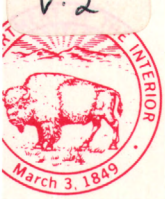
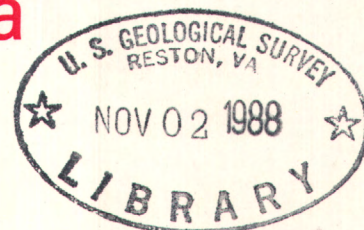


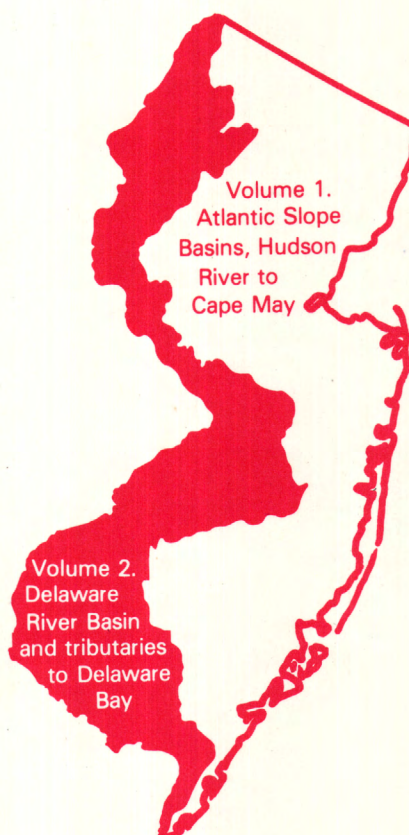
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Water Resources Data New Jersey Water Year 1987



Volume 2. Delaware River Basin and tributaries
to Delaware Bay



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT NJ-87-2
Prepared in cooperation with the New Jersey Department of
Environmental Protection and with other agencies

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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 1987". 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 and summaries of tidal crest elevations in the New Jersey estuaries and intracoastal waterways.

This year, items under the heading "Special Networks and Programs" have been modified to include identification of District stations which are part of each network. Also, a new table using frequency symbols has been included in Summary of Hydrologic Conditions as "Frequency of Detection of Bottom Materials at New Jersey streams for water years 1976-1987". There is also a new graph of monthly precipitation.

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-87-1 (for volume 1) and NJ-87-2 (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,

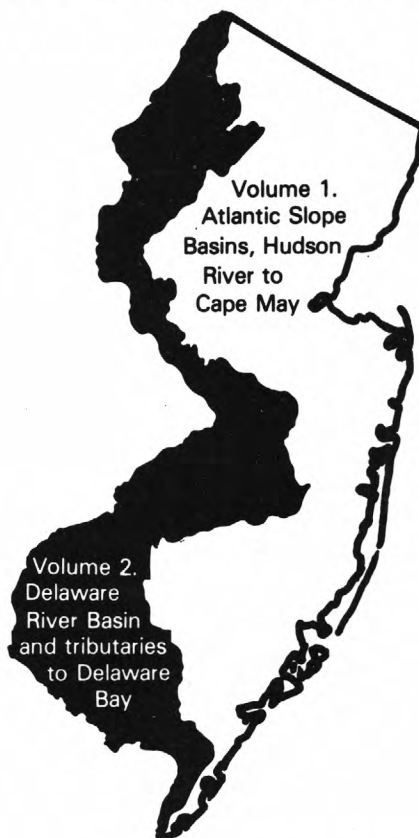
William R. Bauersfeld, Chief
Hydrologic Data Assessment Program



Water Resources Data New Jersey Water Year 1987

Volume 2. Delaware River Basin and tributaries to Delaware Bay

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



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT NJ-87-2

Prepared in cooperation with the New Jersey
Department of Environmental Protection
and with other agencies

UNITED STATES DEPARTMENT OF THE INTERIOR

DONALD PAUL HODEL, Secretary

GEOLOGICAL SURVEY

Dallas L. Peck, Director

For information on the water program in New Jersey write to

District Chief, Water Resources Division
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810 Bear Tavern Road, Suite 206
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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

K.L. Laubach 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	E. Rodgers
J.P. Campbell	J.F. Dudek	R.D. Sachs
G.L. Centinaro	C.E. Gurney	F.L. Schaefer
R.S. Cole	R.G. Reiser	

This report was prepared in cooperation with the State of New Jersey and with other agencies under the general supervision of Mark A. Ayers, 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.

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16. Abstract (Limit: 200 words) Water Resources data for the 1987 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 23 gaging stations; tide summaries for 3 stations; stage and contents for 18 lakes and reservoirs; water quality for 32 surface-water sites and 114 wells; and water levels for 24 observation wells. Also included are data for 27 crest-stage partial-record stations, 2 tidal crest-stage gages and 19 low-flow partial-record stations. Additional water data were collected at various 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			
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[Letter after station name designates type of data: (d) discharge, (c) chemical, (s) sediment, (m) microbiological, (t) water temperature, (e) elevation, gage height or contents, (b) biological]

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WATER RESOURCES DATA - NEW JERSEY, 1987

INTRODUCTION

The Water Resources Division of the U.S. Geological Survey, in cooperation with State agencies, obtains a large amount of data pertaining to the water resources of New Jersey each year. These data, accumulated during many water years, constitute a valuable data base for 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 23 gaging stations; tide summaries at 3 gaging stations; stage and content at 18 lakes and reservoirs; water quality at 32 surface-water stations and 114 wells; and water levels at 24 observation wells. Records included for ground-water levels are only a part of those obtained during the year. Also included are data for 27 crest-stage partial-record stations and stage only at 2 tidal crest-stage gages. Locations of these sites are shown on figures 10, 11, 12, and 13. Additional water data were collected at various sites not involved in the systematic data-collection program. Discharge measurements were made at 19 low-flow partial-record stations. Miscellaneous data were collected at 21 measuring 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-87-2." For archiving and general distribution, the reports for 1971-74 water years also are identified as water-data reports. These water-data reports are for sale in paper copy or in microfiche by the National Technical Information, Service, U.S. Department of Commerce, Springfield, VA 22161.

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, Richard T. Dewling, Commissioner.
Division of Water Resources, George McCann, 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, Robert V. Scoltino, 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.; Commonwealth Water Co.; Elizabethown Water Co.; Ewing-Lawrence Sewerage Authority; Hackensack Water Co.; New Jersey-American Water Company (formerly Monmouth Consolidated 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 1987 water year was above normal throughout the State. Precipitation ranged from 63.3 inches (149 percent of normal), at Trenton to 48.08 inches (115 percent of normal), at Atlantic City. Figure 3 shows monthly precipitation compared with a 30-year mean. Reservoir contents were above average for most of the year and above spillway elevations from March through May.

Water year 1987 began with streamflow below normal, ranging from 86 percent of normal in the north to 61 percent of normal in the south. Increased streamflow began in November when very high precipitation (262 percent in Trenton to 135 percent in Atlantic City) was recorded and above average streamflow resulted through the end of December. During the winter months, streamflow was about average. Storms on April 1, 4, 5 caused up to 4 to 5 inches of precipitation in northern New Jersey. The stream runoff reflected this and the peak discharge for the year in this area was recorded. Streamflow returned to normal through August. Some severe summer storms were recorded. On July 3, in Hightstown, 3.98 in. fell in a 24-hour period; on August 6, Woodstown recorded 3.56 in.; and on September 14, Canestear Reservoir reported 5.90 in. Precipitation in July, August, and September was slightly above normal so that by the end of September, streamflow was above normal in the north (158 percent of normal) and below normal in the south (77 percent of normal). The Delaware River at Trenton recorded flow 382 percent of normal in September due mainly to the heavy precipitation in the headwaters.

Streamflow at the index station for northern New Jersey (South Branch Raritan River near High Bridge) averaged 133 ft³/s for the water year; this flow is 109 percent of the 69-year average. Streamflow at the index station for southern New Jersey (Great Egg Harbor River at Folsom) averaged 91.1 ft³/s for the water year; this flow is 106 percent of the 62-year average. The observed annual mean discharge of the Delaware River at Trenton was 22,820 ft³/s, which is 101 percent of normal. The Delaware River is highly regulated by reservoirs and diversions. The natural flow at Trenton (adjusted for upstream storage and diversion) was 111 percent of normal for the year. Figures 1 and 2 compare the monthly and annual discharges with past records at these index gaging stations.

Storage in the 13 major water-supply reservoirs in New Jersey increased from 55.6 billion gallons (74 percent of capacity) on October 1, 1986, to 70.5 billion gallons (93 percent of capacity) on September 30, 1987. Storage in Wanakee Reservoir increased from 20.8 billion gallons (75 percent of capacity) on October 1, 1986 to 23.5 billion gallons (85 percent of capacity) on September 30, 1987. Pumped storage in Round Valley Reservoir, the largest reservoir capacity in the State, increased from 50.6 billion gallons (92 percent of capacity) on October 1, 1986, to 53.1 billion gallons (96 percent of capacity) on September 30, 1987.

Water Quality

Periods of above-normal streamflow in northern portions of the State during November, December, April and September caused increased dilution of dissolved solids in many northern and central streams for those months. Dilution of dissolved solids is generally regarded as 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 especially apparent if monthly mean values of specific conductance, which are directly related to dissolved solids concentrations, for 1987 are compared with those for the period 1981-86. Figure 4 compares specific conductances for the Delaware River at Trenton, a large drainage in central New Jersey as well as parts of New York and Pennsylvania, for 1987, 1986, and the mean for 1981-86. The years' lowest instantaneous value, 82 μ S/cm, (microsiemens per centimeter at 25 degrees Celsius) occurred on April 6, caused by the storms of the first days of the month. The effects of above normal streamflows of November and December, as well as the effect of very high flows caused by heavy headwater precipitation in September, are apparent in difference between the 1987 values and the mean values for those months. Relatively high conductivities during February were probably caused by greater amounts of road salt reaching the river than in the past. Over the course of the entire year, periods of higher than normal dilution were balanced by periods of lower than normal dilution. The mean specific conductance for the Delaware River at Trenton was within 5 percent of the mean for the period 1981-86.

PCB's and a number of pesticides are commonly detected in New Jersey streams. Table 1 summarizes the frequency of detection of these compounds in bottom materials from 1976 through 1987. Detection limits for the period covered by Table 1 were 1.0 μ g/kg (micrograms per kilogram) for PCN, chlordane, and PCB, 1.0 TO 10 μ g/kg for toxaphene and 0.1 μ 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. Sites sampled more than once in a year were counted one time. The organochlorine compounds chlordane, dieldrin, DDT (and its decomposition products DDD and DDE), and PCB's are the most commonly detected ones in stream bottoms of the State. Chlordane and dieldrin have been widely used against soil pests as well as termites and ants. DDT was a common, low cost, broad spectrum pesticide, but its production and use in the United States has been banned since 1972. PCB's have been used in many industrial and manufactured items (for example lubricants, dyes, hydraulic fluids, and so forth), but their use has been restricted to environmentally closed systems (for example, electrical capacitors and transformers) since 1971. Common sources of PCB's include industrial and municipal effluents, landfills and other soil disposal sites, and incineration of material containing PCB's (Natural Resources Council, 1979). All of these organochlorine compounds are persistent in the environment and even though their use may be restricted or prohibited, they are still found in the surface and ground waters in the State.

Figure 5 summarizes the concentrations of chlordane, DDT, DDD, DDE, and PCB's, in New Jersey stream-bottom samples for 1976-87. Only those sites were included for which water-quality data are presented in either volume of this report. Figure 5 includes the percentage of samples collected in which at least one compound exceeded a concentration of 20 μ g/kg (micrograms per kilogram)--a level selected to include the highest 15 to 20 percent of values nationwide (Cragwall Jr., J. S. U.S. Geological Survey, written commun., 1977). Dieldrin, even though frequently detected, has not been included in Figure 5 because its concentration has been measured as greater than 20 μ g/kg

only three times in this period. Figure 6 shows the locations of sites sampled during the 1987 water year at which at least one of these compounds exceeded a concentration of 20 $\mu\text{g/kg}$.

The U.S. Geological Survey maintains a saltwater monitoring network 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. The results of the sampling of wells are presented in the quality of ground water tables in these reports. In the 1987 water year, 250 samples were collected in 8 counties.

Ground-Water Levels

Changes in ground-water levels during 1987 water year were determined from a statewide network of observation wells. Ground-water levels in water-table observation wells recovered somewhat from the previous two years. Water levels in most observation wells tapping the heavily stressed confined aquifers of the Coastal Plain continued to show long-term net declines. Increasing withdrawals of ground water contributed to these declines.

Monthly water levels for two water-table observation wells in 1987 are compared with monthly extremes and long-term averages in figure 7. The wells are the Bird well (NJ-WRD well no. 19-0002) in Hunterdon County and the Crammer well (NJ-WRD well no. 29-0486) in Ocean County. For further comparison, twenty-year hydrographs are presented in figure 8 for two Coastal Plain wells, one water table well (NJ-WRD well no. 05-0689) and one artesian well (NJ-WRD well no. 07-0413). In addition, multi-year hydrographs are provided with the 1987 water-level data for all the wells included in this report.

The water-table aquifers in the Coastal Plain were near record low levels at the beginning of the 1987 water year. Water-levels in most water-table observation wells recovered from January through June, then leveled off or declined slightly through the remainder of the water year. The most significant recoveries occurred in the Winslow 5 well (NJ-WRD well no. 07-0503) in Camden County and the Lebanon State Forest 23-D well (NJ-WRD well no. 05-0689) in Burlington County, where water-levels rose by 4.02 and 3.86 ft, respectively.

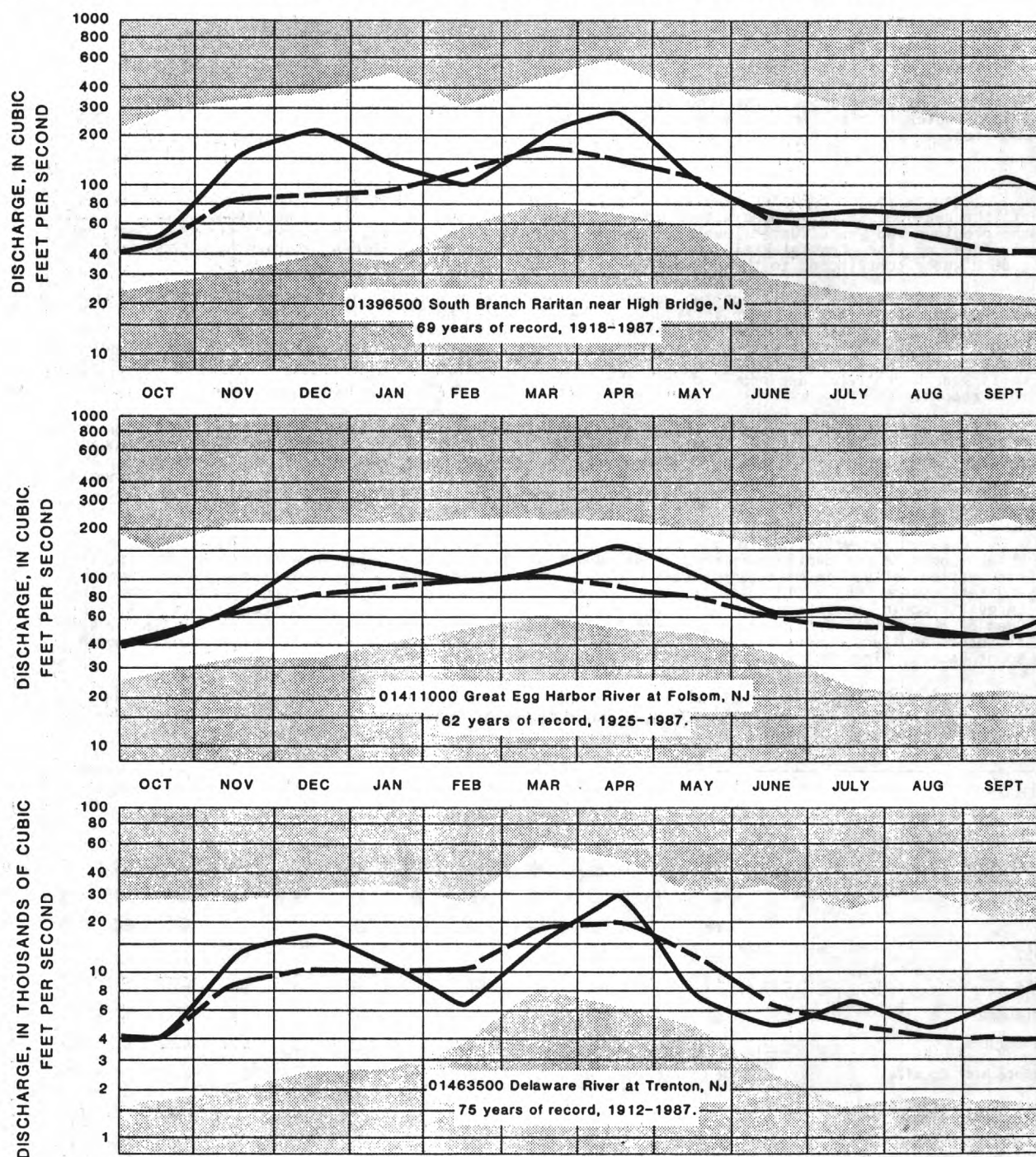
Observation wells tapping the heavily stressed Coastal Plain confined aquifers continued to show long-term net declines in many areas. New lows of record were set in 21 Coastal Plain artesian observation wells. The most significant water-level declines occurred in the Potomac-Raritan-Magothy aquifer system where 12 network observation wells exceeded their previous lows of record. The largest drop in water level in the Potomac-Raritan-Magothy aquifer system occurred in the Toms River Chem 84 observation well (NJ-WRD well no. 29-0085) where the previous record low was exceeded by 4.6 ft. Other aquifers, where previous lows of record were exceeded include the Englishtown, Wenonah-Mount Laurel, Piney Point and the Atlantic City 800-foot sand.

Table 1.--Frequency of detection of organochlorine and organophosphorus compounds in bottom materials of New Jersey streams, for water years, 1976-87.

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

Frequency: ○ (0 - 25%), ⊖ (26 - 50%), ⊖ (51 - 75%), ● (76 - 100%)

WATER RESOURCES DATA-NEW JERSEY, 1987



Unshaded area.--Indicates range between highest and lowest mean recorded for the month, prior to 1987 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 1987 water year.

Figure 1.--Monthly streamflow at key gaging stations.

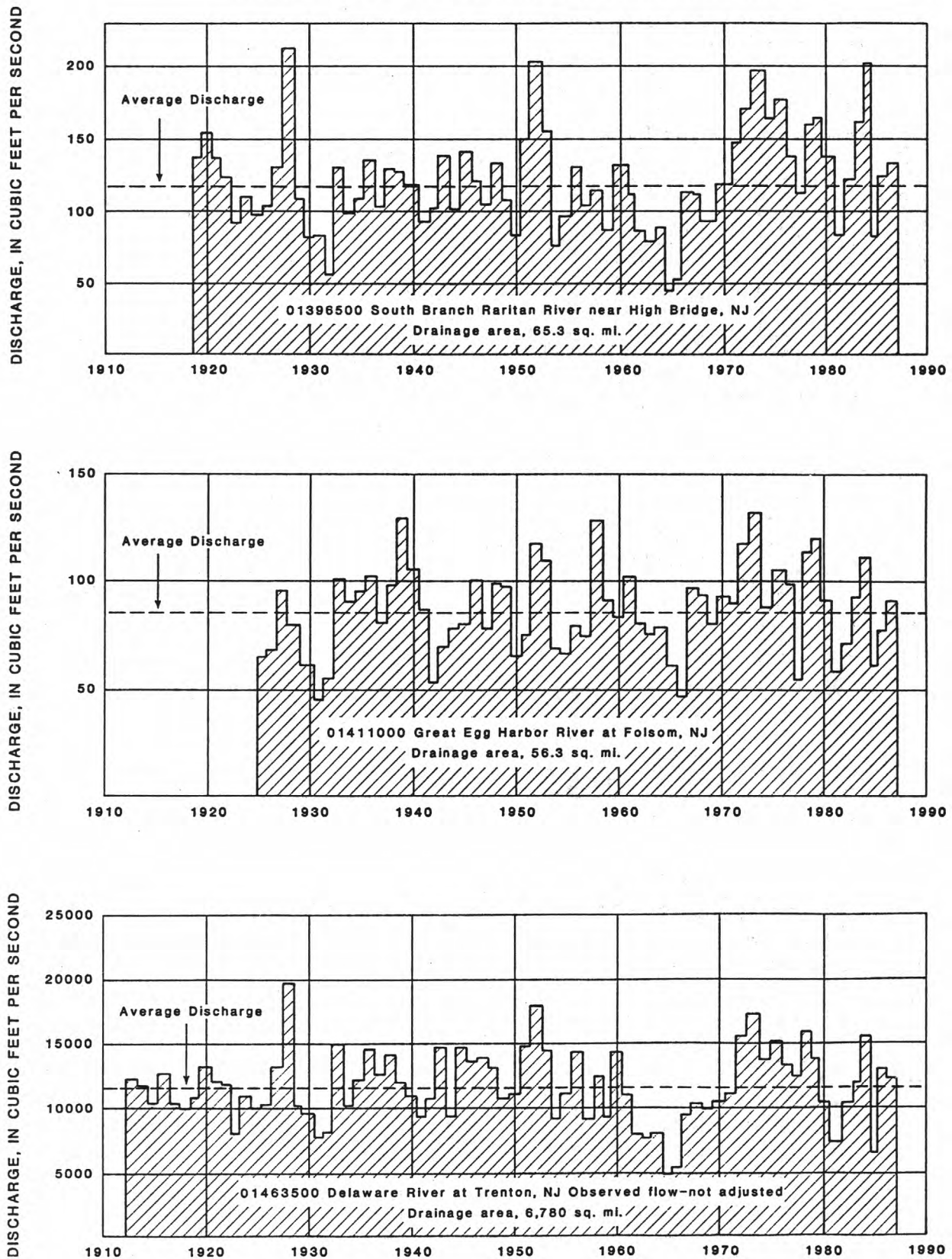


Figure 2.--Annual mean discharge at key gaging stations.

WATER RESOURCES DATA-NEW JERSEY, 1987

MONTHLY PRECIPITATION AT THREE SELECTED SITES

PERIOD OF RECORD 1951 - 1980

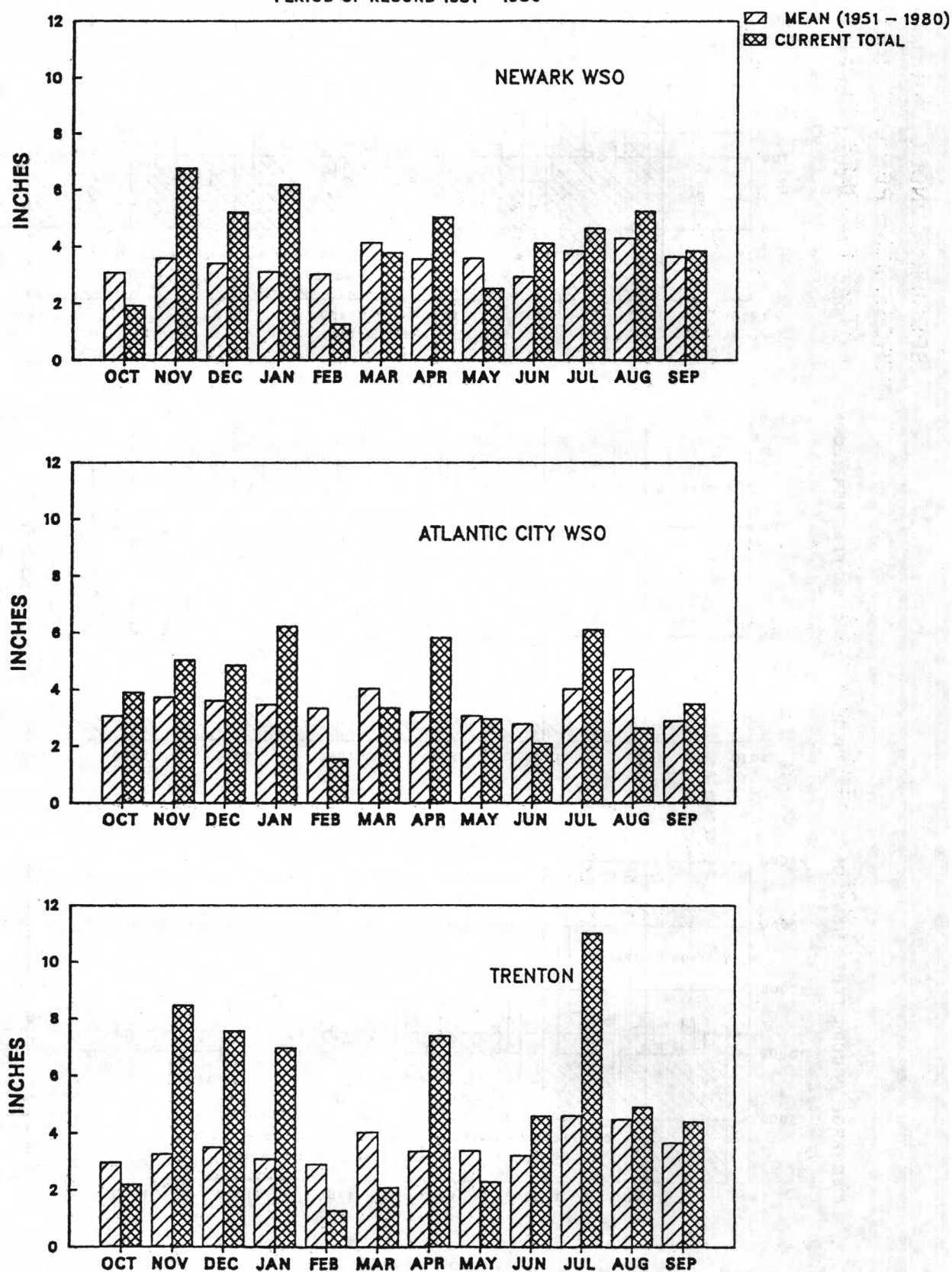


Figure 3.--Monthly precipitation at three National Weather Service locations.

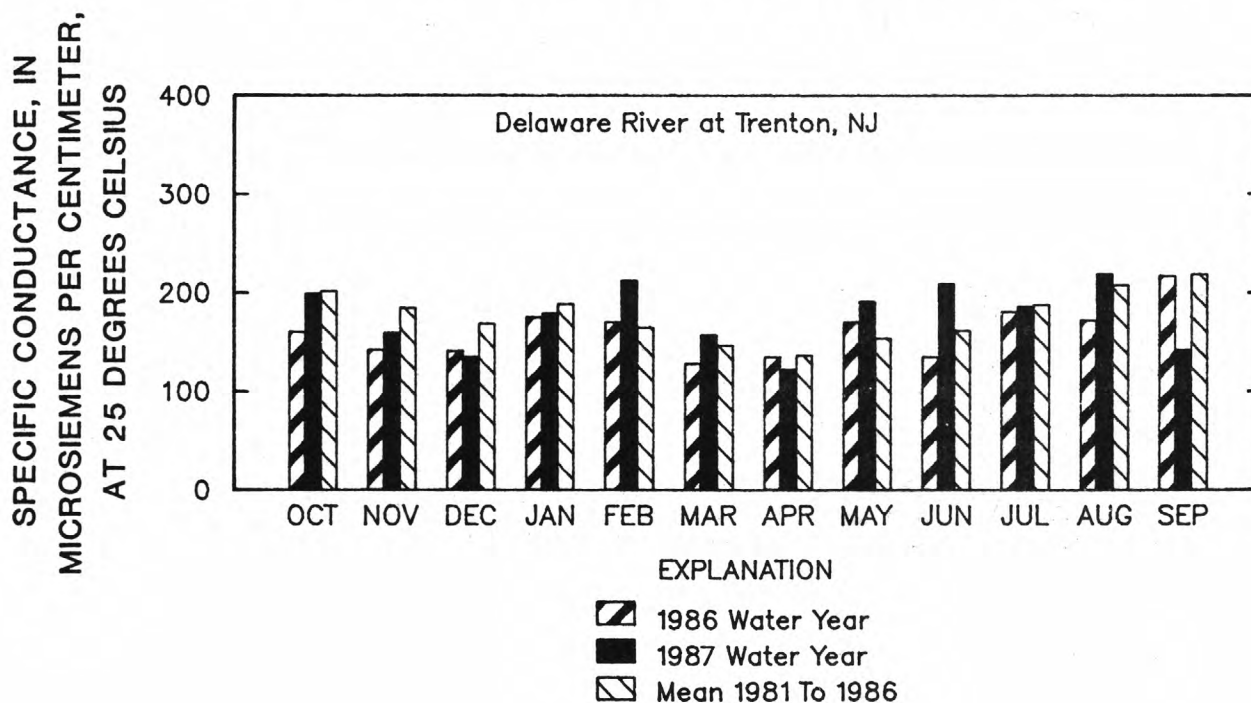


Figure 4.--Monthly mean specific conductance at Delaware River at Trenton.

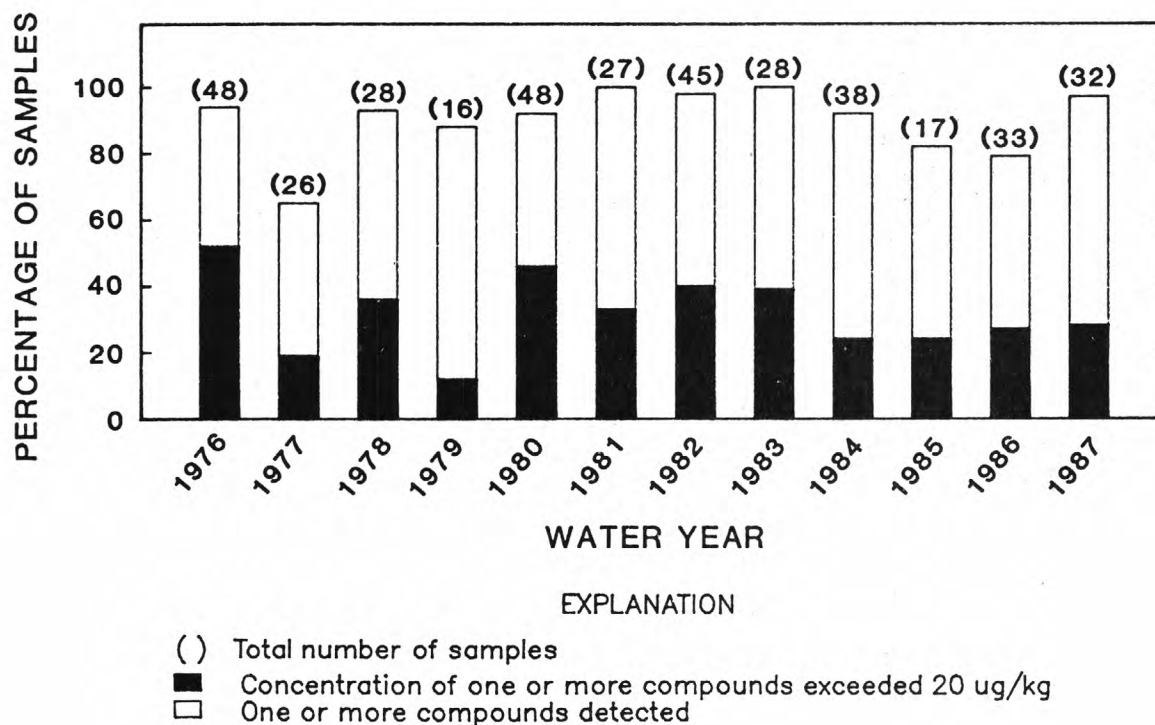


Figure 5.--Occurrence of chlordane, DDT, DDE, DDD and PCB's in stream bottom material.

WATER RESOURCES DATA-NEW JERSEY, 1987

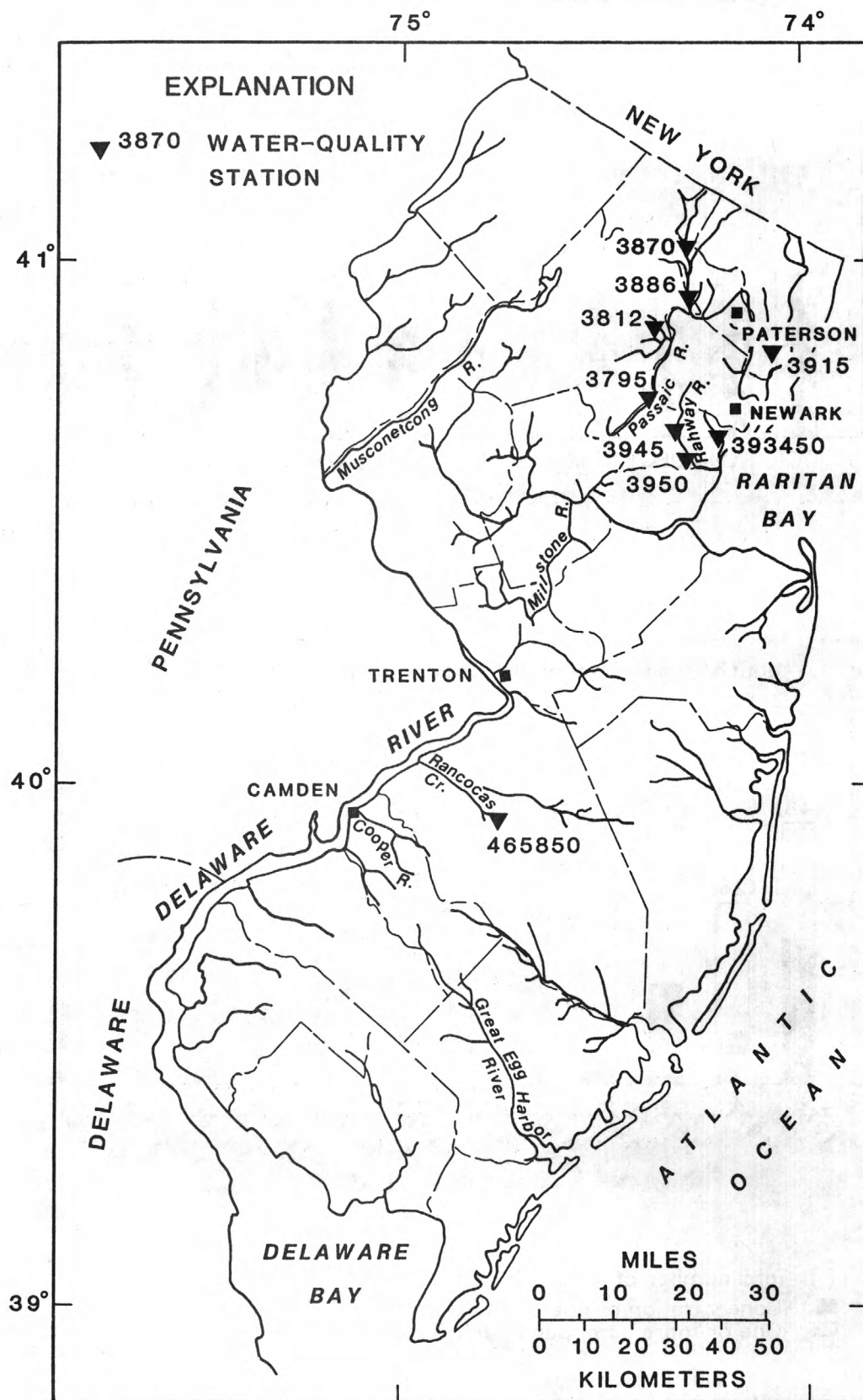
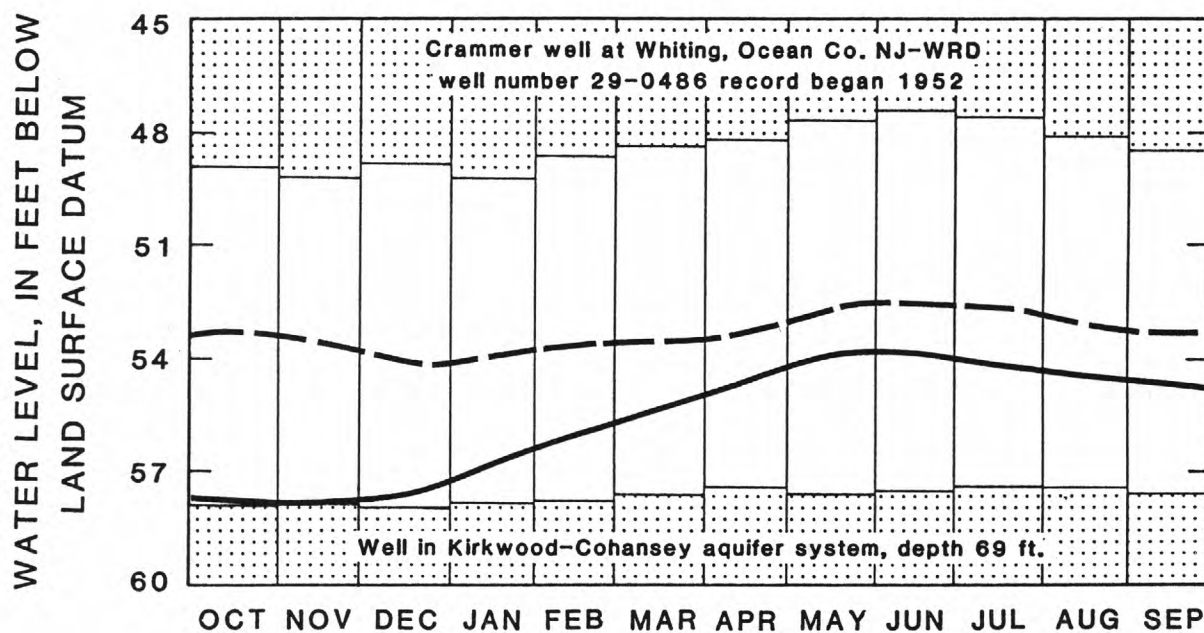
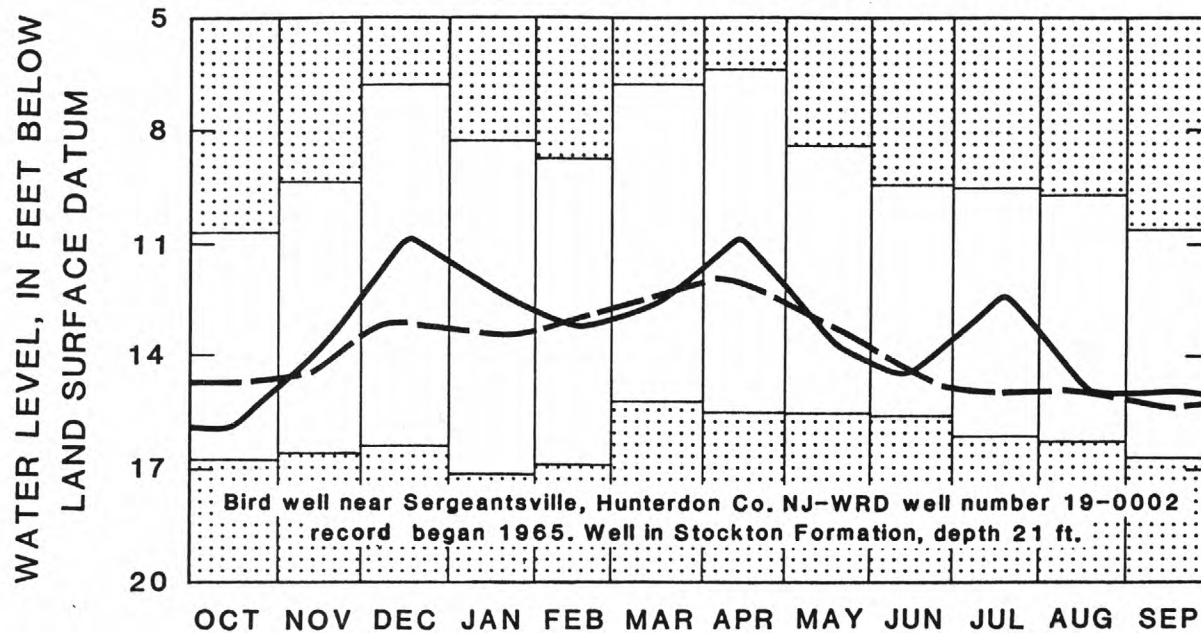


Figure 6.--Map showing locations of sites with concentrations of Chlordane, DDD, DDE, DDT, or PCB's in bottom material greater than 20 $\mu\text{g/kg}$, 1987.



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 7.--Monthly ground-water levels at key water-table observation wells.

WATER RESOURCES DATA-NEW JERSEY, 1987

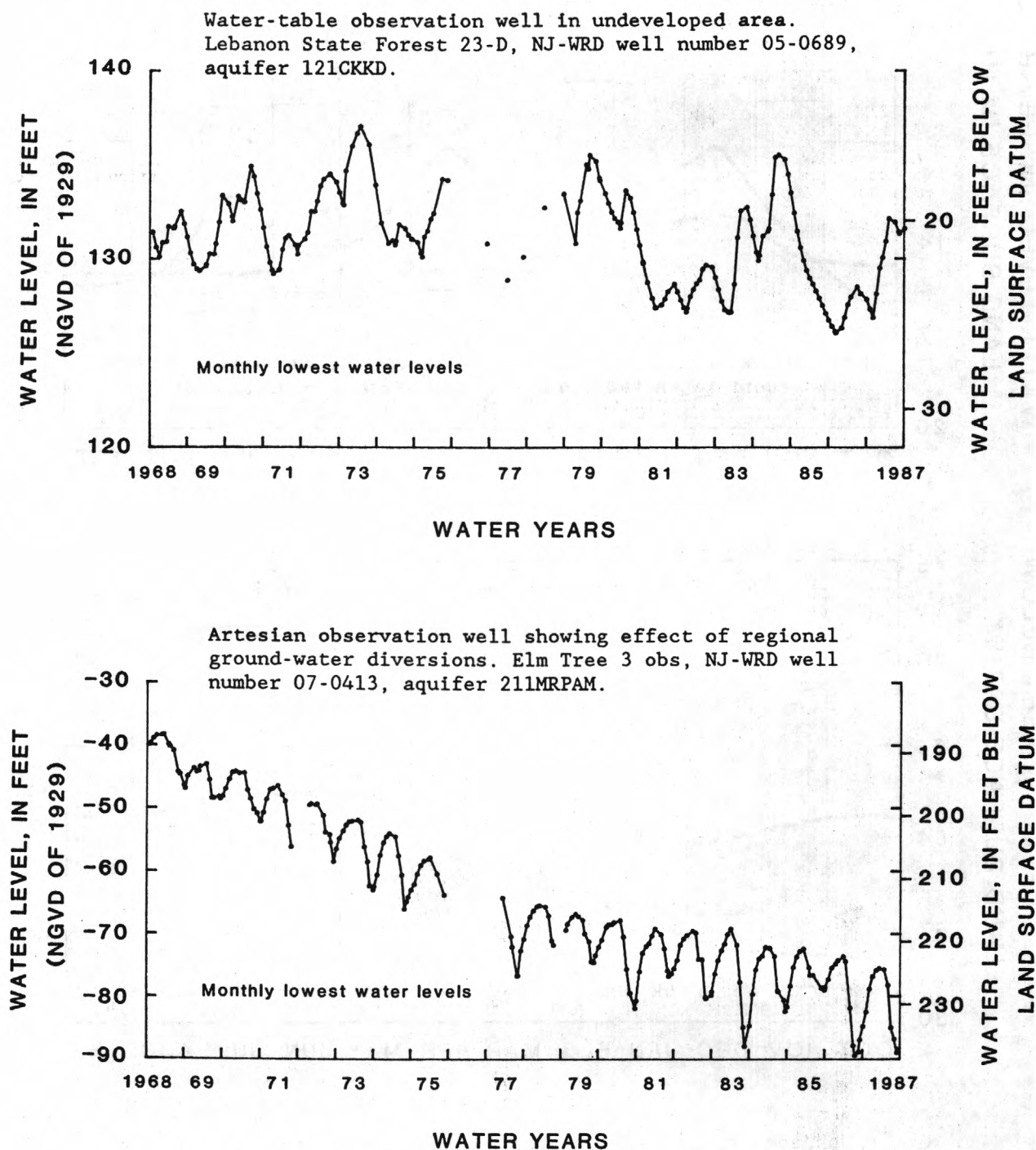


Figure 8.--Twenty-year hydrographs of one artesian and one water-table observation well.

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 organized 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 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. 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 1987 water year that began October 1, 1986, and ended September 30, 1987. A calendar of the water year is provided on the inside of the front cover. The records contain streamflow data, stage and content data for lakes and reservoirs, water-quality data for surface and ground water, and ground-water-level data. The locations of the stations and wells where the data were collected are shown in figures 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 indentation in the "List of Stations" in the front of this report. Each indentation represents one rank. This downstream order and system of indentation shows which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

The station-identification number is assigned according to downstream order. In assigning station numbers, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list made up of both types of stations. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The complete eight-digit number for each station, such as 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.)

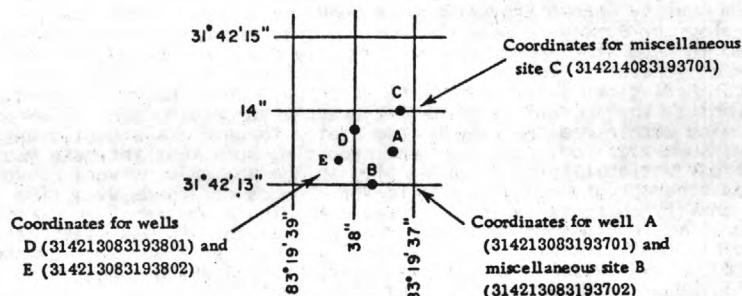


Figure 9.--System for numbering wells and miscellaneous sites (latitude and longitude).

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

or content, it is given separately. Similarly, the minimum is the instantaneous minimum discharge, unless otherwise qualified, and was determined and is reported in the same manner as the maximum.

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

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

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

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

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

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

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

Identifying Estimated Daily Discharge

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

Accuracy of the Records

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

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

Daily mean discharges in this report are given to the nearest hundredth of a cubic foot per second for values less than 1 ft³/s; to the nearest tenth between 1.0 and 10 ft³/s; to whole numbers between 10 and 1,000 ft³/s; and to 3 significant figures for more than 1,000 ft³/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 suspended-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 Measurements

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 preceding the tabular data. These descriptive headings give details regarding location, drainage area, period of record, type of data available, instrumentation, general remarks, cooperation, and extremes for parameters currently measured daily. Tables of chemical, physical, biological, radiochemical data, 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:

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

Records of Ground-Water Levels

Only water-level data from a national network of observation wells are given in this report. These data are intended to provide a sampling and historical record of water-level changes in the Nation's most important aquifers. Locations of the observation wells in this network in New Jersey are shown in figure 12.

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 measurements 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.

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.

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 at United States Environmental Protection Agency Superfund sites.

Geohydrology at Picatinny Arsenal in Morris County, New Jersey.

Geohydrology in the vicinity of a fusion test reactor, Plainsboro Township, Middlesex 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 withdrawals and use in South River area of New Jersey. *

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

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

Simulation of multilayer Coastal Plain aquifer system of New Jersey.

Somerset County flood monitoring system, phase 2.

Surface-water data collection network. *

Water-use data system for the Delaware River basin.

*In cooperation with New Jersey Department of Environmental Protection, Division of Water Resources.

WATER-RELATED REPORTS FOR NEW JERSEY COMPLETED BY THE GEOLOGICAL SURVEY DURING 1986-87

- 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 Report 86-4028, 62 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.
- 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., 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.
- Philips, M.O., and Schopp, R.D., 1986, Flood of April 5-7, 1984 in northeastern New Jersey: U.S. Geological Survey Open-File Report 86-423W, 112 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., 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, 1987, Water Resources data for New Jersey, 1987--part 1: U.S. Geological Survey Water-Data Report NJ-87-1, 335 p.
- U.S. Geological Survey, 1987, Water Resources data for New Jersey, 1987--part 2: U.S. Geological Survey Water-Data Report NJ-87-2, 197 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
122KRRDU	Rio Grande water-bearing zone of the Kirkwood Formation
122KRRDL	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)
231BRCK	Brunswick Group, undifferentiated
231PSSC	Passaic Formation of Olsen (1980)
231SCKN	Stockton Formation
400PCMB	Precambrian Erathem

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/m³), and periphyton and benthic organisms in grams per square mile (g/m²).

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 (ft³/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 [(ft³/s)/mi²] 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 (CaCO₃).

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

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

Milligrams per liter (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 (m²), acre, or hectare. Periphyton, benthic organisms, and macrophytes are expressed in these terms.

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

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

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

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

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

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

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

The 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 are commonly known as algae.

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

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

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

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

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 [$\text{mg C}/(\text{m}^2/\text{time})$] for periphyton and macrophytes and [$\text{mg C}/(\text{m}^3/\text{time})$] 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 [$\text{mg O}_2/(\text{m}^2/\text{time})$] for periphyton and macrophytes and [$\text{mg O}_2/(\text{m}^3/\text{time})$] 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) \times discharge (ft^3/s) \times 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.

Artificial 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 planimeted. all areas shown are those for the stage when the planimeted map was made.

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

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

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

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

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

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

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

Kingdom.....	Animal
Phylum.....	Arthropoda
Class.....	Insecta
Order.....	Ephemeroptera
Family.....	Ephemeridae
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.

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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.

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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)
01368720	Auxiliary outlet of Upper Greenwood Lake at Moe, NJ	-----	1968-80
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	EF EB Rahway River at West Orange, NJ	.83	1972-74
01394000	WB 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	NB Raritan River at Pluckimien, NJ	52.0	1903-06
01399690	SB Rockaway Creek at Whitehouse, NJ	13.2	1964-67
01399830	NB Raritan River at North Branch, NJ	174	1977-81
01400730	Millstone River at Plainsboro, NJ	65.8	1964-75
01400932	Baldwin Creek at Baldwin Lake, near Pennington, NJ	2.52	1963-70
01400953	Honey Branch near Pennington, NJ	.70	1967-75
01401301	Millstone River at Carnegie Lake, at Princeton, NJ	159	1972-74
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	SB 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 Townsburry, 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	Assumpink 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	SB Rancocas Creek at Vincenttown, NJ	64.5	1961-75
01466000	MB 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

DISCONTINUED CONTINUOUS WATER-QUALITY STATIONS

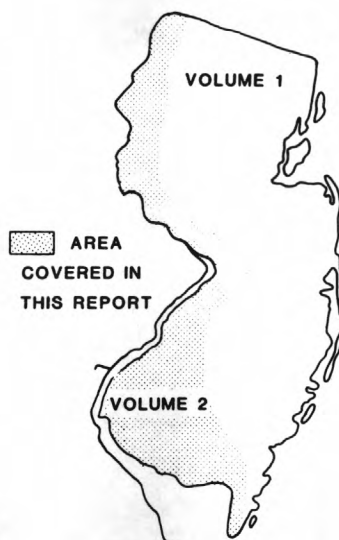
The following stations were discontinued as continuous water-quality stations prior to the 1987 water year. Daily records of temperature, specific conductance, pH, dissolved oxygen or sediment were collected and published for the period of record shown for each station.

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.	1983-86
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	SB Raritan River near High Bridge, NJ	65.3	Temp.	1961-79
			S.C.	1969-79
01397000	SB Raritan River at Stanton, NJ	147	Temp., S.C.	1969-79
			Sed.	1960-63
01399690	SB 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	WB 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		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

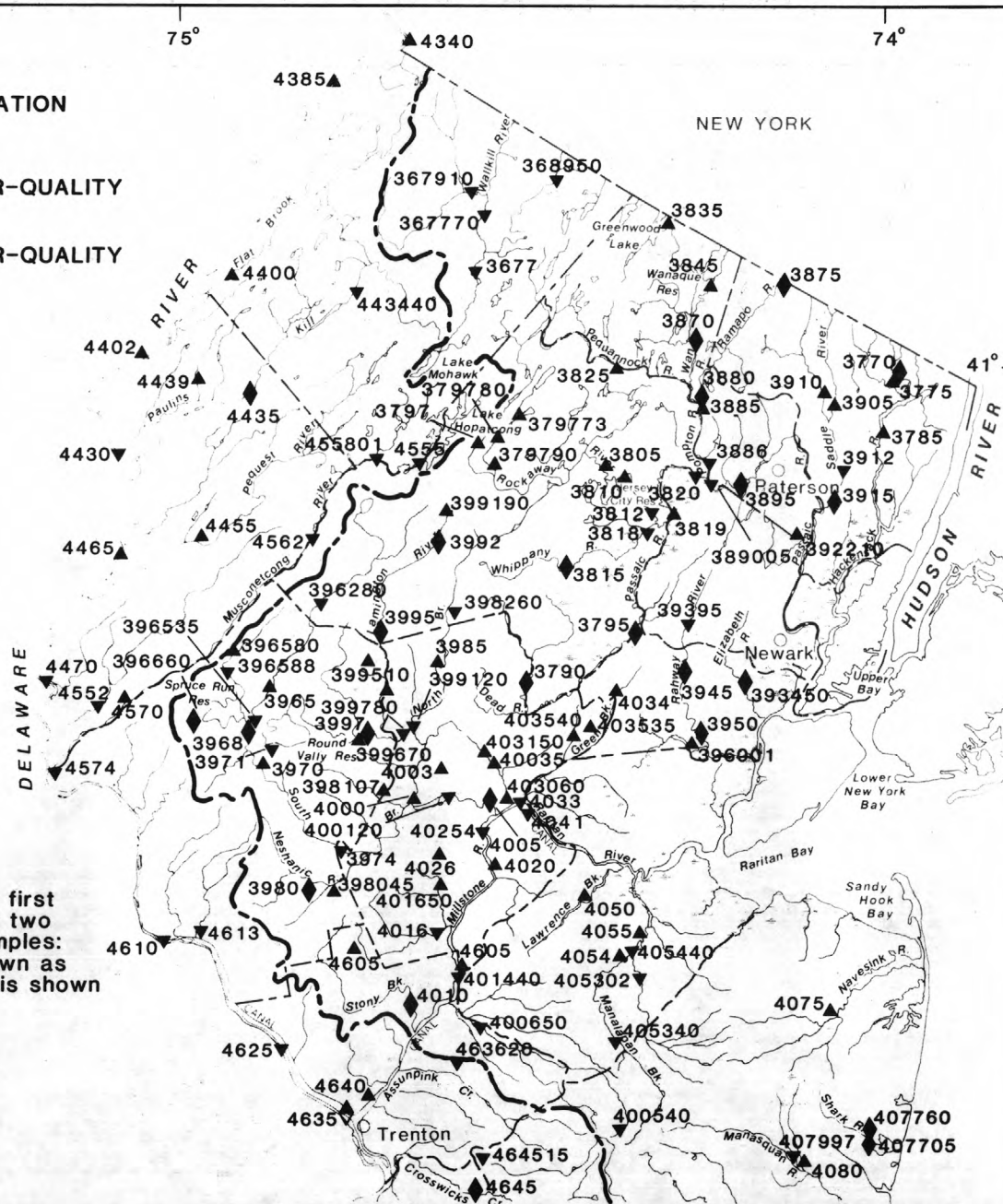
Type of record: Temp. (temperature), S.C. (specific conductance), pH (pH), D.O. (dissolved oxygen), Sed. (sediment).

36

▲3890	SURFACE-WATER GAGING STATION
▼4669	WATER-QUALITY STATION
◆4020	SURFACE-WATER AND WATER-QUALITY STATION
◆4090	SURFACE-WATER AND WATER-QUALITY AUTOMATIC MONITOR



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.



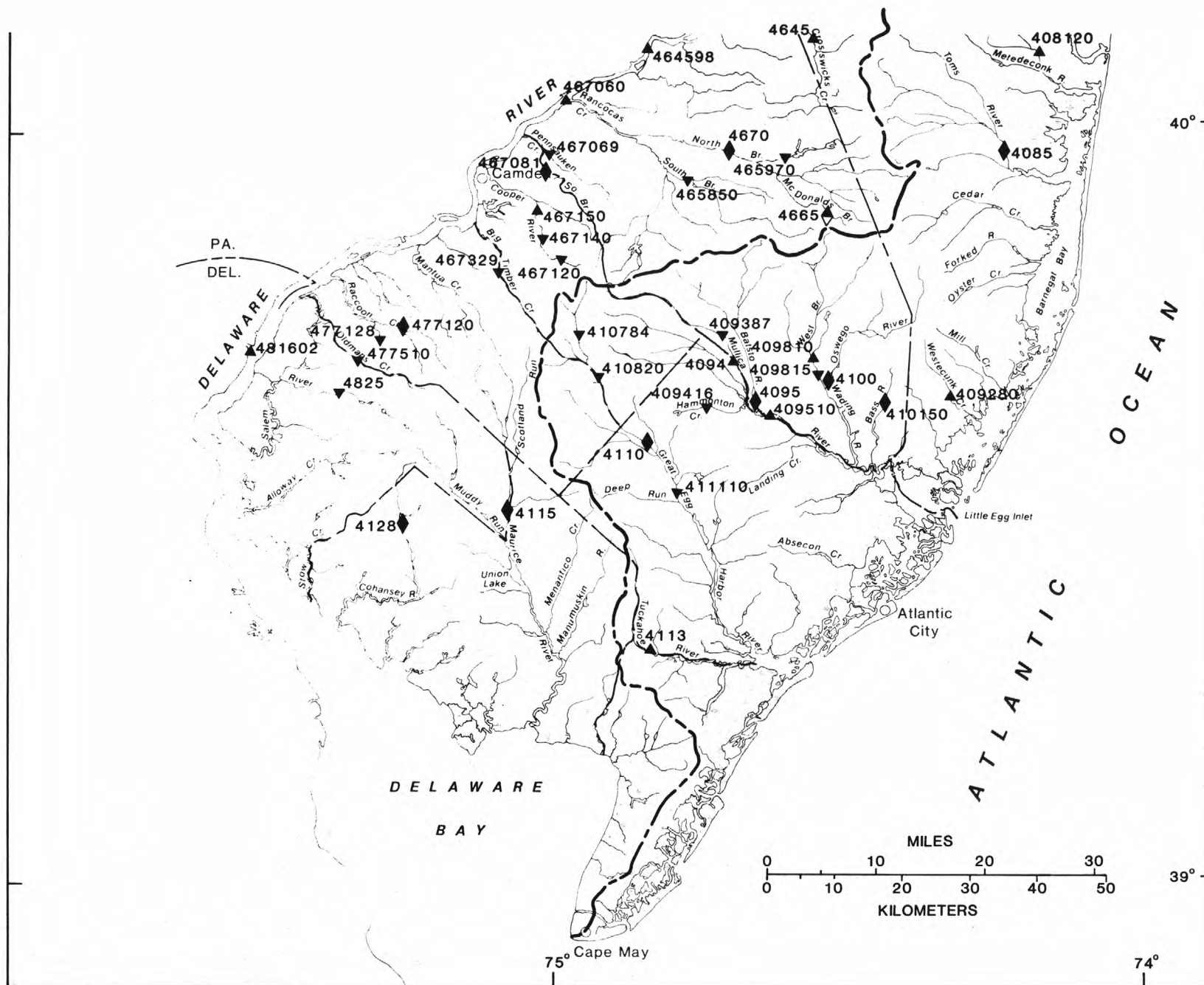


Figure 10.--Map showing location of gaging stations and surface-water quality stations.

