritan River at	152
Tidal crest-stage stations	285
Time weighted average, definition of	26
Toms River Chemical 84 observation well	325
Toms River near Toms River	236
Toms River TW 2 observation well	324
Tons per acre-foot, definition of	26
Tons per day, definition of	26
Total coliform bacteria, definition of	21
Total, definition of	26
Total discharge, definition of	26
Total organism count, definition of	23
Total recoverable, definition of	26
Town Brook, at Church Street, at New Monmouth	276
Tritium Network, definition of	12,26
Troy Meadows 1 observation well	317
Tuckahoe River at Head of River	265,286
Two Bridges, Passaic River at	81,272
Passaic River below Pompton River at	104
Pompton River at	273
Union County, ground-water levels	331
ground-water quality	354
Union County Park observation well	331
Upper Cold Brook near Pottersville	170
Upper Saddle River, Saddle River at	267
Ursino Lake, Elizabeth River at, at Elizabeth	124
Van Syckel, Mulhockaway Creek at	144
Vernon, Black Creek near	48
Verona, Peckman River at Ozone Avenue at	267
Waackaack Creek, at Middle Road near Keansburg	276
Wading River, West Branch, at Maxwell	250
near Jenkins	249
Wallkill River at Franklin	42,272
miscellaneous measurements	278
near Sussex	44
Walnut Brook near Flemington	268
Wanaque Reservoir	121,122
Wanaque Reservoir diversions	123
Wanaque, Ringwood Creek near	85
Wanaque River at Armstrong	84
at Wanaque	86
Watchung, East Branch Stony Brook at Best Lake at	210
Stony Brook at	211
Water Quality Records, explanation of	15
Water Quality, summary of	2
Water-Related Reports for New Jersey completed by the Geological Survey during 1987-88	19
Water-table, definition of	26
Water Year, definition of	26
WATSTORE Data, access to	20
WDR, definition of	26
Weighted average, definition of	26
Wescoatville, Hammonton Creek at	243
Westecunk Creek at Stafford Forge	239
West Nyack, NY, Hackensack River at	50
diversions	57
Weston, Millstone River at	202
West Orange, West Branch Rahway River at	127
Westwood, Pascack Brook at	
Wet mass, definition of	21
Weymouth, Great Egg Harbor River at	263
Wharton, Green Pond Brook at	67
Whippany River at Morristown	74
near Pine Brook	77,272
Whitehouse, Rockaway Creek at	174,268,274
Whitehouse Station, South Branch Rockaway Creek at	172, 268
Wilkson Creek at Church Street, at Matawan	276
Winslow WC 5 observation well	299
Woodcliff Lake	56
WSP, definition of	26
Zooplankton, definition of	24

*U.S. GOVERNMENT PRINTING OFFICE:1989- 614-607

October 1, 1978

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
	Length	
inches (in)	2.54×10^{1}	millimeters (mm)
	2.54×10^{-2}	meters (m)
feet (ft)	3.048×10^{-1}	meters (m)
miles (mi)	1.609×10^{0}	kilometers (km)
	Area	
acres	4.047×10^{3}	square meters (m^2)
	4.047×10^{-1}	square hectometers (hm^2)
	4.047×10^{-3}	square kilometers (km^2)
square miles (mi^2)	2.590×10^{0}	square kilometers (km^2)
	Volume	
gallons (gal)	3.785×10^{0}	liters (L)
	3.785×10^{0}	cubic decimeters (dm^3)
	3.785×10^{-3}	cubic meters (m^3)
million gallons	3.785×10^{3}	cubic meters (m^3)
	3.785×10^{-3}	cubic hectometers (hm^3)
cubic feet (ft^3)	2.832×10^{1}	cubic decimeters (dm^3)
	2.832×10^{-2}	cubic meters (m^3)
cfs-days	2.447×10^{3}	cubic meters (m^3)
	2.447×10^{-3}	cubic hectometers (hm^3)
acre-feet (acre-ft)	1.233×10^{3}	cubic meters (m^3)
	1.233×10^{-3}	cubic hectometers (hm^3)
	1.233×10^{-6}	cubic kilometers (km^3)
	Flow	
cubic feet per second (ft^3/s)	2.832×10^{1}	liters per second (L/s)
	2.832×10^{1}	cubic decimeters per second (dm^3/s)
	2.832×10^{-2}	cubic meters per second (m^3/s)
gallons per minute (gal/min)	6.309×10^{-2}	liters per second (L/s)
	6.309×10^{-2}	cubic decimeters per second (dm^3/s)
	6.309×10^{-5}	cubic meters per second (m^3/s)
million gallons per day	4.381×10^{1}	cubic decimeters per second (dm^3/s)
	4.381×10^{-2}	cubic meters per second (m^3/s)
	Mass	
tons (short)	9.072×10^{-1}	megagrams (Mg) or metric tons

USGS LIBRARY - RESTON
3 1818 00453190 9

U.S. DEPARTMENT OF THE INTERIOR
Geological Survey, Mountain View Office Park
810 Bear Tavern Road, Suite 206
West Trenton, NJ 08628

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE $300

SPECIAL 4TH CLASS BOOK RATE