WATER RESOURCES DATA-NEW JERSEY, 1987

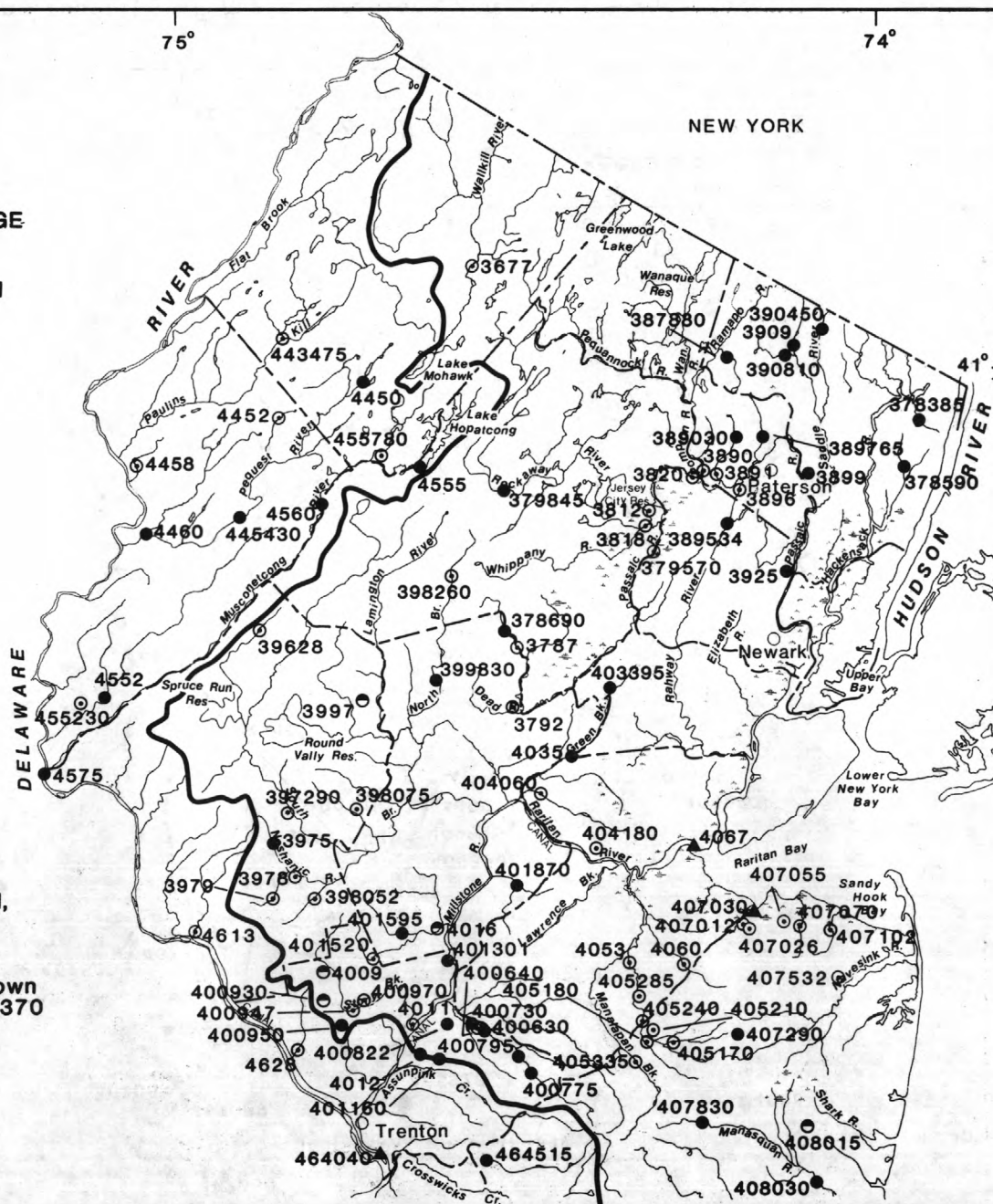
38

EXPLANATION

- 4117 LOW-FLOW STATION
- 4575 CREST-STAGE STATION
- 4628 LOW-FLOW AND CREST-STAGE STATION
- ▲4082 TIDAL CREST-STAGE STATION



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



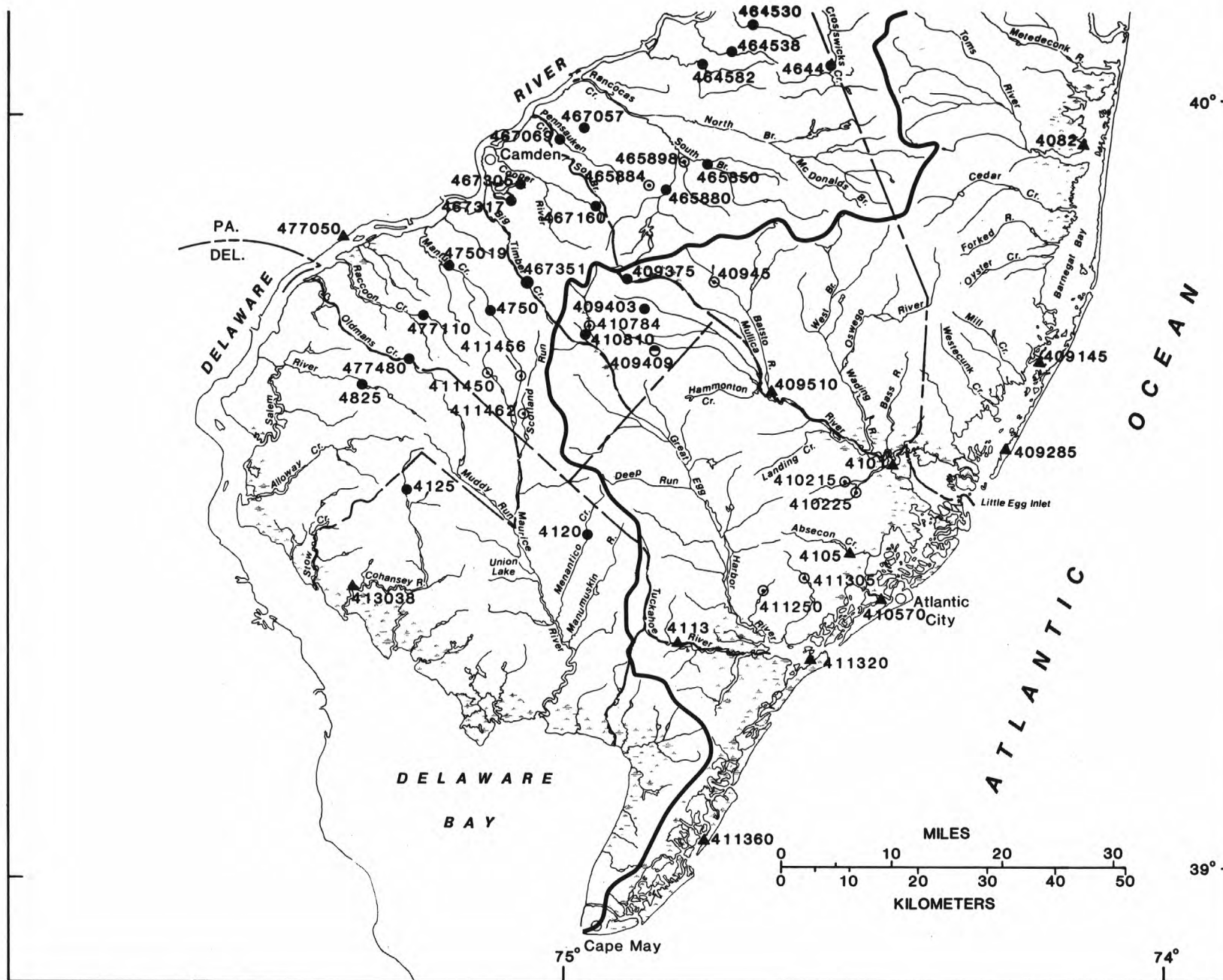


Figure 11.--Map showing location of low-flow and crest-stage partial-record stations.

WATER RESOURCES DATA-NEW JERSEY, 1987

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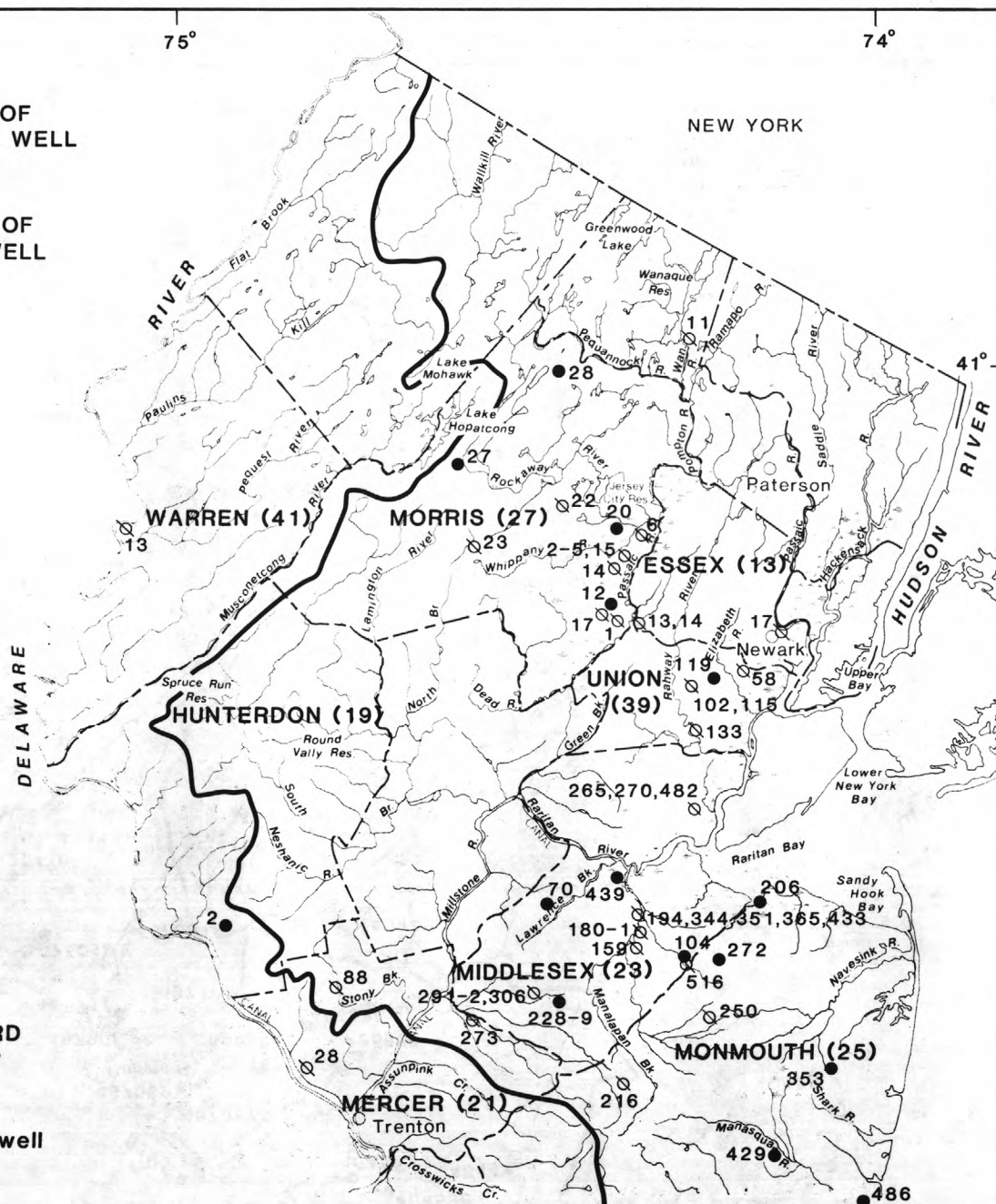
EXPLANATION

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

○ 13 LOCATION AND WELL NUMBER OF
SECONDARY OBSERVATION WELL

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 05-0570 is shown as well
570 in county 05.



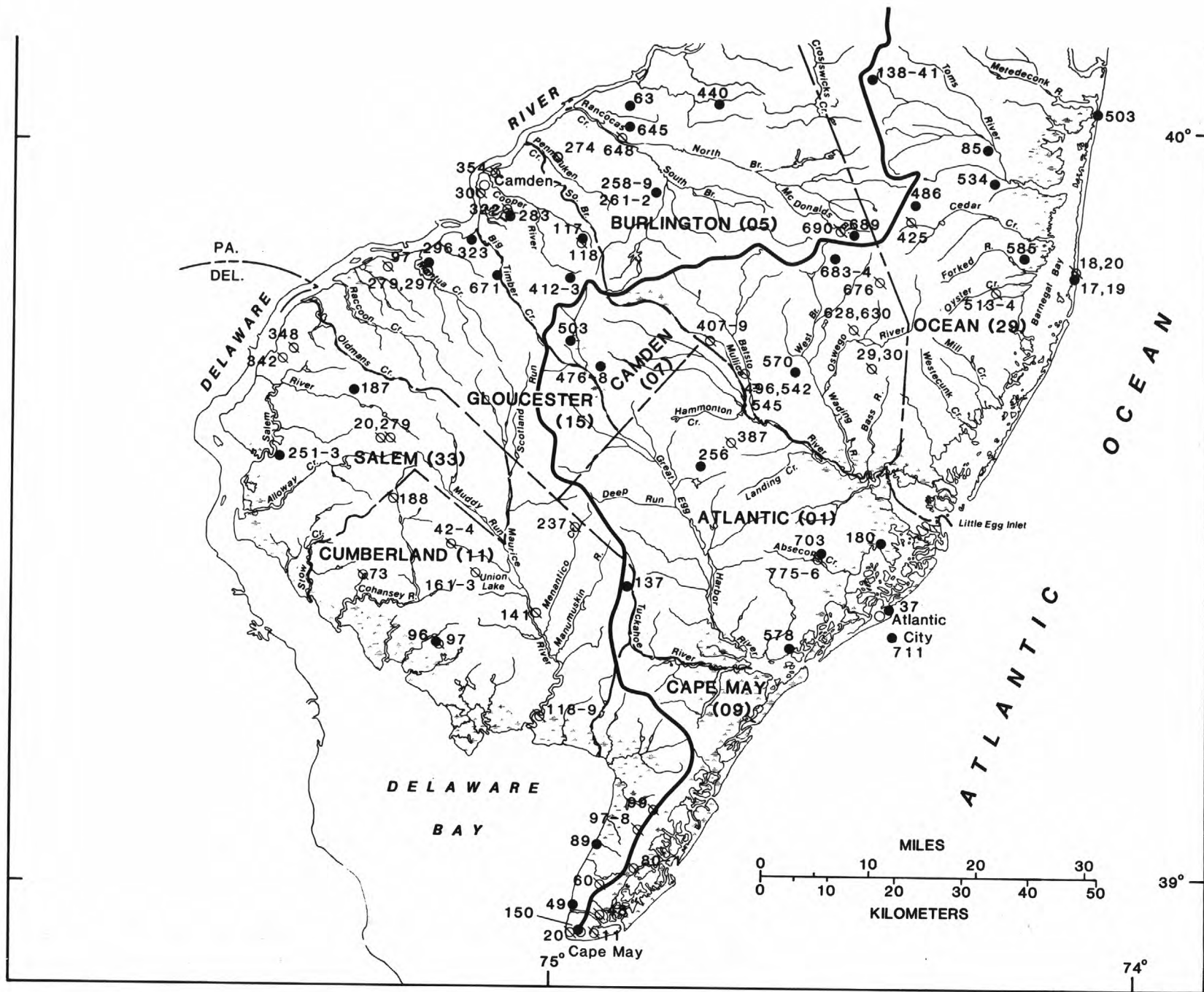


Figure 12.--Map showing location of ground-water observation wells.

WATER RESOURCES DATA-NEW JERSEY, 1987

42

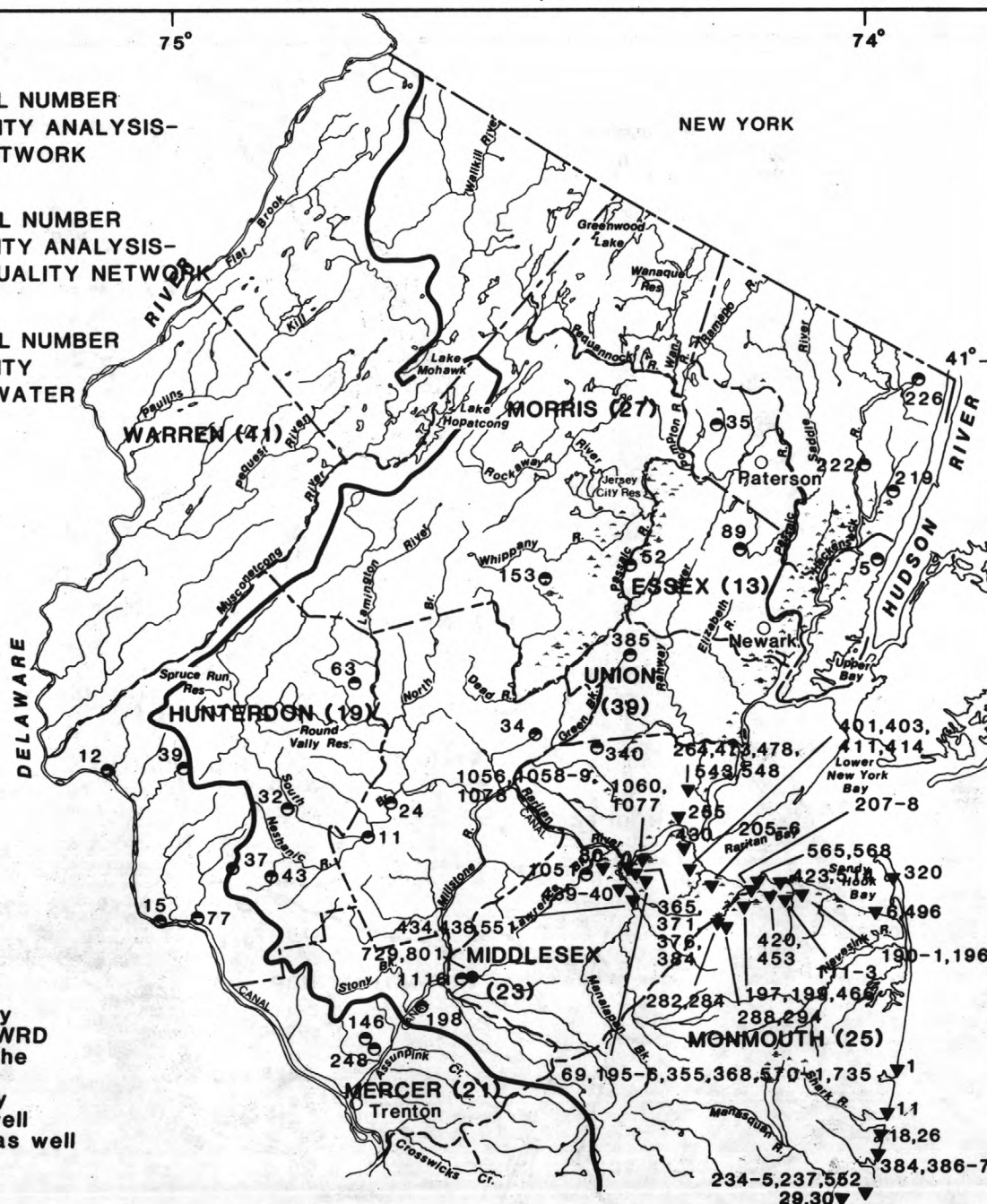
EXPLANATION

- ▼ 2 LOCATION OF WELL AND WELL NUMBER
SAMPLED FOR WATER-QUALITY ANALYSIS-
SALTWATER MONITORING NETWORK
- 5 LOCATION OF WELL AND WELL NUMBER
SAMPLED FOR WATER-QUALITY ANALYSIS-
AMBIENT GROUND-WATER QUALITY NETWORK
- 417 LOCATION OF WELL AND WELL NUMBER
SAMPLED FOR WATER-QUALITY
ANALYSIS-OTHER GROUND-WATER
QUALITY NETWORKS



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.



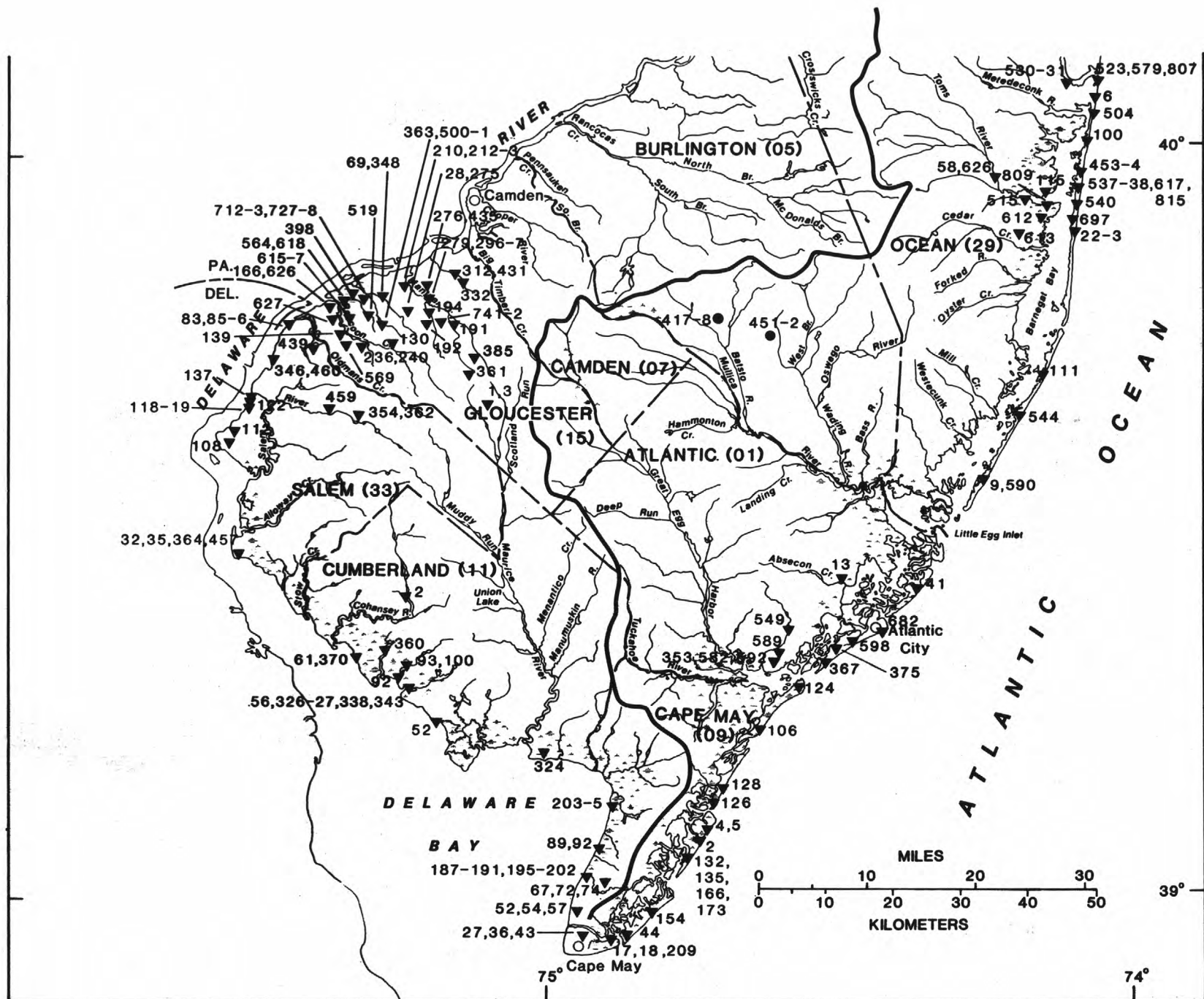


Figure 13.--Map showing locations of ground-water quality stations.

HYDROLOGIC-DATA STATION RECORDS

MAURICE RIVER BASIN

01411500 MAURICE RIVER AT NORMA, NJ
(National stream quality accounting network station)

LOCATION.--Lat 39°29'42", long 75°04'38", Salem County, Hydrologic Unit 02040206, on right bank just upstream from bridge on Almond Road (State Route 540) at Norma, and 0.8 mi downstream from Blackwater Branch.

DRAINAGE AREA.--112 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1932 to current year. Monthly discharge only for December 1933, published in WSP 1302.

REVISED RECORDS.--WSP 1382: 1933. WDR NJ-79-1: 1967(P). WDR NJ-82-2: Drainage area.

GAGE.--Water-stage recorder. Concrete control since Dec. 27, 1937. Datum of gage is 46.94 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Occasional regulation by ponds above station. Several measurements of water temperature, other than those published, were made during the year.

AVERAGE DISCHARGE.--55 years, 167 ft³/s, 20.25 in./yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,360 ft³/s, Sept. 2, 1940, gage height, 8.72 ft, from rating curve extended above 3,000 ft³/s; minimum daily, 23 ft³/s, Sept. 8, 1964, July 2, Sept. 7, 11-13, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 380 ft³/s and maximum(*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 27	0900	*624	*4.01	No other peak greater than base discharge.			

Minimum discharge, 52 ft³/s, Aug. 24, gage height, 2.40 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	86	74	142	270	199	222	239	223	136	109	80	78
2	90	77	139	272	202	271	244	204	139	128	80	78
3	86	76	172	290	207	304	251	193	141	156	80	79
4	86	74	198	345	212	338	312	214	125	173	79	76
5	93	80	183	308	215	347	327	256	115	174	83	73
6	84	103	176	296	211	312	334	306	130	161	105	71
7	71	102	170	275	213	280	344	290	136	137	115	71
8	65	114	163	236	212	259	348	251	136	e127	132	72
9	64	124	166	213	215	226	334	240	135	e139	138	75
10	66	118	196	217	214	226	308	225	135	e123	121	74
11	63	116	195	220	206	217	281	202	126	e132	111	74
12	59	122	209	213	201	210	259	192	119	177	108	71
13	60	117	210	207	201	209	244	190	114	203	100	74
14	90	112	199	201	202	207	231	186	113	184	93	82
15	100	109	191	195	198	204	197	182	111	212	87	82
16	96	113	180	192	190	199	196	164	108	197	84	81
17	92	111	170	189	184	193	204	166	107	184	82	79
18	88	108	176	194	180	185	212	169	104	168	79	86
19	83	136	206	226	177	178	211	189	103	151	75	101
20	80	138	204	272	174	160	212	190	99	134	71	103
21	77	151	203	285	172	159	211	197	97	119	69	100
22	74	154	201	298	170	160	205	191	107	106	69	94
23	73	153	195	305	170	160	198	190	110	99	72	88
24	72	154	190	273	190	160	196	176	115	100	69	83
25	70	153	363	253	196	158	234	175	106	95	69	79
26	77	151	507	236	197	158	255	170	99	93	68	76
27	85	163	600	223	194	158	258	164	105	97	69	72
28	84	160	520	213	194	167	278	171	111	89	70	70
29	84	154	416	204	---	173	260	144	116	87	73	69
30	81	149	290	196	---	173	240	144	115	83	73	70
31	77	---	280	196	---	211	---	140	---	83	71	---
TOTAL	2456	3666	7410	7513	5496	6584	7623	6094	3513	4220	2675	2381
MEAN	79.2	122	239	242	196	212	254	197	117	136	86.3	79.4
MAX	100	163	600	345	215	347	348	306	141	212	138	103
MIN	59	74	139	189	170	158	196	140	97	83	68	69
CFSM	.71	1.09	2.13	2.16	1.75	1.90	2.27	1.76	1.05	1.22	.77	.71
IN.	.82	1.22	2.46	2.50	1.83	2.19	2.53	2.02	1.17	1.40	.89	.79

CAL YR 1986 TOTAL 47316 MEAN 130 MAX 600 MIN 43 CFSM 1.16 IN. 15.71
WTR YR 1987 TOTAL 59631 MEAN 163 MAX 600 MIN 59 CFSM 1.46 IN. 19.80

e Estimated

MAURICE RIVER BASIN

45

01411500 MAURICE RIVER AT NORMA, NJ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1923, 1953, 1960-62, 1965 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: January 1980 to November 1986 (discontinued).

WATER TEMPERATURE: October 1966 to January 1968 (once daily), January 1980 to November 1986 (discontinued).

SUSPENDED-SEDIMENT DISCHARGE: February 1965 to January 1968.

INSTRUMENTATION.--Water-quality monitor, January 1980 to November 1986.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 151 microsiemens, Jan. 25, 1984; 52 microsiemens, June 16, 1982.

WATER TEMPERATURE: Maximum, 28.0°C, July 21, 1980; minimum 0.0°C on many days during winter months.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE 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 (MG/L AS CaCO3)
NOV 1986												
18...	1150	106	79	6.2	8.0	1.0	10.3	88	6.3	13	K44	20
JAN 1987												
27...	1100	215	78	5.7	0.5	0.80	13.1	91	0.6	K1	20	20
MAR												
19...	1120	179	86	6.0	7.5	1.3	10.6	89	1.5	--	--	21
MAY												
27...	1100	163	69	6.4	16.0	2.2	7.1	71	0.9	48	600	19
JUL												
30...	0900	83	72	6.4	22.0	1.8	6.7	77	0.4	31	2200	21
SEP												
24...	0940	83	74	6.2	18.0	1.5	8.0	85	1.2	K9	1500	19

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)	BICAR- BONATE IT-FLD (MG/L AS HCO3)	ALKA- LINITY, CARBON- ATE IT-FLD (MG/L AS CACO3)	ALKA- LINITY WH WAT TOTAL FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L)
NOV 1986												
18...	4.1	2.4	5.8	1.8	--	--	--	15	9.3	<0.1	7.6	50
JAN 1987												
27...	4.3	2.3	4.8	1.6	6.7	5.5	6	17	9.0	<0.1	6.3	49
MAR												
19...	4.6	2.4	5.2	1.8	4.3	3.5	5	12	8.8	<0.1	3.7	41
MAY												
27...	4.1	2.2	5.2	1.7	7.9	6.5	7	8.0	8.9	<0.1	4.2	39
JUL												
30...	4.1	2.5	5.3	1.9	6.6	8.0	9	15	8.2	0.1	6.1	47
SEP												
24...	3.8	2.3	5.5	0.9	13	11	13	11	8.3	0.1	5.2	44

DATE	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 1986											
18...	4	1.1	87	<0.010	1.40	0.01	0.010	<0.20	0.010	0.040	<0.010
JAN 1987											
27...	6	3.5	67	<0.010	1.80	0.02	0.020	0.60	0.010	0.010	<0.010
MAR											
19...	11	5.3	54	<0.010	2.00	0.01	0.010	0.70	0.020	0.010	<0.010
MAY											
27...	7	3.1	85	<0.010	1.20	0.07	0.090	1.3	0.020	0.010	<0.010
JUL											
30...	11	2.5	54	<0.010	1.50	<0.01	0.040	0.70	0.020	0.010	0.020
SEP											
24...	7	1.6	70	<0.010	1.40	0.02	<0.010	0.40	0.020	<0.010	<0.010

MAURICE RIVER BASIN

01411500 MAURICE RIVER AT NORMA, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)
NOV 1986 18...	1150	100	42	69	<0.5	<1	<1	<3	3	160	<5
MAR 1987 19...	1120	120	45	65	<0.5	<1	<1	<3	3	130	<5
MAY 27...	1100	160	58	63	<0.5	<1	<1	<3	1	720	<5
SEP 24...	0940	40	31	60	<0.5	<1	<1	<3	1	140	<5

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 1986 18...	<4	23	<0.1	<10	4	<1	<1	27	<6	19
MAR 1987 19...	5	27	<0.1	<10	3	<1	<1	26	<6	19
MAY 27...	<4	32	<0.1	<10	3	<1	<1	26	<6	10
SEP 24...	<4	15	<0.1	<10	2	<1	<1	25	<6	14

COHANSEY RIVER BASIN

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01412800 COHANSEY RIVER AT SEELEY, NJ

LOCATION.--Lat 39°28'21", Long 75°15'21", Cumberland County, Hydrologic Unit 02040206, on right bank just downstream from bridge on Silver Lake Road, 0.6 mi south of Seeley, 2.6 mi east of Shiloh, 4.1 mi north of Bridgeton, and 22.5 mi upstream from mouth.

DRAINAGE AREA.--28.0 mi².

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 26.9 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except for periods of estimated daily discharges, which are poor. Flow diverted above gage during summer months for irrigation. Several measurements of water temperature, other than those published, were made during the year.

AVERAGE DISCHARGE.--10 years, 36.4 ft³/s, 17.65 in./yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,000 ft³/s, June 21, 1983, includes discharge from dam break at Seeley Lake 1.3 mi upstream, gage height, 8.50 ft, from rating curve extended above 600 ft³/s on basis of step-backwater computation of peak flow; minimum, 11 ft³/s, Aug. 4, 5, 21, 25, 26, 1987, gage height, 2.54 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 250 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 25	0645	*919	*6.16	Mar. 1	1945	324	5.16

Minimum discharge, 11 ft³/s, Aug. 4, 5, 21, 25, 26, gage height, 2.54 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e18	18	24	e37	e38	162	45	35	30	13	15	17
2	e46	21	28	e93	e39	151	37	34	29	43	15	15
3	e26	20	81	e67	e44	52	35	34	32	46	14	14
4	e17	20	47	e45	e47	39	73	71	35	29	12	14
5	e21	26	29	e38	e43	36	63	75	44	21	12	14
6	e18	46	25	e37	e37	34	60	43	33	20	21	16
7	e17	28	25	e36	e39	34	50	35	31	21	21	17
8	16	38	24	e33	e40	34	44	33	30	24	18	18
9	16	32	43	e32	e42	34	41	32	29	23	17	21
10	16	25	73	e38	e39	32	39	32	29	22	16	19
11	15	26	45	e41	e37	31	38	31	26	22	15	17
12	15	32	54	e36	e37	33	38	31	24	22	14	18
13	19	26	35	e33	36	35	38	34	24	23	14	25
14	40	23	28	e33	34	33	37	32	23	29	13	28
15	30	22	27	e32	33	32	38	36	22	45	14	22
16	21	22	26	e33	32	32	39	36	19	28	14	20
17	19	22	26	e32	33	31	43	34	15	23	14	20
18	18	23	48	e44	34	31	41	33	14	21	14	31
19	17	55	72	e83	34	31	40	34	14	20	13	75
20	17	33	38	e87	33	31	39	52	15	19	12	32
21	16	51	30	e48	34	31	39	48	17	17	12	25
22	17	34	28	e43	34	31	38	39	19	15	15	22
23	17	26	27	e49	46	31	37	37	17	14	17	21
24	16	27	36	e41	44	31	45	36	17	14	14	19
25	16	27	554	e38	40	31	79	35	15	14	14	18
26	24	32	96	e36	38	31	55	35	15	19	13	17
27	25	57	40	e38	37	31	41	36	20	33	15	17
28	22	34	33	e39	38	39	40	36	19	22	16	17
29	21	27	31	e38	---	35	40	35	15	19	17	17
30	20	24	e31	e36	---	36	37	33	13	17	15	24
31	18	---	e35	e39	---	57	---	32	---	16	14	---
TOTAL	634	897	1739	1355	1062	1312	1329	1179	685	714	460	650
MEAN	20.5	29.9	56.1	43.7	37.9	42.3	44.3	38.0	22.8	23.0	14.8	21.7
MAX	46	57	554	93	47	162	79	75	44	46	21	75
MIN	15	18	24	32	32	31	35	31	13	13	12	14
CFSM	.73	1.07	2.00	1.56	1.35	1.51	1.58	1.36	.82	.82	.53	.77
IN.	.84	1.19	2.31	1.80	1.41	1.74	1.77	1.57	.91	.95	.61	.86

CAL YR 1986 TOTAL 10439 MEAN 28.6 MAX 554 MIN 13 CFSM 1.02 IN. 13.87
WTR YR 1987 TOTAL 12016 MEAN 32.9 MAX 554 MIN 12 CFSM 1.18 IN. 15.96

e Estimated

COHANSEY RIVER BASIN

01412800 COHANSEY RIVER AT SEELEY, NJ--Continued

WATER-QUALITY RECORDS

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 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	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 1986										
06...	1330	46	196	6.7	10.5	9.3	84	2.3	9200	>2400
JAN 1987										
21...	1300	E48	160	6.4	4.5	12.3	96	E1.6	790	1600
MAR										
19...	0900	31	220	6.5	5.0	12.1	94	1.9	17	240
JUN										
04...	1145	34	211	6.7	18.5	7.9	84	1.8	790	1700
JUL										
23...	1330	15	221	6.7	25.0	7.4	89	E1.5	330	540
AUG										
13...	1200	14	218	6.6	21.0	7.6	85	E1.5	80	220

DATE	HARD- NESS (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- LITY 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 1986									
06...	56	11	7.0	9.5	5.2	14	26	24	<0.1
JAN 1987									
21...	45	8.9	5.5	7.3	4.1	9.0	24	16	<0.1
MAR									
19...	61	12	7.5	10	3.8	11	28	21	<0.1
JUN									
04...	62	12	7.7	11	3.9	17	23	26	0.1
JUL									
23...	56	11	7.0	13	4.2	14	23	28	0.1
AUG									
13...	58	11	7.3	13	4.6	15	23	26	0.1

DATE	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITU- ENTS, 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)
NOV 1986									
06...	7.0	98	0.028	3.26	0.25	1.7	5.0	0.050	4.8
JAN 1987									
21...	6.9	78	0.012	3.70	0.17	0.97	4.7	0.282	6.3
MAR									
19...	6.9	96	0.017	5.00	0.07	0.35	5.4	<0.020	1.5
JUN									
04...	7.0	100	0.030	3.68	0.17	0.86	4.5	0.133	4.6
JUL									
23...	7.6	100	0.016	3.54	0.14	1.0	4.6	0.070	3.0
AUG									
13...	7.8	100	0.020	3.40	0.10	1.0	4.4	0.060	3.6

COHANSEY RIVER BASIN

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01412800 COHANSEY RIVER AT SEELEY, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

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)
NOV 1986 06...	1330	<0.5	60	1	<10	30	<1	<10	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)
NOV 1986 06...	850	7	100	<0.10	4	<1	20	4

DELAWARE RIVER BASIN

01434000 DELAWARE RIVER AT PORT JERVIS, NY

LOCATION.--Lat 41°22'14", long 74°41'52", Pike County, Pa., Hydrologic Unit 02040104, on right bank 250 ft downstream from bridge (on U.S. Highways 6 and 209) between Port Jervis, N.Y. and Matamoras, Pa., 1.2 mi upstream from Neversink River, and 6.5 mi downstream from Mongaup River. Water-quality sampling site at discharge station.

DRAINAGE AREA.--3,070 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1904 to current year.

REVISED RECORDS.--WSP 1031: 1905-36. WDR NY-71-1: 1970. WDR NY-82-1: Drainage area. WDR NY-86-1: 1979-80.

GAGE.--Water-stage recorder. Datum of gage is 415.35 ft above National Geodetic Vertical Datum of 1929. October 1904 to August 13, 1928, nonrecording gage at bridge 250 ft upstream at present datum; operated by U.S. Weather Bureau prior to June 20, 1914.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated by Lake Wallenpaupack and by Toronto, Cliff Lake, and Swinging Bridge Reservoirs (see Reservoirs in Delaware River Basin) and smaller reservoirs. Large diurnal fluctuations at medium and low flows caused by powerplants on tributary streams. Subsequent to September 1954, entire flow from 371 mi² of drainage area controlled by Pepacton Reservoir, and subsequent to October 1963, entire flow from 454 mi² of drainage area controlled by Cannonsville Reservoir (see Reservoirs in Delaware River Basin). Part of flow from these reservoirs diverted for New York City municipal supply. Remainder of flow (except for conservation releases and spill) impounded for release during periods of low flow in the lower Delaware River basin, as directed by the Delaware River Master. Telephone gage-height telemeter and satellite gage-height telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 233,000 ft³/s, Aug. 19, 1955, gage height, 23.91 ft, from floodmarks in gage house, from rating curve extended above 89,000 ft³/s, on basis of slope-area measurement of peak flow; maximum gage height, 26.6 ft, Feb. 12, 1981 (ice jam), from floodmarks; minimum observed discharge, 175 ft³/s, Sept. 23, 1908, gage height, 0.6 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--The U.S. Weather Bureau reported a discharge of 205,000 ft³/s, Oct. 10, 1903, gage height, 23.1 ft, from rating curve extended above 70,000 ft³/s, by velocity-area studies; maximum gage height, 25.5 ft, Mar. 8, 1904 (ice jam).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 61,200 ft³/s, Apr. 5, gage height, 12.36 ft; minimum, 965 ft³/s, Sept. 6, gage height, 1.89 ft; minimum daily, 1,070 ft³/s, Sept. 5.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2050	1290	7730	5140	3170	e1600	14700	2400	1760	2090	2040	2160
2	1620	1320	6260	5050	2780	3450	12400	2220	2630	1980	1550	2290
3	1760	1390	8440	5010	3110	5980	10500	2080	3070	2420	1740	1730
4	3380	1640	10600	4380	3130	6060	17900	3370	2640	2760	2650	1320
5	4600	1660	8950	4260	2930	4980	51800	3610	2660	2130	2550	1070
6	3250	1930	6520	4530	2640	4360	35400	3230	2260	1790	2350	1120
7	2540	2080	5480	4170	2350	4830	27800	2990	1560	2310	2130	1350
8	1960	2210	5380	4000	2080	7150	23000	2740	1460	2610	1950	1730
9	1680	5410	5890	3690	2260	15200	19600	2210	2100	3180	1740	18300
10	1670	10800	6550	3090	3030	14700	16400	2030	2310	3000	1620	16200
11	1470	7430	7720	2790	2620	11700	14000	2100	2050	2420	2160	8740
12	1310	6000	7130	3250	2500	10100	12200	1850	1430	1600	1790	6270
13	1340	5150	6360	3650	e2600	8570	15500	1690	1640	1950	1710	11800
14	1570	4200	5160	3430	e2500	6860	19400	1600	1690	3050	1560	24200
15	2290	3370	4750	3540	e1500	5200	15900	1540	2210	8360	1750	15300
16	2450	2960	5100	4140	e1700	5130	14000	1480	2370	7070	1560	10600
17	2050	2940	4550	e3600	e1950	5240	12300	1410	2080	4560	1850	8220
18	1670	3710	3850	e2900	e2600	4940	11400	1630	2180	3460	2370	9800
19	1510	4100	5130	e2900	e2700	4960	10300	1560	2210	2620	1590	18200
20	1550	4080	4660	e3700	e2700	5280	8910	1860	2140	2510	1550	14100
21	1800	12300	3630	e3500	e2200	4710	6700	1790	1550	3070	1670	11000
22	1730	16700	3270	e3600	e1300	4070	5930	1980	1510	3040	1530	8830
23	1560	10700	3560	e3000	e1300	4740	5270	1690	1540	2900	1660	7380
24	2020	8720	3790	e3500	e1400	6140	4700	1980	2550	2780	1740	6540
25	1560	10200	5110	e3200	e1550	7020	4260	2510	2450	2790	1770	5860
26	1530	9460	8020	e3800	e1650	8600	4070	2140	1820	2340	1870	5550
27	1650	24000	7210	e4200	e1500	10600	3670	1940	1770	2480	1980	5160
28	1990	19500	5570	e4400	e1400	9920	3020	2030	1840	2430	2380	4570
29	1750	13300	5390	e4300	---	8870	2780	2140	1810	2160	2670	4200
30	1550	9750	6060	e4050	---	7840	2700	2370	1980	2010	3410	4250
31	1460	---	5670	e3500	---	8360	---	1550	---	1950	2470	---
TOTAL	60320	208300	183490	118270	63150	217160	406510	65720	61270	89820	61360	237840
MEAN	1946	6943	5919	3815	2255	7005	13550	2120	2042	2897	1979	7928
MAX	4600	24000	10600	5140	3170	15200	51800	3610	3070	8360	3410	24200
MIN	1310	1290	3270	2790	1300	1600	2700	1410	1430	1600	1530	1070

CAL YR 1986 TOTAL 1980380 MEAN 5426 MAX 76300 MIN 1240
WTR YR 1987 TOTAL 1773210 MEAN 4858 MAX 51800 MIN 1070

e Estimated

DELAWARE RIVER BASIN

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01434000 DELAWARE RIVER AT PORT JERVIS, NY--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1957-60, 1964 to current year.
 CHEMICAL DATA: 1958-59 (e), 1964-65 (c), 1966 (a), 1967-68 (c), 1969-76 (d), 1987 (b).
 MINOR ELEMENTS DATA: 1970 (a), 1972-73 (a), 1974-76 (c), 1987 (b).
 PESTICIDE DATA: 1974 (a).
 ORGANIC DATA: OC--1974 (b), 1975 (d).
 NUTRIENT DATA: 1968 (a), 1969-76 (d).
 BIOLOGICAL DATA:
 Bacteria--1973-76 (d).
 Phytoplankton--1974 (b), 1975-76 (c).
 Periphyton--1976 (a).
 SEDIMENT DATA: 1959 (c), 1976 (c).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: January 1973 to September 1973.

WATER TEMPERATURES: February 1957 to September 1960, January 1973 to September 1973, June 1974 to current year.

SUSPENDED-SEDIMENT DISCHARGE: February 1957 to September 1960, March 1970 to June 1976.

INSTRUMENTATION.--Water-temperature digital recorder since January 1973, provides one-hour-interval punches.

REMARKS.--Interruptions of record Apr. 15, Apr. 22 to Sept. 30, were due to malfunctions of recording instrument or probe.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum (water years 1957-59, 1973-81, 1983-84), 30.0°C, July 13, 1981; minimum (water years 1958-60, 1973, 1975-87), 0.0°C, on many days during winter periods, except 1984.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Minimum, 0.0°C, on many days during winter period.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)
MAY												
07...	1345	3200	71	7.9	15.0	11.7	20	6.1	1.2	42	<10	--
28...	1530	1810	79	7.8	24.0	9.7	24	7.6	1.3	53	<10	--
JUN												
30...	1100	1390	82	7.9	25.0	9.4	25	7.5	1.5	49	<10	--
SEP												
01...	0915	1730	--	7.4	17.5	9.2	27	8.4	1.5	59	<10	1

DATE	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (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)	NICKEL, DIS- SOLVED (UG/L AS NI)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
MAY											
07...	10	--	90	16	--	20	<0.10	<1	--	<10	--
28...	<10	--	70	<5	--	30	<0.10	<1	--	<10	--
JUN											
30...	<10	--	80	<5	--	30	<0.10	<1	--	<10	--
SEP											
01...	30	2	90	<5	<5	20	<0.10	4	2	10	10

DELAWARE RIVER BASIN

01434000 DELAWARE RIVER AT PORT JERVIS, NY--Continued

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

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	21.0	19.5	20.5	10.0	8.5	9.0	3.0	2.0	2.5	1.5	1.0	1.0
2	20.5	19.5	20.0	9.5	8.0	9.0	2.5	2.0	2.0	1.5	.5	1.0
3	19.5	18.0	18.5	8.5	7.0	8.0	3.5	2.0	3.0	1.0	.5	.5
4	19.5	18.0	18.5	8.0	7.0	7.5	3.5	2.5	3.0	.5	.0	.5
5	18.0	16.0	17.0	7.5	5.5	6.0	3.0	2.0	2.5	.5	.0	.0
6	16.0	13.5	15.0	6.5	5.5	6.0	2.5	1.5	2.0	.5	.0	.0
7	14.0	13.0	13.5	6.5	6.0	6.5	2.0	1.5	2.0	1.0	.0	.5
8	14.5	12.0	13.5	7.5	6.5	7.0	3.0	2.0	2.5	1.0	.5	.5
9	15.0	13.5	14.5	8.0	7.5	8.0	2.0	2.0	2.0	1.0	.5	.5
10	15.0	13.0	13.5	8.5	7.5	8.0	3.0	2.0	2.5	1.0	.5	1.0
11	13.0	11.5	12.5	7.5	5.0	6.0	2.0	1.5	2.0	1.0	.5	1.0
12	13.5	12.0	12.5	5.0	4.5	5.0	2.5	1.5	2.0	.5	.5	.5
13	13.5	13.0	13.0	4.5	3.0	4.5	1.5	.0	1.0	1.5	.5	1.0
14	14.5	13.5	14.0	3.0	2.0	2.5	.0	.0	.0	1.5	.5	1.0
15	14.5	13.0	13.5	2.0	1.5	2.0	.5	.0	.5	2.5	1.0	2.0
16	12.5	11.0	12.5	3.0	1.5	2.0	2.0	.5	1.5	2.5	1.0	2.0
17	12.5	11.5	12.0	3.5	2.0	3.0	2.0	1.0	2.0	1.0	.0	.5
18	12.0	11.0	11.5	4.5	3.5	4.0	2.0	1.5	2.0	.0	.0	.0
19	11.0	10.0	10.5	4.0	2.5	3.5	2.5	2.0	2.5	.5	.0	.5
20	11.0	9.5	10.5	2.5	2.0	2.0	2.5	2.0	2.5	.5	.0	.5
21	12.5	9.5	11.0	2.5	1.5	2.0	2.5	1.5	2.0	.5	.0	.5
22	13.0	11.5	12.5	2.5	2.0	2.5	1.5	1.0	1.5	.0	.0	.0
23	13.0	12.5	13.0	3.0	2.0	2.5	1.0	.5	.5	.5	.0	.0
24	13.0	12.0	12.5	3.5	3.0	3.5	1.5	.5	1.0	.0	.0	.0
25	12.0	10.5	11.5	4.5	3.0	4.0	2.5	1.0	2.0	.0	.0	.0
26	11.5	10.5	11.0	4.5	4.0	4.0	2.5	2.0	2.5	.0	.0	.0
27	11.0	10.0	10.5	5.0	4.0	4.5	3.0	2.5	2.5	.0	.0	.0
28	12.0	11.0	11.5	5.0	4.5	5.0	2.5	2.0	2.5	.0	.0	.0
29	11.5	10.0	11.0	4.5	4.0	4.0	2.5	2.0	2.5	.0	.0	.0
30	11.5	10.5	11.0	4.0	3.0	4.0	2.0	1.5	2.0	.0	.0	.0
31	10.5	9.0	9.5	---	---	---	2.0	1.5	2.0	.5	.0	.0
MONTH	21.0	9.0	13.5	10.0	1.5	5.0	3.5	0.0	2.0	2.5	0.0	0.5
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	.5	.0	.5	.5	.5	.5	8.5	6.5	7.5	---	---	---
2	1.0	.0	.5	1.5	.5	1.0	6.5	4.5	5.5	---	---	---
3	.5	.0	.5	1.5	.5	1.0	5.0	4.5	4.5	---	---	---
4	1.0	.0	.5	1.5	.0	.5	6.5	5.0	6.0	---	---	---
5	.5	.0	.0	1.5	.0	.5	6.5	6.0	6.5	---	---	---
6	.5	.0	.5	2.0	.0	1.0	6.5	6.0	6.0	---	---	---
7	1.0	.0	.5	3.0	1.0	2.0	6.5	6.0	6.0	---	---	---
8	1.0	.0	.5	3.0	1.0	2.0	6.5	6.0	6.5	---	---	---
9	.5	.0	.0	1.5	1.0	1.0	7.0	6.0	6.5	---	---	---
10	.5	.0	.0	1.0	.0	.5	8.0	6.0	7.0	---	---	---
11	1.0	.0	.5	1.0	.0	.5	9.5	7.0	8.5	---	---	---
12	.0	.0	.0	1.0	.5	1.0	9.5	8.5	9.5	---	---	---
13	.5	.0	.0	1.5	1.0	1.0	9.5	8.5	9.0	---	---	---
14	.5	.0	.0	2.0	1.0	1.5	10.0	8.5	9.5	---	---	---
15	.5	.0	.5	3.5	1.5	2.5	---	---	---	---	---	---
16	.5	.0	.0	3.5	2.5	3.0	9.0	8.0	8.5	---	---	---
17	.0	.0	.0	4.0	2.5	3.0	8.5	8.0	8.0	---	---	---
18	.5	.0	.0	4.5	3.0	3.5	10.0	8.5	9.0	---	---	---
19	.0	.0	.0	5.0	3.5	4.5	12.0	10.0	11.0	---	---	---
20	.0	.0	.0	4.5	4.0	4.0	13.5	11.5	12.5	---	---	---
21	.5	.0	.0	4.5	3.5	4.0	16.0	13.0	14.5	---	---	---
22	.5	.0	.0	6.0	3.5	5.0	---	---	---	---	---	---
23	.5	.0	.5	7.5	5.5	6.5	---	---	---	---	---	---
24	.5	.0	.5	8.0	5.5	7.0	---	---	---	---	---	---
25	1.0	.0	.5	9.0	6.5	7.5	---	---	---	---	---	---
26	1.5	.0	.5	9.0	7.5	8.0	---	---	---	---	---	---
27	1.0	.0	.5	8.5	7.0	8.0	---	---	---	---	---	---
28	1.0	.0	.5	8.5	7.0	8.0	---	---	---	---	---	---
29	---	---	---	9.5	8.0	9.0	---	---	---	---	---	---
30	---	---	---	10.0	8.5	9.0	---	---	---	---	---	---
31	---	---	---	10.0	8.5	9.5	---	---	---	---	---	---
MONTH	1.5	0.0	0.5	10.0	0.0	3.5	---	---	---	---	---	---

DELAWARE RIVER BASIN

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01437500 NEVERSINK RIVER AT GODEFFROY, NY

LOCATION.--Lat 41°26'28", long 74°36'07", Orange County, Hydrologic Unit 02040104, on right bank just upstream from highway bridge on Graham Road, 0.5 mi downstream from Basher Kill, 0.8 mi southeast of Godeffroy, 1.7 mi south of Cuddebackville, and 8.5 mi upstream from mouth.

DRAINAGE AREA.--307 mi².

PERIOD OF RECORD.--August to October 1903, July 1937 to current year. Gage heights and discharge measurements, August 1909 to April 1914. Twice-daily figures of discharge, January 1911 to December 1912, which do not represent daily mean discharges because of diurnal fluctuation. August to October 1903, published as "Navesink River at Godeffroy, NY."

REVISED RECORDS.--WSP 1502: 1951(M). WDR NY-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 459.66 ft above National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Apr. 30, 1914, nonrecording gages at same site (August to October 1903 at datum 0.98 ft higher).

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Prior to 1949, diurnal fluctuation at low and medium flow caused by powerplant at Cuddebackville. Subsequent to June 1953, entire flow from 92.5 mi² of drainage area controlled by Neversink Reservoir (see Reservoirs in Delaware River Basin). Part of flow diverted for New York City municipal supply. Remainder of flow (except for conservation releases and spill), impounded for release during periods of low flow in the lower Delaware River basin, as directed by the Delaware River Master. Several measurements of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,000 ft³/s, Aug. 19, 1955, gage height, 12.49 ft, from rating curve extended above 11,000 ft³/s, on basis of slope-area measurement of peak flow; minimum, practically no flow several times in July 1911.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9,280 ft³/s, Apr. 4, gage height, 9.34 ft; minimum, 61 ft³/s, Aug. 25, 26, gage height, 2.99 ft.

REVISIONS.--The minimum discharge for water year 1986 has been revised to 103 ft³/s, Sept. 17, 18; revised daily discharges, in cubic feet per second, for September 1986, are given below. These figures supersede those published in the report for 1986.

Sept. 1	136	Sept. 9	134	Sept. 17	107	Sept. 25	129
2	137	10	128	18	104	26	131
3	135	11	130	19	111	27	192
4	142	12	127	20	116	28	173
5	137	13	126	21	128	29	153
6	141	14	126	22	120	30	144
7	149	15	123	23	120		
8	141	16	110	24	130		
		Total	Mean	Max	Min		
September 1986		3980	133	192	104		
Water Year 1986		187949	515	4690	104		

DELAWARE RIVER BASIN

01437500 NEVERSINK RIVER AT GODEFFROY, NY--Continued

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	132	140	751	e370	e210	e230	1290	542	186	103	113	182
2	144	148	666	e335	e210	e680	901	458	221	118	113	161
3	200	148	1410	e310	e200	e600	788	437	232	183	162	130
4	580	149	1310	e290	e190	e500	3740	697	227	144	142	111
5	396	151	1040	e270	e190	e420	5040	605	243	128	110	96
6	276	190	906	e270	e180	e400	2920	509	187	111	117	89
7	225	212	798	e280	e170	e480	3180	467	165	107	100	103
8	190	272	703	278	e170	e900	2880	412	165	140	98	136
9	170	577	651	262	e160	1270	2260	367	161	149	113	1910
10	164	481	729	257	e160	1060	1820	343	146	138	121	915
11	150	391	744	340	e150	860	1520	315	134	142	109	465
12	148	381	621	343	e150	734	1190	295	137	182	90	363
13	153	369	e520	298	e140	611	2180	284	147	196	86	1700
14	287	322	e470	e260	e130	531	2250	262	148	226	82	2010
15	354	291	e430	e280	e120	477	1570	254	137	579	83	1110
16	285	266	426	357	e130	432	1350	241	124	260	98	806
17	227	272	402	e270	e130	389	1260	224	110	174	97	644
18	188	336	402	e250	e130	360	1350	209	104	152	102	1100
19	168	365	456	e250	e120	361	1240	241	97	138	116	1630
20	154	345	436	e250	e120	371	1070	246	97	152	117	1110
21	150	1480	396	e240	e110	349	942	237	126	161	96	871
22	137	1160	e330	e240	e110	351	850	224	138	154	72	687
23	127	942	e300	e230	e120	410	766	212	123	143	69	501
24	123	974	e310	e220	e120	472	732	205	114	136	68	425
25	121	1010	579	e220	e120	479	817	191	104	139	65	379
26	139	996	770	e230	e120	499	725	188	101	156	63	342
27	210	1750	634	e230	e120	471	642	192	128	145	107	308
28	187	1220	557	e230	e120	415	607	210	155	129	187	280
29	163	1030	500	e230	---	375	610	190	131	120	365	260
30	146	896	458	e220	---	338	641	172	107	117	250	250
31	139	---	422	e220	---	924	---	180	---	117	157	---
TOTAL	6233	17264	19127	8330	4100	16749	47131	9609	4395	5039	3668	19074
MEAN	201	575	617	269	146	540	1571	310	146	163	118	636
MAX	580	1750	1410	370	210	1270	5040	697	243	579	365	2010
MIN	121	140	300	220	110	230	607	172	97	103	63	89
CAL YR 1986	TOTAL	178449	MEAN	489	MAX	4690	MIN	104				
WTR YR 1987	TOTAL	160719	MEAN	440	MAX	5040	MIN	63				

e Estimated

DELAWARE RIVER BASIN

55

01438500 DELAWARE RIVER AT MONTAGUE, NJ

LOCATION.--Lat 41°18'33", Long 74°47'44", Pike County, PA, Hydrologic Unit 02040104, on right bank 1,500 ft upstream from toll bridge (on U.S. Route 206) between Montague, NJ and Milford, PA, 0.8 mi downstream from Sawkill Creek, and at river mile 246.3.

DRAINAGE AREA.--3,480 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1936 to September 1939 (gage heights only, published as "at Milford, PA"). October 1939 to current year. Monthly discharge only for some periods, published in WSP 1302.

REVISED RECORDS.--WDR-NJ-81-2: 1980.

GAGE.--Water-stage recorder. Datum of gage is 369.93 ft above National Geodetic Vertical Datum of 1929. Prior to Feb. 9, 1940 nonrecording gage on upstream side of left span of subsequently dismantled bridge at present site at datum 70 ft lower.

REMARKS.--Records excellent except for period of ice effect, Jan. 22 to Mar. 8, and from Oct. 11 to Nov. 9 and July 6 to Sept. 8, which are good. Diurnal fluctuations at medium and low flow caused by powerplants on tributary streams. Flow regulated by Lake Wallenpaupack and by Pepacton, Cannonsville, Swinging Bridge, Toronto, Cliff Lake, and Neversink Reservoirs (see Delaware River basin, reservoirs in) and smaller reservoirs. Diversion from Pepacton, Cannonsville, and Neversink Reservoirs (see Delaware River basin, diversions). Several measurements of water temperature were made during the year. Satellite telemeter at station.

AVERAGE DISCHARGE.--48 years, 5,793 ft³/s, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 250,000 ft³/s, Aug. 19, 1955, gage height, 35.15 ft, from rating curve extended above 90,000 ft³/s on basis of flood-routing study; minimum, 382 ft³/s, Aug. 24, 1954, gage height, 3.83 ft, minimum daily, 412 ft³/s, Aug. 23, 1954.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of October 10, 1903, reached a stage of 35.5 ft, from floodmark, present datum.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 65,200 ft³/s, Apr. 5, gage height, 17.91 ft; minimum, 1,050 ft³/s, Sept. 6.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2260	1470	8980	5900	e3600	e2000	15800	3250	1920	2310	2190	2350
2	1830	1480	7320	5780	e3100	e4200	13300	2910	2800	2310	1690	2630
3	1920	1520	9620	5730	e3500	e6700	11400	2700	3360	2590	1850	1990
4	3540	1740	11900	5130	e3500	e7100	18300	4100	3020	3110	2710	1490
5	5250	1810	10300	4640	e3300	e5900	58000	4610	2980	2470	2750	1210
6	3540	2050	8010	4860	e3000	e5100	40000	4130	2770	2020	2580	1160
7	2910	2250	6690	4770	e2900	e5600	32200	3730	1860	2440	2250	1510
8	2400	2420	6350	4610	e2500	e8020	27200	3450	1650	2720	2180	1810
9	1870	5100	6810	4270	e2300	15800	23000	2880	2260	3330	1780	16500
10	1930	10700	7450	3790	e3300	16200	19100	2590	2500	3330	1720	17400
11	1780	8080	8660	3380	e2900	12800	15800	2530	2390	2840	2150	9630
12	1470	6600	8100	3680	e2800	11200	13500	2410	1760	1940	2010	6880
13	1490	5770	7250	4250	e2800	9770	17000	2130	1790	2030	1780	10800
14	1800	4800	6050	3980	e2800	8240	22600	2020	2020	3310	1620	26300
15	2410	3910	5360	4070	e1800	6340	18100	1940	2200	7920	1700	16800
16	2770	3410	5880	4710	e1900	5960	15500	1860	2690	7830	1590	11400
17	2440	3290	5480	4550	e2000	6150	13500	1780	2360	5030	1780	9140
18	2090	4040	4560	3310	e2800	5750	12700	1930	2340	3880	2650	9970
19	1680	4570	5740	3430	e2900	5710	11700	1880	2390	2880	1650	19300
20	1620	4600	5670	4440	e2900	6040	10400	2180	2420	2550	1640	15300
21	2000	11000	4450	4210	e2800	5650	8170	2100	1900	3260	1720	11700
22	2070	17500	3950	e4190	e1700	4810	7290	2280	1600	3290	1600	9700
23	1700	11800	4050	e3700	e1700	5320	6490	2060	1860	3110	1660	8280
24	2040	9770	4400	e4100	e1700	6900	5880	2230	2590	2970	1770	7320
25	1830	10900	5860	e3800	e1800	7780	5490	2840	2610	2950	1750	6550
26	1710	10300	8790	e4100	e2000	9160	5200	2410	2290	2780	1940	6100
27	1760	23400	8450	e4400	e1700	11000	4700	2130	1990	2450	2060	5710
28	2210	21700	6630	e4800	e1800	10500	3970	2320	2080	2750	2490	5190
29	2010	14600	6100	e4700	---	9550	3670	2350	2010	2380	2780	4710
30	1710	11000	6870	e4400	---	8560	3630	2830	2160	2200	3930	4620
31	1690	---	6480	e4000	---	9340	---	1800	---	2100	2750	---
TOTAL	67720	221580	212210	135680	71800	243150	463590	80360	68570	97080	64720	253450
MEAN	2185	7386	6845	4377	2564	7844	15450	2592	2286	3132	2088	8448
MAX	5250	23400	11900	5900	3600	16200	58000	4610	3360	7920	3930	26300
MIN	1470	1470	3950	3310	1700	2000	3630	1780	1600	1940	1590	1160

CAL YR 1986 TOTAL 2253310 MEAN 6173 MAX 77200 MIN 1430
WTR YR 1987 TOTAL 1979910 MEAN 5424 MAX 58000 MIN 1160

e Estimated

DELAWARE RIVER BASIN

01440000 FLAT BROOK NEAR FLATBROOKVILLE, NJ

LOCATION.--Lat 41°06'24", long 74°57'09", Sussex County, Hydrologic Unit 02040104, on right bank 1.0 mi upstream from Flatbrookville, and 1.5 mi upstream from mouth.

DRAINAGE AREA.--64.0 mi².

PERIOD OF RECORD.--July 1923 to current year.

REVISED RECORDS.--WSP 1432: 1924(M), 1928(M), 1929, 1930(M), 1932, 1933(M), 1936, 1938(M), 1939-40, 1949(M), 1952-53(M). WDR-NJ-80-2: 1970(M). WDR NJ-82-2: Drainage area.

GAGE.--Water-stage recorder. Concrete control since Aug. 19, 1929. Datum of gage is 347.73 ft above National Geodetic Vertical Datum of 1929. Prior to Jan. 6, 1926, nonrecording gage at same site and datum.

REMARKS.--Records good except for periods of estimated discharges, which are fair. Flow occasionally regulated by ponds above station. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--64 years, 109 ft³/s, 23.13 in./yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,560 ft³/s, Aug. 19, 1955, gage height, 12.58 ft, from high-water mark in gage house, from rating curve extended above 2,000 ft³/s on basis of slope-area measurement of peak flow; minimum, 3.6 ft³/s, Sept. 25, 26, 1964, Sept. 11, 1966, but may have been lower during period of ice effect, Feb. 2-11, 1981.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 650 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 5	0345	*1,590	*5.42	Sept. 14	0215	670	3.77

Minimum discharge, 12 ft³/s, Aug. 24, 25, 26, 27.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	18	118	e111	e81	171	275	111	50	20	21	35
2	18	18	115	e117	e75	415	168	103	50	23	20	31
3	19	18	300	e124	85	310	147	102	63	43	21	26
4	47	17	269	e115	92	245	488	184	63	33	22	23
5	39	18	171	e103	85	189	1100	159	61	25	22	20
6	27	29	141	e98	87	166	596	153	49	21	26	20
7	21	41	125	e96	76	198	636	136	44	20	24	22
8	19	45	115	e93	75	375	471	119	43	32	22	33
9	18	69	113	e87	74	497	355	108	41	35	20	224
10	17	50	151	e85	69	403	291	101	38	28	26	114
11	16	44	e157	e112	70	287	242	96	34	27	24	67
12	16	63	e132	e111	67	239	218	89	33	26	21	51
13	16	61	e120	e97	72	204	323	84	37	27	19	257
14	18	47	e94	e91	e61	181	283	78	34	90	18	479
15	22	40	e95	e104	e53	162	223	76	33	393	17	199
16	20	37	e91	e147	e51	150	202	75	31	116	17	133
17	18	37	e96	e114	e59	138	196	69	28	70	15	131
18	18	36	e128	e101	e57	127	211	66	26	50	14	163
19	17	54	e216	e107	e53	123	186	72	25	42	14	260
20	17	54	e157	e109	e52	118	165	74	25	37	14	196
21	15	398	e134	e110	e49	113	153	75	24	34	14	148
22	16	279	e118	e91	e50	108	142	68	27	31	13	121
23	15	162	e108	e90	58	104	133	63	29	28	13	113
24	14	149	e103	e114	57	102	131	166	26	26	12	92
25	15	145	e246	e107	54	95	195	117	24	25	12	88
26	18	155	e240	e94	53	91	160	85	22	27	12	88
27	35	361	e184	e80	52	87	134	76	24	28	31	71
28	31	231	e159	e75	51	89	127	72	25	25	55	61
29	25	168	e144	e82	---	88	129	65	22	22	86	56
30	22	137	e134	e88	---	86	122	59	20	21	55	55
31	19	---	e124	e88	---	183	---	54	---	23	35	---
TOTAL	646	2981	4598	3141	1818	5844	8202	2955	1051	1448	735	3377
MEAN	20.8	99.4	148	101	64.9	189	273	95.3	35.0	46.7	23.7	113
MAX	47	398	300	147	92	497	1100	184	63	393	86	479
MIN	14	17	91	75	49	86	122	54	20	20	12	20
CFSM	.33	1.55	2.32	1.58	1.01	2.95	4.27	1.49	.55	.73	.37	1.76
IN.	.38	1.73	2.67	1.83	1.06	3.40	4.77	1.72	.61	.84	.43	1.96

CAL YR 1986 TOTAL 40717 MEAN 112 MAX 1440 MIN 13 CFSM 1.74 IN. 23.66
WTR YR 1987 TOTAL 36796 MEAN 101 MAX 1100 MIN 12 CFSM 1.58 IN. 21.38

e Estimated

DELAWARE RIVER BASIN

57

01440200 DELAWARE RIVER BELOW TOCKS ISLAND DAMSITE, NEAR DELAWARE WATER GAP, PA

LOCATION.--Lat 41°00'42", long 75°05'09", Warren County, NJ, Hydrologic Unit 02040105, on left bank 40 ft streamward from River Road, 1.0 mi downstream from Tocks Island, 3.7 mi northeast of Delaware Water Gap, PA, 4.0 mi upstream from bridge on Interstate Route 80, and at mile 216.1.

DRAINAGE AREA.--3,850 mi², approximately.

PERIOD OF RECORD.--May 1964 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 293.64 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except for periods of estimated daily discharges, which are fair. Diurnal fluctuation at medium and low flow caused by powerplants on tributary streams. Flow regulated by Lake Wallenpaupack, and by Pepacton, Cannonsville, Swinging Bridge, Toronto, Cliff Lake, and Neversink Reservoirs (see Delaware River basin, reservoirs in) and smaller reservoirs. Diversion from Pepacton, Cannonsville, and Neversink Reservoirs (see Delaware River basin, diversions). Several measurements of water temperature were made during the year. Gage height satellite telemeter at station.

AVERAGE DISCHARGE.--23 years, 6,381 ft³/s, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 110,000 ft³/s, Mar. 16, 1986, gage height, 24.00 ft; minimum daily, 580 ft³/s, July 7, 8, 1965.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 76,900 ft³/s, Apr. 5, gage height, 18.33 ft; minimum, 1,190 ft³/s, Sept. 6, 7.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2370	1720	10800	7040	e4320	2400	15800	4250	2170	2390	2190	2660
2	2250	1580	8910	6690	e3840	4680	16300	3800	2800	2450	1990	2730
3	2040	1620	10000	6730	e3980	7510	13000	3510	3610	2500	1810	2480
4	2610	1730	14200	6430	e4280	8570	17200	4180	3600	3180	2390	1890
5	5620	2010	12600	5420	e4000	7460	67100	5890	3300	3020	2950	1500
6	4730	2140	10200	5760	e3640	6470	57800	5500	3350	2390	2770	1250
7	3680	2470	8200	5680	e3500	6580	43800	4740	2350	2360	2470	1400
8	2960	2710	7570	5450	e3200	8440	35800	4420	2070	2850	2340	1720
9	2300	3800	7760	5060	e2900	16300	28400	4000	2340	3320	1840	12100
10	2250	10200	8200	4640	e3290	20000	23400	3380	2670	3710	1930	25100
11	2090	9560	9420	3980	e3710	15600	19200	3140	2730	3310	2070	12800
12	1660	7530	9480	4120	e3360	13100	16100	3190	2220	2400	2330	8350
13	1720	6630	8470	4960	e3250	11400	16700	2750	1870	2070	1840	10400
14	1950	5950	7260	4730	e3170	10000	25800	2590	2110	3610	1780	36000
15	2230	4860	6440	4560	e2520	7730	21600	2460	2090	6780	1640	24500
16	3030	4100	6630	5080	e2030	6840	18100	2370	2980	10200	1640	14900
17	2980	3770	6620	5660	e2320	7100	15700	2250	2670	6490	1610	11400
18	2510	4060	5580	4300	e2890	6700	14500	2180	2470	4810	2440	10900
19	1900	5210	6720	3860	e3290	6480	13500	2370	2500	3480	1940	21600
20	1940	5370	7140	5060	e3230	6680	12200	2440	2490	3020	1700	20500
21	2160	9390	5800	5000	e3170	6690	9960	2670	2270	3470	1650	15000
22	2220	22700	5000	4670	e2420	5720	8570	2610	1810	3580	1720	11900
23	1900	14900	4830	e4290	e2050	5530	7680	2640	2060	3320	1590	10300
24	2010	11400	5330	e4220	e2070	7060	7100	2970	2040	3210	1690	8790
25	2450	11800	6620	e4220	e2130	7860	6800	3420	3030	3120	1740	7880
26	1790	12000	9340	e4440	e2330	8880	6520	3270	2670	3160	1890	7110
27	1950	22500	10700	e4810	e2230	11100	5940	2890	2120	2380	2040	6810
28	2320	29500	8350	e5100	e2160	11500	5250	2810	2000	3080	2450	6350
29	2410	18600	7200	e5180	---	10200	4710	2780	2210	2570	3060	5650
30	2060	13500	7880	e5060	---	9220	4590	3240	2280	2370	3910	5420
31	1930	---	7600	e4710	---	9510	---	2480	---	2220	3350	---
TOTAL	76020	253310	250850	156910	85280	273310	559120	101190	74880	106820	66760	309390
MEAN	2452	8444	8092	5062	3046	8816	18640	3264	2496	3446	2154	10310
MAX	5620	29500	14200	7040	4320	20000	67100	5890	3610	10200	3910	36000
MIN	1660	1580	4830	3860	2030	2400	4590	2180	1810	2070	1590	1250

CAL YR 1986 TOTAL 2613230 MEAN 7160 MAX 96000 MIN 1530
WTR YR 1987 TOTAL 2313840 MEAN 6339 MAX 67100 MIN 1250

e Estimated

DELAWARE RIVER BASIN

01443000 DELAWARE RIVER AT PORTLAND, PA

LOCATION---Lat 40°55'26", long 75°05'46", Northampton County, Hydrologic Unit 02040105, at walkbridge connecting Portland, PA and Columbia, NJ, and 0.5 mi upstream of Paulins Kill.

DRAINAGE AREA---4,165 mi².

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 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	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 1986 30...	1030	E1780	91	8.1	12.0	10.2	95	<0.4	<20	240
FEB 1987 18...	1045	E3740	110	7.1	0.5	14.0	98	<0.1	80	170
MAY 19...	1100	E3090	110	7.6	18.5	7.0	75	3.2	270	110
JUL 21...	1100	E3860	--	8.2	24.5	7.4	--	<0.9	>20	48
AUG 24...	1030	E1860	90	7.5	23.5	8.2	97	<0.4	40	540

DATE	HARDNESS (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 1986 30...	28	8.4	1.7	5.1	1.2	19	11	8.1	<0.1
FEB 1987 18...	31	9.5	1.8	5.5	0.8	20	13	9.2	<0.1
MAY 19...	32	9.5	1.9	4.8	0.8	21	8.0	7.0	<0.1
JUL 21...	27	8.2	1.5	4.4	0.9	17	11	8.2	0.1
AUG 24...	34	10	2.3	5.2	1.4	20	12	7.8	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 1986 30...	0.8	48	0.008	0.15	0.06	0.45	0.60	0.030	2.9
FEB 1987 18...	3.0	55	0.005	0.40	0.07	0.47	0.87	0.040	1.9
MAY 19...	0.9	46	0.023	0.15	0.12	0.80	0.95	0.026	5.8
JUL 21...	2.1	47	0.006	0.24	0.05	0.54	0.78	0.050	3.6
AUG 24...	2.3	53	0.013	0.44	0.05	0.56	1.0	0.030	3.7

01443000 DELAWARE RIVER AT PORTLAND, PA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

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)	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 1987 19...	1100	<0.5	<10	<1	<10	<1	<10	2	
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 RECOV- ERABLE (UG/L AS SE)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
MAY 1987 19...	90	18	30	<0.10	<1	<1	20	1	

DELAWARE RIVER BASIN

01443440 PAULINS KILL AT BALESVILLE, NJ

LOCATION.--Lat 41°06'20", Long 74°45'19", Sussex County, Hydrologic Unit 02040105, at bridge on unnamed road at Balesville, 2.2 mi downstream from Dry Brook, and 3.4 mi north of Newton.

DRAINAGE AREA.--67.1 mi².

PERIOD OF RECORD.--January 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 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	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 1986										
14...	1100	E30	554	8.0	9.0	10.6	95	1.1	3500	920
MAR 1987										
03...	1100	E342	357	7.8	1.5	13.6	99	2.4	230	350
26...	1045	E96	445	8.4	10.5	12.0	110	E1.7	230	240
MAY										
20...	1045	E107	430	8.0	12.5	10.1	96	<0.9	1700	920
JUL										
21...	1030	E45	430	7.8	22.0	8.4	98	<1.1	1300	>2400
AUG										
12...	1045	E32	--	7.8	18.5	8.5	--	E1.5	1700	350

DATE	HARDNESS (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 1986									
14...	210	53	19	26	2.5	165	30	48	0.1
MAR 1987									
03...	100	27	8.4	19	1.6	73	22	34	<0.1
26...	160	42	14	22	1.8	124	22	42	0.1
MAY									
20...	180	46	15	22	1.6	144	24	40	<0.1
JUL									
21...	190	50	17	26	2.2	155	25	46	0.1
AUG									
12...	200	49	18	25	2.2	172	28	47	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 1986									
14...	7.5	290	0.051	1.25	0.06	--	--	0.200	4.5
MAR 1987									
03...	5.7	160	0.012	1.22	0.19	0.95	2.2	0.078	5.4
26...	2.5	220	0.041	1.14	0.08	0.98	2.1	0.111	5.1
MAY									
20...	6.2	240	0.049	1.00	0.23	1.1	2.1	0.151	15
JUL									
21...	7.1	270	0.077	1.43	0.15	1.1	2.5	0.240	5.7
AUG									
12...	6.1	280	0.042	1.36	0.12	1.1	2.4	0.200	8.4

DELAWARE RIVER BASIN

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01443440 PAULINS KILL AT BALESVILLE, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

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)	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 1987 20...	1045	<0.5	20	1	<10	<1	10	5	
DATE	TIME	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 RECOV- ERABLE (UG/L AS SE)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
MAY 1987 20...	410	<5	70	<0.10	<1	<1	<10	1	

DELAWARE RIVER BASIN

01443500 PAULINS KILL AT BLAIRSTOWN, NJ

LOCATION.--Lat 40°58'44", long 74°57'15", Warren County, Hydrologic Unit 02040105, on right bank 1,200 ft upstream from bridge on State Highway 94 in Blairstown, 1,400 ft upstream from Blairs Creek, and 10 mi upstream from mouth. Water-quality samples collected at bridge 1,200 ft downstream from gage at high flows.

DRAINAGE AREA.--126 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.-- 1921 to September 1976, October 1977 to current year.

REVISED RECORDS.--WSP 971: 1942. WSP 1382: 1952-53(M).

GAGE.--Water-stage recorder and concrete control (Aug. 1, 1931, to Aug. 3, 1941, concrete control at site 280 ft downstream). Datum of gage is 335.86 ft above National Geodetic Vertical Datum of 1929. Prior to May 24, 1922, nonrecording gage and May 24, 1922 to July 31, 1931, water-stage recorder, at site of former highway bridge 1,300 ft downstream at different datum. Aug. 1, 1931 to July 28, 1939, water-stage recorder at site 100 ft downstream at present datum.

REMARKS.--Records fair. Diurnal fluctuation caused by powerplant above station and flow regulated slightly by Swartswood Lake. Several measurements of water temperature, other than those published, were made during the year.

AVERAGE DISCHARGE.--65 years, (water years 1922-76, 1978-87) 195 ft³/s, 21.02 in./yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,750 ft³/s, Aug. 19, 1955, gage height, 11.12 ft, from high-water mark in gage house; minimum, about 2.8 ft³/s, Nov. 1, 1922; minimum daily, 5 ft³/s, Aug. 13, 14, 1930.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 5	0400	*1,660	*5.08	Sept. 14	0215	1,240	4.02

Minimum discharge, 22 ft³/s, Aug. 25, 26, 27, gage height, 1.48 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45	43	262	229	175	263	294	219	87	40	38	112
2	70	43	237	235	157	637	248	205	97	45	37	94
3	81	43	395	240	166	559	222	202	103	69	42	77
4	110	39	396	226	181	480	691	264	107	66	46	64
5	106	41	330	207	180	421	1450	271	117	55	43	55
6	94	63	286	194	170	384	1220	271	98	47	59	51
7	73	80	261	187	166	425	1160	246	84	42	63	73
8	63	81	244	180	166	576	979	223	78	80	52	158
9	57	121	241	171	165	712	719	201	76	109	46	412
10	53	102	281	169	150	555	521	192	74	107	69	323
11	48	98	300	210	154	441	448	179	68	98	73	232
12	47	164	272	217	148	396	415	170	66	73	57	186
13	45	133	249	197	147	366	480	157	68	63	45	507
14	53	96	209	183	135	338	431	144	71	103	41	1020
15	56	79	201	195	122	310	392	143	64	368	38	577
16	51	72	194	260	117	288	367	138	59	267	35	412
17	45	71	195	e209	128	269	361	123	54	170	34	363
18	43	70	235	e190	123	246	381	120	49	120	33	361
19	41	102	358	e198	114	232	356	166	46	97	30	409
20	39	117	309	e221	112	220	324	182	46	90	28	364
21	36	529	273	e200	108	209	297	169	46	79	28	308
22	35	449	244	e197	108	203	279	144	50	67	25	282
23	32	343	226	e189	122	191	253	129	54	59	25	265
24	32	307	216	e214	121	182	261	169	49	53	25	235
25	30	277	389	e211	116	172	364	168	45	49	23	221
26	37	292	412	e190	112	165	336	139	42	91	22	191
27	61	515	348	e168	111	157	284	130	48	79	49	172
28	59	414	309	e160	111	163	264	126	51	57	128	154
29	47	348	282	e170	---	162	257	117	46	47	209	140
30	41	301	265	e177	---	157	242	104	41	41	177	136
31	45	---	248	e174	---	222	---	93	---	41	112	---
TOTAL	1675	5433	8667	6168	3885	10101	14296	5304	1984	2772	1732	7954
MEAN	54.0	181	280	199	139	326	477	171	66.1	89.4	55.9	265
MAX	110	529	412	260	181	712	1450	271	117	368	209	1020
MIN	30	39	194	160	108	157	222	93	41	40	22	51
CFSM	.43	1.44	2.22	1.58	1.10	2.59	3.78	1.36	.52	.71	.44	2.10
IN.	.49	1.60	2.56	1.82	1.15	2.98	4.22	1.57	.59	.82	.51	2.35

CAL YR 1986 TOTAL 77240 MEAN 212 MAX 1830 MIN 29 CFSM 1.68 IN. 22.79
WTR YR 1987 TOTAL 69971 MEAN 192 MAX 1450 MIN 22 CFSM 1.52 IN. 20.65

e Estimated

DELAWARE RIVER BASIN

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01443500 PAULINS KILL AT BLAIRSTOWN, NJ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD---Water years 1921, 1925, 1957-60, 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 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	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 1986										
14...	1330	54	444	8.1	10.0	10.7	97	E1.8	230	130
FEB 1987										
04...	1245	185	428	8.0	1.5	12.6	91	<1.1	<20	27
MAR										
26...	1300	166	392	8.4	10.5	12.2	111	<0.8	20	33
MAY										
20...	1245	180	400	8.1	15.0	9.6	96	E1.8	490	540
JUL										
07...	1200	42	479	8.0	21.5	7.5	86	<0.9	330	350
AUG										
12...	1230	56	473	8.3	22.5	9.6	111	E2.0	50	49

DATE	HARD- NESS (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 1986									
14...	170	42	16	20	1.9	139	23	36	<0.1
FEB 1987									
04...	150	37	14	21	1.4	114	24	36	0.1
MAR									
26...	150	38	14	16	1.2	120	19	31	<0.1
MAY									
20...	150	37	15	18	1.2	129	19	33	<0.1
JUL									
07...	190	45	19	21	1.5	159	22	40	<0.1
AUG									
12...	180	44	18	23	2.0	154	24	39	0.1

DATE	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, 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 1986									
14...	3.7	230	0.009	0.30	0.06	--	--	0.060	3.8
FEB 1987									
04...	5.8	210	0.009	0.99	0.16	0.53	1.5	0.061	4.4
MAR									
26...	3.3	190	0.020	0.83	0.07	0.50	1.3	0.045	2.9
MAY									
20...	2.9	200	0.023	0.54	0.14	0.96	1.5	0.068	9.3
JUL									
07...	3.2	250	E0.008	0.17	0.09	0.71	0.88	0.110	3.8
AUG									
12...	2.9	250	0.010	0.33	0.17	1.1	1.4	0.090	5.1

DELAWARE RIVER BASIN

01443500 PAULINS KILL AT BLAIRSTOWN, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

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 1986 14...	1330	<0.5	20	<1	<10	40	<1	<10	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 1986 14...	90	<5	50	<0.10	3	<1	430	8

DELAWARE RIVER BASIN

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01443900 YARDS CREEK NEAR BLAIRSTOWN, NJ

LOCATION.--Lat 40°58'51", long 75°02'25", Warren County, Hydrologic Unit 02040105, on left bank 100 ft upstream from bridge on Hainesburg-Mount Vernon Road, 1.4 mi downstream of Yards Creek Reservoir, 2.2 mi northeast of Hainesburg, 2.4 mi upstream from mouth, and 4.2 mi west of Blairstown.

DRAINAGE AREA.--5.34 mi².

PERIOD OF RECORD.--October 1966 to current year.

REVISED RECORDS.--WDR NJ-77-2: 1976. WDR NJ-79-2: 1977(m). WDR NJ-82-2: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 606.8 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except for period of ice effect, Jan. 23 to Feb. 3, which are poor. Complete regulation by the Jersey Central Power and Light Co., at Yards Creek Reservoir 1.4 mi above station. Several measurements of water temperature, other than those published, were made during the year.

AVERAGE DISCHARGE.--21 years, 10.8 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 583 ft³/s, Feb. 24, 1977, gage height, 3.92 ft; no flow Sept. 12, 1971.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 325 ft³/s, Sept. 18, gage height, 3.38 ft; minimum, 0.39 ft³/s, June 10, 11, gage height, 1.60 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.7	2.0	8.9	19	e9.3	14	10	9.7	1.4	1.5	1.3	2.3
2	2.0	1.9	10	21	e9.1	11	10	9.4	1.6	1.8	1.2	1.5
3	2.3	1.6	13	28	e8.9	8.3	10	9.1	1.7	2.0	1.4	1.4
4	2.5	1.6	11	21	9.1	7.1	40	9.6	1.9	1.5	1.2	1.4
5	1.6	1.7	12	18	9.5	6.4	34	9.3	.86	1.4	1.4	1.4
6	.93	3.0	11	18	9.1	6.6	38	9.5	.61	1.3	1.5	1.5
7	.99	2.1	9.2	17	8.9	7.8	45	9.6	.53	1.1	1.3	2.7
8	1.2	3.1	8.8	17	8.2	7.7	43	9.6	.51	2.4	1.3	11
9	1.2	2.4	11	17	6.9	7.1	44	9.4	.51	1.3	1.3	12
10	1.2	2.0	11	18	13	6.3	50	8.7	.46	1.2	2.4	4.3
11	1.3	3.5	10	16	8.8	5.7	43	8.3	.70	1.2	1.3	3.1
12	1.2	2.9	12	16	8.6	5.3	39	8.7	2.5	1.4	1.3	3.0
13	1.1	2.7	13	16	9.0	5.2	38	9.0	2.5	1.1	1.2	22
14	1.7	3.6	9.4	17	12	5.1	39	8.9	2.3	7.7	1.2	10
15	1.3	4.2	8.6	17	9.7	4.7	29	9.1	2.1	2.9	1.2	5.7
16	1.2	3.7	9.1	17	20	6.6	18	8.6	2.1	1.8	1.1	4.2
17	1.4	3.3	9.3	18	19	9.6	19	7.3	2.0	1.5	1.1	26
18	1.4	4.1	16	16	13	9.7	19	5.9	1.5	1.4	1.1	134
19	1.4	3.9	23	18	9.5	9.6	17	5.5	1.6	1.4	1.1	150
20	1.1	5.6	23	18	8.9	12	17	5.5	1.6	1.5	1.1	129
21	1.1	13	17	17	8.9	18	17	5.5	1.7	1.3	1.1	113
22	1.2	5.6	17	18	7.2	16	17	5.5	1.5	1.2	1.2	67
23	1.3	4.2	18	e16	7.3	12	15	5.4	1.8	1.2	1.1	42
24	1.4	3.8	19	e15	6.0	9.0	11	5.2	1.8	1.2	.90	19
25	1.6	6.0	24	e14	3.8	8.9	11	4.4	1.5	1.2	1.0	16
26	2.2	15	20	e13	3.8	8.9	9.5	3.8	1.6	2.6	1.0	5.7
27	1.7	14	25	e13	3.9	9.2	9.0	3.2	1.9	1.3	3.1	5.3
28	1.6	11	23	e12	3.9	9.5	9.5	2.9	1.5	1.2	3.2	5.2
29	1.7	11	17	e11	---	8.0	9.4	1.8	1.4	1.2	3.4	5.1
30	1.7	9.2	18	e11	---	8.4	9.5	1.8	1.5	1.4	1.7	5.4
31	1.8	---	18	e9.8	---	12	---	1.6	---	1.3	1.5	---
TOTAL	46.02	151.7	455.3	512.8	255.3	275.7	719.9	211.8	45.18	52.5	45.20	810.2
MEAN	1.48	5.06	14.7	16.5	9.12	8.89	24.0	6.83	1.51	1.69	1.46	27.0
MAX	2.5	15	25	28	20	18	50	9.7	2.5	7.7	3.4	150
MIN	.93	1.6	8.6	9.8	3.8	4.7	9.0	1.6	.46	1.1	.90	1.4

CAL YR 1986 TOTAL 3497.48 MEAN 9.58 MAX 124 MIN .93
WTR YR 1987 TOTAL 3581.57 MEAN 9.81 MAX 150 MIN .46

e Estimated

DELAWARE RIVER BASIN

01445500 PEQUEST RIVER AT PEQUEST, NJ

LOCATION.--Lat 40°49'50", long 74°58'43", Warren County, Hydrologic Unit 02040105, on right bank at Pequest, 100 ft upstream from CONRAIL (formerly Lehigh and Hudson River Railway) bridge, and 300 ft downstream from Furnace Brook.

DRAINAGE AREA.--106 mi².

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

REVISED RECORDS.--WSP 1902: 1940(M), 1945, 1955(M), 1957, 1959(M).

GAGE.--Water-stage recorder. Concrete control since Sept. 29, 1929. Datum of gage is 398.78 ft above National Geodetic Vertical Datum of 1929. Prior to June 22, 1926, nonrecording gage at site 10 ft upstream at same datum.

REMARKS.--Records fair. Several measurements of water temperature, other than those published, were made during the year.

AVERAGE DISCHARGE.--66 years, 155 ft³/s, 19.48 in./yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,130 ft³/s, Jan. 25, 1979, gage height, 5.97 ft, from floodmark; minimum, 12 ft³/s, Aug. 17, 18, 19, 20, 21, 22, Dec. 10, 1965.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 650 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 21	0830	656	3.14	Sept. 13	1930	797	3.47
Apr. 5	0030	*1,130	*4.18				

Minimum discharge, 33 ft³/s, Aug. 25, 26, 27, gage height, 1.27 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47	42	172	177	132	278	336	247	88	57	47	85
2	47	41	164	188	136	481	247	233	106	77	43	76
3	49	40	355	204	147	398	200	223	108	92	45	65
4	68	39	298	196	160	321	730	275	113	80	45	58
5	70	43	238	179	153	288	1020	291	113	66	53	53
6	62	79	201	167	145	280	885	279	100	58	94	50
7	52	77	182	162	141	344	792	260	90	55	72	95
8	49	88	174	169	140	411	677	228	86	98	58	257
9	47	105	183	161	138	396	562	205	81	102	53	450
10	45	86	242	153	123	362	478	188	76	82	97	255
11	43	97	226	179	132	326	421	176	72	69	86	170
12	42	151	204	176	126	305	384	170	73	60	67	129
13	41	110	186	161	123	290	466	160	76	58	58	440
14	49	85	150	158	e104	272	426	148	72	96	53	556
15	52	72	156	187	e93	257	372	148	71	189	49	364
16	50	68	151	223	e89	243	336	145	67	127	45	259
17	48	66	152	179	e102	230	342	136	62	88	42	241
18	46	65	214	158	e105	218	369	131	59	73	41	311
19	43	107	319	167	e103	208	338	147	58	63	38	260
20	42	117	234	173	e99	197	301	157	56	69	36	230
21	43	528	201	171	95	188	278	161	57	68	35	202
22	44	342	181	148	95	182	260	145	63	60	36	183
23	42	233	169	117	103	175	241	135	63	55	36	180
24	40	196	163	e158	103	167	278	135	60	52	35	160
25	39	176	414	e146	101	156	476	123	55	48	33	143
26	43	221	346	e137	100	149	406	116	53	63	33	132
27	53	380	280	e126	99	142	324	112	67	71	51	123
28	51	264	246	120	97	145	297	111	65	53	107	117
29	48	222	225	125	---	147	290	106	60	49	163	110
30	46	194	213	128	---	140	271	99	55	48	119	109
31	44	---	197	135	---	265	---	91	---	47	80	---
TOTAL	1485	4334	6836	5028	3284	7961	12803	5281	2225	2273	1850	5863
MEAN	47.9	144	221	162	117	257	427	170	74.2	73.3	59.7	195
MAX	70	528	414	223	160	481	1020	291	113	189	163	556
MIN	39	39	150	117	89	140	200	91	53	47	33	50
CFSM	.45	1.36	2.08	1.53	1.11	2.42	4.03	1.61	.70	.69	.56	1.84
IN.	.52	1.52	2.40	1.76	1.15	2.79	4.49	1.85	.78	.80	.65	2.06

CAL YR 1986 TOTAL 63365 MEAN 174 MAX 954 MIN 37 CFSM 1.64 IN. 22.23
WTR YR 1987 TOTAL 59223 MEAN 162 MAX 1020 MIN 33 CFSM 1.53 IN. 20.78

e Estimated

DELAWARE RIVER BASIN

67

01446500 DELAWARE RIVER AT BELVIDERE, NJ

LOCATION.--Lat 40°49'36", long 75°05'02", Warren County, Hydrologic Unit 02040105, on left bank at Belvidere, 800 ft downstream from Pequest River, and at mile 197.7.

DRAINAGE AREA.--4,535 mi².

PERIOD OF RECORD.--October 1922 to current year.

REVISED RECORDS.--WSP 781: 1933(M). WSP 951: 1940-41, Drainage area. WSP 1432: 1923, 1924(M).

GAGE.--Water-stage recorder. Datum of gage 226.43 ft above National Geodetic Vertical Datum of 1929. Prior to Jan. 1, 1929, nonrecording gage at site 200 ft upstream at same datum.

REMARKS.--No estimated daily discharges. Records good. Diurnal fluctuations at medium and low flow caused by powerplants on tributary streams. Flow regulated by Lake Wallenpaupack, and by Pepacton, Cannonsville, Swinging Bridge, Toronto, Cliff Lake, and Neversink Reservoirs (see Delaware River basin, reservoirs in) and smaller reservoirs. Diversions from Pepacton, Cannonsville, and Neversink Reservoirs (see Delaware River basin, diversions). National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--65 years, 7,874 ft³/s, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 273,000 ft³/s, Aug. 19, 1955, gage height, 30.21 ft, from high-water mark in gage house, from rating curve extended above 170,000 ft³/s, on basis of flood-routing study; minimum, 609 ft³/s, Sept. 28, 29, 1943, gage height, 2.11 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 10, 1903, reached a stage of 28.6 ft, from floodmark, discharge, 220,000 ft³/s, from rating curve extended above 170,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 74,200 ft³/s, Apr. 6, gage height, 15.36 ft; minimum, 1,500 ft³/s, Oct. 13, gage height, 3.13 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2290	1910	13000	9100	5390	4520	17700	5820	2870	2610	2550	3650
2	2550	1680	11000	8720	4990	8170	19900	5290	3340	2770	2550	3340
3	2170	1690	13100	8740	5050	10500	15800	4970	4280	3070	2140	3230
4	2890	1750	16800	8250	5530	11800	22400	5760	4520	3490	2420	2590
5	5430	2070	15400	7040	5110	10500	58600	7590	4170	3560	3310	2060
6	5650	2520	12700	6660	4630	9110	63800	7220	4080	2850	3330	1750
7	4220	2920	10500	6810	4580	9120	49000	6470	3340	2510	3000	1990
8	3320	3260	9510	6810	4340	11300	41100	5950	2730	3430	2740	3350
9	2610	4190	9700	6400	4050	18400	33400	5410	2660	3990	2520	18100
10	2260	9750	10600	6070	3700	23700	28400	4700	3160	4280	2540	29400
11	2160	11000	11500	5640	4720	19400	23700	4370	3250	3850	2400	16800
12	1920	9020	11700	5610	4370	16400	20400	4320	2940	3220	2730	11100
13	1660	7840	10600	6150	4000	14500	19700	3890	2460	2600	2360	17000
14	1830	6910	9170	6050	3730	12800	27300	3620	2580	4180	2180	39300
15	2250	5720	7600	5890	3500	10300	25300	3480	2640	9690	2020	30000
16	3100	4920	8210	6610	2440	9010	21400	3360	3170	12200	2070	19400
17	3200	4460	8210	7170	2920	9130	19200	3180	3120	8020	1940	15200
18	2690	4540	7820	5930	3340	8590	18100	3040	2870	5810	2320	14800
19	2200	6080	9580	5340	3710	8200	16900	3390	2880	4490	2670	24600
20	1910	6380	9590	6090	3680	8280	15400	3470	2890	3730	1990	24800
21	1950	11200	8160	6470	3660	8350	13300	3770	2790	3750	1930	18800
22	2240	24200	7130	5870	3400	7280	11400	3590	2390	4050	2010	15300
23	2160	17800	6670	4920	2980	6900	10300	3610	2330	3820	1870	13400
24	1880	13700	7020	4490	2780	8230	9570	4080	2360	3650	1940	11400
25	2380	13400	10800	4520	2810	9230	9840	4550	3280	3530	2010	10200
26	2020	14300	12700	5010	3000	10200	9210	4520	3070	3700	2050	9070
27	2150	22200	13900	5340	3100	12300	8100	3960	2610	3240	2590	8520
28	2340	31500	11300	5440	2980	13400	7390	3740	2500	3300	3390	7810
29	2660	21300	9850	5570	---	12000	6570	3680	2570	3050	4470	6940
30	2330	16100	10100	5840	---	11000	6250	3830	2510	2880	4640	6570
31	2020	---	9800	5650	---	11800	---	3570	---	2740	4380	---
TOTAL	80440	284310	323720	194200	108490	344420	649430	138200	90360	128060	81060	390470
MEAN	2595	9477	10440	6265	3875	11110	21650	4458	3012	4131	2615	13020
MAX	5650	31500	16800	9100	5530	23700	63800	7590	4520	12200	4640	39300
MIN	1660	1680	6670	4490	2440	4520	6250	3040	2330	2510	1870	1750

CAL YR 1986 TOTAL 3105070 MEAN 8507 MAX 111000 MIN 1610
WTR YR 1987 TOTAL 2813160 MEAN 7707 MAX 63800 MIN 1660

DELAWARE RIVER BASIN

01447000 DELAWARE RIVER AT NORTHAMPTON STREET AT EASTON, PA

LOCATION.--Lat 40°41'30", long 75°12'15", Northampton County, Hydrologic Unit 02040105, at bridge on Northampton Street in Easton, 600 ft upstream from Lehigh River, and 0.2 mi downstream from U.S. Route 22 toll bridge in Easton.

DRAINAGE AREA.--4,717 mi².

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 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	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 1986										
30...	1330	E2800	137	8.2	12.5	10.1	94	<0.3	<20	70
FEB 1987										
18...	1230	E2600	170	8.1	0.5	13.9	97	<0.3	<20	11
MAR										
19...	1300	E8210	132	7.7	4.5	14.0	109	E1.4	110	22
MAY										
19...	1415	E3100	153	7.8	18.5	7.0	75	<0.7	50	31
JUL										
27...	1345	E3370	145	7.9	27.0	8.9	113	E1.3	50	79
AUG										
24...	1330	E1960	155	8.4	23.5	9.1	107	<1.1	<20	240

DATE	HARD- NESS (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 1986									
30...	51	14	3.9	6.7	1.1	35	16	9.7	<0.1
FEB 1987									
18...	59	16	4.7	7.7	1.0	41	20	14	<0.1
MAR									
19...	44	12	3.3	5.7	0.8	29	15	8.4	<0.1
MAY									
19...	64	17	5.3	7.6	0.9	48	19	10	<0.1
JUL									
27...	48	13	3.7	6.2	1.2	33	14	10	0.1
AUG									
24...	48	13	3.7	7.6	1.1	37	14	11	0.1

DATE	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITU- ENTS, 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 1986									
30...	1.2	74	0.018	0.43	0.110	0.43	0.86	0.030	3.1
FEB 1987									
18...	3.1	91	0.012	0.77	0.100	0.48	1.2	0.060	2.1
MAR									
19...	2.8	65	0.012	0.60	0.070	0.46	1.1	0.051	1.8
MAY									
19...	1.4	90	0.012	0.58	0.130	0.54	1.1	0.042	6.2
JUL									
27...	2.2	70	0.004	0.33	0.110	0.54	0.87	0.035	3.2
AUG									
24...	1.9	75	0.005	0.31	0.130	0.57	0.88	0.020	3.4

DELAWARE RIVER BASIN

69

01447000 DELAWARE RIVER AT NORTHAMPTON STREET AT EASTON, PA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

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 1986 30...	1330	<0.5	10	1	10	40	<1	<10	7
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 1986 30...		200	67	20	0.20	1	<1	20	2

LEHIGH RIVER BASIN

01453000 LEHIGH RIVER AT BETHLEHEM, PA

LOCATION.--Lat 40°36'55", long 75°22'45", Lehigh County, Hydrologic Unit 02040106, on left bank 110 ft upstream from New Street Bridge at Bethlehem, and 1,800 ft upstream from Monocacy Creek. Records include flow of Monocacy Creek.

DRAINAGE AREA.--1,279 mi² includes that of Monocacy Creek. At site used prior to Oct. 1, 1928, 1,229 mi².

PERIOD OF RECORD.--September 1902 to February 1905, April 1909 to current year. Monthly discharge only for some periods, published in WSP 1302. Published as "at South Bethlehem" prior to October 1913.

REVISED RECORDS.--WSP 261: 1903-5, WSP 321: 1910-11, WSP 1051: Drainage area. WSP 1141: 1929-34(M).

WSP 1302: 1914(M), 1916(M), 1918, 1921, 1927-28. WSP 1432: 1903, 1919(M), 1920-21, 1929, 1933.

GAGE.--Water-stage recorder. Datum of gage is 210.94 ft above National Geodetic Vertical Datum of 1929. Prior to October 1928, nonrecording gage at New Street Bridge 120 ft downstream at same datum. Oct. 1, 1928, to Sept. 30, 1962, water-stage recorder at site 4,250 ft downstream at datum 2.49 ft lower. Oct. 1, 1963, to Dec. 14, 1975, water-stage recorder at site 40 ft downstream at same datum.

REMARKS.--Records good except for periods of estimated record, which are fair. Flow regulated by Wild Creek Reservoir (station 01449700) since January 1941, Penn Forest Reservoir (station 01449400) since October 1958, Francis E. Walter Reservoir (station 01447780) since February 1961, and Beltzville Lake (station 01449790) since February 1971. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--80 years (water years 1902-04, 1909-87), 2,344 ft³/s, 24.88 in/yr, adjusted for diversion 1902-04, 1909-42 and, for recirculated water, October 1, 1959 to September 30, 1962.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 92,000 ft³/s May 23, 1942, gage height, about 25.9 ft, from floodmark, present site and datum, from rating curve extended above 48,000 ft³/s; minimum, 125 ft³/s June 28, 1965, gage height, 0.94 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Feb. 28, 1902, reached a stage of 24.9 ft, from floodmark, present site and datum, discharge, about 88,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 45,400 ft³/s, Sept. 9, gage height, 15.94 ft; minimum daily, 519 ft³/s, Aug. 26.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	913	668	3180	2920	1620	2730	4990	2180	1150	923	699	1760
2	867	740	3030	3040	1680	4950	4170	2040	1160	929	633	1820
3	928	725	5150	2850	1730	5000	4020	2080	1050	1060	690	1710
4	1130	713	5300	2580	1750	4340	7730	2640	942	1180	676	1460
5	1580	733	4840	2430	1630	3600	11800	2730	1010	1100	740	1150
6	1660	1110	4040	2250	1490	3100	9990	2500	938	1150	868	1100
7	1130	1200	3540	2190	1490	2990	11800	2300	1080	1130	968	1770
8	981	1400	3280	2140	1540	3320	13000	2110	1050	1050	864	7180
9	960	1730	3250	2030	1530	4130	11700	1940	1030	2100	977	33100
10	808	1990	3710	2040	1320	4950	9590	1870	873	2060	2400	9940
11	725	2370	3520	2160	1560	4320	4800	1830	792	1540	1410	7700
12	741	2510	3310	2050	1470	3760	4490	1710	782	1550	1110	5640
13	760	2110	2990	1960	e1400	3430	4570	1610	958	1290	899	17500
14	908	1830	2650	1910	e1200	2990	4290	1570	1290	2140	723	17100
15	1050	1650	2650	1930	e1100	2830	4020	1630	1110	3820	672	14200
16	978	1490	2580	2140	1010	2680	3650	1530	721	3340	650	13200
17	921	1460	2480	2180	1270	2380	3280	1440	674	2710	691	10600
18	976	1600	3170	2200	1320	2230	3370	1420	650	1860	657	7520
19	1170	2490	4770	2370	1290	2240	3210	1650	599	1690	575	6800
20	827	2340	4240	2410	1250	2220	3200	1820	588	1380	571	5780
21	779	5700	3820	2320	1170	2150	3080	1750	725	992	595	5360
22	696	5750	3480	2140	1130	2090	2740	1650	1140	945	609	6550
23	599	4710	2810	1990	1260	2060	2620	1570	1180	895	616	4850
24	668	3750	2770	1750	1270	2030	2540	1590	975	879	563	4630
25	693	3570	5530	e1700	1270	2130	2830	1550	791	781	529	4070
26	760	3580	5410	e1650	1190	2150	2530	1530	785	1070	519	3390
27	863	5270	5120	1620	1110	1680	2390	1520	1060	1050	778	3210
28	887	5410	4220	1570	1110	2030	2540	1430	1310	838	1180	3070
29	931	4470	3770	1660	---	2100	2380	1320	1040	853	1910	2740
30	850	3900	3660	1700	---	2110	2200	1240	716	836	1720	2310
31	679	---	3460	1710	---	2900	---	1170	---	877	1520	---
TOTAL	28418	76969	115730	65590	38160	91620	153520	54920	28169	44018	28012	207210
MEAN	917	2566	3733	2116	1363	2955	5117	1772	939	1420	904	6907
MAX	1660	5750	5530	3040	1750	5000	13000	2730	1310	3820	2400	33100
MIN	599	668	2480	1570	1010	1680	2200	1170	588	781	519	1100
CFSM	.72	2.01	2.92	1.65	1.07	2.31	4.00	1.39	.73	1.11	.71	5.40
IN.	.83	2.24	3.37	1.91	1.11	2.66	4.47	1.60	.82	1.28	.81	6.03

CAL YR 1986 TOTAL 903086 MEAN 2474 MAX 20800 MIN 587 CFSM 1.93 IN. 26.3
WTR YR 1987 TOTAL 932336 MEAN 2554 MAX 33100 MIN 519 CFSM 2.00 IN. 27.1

e Estimated

DELAWARE RIVER BASIN

71

01455200 POHATCONG CREEK AT NEW VILLAGE, NJ

LOCATION.--Lat 40°42'57", Long 75°04'20", Warren County, Hydrologic Unit 02040105, at bridge on Edison Road, 0.4 mi southeast of New Village, and 4.3 mi upstream from Merrill Creek.

DRAINAGE AREA.--33.3 mi².

PERIOD OF RECORD.--Water years 1959, 1962 and January 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 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	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 1986										
29...	1145	E11	240	8.1	11.0	11.8	107	<1.2	9200	1600
MAR 1987										
03...	1245	E63	203	7.4	3.5	13.3	101	E2.2	490	540
30...	1030	E31	211	9.0	12.0	15.2	142	E1.4	790	110
JUN										
02...	1145	E38	236	7.3	21.0	7.1	80	>8.8	>24000	>2400
JUL										
07...	1030	E16	266	7.5	18.5	8.7	94	<1.2	1700	1600
AUG										
24...	1030	E10	313	7.6	16.5	9.7	100	<0.7	2400	1600

DATE	HARD- NESS (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 1986									
29...	84	19	8.9	12	2.3	64	19	18	0.1
MAR 1987									
03...	56	14	5.2	9.7	1.9	36	19	14	<0.1
30...	73	17	7.4	9.2	1.6	51	17	15	<0.1
JUN									
02...	74	19	6.5	14	3.7	45	21	21	<0.1
JUL									
07...	96	22	9.9	11	2.3	75	19	17	<0.1
AUG									
24...	110	24	11	16	2.3	82	18	21	0.1

DATE	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, 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 1986									
29...	14	130	0.046	1.79	0.09	0.66	2.5	0.030	3.6
MAR 1987									
03...	11	96	0.016	1.60	0.18	1.1	2.7	0.201	4.9
30...	11	110	0.045	1.33	0.15	0.46	1.8	0.168	3.4
JUN									
02...	8.3	120	0.134	1.93	0.46	2.7	4.6	0.356	9.4
JUL									
07...	16	140	E0.078	2.38	0.12	0.64	3.0	0.330	2.9
AUG									
24...	12	150	0.081	2.59	--	--	--	0.560	4.7

DELAWARE RIVER BASIN

01455200 POHATCONG CREEK AT NEW VILLAGE, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

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 1986 29...	1145	<0.5	40	<1	<10	20	<1	<10	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 1986 29...	260	<5	30	<0.10	<1	<1	100	3

DELAWARE RIVER BASIN

73

01455500 MUSCONETCONG RIVER AT OUTLET OF LAKE HOPATCONG, NJ

LOCATION.--Lat 40°55'00", Long 74°39'55", Morris County, Hydrologic Unit 02040105, just upstream of bridge on Warren County Route 43 and 300 ft downstream from Lake Hopatcong dam in Landing.

DRAINAGE AREA.--25.3 mi².

PERIOD OF RECORD.--Water years 1962, 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 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	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 1986										
15...	1045	E12	255	7.8	9.0	10.7	96	E1.6	80	240
FEB 1987										
25...	1030	E21	310	7.6	2.5	13.8	104	<0.1	<20	5
APR										
01...	1045	E8.8	260	7.7	10.0	11.3	104	E1.4	20	49
MAY										
26...	1045	E24	278	7.8	17.5	9.0	94	<0.5	20	11
JUL										
16...	1030	E27	268	7.3	25.0	7.6	94	E1.6	<20	110
AUG										
26...	1045	E13	261	7.5	21.5	8.3	96	<1.0	20	33

DATE	HARD- NESS (MG/L AS CaCO ₃)	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 CaCO ₃)	SULFATE DIS- SOLVED (MG/L AS SO ₄)	CHLO- RIDE, DIS- SOLVED (MG/L AS Cl)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
OCT 1986									
15...	54	14	4.7	25	1.0	--	16	46	<0.1
FEB 1987									
25...	61	16	5.2	28	1.3	30	19	56	<0.1
APR									
01...	58	15	4.9	27	1.0	30	19	49	<0.1
MAY									
26...	57	15	4.8	25	1.2	29	21	47	<0.1
JUL									
16...	51	13	4.4	23	1.0	28	15	47	0.4
AUG									
26...	53	13	4.9	25	0.60	25	16	49	0.1

DATE	SILICA, DIS- SOLVED (MG/L AS SiO ₂)	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO ₂ +NO ₃ 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 1986									
15...	3.1	--	0.008	<0.05	0.05	0.90	--	0.020	3.5
FEB 1987									
25...	3.9	150	0.004	0.18	0.20	0.46	0.64	<0.020	4.1
APR									
01...	1.2	140	0.019	0.16	0.34	0.61	0.77	<0.020	3.3
MAY									
26...	0.4	130	<0.003	0.05	0.12	0.74	0.79	0.027	2.5
JUL									
16...	1.5	120	0.012	0.07	0.10	0.92	0.99	0.023	4.3
AUG									
26...	2.5	130	<0.003	<0.05	0.08	0.60	--	<0.020	3.9

DELAWARE RIVER BASIN

01455500 MUSCONETCONG RIVER AT OUTLET OF LAKE HOPATCONG, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

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 1987 26...	1045	<0.5	10	<1	<10	20	<1	<10	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)
MAY 1987 26...		90	<5	40	<0.10	<1	<1	<10	2

DELAWARE RIVER BASIN

75

01455801 MUSCONETCONG RIVER AT LOCKWOOD, NJ

LOCATION.--Lat 40°55'10", long 74°44'07", Sussex County, Hydrologic Unit 02040105, at bridge in Lockwood, at boundary between Sussex County and Morris County, 0.2 mi southeast of Cage Hill, 0.4 mi south of Jefferson Lake, and 0.9 mi downstream from Lubbers Run.

DRAINAGE AREA.--60.1 mi².

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 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATURATION)	OXYGEN DEMAND, BIO-CHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, EC BROTH (MPN)	STREPTOCOCCI FECAL (MPN)
OCT 1986										
15...	1215	E37	298	7.8	8.5	9.6	84	E1.8	110	350
FEB 1987										
25...	1215	E51	434	8.1	2.5	14.4	107	<0.3	<20	12
APR 01...	1215	E194	205	7.5	9.5	11.2	101	E1.6	790	1600
MAY 26...	1230	E62	318	7.8	16.0	8.8	90	--	330	350
JUL 16...	1200	E71	290	7.4	22.0	7.8	91	3.8	330	920
AUG 26...	1215	E25	396	7.6	18.0	8.4	90	E1.9	80	350

DATE	HARDNESS (MG/L AS CaCO3)	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNESIUM, DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY LAB (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)
OCT 1986									
15...	91	22	8.8	20	1.3	65	15	38	0.1
FEB 1987									
25...	100	25	9.6	32	1.6	65	20	65	<0.1
APR 01...	61	15	5.6	15	0.8	41	17	29	<0.1
MAY 26...	90	22	8.6	24	1.3	61	14	46	<0.1
JUL 16...	92	22	8.9	20	1.5	68	12	44	0.4
AUG 26...	110	26	11	30	1.9	74	16	59	0.1

DATE	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (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 1986									
15...	6.1	150	0.065	0.32	0.42	0.70	1.0	0.110	5.2
FEB 1987									
25...	8.0	200	0.011	0.37	0.55	1.1	1.4	0.050	4.2
APR 01...	4.3	110	0.018	0.14	0.24	0.63	0.77	0.053	5.6
MAY 26...	5.1	160	0.092	0.49	0.26	0.96	1.5	0.074	2.4
JUL 16...	7.8	160	0.075	0.37	0.23	1.0	1.4	0.092	7.1
AUG 26...	7.8	200	0.223	1.47	0.12	1.0	2.5	0.110	4.3

DELAWARE RIVER BASIN

01455801 MUSCONETCONG RIVER AT LOCKWOOD, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

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 1986 15...	1215	<0.5	10	3	<10	<10	<1	<10	5
MAY 1987 26...	1230	<0.5	10	2	<10	30	<1	<10	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)
OCT 1986 15...	220	12	70	<0.10	5	<1	340	6
MAY 1987 26...	330	<5	80	<0.10	1	<1	<10	8

DELAWARE RIVER BASIN

77

01456200 MUSCONETCONG RIVER AT BEATTYSTOWN, NJ

LOCATION.--Lat 40°48'48", Long 74°50'32", Warren County, Hydrologic Unit 02040105, at bridge at Beattystown, 1.6 mi upstream of Hanes Brook, 2.1 mi northeast of Stephensburg, and 3.5 mi northeast of Scrappy Corner.

DRAINAGE AREA.--90.3 mi².

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 OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE 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 1986										
16...	1030	E68	360	8.2	6.0	12.8	105	E1.9	140	130
FEB 1987										
25...	1345	E106	464	8.4	3.5	16.3	123	<0.2	<20	13
APR										
01...	1345	E372	233	8.0	10.0	11.4	103	E1.7	2800	540
MAY										
26...	1345	E124	336	8.2	16.0	10.4	106	<0.1	170	350
JUL										
16...	1330	E126	313	7.9	22.0	8.7	101	E1.5	130	540
AUG										
26...	1345	E68	428	8.2	18.0	10.1	108	E1.5	170	240

DATE	HARD- NESS (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 1986									
16...	130	29	13	19	2.5	98	18	35	0.1
FEB 1987									
25...	120	29	12	26	1.8	90	21	57	<0.1
APR									
01...	71	17	6.9	18	1.2	50	17	33	0.1
MAY									
26...	120	27	12	20	1.4	89	15	38	<0.1
JUL									
16...	97	23	9.7	18	1.7	77	17	40	0.4
AUG									
26...	150	33	17	24	2.0	120	18	45	0.1

DATE	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITU- ENTS, 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 1986									
16...	7.9	180	0.057	1.11	0.40	1.2	2.3	0.330	5.6
FEB 1987									
25...	8.3	210	0.032	1.02	0.46	1.0	2.0	0.220	4.7
APR									
01...	5.6	130	0.033	0.49	0.15	0.95	1.4	0.181	5.3
MAY									
26...	6.2	170	0.063	1.13	0.19	0.65	1.8	0.223	2.2
JUL									
16...	8.5	160	0.039	0.82	0.13	0.89	1.7	0.167	5.9
AUG									
26...	8.7	220	0.086	1.47	0.19	1.0	2.5	0.380	4.7

DELAWARE RIVER BASIN

01456200 MUSCONETCONG RIVER AT BEATTYSTOWN, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

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 1986 16...	1030	<0.5	<10	<1	<10	70	<1	<10	7
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 1986 16...		170	5	30	<0.10	<1	<1	180	5

DELAWARE RIVER BASIN

79

01457000 MUSCONETCONG RIVER NEAR BLOOMSBURY, NJ

LOCATION.--Lat 40°40'20" long 75°03'40", Warren County, Hydrologic Unit 02040105, on right bank just downstream from bridge on Limekiln Road (Person Road), 1.5 mi upstream from Bloomsbury, and 9.5 mi upstream from mouth.

DRAINAGE AREA.--141 mi².

PERIOD OF RECORD.--July 1903 to March 1907, July 1921 to current year.

REVISED RECORDS.--WSP 1051: 1944-45. WSP 1382: 1904-06, 1922, 1923-29(M), 1931(M), 1933-34(M), 1936(M), 1940, 1942(M), 1944-45(M), 1951-52(M). WDR NJ-82-2: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Concrete control since Sept. 29, 1932. Datum of gage is 274.83 ft above National Geodetic Vertical Datum of 1929. July 1903 to Mar. 31, 1907, nonrecording gage at bridge 15 ft upstream at different datum. July 26 to Sept. 12, 1921, nonrecording gage at bridge at present datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Lake Hopatcong (see Delaware River basin, reservoirs in). Several measurements of water temperature, other than those published, were made during the year.

AVERAGE DISCHARGE.--69 years (water years 1904-06, 1922-87), 236 ft³/s, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,200 ft³/s, Jan. 25, 1979, gage height, 8.50 ft, from floodmark, from rating curve extended above 1,800 ft³/s on basis of slope-area measurement at gage height 6.95 ft; minimum, 8.1 ft³/s, Aug. 2, 1955; minimum daily 27 ft³/s, Sept. 8, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 21	0800	1,130	3.81	Sept. 13	1,900	1,270	4.04
Apr. 4	1445	*2,230	*5.19				

Minimum discharge, 73 ft³/s, Aug. 18, gage height, 1.26 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	94	86	325	341	206	437	514	351	150	107	95	136
2	92	86	338	364	205	559	386	325	163	133	93	123
3	89	84	649	364	215	472	314	323	160	151	103	111
4	103	85	510	340	225	410	1310	389	157	140	99	102
5	106	204	476	322	219	373	1440	391	160	124	113	97
6	107	288	454	273	208	353	1140	368	150	111	210	98
7	96	194	426	221	203	383	930	338	141	104	192	121
8	98	186	405	207	203	449	787	311	138	140	148	204
9	111	272	438	199	204	487	678	291	135	192	128	340
10	109	260	475	203	193	473	603	272	128	160	250	326
11	112	301	421	226	195	425	546	258	123	125	193	352
12	108	323	421	215	186	401	504	246	122	115	160	379
13	106	280	396	201	174	380	541	229	127	153	134	822
14	116	252	362	197	162	354	493	220	125	166	120	933
15	116	234	361	215	156	336	467	233	123	237	109	685
16	107	227	354	240	148	319	465	230	120	208	102	581
17	98	223	283	227	158	302	476	215	116	164	99	542
18	96	194	324	224	155	289	441	201	111	141	93	611
19	92	254	432	259	149	284	402	230	108	127	94	472
20	90	268	364	264	147	270	372	239	107	125	91	432
21	90	793	323	247	146	236	356	236	108	136	88	397
22	89	539	296	252	148	223	338	217	125	125	88	380
23	87	398	288	265	160	216	318	198	122	112	87	377
24	85	361	301	280	161	210	349	199	124	106	84	375
25	83	331	664	267	155	199	555	195	114	103	83	362
26	89	410	546	262	155	189	514	183	105	128	82	326
27	103	560	453	251	154	182	452	176	128	138	116	339
28	107	426	412	236	154	188	432	173	125	127	167	337
29	99	355	386	250	---	187	414	166	118	109	210	334
30	94	326	369	216	---	184	381	161	111	100	166	340
31	88	---	354	217	---	396	---	155	---	104	133	---
TOTAL	3060	8800	12606	7845	4944	10166	16918	7719	3844	4211	3930	11034
MEAN	98.7	293	407	253	177	328	564	249	128	136	127	368
MAX	116	793	664	364	225	559	1440	391	163	237	250	933
MIN	83	84	283	197	146	182	314	155	105	100	82	97

CAL YR 1986 TOTAL 95928 MEAN 263 MAX 1450 MIN 72
WTR YR 1987 TOTAL 95077 MEAN 260 MAX 1440 MIN 82

DELAWARE RIVER BASIN

01457400 MUSCONETCONG RIVER AT RIEGELSVILLE, NJ

LOCATION.--Lat 40°35'32", Long 75°11'20", Warren County, Hydrologic Unit 02040105, at bridge on State Highway 13 in Riegelsville, 0.2 mi north of Mount Joy, and 0.2 mi upstream from mouth.

DRAINAGE AREA.--156 mi².

PERIOD OF RECORD.--Water years 1962, 1976 to current year.

REMARKS.--Water-quality samples do not include Riegelsville Paper Company bypass.

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 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	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 1986										
16...	1300	E135	346	8.2	7.0	11.8	98	<0.8	230	130
FEB 1987										
18...	1430	E176	370	8.5	3.0	14.5	108	<0.6	<20	2
MAR										
30...	1230	E200	340	8.9	12.5	11.5	109	E1.9	110	79
JUN										
02...	1000	E168	336	7.8	20.5	7.4	83	E1.6	3500	>2400
JUL										
07...	1345	E129	382	7.8	20.0	8.5	94	E1.3	940	920
AUG										
24...	1300	E112	386	8.0	17.5	10.0	104	<0.1	310	130

DATE	HARD- NESS (MG/L AS CaCO ₃)	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 CaCO ₃)	SULFATE DIS- SOLVED (MG/L AS SO ₄)	CHLO- RIDE, DIS- SOLVED (MG/L AS Cl)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
OCT 1986									
16...	140	31	15	13	--	108	21	24	<0.1
FEB 1987									
18...	140	31	14	17	1.6	102	22	33	<0.1
MAR									
30...	130	30	14	13	1.6	100	21	24	<0.1
JUN									
02...	150	32	16	13	1.4	109	19	24	<0.1
JUL									
07...	150	34	16	13	1.7	122	19	27	<0.1
AUG									
24...	170	36	19	14	1.8	128	20	23	0.1

DATE	SILICA, DIS- SOLVED (MG/L AS SiO ₂)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO ₂ +NO ₃ 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 1986									
16...	8.9	190	0.023	1.71	0.15	0.90	2.6	0.120	4.2
FEB 1987									
18...	8.1	190	0.016	2.17	0.13	0.97	3.1	0.050	2.2
MAR									
30...	4.0	170	0.030	1.23	0.17	0.65	1.9	0.068	3.3
JUN									
02...	8.9	180	0.030	1.99	0.14	0.96	3.0	0.106	3.8
JUL									
07...	8.9	190	0.016	2.05	0.18	1.2	3.3	0.120	3.5
AUG									
24...	8.0	200	0.023	2.17	0.07	0.99	3.2	0.070	3.0

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WATER QUALITY DATA. WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

[illegible]

DELAWARE RIVER BASIN

01460500 DELAWARE AND RARITAN CANAL AT KINGSTON, NJ

LOCATION.--Lat 40°22'24", long 74°37'08", Middlesex County, Hydrologic Unit 02040105, on right bank at canal lock at Kingston, and 250 ft upstream from new bridge on State Highway 27.

PERIOD OF RECORD.--March 1947 to current year.

GAGE.--Two water-stage recorders and concrete control. Datum of gage is 40.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records fair. The canal diverts water from the Delaware River at Raven Rock and discharges into Raritan River at New Brunswick. Some water may be released to the Millstone River 500 ft and 2.3 mi above station (see Diversions in Raritan River basin). Gage-height telemeter at station.

AVERAGE DISCHARGE.--40 years, 73.5 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 174 ft³/s Apr. 6, 1957; no flow many days in many years.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 156 ft³/s, June 14; no flow Jan. 11, 12, 13, 20, 21.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	92	83	80	82	110	114	113	113	130	133	124	115
2	91	83	71	88	111	119	113	113	144	140	121	105
3	89	83	59	89	109	111	113	112	135	148	119	105
4	90	83	74	88	108	113	121	113	138	129	123	111
5	92	83	86	86	106	112	114	115	139	125	127	116
6	91	83	85	84	105	110	116	115	133	132	132	118
7	91	69	84	83	107	111	117	114	129	130	131	119
8	90	69	83	82	108	111	117	114	127	126	130	121
9	88	68	85	83	105	111	114	114	141	125	128	122
10	87	81	88	83	103	111	112	113	151	132	131	122
11	86	87	86	26	102	111	110	112	151	134	121	119
12	86	89	85	.00	104	113	109	111	151	131	108	119
13	86	88	85	37	106	114	111	111	160	139	111	122
14	85	86	84	79	106	112	112	109	165	139	115	127
15	85	85	83	29	103	111	113	108	93	143	118	127
16	87	85	83	.00	101	110	117	108	84	132	119	110
17	86	85	83	64	102	110	116	108	84	126	119	83
18	86	85	85	100	103	109	117	108	101	118	120	87
19	88	73	87	31	104	108	117	109	95	112	120	82
20	88	61	85	23	105	109	115	110	116	114	116	75
21	88	62	83	27	109	109	114	109	119	117	118	74
22	87	78	82	70	109	108	112	108	120	118	123	74
23	87	89	81	84	109	108	112	109	122	119	124	74
24	87	88	81	107	110	109	114	110	127	120	125	73
25	86	86	90	107	110	111	125	110	129	120	125	57
26	86	82	88	105	110	111	125	110	126	125	125	36
27	85	80	88	104	109	111	120	110	130	133	127	36
28	85	86	82	103	108	112	116	109	132	123	127	36
29	84	85	70	102	---	113	113	108	133	120	128	36
30	83	82	69	101	---	113	113	108	133	113	127	36
31	83	---	76	106	---	115	---	108	---	121	126	---
TOTAL	2705	2427	2531	2253.00	2982	3450	3451	3429	3838	3937	3808	2737
MEAN	87.3	80.9	81.6	72.7	106	111	115	111	128	127	123	91.2
MAX	92	89	90	107	111	119	125	115	165	148	132	127
MIN	83	61	59	.00	101	108	109	108	84	112	108	36
CAL YR 1986	TOTAL 26157.20		MEAN 71.7		MAX 155	MIN .00						
WTR YR 1987	TOTAL 37548.00		MEAN 103		MAX 165	MIN .00						

DELAWARE RIVER BASIN

83

01461000 DELAWARE RIVER AT LUMBERVILLE, PA

LOCATION.--Lat 40°24'27", Long 75°02'16", Bucks County, Hydrologic Unit 02040105, at pedestrian bridge at Lumberville, 1.4 mi upstream of Lockatong Creek.

DRAINAGE AREA.--6,598 mi².

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 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	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 1986										
08...	1045	E4640	169	8.2	15.0	9.2	91	<0.5	330	130
FEB 1987										
24...	1000	E4750	277	8.4	3.5	14.6	110	<0.8	20	5
APR										
15...	1000	E30900	101	7.3	10.5	10.3	92	E1.9	130	1600
MAY										
21...	1045	E6470	251	7.8	16.0	8.7	87	E0.9	1700	21
JUL										
20...	1030	E6000	160	7.2	24.5	6.1	73	E1.3	110	140
AUG										
11...	1245	E4830	203	7.7	24.5	6.6	79	E2.0	1700	220

DATE	HARD- NESS (MG/L AS CaCO ₃)	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 CaCO ₃)	SULFATE DIS- SOLVED (MG/L AS SO ₄)	CHLO- RIDE, DIS- SOLVED (MG/L AS Cl)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
OCT 1986									
08...	57	15	4.7	7.9	1.7	34	21	12	<0.1
FEB 1987									
24...	75	19	6.8	23	1.5	51	24	30	<0.1
APR									
15...	35	9.2	2.8	4.9	1.0	21	13	7.0	0.1
MAY									
21...	77	19	7.1	9.7	1.6	51	23	14	<0.1
JUL									
20...	58	15	5.1	7.5	1.5	37	20	12	<0.1
AUG									
11...	69	18	5.8	8.4	1.7	46	21	13	0.1

DATE	SILICA, DIS- SOLVED (MG/L AS SiO ₂)	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO ₂ +NO ₃ 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 1986									
08...	3.4	86	0.069	1.06	0.38	0.84	1.9	0.100	4.0
FEB 1987									
24...	3.0	140	0.038	1.38	0.37	0.90	2.3	0.060	3.2
APR									
15...	3.5	54	0.009	0.60	0.13	0.74	1.3	0.052	2.9
MAY									
21...	3.6	110	0.099	1.23	0.16	0.85	2.1	0.117	1.1
JUL									
20...	4.0	87	0.046	1.09	0.18	0.94	2.0	0.100	5.2
AUG									
11...	4.1	100	0.060	1.17	0.13	1.1	2.2	0.200	5.1

DELAWARE RIVER BASIN

01461000 DELAWARE RIVER AT LUMBERVILLE, PA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

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 1986 08...	1045	<0.5	--	<1	<10	<10	<1	<10	9
MAY 1987 21...	1045	<0.5	<10	1	<10	30	<1	<10	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 RECOV- ERABLE (UG/L AS SE)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
OCT 1986 08...	310	28	50	<0.10	5	<1	30	3
MAY 1987 21...	190	<5	30	0.10	2	<1	40	5

DELAWARE RIVER BASIN

85

01461300 WICKECHEOKE CREEK AT STOCKTON, NJ

LOCATION.--Lat 40°24'41", long 74°59'13", Hunterdon County, Hydrologic Unit 02040105, at bridge on State Route 29 in Stockton, 900 ft upstream from mouth.

DRAINAGE AREA.--26.6 mi².

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 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 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	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 1986										
08...	1400	E0.87	260	8.1	13.0	11.6	110	<0.1	40	540
JAN 1987										
29...	1330	E15	--	7.2	0.0	15.0	--	--	90	2
MAR										
18...	1345	E14	322	8.4	9.0	12.2	106	<0.8	--	--
MAY										
21...	1230	E9.2	389	8.5	16.0	10.8	108	E0.3	<20	110
JUL										
28...	1415	E9.9	458	9.8	26.0	9.7	120	<1.2	20	920
AUG										
17...	1100	E3.9	382	7.6	24.0	8.6	103	<0.8	330	140

DATE	HARD- NESS (MG/L AS CaCO ₃)	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 CaCO ₃)	SULFATE DIS- SOLVED (MG/L AS SO ₄)	CHLO- RIDE, DIS- SOLVED (MG/L AS Cl)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
OCT 1986									
08...	68	16	6.8	23	2.5	59	26	24	<0.1
JAN 1987									
29...	47	11	4.8	24	1.5	22	30	36	<0.1
MAR									
18...	47	11	4.8	36	1.6	24	33	47	<0.1
MAY									
21...	51	12	5.2	56	2.0	35	39	70	<0.1
JUL									
28...	54	13	5.3	62	3.0	32	37	85	0.2
AUG									
17...	65	15	6.6	47	2.9	42	34	58	0.1

DATE	SILICA, DIS- SOLVED (MG/L AS SiO ₂)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO ₂ +NO ₃ 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 1986									
08...	11	140	0.010	0.79	0.09	0.59	1.4	0.280	2.5
JAN 1987									
29...	12	130	0.005	2.42	0.10	0.21	2.6	0.020	1.4
MAR									
18...	11	160	E0.019	2.35	0.09	0.27	2.6	<0.020	1.1
MAY									
21...	11	220	0.007	1.91	0.10	0.57	2.5	0.063	0.8
JUL									
28...	7.9	230	0.008	1.72	0.17	0.49	2.2	0.083	4.1
AUG									
17...	12	200	0.016	3.15	0.05	0.53	3.7	0.090	2.3

DELAWARE RIVER BASIN

01461300 WICKECHEOKE CREEK AT STOCKTON, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	SULFIDE TOTAL (MG/L AS S)	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 1986 08...	1400	<0.5	<1	<10	30	<1	<10	7

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 RECOV- ERABLE (UG/L AS SE)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
OCT 1986 08...	40	15	<10	<0.10	1	<1	<10	4

DELAWARE RIVER BASIN

87

01462500 DELAWARE RIVER AT WASHINGTON CROSSING, NJ

LOCATION.--Lat 40°17'20", Long 74°52'08", Mercer County, Hydrologic Unit 02040105, at bridge at Washington Crossing, 1.4 mi upstream of Jacobs Creek.

DRAINAGE AREA.--6,735 mi².

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 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	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 1986										
05...	1330	E3280	231	7.2	9.5	9.6	84	E2.1	<20	17
FEB 1987										
24...	1200	E5160	252	8.7	3.5	14.4	108	<1.0	<20	2
APR										
15...	1200	E31700	102	7.4	10.5	10.4	93	E1.8	170	540
MAY										
21...	1415	E6470	233	8.0	17.5	9.8	101	E1.0	130	13
JUL										
20...	1200	E6470	142	7.4	25.5	8.2	101	<1.2	170	--
AUG										
17...	1330	E3180	250	7.7	28.5	8.1	105	3.4	20	9

DATE	HARD- NESS (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 1986									
05...	80	20	7.4	11	1.8	53	23	16	<0.1
FEB 1987									
24...	72	18	6.5	10	1.4	49	24	18	0.1
APR									
15...	34	9.1	2.7	4.8	1.0	20	12	6.9	0.1
MAY									
21...	79	20	7.1	9.8	1.7	52	23	14	<0.1
JUL									
20...	58	15	4.9	7.3	1.4	36	18	13	<0.1
AUG									
17...	81	20	7.6	16	2.3	55	26	19	0.1

DATE	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, 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)
NOV 1986									
05...	2.3	110	0.099	1.57	0.17	0.74	2.3	0.170	3.2
FEB 1987									
24...	2.2	110	0.027	1.28	0.21	0.72	2.0	0.040	3.2
APR									
15...	3.5	52	0.012	0.60	0.10	0.70	1.3	0.052	3.7
MAY									
21...	3.4	110	0.085	1.25	0.11	0.75	2.0	0.117	1.4
JUL									
20...	4.0	85	0.014	0.95	0.12	0.71	1.7	0.110	5.1
AUG									
17...	3.6	130	0.048	1.39	0.16	1.3	2.7	0.130	4.7

DELAWARE RIVER BASIN

01462500 DELAWARE RIVER AT WASHINGTON CROSSING, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

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)
NOV 1986 05...	1330	<0.5	20	1	<10	110	<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)
NOV 1986 05...	270	<5	30	<0.10	4	<1	30	2

DELAWARE RIVER BASIN

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01463500 DELAWARE RIVER AT TRENTON, NJ
(National stream quality accounting network and Radiochemical program station)

LOCATION.--Lat 40°13'18", long 74°46'42", Mercer County, Hydrologic Unit 02040105, on left bank 450 ft upstream from Calhoun Street Bridge at Trenton, 0.5 mi upstream from Assunpink Creek, and at mile 134.5.
DRAINAGE AREA.--6,780 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1913 to current year. October 1912 to February 1913 monthly discharge only, published in WSP 1302. Gage-height records collected in this vicinity since 1904 are contained in reports of the National Weather Service.

REVISED RECORDS.--WSP 951: Drainage area. WSP 1302: 1913-20. WSP 1382: 1924, 1928.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Sept. 30, 1965, at datum 7.77 ft higher. Feb. 24, 1913 to Oct. 2, 1928, nonrecording gage on downstream side of highway bridge at site 500 ft downstream.

REMARKS.--Records excellent except for period of ice effect, Jan. 25-30, which are good. Diurnal fluctuations at medium and low flow caused by powerplants on tributary streams. Flow regulated by Lakes Wallenpaupack and Hopatcong, and by Pepacton, Cannonsville, Swinging Bridge, Toronto, Cliff Lake, Neversink, and Wild Creek Reservoirs (see Delaware River basin, reservoirs in) and smaller reservoirs. Diversion from Pepacton, Cannonsville, and Neversink Reservoirs and to Delaware and Raritan Canal (see Delaware River basin, diversions). Water diverted just above station by borough of Morrisville, PA, and city of Trenton for municipal supply (see Delaware River basin, diversions). Gage height satellite telemeter at station.

AVERAGE DISCHARGE.--75 years, 11,690 ft³/s, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 329,000 ft³/s, Aug. 20, 1955, elevation, 28.60 ft, from high-water mark in gage house, from rating curve extended above 230,000 ft³/s; minimum, 1,180 ft³/s Oct. 31, 1963, elevation, 7.26 ft. Flow in Delaware and Raritan Canal not included.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 11, 1903, reached an elevation of about 28.5 ft above National Geodetic Vertical Datum of 1929, discharge estimated, 295,000 ft³/s. Maximum elevation since 1903, 30.6 ft above National Geodetic Vertical Datum of 1929, Mar. 8, 1904, from floodmark (ice jam).

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 50,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Elevation (ft)	Date	Time	Discharge (ft ³ /s)	Elevation (ft)
Apr. 6	0815	*90,700	*17.43	Sep. 14	0715	61,400	15.21
Sep. 9	1645	63,900	15.42				

Minimum discharge, 2,900 ft³/s, Aug. 24, 25, gage height, 7.99 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3770	3310	19700	14300	8190	10200	21800	9840	5340	3850	4290	6580
2	3840	3530	17000	14200	7850	20300	26700	9280	4850	6090	3950	6120
3	3980	3310	24700	14100	7920	19200	22800	8580	5410	7790	3850	5820
4	3840	3030	25100	13100	8690	19500	37400	9450	6460	5310	3510	5440
5	4660	3100	24400	12100	8820	17700	67100	11500	7120	5500	3700	4620
6	7660	3940	20900	10600	7980	15200	83600	12200	6030	5300	5430	3850
7	7020	4690	17300	10400	7440	14000	65700	11200	5790	4630	5300	3670
8	5540	5030	15100	10100	7540	15200	57300	9980	5080	4540	4820	5490
9	4730	5920	15100	9960	7240	19200	48900	9220	4550	5850	4440	40600
10	4120	7200	17300	9550	6630	29400	42300	8470	4450	8480	7250	44400
11	3650	14500	17100	9870	6500	27800	33600	7680	4650	7220	6400	33100
12	3520	14500	17400	9480	7190	23100	27900	7290	4660	6620	4800	22500
13	3400	12000	16300	9070	6820	20400	25900	7020	4460	5730	4640	20900
14	3210	10400	14400	9600	6240	18100	29800	6460	4190	6490	4030	57500
15	3430	9080	12600	9560	5940	16000	32500	6230	4660	14200	3640	51100
16	3810	7760	11400	9880	5370	13600	27600	6230	4410	15500	3400	38900
17	4460	6880	11900	10400	4420	12500	25200	5880	4560	15300	3320	31100
18	4490	6510	13500	10700	5050	12200	24000	5610	4340	11000	3300	26600
19	4130	9410	18700	10600	5500	11600	22300	5540	4090	8400	3530	28600
20	3890	10500	16900	11100	5660	11300	20600	6270	3990	6810	3890	35600
21	3270	20300	15400	11000	5590	11500	18800	6490	4010	5830	3090	29300
22	3280	28500	13100	10600	5540	11400	15900	6540	4500	5640	3080	25400
23	3450	29700	11600	9660	5420	10100	14300	6260	4810	5730	3150	22200
24	3330	22000	10800	9030	5200	9830	13600	6170	4220	5390	3010	18900
25	3100	18800	24700	e7600	4940	11400	16500	6780	4010	5220	2940	17000
26	3670	22300	23400	e7900	4930	12300	14800	7010	4680	5290	3020	14900
27	3570	29600	22400	e8600	5080	13400	13000	6820	4630	6070	3320	13400
28	3600	39200	20400	e8700	5110	15200	12000	6340	4450	4980	4280	12800
29	3750	33000	16800	e8600	---	15400	11500	6010	4340	4900	5700	11900
30	4090	24700	15100	e8400	---	14200	10500	5800	4120	4630	7210	10700
31	3730	---	15300	8580	---	15900	---	5890	---	4510	7140	---
TOTAL	125990	412700	535800	317340	178800	487130	883900	234040	142860	212800	133430	648990
MEAN	4064	13760	17280	10240	6386	15710	29460	7550	4762	6865	4304	21630
MAX	7660	39200	25100	14300	8820	29400	83600	12200	7120	15500	7250	57500
MIN	3100	3030	10800	7600	4420	9830	10500	5540	3990	3850	2940	3670

CAL YR 1986 TOTAL 4562220 MEAN 12500 MAX 128000 MIN 3030
WTR YR 1987 TOTAL 4313780 MEAN 11820 MAX 83600 MIN 2940

e Estimated

DELAWARE RIVER BASIN

01463500 DELAWARE RIVER AT TRENTON, NJ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1945 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: June 1968 to September 1978, May 1979 to current year.

pH: June 1968 to September 1978, May to September 1979, February 1980 to August 1982, April 1983 to current year.

WATER TEMPERATURE: October 1944 to September 1978, May 1979 to current year.

DISSOLVED OXYGEN: October 1962 to September 1978, May 1979 to current year.

SUSPENDED-SEDIMENT DISCHARGE: Water years 1949 to 1981.

INSTRUMENTATION.--Temperature recorder since October 1944, water-quality monitor since October 1962. Monitor probes are located within raw water intake of Trenton Filtration Plant.

REMARKS.--Missing continuous water-quality records are the result of malfunctions of the instrument. Unpublished records of suspended sediment discharge for the period October 1, 1981 to March 31, 1982 are available in files of the district office.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 400 microsiemens, Jan. 24, 1959; minimum, 50 microsiemens, Mar. 19, 1945.

pH: Maximum, 10.3, August 9, 10, 1983; minimum, 5.3, June 22, 1972.

WATER TEMPERATURE: Maximum, 34.0°C, June 18, 1957; minimum 0.0°C on many days during winter months.

DISSOLVED OXYGEN: Maximum, 19.7 mg/L, February 28, 1987; minimum, 4.0 mg/L, Nov. 9, 1972.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 246 microsiemens, Aug. 24; minimum, 72 microsiemens, July 3.

pH: Maximum, 9.9, Feb. 28; minimum 6.6, July 3.

WATER TEMPERATURE: Maximum, 31.5°C, July 24, 25; minimum 0.0°C on many days during the winter months.

DISSOLVED OXYGEN: Maximum, 19.7 mg/L, Feb. 28; minimum, 5.9 mg/L, June 22, Aug. 17.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE 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 (MG/L AS CACO3)
DEC 1986 08...	1300	14900	125	8.1	3.5	1.0	13.6	101	3.0	K50	--	46
FEB 1987 20...	1300	5350	225	9.4	4.0	1.0	17.2	130	1.2	K6	160	82
MAY 01...	1200	9920	177	7.9	14.0	2.0	10.6	103	2.0	K10	1400	64
AUG 28...	1200	4330	233	7.8	21.0	11	7.7	86	1.3	130	290	81

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)	BICAR- BONATE IT-FLD (MG/L AS HCO3)	ALKA- LINITY, CARBON- ATE IT-FLD (MG/L AS CACO3)	ALKA- LINITY WH WAT TOTAL FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L)
DEC 1986 08...	12	3.8	5.8	1.0	--	--	--	19	9.4	<0.1	4.9	72
FEB 1987 20...	21	7.1	11	1.4	--	--	--	27	16	0.1	2.6	120
MAY 01...	16	5.7	8.3	1.4	58	48	50	20	11	<0.1	3.8	95
AUG 28...	20	7.5	11	1.5	77	63	64	28	15	0.1	2.6	120

DATE	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)
DEC 1986 08...	7	282	84	0.010	0.87	0.14	0.130	0.50	0.040	0.030	0.020
FEB 1987 20...	8	116	58	0.040	1.40	0.26	0.240	1.4	0.220	0.040	0.040
MAY 01...	4	107	91	0.030	0.94	0.06	0.020	1.0	0.050	0.040	0.020
AUG 28...	--	--	--	0.060	1.50	0.20	0.190	0.80	0.100	0.060	0.060

DELAWARE RIVER BASIN

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01463500 DELAWARE RIVER AT TRENTON, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
DEC 1986 08...	1300	50	<1	29	<0.5	<1	<1	<3	3	33
FEB 1987 20...	1300	30	<1	31	<0.5	<1	<1	<3	6	39
MAY 01...	1200	40	<1	24	<0.5	<1	<1	<3	3	54
AUG 28...	1200	<10	<1	29	<0.5	<1	<1	<3	3	20

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)
DEC 1986 08...	<5	5	14	<0.1	<10	<1	<1	<1	49	<6
FEB 1987 20...	<5	6	25	<0.1	<10	<1	<1	<1	82	<6
MAY 01...	<5	<4	12	<0.1	<10	<1	<1	<1	64	<6
AUG 28...	5	<4	8	<0.1	<10	<1	<1	<1	81	<6

DATE	ZINC, DIS- SOLVED (UG/L AS ZN)	GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L)	URANIUM DIS- SOLVED, EXTRAC- TION (UG/L)
DEC 1986 08...	15	--	--	--	--	--	--	--	--
FEB 1987 20...	17	<0.4	<0.4	1.7	<0.4	1.5	<0.4	0.03	0.14
MAY 01...	15	--	--	--	--	--	--	--	--
AUG 28...	6	0.7	<0.4	1.9	<0.4	1.6	<0.4	0.04	--

DELAWARE RIVER BASIN

01463500 DELAWARE RIVER AT TRENTON, NJ--Continued

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

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	24.0	21.5	22.5	13.0	11.0	12.0	5.0	4.5	4.5	3.5	2.5	3.0
2	24.0	22.0	23.0	14.0	12.5	13.0	5.5	4.0	4.5	2.5	2.5	2.5
3	22.5	21.0	21.5	13.5	11.0	12.0	6.5	5.5	6.5	2.5	2.0	2.0
4	22.5	20.5	21.5	11.5	11.0	11.5	6.0	5.0	5.5	2.5	2.0	2.0
5	22.0	20.5	21.0	11.0	9.5	10.0	5.0	4.0	4.5	2.5	1.5	2.0
6	20.0	17.5	19.0	11.0	9.5	10.0	4.0	3.5	4.0	2.5	1.5	2.0
7	17.5	16.0	17.0	10.0	9.5	9.5	4.0	3.0	3.5	2.0	2.0	2.0
8	17.5	15.5	16.5	10.5	10.0	10.5	4.0	3.5	4.0	2.5	2.0	2.0
9	18.5	16.0	17.0	12.0	10.5	11.5	4.5	4.0	4.5	2.5	2.0	2.5
10	17.0	15.0	16.0	11.0	10.0	10.5	5.5	4.5	5.0	3.0	2.5	2.5
11	15.5	13.5	14.5	9.5	8.5	9.0	5.0	4.0	4.5	3.5	2.5	3.0
12	16.5	14.0	15.0	8.5	8.0	8.5	4.0	3.5	4.0	3.0	2.5	2.5
13	16.0	15.5	15.5	8.0	6.0	7.0	3.5	2.5	3.0	4.0	2.5	3.0
14	17.5	15.5	16.5	6.0	5.5	6.0	2.5	2.0	2.0	4.0	3.0	3.5
15	16.0	14.0	15.0	5.0	4.5	5.0	2.0	1.5	2.0	4.5	4.0	4.5
16	15.0	13.5	14.5	6.5	5.0	5.5	2.0	1.5	2.0	5.0	4.0	4.5
17	14.0	13.0	13.5	7.0	6.0	6.5	2.5	2.0	2.5	4.0	3.5	4.0
18	15.0	13.0	13.5	7.0	6.0	6.5	4.0	2.5	3.5	3.5	2.5	3.0
19	14.5	12.0	13.0	7.0	6.0	6.5	5.0	4.0	4.5	2.5	2.0	2.5
20	15.0	12.0	13.5	6.0	5.0	5.5	4.5	4.0	4.0	2.5	1.5	2.0
21	15.0	12.0	13.5	7.5	5.0	6.0	4.5	3.5	4.0	2.5	2.0	2.5
22	16.0	13.0	14.5	5.0	4.0	4.5	4.0	3.0	3.5	2.0	.0	1.0
23	15.5	13.5	14.5	4.0	3.5	4.0	3.5	2.5	3.0	.5	.0	.0
24	16.5	14.0	15.0	5.0	4.0	4.5	3.0	2.5	3.0	.5	.0	.0
25	14.5	13.0	13.5	5.5	4.5	5.0	5.0	3.5	4.5	.0	.0	.0
26	13.5	13.0	13.5	7.5	5.0	5.5	4.5	4.0	4.0	.5	.0	.0
27	13.5	13.0	13.5	8.0	6.5	7.0	4.5	4.0	4.0	.5	.0	.0
28	15.0	13.0	14.0	6.0	5.5	6.0	4.0	3.5	4.0	.0	.0	.0
29	15.0	12.5	14.0	6.0	5.5	5.5	4.0	3.0	3.5	.5	.0	.5
30	15.5	13.0	14.0	5.5	5.0	5.5	3.5	3.5	3.5	1.0	.5	.5
31	14.0	12.0	13.0	---	---	---	4.0	3.5	3.5	2.0	1.0	1.0
MONTH	24.0	12.0	16.0	14.0	3.5	7.5	6.5	1.5	4.0	5.0	.0	2.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	1.5	.5	1.0	5.5	3.0	4.5	11.0	10.0	10.5	15.0	13.0	14.0
2	3.0	1.5	2.5	4.5	3.0	4.0	10.0	9.0	9.5	14.5	14.0	14.0
3	4.0	2.5	3.0	4.0	3.0	3.5	9.5	8.5	9.0	14.5	13.5	14.0
4	4.0	3.0	3.5	3.5	3.0	3.5	10.0	8.5	9.0	13.5	12.0	12.5
5	3.0	2.0	2.5	3.5	2.5	3.0	9.0	7.5	8.5	11.5	11.5	11.5
6	3.5	1.5	2.5	4.5	2.5	3.5	7.5	7.5	7.5	13.5	11.5	12.5
7	4.0	2.0	3.0	6.0	4.0	5.0	7.5	7.5	7.5	15.5	13.0	14.0
8	3.5	2.5	3.0	---	---	---	8.5	7.5	8.0	16.5	14.0	15.0
9	3.0	1.0	2.5	---	---	---	8.5	7.5	8.0	17.0	15.0	16.0
10	2.0	.0	1.0	---	---	---	9.5	8.0	8.5	19.0	16.0	17.5
11	3.5	1.0	2.0	---	---	---	10.5	8.5	9.5	20.5	17.5	19.0
12	2.5	2.0	2.5	---	---	---	11.5	10.0	10.5	21.5	19.0	20.0
13	2.5	1.0	2.0	---	---	---	11.0	10.5	11.0	21.0	18.5	19.5
14	2.0	1.0	1.5	---	---	---	12.0	10.5	11.0	21.0	17.5	19.0
15	2.0	.0	1.0	---	---	---	11.5	11.0	11.0	20.5	18.5	19.5
16	1.5	.0	.5	---	---	---	11.0	10.0	10.5	21.0	17.0	19.0
17	2.5	.0	1.0	6.0	4.5	5.0	10.0	10.0	10.0	22.5	18.0	20.0
18	4.0	1.0	2.5	7.0	5.0	6.0	10.5	10.0	10.0	24.0	20.0	21.5
19	4.0	1.5	2.5	7.5	5.5	6.5	12.5	10.5	11.5	21.5	18.0	19.5
20	4.5	2.0	3.0	7.5	6.5	7.0	13.5	12.0	12.5	18.0	17.0	17.0
21	5.0	2.0	3.5	7.0	6.0	6.5	16.0	13.5	14.5	19.5	16.5	18.0
22	5.0	2.5	3.5	8.0	6.0	7.0	16.5	15.5	16.0	21.0	18.0	19.0
23	4.0	2.0	3.0	9.5	7.0	8.5	16.5	15.5	16.0	21.0	19.0	20.0
24	5.0	2.0	3.0	10.5	8.5	9.5	15.5	15.0	15.0	22.0	19.0	20.5
25	5.5	2.0	3.5	11.5	9.5	10.5	14.5	13.0	14.0	21.0	19.5	20.5
26	6.0	2.5	4.0	12.5	10.5	11.5	15.0	13.0	14.0	19.5	18.5	19.0
27	5.0	3.5	4.0	12.0	11.0	11.5	15.0	13.5	14.5	18.5	18.0	18.0
28	6.0	3.5	5.0	12.0	11.0	11.5	14.0	13.5	13.5	22.0	18.0	19.5
29	---	---	---	12.5	11.0	11.5	14.0	12.5	13.5	25.0	20.5	22.5
30	---	---	---	11.5	11.0	11.5	14.5	13.0	13.5	26.5	22.5	24.5
31	---	---	---	12.5	11.5	12.0	---	---	---	27.0	24.5	25.5
MONTH	6.0	.0	2.5				16.5	7.5	11.5	27.0	11.5	18.0

DELAWARE RIVER BASIN

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01463500 DELAWARE RIVER AT TRENTON, NJ--Continued

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

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	28.5	25.0	26.5	29.0	25.5	27.0	30.0	26.0	27.5	22.5	20.5	21.5
2	28.5	25.5	27.0	26.5	22.5	25.5	27.5	26.0	26.5	22.5	19.5	21.0
3	26.0	23.5	24.5	26.5	22.0	24.0	29.5	25.5	27.0	23.5	20.0	21.5
4	23.5	22.0	22.5	28.0	25.0	26.5	31.0	26.5	29.0	23.0	20.0	21.5
5	24.5	21.0	22.5	28.5	25.0	27.0	30.0	27.5	28.5	23.5	20.0	21.5
6	25.0	22.0	23.5	28.0	25.5	26.5	27.5	26.0	26.5	22.0	21.0	21.5
7	23.5	22.0	22.5	26.0	24.5	25.5	27.5	25.0	26.0	23.5	21.0	22.0
8	25.5	22.0	23.5	27.5	24.0	25.5	28.5	25.0	26.5	22.0	21.5	22.0
9	25.0	23.0	24.0	28.5	25.5	27.0	28.5	26.0	27.0	21.5	19.5	21.0
10	25.0	21.0	23.0	27.0	26.0	26.5	27.5	24.5	26.0	21.0	19.0	20.0
11	25.5	21.0	23.0	29.0	26.0	27.5	27.0	24.0	25.5	20.5	19.5	20.0
12	23.0	22.0	22.5	30.5	26.0	28.0	27.5	24.0	25.5	20.0	19.5	19.5
13	25.5	22.0	23.5	30.5	27.0	28.5	26.5	24.0	25.0	20.5	19.5	20.0
14	28.0	23.0	25.0	30.0	24.5	27.5	27.5	23.5	25.5	19.5	19.0	19.0
15	28.5	24.5	26.5	26.5	22.5	24.5	29.0	25.0	26.5	19.0	18.5	19.0
16	29.5	25.5	27.0	25.5	24.0	25.0	30.5	26.0	28.0	19.5	18.0	18.5
17	28.5	25.5	27.0	25.0	23.0	24.0	31.0	27.0	29.0	19.5	19.0	19.0
18	29.0	24.5	26.5	25.5	23.0	24.5	31.0	28.0	29.5	19.5	19.0	19.5
19	29.0	25.0	27.0	26.5	24.0	25.5	30.5	27.0	28.5	19.0	17.5	18.5
20	30.5	26.0	28.0	27.5	25.0	26.0	30.0	27.0	28.0	17.5	16.5	17.0
21	28.5	26.5	27.5	29.5	25.5	27.5	29.5	25.0	27.0	17.0	16.0	16.5
22	26.5	24.5	25.5	30.5	27.0	28.5	27.0	25.5	26.0	18.0	16.5	17.0
23	27.0	24.5	25.5	31.0	28.0	29.5	26.0	24.0	25.0	19.0	16.5	17.5
24	28.5	24.0	26.0	31.5	28.5	30.0	25.0	22.0	23.5	18.5	17.0	18.0
25	29.5	25.0	26.5	31.5	29.0	30.0	24.5	21.0	22.5	19.0	17.0	17.5
26	26.0	24.0	25.0	30.0	28.0	28.5	24.5	21.0	23.0	17.5	16.0	16.5
27	25.5	23.0	24.0	29.5	26.5	28.0	22.5	20.5	21.5	17.5	16.0	17.0
28	26.0	23.0	24.5	30.5	27.0	28.5	21.0	20.5	21.0	18.0	16.5	17.0
29	27.5	23.0	25.0	29.5	26.5	28.0	23.0	20.5	21.5	19.0	17.0	18.0
30	28.5	24.0	26.0	29.0	25.5	27.0	23.0	20.5	21.5	18.5	18.0	18.5
31	---	---	---	28.5	26.0	27.0	22.0	20.5	21.0	---	---	---
MONTH	30.5	21.0	25.0	31.5	22.0	27.0	31.0	20.5	25.5	23.5	16.0	19.0

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

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	211	208	210	206	201	203	110	103	106	142	139	140
2	208	197	201	205	203	204	120	110	113	152	140	146
3	204	194	197	207	200	203	136	99	119	168	150	158
4	203	192	197	222	208	214	140	121	131	167	162	165
5	215	202	207	224	215	222	120	114	115	169	161	165
6	215	185	206	220	216	218	118	115	116	167	158	162
7	183	152	165	222	216	218	124	118	120	170	164	166
8	153	149	151	222	216	219	130	125	128	168	162	166
9	159	154	157	216	209	212	134	130	132	169	164	166
10	174	159	167	209	199	205	147	132	143	176	164	169
11	192	175	184	199	131	163	146	139	143	181	171	176
12	200	193	196	137	127	133	140	135	138	196	180	188
13	203	198	200	137	134	135	143	136	141	195	188	191
14	212	194	204	140	137	138	143	138	141	187	183	185
15	225	212	219	142	137	139	143	139	141	182	174	178
16	226	222	224	147	142	144	152	142	147	181	174	178
17	225	218	221	154	145	148	152	147	150	180	176	178
18	216	195	205	161	154	158	154	139	148	195	170	178
19	194	188	192	167	157	161	166	150	157	189	169	178
20	199	187	192	175	154	169	160	151	155	209	183	195
21	208	200	203	164	123	144	152	146	150	209	197	204
22	208	198	202	162	121	148	---	---	---	196	191	193
23	206	198	200	119	106	110	---	---	---	210	182	188
24	206	199	202	114	107	111	---	---	---	198	186	190
25	205	197	201	122	113	118	146	96	123	199	191	195
26	215	198	207	122	113	119	146	137	141	---	---	---
27	217	212	215	129	108	121	138	127	134	206	197	201
28	215	205	209	124	90	104	129	121	126	202	188	195
29	219	215	217	92	90	91	135	129	132	193	182	187
30	215	208	211	102	92	97	141	135	138	196	184	188
31	208	204	207	---	---	---	143	138	140	198	185	190
MONTH	226	149	199	224	90	159	166	96	135	210	139	179

DELAWARE RIVER BASIN

01463500 DELAWARE RIVER AT TRENTON, NJ--Continued

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

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	191	183	187	242	147	209	142	132	137	181	172	177
2	196	188	192	201	145	181	131	101	113	184	179	181
3	---	---	---	189	175	180	107	101	104	185	182	183
4	---	---	---	179	158	168	111	87	102	187	184	185
5	207	191	198	158	155	157	116	90	104	189	183	187
6	198	188	193	162	156	159	89	82	86	182	165	175
7	200	192	196	168	162	166	91	85	89	167	164	166
8	202	194	199	---	---	---	93	90	92	173	167	170
9	206	198	203	---	---	---	95	91	93	176	173	175
10	211	204	207	---	---	---	98	94	96	181	175	178
11	212	206	210	---	---	---	106	98	102	186	180	182
12	218	205	212	---	---	---	116	106	111	191	184	187
13	212	200	205	---	---	---	119	114	116	195	192	193
14	210	203	206	---	---	---	120	108	116	196	192	194
15	220	208	214	---	---	---	107	100	103	201	195	197
16	224	212	217	---	---	---	109	103	106	203	198	200
17	223	212	216	143	138	141	115	109	112	207	203	205
18	235	219	227	144	142	143	124	115	122	208	205	207
19	237	228	234	149	142	146	123	121	122	210	205	208
20	228	211	221	153	148	151	125	121	122	212	207	209
21	215	206	210	151	147	150	129	123	126	212	209	211
22	212	203	208	148	145	147	137	128	133	208	205	206
23	218	201	209	152	144	147	144	138	141	206	201	204
24	221	208	213	153	150	152	148	145	147	206	203	204
25	232	222	228	153	141	149	154	142	147	204	199	202
26	241	228	236	142	134	139	160	155	158	201	185	193
27	238	233	237	135	126	131	160	158	159	185	177	181
28	233	225	229	127	113	120	164	159	161	184	179	181
29	---	---	---	121	112	118	168	163	167	190	184	187
30	---	---	---	118	116	117	174	167	171	193	190	191
31	---	---	---	138	116	125	---	---	---	197	193	195
MONTH	241	183	212				174	82	122	212	164	191
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE				JULY			AUGUST			SEPTEMBER		
1	199	187	194	222	203	214	213	205	208	189	169	178
2	196	187	192	207	86	183	215	211	212	179	169	173
3	206	197	202	204	72	145	217	213	215	189	181	187
4	207	191	200	222	206	214	216	212	213	190	183	188
5	192	168	178	217	208	213	229	213	220	187	183	185
6	191	184	187	215	199	210	230	210	225	195	186	190
7	198	192	196	200	195	196	211	202	207	202	194	197
8	196	192	194	204	196	200	210	206	208	221	198	209
9	207	194	201	211	197	206	221	209	215	227	149	191
10	212	207	209	215	197	203	209	102	176	149	125	139
11	218	212	215	219	189	201	226	194	212	124	120	122
12	211	202	205	190	108	173	214	201	205	131	121	125
13	206	171	201	186	166	181	221	208	217	143	132	135
14	217	192	206	200	113	176	217	215	216	146	97	112
15	235	216	223	213	135	178	217	209	212	103	96	100
16	236	224	233	191	155	167	223	217	221	100	96	98
17	223	207	215	154	140	144	227	223	226	106	100	102
18	207	190	201	148	140	145	234	228	232	120	106	113
19	200	189	194	156	146	149	238	231	234	129	118	124
20	212	199	206	165	156	159	239	228	236	117	99	104
21	215	209	212	178	167	174	226	204	211	109	100	104
22	215	172	207	181	178	180	223	205	214	118	109	113
23	225	190	215	186	181	184	237	224	231	118	112	115
24	243	221	231	189	182	186	246	239	244	129	117	122
25	243	229	236	195	185	191	245	238	242	133	128	130
26	230	223	226	198	185	193	239	233	237	137	131	134
27	229	201	216	194	187	191	233	142	219	143	137	140
28	213	205	210	208	189	202	229	220	226	145	143	144
29	231	210	221	205	194	199	239	223	233	149	144	147
30	233	226	230	204	195	200	226	219	223	157	147	152
31	---	---	---	209	192	201	220	191	203	---	---	---
MONTH	243	168	209	222	72	186	246	102	219	227	96	142

DELAWARE RIVER BASIN

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01463500 DELAWARE RIVER AT TRENTON, NJ--Continued

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

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	9.1	7.1	7.8	12.1	9.0	10.2	---	---	---	13.6	13.4	13.5
2	9.2	6.6	7.7	11.0	8.5	9.3	11.4	11.0	11.3	13.5	13.3	13.4
3	8.6	7.1	7.6	12.0	8.4	9.8	11.8	11.5	11.6	13.7	13.4	13.5
4	10.5	7.5	8.9	11.1	8.7	9.5	12.9	12.6	12.7	13.9	13.5	13.7
5	10.9	8.6	9.5	9.6	8.7	9.1	13.1	12.7	12.9	14.1	13.6	13.8
6	10.2	9.0	9.6	11.5	8.7	9.6	13.5	13.1	13.2	14.1	13.7	13.8
7	12.4	10.3	11.4	11.0	9.3	9.9	13.5	13.2	13.3	13.8	13.5	13.6
8	11.8	10.6	11.3	9.7	9.1	9.4	13.3	13.0	13.1	13.8	13.4	13.5
9	11.5	10.1	10.7	9.8	8.7	9.1	13.0	12.6	12.8	13.7	13.4	13.5
10	11.9	9.7	10.6	10.3	8.7	9.4	12.7	12.5	12.6	13.4	13.0	13.3
11	11.8	9.7	10.6	9.8	9.4	9.6	12.8	12.5	12.7	13.2	12.8	13.0
12	11.8	9.7	10.5	10.2	9.9	10.0	13.0	12.7	12.9	13.3	12.8	13.0
13	10.3	8.9	9.6	10.6	10.0	10.3	13.4	12.9	13.2	13.5	12.9	13.1
14	9.8	7.2	8.7	11.5	10.5	11.1	13.9	13.4	13.6	13.6	12.9	13.2
15	9.5	7.1	8.0	11.9	11.2	11.5	14.0	13.6	13.8	13.1	12.4	12.8
16	9.6	7.4	8.3	---	---	---	13.9	13.6	13.7	13.2	12.4	12.7
17	9.3	7.8	8.4	---	---	---	13.7	13.2	13.5	13.4	12.7	13.0
18	9.9	7.8	8.7	---	---	---	13.3	12.4	12.9	13.2	13.0	13.1
19	10.7	8.2	9.3	---	---	---	12.5	12.2	12.4	13.2	13.0	13.1
20	11.1	8.6	9.6	---	---	---	12.6	12.3	12.5	14.0	13.1	13.5
21	12.3	8.6	10.1	---	---	---	12.9	12.6	12.8	14.2	13.5	13.8
22	---	---	---	---	---	---	13.1	12.8	12.9	13.8	13.4	13.6
23	---	---	---	---	---	---	13.3	12.9	13.1	14.5	13.4	14.0
24	---	---	---	---	---	---	13.3	13.0	13.1	15.0	14.2	14.6
25	---	---	---	---	---	---	13.0	12.5	12.7	15.4	14.6	14.9
26	---	---	---	---	---	---	12.9	12.7	12.8	15.3	14.7	14.9
27	---	---	---	---	---	---	13.0	12.9	12.9	15.4	14.7	15.0
28	---	---	---	---	---	---	13.2	13.0	13.1	15.1	14.4	14.8
29	---	---	---	---	---	---	13.4	13.1	13.2	15.3	14.6	14.9
30	---	---	---	---	---	---	13.2	13.0	13.1	14.7	14.0	14.4
31	---	---	---	---	---	---	13.6	13.1	13.3	15.1	14.0	14.5
MONTH							14.0	11.0	12.9	15.4	12.4	13.7
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	15.5	14.4	14.8	13.8	12.0	12.4	10.1	9.6	9.9	11.5	10.3	10.8
2	15.6	14.2	14.8	12.4	11.9	12.3	10.6	10.0	10.4	11.2	10.0	10.5
3	15.7	13.8	14.6	13.0	12.4	12.8	11.1	10.5	10.8	11.1	9.9	10.4
4	15.6	13.7	14.6	13.5	12.8	13.2	10.9	10.3	10.6	10.4	9.6	10.0
5	16.1	14.0	14.9	14.4	13.2	13.7	10.6	10.4	10.5	11.1	10.1	10.5
6	16.5	14.3	15.2	15.0	13.2	14.0	10.8	10.4	10.7	12.4	10.4	11.3
7	16.7	14.2	15.2	15.1	13.0	13.9	11.0	10.3	10.9	12.7	10.2	11.3
8	16.5	13.9	14.9	---	---	---	11.0	10.9	10.9	13.1	9.5	11.1
9	16.0	13.6	14.5	---	---	---	11.0	10.9	10.9	13.9	9.5	11.5
10	16.9	14.2	15.4	---	---	---	11.0	10.8	10.9	13.9	9.0	11.2
11	17.5	14.3	15.7	---	---	---	10.8	10.6	10.7	14.0	8.1	10.9
12	15.7	14.0	14.8	---	---	---	10.5	10.3	10.4	13.9	7.8	10.8
13	17.0	13.7	15.2	---	---	---	10.3	10.1	10.3	14.7	7.7	11.1
14	17.9	14.4	15.9	---	---	---	10.6	10.3	10.4	15.1	8.5	11.6
15	18.2	14.4	16.1	---	---	---	10.6	10.4	10.5	12.1	8.0	9.7
16	18.5	15.0	16.5	---	---	---	10.4	10.3	10.4	13.8	7.7	10.5
17	19.2	14.8	16.6	13.9	12.3	13.0	10.5	10.4	10.5	13.8	7.9	10.6
18	17.8	14.4	15.9	14.0	12.1	12.9	10.6	10.4	10.5	13.1	7.3	9.9
19	17.4	13.4	15.2	14.2	11.8	12.9	10.7	10.4	10.5	8.2	6.6	7.4
20	17.5	13.1	15.1	13.9	11.6	12.5	10.5	10.1	10.3	8.8	6.7	7.7
21	17.8	13.2	15.2	13.4	11.4	12.4	10.2	9.7	10.0	10.7	7.2	8.9
22	18.1	13.0	15.2	14.5	11.5	12.8	9.8	9.4	9.6	10.5	7.5	8.9
23	17.6	12.6	14.7	14.9	11.5	13.0	9.5	9.2	9.4	9.6	7.1	8.1
24	18.1	12.9	15.2	15.4	11.1	12.9	9.5	9.3	9.4	9.6	6.5	7.9
25	18.8	12.9	15.5	14.7	10.8	12.5	9.9	9.6	9.8	9.3	6.5	7.7
26	19.5	12.9	15.8	14.0	10.3	11.9	10.4	9.9	10.1	8.3	6.7	7.4
27	18.1	12.8	15.2	13.1	10.3	11.6	10.5	9.9	10.2	8.5	7.0	7.7
28	19.7	12.8	15.7	12.5	10.0	11.1	10.3	9.9	10.0	9.6	7.3	8.3
29	---	---	---	12.6	10.0	11.2	10.8	9.9	10.3	10.1	7.0	8.5
30	---	---	---	11.6	10.1	10.7	10.9	10.0	10.4	10.9	6.8	8.7
31	---	---	---	10.0	9.4	9.7	---	---	---	11.3	6.9	9.1
MONTH	19.7	12.6	15.3				11.1	9.2	10.3	15.1	6.5	9.7

DELAWARE RIVER BASIN

01463500 DELAWARE RIVER AT TRENTON, NJ--Continued

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

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	12.3	7.0	9.5	11.1	7.4	9.1	10.6	6.7	8.5	8.8	7.6	8.1
2	12.0	7.0	9.3	7.7	6.7	7.1	10.0	6.4	7.9	9.0	7.7	8.3
3	9.8	6.7	8.0	7.7	6.9	7.2	10.0	6.1	8.0	9.1	7.6	8.3
4	8.1	6.5	7.1	8.6	6.7	7.5	10.3	6.3	8.2	9.4	7.7	8.5
5	8.8	6.7	7.6	9.6	6.7	8.1	9.6	6.4	7.5	9.7	7.8	8.6
6	9.7	6.8	8.2	10.0	7.1	8.5	8.6	6.0	7.0	9.3	7.6	8.2
7	9.7	7.1	8.2	9.2	7.2	8.1	8.9	6.1	7.4	9.8	7.3	8.4
8	10.6	7.0	8.8	9.4	7.1	8.1	9.1	6.3	7.6	8.3	7.4	7.7
9	9.9	7.1	8.3	8.9	6.9	7.8	9.3	6.1	7.4	8.1	6.2	7.3
10	11.4	7.2	9.2	7.5	6.6	7.0	7.3	6.3	6.7	8.3	7.9	8.2
11	12.3	7.6	9.8	7.6	6.4	6.9	7.4	6.0	6.5	8.2	8.0	8.2
12	11.1	7.9	9.4	8.7	6.6	7.3	8.2	6.1	7.0	8.2	8.1	8.2
13	11.7	7.2	9.3	9.3	6.3	7.6	8.5	6.5	7.4	8.3	8.2	8.2
14	11.8	6.9	9.2	8.4	6.6	7.3	9.0	6.6	7.6	8.6	8.3	8.5
15	12.6	6.9	9.7	6.9	6.2	6.6	9.0	6.4	7.4	8.7	8.5	8.6
16	12.6	7.2	9.9	6.9	6.2	6.6	9.1	6.2	7.5	8.8	8.7	8.8
17	13.0	7.0	10.0	7.5	6.9	7.2	9.1	5.9	7.4	8.7	8.5	8.6
18	13.6	7.4	10.4	7.9	7.1	7.5	9.0	6.0	7.4	8.5	8.3	8.4
19	13.6	7.4	10.4	8.2	7.0	7.6	8.8	6.3	7.4	8.6	8.3	8.4
20	13.2	7.1	10.0	8.4	6.8	7.5	9.2	6.4	7.7	8.8	8.7	8.7
21	9.0	6.6	7.7	8.7	6.7	7.7	9.5	6.6	8.0	8.9	8.8	8.8
22	8.7	5.9	7.1	9.2	6.6	7.8	8.9	6.8	7.6	8.8	8.7	8.8
23	8.7	6.0	7.2	9.3	6.5	7.9	9.2	6.5	7.8	8.8	8.7	8.8
24	9.8	6.3	8.0	9.5	6.5	7.9	9.2	7.0	8.0	8.8	8.7	8.7
25	10.6	6.8	8.6	9.3	6.3	7.7	9.3	7.2	8.2	8.9	8.7	8.8
26	8.5	6.7	7.6	7.8	6.0	7.0	9.5	7.3	8.2	9.1	8.8	9.0
27	8.7	6.7	7.5	8.9	6.3	7.5	8.2	7.0	7.7	9.2	8.9	9.0
28	9.3	6.8	8.0	9.8	6.2	7.9	7.5	7.0	7.2	9.3	8.9	9.1
29	10.2	7.2	8.6	10.3	6.7	8.4	8.4	7.0	7.7	9.1	8.7	8.9
30	10.8	7.5	9.1	10.2	6.8	8.4	8.5	7.3	7.9	8.8	8.5	8.6
31	---	---	---	10.1	6.7	8.3	8.6	7.5	8.0	---	---	---
MONTH	13.6	5.9	8.7	11.1	6.0	7.7	10.6	5.9	7.6	9.8	6.2	8.5

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

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	8.1	7.3	7.7	8.9	7.6	8.0	7.6	7.5	7.5	7.7	7.7	7.7
2	8.2	7.5	7.8	8.4	7.6	7.8	7.7	7.6	7.6	7.7	7.7	7.7
3	7.7	7.3	7.6	8.9	7.6	8.0	7.7	7.5	7.5	7.8	7.7	7.7
4	8.0	7.5	7.6	8.5	7.6	7.9	7.7	7.6	7.7	7.8	7.7	7.8
5	8.0	7.6	7.8	7.8	7.6	7.7	7.7	7.6	7.7	7.8	7.7	7.8
6	7.9	7.6	7.7	8.5	7.5	7.8	7.7	7.6	7.7	7.8	7.7	7.8
7	7.8	7.5	7.6	8.2	7.7	7.8	7.7	7.7	7.7	7.8	7.7	7.8
8	7.8	7.5	7.6	7.7	7.6	7.7	7.8	7.7	7.7	7.8	7.7	7.8
9	7.9	7.4	7.6	7.8	7.6	7.6	7.8	7.7	7.7	7.8	7.7	7.8
10	8.2	7.4	7.7	8.0	7.6	7.7	7.8	7.7	7.7	7.8	7.7	7.7
11	8.3	7.6	7.8	7.7	7.4	7.6	7.8	7.8	7.8	7.8	7.7	7.8
12	8.3	7.6	7.8	7.4	7.4	7.4	7.8	7.8	7.8	7.9	7.7	7.8
13	7.8	7.5	7.6	7.6	7.4	7.5	7.8	7.8	7.8	8.0	7.8	7.9
14	8.0	7.4	7.6	7.7	7.6	7.6	7.9	7.8	7.8	8.0	7.8	7.9
15	8.4	7.6	7.9	7.7	7.6	7.6	7.9	7.8	7.8	8.0	7.8	7.8
16	8.3	7.6	7.8	7.9	7.6	7.7	7.9	7.8	7.9	8.1	7.8	7.9
17	8.1	7.6	7.8	8.0	7.6	7.7	7.9	7.7	7.8	8.1	7.9	8.0
18	8.2	7.6	7.8	8.1	7.7	7.9	7.8	7.7	7.7	7.9	7.8	7.9
19	8.4	7.5	7.9	7.8	7.7	7.7	7.8	7.6	7.7	7.8	7.7	7.7
20	8.6	7.6	7.9	7.8	7.4	7.7	7.8	7.7	7.7	8.0	7.7	7.8
21	8.7	7.5	8.0	7.8	7.3	7.6	7.8	7.7	7.7	8.1	7.8	7.9
22	8.9	7.6	8.0	7.8	7.6	7.7	7.8	7.7	7.7	7.9	7.8	7.8
23	8.9	7.5	8.0	7.6	7.5	7.5	7.8	7.7	7.8	8.0	7.7	7.9
24	9.1	7.6	8.1	7.5	7.4	7.5	7.8	7.7	7.8	8.1	7.8	7.9
25	9.1	7.6	8.2	7.4	7.3	7.4	7.7	7.3	7.5	8.1	7.8	8.0
26	7.9	7.6	7.7	7.4	7.2	7.3	7.7	7.6	7.6	8.2	7.9	8.0
27	7.9	7.6	7.7	7.7	7.1	7.5	7.6	7.6	7.6	8.3	8.0	8.1
28	8.6	7.5	7.9	7.7	7.4	7.6	7.6	7.6	7.6	8.3	7.9	8.1
29	8.7	7.5	7.9	7.5	7.3	7.4	7.7	7.6	7.6	8.2	7.9	8.0
30	8.8	7.6	8.0	7.4	7.4	7.4	7.7	7.6	7.6	7.9	7.8	7.9
31	8.9	7.6	8.1	---	---	---	7.7	7.6	7.7	8.2	7.8	7.9
MONTH	9.1	7.3	7.8	8.9	7.1	7.6	7.9	7.3	7.7	8.3	7.7	7.9

DELAWARE RIVER BASIN

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01463500 DELAWARE RIVER AT TRENTON, NJ--Continued

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

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	8.3	7.9	8.0	9.1	7.5	8.2	7.7	7.5	7.6	8.3	7.8	8.0
2	8.4	7.9	8.1	7.8	7.5	7.6	7.6	7.4	7.5	8.3	7.9	8.0
3	8.6	7.8	8.1	7.7	7.6	7.7	7.6	7.4	7.5	8.2	7.8	8.0
4	8.6	7.9	8.2	7.8	7.7	7.8	7.5	7.1	7.3	7.8	7.7	7.8
5	8.7	7.9	8.2	8.1	7.7	7.9	7.6	7.2	7.4	8.0	7.7	7.8
6	8.9	7.9	8.3	8.6	7.7	8.0	7.2	7.1	7.2	8.6	7.8	8.1
7	8.9	7.9	8.4	8.8	7.8	8.2	7.3	7.2	7.3	8.8	7.8	8.2
8	9.0	8.0	8.4	---	---	---	7.4	7.3	7.4	9.1	7.7	8.3
9	8.9	7.9	8.3	---	---	---	7.3	7.3	7.3	9.2	7.8	8.6
10	9.0	8.0	8.5	---	---	---	7.4	7.3	7.4	9.3	7.8	8.6
11	9.2	8.0	8.6	---	---	---	7.5	7.3	7.4	9.4	7.7	8.6
12	8.7	8.0	8.4	---	---	---	7.6	7.4	7.5	9.4	7.8	8.7
13	9.1	7.9	8.4	---	---	---	7.6	7.5	7.6	9.5	7.7	8.8
14	9.2	8.1	8.6	---	---	---	7.6	7.5	7.6	9.6	8.1	9.0
15	9.3	8.0	8.7	---	---	---	7.7	7.4	7.6	9.3	8.0	8.6
16	9.3	8.1	8.8	---	---	---	7.7	7.6	7.6	9.5	7.8	8.7
17	9.4	8.0	8.7	8.8	7.9	8.3	7.7	7.6	7.6	9.6	8.1	8.9
18	9.4	8.2	8.9	9.0	8.0	8.4	7.7	7.6	7.7	9.5	8.0	8.8
19	9.4	8.4	8.9	9.1	8.0	8.5	7.8	7.7	7.7	8.4	7.7	8.0
20	9.4	8.4	9.0	9.1	8.0	8.5	7.8	7.6	7.7	8.0	7.5	7.7
21	9.5	8.4	9.0	9.0	8.0	8.5	7.8	7.6	7.7	8.6	7.6	8.0
22	9.6	8.4	9.1	9.4	8.0	8.7	7.8	7.6	7.7	8.7	7.6	8.0
23	9.6	8.4	9.0	9.5	8.1	8.9	7.8	7.7	7.7	8.5	7.6	7.9
24	9.7	8.5	9.1	9.6	8.2	9.0	7.7	7.6	7.7	8.6	7.5	7.9
25	9.7	8.5	9.2	9.6	8.3	9.0	7.7	7.6	7.6	8.5	7.5	7.9
26	9.8	8.7	9.3	9.5	8.1	8.8	7.8	7.7	7.7	8.0	7.6	7.7
27	9.7	8.8	9.2	9.3	8.0	8.7	7.9	7.7	7.8	7.9	7.6	7.7
28	9.9	8.8	9.4	9.0	7.7	8.3	7.8	7.7	7.7	8.4	7.5	7.9
29	---	---	---	9.0	7.6	8.2	8.0	7.7	7.8	8.7	7.5	8.0
30	---	---	---	8.4	7.6	7.9	8.0	7.8	7.9	9.0	7.6	8.2
31	---	---	---	7.6	7.5	7.6	---	---	---	9.2	7.6	8.4
MONTH	9.9	7.8	8.7				8.0	7.1	7.6	9.6	7.5	8.2
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE				JULY			AUGUST			SEPTEMBER		
1	9.3	7.7	8.6	9.1	8.0	8.6	8.9	7.6	8.1	7.6	7.3	7.4
2	9.3	7.7	8.6	8.2	6.8	7.6	8.7	7.5	7.9	7.6	7.3	7.4
3	8.8	7.7	8.2	7.3	6.6	7.0	8.6	7.4	7.8	7.7	7.3	7.5
4	7.9	7.5	7.7	7.9	7.3	7.6	8.7	7.4	7.9	7.9	7.3	7.6
5	8.1	7.3	7.6	8.6	7.4	7.9	8.5	7.5	7.8	8.1	7.4	7.6
6	8.7	7.5	8.0	8.8	7.7	8.2	8.0	7.4	7.6	7.8	7.3	7.5
7	8.7	7.6	8.0	8.6	7.7	8.1	8.0	7.4	7.6	8.0	7.3	7.6
8	9.0	7.6	8.2	8.5	7.5	7.9	8.1	7.4	7.7	7.6	7.4	7.5
9	8.8	7.7	8.2	8.3	7.5	7.8	8.2	7.4	7.7	7.8	7.4	7.5
10	9.2	7.7	8.5	7.7	7.5	7.6	7.6	6.9	7.3	7.4	7.2	7.3
11	9.3	8.0	8.7	7.7	7.4	7.5	7.5	7.3	7.4	7.2	7.1	7.1
12	9.2	8.3	8.8	8.3	7.0	7.5	7.7	7.3	7.5	7.2	7.2	7.2
13	9.2	7.8	8.5	8.5	7.2	7.8	7.8	7.4	7.6	7.3	7.2	7.3
14	9.2	7.6	8.4	8.3	6.9	7.6	7.9	7.4	7.6	7.3	6.9	7.1
15	9.3	7.7	8.6	7.6	6.9	7.4	8.0	7.4	7.6	7.1	6.9	7.0
16	9.5	8.0	8.8	7.6	7.5	7.5	8.1	7.4	7.7	7.1	7.0	7.0
17	9.6	8.3	9.1	7.6	7.5	7.5	8.2	7.4	7.7	7.1	7.1	7.1
18	9.7	8.5	9.2	7.7	7.5	7.5	8.3	7.5	7.8	7.4	7.2	7.3
19	9.8	8.6	9.3	7.9	7.4	7.6	8.2	7.5	7.8	7.5	7.4	7.5
20	9.7	8.6	9.2	8.1	7.5	7.7	8.4	7.6	7.9	7.5	7.3	7.4
21	9.1	7.9	8.6	8.4	7.5	7.9	8.5	7.4	7.9	7.4	7.3	7.4
22	8.4	7.3	7.8	8.7	7.6	8.1	8.3	7.6	7.8	7.4	7.3	7.4
23	8.3	7.4	7.8	8.9	7.7	8.2	8.1	7.4	7.7	7.4	7.1	7.3
24	8.8	7.6	8.1	9.0	7.7	8.3	8.0	7.4	7.7	7.5	7.4	7.4
25	9.0	7.7	8.4	9.0	7.8	8.3	8.0	7.4	7.6	7.5	7.4	7.5
26	8.4	7.8	8.1	8.0	7.4	7.7	8.0	7.4	7.6	7.5	7.4	7.5
27	8.3	7.5	7.8	8.4	7.5	7.9	7.6	7.1	7.5	7.5	7.5	7.5
28	8.5	7.6	7.9	8.8	7.5	8.0	7.5	7.4	7.4	7.5	7.4	7.5
29	8.8	7.6	8.2	8.9	7.6	8.2	7.7	7.4	7.5	7.5	7.4	7.5
30	9.1	7.9	8.5	8.9	7.6	8.2	7.7	7.4	7.5	7.6	7.4	7.5
31	---	---	---	8.7	7.5	8.1	7.6	7.4	7.4	---	---	---
MONTH	9.8	7.3	8.4	9.1	6.6	7.8	8.9	6.9	7.7	8.1	6.9	7.4

DELAWARE RIVER BASIN

01463620 ASSUNPINK CREEK NEAR CLARKSVILLE, NJ

LOCATION.--Lat 40°16'11", long 74°40'20", Mercer County, Hydrologic Unit 02040105, on left bank 200 ft upstream from bridge on Quaker Bridge Road, 1.9 south of Clarksville, 2.0 mi upstream from Shipetaukin Creek, and 7.6 mi upstream of mouth.

drainage area.--34.3 mi².

PERIOD OF RECORD.--Water years 1963, 1965, 1967, and 1979 to current year.

COOPERATION.--Field data and samples for laboratory analyses provided by New Jersey Department of Environmental Protection, Water Resources Division. 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 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIO-CHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, EC BROTH (MPN)	STREPTOCOCCI FECAL (MPN)
NOV 1986										
05...	1000	E8.6	132	6.9	10.0	9.3	82	2.3	230	540
JAN 1987										
29...	1000	E33	--	6.1	1.0	13.1	--	<0.5	<20	2
MAR										
16...	1345	E32	135	6.8	6.5	13.1	106	2.4	<20	<2
JUN										
03...	1345	E8.6	130	6.6	23.5	7.5	88	3.0	20	1600
JUL										
29...	1345	E22	107	6.7	27.0	7.7	97	3.2	<20	220
AUG										
17...	1330	E70	84	6.4	25.0	7.2	88	2.9	20	49

DATE	HARDNESS (MG/L AS CaCO3)	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNESIUM, DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CaCO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS Cl)	FLUORIDE, DIS-SOLVED (MG/L AS F)
NOV 1986									
05...	43	8.8	5.1	5.8	2.8	23	17	12	0.1
JAN 1987									
29...	36	7.9	4.0	6.3	2.4	6.0	26	14	0.1
MAR									
16...	38	8.2	4.2	8.7	2.4	6.0	25	16	0.1
JUN									
03...	40	8.4	4.5	5.8	2.0	14	21	13	0.2
JUL									
29...	31	6.8	3.5	4.0	2.8	17	11	9.3	0.2
AUG									
17...	26	5.7	2.8	3.1	2.9	13	16	7.0	0.2

DATE	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (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 1986									
05...	1.8	67	0.011	0.19	0.05	0.61	0.80	0.080	5.7
JAN 1987									
29...	6.2	70	0.010	1.64	0.16	0.60	2.2	0.065	3.4
MAR									
16...	5.4	74	0.017	1.66	0.11	0.84	2.5	0.039	4.6
JUN									
03...	1.6	65	0.013	0.53	0.08	0.66	1.2	0.046	5.8
JUL									
29...	4.7	52	0.005	0.08	0.08	0.98	1.1	0.100	10
AUG									
17...	4.2	52	0.008	<0.05	0.07	0.93	--	0.060	9.2

01464000 ASSUNPINK CREEK AT TRENTON, NJ

LOCATION.--Lat 40°13'27", long 74°44'58", Mercer County, Hydrologic Unit 02040105, on left bank 20 ft upstream from bridge on Chambers Street (Lincoln Avenue) in Trenton, and 1.5 mi upstream from mouth.

DRAINAGE AREA.--90.6 mi².

PERIOD OF RECORD.--August 1923 to current year.

REVISED RECORDS.--WDR NJ-82-2: Drainage area.

GAGE.--Water-stage recorder. Concrete control since July 10, 1932. Datum of gage is 24.76 ft above National Geodetic Vertical Datum of 1929 (levels from New Jersey Geological Survey bench mark).

REMARKS.--Records good. Records include water diverted from outside the basin since February 1954 for municipal supply which returns to Assunpink Creek through Ewing-Lawrence Sewerage Authority Treatment Plant, 2.4 mi above station (records given herein). In addition there is an average inflow of about 2.0 ft³/s from industrial use of water that originates outside the basin. Some diversion for irrigation in headwater area during summer months. Flow regulated by several flood-control reservoirs upstream of gage since mid-1970's. Several measurements of water temperature were made during the year. National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--64 years, 130 ft³/s, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,450 ft³/s, July 21, 1975, gage height, 14.61 ft, from high-water mark in gage house; minimum, 1.0 ft³/s, Aug. 21, Oct. 22, 1931, gage height, 0.25 ft; minimum daily, 4.0 ft³/s, July 21, Aug. 8, Sept. 2, 1929.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 900 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 21	0330	1,020	6.21	July 3	0545	*2,510	*10.03
Dec. 3	0545	1,140	6.55	July 12	2100	994	6.12
Dec. 25	0745	1,510	7.53	July 14	2300	2,190	9.23
Apr. 4	1815	2,130	9.08	Aug. 10	0645	1,730	8.07

Minimum discharge, 20 ft³/s, Oct. 11, 12, 13, gage height, 2.48 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	30	113	122	129	509	204	154	62	122	80	93
2	39	33	192	616	146	497	190	128	67	443	e79	79
3	48	33	701	479	195	371	159	119	60	1340	78	72
4	57	40	278	367	220	305	1220	267	140	509	74	67
5	45	66	199	283	199	253	691	251	164	400	80	61
6	37	160	158	237	171	208	706	208	78	307	152	59
7	33	64	134	196	163	179	522	174	63	206	83	61
8	31	128	120	166	165	161	407	149	62	160	70	84
9	29	103	338	147	171	150	339	131	69	214	83	98
10	28	86	338	169	152	133	256	117	67	235	869	69
11	26	258	260	175	142	120	206	109	57	153	454	64
12	24	180	260	155	141	119	178	102	55	333	383	61
13	29	118	202	139	136	130	162	94	97	320	355	188
14	67	93	159	128	122	121	148	87	186	690	303	115
15	38	81	138	121	112	112	137	91	182	770	241	100
16	31	72	125	114	103	108	123	85	172	390	207	95
17	30	68	114	105	100	102	269	78	140	267	162	169
18	28	84	292	223	99	97	201	78	110	197	125	265
19	27	312	311	376	96	98	178	99	92	150	103	160
20	27	168	219	364	93	103	159	112	80	130	91	129
21	29	522	177	278	91	91	143	103	73	124	82	114
22	29	197	148	227	90	87	131	84	140	106	78	128
23	28	145	130	204	124	86	119	92	179	97	73	118
24	28	162	135	161	134	80	287	85	128	89	68	97
25	27	129	852	149	130	78	563	75	92	80	64	94
26	72	288	369	142	125	78	324	73	95	207	61	78
27	53	386	261	132	123	76	230	74	255	125	194	77
28	38	206	199	124	125	118	210	72	224	97	155	75
29	34	161	164	117	---	88	210	69	193	84	109	72
30	32	131	146	126	---	87	176	65	135	85	88	76
31	31	---	132	140	---	242	---	62	---	126	78	---
TOTAL	1108	4504	7364	6482	3797	4987	8848	3487	3517	8556	5122	3018
MEAN	35.7	150	238	209	136	161	295	112	117	276	165	101
MAX	72	522	852	616	220	509	1220	267	255	1340	869	265
MIN	24	30	113	105	90	76	119	62	55	80	61	59
(†)	11.0	14.8	20.7	19.1	18.1	18.4	21.6	16.9	13.6	18.3	14.0	14.6

CAL YR 1986 TOTAL 43757 MEAN 120 MAX 1330 MIN 24 † 14.7
WTR YR 1987 TOTAL 60790 MEAN 167 MAX 1340 MIN 24 † 16.8

e Estimated

† Inflow from outside basin, 2.4 mi upstream of station through plant of Ewing-Lawrence Sewerage Authority, in cubic feet per second.

DELAWARE RIVER BASIN

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01464500 CROSSWICKS CREEK AT EXTENVILLE, NJ

LOCATION.--Lat 40°08'15", long 74°36'02", Mercer County, Hydrologic Unit 02040201, on right bank upstream from highway bridge in Extontville, 0.5 mi upstream from Pleasant Run, and 0.7 mi downstream from Mercer-Monmouth County line.

DRAINAGE AREA.--81.5 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1940 to October 1951, October 1952 to current year.

REVISED RECORDS.--WDR NJ-79-2: 1971(M). WDR NJ-82-2: Drainage area.

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Datum of gage is 24.94 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Flow regulated occasionally by lakes above station. Several measurements of water temperature, other than those published, were made during the year.

AVERAGE DISCHARGE.--46 years (water years 1941-51, 1953-87), 135 ft³/s, 22.49 in./yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,860 ft³/s, Sept. 1, 1978, gage height, 14.18 ft; minimum, 13.1 ft³/s, Feb. 14, 1942 (result of freezeup); minimum daily, 16 ft³/s, Aug. 30 to Sept. 3, Sept. 12, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 750 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 3	0400	1,200	8.53	July 2	2100	*1,860	*9.93
Mar. 2	0900	927	7.65	Aug. 10	1200	1,340	8.83
Apr. 5	0600	1,750	9.72				

Minimum discharge, 35 ft³/s, Oct. 12, Gage height, 2.41 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	53	56	110	108	141	289	476	126	68	78	284	182
2	57	56	106	649	134	843	251	117	64	996	140	140
3	61	78	399	954	154	486	166	119	63	1120	104	94
4	52	67	579	415	211	293	600	161	63	412	85	79
5	49	69	269	216	226	200	1420	357	78	176	74	68
6	44	179	162	157	181	159	769	276	94	129	80	63
7	40	149	133	148	159	147	624	178	88	109	76	65
8	38	123	121	138	162	141	367	161	81	112	67	69
9	44	141	207	127	172	134	187	136	76	130	78	109
10	44	112	525	133	160	122	181	118	73	130	1080	89
11	39	118	344	173	143	112	156	107	71	106	628	72
12	36	215	308	144	136	107	141	100	67	95	190	65
13	42	142	249	128	132	120	148	141	63	93	121	106
14	66	104	161	117	121	129	139	126	224	169	97	209
15	92	91	132	112	112	120	130	104	195	435	84	104
16	63	85	121	110	115	112	127	111	131	197	77	80
17	53	79	115	104	111	106	185	109	102	114	71	72
18	48	75	153	126	101	102	321	100	71	92	66	147
19	46	247	426	329	99	98	205	95	61	81	61	137
20	43	236	286	607	98	96	162	103	56	88	57	106
21	41	272	170	410	97	95	145	139	54	118	53	92
22	48	261	139	226	100	94	134	147	62	80	53	81
23	52	145	124	208	108	93	123	125	316	73	57	90
24	49	129	116	195	126	90	130	112	260	66	52	85
25	48	141	388	209	129	89	312	104	117	62	48	72
26	54	162	433	178	128	88	331	96	89	72	48	63
27	95	329	202	178	127	88	180	89	118	149	62	58
28	69	215	149	182	125	97	147	90	215	94	105	56
29	58	146	131	157	---	108	149	88	131	73	170	54
30	55	124	122	126	---	103	140	82	97	73	171	58
31	62	---	116	142	---	212	---	74	---	231	108	---
TOTAL	1641	4346	6996	7206	3808	5073	8546	3991	3248	5953	4447	2765
MEAN	52.9	145	226	232	136	164	285	129	108	192	143	92.2
MAX	95	329	579	954	226	843	1420	357	316	1120	1080	209
MIN	36	56	106	104	97	88	123	74	54	62	48	54
CFSM	.65	1.78	2.77	2.85	1.67	2.01	3.50	1.58	1.33	2.36	1.76	1.13
IN.	.75	1.98	3.19	3.29	1.74	2.32	3.90	1.82	1.48	2.72	2.03	1.26

CAL YR 1986 TOTAL 44157 MEAN 121 MAX 1510 MIN 27 CFSM 1.48 IN. 20.15
WTR YR 1987 TOTAL 58020 MEAN 159 MAX 1420 MIN 36 CFSM 1.95 IN. 26.50

DELAWARE RIVER BASIN

01464500 CROSSWICKS CREEK AT EXTONTVILLE, NJ--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1966 to June 1970.

SUSPENDED-SEDIMENT DISCHARGE: February 1965 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 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	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 1986 16...	0905	E63	204	7.0	12.5	7.1	66	5.3	110	<200
FEB 1987 11...	0945	E143	165	6.9	1.0	12.8	90	1.1	20	130
APR 13...	0910	E148	144	6.9	13.5	8.4	81	2.6	130	140
JUN 08...	1100	E81	157	7.2	20.5	6.6	74	4.2	490	460
JUL 07...	1030	E109	138	7.0	21.5	6.6	75	2.2	790	790
AUG 17...	1030	E71	176	7.2	24.0	6.2	74	2.7	1600	350

DATE	HARD- NESS (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 1986 16...	57	18	2.9	12	2.7	27	23	19	0.3
FEB 1987 11...	44	13	2.8	9.4	2.3	17	23	18	0.2
APR 13...	41	12	2.7	6.8	2.5	15	22	12	0.2
JUN 08...	49	15	2.7	8.2	3.0	23	23	18	0.2
JUL 07...	43	13	2.5	6.0	2.6	17	21	13	0.2
AUG 17...	52	16	2.9	9.5	3.2	22	24	17	0.2

DATE	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, 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 1986 16...	10	100	0.086	1.23	1.20	2.3	3.5	0.280	6.6
FEB 1987 11...	8.3	87	--	--	0.68	1.2	--	0.126	6.5
APR 13...	8.0	75	0.027	0.92	0.28	0.96	1.9	0.287	5.1
JUN 08...	10	94	0.009	1.06	0.06	0.85	1.9	0.301	9.6
JUL 07...	9.1	78	0.042	0.84	0.32	1.3	2.1	0.320	13
AUG 17...	11	97	0.078	1.18	0.28	1.1	2.3	0.230	9.3

DELAWARE RIVER BASIN

01464515 DOCTORS CREEK AT ALLENTOWN, NJ

LOCATION.--Lat 40°10'37", long 74°35'57", Monmouth County, Hydrologic Unit 02040201, at bridge on Breza Road in Allentown, and 0.8 mi downstream from Conines Millpond dam.

DRAINAGE AREA.--17.4 mi².

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 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	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 1986 16...	1100	E13	183	7.2	13.0	8.4	79	1.6	700	230
FEB 1987 11...	1120	E72	191	7.1	1.5	13.6	97	0.5	90	80
APR 13...	1045	E78	162	7.0	13.5	9.9	96	1.8	40	490
JUN 08...	0900	E22	172	7.3	21.0	6.9	78	2.4	2400	1700
JUL 07...	0915	E59	144	7.3	23.0	7.0	81	6.6	330	490
AUG 17...	0930	E16	146	7.3	24.0	7.1	85	3.0	>2400	240

DATE	HARD- NESS (MG/L AS CaCO ₃)	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 CaCO ₃)	SULFATE DIS- SOLVED (MG/L AS SO ₄)	CHLO- RIDE, DIS- SOLVED (MG/L AS Cl)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
OCT 1986 16...	62	16	5.4	7.4	4.1	34	19	16	0.3
FEB 1987 11...	52	12	5.4	9.9	3.1	13	25	20	0.2
APR 13...	44	10	4.6	7.3	3.2	13	23	16	0.2
JUN 08...	58	14	5.7	7.4	3.3	27	20	20	0.3
JUL 07...	42	10	4.1	5.5	3.8	21	16	12	0.2
AUG 17...	45	11	4.3	5.8	3.9	21	18	15	0.2

DATE	SILICA, DIS- SOLVED (MG/L AS SiO ₂)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO ₂ +NO ₃ 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 1986 16...	9.0	98	0.068	0.75	0.87	2.0	2.8	0.250	5.0
FEB 1987 11...	8.5	92	--	--	0.23	0.65	--	0.066	3.3
APR 13...	5.3	77	0.015	1.58	0.14	0.54	2.1	0.111	2.9
JUN 08...	8.3	95	0.036	1.19	0.26	0.70	1.9	0.210	3.8
JUL 07...	8.1	72	0.033	0.88	0.17	1.0	1.9	0.190	6.1
AUG 17...	9.3	80	0.020	0.87	0.20	1.0	1.9	0.200	6.4

DELAWARE RIVER BASIN

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01464515 DOCTORS CREEK AT ALLENTOWN, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

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 1986 16...	1100	<0.5	<10	<1	<10	20	<1	<10	11
JUN 1987 08...	0900	<0.5	20	<1	<10	20	<1	<10	7

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 RECOV- ERABLE (UG/L AS SE)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
OCT 1986 16...	1000	5	90	<0.10	5	<1	320	3
JUN 1987 08...	530	<5	100	<0.10	6	<1	10	3

DELAWARE RIVER BASIN

01464598 DELAWARE RIVER AT BURLINGTON, NJ

LOCATION.--Lat 40°04'42", long 74°52'28", Burlington County, Hydrologic Unit 02040201, on left bank at the intake canal of the Public Service Electric and Gas Company, 0.3 mi downstream from Burlington-Bristol Bridge, 1.4 mi downstream from Assiscunk Creek, and at mile 117.54.

DRAINAGE AREA.--7,160 mi².

PERIOD OF RECORD.--July 1964 to current year. March 1921 to July 1926, January 1931 to November 1939, August 1951 to June 1954, July 1957 to June 1964, in files of Philadelphia District Corps of Engineers.

REVISED RECORDS.--WDR NJ-76-1: 1973(m).

GAGE.--Water-stage recorder. Datum of gage is -12.90 ft below National Geodetic Vertical Datum of 1929. Prior to May 20, 1971, water-stage recorder at site 0.7 mi upstream at same datum. Gage-height record converted to elevation above or below (-) National Geodetic Vertical Datum of 1929 for publication.

REMARKS.--No gage-height or doubtful record: Jan. 27 to Feb. 2. Summaries for months with short periods of no gage-height record have been estimated with little 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, 8.74 ft, Oct. 25, 1980; minimum, -6.60 ft, Feb. 26, 1967.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum elevation known, 10.8 ft, Aug. 20, 1955, from high-water mark at site 1.4 mi upstream; minimum, -9.1 ft, Dec. 31, 1962, at present site.

EXTREMES FOR CURRENT YEAR.--Maximum elevation recorded, 7.46 ft, Jan. 2; minimum recorded, -5.07 ft, Feb. 9.

Summaries of tide elevations during current year are as follows:

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	5.77	6.19	7.37	7.46	e5.6	6.59	7.05	5.97	6.29	6.61	6.75	6.79
high tide	Date	4,8	20	3	2	2	31	15	15	12	13	10	20
Minimum	Elevation	-3.73	-3.59	-3.55	-4.53	-5.07	-2.71	-2.76	-3.56	-3.50	-3.03	-3.29	-2.91
low tide	Date	6	13	13	24	9	7	30	16	10	1	23	4
Mean high tide		4.90	4.86	4.98	4.54	4.23	5.21	5.69	5.06	5.15	5.30	5.20	5.50
Mean water level		1.43	1.48	1.58	1.22	0.86	1.90	2.30	1.44	1.49	1.65	1.62	2.03
Mean low tide		-2.35	-2.16	-2.09	-2.41	-2.76	-1.64	-1.36	-2.49	-2.50	-2.38	-2.30	-1.70

e - Estimated

DELAWARE RIVER BASIN

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01465850 SOUTH BRANCH RANOCAS CREEK AT VINCENTOWN, NJ

LOCATION.--Lat 39°56'22", long 74°45'50", Burlington County, Hydrologic Unit 02040202, at bridge on Lumberton-Vincentown Road at Vincentown, 2.9 mi southeast of Lumberton, and 3.1 mi upstream from Southwest Branch.

DRAINAGE AREA.--64.5 mi².

PERIOD OF RECORD.--Water years 1925, 1959-62, 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 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	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 1986 09...	1000	E16	94	6.3	14.5	6.9	67	2.0	790	490
FEB 1987 17...	0900	E65	95	5.9	0.0	12.4	84	0.8	21	46
MAR 25...	1145	E51	75	5.5	9.5	9.9	86	0.7	<20	<20
MAY 20...	0900	E53	73	5.9	13.5	8.0	76	1.4	1300	1300
JUL 16...	0900	E84	68	5.3	20.0	5.8	64	1.1	1600	920
AUG 05...	0900	E72	79	6.1	24.0	5.4	65	1.3	170	790

DATE	HARD- NESS (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 1986 09...	22	6.0	1.7	5.7	3.1	8.0	17	9.7	<0.1
FEB 1987 17...	22	6.1	1.7	4.7	1.5	3.0	22	9.5	<0.1
MAR 25...	20	5.4	1.5	4.2	1.3	3.0	19	6.6	0.1
MAY 20...	20	5.8	1.4	4.2	1.6	4.0	10	7.0	0.1
JUL 16...	19	5.3	1.5	3.2	1.5	4.0	24	7.3	<0.1
AUG 05...	22	6.6	1.4	4.8	1.5	7.0	13	7.8	0.2

DATE	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, 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 1986 09...	5.9	54	0.009	0.57	0.09	0.92	1.5	0.270	9.4
FEB 1987 17...	5.3	53	0.008	0.71	0.20	0.81	1.5	0.062	8.0
MAR 25...	3.6	43	0.013	0.52	0.23	0.59	1.1	0.160	6.0
MAY 20...	4.8	39	0.011	0.40	0.56	1.2	1.6	0.229	21
JUL 16...	6.0	51	0.019	0.29	0.17	1.1	1.3	0.236	33
AUG 05...	6.2	46	0.011	0.45	0.18	1.2	1.6	0.320	22

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

[illegible]

DELAWARE RIVER BASIN

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01465970 NORTH BRANCH RANCOCAS CREEK AT BROWNS MILLS, NJ

LOCATION.--Lat 39°58'04", long 74°34'48", Burlington County, Hydrologic Unit 02040202, at bridge on Lakehurst Road at outflow of Mirror Lake in Browns Mills, 1.5 mi north of Browns Mills Junction, and 2.0 mi northwest of outflow of Country Lake.

DRAINAGE AREA.--27.4 mi².

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 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	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 1986 15...	0900	E34	50	6.0	15.0	9.3	92	1.7	5	49
FEB 1987 19...	0900	E50	58	4.6	1.5	13.0	92	0.7	<2	<2
MAR 26...	0945	E42	52	4.7	9.0	11.4	99	1.3	110	70
JUN 08...	1000	E27	55	5.8	19.5	8.0	87	1.3	49	70
JUL 27...	1030	E28	44	5.6	25.5	6.8	83	3.7	13	14
AUG 17...	1045	E54	39	4.6	23.5	7.7	91	1.2	2	7

DATE	HARD- NESS (MG/L AS CaCO ₃)	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 CaCO ₃)	SULFATE DIS- SOLVED (MG/L AS SO ₄)	CHLO- RIDE, DIS- SOLVED (MG/L AS Cl)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
OCT 1986 15...	10	2.2	1.1	2.9	1.0	3.0	9.7	5.0	<0.1
FEB 1987 19...	11	2.4	1.1	3.2	0.7	<1.0	11	5.5	<0.1
MAR 26...	10	2.2	1.0	3.3	0.8	1.0	12	5.4	<0.1
JUN 08...	13	2.8	1.4	3.5	1.2	4.0	12	6.7	<0.1
JUL 27...	10	2.2	1.0	3.0	1.0	3.0	28	5.2	0.1

DATE	SILICA, DIS- SOLVED (MG/L AS SiO ₂)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO ₂ +NO ₃ 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 1986 15...	3.3	27	0.005	<0.05	0.06	0.60	--	0.030	4.2
FEB 1987 19...	4.4	--	<0.003	0.11	0.07	0.42	0.53	0.030	5.4
MAR 26...	3.1	28	0.005	0.08	0.06	0.61	0.69	0.033	5.3
JUN 08...	3.6	34	0.007	0.08	0.20	0.86	0.94	0.035	9.6
JUL 27...	4.0	46	0.006	<0.05	0.19	0.92	--	0.056	18
AUG 17...	3.8	39	0.008	<0.05	0.14	0.85	--	0.040	20

DELAWARE RIVER BASIN

01465970 NORTH BRANCH RANOCAS CREEK AT BROWNS MILLS, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

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 1986 15...	0900	<0.5	30	<1	<10	<10	<1	<10	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)
OCT 1986 15...	1100		<5	40	<0.10	3	<1	280	4

DELAWARE RIVER BASIN

111

01466500 MCDONALDS BRANCH IN LEBANON STATE FOREST, NJ
(Hydrologic bench-mark station)

LOCATION---Lat 39°53'05", long 74°30'20", Burlington County, Hydrologic Unit 02040202, on right bank in Lebanon State Forest, 25 ft upstream from Butterworth Road Bridge, 3.4 mi upstream from confluence with Cooper Branch, and 7.0 mi southeast of Browns Mills.

DRAINAGE AREA--2.35 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD---October 1953 to current year. Prior to October 1962, published as "McDonald Branch in Lebanon State Forest".

REVISED RECORDS---WDR NJ-82-2: Drainage area.

GAGE---Water-stage recorder and concrete control. Datum of gage is 117.73 ft above National Geodetic Vertical Datum of 1929 (levels from New Jersey Geological Survey bench mark).

REMARKS---No estimated daily discharges. Records good above 1.0 ft³/s and fair below. Gage-height record is collected above concrete control and discharge record, which includes leakage around control, is at site 785 ft downstream. Several measurements of water temperature, other than those published, were made during the year.

AVERAGE DISCHARGE---34 years, 2.26 ft³/s, 13.06 in./yr.

EXTREMES FOR PERIOD OF RECORD---Maximum discharge, 35 ft³/s, Aug. 25, 1958, gage height, 2.33 ft; minimum daily, 0.71 ft³/s, Sept. 21, 22, 1985.

EXTREMES FOR CURRENT YEAR---Peak discharges greater than base discharge of 7.0 ft³/s and maximum(*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 2	1530	8.4	1.77	Aug. 10	1500	*17	*2.03
Apr. 5	0130	11	1.87				

Minimum daily discharge, 0.87 ft³/s, Oct. 10, 11, 12.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.90	.88	1.2	2.0	2.6	3.2	4.6	2.7	2.1	1.7	2.3	2.4
2	.93	.93	1.4	4.1	2.6	6.3	3.9	2.7	2.1	2.9	2.0	2.2
3	.91	.91	2.1	5.9	2.8	5.4	3.2	2.8	2.1	3.1	1.9	2.0
4	.90	.90	2.2	4.1	2.9	4.1	6.6	3.6	2.2	2.5	1.7	1.8
5	.89	.97	2.6	3.4	3.0	3.4	8.8	4.2	2.6	2.5	1.7	1.8
6	.88	1.1	2.1	3.1	3.0	3.1	6.5	3.9	2.4	2.2	1.7	1.7
7	.88	1.0	1.9	2.9	2.9	3.1	5.5	3.3	2.3	2.0	1.6	1.8
8	.88	1.0	1.7	2.8	2.8	3.2	4.6	3.1	2.2	2.0	1.6	1.8
9	.88	1.0	2.2	2.6	2.9	3.2	4.0	2.9	2.1	2.1	1.7	1.8
10	.87	.97	2.4	2.7	2.8	2.9	3.7	2.7	2.0	1.9	1.2	1.8
11	.87	1.0	3.1	2.7	2.7	2.6	3.5	2.7	2.0	1.9	6.8	1.7
12	.87	1.1	3.0	2.6	2.6	2.6	3.3	2.7	1.9	2.0	4.0	1.7
13	.89	1.0	2.6	2.5	2.5	2.7	3.3	2.6	2.0	1.9	3.1	1.7
14	1.1	.99	2.3	2.5	2.4	2.7	3.1	2.6	2.0	2.2	2.7	1.7
15	.99	.99	2.1	2.4	2.3	2.7	3.1	2.6	1.9	2.9	2.5	1.7
16	.92	.98	2.0	2.4	2.3	2.6	3.1	2.5	1.9	2.9	2.4	1.6
17	.90	.98	1.9	2.3	2.2	2.5	3.7	2.5	1.8	2.4	2.3	1.6
18	.89	1.0	2.2	2.6	2.2	2.5	3.9	2.4	1.8	2.1	2.2	1.8
19	.88	1.3	2.4	3.4	2.2	2.4	3.8	2.4	1.8	1.9	2.0	1.8
20	.88	1.1	2.8	4.7	2.2	2.4	3.4	2.6	1.8	1.7	2.0	1.8
21	.88	1.4	2.6	4.2	2.2	2.4	3.3	2.9	1.8	1.7	1.9	1.8
22	.88	1.2	2.3	3.6	2.2	2.4	3.1	2.6	1.9	1.6	1.9	1.7
23	.88	1.2	2.1	3.4	2.3	2.3	3.0	2.6	2.1	1.6	1.9	1.8
24	.88	1.2	2.0	3.1	2.3	2.3	3.0	2.5	2.0	1.5	1.8	1.7
25	.88	1.2	2.7	2.8	2.2	2.2	3.2	2.4	1.9	1.5	1.8	1.7
26	.96	1.3	2.9	2.6	2.2	2.2	3.0	2.4	1.8	1.5	1.8	1.6
27	.97	1.4	2.9	2.6	2.2	2.2	2.9	2.3	2.3	1.5	2.2	1.6
28	.93	1.3	2.5	2.6	2.2	2.4	2.9	2.3	2.3	1.5	2.6	1.6
29	.89	1.2	2.2	2.6	---	2.3	2.9	2.3	2.0	1.4	2.6	1.6
30	.88	1.2	2.1	2.7	---	2.3	2.8	2.2	1.8	1.9	2.3	1.6
31	.88	---	2.0	2.7	---	3.7	---	2.2	---	3.1	2.0	---
TOTAL	28.02	32.70	70.5	94.6	69.7	90.3	115.7	84.2	60.9	63.6	81.0	52.9
MEAN	.90	1.09	2.27	3.05	2.49	2.91	3.86	2.72	2.03	2.05	2.61	1.76
MAX	1.1	1.4	3.1	5.9	3.0	6.3	8.8	4.2	2.6	3.1	12	2.4
MIN	.87	.88	1.2	2.0	2.2	2.2	2.8	2.2	1.8	1.4	1.6	1.6
CFSM	.38	.46	.97	1.30	1.06	1.24	1.64	1.16	.86	.87	1.11	.75
IN.	.44	.52	1.12	1.50	1.10	1.43	1.83	1.33	.96	1.01	1.28	.84

CAL YR 1986 TOTAL 529.36 MEAN 1.45 MAX 5.4 MIN .87 CFSM .62 IN. 8.38
WTR YR 1987 TOTAL 844.11 MEAN 2.31 MAX 12 MIN .87 CFSM .98 IN. 13.36

DELAWARE RIVER BASIN

01466500 MCDONALDS BRANCH IN LEBANON STATE FOREST, NJ--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1968 to current year.

PH: October 1984 to September 1986, (discontinued).

WATER TEMPERATURE: October 1960 to current year.

DISSOLVED OXYGEN: October 1984 to September 1986 (discontinued).

INSTRUMENTATION.--Temperature recorder since October 1960, water-quality monitor since October 1968.

REMARKS.--Water-quality samples were collected at the weir. Interruptions in the daily record were due to malfunctions of the instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 182 microsiemens, June 16, 1969; minimum, 19 microsiemens, Aug. 25, 1979, Nov. 14, 1985.

WATER TEMPERATURE: Maximum, 22.0°C, Aug. 1, 1970; minimum, 0.0°C on many days during winter months.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 144 microsiemens, Dec. 5; minimum, 29 microsiemens, on many days in Oct., Nov. 5.

WATER TEMPERATURE: Maximum, 21.5°C, Aug. 10; minimum, 0.5°C, Mar. 2, 3.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE 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)
OCT 1986										
28...	0945	0.96	33	4.3	11.5	0.20	3.2	29	0.3	<1
NOV										
25...	1205	1.2	66	4.3	8.0	0.40	4.9	41	0.5	<1
DEC										
30...	0930	2.2	90	3.8	4.0	0.50	7.8	60	0.7	<1
JAN 1987										
28...	1030	2.6	81	3.9	1.5	0.40	8.7	62	0.4	<1
FEB										
24...	1130	2.2	70	4.0	3.0	0.80	8.6	64	0.4	K1
MAR										
31...	0910	3.4	81	3.9	9.0	1.0	5.3	47	0.5	K2
APR										
29...	0945	2.9	63	3.9	8.5	0.80	4.9	42	0.5	K1
MAY										
26...	1030	2.4	59	4.1	13.0	1.4	2.4	23	0.4	4
JUN										
30...	0945	1.9	47	4.0	16.0	0.50	2.2	22	0.2	9
JUL										
28...	0900	1.5	35	4.0	16.5	0.40	1.9	20	<0.1	K1
AUG										
25...	1030	1.8	42	4.1	14.5	0.30	3.1	30	0.7	K2
SEP										
29...	0915	1.6	35	4.0	13.0	0.50	2.5	24	0.4	--

DATE	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	ACIDITY (MG/L AS H)	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)	ALKA- LINITY, CARBON- ATE IT-FLD (MG/L AS CACO3)
OCT 1986									
28...	88	2	<0.1	0.30	0.40	1.8	0.40	<0.1	<0.1
NOV									
25...	43	6	0.2	0.80	0.90	2.5	0.60	<0.1	<0.1
DEC									
30...	K4	5	0.4	0.90	0.70	2.1	0.30	<0.1	<0.1
JAN 1987									
28...	18	4	0.3	0.80	0.50	1.7	0.20	<0.1	<0.1
FEB									
24...	K8	4	0.3	0.70	0.50	1.9	0.30	<0.1	<0.1
MAR									
31...	25	4	0.3	0.79	0.55	1.9	0.30	<0.1	<0.1
APR									
29...	24	4	0.3	0.70	0.60	1.9	0.20	<0.1	<0.1
MAY									
26...	K86	2	0.3	0.48	0.22	1.7	0.20	<0.1	<0.1
JUN									
30...	30	2	0.2	0.38	0.32	1.7	0.20	<0.1	<0.1
JUL									
28...	89	2	--	0.32	0.22	1.5	0.30	<0.1	<0.1
AUG									
25...	150	2	--	0.33	0.22	1.6	0.30	<0.1	<0.1
SEP									
29...	--	2	0.1	0.29	0.28	1.7	0.20	<0.1	<0.1

DELAWARE RIVER BASIN

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01466500 MCDONALDS BRANCH IN LEBANON STATE FOREST, NJ--Continued

WATER-QUALITY RECORDS

DATE	ALKA- LITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)
OCT 1986									
28...	<1	6.4	2.9	<0.10	4.4	6	0.02	83	<0.010
NOV									
25...	<1	13	4.0	<0.10	5.0	2	0.01	44	<0.010
DEC									
30...	<1	14	4.6	<0.10	3.8	8	0.05	41	<0.010
JAN 1987									
28...	<1	14	3.9	<0.10	3.6	3	0.02	62	<0.010
FEB									
24...	<1	18	3.5	<0.10	3.8	10	0.06	54	<0.010
MAR									
31...	<1	13	3.2	<0.10	2.9	14	0.13	62	<0.010
APR									
29...	<1	13	3.4	<0.10	2.9	9	0.07	94	<0.010
MAY									
26...	<1	9.0	2.4	<0.10	3.2	3	0.02	91	<0.010
JUN									
30...	<1	15	3.8	<0.10	3.8	7	0.04	78	<0.010
JUL									
28...	<1	10	3.6	0.10	4.3	8	0.03	52	<0.010
AUG									
25...	<1	15	3.4	0.10	4.2	3	0.02	77	<0.010
SEP									
29...	<1	7.2	3.9	0.10	4.4	6	0.03	59	<0.010

DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, 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)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)
OCT 1986									
28...	<0.100	<0.010	<0.010	0.20	0.030	0.050	<0.010	2.3	2.4
NOV									
25...	<0.100	<0.010	<0.010	<0.20	0.030	<0.010	<0.010	4.8	4.8
DEC									
30...	<0.100	<0.010	<0.010	0.20	<0.010	0.010	<0.010	--	12
JAN 1987									
28...	<0.100	<0.010	0.020	0.30	0.010	0.010	<0.010	--	11
FEB									
24...	<0.100	<0.010	<0.010	0.70	0.060	<0.010	<0.010	--	7.7
MAR									
31...	<0.100	0.020	0.020	0.50	0.010	<0.010	<0.010	--	11
APR									
29...	<0.100	0.030	<0.010	0.60	0.010	0.010	<0.010	--	9.5
MAY									
26...	<0.100	0.020	0.030	0.70	0.010	0.010	<0.010	--	9.4
JUN									
30...	<0.100	<0.010	0.020	0.50	0.010	0.010	<0.010	--	8.4
JUL									
28...	<0.100	0.010	<0.010	0.20	0.020	0.010	<0.010	--	5.8
AUG									
25...	<0.100	0.020	0.010	0.60	0.020	0.010	<0.010	--	12
SEP									
29...	<0.100	0.010	0.020	0.30	0.010	<0.010	<0.010	--	5.0

DELAWARE RIVER BASIN

01466500 MCDONALDS BRANCH IN LEBANON STATE FOREST, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

[illegible][illegible][illegible]

01466500 MCDONALDS BRANCH IN LEBANON STATE FOREST, NJ--Continued

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

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	35	33	34	34	32	33	78	74	76	---	---	---
2	35	33	34	35	32	33	84	73	74	---	---	---
3	34	33	34	35	32	34	110	84	98	---	---	---
4	34	32	34	34	33	34	140	111	120	---	---	---
5	34	32	33	34	29	32	144	141	142	94	90	92
6	33	32	32	50	43	48	140	131	136	90	86	88
7	33	32	32	51	46	49	131	122	126	86	84	85
8	32	29	30	49	43	46	122	113	118	85	83	84
9	32	29	30	50	42	45	119	110	113	83	81	82
10	32	30	31	43	41	42	124	119	121	83	81	82
11	32	29	31	47	31	40	136	124	133	83	81	82
12	32	30	31	50	48	49	134	125	130	82	81	81
13	31	30	31	51	47	49	124	119	122	81	80	81
14	41	31	38	48	46	47	120	113	117	81	79	80
15	41	38	40	47	45	46	113	107	110	80	79	80
16	37	34	36	46	45	46	107	101	104	80	78	79
17	35	33	34	47	45	46	100	96	98	79	77	78
18	34	33	33	51	45	46	104	94	97	85	76	80
19	34	32	33	57	52	56	106	104	105	92	84	88
20	33	31	32	57	55	56	116	105	111	---	---	---
21	33	31	32	66	58	64	114	107	111	---	---	---
22	32	31	31	70	66	68	107	100	104	---	---	---
23	32	30	31	71	70	71	101	95	98	---	---	---
24	31	29	30	71	69	70	96	91	93	---	---	---
25	30	29	30	71	69	70	103	95	101	---	---	---
26	33	29	31	76	68	70	111	102	106	---	---	---
27	33	32	33	79	75	77	110	105	108	---	---	---
28	37	32	35	81	79	80	105	98	101	---	---	---
29	34	33	33	81	79	80	98	93	95	78	77	77
30	34	32	33	80	78	79	---	---	---	77	76	77
31	34	32	33	---	---	---	---	---	---	78	76	77
MONTH	41	29	33	81	29	54	144	73	109	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	77	75	76	85	67	75	90	86	89	69	67	68
2	76	75	75	92	85	88	89	84	87	68	67	68
3	77	76	76	89	81	85	84	81	82	70	67	69
4	79	77	78	81	77	79	83	80	82	75	70	73
5	80	78	79	77	74	76	84	79	82	76	74	75
6	80	79	80	75	73	74	79	76	77	---	---	---
7	80	77	78	73	72	72	77	74	75	---	---	---
8	77	76	76	72	71	71	75	72	73	---	---	---
9	77	76	76	71	70	71	73	70	71	---	---	---
10	77	75	76	71	69	70	71	69	70	---	---	---
11	76	75	75	70	68	69	70	69	70	---	---	---
12	75	73	74	69	68	68	70	69	69	---	---	---
13	74	72	73	69	67	68	70	69	69	---	---	---
14	73	70	71	70	69	69	70	69	69	---	---	---
15	71	69	70	69	68	69	70	69	69	---	---	---
16	69	67	68	70	68	69	70	69	69	---	---	---
17	67	66	67	70	69	69	73	69	71	---	---	---
18	66	65	66	69	68	69	75	72	73	---	---	---
19	66	65	66	70	68	69	75	74	74	---	---	---
20	66	64	65	69	68	68	74	73	73	---	---	---
21	65	63	64	68	67	68	73	72	73	---	---	---
22	64	62	63	69	67	68	73	71	72	---	---	---
23	65	62	63	69	68	69	72	71	71	---	---	---
24	67	65	66	69	68	68	71	70	70	---	---	---
25	67	66	67	69	67	68	72	71	71	---	---	---
26	67	65	66	68	67	67	71	70	71	---	---	---
27	67	65	66	69	67	68	71	68	69	64	63	63
28	67	66	67	73	67	70	69	68	68	64	63	63
29	---	---	---	74	71	72	69	68	69	64	61	63
30	---	---	---	73	70	71	69	68	69	62	60	61
31	---	---	---	86	74	81	---	---	---	60	59	59
MONTH	80	62	71	92	67	72	90	68	73	---	---	---

DELAWARE RIVER BASIN

01466500 MCDONALDS BRANCH IN LEBANON STATE FOREST, NJ--Continued

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

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	59	57	58	47	45	46	66	59	62	56	51	55
2	58	57	58	65	47	56	59	55	57	56	53	54
3	58	56	57	66	60	64	56	52	54	53	51	52
4	60	55	57	61	57	59	52	49	50	52	47	50
5	63	60	62	59	57	58	49	47	48	51	48	50
6	62	59	61	56	52	55	47	45	46	51	49	50
7	60	58	59	---	---	---	45	44	45	49	47	48
8	58	56	57	---	---	---	44	43	43	47	46	46
9	56	55	56	---	---	---	52	42	43	47	46	47
10	55	53	54	---	---	---	76	59	72	47	45	46
11	54	52	53	---	---	---	73	68	71	46	44	45
12	52	50	52	---	---	---	68	64	66	45	44	44
13	51	49	50	---	---	---	64	61	63	45	43	44
14	51	50	51	---	---	---	61	58	60	45	44	44
15	51	50	50	---	---	---	58	56	57	46	42	43
16	50	49	49	---	---	---	56	54	55	43	41	42
17	49	48	49	---	---	---	55	53	54	42	41	41
18	48	47	47	---	---	---	53	51	52	44	41	43
19	47	45	47	---	---	---	52	50	51	44	43	43
20	45	44	45	---	---	---	50	48	50	44	43	43
21	44	43	44	---	---	---	49	47	48	43	42	42
22	48	43	44	---	---	---	48	47	48	43	41	42
23	49	47	48	---	---	---	48	46	47	43	42	43
24	49	47	48	---	---	---	47	46	47	43	41	42
25	48	46	47	---	---	---	46	45	46	42	41	41
26	47	46	46	---	---	---	46	45	45	42	40	41
27	55	45	51	---	---	---	54	45	50	41	40	40
28	55	53	54	---	---	---	59	53	56	40	39	40
29	54	50	52	41	39	40	59	56	57	41	39	40
30	50	47	48	63	39	46	56	53	54	41	39	40
31	---	---	---	75	62	68	53	51	52	---	---	---
MONTH	63	43	52	---	---	---	76	42	53	56	39	45

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

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	15.5	14.5	15.0	10.0	9.0	9.5	7.0	7.0	7.0	---	---	---
2	15.0	14.5	14.5	11.0	10.0	10.5	8.5	7.0	7.5	---	---	---
3	14.5	14.0	14.5	10.5	9.0	10.0	9.0	8.5	8.5	---	---	---
4	15.5	14.5	15.0	10.5	9.5	10.0	8.5	7.0	8.0	---	---	---
5	15.0	14.0	14.5	10.0	9.0	9.5	7.0	5.5	6.5	2.5	2.0	2.0
6	14.0	12.5	13.5	10.0	9.0	10.0	5.5	5.0	5.5	2.5	2.0	2.0
7	12.5	11.0	12.0	10.0	8.0	9.0	5.5	5.0	5.0	3.0	2.5	3.0
8	12.5	11.0	11.5	10.5	10.0	10.5	6.0	5.5	5.5	3.0	3.0	3.0
9	13.5	12.5	13.0	11.5	10.5	11.0	6.5	6.0	6.5	3.5	3.0	3.5
10	13.0	11.0	12.0	11.0	9.5	10.0	7.0	7.0	7.0	4.0	3.5	3.5
11	12.0	10.5	11.5	9.5	8.0	9.0	7.0	5.5	6.0	4.0	4.0	4.0
12	12.5	11.5	12.0	9.5	8.0	9.0	5.5	5.0	5.5	4.0	4.0	4.0
13	12.5	12.0	12.5	8.5	7.0	8.0	5.0	4.0	4.5	4.5	4.0	4.5
14	13.0	12.5	13.0	7.0	6.5	7.0	4.0	3.0	3.5	4.5	4.0	4.5
15	12.5	11.5	12.0	7.5	6.5	7.0	3.5	3.0	3.5	5.5	4.5	5.0
16	11.5	10.5	11.0	8.0	7.0	7.5	3.5	3.0	3.5	5.5	5.0	5.5
17	11.0	10.0	10.5	8.5	8.0	8.0	4.0	3.5	4.0	5.0	4.5	5.0
18	11.5	10.0	11.0	8.5	8.0	8.5	4.5	4.0	4.5	4.5	4.0	4.5
19	10.5	9.0	10.0	8.5	7.5	8.0	4.5	4.0	4.5	4.0	3.5	4.0
20	10.5	9.0	9.5	8.5	7.0	7.5	4.0	3.5	4.0	---	---	---
21	10.5	9.0	9.5	8.5	7.5	8.0	3.5	3.5	3.5	---	---	---
22	11.0	10.0	10.5	7.5	7.0	7.5	3.5	3.0	3.0	---	---	---
23	11.5	10.5	11.0	8.0	7.0	7.5	3.5	3.0	3.0	---	---	---
24	11.5	10.0	11.0	8.5	8.0	8.0	4.0	3.0	3.5	---	---	---
25	10.0	9.0	9.5	8.0	7.5	8.0	4.0	3.0	4.0	---	---	---
26	11.0	10.5	10.5	9.0	7.5	8.0	4.5	3.0	4.0	---	---	---
27	11.0	11.0	11.0	9.0	8.0	8.5	4.0	3.5	3.5	---	---	---
28	12.0	11.0	11.5	8.0	7.5	8.0	4.0	3.5	4.0	---	---	---
29	11.5	10.0	10.5	8.0	7.5	8.0	3.5	3.5	3.5	2.5	2.0	2.0
30	11.5	10.5	11.0	7.5	7.0	7.5	---	---	---	3.0	2.5	2.5
31	10.5	9.5	10.0	---	---	---	---	---	---	3.5	3.0	3.0
MONTH	15.5	9.0	12.0	11.5	6.5	8.5	9.0	3.0	5.0	---	---	---

01466500 MCDONALDS BRANCH IN LEBANON STATE FOREST, NJ--Continued

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

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

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	16.0	15.5	16.0	16.5	16.0	16.5	17.5	17.5	17.5	15.5	15.0	15.5
2	16.0	15.5	16.0	18.0	16.5	17.0	17.5	17.0	17.5	15.0	14.0	14.5
3	15.5	15.5	15.5	18.5	18.0	18.5	18.0	17.5	17.5	15.0	14.5	14.5
4	15.5	15.0	15.0	18.5	18.5	18.5	18.0	17.5	17.5	14.5	13.5	14.0
5	16.0	15.0	15.5	18.5	18.5	18.5	18.0	17.5	17.5	13.5	13.0	13.5
6	15.5	15.0	15.0	18.5	17.5	18.0	17.5	17.0	17.0	14.0	13.5	13.5
7	15.0	14.5	15.0	---	---	---	17.0	16.5	16.5	14.5	14.0	14.5
8	15.5	15.0	15.0	---	---	---	17.0	16.0	16.5	15.5	14.5	15.0
9	15.5	15.5	15.5	---	---	---	18.0	16.5	16.5	15.5	15.0	15.5
10	15.5	15.0	15.0	---	---	---	21.5	20.0	21.0	15.5	15.5	15.5
11	15.0	14.0	14.5	---	---	---	20.5	19.5	20.0	15.5	15.0	15.5
12	15.0	14.5	14.5	---	---	---	19.5	18.5	19.0	15.5	15.5	15.5
13	15.5	14.5	15.0	---	---	---	18.5	17.5	18.0	15.5	15.5	15.5
14	15.5	15.0	15.5	---	---	---	17.5	16.5	17.0	16.0	15.5	15.5
15	16.0	15.5	16.0	---	---	---	17.5	17.0	17.5	15.5	15.0	15.0
16	16.5	16.0	16.0	---	---	---	17.5	17.0	17.5	15.5	15.0	15.0
17	16.0	15.5	16.0	---	---	---	18.0	17.5	18.0	15.0	15.0	15.0
18	15.5	15.0	15.5	---	---	---	18.5	18.0	18.0	15.5	15.0	15.5
19	15.5	15.0	15.5	---	---	---	18.0	17.5	17.5	15.5	15.0	15.0
20	15.5	15.0	15.5	---	---	---	17.5	17.0	17.5	15.0	14.5	14.5
21	15.5	15.5	15.5	---	---	---	17.0	16.5	16.5	14.5	14.0	14.5
22	16.0	15.5	15.5	---	---	---	16.5	16.5	16.5	14.0	14.0	14.0
23	16.0	15.5	16.0	---	---	---	16.5	16.0	16.5	14.0	13.0	13.5
24	16.0	15.5	16.0	---	---	---	16.0	15.0	15.5	13.5	13.0	13.5
25	16.0	15.5	15.5	---	---	---	15.0	14.5	14.5	13.5	12.5	13.0
26	15.5	15.5	15.5	---	---	---	14.5	14.0	14.5	13.0	12.0	12.5
27	16.0	15.5	16.0	---	---	---	15.5	14.5	15.0	12.5	11.5	12.0
28	16.0	16.0	16.0	---	---	---	16.0	15.5	15.5	13.5	12.0	12.5
29	16.5	15.5	16.0	16.5	15.5	16.0	16.5	16.0	16.0	13.5	13.0	13.5
30	16.5	16.0	16.5	16.5	15.0	16.0	16.0	15.5	15.5	13.5	13.5	13.5
31	---	---	---	18.0	16.5	17.5	15.5	14.5	15.0	---	---	---
MONTH	16.5	14.0	15.5	---	---	---	21.5	14.0	17.0	16.0	11.5	14.5

01467000 NORTH BRANCH RANCOCAS CREEK AT PEMBERTON, NJ

LOCATION.--Lat 39°58'10", long 74°41'05", Burlington County, Hydrologic Unit 02040202, on right bank at downstream side of bridge on Hanover Street in Pemberton, 12 mi upstream from confluence with South Branch Rancocas Creek.

DRAINAGE AREA.--118 mi².

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1302: 1922-23. WSP 1382: 1933. WDR NJ-82-2: Drainage area.

GAGE.--Water-stage recorder above concrete dams. Datum of gage is 31.19 ft above National Geodetic Vertical Datum of 1929. Prior to June 9, 1923, nonrecording gage and June 9, 1923 to Aug. 9, 1951, water-stage recorder at site 600 ft downstream at datum 6.54 ft lower.

REMARKS.--Records good except for periods of estimated daily discharges, which are fair. Flow regulated occasionally by cranberry bogs and ponds above station. Several measurements of water temperature, other than those published, were made during the year. Gage-height telemeter at station.

AVERAGE DISCHARGE.--66 years, 171 ft³/s, 19.68 in./yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,730 ft³/s, Aug. 21, 1939, gage height, 10.77 ft, from high-water mark, site and datum then in use; minimum daily, 9.0 ft³/s, Sept. 29, 1932.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 600 ft³/s and maximum(*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 4	1215	*803	*2.72	Aug. 11	1430	741	2.63

Minimum discharge, 49 ft³/s, Oct. 12, 13.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	68	79	166	194	180	356	366	217	117	159	248	283
2	67	89	167	377	179	420	407	205	81	334	305	261
3	63	100	315	444	191	454	378	208	80	414	256	256
4	59	99	376	476	206	454	626	262	86	351	228	205
5	59	93	380	433	212	420	741	301	96	271	203	179
6	61	134	308	384	222	383	750	330	93	211	169	163
7	58	128	241	341	232	348	702	315	90	148	144	156
8	55	138	204	312	230	316	640	269	86	156	129	154
9	53	147	254	280	228	287	e578	242	e77	158	150	122
10	52	119	325	265	231	266	e516	230	e67	148	533	115
11	55	112	368	263	232	235	e454	202	e57	135	717	107
12	52	148	385	236	225	234	e392	199	e51	126	597	103
13	50	159	351	212	217	231	330	238	e50	141	432	117
14	69	136	305	201	211	220	284	214	e97	180	326	130
15	112	115	264	193	198	208	252	182	94	251	260	133
16	111	112	231	178	191	197	252	170	93	232	222	122
17	101	104	202	167	185	186	270	164	86	189	193	114
18	92	95	206	188	185	180	293	e150	78	144	164	124
19	87	171	268	284	179	171	306	136	74	123	140	129
20	84	179	273	383	168	161	301	152	71	114	125	131
21	81	232	257	401	158	156	289	181	70	105	117	128
22	78	229	241	391	165	150	286	192	159	100	111	122
23	72	211	208	364	178	147	254	180	362	91	109	122
24	86	197	194	346	194	150	251	170	336	89	103	122
25	74	187	302	318	198	149	294	162	193	85	101	115
26	69	193	310	280	200	145	286	158	112	84	101	104
27	71	237	315	245	215	137	270	153	244	92	112	99
28	70	242	286	186	271	150	278	147	288	105	148	94
29	72	226	259	185	---	167	250	145	257	95	254	94
30	67	195	232	180	---	183	232	156	200	88	321	98
31	71	---	208	182	---	286	---	132	---	168	302	---
TOTAL	2219	4606	8401	8889	5681	7547	11528	6162	3845	5087	7320	4202
MEAN	71.6	154	271	287	203	243	384	199	128	164	236	140
MAX	112	242	385	476	271	454	750	330	362	414	717	283
MIN	50	79	166	167	158	137	232	132	50	84	101	94
CFSM	.61	1.30	2.30	2.43	1.72	2.06	3.26	1.68	1.09	1.39	2.00	1.19
IN.	.70	1.45	2.65	2.80	1.79	2.38	3.63	1.94	1.21	1.60	2.31	1.32

CAL YR 1986 TOTAL 50706 MEAN 139 MAX 818 MIN 34 CFSM 1.18 IN. 15.99
WTR YR 1987 TOTAL 75487 MEAN 207 MAX 750 MIN 50 CFSM 1.75 IN. 23.80

e Estimated

DELAWARE RIVER BASIN

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01467000 NORTH BRANCH RANOCAS CREEK AT PEMBERTON, NJ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1923-24, 1958, 1962-69, 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 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	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 1986										
09...	0900	52	48	5.1	13.5	9.1	87	1.4	5	490
FEB 1987										
17...	0930	180	63	4.6	1.0	12.0	84	1.1	130	17
MAR										
24...	0900	150	59	4.5	6.5	11.4	92	0.9	20	110
MAY										
20...	0930	150	51	4.7	14.0	8.8	84	0.8	920	920
JUL										
16...	0930	236	44	4.4	20.5	6.3	70	1.3	46	280
AUG										
05...	1015	207	45	3.7	23.0	6.0	71	1.2	79	220

DATE	HARD- NESS (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 1986									
09...	8	1.9	0.90	3.3	1.4	2.0	9.6	6.0	<0.1
FEB 1987									
17...	8	1.9	0.90	3.1	0.8	<1.0	13	5.6	<0.1
MAR									
24...	8	1.8	0.79	3.2	0.7	<1.0	12	5.3	<0.1
MAY									
20...	9	2.2	0.84	3.3	0.8	2.0	7.0	4.0	<0.1
JUL									
16...	7	1.7	0.74	2.7	0.4	<1.0	11	5.0	0.1
AUG									
05...	6	1.4	0.59	2.7	0.7	<1.0	24	5.5	0.1

DATE	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITU- ENTS, 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 1986									
09...	4.5	29	0.004	0.07	0.08	0.39	0.46	0.030	4.2
FEB 1987									
17...	4.5	--	<0.003	0.13	0.20	0.47	0.60	<0.020	6.6
MAR									
24...	3.5	--	0.006	0.12	0.06	0.39	0.51	0.160	4.2
MAY									
20...	3.5	23	0.006	0.11	0.19	0.81	0.92	0.057	25
JUL									
16...	4.5	--	0.016	0.11	0.13	1.0	1.1	0.087	25
AUG									
05...	4.3	--	0.008	<0.05	0.08	0.97	--	0.060	20

DELAWARE RIVER BASIN

01467000 NORTH BRANCH RANOCAS CREEK AT PEMBERTON, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

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 1986 09...	0900	<0.5	90	<1	10	<10	<1	<10	5
MAY 1987 20...	0930	<0.5	240	<1	<10	--	<1	<10	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 1986 09...	1000	9	30	<0.10	<1	<1	210	5
MAY 1987 20...	1800	10	30	0.20	<1	<1	20	1

DELAWARE RIVER BASIN

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01467060 DELAWARE RIVER AT PALMYRA, NJ

LOCATION.--Lat 40°01'05", long 75°02'16", Philadelphia County, PA, Hydrologic Unit 02040202, on right bank opposite Palmyra, 0.5 mi upstream from Tacony-Palmyra Bridge, 3.5 mi downstream from Rancocas Creek, and at mile 107.55.

DRAINAGE AREA.--7,850 mi².

PERIOD OF RECORD.--December 1962 to current year. Tidal volumes published from December 1962 to September 1970.

GAGE.--Water-stage recorder. Datum of gage is -10.00 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.--No gage-height or doubtful record: Sept. 1-30. Some periods of low tide are affected by sluggish or plugged intake and the record is estimated with negligible loss in accuracy. Some periods cannot be estimated and are noted by dash (--) lines.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 8.23 ft, Oct. 25, 1980; minimum, -8.6 ft, Dec. 31, 1962.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum elevation known since 1899, 8.9 ft, Aug. 24, 1933, from profile furnished by Corps of Engineers, U.S. Army.

EXTREMES FOR CURRENT YEAR.--Maximum elevation recorded, 6.96 ft, Dec. 2, Jan. 2; minimum recorded, -4.05 ft; minimum estimated, 4.8 ft, Feb. 9 (bottom of stilling well at 4.0 ft).

Summaries of tide elevations during current year are as follows:

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	5.35	5.69	6.96	6.96	5.07	6.10	6.58	5.53	5.77	6.06	6.23	--
high tide	Date	8	20	2	2	2	31	15	15	12	13	10	--
Minimum	Elevation	-3.48	-3.41	-3.36	e-4.4	e4.8	-2.70	-2.62	-3.27	-3.17	-2.67	-2.96	--
low tide	Date	6	13	13	24	9	7	1	16	10	1	23	--
Mean high tide		4.43	4.37	4.45	4.20	3.77	4.71	5.16	4.57	4.65	4.81	4.71	--
Mean water level		1.35	1.32	1.38	1.16	0.77	1.71	2.08	1.36	1.43	1.57	1.57	--
Mean low tide		-3.48	-2.02	-1.99	-2.22	-2.57	-1.64	-1.33	-2.23	-2.22	-2.07	-1.99	--

e - Estimated

DELAWARE RIVER BASIN

01467069 NORTH BRANCH PENNSAUKEN CREEK NEAR MOORESTOWN, NJ

LOCATION.--Lat 39°57'07", long 74°58'10", Burlington County, Hydrologic Unit 02040202, at bridge on Kings Highway, 200 ft downstream from outlet of Strawbridge Lake, 0.6 mi northwest of Moorestown Mall, 0.8 mi southeast of Lenola, and 1.8 mi southwest of Moorestown.

DRAINAGE AREA.--12.8 mi².

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 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	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 1986 14...	0900	E26	331	6.9	16.0	5.2	53	6.9	9200	16000
JAN 1987 20...	0930	E61	209	6.4	0.5	13.0	90	4.5	490	1100
MAR 23...	0900	E6.4	348	6.9	7.0	11.0	90	1.5	80	20
MAY 18...	0800	E6.4	315	6.7	19.0	9.9	107	5.4	--	--
JUL 21...	0900	E3.3	250	6.6	25.0	6.7	81	3.6	330	260
AUG 13...	0900	E6.8	184	6.4	21.5	5.9	67	--	9200	330

DATE	HARD- NESS (MG/L AS CaCO ₃)	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 CaCO ₃)	SULFATE DIS- SOLVED (MG/L AS SO ₄)	CHLO- RIDE, DIS- SOLVED (MG/L AS Cl)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
OCT 1986 14...	81	23	5.8	17	7.0	14	61	25	0.3
JAN 1987 20...	44	12	3.5	17	3.6	10	33	26	0.2
MAR 23...	86	23	6.9	23	4.8	17	66	42	0.3
MAY 18...	81	22	6.4	17	5.2	13	60	35	0.2
JUL 21...	78	21	6.1	12	5.4	16	59	23	0.2
AUG 13...	61	17	4.5	7.0	4.7	11	45	14	0.2

DATE	SILICA, DIS- SOLVED (MG/L AS SiO ₂)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO ₂ +NO ₃ 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 1986 14...	11	160	0.075	0.42	3.00	--	--	0.260	7.6
JAN 1987 20...	5.7	110	0.034	0.88	0.30	1.2	2.1	0.360	9.4
MAR 23...	11	190	0.034	0.75	0.73	1.3	2.1	0.110	2.8
MAY 18...	10	160	0.045	0.79	0.63	1.9	2.7	0.140	11
JUL 21...	12	150	0.038	0.72	0.42	1.3	2.0	0.220	7.4
AUG 13...	10	110	0.041	0.51	0.38	1.5	2.0	0.350	9.1

DELAWARE RIVER BASIN

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01467069 NORTH BRANCH PENNSAUKEN CREEK NEAR MOORESTOWN, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

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 1986 14...	0900	<0.5	20	2	<10	70	<1	<10	6
MAY 1987 18...	0800	<0.5	10	2	<10	<10	<1	<10	30

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 RECOV- ERABLE (UG/L AS SE)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
OCT 1986 14...	4500	<5	170	<0.10	17	<1	70	4
MAY 1987 18...	2700	<5	200	<0.10	13	<1	<10	<1

DELAWARE RIVER BASIN

01467081 SOUTH BRANCH PENNSAUKEN CREEK AT CHERRY HILL, NJ

LOCATION---Lat 39°56'30", long 75°00'05", Camden County, Hydrologic Unit 02040202, on left bank on downstream wingwall of bridge on Mill Road in Cherry Hill, 1.1 mi south of Maple Shade and 3.8 mi upstream from confluence with the North Branch Pennsauken Creek.

DRAINAGE AREA---8.98 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD---October 1967 to September 1976, October 1977 to current year.

REVISED RECORDS---WDR NJ-82-2: Drainage area.

GAGE---Water-stage recorder and crest-stage gage. Datum of gage is 8.12 ft above National Geodetic Vertical Datum of 1929.

REMARKS---Records fair. Diurnal fluctuations from unknown source. Several measurements of water temperature, other than those published, were made during the year.

AVERAGE DISCHARGE---19 years (water years 1968-76, 1978-87), 18.5 ft³/s, 27.97 in./yr.EXTREMES FOR PERIOD OF RECORD---Maximum discharge, 868 ft³/s, Aug. 28, 1978, gage height, 10.19 ft; maximum gage height, 11.34 ft, Aug. 28, 1971; minimum discharge, 2.6 ft³/s, Oct. 6, 9, 10, 11, 1970, gage height, 1.71 ft.EXTREMES FOR CURRENT YEAR---Peak discharges greater than base discharge of 300 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 25	0900	*691	*9.26	July 14	2015	508	8.00
Jan. 2	0400	318	6.39	Aug. 5	2045	382	6.97
Apr. 4	1230	374	6.90	Aug. 10	0915	647	8.98
July 10	0330	328	6.48	Aug. 29	0445	321	6.42
July 12	1745	459	7.61				

Minimum daily discharge, 5.6 ft³/s, Oct. 10, 11.DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.9	6.1	9.1	17	17	102	19	10	7.4	e11	7.4	97
2	19	20	51	193	31	32	13	14	7.5	e332	7.1	12
3	6.3	8.0	135	27	45	18	11	22	7.1	e58	7.3	8.5
4	7.7	9.1	18	16	35	14	217	140	38	e13	7.1	7.6
5	6.6	29	13	14	20	13	42	42	48	e9.7	70	7.3
6	6.0	52	11	13	16	12	104	17	10	e9.6	41	8.4
7	6.4	11	10	12	16	12	25	14	8.9	e12	8.8	8.6
8	6.4	50	9.9	11	16	12	18	12	8.9	21	7.4	20
9	6.8	16	54	11	16	11	16	12	12	63	45	14
10	5.6	12	32	25	14	10	16	11	9.0	117	372	8.5
11	5.6	39	30	16	15	9.7	13	10	8.2	15	19	7.6
12	5.7	25	40	12	15	13	12	18	8.0	242	12	7.5
13	8.7	11	15	11	13	17	12	13	9.4	62	9.6	85
14	40	8.7	12	10	12	12	11	9.4	7.9	177	8.8	22
15	9.9	8.7	11	10	10	11	9.8	12	7.8	124	8.4	e10
16	6.5	8.5	11	10	10	11	9.4	10	7.7	18	7.8	e9.4
17	5.9	8.1	10	9.5	9.6	10	48	8.9	7.6	13	7.5	e9.2
18	5.7	20	74	60	9.9	10	18	8.6	7.5	11	7.2	e32
19	5.7	92	45	111	13	10	12	15	7.3	10	6.9	e24
20	6.1	19	16	52	15	10	11	32	7.1	9.6	6.9	e9.9
21	6.5	73	13	19	8.3	11	10	22	e43	9.0	6.7	e9.5
22	6.5	14	12	16	9.8	11	9.3	10	e33	8.7	12	e16
23	6.9	11	11	17	21	10	9.1	17	e18	8.6	7.5	e7.8
24	7.2	22	33	15	24	10	47	11	e13	8.3	6.6	e5.9
25	7.2	15	424	13	19	9.3	88	8.6	e9.0	8.0	6.3	e6.3
26	36	56	25	13	17	9.7	16	8.4	e8.0	8.8	6.2	e4.9
27	12	36	17	13	16	8.9	12	13	e97	8.5	34	e5.0
28	7.2	13	15	12	18	24	15	9.2	e14	7.8	18	e5.1
29	6.5	11	14	12	---	10	17	8.7	e9.9	7.4	63	e5.1
30	6.5	9.8	13	15	---	14	11	7.9	e8.9	7.3	9.6	e12
31	5.9	---	13	21	---	74	---	7.3	---	7.7	8.1	---
TOTAL	284.9	714.0	1197.0	806.5	481.6	541.6	871.6	554.0	489.1	1418.0	845.2	486.1
MEAN	9.19	23.8	38.6	26.0	17.2	17.5	29.1	17.9	16.3	45.7	27.3	16.2
MAX	40	92	424	193	45	102	217	140	97	332	372	97
MIN	5.6	6.1	9.1	9.5	8.3	8.9	9.1	7.3	7.1	7.3	6.2	4.9
CFSM	1.02	2.65	4.30	2.90	1.92	1.95	3.24	1.99	1.82	5.09	3.04	1.80
IN.	1.18	2.96	4.96	3.34	2.00	2.24	3.61	2.29	2.03	5.87	3.50	2.01

CAL YR 1986 TOTAL 6667.5 MEAN 18.3 MAX 424 MIN 4.1 CFSM 2.03 IN. 27.61
WTR YR 1987 TOTAL 8689.6 MEAN 23.8 MAX 424 MIN 4.9 CFSM 2.65 IN. 35.99

e Estimated

DELAWARE RIVER BASIN

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01467081 SOUTH BRANCH PENNSAUKEN CREEK AT CHERRY HILL, NJ--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1970-73, 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 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	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 1986 14...	1000	63	136	7.2	17.0	6.2	65	15	54000	92000
JAN 1987 20...	1100	38	300	6.6	1.5	12.0	85	4.5	35000	4900
MAR 23...	0930	8.2	420	7.2	7.0	9.0	74	8.7	200	<200
MAY 18...	0945	8.2	379	6.9	16.5	6.5	67	8.1	--	--
JUL 21...	0930	8.5	358	6.9	21.5	4.9	56	7.2	16000	2400
AUG 13...	0945	9.2	328	6.8	19.0	6.2	67	--	9200	1700

DATE	HARD- NESS (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 1986 14...	36	10	2.7	6.9	4.6	19	22	11	0.2
JAN 1987 20...	59	16	4.6	24	3.3	19	40	38	0.1
MAR 23...	96	25	8.1	29	8.1	59	58	41	0.2
MAY 18...	90	24	7.4	27	8.0	43	52	35	0.2
JUL 21...	90	24	7.4	25	8.4	46	53	28	0.2
AUG 13...	92	25	7.1	21	7.8	38	55	29	0.2

DATE	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITU- ENTS, 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 1986 14...	4.4	73	0.052	0.51	0.82	--	--	1.47	13
JAN 1987 20...	7.2	140	0.033	0.84	0.50	1.3	2.1	0.410	7.8
MAR 23...	12	220	0.116	0.97	3.35	5.1	6.1	1.01	6.1
MAY 18...	13	190	0.210	1.60	2.60	4.1	5.7	0.930	25
JUL 21...	14	190	0.270	1.49	1.90	1.7	3.2	0.540	7.6
AUG 13...	14	180	0.220	1.36	1.40	2.6	3.9	0.280	6.6

DELAWARE RIVER BASIN

01467081 SOUTH BRANCH PENNSAUKEN CREEK AT CHERRY HILL, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

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 1986 14...	1000	<0.5	<10	4	<10	40	<1	<10	21

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 1986 14...	8800	21	100	<0.10	8	<1	180	4

DELAWARE RIVER BASIN

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01467120 COOPER RIVER AT NORCROSS ROAD AT LINDENWOLD, NJ

LOCATION.--Lat 39°49'43", Long 74°58'55", Camden County, Hydrologic Unit 02040202, at bridge on Norcross Road in Lindenwold, 50 ft downstream from outflow of Linden Lake, 1.1 mi southwest of Gibbstown, and 1.7 mi south of Glendale.

DRAINAGE AREA.--1.13 mi².

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 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	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 1986										
06...	0930	E7.1	98	6.7	18.5	5.4	58	2.1	49	350
JAN 1987										
21...	0930	E1.8	86	7.2	0.5	12.6	87	1.8	220	140
MAR										
16...	0945	E1.1	110	8.4	3.5	12.1	90	1.4	<2	17
MAY										
28...	1015	E1.2	92	7.0	17.5	8.7	91	3.6	23	130
JUL										
13...	0945	E1.6	77	6.5	25.0	6.5	79	4.8	170	170
AUG										
04...	0945	E7.1	77	6.7	24.5	5.6	68	3.9	20	20

DATE	HARD- NESS (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 1986									
06...	30	9.7	1.4	5.4	2.0	19	12	9.0	<0.1
JAN 1987									
21...	22	7.3	0.90	4.9	1.2	13	17	8.3	<0.1
MAR									
16...	27	8.8	1.2	7.4	1.7	16	15	12	<0.1
MAY									
28...	26	8.4	1.2	6.0	1.1	19	5.0	10	<0.1
JUL									
13...	25	8.3	1.1	4.4	0.8	16	16	8.8	<0.1
AUG									
04...	22	6.8	1.2	5.2	1.3	16	15	8.6	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 1986									
06...	3.2	54	0.004	<0.05	0.09	0.83	--	0.050	6.9
JAN 1987									
21...	3.7	51	0.016	0.13	0.31	0.68	0.81	0.061	8.9
MAR									
16...	1.9	58	0.013	0.11	0.35	0.95	1.1	0.022	5.7
MAY									
28...	0.9	44	0.004	<0.05	0.05	0.57	--	0.040	8.4
JUL									
13...	1.4	50	0.009	0.06	0.13	0.40	0.46	0.070	12
AUG									
04...	1.4	49	<0.003	<0.05	0.19	0.96	--	0.040	10

DELAWARE RIVER BASIN

01467120 COOPER RIVER AT NORCROSS ROAD AT LINDENWOLD, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

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 1986 06...	0930	0.5	20	<1	<10	40	<1	<10	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)
OCT 1986 06...	2200		<5	80	<0.10	1	<1	240	3

DELAWARE RIVER BASIN

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01467140 COOPER RIVER AT LAWNESIDE, NJ

LOCATION.--Lat 39°52'14", long 75°00'59", Camden County, Hydrologic Unit 02040202, at bridge on Woodcrest Road in Lawnside, 0.2 mi upstream from the New Jersey Turnpike, and 1.7 mi upstream from Tindale Run.

DRAINAGE AREA.--12.7 mi².

PERIOD OF RECORD.--Water years 1964-65, 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 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	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 1986 06...	1115	E33	448	7.1	17.5	3.6	38	10	24000	3300
JAN 1987 21...	1045	E33	235	7.0	3.0	10.8	80	7.6	5400	1300
MAR 19...	1100	E18	373	7.2	7.5	9.1	76	13	<200	200
JUN 08...	0900	E17	334	6.9	18.5	3.5	37	8.3	1100	1300
JUL 27...	0900	E13	400	7.2	21.5	4.7	53	10	1300	1100
AUG 17...	0900	E17	368	7.0	22.5	4.4	51	9.3	700	800

DATE	HARD- NESS (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 1986 06...	65	19	4.2	34	14	36	24	45	0.2
JAN 1987 21...	48	14	3.2	14	4.9	42	30	14	0.2
MAR 19...	59	17	4.0	28	8.0	77	32	40	0.3
JUN 08...	62	18	4.1	24	7.8	21	27	30	0.2
JUL 27...	73	21	5.1	34	10	22	28	39	0.3
AUG 17...	59	17	4.1	25	6.7	30	28	32	0.2

DATE	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITU- ENTS, 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 1986 06...	13	170	0.130	0.52	10.4	13	14	2.65	10
JAN 1987 21...	8.7	110	0.046	0.69	3.10	5.2	5.9	0.966	11
MAR 19...	11	190	0.057	0.52	8.40	10	11	1.69	8.9
JUN 08...	12	140	0.062	0.47	7.60	7.7	8.1	1.74	12
JUL 27...	13	160	0.029	0.31	10.0	12	13	2.38	16
AUG 17...	11	140	0.123	0.58	7.50	9.0	9.6	2.06	14

DELAWARE RIVER BASIN

01467140 COOPER RIVER AT LAWNSIDE, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

[illegible]

DELAWARE RIVER BASIN

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01467150 COOPER RIVER AT HADDONFIELD, NJ

LOCATION.--Lat 39°54'11", long 75°01'19", Camden County, Hydrologic Unit 02040202, on right bank of Wallworth Lake in Pennypacker Park, 200 ft upstream from bridge on State Highway 41 (Kings Highway) in Haddonfield, 0.6 mi upstream from North Branch Cooper River, and 7.7 mi upstream from mouth.

DRAINAGE AREA.--17.0 mi².

PERIOD OF RECORD.--October 1963 to current year.

REVISED RECORDS.--WRD-NJ 1969: 1967(M). WDR NJ-82-2: Drainage area.

GAGE.--Water-stage recorder above concrete dam. Datum of gage is 9.29 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except for estimated daily discharges which are poor. Occasional regulation at low flow from Kirkwood Lake, other small lakes and wastewater treatment plants. Several measurements of water temperature were made during the year. Gage-height telemeter at station.

AVERAGE DISCHARGE.--24 years, 36.1 ft³/s, 28.84 in./yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,300 ft³/s, Aug. 28, 1971, gage height, 5.46 ft; minimum, 0.8 ft³/s, Nov. 13, 1972, gage height, 1.07 ft regulation from unknown source; minimum daily, 1.2 ft³/s, June 27, 1964.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 25	0630	*1,380	*3.84	July 14	2045	760	3.10
July 2	1315	560	2.81	Aug. 5	1945	648	2.94
July 9	2200	760	3.10	Aug. 10	0530	1,140	3.58

Minimum daily discharge, 11 ft³/s, Sept. 16, 17, 26, 27, 28, 29.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	17	25	36	e35	e138	e41	28	24	25	19	125
2	36	34	67	285	e50	e57	e30	34	23	282	20	29
3	22	22	177	63	e65	e37	e26	47	23	94	19	23
4	23	22	40	36	e58	e31	e188	209	52	31	19	21
5	21	44	29	31	e41	e28	e61	100	92	25	151	20
6	19	72	26	29	e35	e27	e113	45	30	22	201	21
7	18	28	26	29	e35	e27	e45	33	23	26	42	22
8	17	77	27	e28	e34	e27	e35	30	23	36	27	33
9	17	33	85	27	e34	e25	e31	28	26	192	44	28
10	17	28	59	44	e31	e24	e31	27	21	152	548	23
11	16	58	57	34	e32	e23	e27	27	20	29	48	20
12	16	39	68	33	e32	e28	e26	29	22	115	30	19
13	20	25	33	26	e29	e34	e26	e29	32	41	26	106
14	63	22	28	26	e28	e27	e25	24	24	246	24	42
15	26	21	27	25	e25	e26	e23	30	20	161	23	27
16	20	20	26	25	e25	e26	e24	29	19	23	23	25
17	18	21	26	24	e24	e24	e63	26	18	19	23	23
18	17	28	113	84	e25	e24	e36	25	16	17	23	54
19	17	126	74	172	e29	e24	e29	e38	17	17	21	51
20	17	39	32	110	e31	e24	e26	49	17	16	20	27
21	17	115	27	46	e23	e26	e24	41	87	16	20	24
22	17	31	26	35	e25	e26	e23	29	77	15	26	33
23	17	26	25	36	e41	e25	e22	27	33	15	22	19
24	17	39	45	32	e44	e25	e61	27	24	15	21	14
25	16	31	724	29	e38	e24	e106	27	21	16	23	14
26	49	76	66	30	e35	e24	e35	28	20	17	23	11
27	28	60	38	28	e34	e23	e28	30	142	18	41	11
28	21	31	32	e27	e38	e43	35	e29	32	18	31	11
29	19	26	31	e28	---	e26	42	25	23	17	35	11
30	19	25	30	e32	---	e32	30	24	21	17	23	23
31	17	---	30	e40	---	e96	---	23	---	17	17	---
TOTAL	676	1236	2119	1530	976	1051	1312	1197	1022	1750	1633	910
MEAN	21.8	41.2	68.4	49.4	34.9	33.9	43.7	38.6	34.1	56.5	52.7	30.3
MAX	63	126	724	285	65	138	188	209	142	282	548	125
MIN	16	17	25	24	23	23	22	23	16	15	17	11
CFSM	1.28	2.42	4.02	2.90	2.05	1.99	2.57	2.27	2.00	3.32	3.10	1.78
IN.	1.48	2.70	4.64	3.35	2.14	2.30	2.87	2.62	2.24	3.83	3.57	1.99

CAL YR 1986 TOTAL 13174 MEAN 36.1 MAX 724 MIN 15 CFSM 2.12 IN. 28.82
WTR YR 1987 TOTAL 15412 MEAN 42.2 MAX 724 MIN 11 CFSM 2.48 IN. 33.72

e Estimated

DELAWARE RIVER BASIN

01467329 SOUTH BRANCH BIG TIMBER CREEK AT BLACKWOOD TERRACE, NJ

LOCATION.--Lat 39°48'05", long 75°04'27", Gloucester County, Hydrologic Unit 02040202, at bridge on Blackwood-Clementon Road at Blackwood Terrace, 1,000 ft upstream from Bull Run, and 2.0 mi northeast of Fairview.

DRAINAGE AREA.--19.1 mi².

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 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIO-CHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, EC BROTH (MPN)	STREPTOCOCCI FECAL (MPN)
OCT 1986 06...	0900	E18	170	6.6	16.5	7.7	79	1.5	490	2400
JAN 1987 21...	0900	E41	146	7.0	1.0	13.4	94	1.5	140	270
MAR 16...	0900	E24	165	7.1	2.5	12.9	94	2.1	170	270
MAY 28...	0900	E26	148	6.8	14.5	9.3	90	2.4	220	2200
JUL 13...	0900	E36	112	6.4	22.5	6.3	73	6.9	3500	1600
AUG 04...	0900	E18	140	6.6	22.5	6.4	75	2.4	940	5400

DATE	HARDNESS (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 1986 06...	42	12	3.0	9.3	3.2	26	13	13	<0.1
JAN 1987 21...	35	9.9	2.5	9.1	2.5	21	18	12	<0.1
MAR 16...	41	12	2.8	9.8	2.7	24	19	15	0.1
MAY 28...	39	11	2.8	9.1	2.6	24	9.0	15	<0.1
JUL 13...	37	11	2.2	8.2	2.0	17	16	11	<0.1
AUG 04...	39	11	2.9	9.2	2.8	26	10	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 1986 06...	5.8	75	0.031	0.93	0.20	0.83	1.8	0.160	4.9
JAN 1987 21...	5.4	72	0.021	0.86	0.45	0.99	1.8	0.140	6.8
MAR 16...	5.4	81	0.020	1.39	0.42	1.1	2.5	0.062	3.4
MAY 28...	5.0	69	0.049	1.17	0.35	1.4	2.6	1.06	5.9
JUL 13...	3.7	64	0.047	0.64	0.27	0.97	1.6	0.200	11
AUG 04...	4.2	68	0.031	1.10	0.21	0.92	2.0	0.170	5.2

01467329 SOUTH BRANCH BIG TIMBER CREEK AT BLACKWOOD TERRACE, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

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 1986 06...	0900	<0.5	10	1	<10	70	<1	<10	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 RECOV- ERABLE (UG/L AS SE)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
OCT 1986 06...	3100	11	60	<0.10	4	<1	280	2

SCHUYLKILL RIVER BASIN

01474500 SCHUYLKILL RIVER AT PHILADELPHIA, PA
(National stream-quality accounting network station)

LOCATION.--Lat 39°58'00", long 75°11'20", Philadelphia County, Hydrologic Unit 02040203, on right bank 150 ft upstream from Fairmount Dam, 1,500 ft upstream from Spring Garden Street Bridge, in Philadelphia, and 8.7 mi upstream from mouth. Water-quality sampling site 1.6 mi upstream. Water-quality monitor intake at gage.
DRAINAGE AREA.--1,893 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1931 to current year. Records for January 1898 to December 1912, published in WSP 35, 48, 65, 82, 97, 125, 166, 202, 214, 261, 301, 381 have been found to be unreliable and should not be used.

REVISED RECORDS.--WSP 756: Drainage area. WSP 1302: 1936(M). WSP 1432: 1945. See also PERIOD OF RECORD.
GAGE.--Water-stage recorder and concrete control. Datum of gage is 5.74 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 25, 1956, water-stage recorder at site on right bank just upstream from Fairmount Dam at same datum. Nov. 26, 1956, to Oct. 6, 1966, water-stage recorder at site on left bank 40 ft (12 m) upstream from Fairmount Dam at same datum.

REMARKS.--Records good. Flow regulated by Still Creek Reservoir (station 01469200) since February 1933, Blue Marsh Reservoir (station 01470870) since April 1979, Green Lane Reservoir (station 01472200) since December 1956 and to some extent by Lake Ontelaunee, capacity 518,600,000. Records of discharge do not include diversion above station by City of Philadelphia for municipal water supply.

AVERAGE DISCHARGE.--56 years, 2,928 ft³/s, 21.00 in/yr, adjusted for diversion from October 1931 to September 1982.
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 103,000 ft³/s June 23, 1972, gage height, 14.65 ft; no flow over dam at times; minimum daily, 0.6 ft³/s Sept. 2, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 4, 1869, reached a stage of 17.0 ft, discharge, 135,000 ft³/s, from rating extended above 46,000 ft³/s). Flood of Mar. 1, 1902, reached a stage of 14.8 ft, discharge, 98,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 32,400 ft³/s, Sept. 9, gage height, 10.02 ft; minimum daily, 482 ft³/s, July 25.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	898	677	3100	2920	1970	7370	3760	1950	1120	774	581	710
2	1000	719	2870	3520	1990	12700	2820	1840	1070	1990	572	620
3	1170	710	8810	3860	2240	8520	2130	1820	1050	2550	639	643
4	1190	688	6500	3310	3090	6820	8520	2400	1280	1420	605	583
5	1310	827	4830	2860	2990	5040	9490	3290	1850	1080	730	548
6	1220	1920	3840	2500	2500	3950	10400	2650	1240	949	1270	610
7	1090	2160	3270	2330	2340	3520	7900	2200	1090	898	908	761
8	1090	2020	3010	2250	2450	3470	5810	1980	1100	920	733	904
9	1070	2630	3420	2160	2460	3540	4970	1850	1040	1100	680	19600
10	924	2260	4990	2190	2140	3610	4210	1750	1010	1270	1540	12700
11	925	2350	3770	2920	2040	3280	3640	1710	989	1000	998	4790
12	844	4190	3350	2890	1990	2860	3300	1730	896	1110	804	2930
13	834	2890	3120	2470	1910	2680	3290	1570	905	1470	703	3380
14	1060	2330	2650	2360	1830	2540	3250	1440	941	1390	599	11300
15	1090	1840	2390	2300	1710	2350	2790	1410	966	3060	572	7480
16	1070	1630	2290	2570	1560	2260	2560	1550	868	1810	551	4990
17	981	1520	2240	2460	e1500	2130	2710	1500	934	1310	601	3730
18	816	1410	3820	2550	e1480	2030	3110	1400	816	1010	521	5480
19	745	4330	9290	4300	e1430	1880	2820	1580	713	861	497	5510
20	706	3740	5290	6670	e1400	1790	2550	2170	711	793	552	4140
21	650	10400	4290	4040	1380	1750	2360	2350	998	720	535	3460
22	686	7210	3620	3420	1390	1670	2160	2000	1140	710	603	3030
23	732	4870	3040	2960	1590	1650	2030	1780	1670	678	691	3020
24	646	4010	2850	e2600	1770	1560	2120	2020	1810	566	678	2520
25	615	3690	16700	2390	1760	1500	4890	1580	1400	482	598	2120
26	769	4810	7920	e2200	1670	1480	3270	1500	999	646	533	1880
27	991	12800	5780	e2100	1550	1410	2550	1530	1070	1020	773	1740
28	970	5190	4890	e2000	1510	1440	2340	1630	998	826	1570	1640
29	1000	4030	4310	1910	---	1410	2310	1260	1050	667	1220	1500
30	867	3530	3830	2110	---	1440	2090	1190	839	596	878	1470
31	681	---	3310	2090	---	2340	---	1120	---	596	783	---
TOTAL	28640	101381	143390	87210	53640	99990	116150	55750	32563	34272	23518	113789
MEAN	924	3379	4625	2813	1916	3225	3872	1798	1085	1106	759	3793
MAX	1310	12800	16700	6670	3090	12700	10400	3290	1850	3060	1570	19600
MIN	615	677	2240	1910	1380	1410	2030	1120	711	482	497	548
CFSM	.49	1.79	2.44	1.49	1.01	1.70	2.05	.95	.57	.58	.40	2.00
IN.	.56	1.99	2.82	1.71	1.05	1.96	2.28	1.10	.64	.67	.46	2.24
†	245	248	250	262	278	261	232	270	276	291	281	290

CAL YR 1986 TOTAL 907159 MEAN 2485 MAX 18100 MIN 400 CFSM 1.31 IN. 17.8
WTR YR 1987 TOTAL 890293 MEAN 2439 MAX 19600 MIN 482 CFSM 1.29 IN. 17.5

† Diversion, equivalent in cubic feet per second, for municipal supply, furnished by City of Philadelphia.

e Estimated

DELAWARE RIVER BASIN

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01477120 RACCOON CREEK NEAR SWEDESBORO, NJ

LOCATION.--Lat 39°44'28", long 75°15'33", Gloucester County, Hydrologic Unit 02040202, on right bank 25 ft downstream from County Bridge No. 5-F-3 on Harrisonville-Gibbstown Road, 1.8 mi west of Mullica Hill, and 2.8 mi east of Swedesboro.

DRAINAGE AREA.--26.9 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1966 to current year.

REVISED RECORDS.--WDR NJ-82-2: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to July 28, 1969, at datum 7.96 ft higher. July 28, 1969 to Sept. 30, 1969, at datum 5.96 ft higher.

REMARKS.--No estimated daily discharges. Records good except for the periods Jan. 20 to Mar. 11 and Sept. 1-30, which are fair. Several measurements of water temperature, other than those published, were made during the year.

AVERAGE DISCHARGE.--21 years, 41.1 ft³/s, 20.77 in./yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,530 ft³/s, Aug. 10, 1967, elevation, 17.44 ft, present datum; minimum daily, 2.9 ft³/s, July 14, Aug. 27, 28, Sept. 10, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Elevation (ft)	Date	Time	Discharge (ft ³ /s)	Elevation (ft)
Dec. 25	0815	*803	*12.83	Mar. 1	1845	378	10.95
Jan. 2	1215	330	10.62	July 3	0430	472	11.49
Jan. 20	0100	336	10.66				

Minimum discharge, 13 ft³/s, Aug. 21, gage height, 6.69 ft.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	16	25	40	47	236	63	36	24	18	16	39
2	112	20	34	244	50	159	43	37	25	155	15	20
3	28	19	162	106	62	74	46	36	25	253	14	16
4	19	18	60	57	70	57	125	85	30	47	14	15
5	17	27	37	46	60	50	93	90	62	32	16	14
6	15	54	32	41	49	47	127	56	34	26	52	14
7	14	29	30	40	51	45	110	45	28	32	27	16
8	14	48	29	38	52	44	67	40	26	41	20	16
9	14	37	64	36	54	43	54	37	25	29	19	17
10	14	26	84	41	48	40	49	35	25	26	23	15
11	14	32	52	44	45	39	45	33	23	25	19	14
12	14	41	80	37	45	40	42	36	22	24	17	14
13	15	27	47	35	43	42	41	37	23	23	16	26
14	34	23	35	33	40	40	39	32	22	54	16	21
15	25	21	33	32	38	39	38	35	21	82	16	16
16	18	21	32	32	35	38	38	38	21	33	16	15
17	16	20	31	31	36	37	47	32	19	25	16	15
18	16	23	77	62	37	36	48	30	19	23	15	32
19	16	86	122	167	37	35	42	31	18	21	14	32
20	15	39	50	180	36	35	39	51	18	20	14	20
21	15	85	39	72	37	36	38	52	18	19	13	18
22	15	42	36	61	37	36	37	37	19	18	16	21
23	15	30	34	64	49	35	35	35	19	18	17	18
24	15	33	43	53	51	34	48	34	18	17	15	17
25	15	33	498	50	46	34	118	31	17	16	14	16
26	24	52	110	50	43	33	71	30	17	17	15	16
27	26	74	61	53	43	33	48	30	40	17	15	16
28	20	37	49	54	45	39	42	31	29	16	16	15
29	18	31	44	53	---	38	41	29	21	15	29	15
30	17	27	41	47	---	37	38	27	18	15	19	19
31	16	---	39	51	---	68	---	25	---	16	16	---
TOTAL	640	1071	2110	1950	1286	1599	1712	1213	726	1173	560	558
MEAN	20.6	35.7	68.1	62.9	45.9	51.6	57.1	39.1	24.2	37.8	18.1	18.6
MAX	112	86	498	244	70	236	127	90	62	253	52	39
MIN	14	16	25	31	35	33	35	25	17	15	13	14
CFSM	.77	1.33	2.53	2.34	1.71	1.92	2.12	1.45	.90	1.41	.67	.69
IN.	.89	1.48	2.92	2.70	1.78	2.21	2.37	1.68	1.00	1.62	.77	.77

CAL YR 1986	TOTAL 12126	MEAN 33.2	MAX 498	MIN 10	CFSM 1.24	IN. 16.76
WTR YR 1987	TOTAL 14598	MEAN 40.0	MAX 498	MIN 13	CFSM 1.49	IN. 20.18

DELAWARE RIVER BASIN

01477120 RACCOON CREEK NEAR SWEDESBORO, NJ--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: May 1966 to September 1973.

SUSPENDED-SEDIMENT DISCHARGE: June 1966 to September 1969.

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 selected water-phase nutrients were performed by the New Jersey Department of Health, Division of Laboratories and Epidemiology.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE 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 1986 27...	1100	26	190	7.0	13.5	9.9	95	<1.1	790	1600
FEB 1987 03...	1100	58	181	7.3	3.0	12.5	94	<0.6	50	170
MAR 18...	0900	36	192	7.0	3.0	13.1	97	1.0	79	130
JUN 03...	0900	26	160	7.1	19.5	8.0	87	1.1	1600	>2400
JUL 28...	1045	16	184	7.7	22.5	7.5	87	<0.9	220	920
AUG 20...	0930	14	181	7.2	21.5	7.2	82	E1.9	330	920

DATE	HARD- NESS (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 1986 27...	69	21	3.9	6.3	4.2	33	28	15	0.2
FEB 1987 03...	59	17	4.0	7.2	3.0	16	29	15	0.2
MAR 18...	61	17	4.5	5.1	3.2	20	30	11	0.2
JUN 03...	63	19	3.7	5.0	2.8	33	26	13	0.2
JUL 28...	64	19	4.1	5.4	3.8	36	22	14	0.3
AUG 20...	67	18	5.4	5.6	4.3	32	21	15	0.2

DATE	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITU- ENTS, 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 1986 27...	11	110	0.012	1.32	0.06	0.94	2.3	0.130	4.5
FEB 1987 03...	9.3	94	0.008	2.18	0.15	0.62	2.8	0.061	2.6
MAR 18...	8.4	91	E0.017	2.65	0.26	0.33	3.0	0.033	1.3
JUN 03...	11	100	0.023	1.11	0.17	0.74	1.8	0.123	2.9
JUL 28...	9.7	100	0.016	1.22	0.09	0.67	1.9	0.117	3.8
AUG 20...	9.6	98	0.023	2.40	0.24	0.65	3.1	0.090	3.0

DELAWARE RIVER BASIN

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01477120 RACCOON CREEK NEAR SWEDESBO, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

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 (G/KG AS C)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC IN BOT- TOM MA- TERIAL (UG/G AS AS)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	
OCT 1986 27...	1100	<0.5	190	--	--	10	1	--	<1	--	--	
27...	1100	--	--	0.1	2.7	--	--	19	--	<1	10	
DATE		COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO)	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)	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)
OCT 1986 27...	--	--	--	1300	--	5	--	60	--	<0.10	--	9
27...	10	1	--	11000	--	<10	--	120	--	--	0.02	--
DATE		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)	ALDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	CHLOR- DANE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	
OCT 1986 27...		--	<1	--	130	--	6	--	--	--	--	
27...		<10	--	<1	--	50	--	<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)	
OCT 1986 27...		--	--	--	--	--	--	--	--	--	--	
27...		<0.1	1.3	1.5	<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 TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	TOXA- PHENE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	TRI- THION, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	
OCT 1986 27...		--	--	--	--	--	--	--	--	--	<0.1	
27...		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<1.00	<10	--	

DELAWARE RIVER BASIN

01477128 BASGALORE CREEK NEAR SWEDESBORO, NJ

LOCATION.--Lat 39°41'35", long 75°16'44", Gloucester County, Hydrologic Unit 02040202, 2.2 mi southwest of Swedesboro and 2000 ft (0.4 mi) upstream of Lake Basgalore.

DRAINAGE AREA.--2.57 mi².

PERIOD OF RECORD.--November to April 1987.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE 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, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	
NOV 1986											
03...	1230	1.8	119	6.7	10.5	10.1	91	1.0	K20	K210	
06...	0910	3.8	130	6.5	10.0	9.3	82	1.3	250	9200	
26...	1645	7.6	103	6.4	10.0	9.6	85	2.4	280	22000	
JAN 1987											
08...	1145	3.3	119	6.0	4.5	11.6	89	--	K7	250	
29...	1030	--	130	7.0	1.5	13.1	92	1.4	K5	K48	
APR											
14...	1000	3.1	109	6.5	9.5	11.2	97	0.5	12	99	
JUL											
27...	1200	2.1	109	6.6	20.0	7.8	86	0.3	--	--	
DATE		HARD- NESS (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)	SILICA, DIS- SOLVED (MG/L AS SiO2)
NOV 1986											
03...	39	11	2.7	2.9	4.2	12	21	11	0.3	17	
06...	40	11	3.0	2.8	4.8	9.0	17	12	0.3	12	
26...	35	9.2	2.9	2.7	4.7	8.0	24	9.5	0.3	9.9	
JAN 1987											
08...	37	10	2.8	2.7	3.6	6.0	24	10	0.2	13	
29...	41	11	3.2	2.9	3.4	6.0	25	11	0.3	15	
APR											
14...	39	11	2.9	2.8	3.3	8.0	21	9.8	0.3	14	
JUL											
27...	34	9.7	2.3	3.2	3.6	12	15	11	0.3	17	
DATE		SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	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)	PHOS- PHORUS, ORTHO, TOTAL (MG/L AS P)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS Al)	ARSENIC TOTAL (UG/L AS As)	BERYL- LIUM, TOTAL RECOV- ERABLE (UG/L AS Be)
NOV 1986											
03...	77	0.70	<0.01	0.60	1.3	0.100	0.050	80	1	<10	
06...	68	0.70	0.03	0.30	1.0	0.210	0.070	620	2	<10	
26...	68	0.80	0.10	0.60	1.4	0.090	0.120	5900	4	<10	
JAN 1987											
08...	70	1.40	0.09	0.50	1.9	0.030	0.020	4500	5	<10	
29...	75	1.50	0.07	1.0	2.5	0.030	<0.010	160	<1	<10	
APR											
14...	70	1.10	0.01	0.60	1.7	0.050	0.020	80	<1	<10	
JUL											
27...	69	0.80	0.07	0.70	1.5	0.110	0.050	30	1	<10	
DATE		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)	COBALT, TOTAL RECOV- ERABLE (UG/L AS Co)	COPPER, TOTAL RECOV- ERABLE (UG/L AS Cu)	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)
NOV 1986											
03...	<10	<1	<1	<1	<1	<1	2400	<5	130	<0.10	<1
06...	<10	<1	<1	<1	4	9	4000	31	130	<0.10	13
26...	20	<1	10	3	3	9	11000	9	120	0.10	11
JAN 1987											
08...	<10	<1	6	<1	12	6500	7	110	<0.10	15	
29...	30	1	4	5	3	2600	<5	90	<0.10	4	
APR											
14...	<10	<1	4	--	4	1500	<5	90	<0.10	18	
JUL											
27...	20	<1	9	--	3	2200	<5	70	0.30	13	

DELAWARE RIVER BASIN

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01477128 BASGALORE CREEK NEAR SWEDESBORO, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

		DATE	SELE- NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C)	CYANIDE TOTAL (MG/L AS CN)	PHENOLS TOTAL (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)	OIL AND GREASE, TOTAL RECOV. GRAVI- METRIC (MG/L)		
		NOV 1986											
		03...	<1	<1	30	1.6	0.4	<0.010	3	0.03	<1		
		06...	<1	<1	40	3.5	1.5	<0.010	5	0.04	<1		
		26...	<1	<1	50	3.9	>3.0	<0.010	2	0.05	<1		
		JAN 1987											
		08...	<1	<1	40	1.5	1.2	<0.010	2	0.03	<1		
		29...	<1	<1	80	1.4	0.2	<0.010	<1	0.02	<1		
		APR											
		14...	<1	1	30	1.5	0.2	<0.010	4	0.01	<1		
		JUL											
		27...	<1	<1	10	2.1	0.4	<0.010	<1	0.02	1		
DATE	TIME	CARBON, INOR- GANIC, TOT IN BOT MAT (G/KG AS C)	CARBON, INORG + ORGANIC TOT. IN BOT MAT (G/KG AS C)	CYANIDE TOTAL IN BOT- TOM MA- TERIAL (UG/G AS CN)	ACE- NAPHTH- YLENE BOT.MAT (UG/KG)	ACE- NAPHTH- ENE BOT.MAT (UG/KG)	ANTHRA- CENE BOT.MAT (UG/KG)	BENZO B FLUOR- AN- THENE BOT.MAT (UG/KG)	BENZO K FLUOR- AN- THENE BOT.MAT (UG/KG)	BENZO- A- PYRENE BOT.MAT (UG/KG)	BIS (2- CHLORO- ETHYL) ETHER BOT.MAT (UG/KG)	BIS (2- CHLORO- ETHOXY) METHANE BOT.MAT (UG/KG)	
NOV 1986	03...	1230	0.7	27	<0.5	<200	<200	<200	<400	<400	<400	<200	<200
DATE		BIS (2- CHLORO- ISO- PROPYL) ETHER BOT.MAT (UG/KG)	N-BUTYL BENZYL PHTHAL- ATE BOT.MAT (UG/KG)	CHRY- SENE BOT.MAT (UG/KG)	DIETHYL PHTHAL- ATE BOT.MAT (UG/KG)	DI- METHYL PHTHAL- ATE BOT.MAT (UG/KG)	FLUOR- ANTHENE BOT.MAT (UG/KG)	FLUOR- ENE BOT.MAT (UG/L)	HEXA- CHLORO- CYCLO- PENT- ADIENE BOT.MAT (UG/KG)	HEXA- CHLORO- ETHANE BOT.MAT (UG/KG)	INDENO (1,2,3- CD) PYRENE BOT.MAT (UG/KG)	ISO- PHORONE BOT.MAT (UG/KG)	N- NITRO- SODI-N- PROPYL- AMINE BOT.MAT (UG/KG)
NOV 1986	03...	<200	<200	<400	<200	<200	<200	<200	<200	<200	<400	<200	<200
DATE		N-NITRO -SODI- PHENY- LAMINE BOT.MAT (UG/KG)	N-NITRO -SODI- METHY- LAMINE BOT.MAT (UG/KG)	NAPHTH- ALENE BOT.MAT (UG/KG)	NITRO- BENZENE BOT.MAT (UG/KG)	PARA- CHLORO- META CRESOL BOT.MAT (UG/KG)	PHENAN- THRENE BOT.MAT (UG/KG)	PYRENE BOT.MAT (UG/KG)	BENZOGH I PERYL ENE1,12 -BENZOP ERYLENE BOT.MAT (UG/KG)	BENZO A ANTHRAC ENE1,2- BENZANT HRACENE BOT.MAT (UG/KG)	1,2-DI- CHLORO- BENZENE BOT.MAT (UG/KG)	1,2,4- TRI- CHLORO- BENZENE BOT.MAT (UG/KG)	1,2,5,6 -DIBENZ -ANTHRA -CENE BOT.MAT (UG/KG)
NOV 1986	03...	<200	<200	<200	<200	<600	<200	<200	<400	<200	<200	<200	<400
DATE		1,3-DI- CHLORO- BENZENE BOT.MAT (UG/KG)	1,4-DI- CHLORO- BENZENE BOT.MAT (UG/KG)	HEXA- CHLORO- BENZENE TOT. IN BOTTOM MATL. (UG/KG)	HEXA- CHLORO- BUT- ADIENE BOT.MAT (UG/KG)	2- CHLORO- NAPHTH- THALENE BOT.MAT (UG/KG)	2- CHLORO- PHENOL BOT.MAT (UG/KG)	2- NITRO- PHENOL BOT.MAT (UG/KG)	DI-N- OCTYL PHTHAL- ATE BOT.MAT (UG/KG)	2,4-DI- CHLORO- PHENOL BOT.MAT (UG/KG)	2,4-DP, IN BOTTOM MAT. (UG/KG)	2,4-DI- NITRO- TOLUENE BOT.MAT (UG/KG)	2,4- DI- NITRO- PHENOL BOT.MAT (UG/KG)
NOV 1986	03...	<200	<200	<200	<200	<200	<200	<200	<400	<200	<200	<200	<600
DATE		2,4,6- TRI- CHLORO- PHENOL BOT.MAT (UG/KG)	2,6-DI- NITRO- TOLUENE BOT.MAT (UG/KG)	4- BROMO- PHENYL ETHER BOT.MAT (UG/KG)	4- CHLORO- PHENYL ETHER TOTAL (UG/L)	4- NITRO- PHENOL BOT.MAT (UG/KG)	4,6- DINITRO -ORTHO- CRESOL BOT.MAT (UG/KG)	PHENOL (C6H- 5OH) BOT.MAT (UG/KG)	PENTA- CHLORO- PHENOL BOT.MAT (UG/KG)	BIS(2- ETHYL HEXYL) PHTHAL- ATE BOT.MAT (UG/KG)	DI-N- BUTYL PHTHAL- ATE BOT.MAT (UG/KG)	PCN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ALDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)
NOV 1986	03...	<600	<200	<200	<200	<600	<600	<200	<600	<200	<200	<1.0	0.1

DELAWARE RIVER BASIN

01477128 BASGALORE CREEK NEAR SWEDESBO, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	CHLOR-DANE, TOTAL IN BOT-TOM MATERIAL (UG/KG)	DDD, TOTAL IN BOT-TOM MATERIAL (UG/KG)	DDE, TOTAL IN BOT-TOM MATERIAL (UG/KG)	DDT, TOTAL IN BOT-TOM MATERIAL (UG/KG)	DI-AZINON, TOTAL IN BOT-TOM MATERIAL (UG/KG)	DI-ELDRIN, TOTAL IN BOT-TOM MATERIAL (UG/KG)	ENDO-SULFAN, TOTAL IN BOT-TOM MATERIAL (UG/KG)	ENDRIN, TOTAL IN BOT-TOM MATERIAL (UG/KG)	ETHION, TOTAL IN BOT-TOM MATERIAL (UG/KG)	HEPTA-CHLOR, TOTAL IN BOT-TOM MATERIAL (UG/KG)	HEPTA-CHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG)
NOV 1986 03...	2.0	9.3	3.1	4.0	<0.1	<0.1	0.4	<0.1	<0.1	<0.1	<0.1

DATE	LINDANE TOTAL IN BOT-TOM MATERIAL (UG/KG)	METH-OXY-CHLOR, TOTAL IN BOT-TOM MATERIAL (UG/KG)	PARA-THION, TOTAL IN BOT-TOM MATERIAL (UG/KG)	METHYL PARA-THION, TOTAL IN BOT-TOM MATERIAL (UG/KG)	MIREX, TOTAL IN BOT-TOM MATERIAL (UG/KG)	PCB, TOTAL IN BOT-TOM MATERIAL (UG/KG)	MALA-THION, TOTAL IN BOT-TOM MATERIAL (UG/KG)	PER-THANE, TOTAL IN BOT-TOM MATERIAL (UG/KG)	TOXA-PHENE, TOTAL IN BOT-TOM MATERIAL (UG/KG)	TRI-THION, TOTAL IN BOT-TOM MATERIAL (UG/KG)	METHYL TRI-THION, TOTAL IN BOT-TOM MATERIAL (UG/KG)
NOV 1986 03...	<0.1	<0.1	<0.1	<0.1	<0.1	1	<0.1	<1.00	<10	<0.1	<0.1

BENTHIC INVERTEBRATE ANALYSES

DATE: NOVEMBER 3 - DECEMBER 22, 1986

MULTIPLE-PLATE SAMPLER, TOTAL AREA 0.441 SQUARE METER

ORGANISM	COUNT	PERCENT
ARTHROPODA (ARTHROPODS)		
..INSECTA		
...DIPTERA		
....CHIRONOMIDAE		
....CONCHAPELOPIA	5	<1
....DIPLOCLADIUS	410	53
....PARAKIEFFERIELLA	2	<1
....PHAENOPSECTRA	1	<1
....POLYPEDILUM	2	<1
....RHEOCRICOTOPUS	1	<1
...EMPIDIDAE		
....HEMERODROMIA	1	<1
...SIMULIIDAE		
....CNEPHIA	320	42
..MEGALOPTERA		
...CORYDALIDAE		
....NIGRONIA	1	<1
..TRICHOPTERA		
...HYDROPSYCHIDAE		
....CHEUMATOPSYCHE	4	<1
....HYDROPSYCHE		
.....H.BIFIDA	14	2
MOLLUSCA (MOLLUSCS)		
..BIVALVIA		
...NUCULOIDEA		
....CORBICULIDAE		
.....CORBICULA	1	<1
..GASTROPODA	1	<1

DELAWARE RIVER BASIN

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01477510 OLDMANS CREEK AT PORCHES MILL, NJ

LOCATION.--Lat 39°41'57", long 75°20'01", Salem County, Hydrologic Unit 02040206, at bridge on Kings Highway in Porches Mill, 150 ft downstream of tributary from outflow of lake at Porches Mill, 1.0 mi north of Seven Stars, and 2.1 mi southeast of Auburn.

DRAINAGE AREA.--21.0 mi².

PERIOD OF RECORD.--Water years 1975 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 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	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 1986 27...	1330	E17	226	6.6	13.5	7.8	75	E1.7	5400	>2400
FEB 1987 03...	1330	E25	204	7.1	3.0	11.5	86	<1.1	170	220
MAR 18...	0930	E25	180	7.2	3.5	14.1	106	1.6	20	110
JUN 03...	0930	E17	205	7.0	20.5	5.5	61	1.5	140	790
JUL 28...	1200	E10	166	8.4	25.5	8.6	105	3.0	230	920
AUG 20...	1230	E8.9	198	7.4	23.5	8.1	96	<1.1	170	920

DATE	HARD- NESS (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 1986 27...	83	24	5.5	5.1	5.4	35	34	19	0.2
FEB 1987 03...	68	19	5.1	6.0	3.3	16	27	18	0.2
MAR 18...	68	19	4.9	5.4	3.1	20	29	22	0.2
JUN 03...	76	22	5.2	4.8	2.7	33	29	16	0.2
JUL 28...	59	17	3.9	4.7	3.9	32	17	10	0.3
AUG 20...	78	22	5.5	4.8	4.0	45	24	14	0.2

DATE	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITU- ENTS, 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 1986 27...	10	120	0.015	1.39	0.07	0.94	2.3	0.090	5.2
FEB 1987 03...	9.8	98	0.011	3.24	0.15	0.75	4.0	0.067	2.6
MAR 18...	8.5	100	E0.017	2.81	0.43	0.45	3.3	0.033	1.6
JUN 03...	10	110	0.035	1.93	0.17	0.58	2.5	0.101	3.4
JUL 28...	10	86	0.015	0.83	0.10	1.2	2.0	0.094	6.1
AUG 20...	7.0	110	0.026	0.62	0.14	0.85	1.5	0.060	5.3

DELAWARE RIVER BASIN

01477510 OLDMANS CREEK AT PORCHES MILL, NJ--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

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)
OCT 1986 27...	1330	<0.5	<10	1	<10	<10	<1	<10
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 RECOV- ERABLE (UG/L AS SE)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	PHENOLS TOTAL (UG/L)
OCT 1986 27...	1400	12	60	<0.10	9	<1	160	4

DELAWARE RIVER BASIN

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01481602 DELAWARE RIVER BELOW CHRISTINA RIVER AT WILMINGTON, DE

LOCATION.--Lat 39°43'00", Long 75°31'03", New Castle County, DE, Hydrologic Unit 02040206, on right bank, 1,000 ft from mouth of Christina River at the Wilmington Marine Terminal at Wilmington, 2.0 mi upstream of Delaware Memorial Bridge, and at mile 69.70.

DRAINAGE AREA.--11,030 mi².

PERIOD OF RECORD.--December 1982 to current year. July 1967 to May 1983 published as "Delaware River at Delaware Memorial Bridge, at Wilmington, DE" (station 01482100). Tidal volumes published from July 1967 to September 1973.

GAGE.--Water-stage recorder. Datum of gage is -18.05 ft below National Geodetic Vertical Datum of 1929. Prior to Dec. 1982, water-stage recorder at Delaware River at Delaware Memorial Bridge 2.0 mi downstream at datum 8.05 ft higher. Gage-height record converted to elevation above or below (-) National Geodetic Vertical Datum 1929 for publication.

REMARKS.--No gage-height or doubtful record: Jan. 24 to Mar. 2. 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, 7.88 ft, Oct. 25, 1980; minimum, -5.86 ft, Apr. 4, 1975.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum elevation known, 8.4 ft, Nov. 23, 1950, furnished by Corps of Engineers, U.S. Army; minimum, -9.1 ft, Dec. 31, 1962.

EXTREMES FOR CURRENT YEAR.--Maximum elevation recorded, 6.32 ft, Dec. 2; minimum recorded, -4.42 ft, Jan. 24; minimum estimated, -4.7 ft, Feb. 9.

Summaries of tide elevations during current year are as follows:

TIDE ELEVATIONS, IN FEET, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Maximum	Elevation	4.51	4.87	6.32	5.96	--	5.26	5.65	4.79	5.06	5.45	5.37	5.29
high tide	Date	11	20	2	2	--	31	17	14	11	12	7,9	19
Minimum	Elevation	-3.06	-3.10	-3.31	-4.42	e-4.7	-2.39	-2.63	-2.80	-2.70	-2.31	-2.35	-2.20
low tide	Date	6	13	5	24	9	7	1	16	10	15	23	27
Mean high tide		3.60	3.37	3.44	--	--	3.78	4.13	3.77	3.89	4.00	3.95	4.03
Mean water level		1.08	0.87	0.84	--	--	1.26	1.49	1.12	1.16	1.28	1.35	1.41
Mean low tide		-1.63	-1.77	-1.92	--	--	-1.41	-1.35	-1.77	-1.76	-1.66	-1.49	-1.40

e - Estimated

DELAWARE RIVER BASIN

01482500 SALEM RIVER AT WOODSTOWN, NJ

LOCATION---Lat 39°38'36", long 75°19'52", Salem County, Hydrologic Unit 02040206, on right end of Memorial Lake Dam at Woodstown, 0.2 mi upstream from small brook, and 0.3 mi downstream from Pennsylvania-Reading Seashore Lines bridge.

DRAINAGE AREA---14.6 mi².

PERIOD OF RECORD---Water years 1973 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 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIO-CHEMICAL, 5 DAY (MG/L)	COLIFORM, FECAL, EC BROTH (MPN)	STREPTOCOCCI FECAL (MPN)
NOV 1986 06...	1045	E55	239	6.5	9.0	11.0	95	3.0	2400	>2400
JAN 1987 21...	1030	E36	129	6.6	3.0	13.8	103	3.7	3500	>2400
MAR 18...	1015	E21	227	7.2	5.0	12.3	96	2.3	14	33
JUN 04...	0900	E6.9	237	7.5	22.5	7.7	89	2.8	<20	460
JUL 23...	1100	E5.0	206	9.1	31.0	8.5	114	5.8	330	220
AUG 13...	1000	E5.0	230	7.8	25.5	8.5	104	4.6	130	350

DATE	HARDNESS (MG/L AS CaCO ₃)	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNESIUM, DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY LAB (MG/L AS CaCO ₃)	SULFATE DIS-SOLVED (MG/L AS SO ₄)	CHLORIDE, DIS-SOLVED (MG/L AS Cl)	FLUORIDE, DIS-SOLVED (MG/L AS F)
NOV 1986 06...	--	--	--	--	--	38	35	20	0.1
JAN 1987 21...	47	9.9	5.3	4.4	5.1	17	27	14	0.1
MAR 18...	80	17	9.0	7.5	3.5	19	40	18	0.1
JUN 04...	92	21	9.5	7.1	4.7	38	35	22	0.2
JUL 23...	71	16	7.6	6.7	6.8	42	29	18	0.1
AUG 13...	65	15	6.6	11	6.1	35	25	19	0.3

DATE	SILICA, DIS-SOLVED (MG/L AS SiO ₂)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO ₂ +NO ₃ 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 1986 06...	7.6	--	0.109	2.71	0.47	1.6	4.3	0.120	5.1
JAN 1987 21...	5.9	82	0.009	2.13	0.17	1.6	3.8	0.381	10
MAR 18...	7.2	110	0.040	3.91	0.21	1.1	5.0	0.130	3.4
JUN 04...	3.4	130	0.062	1.27	0.29	1.2	2.5	0.237	7.2
JUL 23...	3.2	110	0.017	0.06	0.24	2.0	2.1	0.251	20
AUG 13...	7.1	110	0.008	0.19	0.11	1.7	1.8	0.240	14

DELAWARE RIVER BASIN

RESERVOIRS IN DELAWARE RIVER BASIN

- 01416900 PEPACTON RESERVOIR.--Lat 42°04'38", long 74°58'04", Delaware County, NY, Hydrologic Unit 02040102, near release chamber at Downsview Dam on East Branch Delaware River, and 1.6 mi east of Downsview, NY. DRAINAGE AREA, 371 mi². PERIOD OF RECORD, September 1954 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Board of Water Supply, City of New York).
REMARKS.--Reservoir is formed by an earthfill rockfaced dam. Storage began Sept. 15, 1954. Usable capacity 140,190 mil gal between minimum operating level, elevation, 1,152.0 ft, and crest of spillway, elevation, 1,280.0 ft. Capacity, at crest of spillway 149,700 mil gal; at minimum operating level, 9,609 mil gal; at still of diversion tunnel, elevation, 1,143.0 ft, 6,098 mil gal; in dead storage below release outlet, elevation, 1,126.50 ft, 1,898 mil gal. Figures given herein represent total contents. Reservoir impounds water for diversion through East Delaware Tunnel to Rondout Reservoir on Rondout Creek, in Hudson River basin (see Delaware River Basin, diversions), for water supply to City of New York; for release during periods of low flow in the lower Delaware River basin, as directed by the Delaware River Master; and for conservation release. No diversion prior to Jan. 6, 1955.
COOPERATION.--Records provided by Bureau of Water Resources Development and Department of Environmental Protection, City of New York.
EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 154,027 mil gal, Apr. 5, 1960, elevation, 1,282.27 ft; minimum observed (after first filling), 9,575 mil gal, Dec. 26, 1964, elevation, 1,151.92 ft.
EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 151,652 mil gal, Apr. 9, 13, elevation, 1,281.00 ft; minimum, 109,022 mil gal, Sept. 8, elevation, 1,255.90 ft.
- 01424997 CANNONVILLE RESERVOIR.--Lat 42°03'46", long 75°22'29", Delaware County, NY, Hydrologic Unit 02040101, in emergency gate tower at Cannonsville Dam on West Branch Delaware River, and 1.8 mi southeast of Stilesville, NY. DRAINAGE AREA, 454 mi². PERIOD OF RECORD, October 1963 to current year. REVISED RECORDS, WRD-NY 1972: 1966. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Board of Water Supply, City of New York).
REMARKS.--Reservoir is formed by an earthfill rockfaced dam; storage began Sept. 30, 1963, usable capacity 95,706 mil gal between minimum operating level, elevation, 1,040.0 ft and crest of spillway, elevation, 1,150.0 ft. Capacity, at crest of spillway, 98,618 mil gal; at minimum operating level, 2,912 mil gal; at mouth of inlet channel to diversion tunnel, elevation, 1,035.0 ft, 1,892 mil gal; in dead storage below release outlet elevation, 1,020.5 ft, 328 mil gal. Figures given herein represent total contents. Impounded water is diverted for New York City water supply via West Delaware Tunnel to Rondout Reservoir in Hudson River basin (see Delaware River Basin, diversion); is released in Delaware River for downstream low flow augmentation as directed by Delaware River Master; and is released for conservation flow in the Delaware River. No diversion prior to Jan. 29, 1964.
COOPERATION.--Records provided by Bureau of Water Resources Development, City of New York.
EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 108,116 mil gal, Mar. 15, 1977, elevation, 1,155.85 ft; minimum observed (after first filling), 11,901 mil gal, Nov. 7, 1968, elevation, 1,066.24 ft.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 105,908 mil gal, Apr. 6, elevation, 1,154.53 ft; minimum, 57,550 mil gal, Sept. 8, elevation, 1,119.80 ft.
- 01428900 PROMPTON RESERVOIR.--Lat 41°35'18", long 75°19'39", Wayne County, PA, Hydrologic Unit 02040103, at dam on West Branch Lackawaxen River, 0.3 mi north of Prompton, PA, 0.4 mi upstream from highway bridge and 0.5 mi upstream from Van Auken Creek. DRAINAGE AREA, 59.6 mi². PERIOD OF RECORD, December 1960 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).
REMARKS.--Reservoir formed by an earth and rockfill dam with ungaged bedrock spillway at elevation 1,205.00 ft; storage began July 1960. Capacity at elevation 1,205.00 ft is 51,700 acre-ft. Ordinary minimum (conservation) pool elevation, 1,125.00 ft capacity, 3,420 acre-ft. Reservoir is used for flood control and recreation. Figures given herein represent total contents. Regulation is accomplished by discharge through an ungated tunnel.
COOPERATION.--Records provided by U.S. Army Corps of Engineers.
EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 8,170 acre-ft, June 29, 1973, elevation, 1,138.40 ft; minimum (after first filling), 2,920 acre-ft, Sept. 27, 1964, elevation, 1,123.20 ft.
EXTREMES FOR CURRENT YEAR.--Maximum content, 4,860 acre-ft, Sept. 9, elevation, 1,129.87 ft; minimum, 3,040 acre-ft, Aug. 26, elevation, 1,123.37 ft.
- 01429400 GENERAL EDGAR JADWIN RESERVOIR.--Lat 41°36'44", long 75°15'55", Wayne County, PA, Hydrologic Unit 02040103, at dam on Dyberry Creek, 0.45 mi upstream from unnamed tributary, 2.4 mi north of Honesdale, PA, and 2.9 mi upstream from mouth. DRAINAGE AREA, 64.5 mi². PERIOD OF RECORD, October 1959 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).
REMARKS.--Reservoir formed by an earth and rockfill dam with ungated, concrete spillway at elevation, 1,053.00 ft; storage began in October 1959. Capacity at elevation 1,053.00 ft is 24,500 acre-ft. Reservoir is used for flood control. Figures given herein represent total contents. Regulation is accomplished by discharge through an ungated tunnel.
COOPERATION.--Records provided by U.S. Army Corps of Engineers.
EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 6,520 acre-ft, June 19, 1973, elevation 1,017.40 ft; no storage many times.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,620 acre-ft, Apr. 5 elevation, 998.15 ft; no storage many times.
- 01431700 LAKE WALLENPAUPACK.--Lat 41°27'35", long 75°11'10", Wayne County, PA, Hydrologic Unit 02040103, at dam on Wallenpaupack Creek at Wilsonville, PA, 1.2 mi south of and 1.5 mi upstream from mouth. DRAINAGE AREA, 228 mi². PERIOD OF RECORD, January 1926 to current year. GAGE, vertical staff. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Pennsylvania Power and Light Co.).
REMARKS.--Reservoir formed by concrete gravity-type and earthfill dam with concrete spillway at elevation 1,176.00 ft in two sections. Spillway equipped with roller gate, 14 ft high on each section. Storage began Nov. 3, 1925; water in reservoir first reached minimum pool elevation in January 1926. Total capacity at elevation 1,190.00 ft, top of gates, is 209,300 acre-ft of which 157,800 acre-ft is controlled storage above elevation 1,160.00 ft, minimum pool. Reservoir is used for generation of hydroelectric power. Figures given herein represent usable contents.
COOPERATION.--Records provided by Pennsylvania Power and Light Co.
EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 178,200 acre-ft, Aug. 19-21, 1955, elevation, 1,193.45 ft; minimum (after first filling), 12,280 acre-ft, Mar. 28, 1958, elevation, 1,162.60 ft.
EXTREMES FOR CURRENT YEAR.--Maximum contents, 92,170 acre-ft, May 28, 31, elevation, 1,187.1 ft; minimum, 26,960 acre-ft, Feb. 20, elevation, 1,175.2 ft.

RESERVOIRS IN DELAWARE RIVER BASIN--Continued

- 01433000 SWINGING BRIDGE RESERVOIR.--Lat 41°34'25", long 74°47'00", Sullivan County, NY, Hydrologic Unit 02040104, at dam on Mongaup River, and 1.8 mi northwest of Fowlersville, NY. DRAINAGE AREA, 118 mi² excluding Cliff Lake, Lebanon Lake, and Toronto Reservoir. PERIOD OF RECORD, January 1930 to current year. REVISED RECORDS, WSP 1552: 1951-54. WDR NJ-86-2: 1985. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Orange and Rockland Utilities, Inc.). All capacity figures given herein are based on zero storage at minimum operating pool level, 1,010 ft.
- REMARKS.--Reservoir is formed by an earthfill dam. Storage began Jan. 19, 1930. Usable capacity, 1,436.6 mil ft³ between elevations 1,010.0 ft, minimum operating pool, and 1,071.2 ft, top of flashboards. Capacity below elevation 1,010.0 ft, minimum operating pool, about 212.7 mil ft³. Reservoir is used for storage of water for power. Figures given herein represent contents above 1,010.0 ft. Water is received from Cliff Lake, Lebanon Lake, and Toronto Reservoir.
- COOPERATION.--Records provided by Orange and Rockland Utilities, Inc.
- EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,461.6 mil ft³, Mar. 14, 1977, elevation, 1,071.8 ft; minimum (after first filling), -141.4 mil ft³, Dec. 2, 1938, elevation, 987.5 ft.
- EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,375.2 mil ft³, Apr. 13, elevation, 1,069.7 ft; minimum, 757.9 mil ft³, Feb. 14, elevation, 1,052.2 ft.
- 01433100 TORONTO RESERVOIR.--Lat 41°37'15", long 74°49'55", Sullivan County, NY, Hydrologic Unit 02040104, at dam on Black Lake Creek, and 2.5 mi southeast of village of Black Lake, NY. DRAINAGE AREA, 23.2 mi². PERIOD OF RECORD, January 1926 to current year. REVISED RECORDS, WSP 1552: 1951-54. WSP 1702: 1959(M). WDR NJ-85-2: 1984. WDR NJ-86-2: 1985. Nonrecording gage. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Orange and Rockland Utilities, Inc.). All capacity figures given herein are based on zero storage at minimum operating pool level, 1,165.0 ft.
- REMARKS.--Reservoir is formed by an earthfill dam completed July 24, 1926. Storage began Jan. 13, 1926. Usable capacity, 1,098.2 mil ft³ between elevations 1,165.0 ft, minimum operating pool, and operating pool, about 26.8 mil ft³. Reservoir is used for storage of water for power. Figures given herein represent contents above 1,165.0 ft.
- COOPERATION.--Records provided by Orange and Rockland Utilities, Inc.
- EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 1,171.2 mil ft³, July 20, 1945, elevation, 1,222.0 ft. minimum observed (after first filling), -26.8 mil ft³, Nov. 15, 1928, elevation, 1,144.5 ft.
- EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 968.0 mil ft³, May 20, 31, June 1, elevation, 1,216.2 ft; minimum observed, 311.7 mil ft³, Nov. 12, elevation, 1,190.7 ft.
- 01433200 CLIFF LAKE.--Lat 41°35'00", long 74°47'40", Sullivan County, NY, Hydrologic Unit 02040104, at dam on Black Lake Creek, and 2.5 mi northwest of Fowlersville, NY. DRAINAGE AREA, 6.46 mi² excluding area above Toronto Reservoir. PERIOD OF RECORD, January 1939 to current year. REVISED RECORDS, WSP 1552: 1951-54. WRD NY-75-1: 1974(M). WDR NJ-86-2: 1985. Nonrecording gage. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Orange and Rockland Utilities, Inc.). All capacity figures given herein are based on zero storage at minimum operating pool level, 1,043.3 ft.
- REMARKS.--Reservoir is formed by a concrete gravity-type dam. Storage began Jan. 6, 1939. Usable capacity, 136.06 mil ft³ between elevations 1,043.3 ft, minimum operating pool, and 1,072.0 ft, top of permanent flashboards. Capacity below elevation 1,043.3 ft, minimum operating pool, about 6.54 mil ft³. Reservoir is used for storage of water for power. Water is received from Toronto and Lebanon Lake reservoirs and is discharged through a tunnel into Swinging Bridge Reservoir. Figures given herein represent contents above 1,043.3 ft.
- COOPERATION.--Records provided by Orange and Rockland Utilities, Inc.
- EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 145.44 mil ft³, July 30, 31, 1945, elevation, 1,073.1 ft; minimum observed (after first filling), about -6.54 mil ft³, Mar. 16, 1963, elevation, 1,038.0 ft.
- EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 118.10 mil ft³, Sept. 21, elevation, 1,069.8 ft; minimum observed, 20.0 mil ft³, Feb. 13, elevation, 1,051.6 ft.
- 01435900 NEVERSINK RESERVOIR.--Lat 41°49'40", long 74°38'21", Sullivan County, NY, Hydrologic Unit 02040104, at a gate-house at Neversink Dam on Neversink River, and 2 mi southwest of Neversink, NY. DRAINAGE AREA, 91.8 mi². PERIOD OF RECORD, June 1953 to current year. Nonrecording gage read daily at 0900. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Board of Water Supply, City of New York).
- REMARKS.--Reservoir is formed by an earthfill rockfaced dam. Storage began June 2, 1953. Usable capacity 34,941 mil gal between minimum operating level, elevation, 1,319.0 ft and crest of spillway, elevation, 1,440.0 ft. Capacity at crest of spillway, 37,146 mil gal; at minimum operating level, 2,205 mil gal; dead storage below and outlet sill at elevation 1,314.0 ft, 1,680 mil gal. Figures given herein represent total contents. Reservoir impounds water for diversion through Neversink-Grahamsville Tunnel to Rondout Reservoir on Rondout Creek, in Hudson River basin, for water supply of City of New York (see Delaware River basin, diversions); for release during periods of low flow in the lower Delaware River basin, as directed by the Delaware River Master; and for conservation release. No diversion prior to Dec. 3, 1953.
- COOPERATION.--Records provided by Bureau of Water Resources Development and Department of Environmental Protection, City of New York.
- EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 37,978 mil gal, Apr. 25, 1961, elevation, 1,441.67 ft; minimum observed (after first filling), 1,985 mil gal, Nov. 25, 1964, elevation, 1,316.98 ft.
- EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 37,569 mil gal, Apr. 13, elevation, 1,440.85 ft; minimum observed, 19,122 mil gal, Nov. 8, 20, elevation, 1,396.46 ft.
- 01447780 FRANCIS E. WALTER RESERVOIR (formerly published as Bear Creek Reservoir).--Lat 41°06'45", long 75°43'15", Luzerne County, PA, Hydrologic Unit 02040106, at dam on Lehigh River, 2,200 ft downstream from Bear Creek and 5 mi northwest of White Haven, PA. DRAINAGE AREA, 289 mi². PERIOD OF RECORD, February 1961 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).
- REMARKS.--Reservoir formed by an earthfill embankment covered with a rock shell, with concrete spillway at elevation 1,450.0 ft; storage began Feb. 17, 1961; water in reservoir first reached conservation pool elevation in June 1961. Total capacity at elevation 1,450.0 ft is 110,700 acre-ft of which 108,700 acre-ft is controlled storage above elevation 1,300.0 ft or (conservation pool). Dead storage is 2,000 acre-ft. Reservoir is used for flood control and recreation. Figures given herein represent total contents. Flow regulated by three gates and low flow by-pass system.
- COOPERATION.--Records provided by U.S. Army Corps of Engineers.
- EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 62,100 acre-ft, Sept. 28, 1985, elevation, 1,417.08 ft; minimum (after establishment of conservation pool), 981 acre-ft, July 6, 1982, elevation, 1,287.70 ft.
- EXTREMES FOR CURRENT YEAR.--Maximum contents, 29,800 acre-ft, Apr. 6, elevation, 1,382.60 ft; minimum, 1,510 acre-ft, July 19, elevation, 1,295.11 ft.

RESERVOIRS IN DELAWARE RIVER BASIN--Continued

- 01449400 PENN FOREST RESERVOIR.--Lat 40°55'45", long 75°33'45", Carbon County, PA, Hydrologic Unit 02040106, at dam on Wild Creek near Hatchery, PA, 0.7 mi upstream from Hatchery, 2.6 mi upstream from Wild Creek Dam, 4.4 mi upstream from mouth, and 10 mi northeast of Palmerton, PA. DRAINAGE AREA, 16.5 mi². PERIOD OF RECORD, October 1958 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by city of Bethlehem).
 REMARKS.--Reservoir formed by an earthfill dam, with ungated concrete spillway at elevation 1,000.00 ft; storage began in October 1958. Capacity at elevation 1,000.00 ft is 19,980 acre-ft. Reservoir is used for municipal water supply. Figures given herein represent total contents. Regulation is done by valves on pipe through dam. Figures given herein include diversion, since October 1969, from Tunkhannock Creek basin into Wild Creek basin.
 COOPERATION.--Records provided by city of Bethlehem.
 EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 20,560 acre-ft, Apr. 6, 1984, elevation, 1,001.19 ft; minimum, 176 acre-ft, Oct. 6, 1965, elevation, 902.40 ft.
 EXTREMES FOR CURRENT YEAR.--Maximum contents, 20,390 acre-ft, Apr. 5, elevation, 1,000.71 ft; minimum, 14,980 acre-ft, Nov. 20, elevation, 988.28 ft.
- 01449700 WILD CREEK RESERVOIR.--Lat 40°53'50", long 75°33'50", Carbon County, PA, Hydrologic Unit 02040106, at dam on Wild Creek near Hatchery, PA, 1.6 mi upstream from mouth, 2.4 mi south of Hatchery, and 7.5 mi northeast of Palmerton, PA. DRAINAGE AREA, 22.2 mi². PERIOD OF RECORD, January 1941 to current year. Nonrecording gage. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by city of Bethlehem).
 REMARKS.--Reservoir formed by earthfill dam, with concrete ungated spillway at elevation 820.00 ft; storage began January 27, 1941; water in reservoir first reached minimum pool elevation in February 1941. Total capacity at elevation 820.00 ft is 12,500 acre-ft of which 12,000 acre-ft is controlled storage. Reservoir is used for municipal water supply. Figures given herein represent usable contents. Regulation is accomplished by valves on pipe through dam. Since October 1969 the basin upstream has received diversion from Tunkhannock Creek basin.
 COOPERATION.--Records provided by City of Bethlehem.
 EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 12,880 acre-ft, May 23, 1942, elevation, 822.93 ft; minimum (after first filling), 2,680 acre-ft, Nov. 15, 1966, elevation, 774.10 ft.
 EXTREMES FOR CURRENT YEAR.--Maximum contents, 12,280 acre-ft, Apr. 5, elevation, 820.92 ft; minimum, 11,000 acre-ft, Feb. 28, elevation, 816.06 ft.
- 01449790 BELTZVILLE LAKE.--Lat 40°50'56", long 75°38'19", Carbon County, PA, Hydrologic Unit 02040106, at dam on Pohopoco Creek, 0.45 mi upstream from gaging station on Pohopoco Creek, 0.55 mi upstream from Sawmill Run and 2.3 mi northeast of Parryville, PA. DRAINAGE AREA, 96.3 mi². PERIOD OF RECORD, February 1971 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).
 REMARKS.--Reservoir formed by an earth and rockfill dam with ungated, partially lined spillway at elevation 651.00 ft; storage began Feb. 8, 1971. Capacity at elevation 651.00 ft is 68,300 acre-ft. Ordinary minimum (conservation) pool elevation, 628.00 ft, capacity, 41,250 acre-ft. Dead storage is 1,390 acre-ft. Reservoir is used for recreation, flood control, low flow augmentation and water supply. Figures given herein represent total contents. Regulation is accomplished by a multi-level water-quality outlet system and two flood-control gates.
 COOPERATION.--Records provided by Corps of Engineers.
 EXTREMES FOR PERIOD OF RECORD.--Maximum contents 49,730 acre-ft, Jan. 29, 1976, elevation, 636.30 ft; minimum, 15,110 acre-ft, March 31, 1983 elevation, 588.79
 EXTREMES FOR CURRENT YEAR.--Maximum contents 45,460 acre-ft, Sept. 14, elevation, 632.26 ft; minimum, 35,800 acre-ft, Sept. 30, elevation, 621.94 ft.
- 01455400 LAKE HOPATCONG.--Lat 40°55'00", long 74°39'50", Morris County, Hydrologic Unit 02040105, in gatehouse of Lake Hopatcong Dam on Musconetcong River at Landing. DRAINAGE AREA, 25.3 mi². PERIOD OF RECORD, February 1887 to current year. Monthend contents only prior to October 1950, published in WSP 1302. REVISED RECORDS, WDR NJ-82-2: Drainage area; WDR NJ-83-2: Corrections 1981 (m/m). GAGE, max-min recorder and staff gage. Prior to June 24, 1928, daily readings obtained by measuring from high-water mark to water surface converted to gage height, present datum. Datum of gage is 914.57 ft National Geodetic Vertical Datum of 1929.
 REMARKS.--Lake is formed by concrete spillway and earthfill dam completed about 1828. Crest of spillway was lowered 0.11 ft in 1925. Usable capacity, 7,459,000,000 gal between (gage height -2.6 ft, sills of gates and 9.00 ft, crest of spillway). Flow regulated by four gates (3 by 5 ft, also by one 24-inch pipe with gate valve to recreation fountain 250 ft downstream from dam. Dead storage, about 8,117,000,000 gal. Figures given herein represent usable capacity. Lake used for recreation. CORRECTIONS.--Once-daily staff readings furnished by New Jersey Department of Environmental Protection.
 COOPERATION.--Records provided by New Jersey Department of Environmental Protection.
 EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 8,777,000,000 gal, August 19, 1955 correction, gage height, 10.55 ft; minimum, 1,525,000,000 gal, Dec. 29, 1960, gage height, 0.65 ft.
 EXTREMES FOR CURRENT YEAR.--Maximum contents, 7,930,000,000 gal, Apr. 8, 9, 10, gage height, 9.56 ft; minimum, 5,365,000,000 gal, Jan. 7, gage height, 6.40 ft.
- 01459350 NOCKAMIXON RESERVOIR.--Lat 40°28'13", long 75°11'10", Bucks County, PA, Hydrologic Unit 02040105, at dam on Tohickon Creek, 6.2 mi upstream from gaging station on Tohickon Creek, 2.9 mi upstream from Mink Run and 1.3 mi east of Ottsville. DRAINAGE AREA, 73.3 mi². PERIOD OF RECORD, December 1973 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Pennsylvania Department of Environmental Resources).
 REMARKS.--Reservoir formed by earthfill dam with concrete spillway at elevation 395.0 ft. Storage began December 1973. Total capacity 66,500 acre-ft at elevation 410 ft. Reservoir is used primarily for recreation, but can be used for water supply and flood control.
 COOPERATION.--Records provided by Pennsylvania Department of Environmental Resources.
 EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 44,380 acre-ft, Jan. 20, 1979, elevation 397.85 ft; minimum (after first filling) 15,900 acre-ft, around Dec. 31, 1975, elevation 372.78 ft.
 EXTREMES FOR CURRENT YEAR.--Maximum contents, 42,200 acre-ft, Apr. 5, elevation 396.40 ft; minimum, 38,800 acre-ft, Nov. 2, elevation 394.00 ft.

DELAWARE RIVER BASIN

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RESERVOIRS IN DELAWARE RIVER BASIN--Continued

- 01469200 STILL CREEK RESERVOIR.--Lat 40°51'25", long 75°59'30". Schuylkill County, PA, Hydrologic Unit 02040106, at dam on Still Creek, 1 mi upstream from mouth and 2.3 mi north of Hometown, PA. DRAINAGE AREA, 8.5 mi². PERIOD OF RECORD, January 1933 to current year. Nonrecording gage. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Panther Valley Water Co.).
- REMARKS.--Reservoir formed by earth fill dam, with ungated concrete spillway at elevation 1,182.00 ft; storage began in February 1933. Capacity at elevation, 1,182.00 ft is 8,290 acre-ft. Reservoir is used for municipal water supply. Figures given herein represent total contents. Regulation is accomplished by valves on pipe through dam.
- COOPERATION.--Records provided by Panther Valley Water Co.
- EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 8,570 acre-ft, Oct. 15, 1955, elevation, 1,182.92 ft, but may have been greater during 1950 and 1951 water years; minimum (after initial filling), 588 acre-ft, Dec. 8, 1944, elevation, 1,136.70 ft.
- EXTREMES FOR CURRENT YEAR.--Maximum contents, 8,350 acre-ft, Sept. 21, elevation, 1,182.2 ft; minimum, 3,840 acre-ft, Nov. 8, elevation, 1,165.1 ft.
- 01470870 BLUE MARSH LAKE.--Lat 40°22'45", long 76°01'59", Berks County, PA, Hydrologic Unit 02040203, at dam on Tulpehocken Creek, 0.8 mi upstream from gaging station on Tulpehocken Creek, 1.0 mi northeast of Blue Marsh, PA, 1.9 mi upstream from Reber's Bridge, and 5.1 mi southeast of Bernville, PA. DRAINAGE AREA, 175 mi². PERIOD OF RECORD, April 1979 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).
- REMARKS.--Reservoir formed by earthfill dam, with concrete ungated spillway at elevation 307.00 ft. Storage began April 23, 1979. Capacity at elevation, 307.00 ft is 50,000 acre-ft. Dead storage is 3,000 acre-ft. Reservoir is used for flood control, water supply, and recreation. Figures herein represent total contents.
- COOPERATION.--Records provided by U.S. Army Corps of Engineers.
- EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 39,480 acre-ft, Apr. 17, 1983, elevation, 301.65 ft; minimum, 17,440 acre-ft, Nov. 28, 1983 elevation, 284.49 ft.
- EXTREMES FOR CURRENT YEAR.--Maximum contents, 23,970 acre-ft, Sept. 14, elevation, 292.56 ft; minimum, 17,340 acre-ft, Nov. 20, Mar. 5, elevation, 284.70 ft.
- 01472200 GREEN LANE RESERVOIR.--Lat 40°20'30", long 75°28'45", Montgomery County, PA, Hydrologic Unit 02040203, at dam on Perkiomen Creek at Green Lane, PA, 0.4 mi west of Green Lane and 2.1 mi upstream from Unami Creek. DRAINAGE AREA, 70.9 mi². PERIOD OF RECORD, December 1956 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Philadelphia Suburban Water Co.).
- REMARKS.--Reservoir formed by concrete, gravity-type dam, with ungated spillway at elevation 286.00 ft; storage began December 21, 1956. Capacity at spillway level, elevation 286.00 ft, 13,430 acre-ft. Reservoir is used for municipal water supply. Figures given herein represent total contents. Regulation is accomplished by valves on pipe through dam.
- COOPERATION.--Records provided by Philadelphia Suburban Water Co.
- EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 17,030 acre-ft, June 23, 1972, elevation, 290.05 ft; minimum (after first filling), 1,270 acre-ft, Aug. 25, 1957, elevation, 251.60 ft.
- EXTREMES FOR CURRENT YEAR.--Maximum contents, 14,320 acre-ft, Sept. 9, elevation, 287.00 ft; minimum, 9,890 acre-ft, Nov. 4, elevation, 281.21 ft.

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

Date	Elevation (feet)†	Contents (million gallons)	Change in contents (equivlent in ft ³ /s)	Elevation (feet)†	Contents (million gallons)	Change in contents (equivlent in ft ³ /s)	Elevation (feet)†	Contents (acre- feet)	Change in contents (equivlent in ft ³ /s)
01416900 PEPACTON RESERVOIR				01424997 CANNONVILLE RESERVOIR			01428900 PROMPTON RESERVOIR		
Sept. 30...	1,265.66	124,670	-	1,135.26	77,238	-	1,124.28	3,300	-
Oct. 31...	1,258.81	113,565	-554	1,131.76	72,587	-232	1,125.20	3,560	+4.2
Nov. 30...	1,264.43	122,634	+468	1,146.93	93,948	+1,102	1,126.55	3,930	+6.2
Dec. 31...	1,267.01	126,925	+214	1,150.73	99,792	+292	1,125.69	3,690	-3.9
CAL YR 1986				+92.6			+0.2		
Jan. 31...	1,263.11	120,468	-322	1,150.47	99,374	-20.9	1,125.18	3,550	-2.3
Feb. 28...	1,257.21	111,054	-520	1,149.20	97,401	-109	1,124.75	3,430	-2.2
Mar. 31...	1,266.47	126,020	+747	1,151.60	101,193	+189	1,126.55	3,930	+8.1
Apr. 30...	1,279.46	148,806	+1,175	1,149.85	98,390	-145	1,124.95	3,490	-7.4
May 31...	1,274.31	139,517	-464	1,145.98	92,503	-294	1,124.68	3,410	-1.3
June 30...	1,268.17	128,883	-548	1,142.94	88,035	-230	1,124.15	3,260	-2.5
July 31...	1,263.79	121,580	-365	1,137.26	80,001	-401	1,124.02	3,230	-0.5
Aug. 31...	1,257.71	111,836	-486	1,121.90	60,103	-993	1,125.43	3,620	+6.3
Sept. 30...	1,259.89	115,278	+178	1,129.60	69,746	+497	1,125.21	3,560	-1.0
WTR YR 1987				-31.8			+0.4		

DELAWARE RIVER BASIN
RESERVOIRS IN DELAWARE RIVER BASIN--Continued

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

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 (acre- feet)	Change in contents (equivalent in ft ³ /s)
<u>01429400 GENERAL EDGAR JADWIN RESERVOIR</u>				<u>01431700 LAKE WALLENPAUPACK</u>			<u>01433000 SWINGING BRIDGE RESERVOIR</u>		
Sept. 30...	976.78	0	-	1,177.9	41,360	-	1,064.0	1,154	-
Oct. 31...	976.45	0	0	1,177.3	38,120	-52.7	1,062.7	1,106	-17.8
Nov. 30...	979.59	38	+0.6	1,181.4	60,300	+373	1,069.1	1,351	+94.4
Dec. 31...	978.47	9	-0.5	1,182.4	65,800	+89.4	1,063.9	1,150	-74.9
CAL YR 1986				0			+5.3		
Jan. 31...	977.57	0	-0.1	1,177.6	39,740	-424	1,055.8	870	-105
Feb. 28...	976.59	0	0	1,175.6	29,080	-192	1,055.0	844	-10.6
Mar. 31...	-	-	-	1,179.1	47,840	+305	1,062.4	1,095	+93.7
Apr. 30...	973.80	0	0	1,183.4	71,340	+395	1,064.3	1,165	+26.9
May 31...	976.47	0	0	1,187.1	92,170	+339	1,065.0	1,191	+9.8
June 30...	976.26	0	0	1,184.1	75,260	-284	1,062.0	1,081	-42.6
July 31...	976.04	0	0	1,181.0	58,100	-279	1,061.2	1,052	-10.6
Aug. 31...	979.10	23	+0.4	1,179.8	51,620	-105	1,062.7	1,106	+20.1
Sept. 30...	977.40	0	-0.4	1,179.0	47,300	-72.6	1,064.8	1,184	+29.9
WTR YR 1987				0			+8.2		
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)	Elevation (feet)†	Contents (acre- feet)	Change in contents (equivalent in ft ³ /s)
<u>01433100 TORONTO RESERVOIR</u>				<u>01433200 CLIFF LAKE</u>			<u>01435900 NEVERSINK RESERVOIR</u>		
Sept. 30...	1,199.0	492	-	1,066.7	95.1	-	1,408.91	23,606	-
Oct. 31...	1,193.7	372	-44.8	1,065.1	84.3	-4.0	1,398.98	19,986	-181
Nov. 30...	1,196.0	422	+19.4	1,069.6	116.5	+12.4	1,407.11	22,925	+152
Dec. 31...	1,201.4	551	+48.2	1,065.6	87.6	-10.8	1,412.17	24,867	+96.9
CAL YR 1986				-2.4			+0.3		
Jan. 31...	1,200.1	519	-12.1	1,056.0	35.7	-19.4	1,414.21	25,674	+40.3
Feb. 28...	1,201.5	554	+14.5	1,054.0	28.1	-3.1	1,406.14	22,562	-172
Mar. 31...	1,206.0	671	+43.8	1,062.1	65.7	+14.0	1,423.05	29,334	+338
Apr. 30...	1,215.4	942	+105	1,064.6	81.1	+6.0	1,440.11	37,201	+406
May 31...	1,216.2	968	+9.7	1,065.0	83.7	+1.0	1,432.46	33,532	-183
June 30...	1,208.1	728	-92.6	1,065.1	84.3	+0.3	1,420.93	28,433	-263
July 31...	1,197.5	456	-101	1,064.5	80.5	-1.4	1,413.55	25,412	-151
Aug. 31...	1,191.4	325	-49.0	1,062.4	67.5	-4.8	1,406.76	22,793	-131
Sept. 30...	1,196.1	424	+38.3	1,066.3	92.3	+9.6	1,418.40	27,377	+236
WTR YR 1987				-2.1			-0.1		
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 (acre- feet)	Change in contents (equivalent in ft ³ /s)
<u>01447780 FRANCIS E. WALTER LAKE</u>				<u>01449400 PENN FOREST RESERVOIR</u>			<u>01449700 WILD CREEK RESERVOIR</u>		
Sept. 30...	1,299.74	1,970	-	994.10	17,350	-	816.39	11,090	-
Oct. 31...	1,301.62	2,160	+3.1	990.20	15,720	-26.5	817.21	11,310	+3.6
Nov. 30...	1,300.32	2,030	-2.2	991.19	16,140	+7.1	819.69	11,940	+10.6
Dec. 31...	1,301.40	2,140	+1.8	999.06	19,560	+55.6	817.77	11,460	-7.8
CAL YR 1986				+0.1			+9.3		
Jan. 31...	1,300.77	2,080	-1.0	1,000.15	20,070	+8.3	818.23	11,600	+2.3
Feb. 28...	1,302.06	2,210	+2.3	1,000.06	20,010	-1.1	816.06	11,000	-10.8
Mar. 31...	1,311.33	3,250	+16.9	1,000.25	20,120	+1.8	820.18	12,050	+17.1
Apr. 30...	1,301.82	2,180	-18.0	1,000.14	20,060	-1.0	820.13	12,040	-0.2
May 31...	1,301.09	2,110	-1.1	1,000.08	20,020	-0.7	819.17	11,830	-3.4
June 30...	1,300.21	2,020	-1.5	997.58	18,890	-19.0	818.84	11,760	-1.2
July 31...	1,300.90	2,090	+1.1	994.80	17,640	-20.3	818.76	11,740	-0.3
Aug. 31...	1,312.12	3,360	+20.6	990.92	16,020	-26.3	819.00	11,800	+1.0
Sept. 30...	1,308.13	2,860	-8.4	1,000.22	20,110	+68.7	819.71	11,940	+2.4
WTR YR 1987				+1.2			+3.8		

DELAWARE RIVER BASIN

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RESERVOIRS IN DELAWARE RIVER BASIN--Continued

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

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 (acre- feet)	Change in contents (equivalent in ft ³ /s)
01449790 BELTZVILLE LAKE				01465400 LAKE HOPATCONG			01459350 NOCKAMIXON RESERVOIR		
Sept. 30...	628.08	41,330	-	8.90	7,736	-	394.75	39,850	-
Oct. 31...	628.04	41,290	-0.7	8.80	7,293	-4.1	394.75	39,850	0
Nov. 30...	628.04	41,290	0	7.56	6,280	-52.2	395.15	40,410	+9.4
Dec. 31...	628.33	41,560	+4.4	6.54	5,474	-40.2	395.10	40,310	-1.1
CAL YR 1986			+0.5						
Jan. 31...	628.04	41,290	-4.4	6.54	5,474	0	395.05	40,270	-1.1
Feb. 28...	628.02	41,270	-0.4	6.74	5,630	+8.6	395.10	40,340	+1.3
Mar. 31...	628.15	41,390	+2.0	7.74	6,425	+39.7	394.10	38,940	-22.8
Apr. 30...	628.10	41,340	-0.8	9.38	7,778	+69.8	394.95	40,130	+20.0
May 31...	628.12	41,360	+0.4	9.08	7,526	-12.6	394.75	39,850	-4.6
June 30...	628.06	41,310	-0.8	8.76	7,260	-13.7	394.70	39,780	-1.2
July 31...	628.06	41,310	0	8.94	7,409	+7.4	394.70	39,780	0
Aug. 31...	628.01	41,260	-0.8	9.02	7,476	+3.3	394.85	39,990	+3.4
Sept. 30...	621.94	35,800	-91.7	6.80	5,677	-92.8	395.10	40,340	+5.9
WTR YR 1987			-7.6						
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 (acre- feet)	Change in contents (equivalent in ft ³ /s)
01469200 STILL CREEK RESERVOIR				01470870 BLUE MARSH LAKE			01472200 GREEN LANE RESERVOIR		
Sept. 30...	1,170.90	5,190	-	290.01	22,910	-	283.81	11,610	-
Oct. 31...	1,167.30	4,290	-14.6	285.06	17,680	-85.0	281.76	10,220	-22.6
Nov. 30...	1,168.20	4,490	+3.4	285.04	17,660	-0.3	286.03	13,460	+54.4
Dec. 31...	1,174.50	6,180	+27.5	285.02	17,640	-0.3	286.00	13,430	-0.5
CAL YR 1986			-2.4						
Jan. 31...	1,176.10	6,630	+7.3	284.93	17,560	-1.3	285.96	13,400	-0.5
Feb. 28...	1,176.50	6,460	-3.1	285.14	17,770	+3.8	285.95	13,390	-0.2
Mar. 31...	1,177.75	7,080	+10.1	285.30	17,940	+2.8	286.11	13,530	-2.3
Apr. 30...	1,182.10	8,320	+20.8	290.02	22,920	+83.6	286.00	13,430	-1.7
May 31...	1,182.10	8,320	0	290.10	23,020	+1.6	285.93	13,370	-1.0
June 30...	1,180.75	7,920	-6.7	290.12	23,050	+0.5	285.77	13,230	-2.4
July 31...	1,179.50	7,560	-5.9	290.06	22,970	-1.3	285.40	12,900	-5.4
Aug. 31...	1,177.50	7,010	-8.9	288.79	21,620	-21.9	284.33	12,000	-14.6
Sept. 30...	1,182.00	8,290	+21.5	290.04	22,950	+22.3	285.88	13,330	+22.3
WTR YR 1987			+4.3						

‡ Elevation at 0900 hours on first day of following month.
† Elevation or gage height at 2400 hours.
* Elevation at 0900 hours.

DELAWARE RIVER BASIN

DIVERSIONS AND WITHDRAWALS

WITHDRAWALS FROM THE DELAWARE RIVER BASIN

- 01415200 Diversion from Pepacton Reservoir, NY, on East Branch Delaware River to Rondout Reservoir on Rondout Creek, in Hudson River basin, for municipal supply of City of New York. No diversion prior to Jan. 6, 1955. Records provided by Bureau of Water Resources Development and Department of Environmental Protection, City of New York. REVISIONS (Water Years).--WRD-NY 1972: 1970.
REVISED RECORDS.--WRD NY-71: 1970. WRD NY-72: 1970. WDR NY-82: 1980. WDR NY-81-1: 1980.
- 01423900 Diversion from Cannonsville Reservoir, NY, on West Branch Delaware River to Rondout Reservoir on Rondout Creek, in Hudson River basin, for municipal supply of city of New York. No diversion prior to Jan. 29, 1964. Records provided by Board of Water Supply, City of New York.
REVISED RECORDS.--WDR NJ-82-2: 1980. WDR NY-81-1: 1980.
- 01435800 Diversion from Neversink Reservoir, NY, on Neversink River to Rondout Reservoir on Rondout Creek, in Hudson River basin, for municipal supply of city of New York. No diversion prior to Dec. 3, 1953. Records furnished by Board of Water Supply and Department of Water Resources, city of New York.
REVISED RECORDS.--WDR NJ-82-2: 1976, 1977. WDR NY-82-1: 1976, 1977.
- 01436520 Village of Woodridge, NY, diverts water from East Pond Reservoir, tributary to Neversink River, for municipal supply outside of basin. Records provided by village of Woodridge.
- 01437360 Diversion from Bear Swamp Reservoir, NY, tributary to Neversink River, by the New York State Training School, Otisville, NY, for water supply outside of basin. Records provided by Delaware River Basin Commission.
- 01447750 Diversion from Bear Creek, PA, tributary to Lehigh River, by Bear Creek Gas and Water Company for water supply outside of basin. Records provided by Delaware River Basin Commission.
- 01448830 Diversion from Hazle Creek Watershed by Hazelton Joint Sewerage Authority for municipal water supply. Waste effluent from the municipal water system is released to the Susquehanna River. Records provided by Delaware River Basin Commission.
- 01460500 Diversion by Delaware and Raritan Canal from Delaware River at Raven Rock, for municipal and industrial use. Water is discharged into the Raritan River at New Brunswick. Records of discharge are collected on the Delaware and Raritan Canal at Kingston, (see station 01460500).
REVISED RECORDS.--WDR NJ-82-2: 1981.

WITHDRAWALS BY CITY OF NEW YORK

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

Month	01415200 PEPACTON RESERVOIR	01423900 CANNONSVILLE RESERVOIR	01435800 NEVERSTINK RESERVOIR
October.....	687	270	251
November.....	697	264	245
December.....	411	0	145
CAL YR 1986.....	569	183	230
January.....	619	0	52.2
February.....	686	91.1	215
March.....	643	666	119
April.....	430	215	0
May.....	697	455	265
June.....	696	209	288
July.....	692	293	178
August.....	694	454	162
September.....	696	284	162
WTR YR 1987.....	637	269	173

DELAWARE RIVER BASIN

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DIVERSIONS AND WITHDRAWALS--Continued

MISCELLANEOUS WITHDRAWALS FROM BASIN, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MONTH	a01436520 EAST POND RESERVOIR	*01437360 BEAR SWAMP RESERVOIR	01447750 BEAR CREEK	01448830 HAZLE CREEK	01460500 DELAWARE & RARITAN CANAL
October.....	DATA NOT	DATA NOT	0	2.8	87.3
November.....	AVAILABLE	AVAILABLE	0	2.8	80.9
December.....			0	2.8	81.6
CAL YR 1986.....			0	2.8	71.7
January.....			0	2.8	72.7
February.....			0	2.8	106
March.....			0	2.8	111
April.....			0	2.8	115
May.....			0	2.8	111
June.....			0	2.8	128
July.....			0	2.8	127
August.....			0	2.8	123
September.....			0	2.8	91.2
WTR YR 1987.....			0	2.8	103

a Village of Woodridge has estimated that virtually all the withdrawal from East Pond Reservoir was returned to the Neversink River.

* Data not available this year but, from past records, monthly withdrawal is approximately 0.5 ft³/s.

DIVERSIONS WITHIN THE DELAWARE RIVER BASIN

01463480 Diversion from the Delaware River at the Morrisville Filtration Plant for municipal supply, by the Borough of Morrisville, PA. The water withdrawn at this site is returned to the basin after treatment, only slightly diminished by consumptive uses and losses in transmission. Records provided by the Borough of Morrisville, PA.

01463490 Diversion from the Delaware River just above the Trenton gaging station for municipal supply by the city of Trenton, NJ. The water being withdrawn is returned to the basin after treatment only slightly diminished by consumptive uses and losses in transmission. Records provided by the City of Trenton.
REVISED RECORDS.--WDR NJ-82-2: Station number.

01467030 Diversion from the Delaware River at the Torresdale Intake for municipal supply, by the City of Philadelphia, PA. The water being withdrawn at this intake is returned to the basin after treatment only slightly diminished by consumptive uses and losses in transmission. Records provided by the Delaware River Basin Commission.

01474500 Diversion from the Schuylkill River at the Belmont and Queen Lanes Intakes for municipal supply, by the City of Philadelphia, PA. The water being withdrawn at these intakes is returned after treatment within the Delaware River basin only slightly diminished by consumptive uses and lossesmission. Records provided by the Delaware River Basin Commission.

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

Month	CITY OF PHILADELPHIA				
	01463480 BOROUGH OF MORRISVILLE	01463490 CITY OF TRENTON	01467030 DELAWARE RIVER TORRESDALE	01474500 SCHUYLKILL RIVER BELMONT	QUEEN LANE
October.....	4.92	47.0	291	86.0	159
November.....	4.59	46.0	271	88.3	160
December.....	4.49	44.0	273	91.1	158
CAL YR 1986.....	4.74	46.5	305	93.9	156
January.....	4.54	43.1	270	99.2	163
February.....	4.95	43.1	282	108	171
March.....	4.89	43.2	286	102	159
April.....	4.77	43.4	314	97.3	134
May.....	4.96	45.4	289	105	165
June.....	5.03	49.0	349	110	166
July.....	4.87	50.6	375	118	173
August.....	5.38	49.6	344	116	166
September.....	4.65	48.2	292	113	177
WTR YR 1987.....	4.84	46.1	303	103	163

DELAWARE RIVER BASIN
DIVERSIONS AND WITHDRAWALS--Continued

DIVERSIONS IMPORTED INTO BASIN

01367630 Water diverted from Morris Lake, tributary to the Wallkill River (Hudson River basin), by the Newton Water and Sewer Authority for municipal use. After use the water is released into the Paulins Kill (Delaware River basin). Records provided by the Delaware River Basin Commission.

01578420 Water diverted from West Branch Octoraro Creek (Susquehanna River basin) at the McCray Plant of the Coatsville Water Authority (formerly Octoraro Water Co.) for municipal use. After use the water is released into the Delaware River basin. Records provided by the Delaware River Basin Commission.

01578450 Water diverted from Octoraro Lake (Susquehanna River basin) by Chester Water Authority for municipal use. After use the water is released into the Delaware River basin. Records provided by the Delaware River Basin Commission.

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

MONTH	OCTORARO CREEK		
	01367630 MORRIS LAKE	01578420 COATSVILLE WATER AUTHORITY	01578450 CHESTER WATER AUTHORITY
October.....	1.22	2.41	48.3
November.....	1.23	1.95	46.6
December.....	1.25	2.26	44.5
CAL YR 1986.....	1.34	2.09	41.8
January.....	1.25	2.47	44.1
February.....	1.47	2.31	45.1
March.....	1.38	2.11	45.7
April.....	1.25	2.21	43.0
May.....	1.11	1.97	44.7
June.....	1.35	2.35	47.5
July.....	1.30	2.31	50.4
August.....	1.44	1.70	50.8
September.....	1.43	1.44	47.4
WTR YR 1987.....	1.31	2.15	46.5

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low-flow or floodflow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Records collected at partial-record stations are presented in 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.

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 1987

					Annual Maximum		
Station No.	Station name	Location	Drainage area (mi ²)	Period of record	Date	Gage height (ft)	Discharge (ft ³ /s)
Maurice River basin							
01412000	Menantico Creek near Millville, NJ	Lat 39°25'12", long 74°58'00", Cumberland county, Hydrologic Unit 02040206, on left bank at upstream side of Mays Landing Road (State Route 552), 0.9 mi downstream of Menantico Lake, 4.0 mi northeast of Millville, and 7.0 mi upstream from mouth. Datum of gage is 36.63 ft above National Geodetic Vertical Datum of 1929.	23.2	1931-57‡, 1978-84‡, 1985-87	12-27-86	3.63	258
Cohansey River basin							
01412500	West Branch Cohansey River at Seeley, NJ	Lat 39°29'06", long 75°15'33", Cumberland County, Hydrologic Unit 02040206, on right bank 15 ft upstream from county bridge, Highway 31, at Seeley, 450 ft upstream from mouth and 4.1 mi northwest of Bridgeton. Datum of gage is 42.23 ft above National Geodetic Vertical Datum of 1929.	2.58	1952-67‡, 1968-87	12-25-86	4.27	205
Delaware River basin							
*01445000	Pequest River at Huntsville, NJ	Lat 40°58'52", long 74°46'36", Sussex County, Hydrologic Unit 02040105, on right bank, 20 ft upstream from highway bridge in Huntsville, and 0.4 mi downstream from East Branch. Datum of gage is 553.81 ft above National Geodetic Vertical Datum of 1929.	31.0	1940-62‡, 1963-87	4-05-87	3.98	330
01445430	Pequest River at Townsbury, NJ	Lat 40°51'06", long 74°56'02", Warren County, Hydrologic Unit 02040105, upstream of highway bridge in Townsbury, 2.8 mi northeast of Pequest and 8.7 mi west of Hackettstown. Altitude of gage is 480 ft, from topographic map.	92.5	1977-80‡, 1981-87	4-05-87	4.08	1,390
*01446000	Beaver Brook near Belvidere, NJ	Lat 40°50'40", long 75°02'48", Warren County, Hydrologic Unit 02040105, on right bank, 2,000 ft upstream from mouth, and 2 mi east Belvidere. Datum of gage is 303.36 ft National Geodetic Vertical Datum of 1929.	36.7	1922-61‡, 1963-87	4-05-87	3.75	495

Annual maximum discharge at crest-stage partial-record stations during water year 1987

					Annual Maximum		
Station No.	Station name	Location	Drainage area (mi ²)	Period of record	Date	Gage height (ft)	Discharge (ft ³ /s)
Delaware River basin--Continued							
*01455200	Pohatcong Creek at New Village, NJ	Lat 40°42'57", long 75°04'20", Warren County, Hydrologic Unit 02040105, at bridge on Edison Road, 0.4 mi southeast of New Village, and 4.3 mi upstream from Merrill Creek. Datum of gage is 308.32 ft above National Geodetic Vertical Datum of 1929.	33.3	1960-69†, 1970-87	4-04-87	5.00	940
01455500	Musconetcong River at outlet of Lake Hopatcong, NJ	Lat 40°55'00", long 74°39'55", Morris County, Hydrologic Unit 02040105, on left bank just upstream of highway bridge 300 ft downstream from Lake Hopatcong Dam in Landing. Datum of gage is 904.99 ft above National Geodetic Vertical Datum of 1929.	25.3	1929-75†, 1976-87	9-13-87	3.73	273
01456000	Musconetcong River near Hackettstown, NJ	Lat 40°53'17", long 74°47'53", Warren County, Hydrologic Unit 02040105, on right bank 75 ft upstream from Saxton Falls Dam, 0.5 mi upstream from Erie-Lackawanna Railway bridge, and 3.0 mi northeast of Hackettstown. Datum of gage is 630.93 ft above National Geodetic Vertical Datum of 1929.	68.9	1921-73†, 1974-87	4-04-87	2.90	1,100
01457500	Delaware River at Riegelsville, NJ	Lat 40°35'36", long 75°11'17", Warren County, Hydrologic Unit 02040105, just upstream of suspension bridge at Riegelsville, 600 ft upstream from Musconetcong River (flow of which is included in the records for this station since Oct. 1, 1931). Datum of gage is 125.12 ft National Geodetic Vertical Datum of 1929.	6,328	1906-71†, 1972-87	4-06-87	19.18	90,900
01464400	Crosswicks Creek at New Egypt, NJ	Lat 40°04'03", long 74°31'57", Ocean County, Hydrologic Unit 020401201, at upstream side of bridge on State Route 528 in New Egypt, and 300 ft downstream from Oakford Lake Dam. Datum of gage is 43.46 ft above National Geodetic Vertical Datum of 1929.	41.2	1968-87	7-03-87	b22.14	1,140
01464515	Doctors Creek at Allentown, NJ	Lat 40°10'37", long 74°35'57", Monmouth County, Hydrologic Unit 02040201, at bridge on Breza Road in Allentown, and 0.8 mi downstream from Conines Millpond dam. Datum of gage is 50.98 ft above National Geodetic Vertical Datum of 1929.	17.4	1968-87	8-10-87	b6.28	870
01464530	Blacks Creek at Mansfield Square, NJ	Lat 40°07'02", long 74°41'58", Burlington County, Hydrologic Unit 02040202, at bridge on Mansfield Square-Crosswicks Road, 0.4 mi east of Mansfield Square, and 3.4 mi upstream from mouth. Datum of gage is 12.44 ft above National Geodetic Vertical Datum of 1929.	19.7	1978-87	4-05-87	b9.46	1,240
01464538	Crafts Creek at Columbus, NJ	Lat 40°04'44", long 74°43'07", Burlington County, Hydrologic Unit 02040202, at bridge on Columbus-Mansfield road, 0.4 mi north of Columbus, and 6.0 mi northeast of Mount Holly. Datum of gage is 33.71 ft above National Geodetic Vertical Datum of 1929.	5.38	1978-87	8-10-87	b9.78	720

Annual maximum discharge at crest-stage partial-record stations during water year 1987

Station No.	Station name	Location	Drainage area (mi ²)	Period of record	Annual Maximum		
					Date	Gage height (ft)	Discharge (ft ³ /s)
Delaware River basin--Continued							
01464582	Assiscunk Creek near Columbus, NJ	Lat 40°03'13", long 74°44'34", Burlington County, Hydrologic Unit 02040202, at bridge on Petticoat Bridge Road, 1.7 mi southwest of Columbus, 4.0 mi northeast of Mount Holly, and 0.1 mi downstream from Assiscunk Branch.	10.9	1978-87	4-05-87	b7.48	530
01465850	South Branch Rancocas Creek at Vincentown, NJ	Lat 39°56'22", long 74°45'50", Burlington County, Hydrologic Unit 02040202, on left bank 150 ft downstream from highway bridge on Lumberton-Vincentown road, 0.8 mi west of Vincentown, 2.9 mi southeast of Lumberton, and 3.1 mi upstream from Southwest Branch. Datum of gage is 13.17 ft above National Geodetic Vertical Datum of 1929.	64.5	1962-75½, 1976-87	4-04-87	7.71	1,155
*01465880	Southwest Branch Rancocas Creek at Medford, NJ	Lat 39°53'43", long 74°49'26", Burlington County, Hydrologic Unit 02040202, at bridge on Argonne Highway (State Route 541), 0.6 mi south of intersection of Argonne Highway and State Highway 70 at Medford, and 5.3 mi upstream from mouth.	47.2	1983-87	8-11-87	12.56	1,460
01467057	Pompeston Creek at Cinnaminson, NJ	Lat 40°00'11", long 74°59'00", Burlington County, Hydrologic Unit 02040202, at U.S. Route 130 bridge, 0.7 mi northwest of Cinnaminson, 1.7 mi upstream from mouth, and 2.1 mi east of Palmyra. Datum of gage is 11.36 ft above National Geodetic Vertical Datum of 1929.	5.77	1975-87	4-04-87 4-16-86	b3.76 bf3.29	348 245
01467069	North Branch Pennsauken Creek near Moorestown, NJ	Lat 39°57'07", long 74°58'10", Burlington County, Hydrologic Unit 02040202, at bridge on State Route 41 (Kings Highway), and 1.7 mi southwest of Moorestown. Datum of gage is 5.9 ft above National Geodetic Vertical Datum of 1929.	12.8	1975-87	12-25-86	6.22	1,040
*01467160	North Branch Cooper River near Marlton, NJ	Lat 39°53'20", long 74°58'08", Camden County, Hydrologic Unit 02040202, at bridge on blacktop road to Springdale, 2.5 mi west of Marlton. Datum of gage is 36.36 ft above National Geodetic Vertical Datum of 1929.	5.34	1964-87	12-25-86	c	<115
*01467305	Newton Creek at Collingswood, NJ	Lat 39°54'30", long 75°03'13", Camden County, Hydrologic Unit 02040202, at bridge on Park Avenue in Collingswood, 0.3 mi east of Cuthbert Avenue. Datum of gage is 18.74 ft above National Geodetic Vertical Datum of 1929.	1.33	1964-87	12-25-86	4.08	195
01467317	South Branch Newton Creek at Haddon Heights, NJ	Lat 39°52'45", long 75°04'26", Camden County, Hydrologic Unit 02040202, at bridge on Haddon Heights Park in Haddon Heights, and 2.6 mi south of Collingswood. Datum of gage is 23.34 ft above National Geodetic Vertical Datum of 1929.	.63	1964-87	12-25-86	1.90	32

Annual maximum discharge at crest-stage partial-record stations during water year 1987

Station No.	Station name	Location	Drainage area (mi ²)	Period of record	Annual Maximum		
					Date	Gage height (ft)	Discharge (ft ³ /s)
Delaware River basin--Continued							
01467351	North Branch Big Timber Creek at Laurel Road at Laurel Springs, NJ	Lat 39°49'07", long 75°00'56", Camden County, Hydrologic Unit 02040202, at bridge on Laurel Road in Laurel Springs, and 2.5 mi upstream from confluence with the South Branch. Datum of gage is 26.89 ft above National Geodetic Vertical Datum of 1929.	7.17	1975-87	8-10-87	2.18	515
01475000	Mantua Creek at Pitman, NJ	Lat 39°44'14", long 75°06'53", Gloucester County, Hydrologic Unit 02040202, on left abutment of Wadsworth Dam, 0.9 mi east of Pitman, and 2.0 mi upstream from Porch Branch. Datum of gage is 68.51 ft above National Geodetic Vertical Datum of 1929.	6.05	1940-76 [‡] , 1977-87	12-25-86	1.93	178
01475019	Mantua Creek at Salina, NJ	Lat 39°46'13", long 75°07'59", Gloucester County, Hydrologic Unit 02040202, at bridge on Salina-Sewell Road, 0.2 mi downstream of Bees Branch, and 0.5 mi west of Salina. Datum of gage is 11.67 ft above National Geodetic Vertical Datum of 1929.	14.1	1975-87	10-02-86	3.44	213
01477110	Raccoon Creek at Mullica Hill, NJ	Lat 39°44'10", long 75°13'30", Gloucester County, Hydrologic Unit 02040202, at bridge on State Routes 45 and 77 in Mullica Hill, 1,200 ft downstream of Mullica Hill Pond, and 5.5 mi west of Pitman. Datum of gage is 21.91 ft above National Geodetic Vertical Datum of 1929.	15.6	1978-87	12-25-86	2.93	365
01477480	Oldmans Creek near Harrisonville, NJ	Lat 39°41'20", long 75°18'38", Salem County, Hydrologic Unit 02040206, at bridge on Harrisonville Station Road, 2.4 mi west of Harrisonville, and 2.8 mi north of Woodstown. Datum of gage is 16.58 ft above National Geodetic Vertical Datum of 1929.	13.8	1975-87	12-25-86	6.01	451
01482500	Salem River at Woodstown, NJ	Lat 39°38'36", long 75°19'52", Salem County, Hydrologic Unit 02040206, on right side of Memorial Lake Dam at Woodstown, 0.2 mi upstream from small brook and 0.3 mi downstream from Pennsylvania-Reading Seashore Lines bridge. Datum of gage is 29.49 ft above National Geodetic Vertical Datum of 1929.	14.6	1940 [‡] , 1942-84 [‡] , 1985-87	12-25-86	12.61	1,290

- * Also a low-flow partial-record station.
[‡] Operated as a continuous-record gaging station.
^b Downstream side of bridge.
^c Peak gage height below recordable level.
^e Estimated.
^f Revised.

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 ground-water 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 1987

Discharge measurements made at low flow partial record stations during water year 1987						
Station No.	Station Name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
Maurice River Basin						
01411450	Still Run at Aura, NJ	Lat 39°40'23", long 75°07'50", Gloucester County, Hydrologic Unit 02040206, at bridge on Aura-Glassboro Road, 0.4 mi east of Aura, 1.0 mi upstream of Silver Lake and 2.6 mi southeast of Glassboro.	3.21	1966, 1976-84, 1987	7-24-87	1.2
					9-24-87	1.2
01411456	Little Ease Run near Clayton, NJ	Lat 39°39'32", long 75°04'04", Gloucester County, Hydrologic Unit 02040206, at bridge on Academy Road 0.9 mi west of Fries Mill, 1.3 mi east of Clayton, and 1.4 mi downstream from Beaverdam Branch.	9.77	1966, 1976-84, 1987	7-24-87	2.4
					9-24-87	2.9
01411462	Scotland Run at Franklinville, NJ	Lat 39°37'05", long 75°03'36", Gloucester County, Hydrologic Unit 02040206, at bridge on State Route 538, 0.9 mi east of Franklinville, 2.7 mi upstream of Malaga Lake and 2.8 mi southeast of Clayton.	14.8	1976-84, 1987	7-24-87	14
					9-24-87	8.5
Delaware River basin						
01443475	Trout Brook near Middleville, NJ	Lat 41°03'03", long 74°51'23", Sussex County, Hydrologic Unit 02040105, at bridge on County Highway 612, 0.4 mi upstream from mouth, 0.5 mi southeast of Middleville, and 5.1 mi west of Newton.	24.0	1979-87	7-23-87 9-24-87	12 44
01445200	Bear Creek near Johnsonburg, NJ	Lat 40°56'35", long 74°52'31", Warren County, Hydrologic Unit 02040105, at bridge on Bear Creek Road, 1.8 mi upstream of Trout Brook and 1.5 mi south of Johnsonburg.	12.9	1940-42, 1987	7-23-87 9-24-87	4.0 25
01445800	Honey Run near Ramseyburg, NJ	Lat 40°53'44", long 75°01'04", Warren County, Hydrologic Unit 02040105, at bridge on Hope-Delaware Road, 2.3 mi northeast of Ramseyburg, 2.8 mi southwest of Hope, and 3.1 mi upstream from mouth.	2.21	1981-87	7-23-87 9-24-87	.50 5.0
01455230	Merrill Creek at Coopersville, NJ	Lat 40°42'25", long 75°06'54", Warren County, Hydrologic Unit 02040105, at bridge on Lows Hollow Road at Coopersville, 0.9 mi north of Stewartsville, 2.1 mi upstream from mouth, and 3.3 mi east of Phillipsburg.	3.85	1981-87	7-23-87 9-24-87	3.1 6.1
01455780	Lubbers Run at Lockwood, NJ	Lat 40°55'36", long 74°43'09", Sussex County, Hydrologic Unit 02040105, at bridge on U.S. Route 206 at Lockwood, 1.0 mi upstream from mouth, and 1.5 mi northwest of Stanhope.	16.3	1982-87	7-23-87 9-24-87	6.0 34
01461300	Wickecheoke Creek at Stockton, NJ	Lat 40°24'41", long 74°59'13", Hunterdon County, Hydrologic Unit 02040105, at bridge on State Highway 29, at Prallsville, 0.2 mi upstream of mouth and 0.6 mi northwest of Stockton.	26.6	1958-62, 1964, 1977-83, 1987	a6-30-86 9-21-87	1.1 3.0

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at low-flow partial-record stations during water year 1987--Continued

Station No.	Station Name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
Delaware River basin--Continued						
01462800	Jacobs Creek at Somerset, NJ	Lat 40°16'42", long 74°51'14", Mercer County, Hydrologic Unit 02040105, at bridge on State Route 29, 400 ft upstream from mouth, 0.3 mi north of Somerset and 1.4 mi south of Washington Crossing-Pennington Road (State Route 546).	13.3	1958-62, 1964, 1985-87	6-02-87 8-04-87	.97 2.0
01463620	Assunpink Creek near Clarksville, NJ	Lat 40°16'11", long 74°40'20", Mercer County, Hydrologic Unit 02040105, on left bank 200 ft upstream from bridge on Quaker Bridge Road (State Route 533), 1.9 mi south of Clarksville, 2.0 mi upstream from Shipetaukin Creek and 7.6 mi upstream of mouth.	34.2	1963-67, 1972-81b, 1985, 1987	8-25-87	29
*01464515	Doctors Creek at Allentown, NJ	Lat 40°10'37", long 74°35'57", Monmouth County, Hydrologic Unit 02040201, at bridge on Breza Road, 0.75 mi west of Allentown and 0.80 mi downstream from Conines Millpond dam.	17.2	1965-72, 1975-76, 1979, 1983-87	8-25-87	7.5
01465884	Sharps Run at Route 541 at Medford, NJ	Lat 39°54'18", long 74°49'30", Burlington County, Hydrologic Unit 02040202, at bridge on State Route 541 (Argonne Highway) in Medford, 0.7 mi upstream from mouth, 1.2 mi northeast of Oliphants Mills, and 2.6 mi northwest of Medford Lakes.	4.41	1982-87	7-24-87 9-24-87	.85 1.7
01465898	Little Creek near Lumberton, NJ	Lat 39°56'16", long 74°47'38", Burlington County, Hydrologic Unit 02040202, at bridge on Eayrestown Road, 0.6 mi upstream from mouth, 1.9 mi southeast of Lumberton, and 3.0 mi northeast of Medford.	19.2	1982-87	7-24-87 9-24-87	5.1 12

* Also a crest-stage partial-record station.

a Not previously published.

b Operated as continuous-record gaging station.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

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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 1987

Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Discharge (ft ³ /s)
Delaware River basin						
01443440 Paulins Kill	Delaware River	Lat 40°06'20", long 74°45'19", Sussex County, Hydrologic unit 02040105, at bridge in Balesville, 2.3 mi upstream from Paulins Kill Lake, and 3.0 mi north of Newton.	67.1	1979-82, 1985	9-23-87	126
01446400 Pequest River	Delaware River	Lat 40°49'45", long 75°04'44", Warren County, Hydrologic Unit 02040105, at bridge on State Route 519, in Belvidere, 1,400 ft upstream of mouth.	157	1950,53, 1977-82, 1984-86	a9-11-86 2-05-87 5-27-87 8-19-87	74.0 198 *172 57.9
01455801 Musconetcong River	Delaware River	Lat 40°55'10", long 74°44'07", Sussex County, Hydrologic Unit 02040105, at bridge on unnamed road at Lockwood, 0.2 mi downstream from Lubbers Run, and 1.5 mi north-west of Stanhope.	60.1	1979-83, 1985-86	a7-11-86 9-22-87	18 298
01456200 Musconetcong River	Delaware River	Lat 40°48'48", long 74°50'32", Warren County, Hydrologic Unit 02040105, at bridge on Kings Highway at Beattystown, 1.6 mi upstream from Hances Brook and 1.8 mi west of Schooleys Mountain.	90.3	1973, 1979-81, 1983, 1985-86	a7-14-86 9-22-87	74 306
01457400 Musconetcong River	Delaware River	Lat 40°35'32", long 75°11'11", Warren County, Hydrologic Unit 02040105, at bridge on County Route 627, 0.2 mi north of Mount Joy, and 0.2 mi upstream from mouth.	156	1940-55, 1973, 1977	a6-30-86	142
01462730 Jacobs Creek	Delaware River	Lat 40°20'27", long 74°50'19", Mercer County, Hydrologic Unit 02040105, at bridge on Woosamonsa Road, 0.7 mi upstream of bridge on Pleasant Valley Road, 1.1 mi south of Harborton and 2.6 mi northwest of Pennington.	13.1	--	8-13-87	*.30
01462733 Jacobs Creek	Delaware River	Lat 40°19'53", long 74°50'11", Mercer County, Hydrologic Unit 02040105, at bridge on Pennington-Harborton Road, 500 ft upstream of unnamed tributary, 0.8 mi east of State Route 579 at Ackors Corner and 2.2 mi upstream of Woolsey Brook.	2.04	1985-86	8-13-87	*.71
01462734 Jacobs Creek tributary	Jacobs Creek	Lat 40°19'50", long 74°49'54", Mercer County, Hydrologic Unit 02040105, at bridge on Pleasant Valley Road, 0.2 mi upstream of mouth, 0.9 mi east of Ackors Corner and 2.1 mi west of Pennington.	.47	--	8-13-87	*.14
01462737 Jacobs Creek	Delaware River	Lat 40°19'07", long 74°50'18", Mercer County, Hydrologic Unit 02040105, at bridge on Pennington-Titusville Road, 0.8 mi east of Bear Tavern Road (State Route 579) 1.3 mi upstream of Woolsey Brook and 2.6 mi west of Pennington.	4.30	1985-86	8-13-87	*1.5

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at miscellaneous sites during water year 1987--Continued

Discharge measurements made at miscellaneous sites during water year 1987 - continued						
Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Discharge (ft ³ /s)
Delaware River basin--Continued						
01462740 Jacobs Creek	Delaware River	Lat 40°18'07", long 74°50'00", Mercer County, Hydrologic Unit 02040105, just upstream of Woolsey Brook, 0.4 mi downstream of Pennington Road (State Route 546) and on right side of Jacobs Creek Road, 0.5 mi south of Pennington Road and 1.0 mi southeast of Bear Tavern.	5.53	1985-86	8-14-87	*1.7
01462742 Woolsey Brook	Jacobs Creek	Lat 40°19'11", long 74°48'09", Mercer County, Hydrologic Unit 02040105, at bridge on Dublin Road, 0.5 mi upstream of confluence with unnamed tributary and 0.8 mi southwest of Pennington.	.16	1985-86	8-14-87	*.02
01462744 Woolsey Brook tributary No. 1	Woolsey Brook	Lat 40°18'47", long 74°48'08", Mercer County, Hydrologic Unit 02040105, at bridge on Dublin Road, 0.3 mi north of Pennington Road (State Route 546) 0.45 mi upstream from Woolsey Brook and 1.2 mi south of Pennington.	.32	1985-86	8-14-87	*.10
01462745 Woolsey Brook tributary No. 2	Woolsey Brook	Lat 40°18'55", long 74°48'49", Mercer County, Hydrologic Unit 02040105, at mouth, 200 ft upstream from bridge on Scotch Road over Woolsey Brook and 1.5 mi southwest of Pennington.	.46	1985-86	8-13-87	*.11
01462747 Woolsey Brook	Jacobs Creek	Lat 40°18'51", long 74°48'53", Mercer County, Hydrologic Unit 02040105, at bridge on Scotch Road, 0.5 mi north of State Route 546 at Harts Corner and 1.3 mi from mouth.	1.47	1985-86	8-13-87	*.97
01462750 Woolsey Brook	Jacobs Creek	Lat 40°18'27", long 74°49'36", Mercer County, Hydrologic Unit 02040105, at bridge on Pennington Road (State Route 546), downstream of unnamed pond, 0.5 mi upstream of mouth, 1.2 mi east of Bear Tavern Road (State Route 579) at Bear Tavern.	2.13	1985-86	8-13-87	*.88
01462755 Woolsey Brook tributary No. 3	Woolsey Brook	Lat 40°18'08", long 74°49'54", Mercer County, Hydrologic Unit 02040105, at bridge on Jacobs Creek Road, 250 ft upstream of mouth, 300 ft upstream of confluence of Jacobs Creek and Woolsey Brook, and 1.0 mi southeast of Bear Tavern.	.89	1985-86	8-14-87	*.09
01462760 Jacobs Creek	Delaware River	Lat 40°17'31", long 74°50'28", Mercer County, Hydrologic Unit 02030105, at bridge on Bear Tavern Road, 1.3 mi upstream from mouth and 1.4 mi southeast of Washington Crossing.	10.0	1957, 1971, 1985-86	8-14-87	*3.1
01462765 Ewing Creek	Jacobs Creek	Lat 40°17'13", long 74°48'45", Mercer County, Hydrologic Unit 02040105, at bridge on Scotch Road, 300 ft south of Interstate 95 exit, 3,800 ft downstream of small unnamed pond and 1.5 mi north of West Trenton.	1.24	1985-86	8-13-87	*.30

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

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Discharge measurements made at miscellaneous sites during water year 1987--Continued

Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Discharge (ft ³ /s)
Delaware River basin--Continued						
01462770 Ewing Creek	Jacobs Creek	Lat 40°17'19", long 74°49'42", Mercer County, Hydrologic Unit 02040105, at bridge on Nursery Road, 0.6 mi from Bear Tavern Road (State Route 579), 0.8 mi upstream from mouth and 1.6 mi north of West Trenton.	2.29	1985-86	8-14-87	*.72
01462775 Ewing Creek	Jacobs Creek	Lat 40°17'24", long 74°50'30", Mercer County, Hydrologic Unit 02040105, at bridge on Jacobs Creek Road, 200 ft north of southern intersection of Jacobs Creek Road and Bear Tavern Road, 300 ft upstream of mouth and 1.2 mi northeast of Somerset.	2.65	1985-86	8-14-87	*.92
01462800 Jacobs Creek	Delaware River	Lat 40°16'42", long 74°51'14", Mercer County, Hydrologic Unit 02040105, at bridge on State Route 29, 400 ft upstream from mouth, 0.3 mi north of Somerset and 1.4 mi south of Washington Crossing Road.	13.3	1958-62, 1964, 1985-86	4-02-87	15
01465970 North Branch Rancocas Creek	Rancocas Creek	Lat 39°58'04", long 74°34'48", Burlington County, Hydrologic Unit 02040202, at bridge on Lakehurst Road in Browns Mills, at outflow of Mirror Lake and 5.0 mi east of Pemberton.	27.4	1979-81, 1985-86	8-13-87 9-22-87	74 74
01467120 Cooper River	Delaware River	Lat 39°49'43", long 74°58'55", Camden County, Hydrologic Unit 02040202, at bridge on Norcross Road, at downstream end of Linden Lake at Linden- wold and 0.4 mi upstream from Nicholson Branch.	1.13	1971, 1979-81 1985-86	7-31-87	*.29
01467140 Cooper River	Delaware River	Lat 39°52'14", long 75°00'59", Camden County, Hydrologic Unit 02040202, at bridge on Evesham Road, 0.8 mi down- stream of Lawnside Sewage Treatment Plant and 1.1 mi upstream from New Jersey Turnpike.	12.9	1963-72, 1979-81, 1985-86	7-31-87	*15
01467329 South Branch Big Timber Creek	Big Timber Creek	Lat 39°48'05", long 75°04'27", Gloucester County, Hydrologic Unit 02040202, just upstream from Bull Run, 1,000 ft down- stream of Blackwood Avenue and 0.5 mi southeast of Blackwood Terrace.	19.1	1979-81 1985-86	8-31-87	21
01477128 Basgalore Creek	Raccoon Creek	Lat 39°43'35", long 75°16'44", Gloucester County, Hydrologic Unit 02040202, 0.4 mi upstream of Lake Basgalore, 0.6 mi east of intersection of Russell Mill and Monroeville Roads, and 2.2 mi southeast of Swedesboro.	2.57	--	11-03-86 11-06-86 11-26-86 12-01-86 1-08-87 4-14-87 7-27-87	*1.8 3.8 7.6 2.9 3.2 *3.0 *2.1
01477510 Oldmans Creek	Delaware River	Lat 39°41'57", long 75°20'01", Salem County, Hydrologic Unit 02040206, at bridge on Kings Highway in Porches Mill, 1.0 mi north of Seven Stars and 3.1 mi north of Woodstown.	21.0	1979-83 1986	9-22-87	17

* Base flow.

a Not previously published

ELEVATIONS AT TIDAL CREST-STAGE STATIONS

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 converted to elevations above National Geodetic Vertical Datum of 1929 unless otherwise noted. Only the maximum elevation is given. Information on some other high stages may have been obtained but is not published herein. The years given in the period of record represent water years for which the annual maximum has been determined.

Annual maximum elevation at tidal crest-stage partial-record stations during water year 1987

Station No.	Station name	Location	Period of record	Annual Maximum	
				Date	Elevation NGVD* (ft)
01413038	Cohansey River at Greenwich, NJ	Lat 39°23'02", long 75°20'58", Cumberland County, at Greenwich Pier, 0.7 mi southwest of Greenwich, and 5.8 mi southwest of Shiloh.	1979-87	12-02-86	6.05
01464040	Delaware River at Marine Terminal, Trenton, NJ	Lat 40°11'21", long 74°45'22", Mercer County, on left bank at downstream end of wharf at Marine Terminal, Trenton, 1.6 mi downstream from toll bridge on U.S. Route 1, 2.0 mi downstream from Assunpink Creek, and at mile 131.80.	1921-46†	b3-16-86	8.32
			1951-54‡, 1957-87‡a	1-02-87	7.68

* National Geodetic Vertical Datum of 1929.

† Operated as a continuous-record gaging station.

a Operated by National Ocean Service since March 1975.

b Not previously published.

BURLINGTON COUNTY

395150074284201. Local I.D., Lebanon State Forest 23-D Obs. NJ-WRD Well Number, 05-0689.

LOCATION.--Lat 39°51'52", long 74°28'48", Hydrologic Unit 02040202, 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 8 in, depth 33 ft, open-end cement casing.

INSTRUMENTATION.--Digital water-level recorder--60-minute punch.

DATUM.--Land-surface datum is 152.02 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of 8 inch casing, 0.70 ft above land-surface datum.

PERIOD OF RECORD.--September 1955 to April 1975, January 1979 to current year. Records for 1955 to 1975 are unpublished and are available in files of New Jersey District Office.

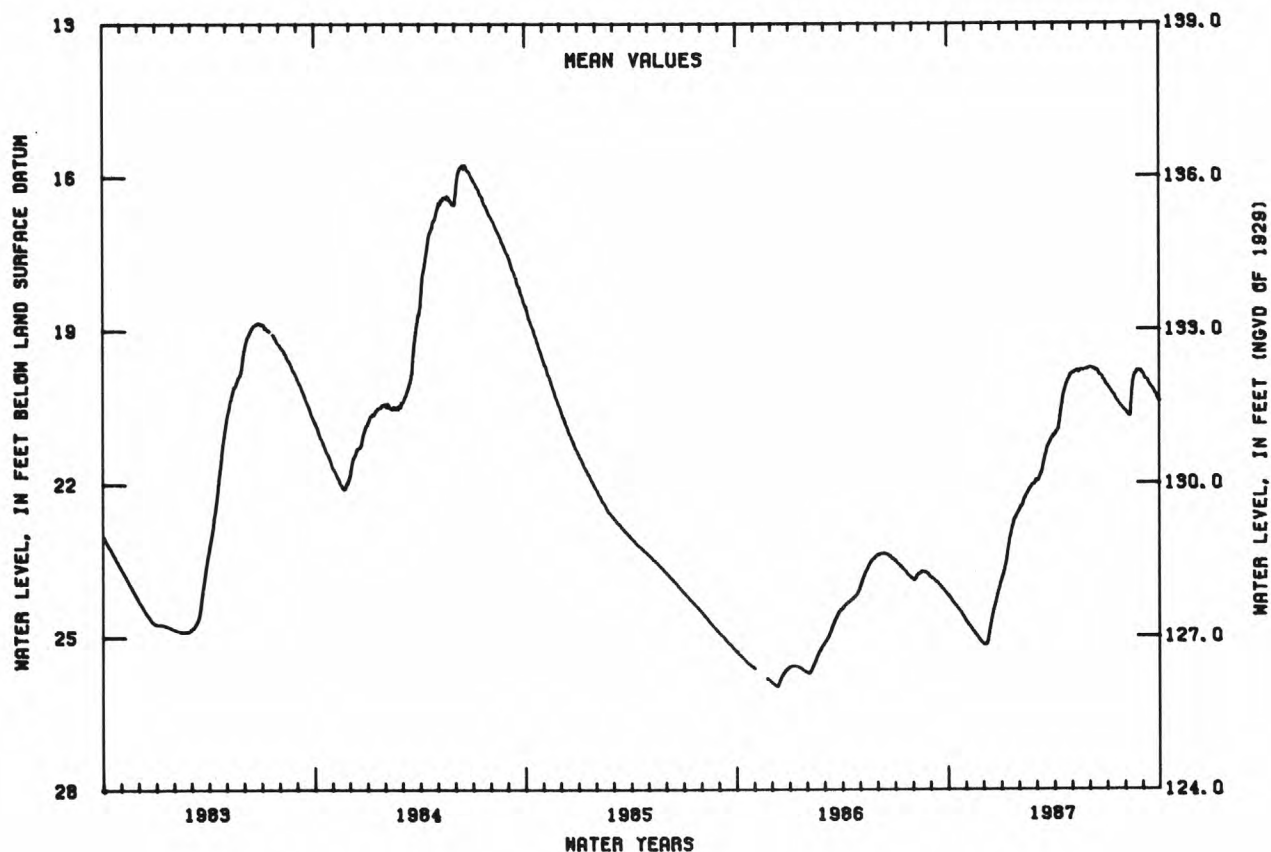
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 14.37 ft below land-surface datum, Sept. 11, 1958; lowest, 25.97 ft below land-surface datum, Dec. 8-10, 1985.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	24.25	24.77	25.16	23.72	22.43	21.93	21.01	19.84	19.75	20.15	20.64	19.97
10	24.34	24.85	24.95	23.44	22.28	21.80	20.82	19.80	19.77	20.24	20.70	20.02
15	24.41	24.93	24.63	23.08	22.16	21.55	20.43	19.79	19.80	20.32	20.04	20.13
20	24.48	25.01	24.40	22.81	22.07	21.32	20.15	19.79	19.89	20.41	19.85	20.21
25	24.57	25.09	24.16	22.65	22.01	21.19	19.99	19.78	19.99	20.50	19.80	20.31
EOM	24.69	25.15	23.91	22.51	21.97	21.05	19.87	19.75	20.08	20.57	19.85	20.39
MEAN	24.43	24.93	24.60	23.11	22.20	21.52	20.45	19.80	19.86	20.34	20.18	20.14
WATER YEAR 1987	--	MEAN	21.80	HIGH	19.74	MAY 31, JUN 1-3	LOW	25.16	NOV 30, DEC 1,2,4-6			

NJ-WRD WELL NO. 05-0689



BURLINGTON COUNTY

395525074502601. Local I.D., Medford 4 Obs. NJ-WRD Well Number, 05-0262.

LOCATION.--Lat 39°55'24", long 74°50'25", Hydrologic Unit 02040202, at Medford Public Shooting Grounds, Medford Township.

Owner: U.S. Geological Survey.

AQUIFER.--Lower aquifer, Potomac-Raritan-Magothy aquifer system of Cretaceous age.

WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 6 in, depth 1,145 ft, screened 1,125 to 1,145 ft.

INSTRUMENTATION.--Digital water-level recorder--60-minute punch. Water-level extremes recorder, February 1977 to December 1984.

DATUM.--Land-surface datum is 72.32 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top edge of recorder shelf, 2.40 ft above land-surface datum.

REMARKS.--Missing record from October 20 to November 21, 1986 and August 12 to September 30, 1987 was due to recorder malfunction.

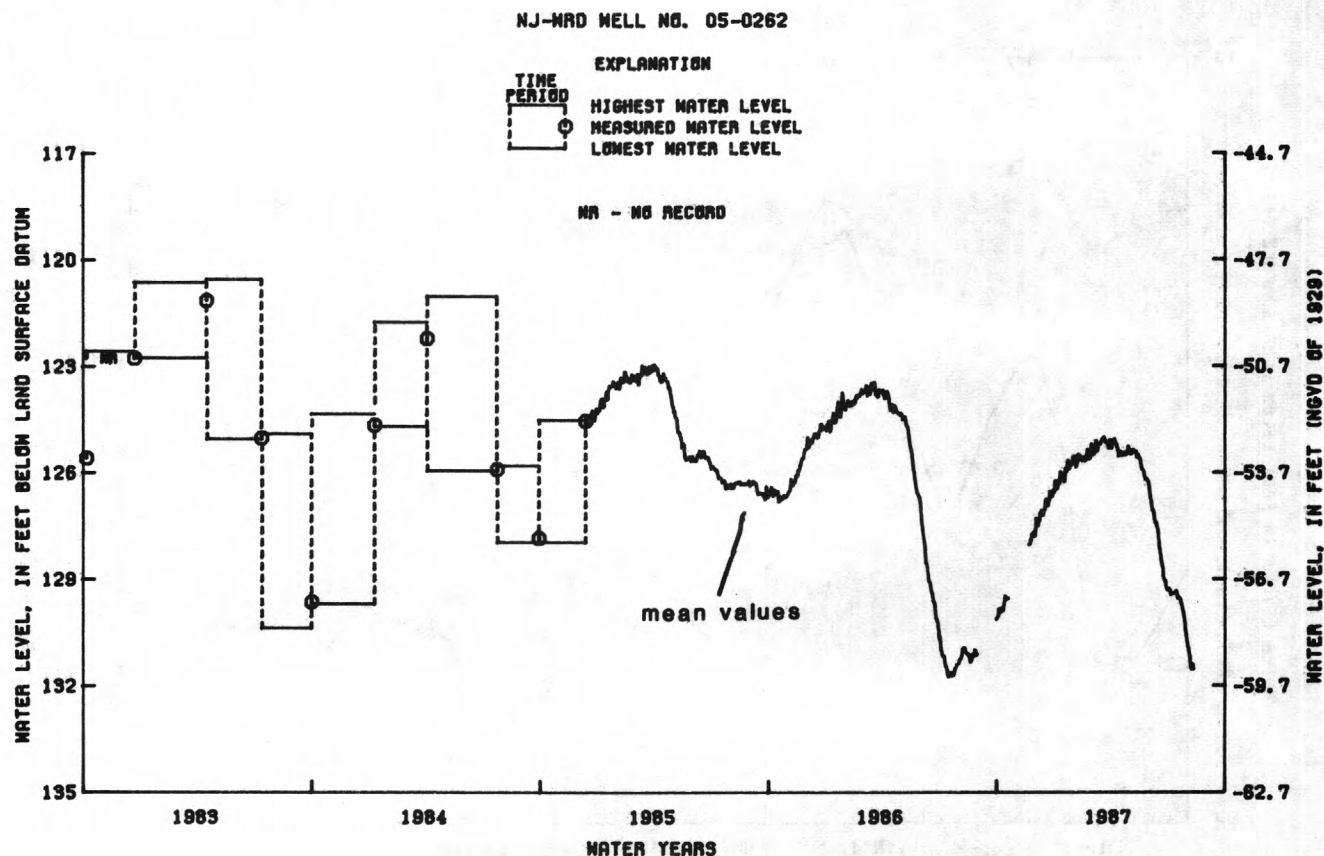
PERIOD OF RECORD.--January 1968 to July 1975, February 1977 to current year. Records for 1968 to 1975 are unpublished and are available in files of New Jersey District Office.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 94.24 ft below land-surface datum, Mar. 13, 1968; lowest, 131.80 ft below land-surface datum, July 17, 1986.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	129.83	---	127.51	126.48	125.86	125.51	125.14	125.46	126.83	129.36	131.17	---
10	129.90	---	127.12	126.14	125.65	125.33	125.20	125.39	127.29	129.40	131.39	---
15	129.53	---	127.10	126.09	125.67	125.21	125.53	125.48	127.60	129.37	---	---
20	---	---	126.87	125.97	125.68	125.01	125.53	125.83	128.35	129.55	---	---
25	---	127.93	126.52	125.91	125.58	125.17	125.47	126.10	128.99	129.89	---	---
EOM	---	127.73	126.58	125.55	125.54	125.07	125.31	126.25	129.29	130.65	---	---
MEAN	129.78	---	127.04	126.05	125.60	125.22	125.35	125.71	127.86	129.63	---	---
WATER YEAR 1987	--	HIGH	124.94	MAR 22	LOW	131.62	AUG 9					



BURLINGTON COUNTY

395525074502505. Local I.D., Medford 5 Obs. NJ-WRD Well Number, 05-0261.

LOCATION.--Lat 39°55'25", long 74°50'25", Hydrologic Unit 02040202, at Medford Public Shooting Grounds, Medford Township.

Owner: U.S. Geological Survey.

AQUIFER.--Middle aquifer, Potomac-Raritan-Magothy aquifer system of Cretaceous age.

WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 6 in, depth 750 ft, screened 740 to 750 ft.

INSTRUMENTATION.--Digital water-level recorder--60-minute punch.

DATUM.--Land-surface datum is 72.60 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top edge of recorder shelf, 3.60 ft above land-surface datum.

REMARKS.--Missing record from August 7-17 and August 28 to September 30, 1987 was due to recorder malfunction.

PERIOD OF RECORD.--January 1968 to March 1975, March 1977 to current year. Records for 1968 to 1977 are unpublished

and are available in files of New Jersey District Office.

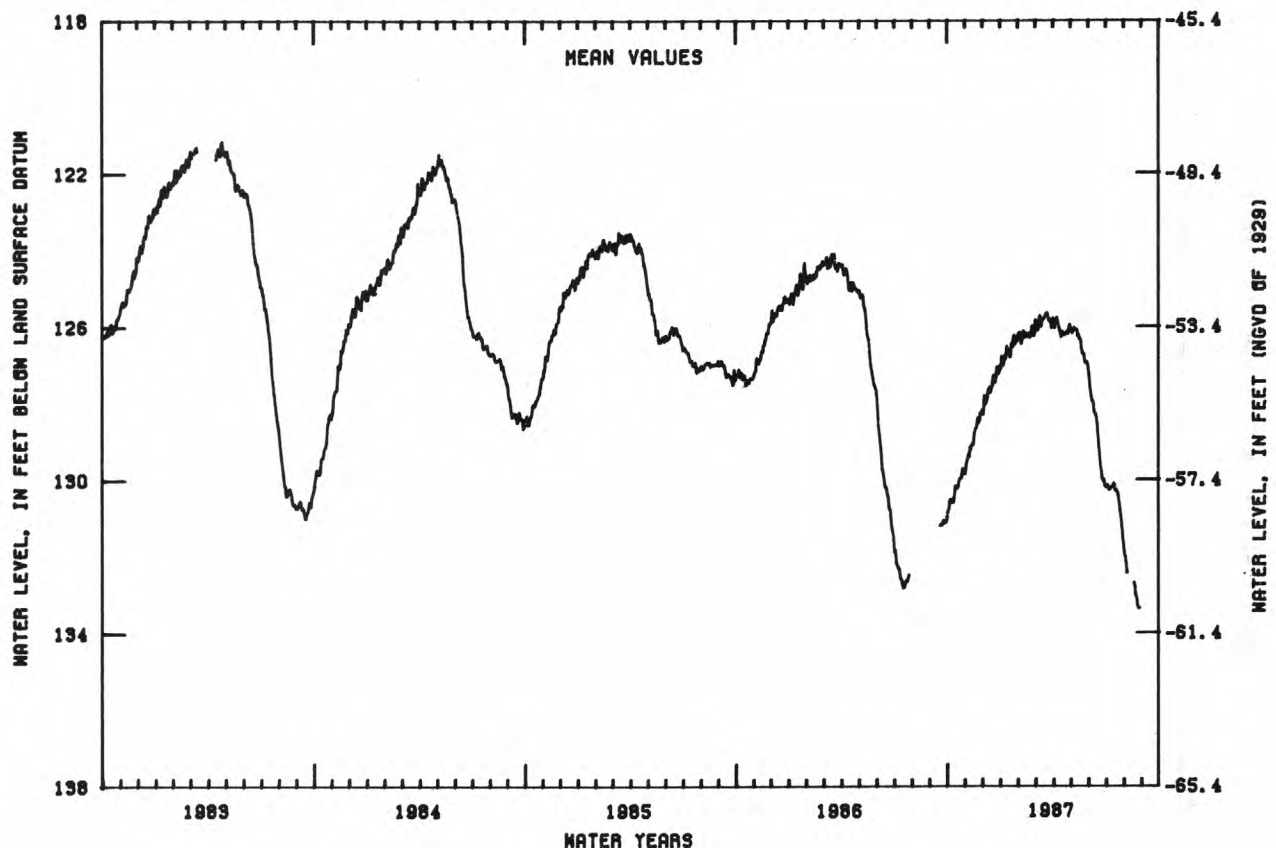
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 94.46 ft below land-surface datum, Mar. 1, 1968; lowest, 133.38 ft below land-surface datum, Aug. 26, 1987.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	130.51	129.42	128.03	127.03	126.47	126.12	125.85	126.14	127.75	130.22	132.27	---
10	130.59	129.22	127.65	126.69	126.28	125.94	125.98	126.07	128.15	130.19	---	---
15	130.20	128.92	127.62	126.65	126.28	125.82	126.28	126.22	128.50	130.13	---	---
20	130.08	128.59	127.39	126.53	126.30	125.65	126.23	126.62	129.43	130.32	132.90	---
25	129.96	128.45	127.05	126.48	126.22	125.86	126.17	126.88	130.00	130.83	133.35	---
EOM	129.86	128.23	127.13	126.17	126.18	125.79	126.01	127.06	130.18	131.69	---	---
MEAN	130.23	128.87	127.57	126.62	126.23	125.86	126.07	126.44	128.80	130.48	132.73	---
WATER YEAR 1987	--	HIGH	125.61	MAR 22	LOW	133.38	AUG 26, 27					

NJ-WRD WELL NO. 05-0261



BURLINGTON COUNTY

395524074502501. Local I.D., Medford 1 Obs. NJ-WRD Well Number, 05-0258.

LOCATION.--Lat 39°55'24", long 74°50'25", Hydrologic Unit 02040202, at Medford Public Shooting Grounds, Medford 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 410 ft, screened 400 to 410 ft.

INSTRUMENTATION.--Digital water-level recorder--60-minute punch. Water-level extremes recorder, February 1977 to December 1984.

DATUM.--Land-surface datum is 70.77 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of coupling, 2.70 ft above land-surface datum.

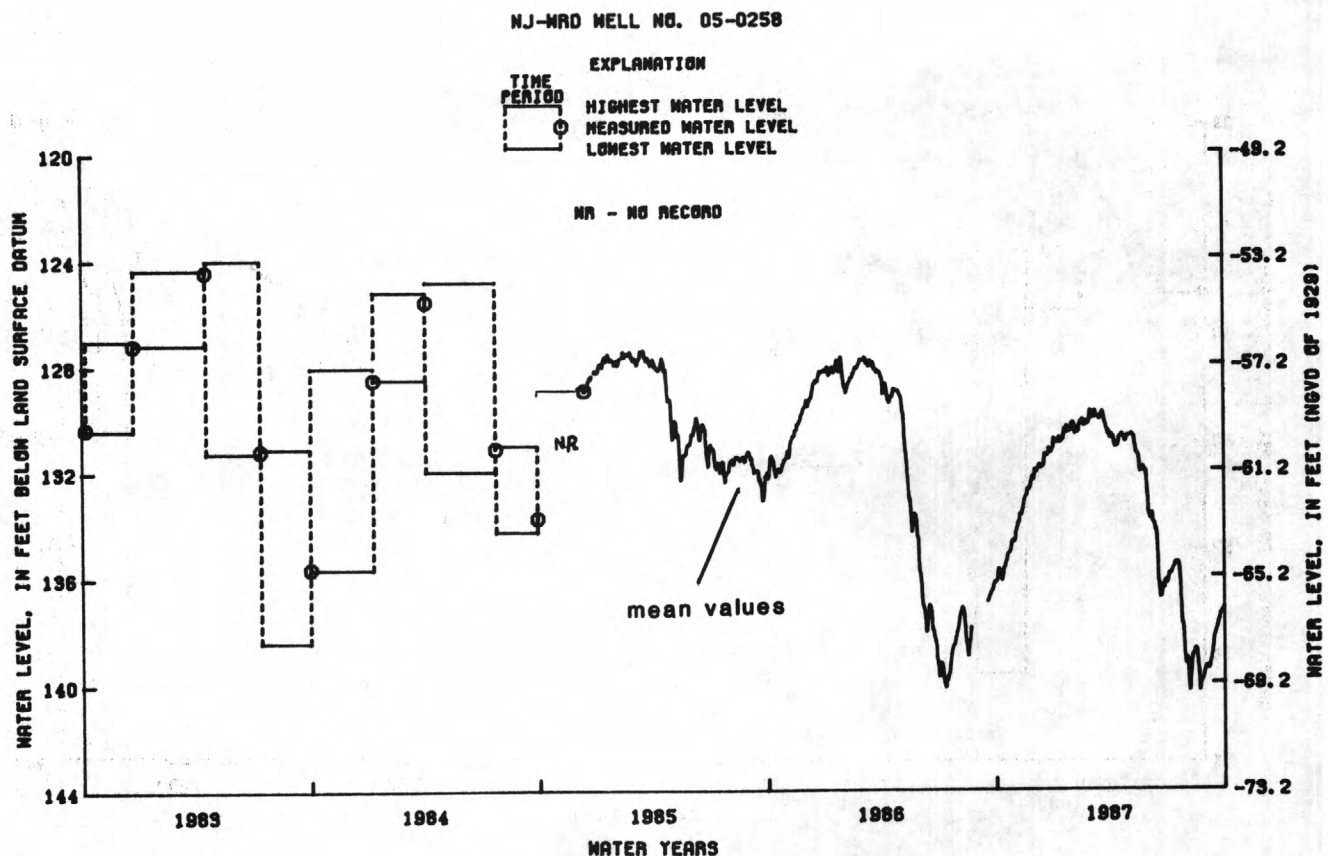
PERIOD OF RECORD.--October 1963 to August 1975, February 1977 to current year. Records for 1963 to 1975 are unpublished and are available in files of New Jersey District Office.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 85.22 ft below land-surface datum, Feb. 16-19, 1964; lowest, 140.38 ft below land-surface datum, Aug. 22, 1987.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	135.71	134.10	132.09	130.97	130.61	130.05	130.70	130.67	133.84	135.88	140.12	139.40
10	136.11	133.72	131.79	130.86	130.58	129.95	131.09	130.71	133.97	135.75	138.98	138.96
15	135.66	133.24	131.86	130.82	130.16	130.03	131.02	131.36	134.43	135.48	138.71	138.21
20	135.16	132.91	131.44	130.55	130.35	129.81	130.69	132.08	136.60	135.55	139.52	137.77
25	134.98	132.67	131.17	130.57	130.29	130.24	130.81	131.89	136.33	137.78	139.93	137.37
EOM	134.71	132.27	131.24	130.23	130.08	130.53	130.69	132.83	136.15	139.29	139.46	137.16
MEAN	135.46	133.28	131.69	130.71	130.31	130.05	130.83	131.44	135.06	136.45	139.45	138.30
WATER YEAR 1987	--	MEAN 133.60		HIGH 129.61	MAR 1	LOW 140.38	AUG 22					



BURLINGTON COUNTY

395524074502502. Local I.D., Medford 2 Obs. NJ-WRD Well Number, 05-0259.

LOCATION.--Lat 39°55'24", long 74°50'25", Hydrologic Unit 02040202, at Medford Public Shooting Grounds, Medford Township.

Owner: U.S. Geological Survey.

AQUIFER.--Englishtown aquifer of Cretaceous age.

WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 6 in, depth 263 ft, screened 253 to 263 ft.

INSTRUMENTATION.--Digital water-level recorder--60-minute punch. Water-level extremes recorder, February 1977 to December 1984.

DATUM.--Land-surface datum is 72.92 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top edge of recorder shelf, 3.22 ft above land-surface datum.

REMARKS.--Water level affected by nearby pumping.

PERIOD OF RECORD.--October 1963 to August 1975, February 1977 to September 1987 (discontinued). 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, 45.42 ft below land-surface datum, Apr. 27, 1973; lowest, 111.96 ft below land-surface datum, July 9, 1964.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

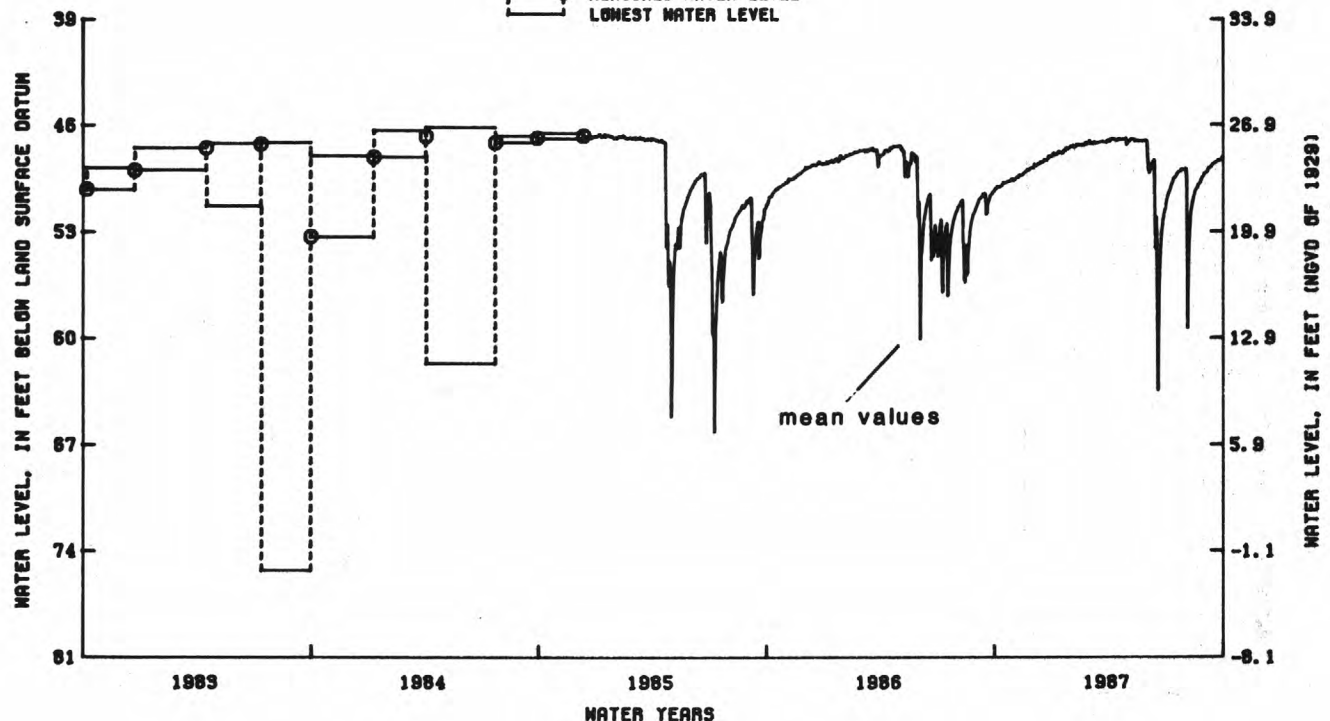
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	50.01	49.42	48.68	47.97	47.50	47.26	46.94	46.98	49.17	50.54	59.36	49.08
10	50.02	49.33	48.45	47.78	47.36	47.21	46.93	46.93	48.48	49.96	51.89	48.78
15	49.77	49.17	48.43	47.79	47.34	47.15	47.00	46.98	54.11	49.44	50.68	48.56
20	49.71	48.99	48.31	47.70	47.34	47.07	46.96	47.04	58.88	49.14	50.12	48.42
25	49.67	48.93	48.03	47.60	47.24	47.12	46.91	47.04	52.97	49.00	49.77	48.29
EOB	49.66	48.80	48.05	47.35	47.20	46.95	47.32	47.02	51.53	48.91	49.29	48.09
MEAN	49.82	49.14	48.38	47.72	47.31	47.12	46.96	47.01	51.86	49.65	50.93	48.61
WATER YEAR 1987 -- MEAN 48.72 HIGH 46.79 APR 29 LOW 65.77 JUN 19												

NJ-WRD WELL NO. 05-0259

EXPLANATION

TIME PERIOD
 HIGHEST WATER LEVEL
 MEASURED WATER LEVEL
 LOWEST WATER LEVEL



BURLINGTON COUNTY

400010074521601. Local I.D., Willingboro 2 Obs. NJ-WRD Well Number, 05-0645.

LOCATION.--Lat 40°00'10", long 74°52'16", Hydrologic Unit 02040202, near intersection of Bridge Street and Tiffany Lane, Willingboro.

Owner: Willingboro Municipal Utilities Authority.

AQUIFER.--Lower aquifer, Potomac-Raritan-Magothy aquifer system of Cretaceous age.

WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 6 in, depth 441 ft, screened 431 to 441 ft.

INSTRUMENTATION.--Digital water-level recorder--60-minute punch.

DATUM.--Land-surface datum is 40.30 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top edge of recorder shelf, 2.00 ft below land-surface datum.

REMARKS.--Water level affected by tidal fluctuation and nearby pumping.

PERIOD OF RECORD.--March 1966 to September 1975, March 1977 to current year. Records for 1966 to 1975 are unpublished and are available in files of New Jersey District Office.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 49.79 ft below land-surface datum, June 21, 1967; lowest, 82.52 ft below land-surface datum, July 10, 1986.

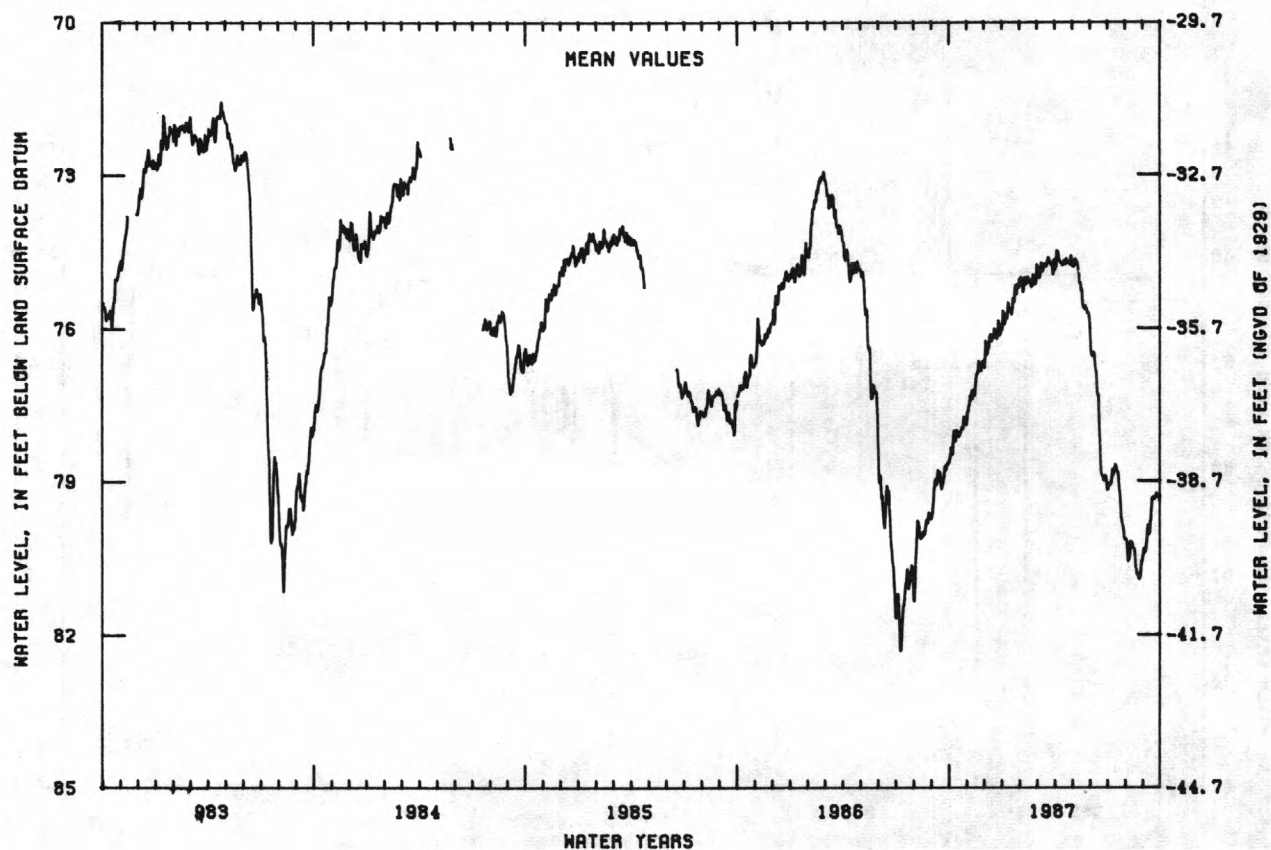
WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	78.34	77.51	76.53	75.90	75.30	75.03	74.50	74.72	76.54	79.07	80.43	80.35
10	78.21	77.40	76.16	75.64	75.15	74.90	74.72	74.74	76.77	78.79	80.18	80.02
15	78.07	77.16	76.19	75.63	75.07	74.75	74.75	75.10	77.30	78.68	80.32	79.56
20	78.08	76.80	76.05	75.50	75.20	74.66	74.74	75.58	78.86	78.88	80.73	79.35
25	77.98	76.85	75.85	75.33	75.15	74.76	74.74	75.59	79.00	79.72	80.92	79.26
EOM	77.91	76.72	76.04	75.04	75.05	74.66	74.66	75.87	79.08	80.15	80.47	79.27
MEAN	78.12	77.09	76.22	75.53	75.10	74.80	74.69	75.22	77.72	79.19	80.49	79.70

WATER YEAR 1987 -- MEAN 77.00 HIGH 74.28 APR 4 LOW 81.08 AUG 24,25

NJ-WRD WELL NO. 05-0645



GROUND-WATER LEVELS

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BURLINGTON COUNTY

400213074510801. Local I.D., Willingboro 1 Obs. NJ-WRD Well Number, 05-0063.

LOCATION.--Lat 40°02'13", long 74°51'08", Hydrologic Unit 02040202, on the west side of Rancocas Road about 2 mi north of Rancocas.

Owner: Willingboro Municipal Utilities Authority.

AQUIFER.--Middle aquifer, Potomac-Raritan-Magothy aquifer system of Cretaceous age.

WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 6 in, depth 294 ft, screened 284 to 294 ft.

INSTRUMENTATION.--Digital water-level recorder--60-minute punch. Water-level extremes recorder, February 1977 to December 1984.

DATUM.--Land-surface datum is 45.45 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top edge of recorder shelf, 0.60 ft above land surface datum.

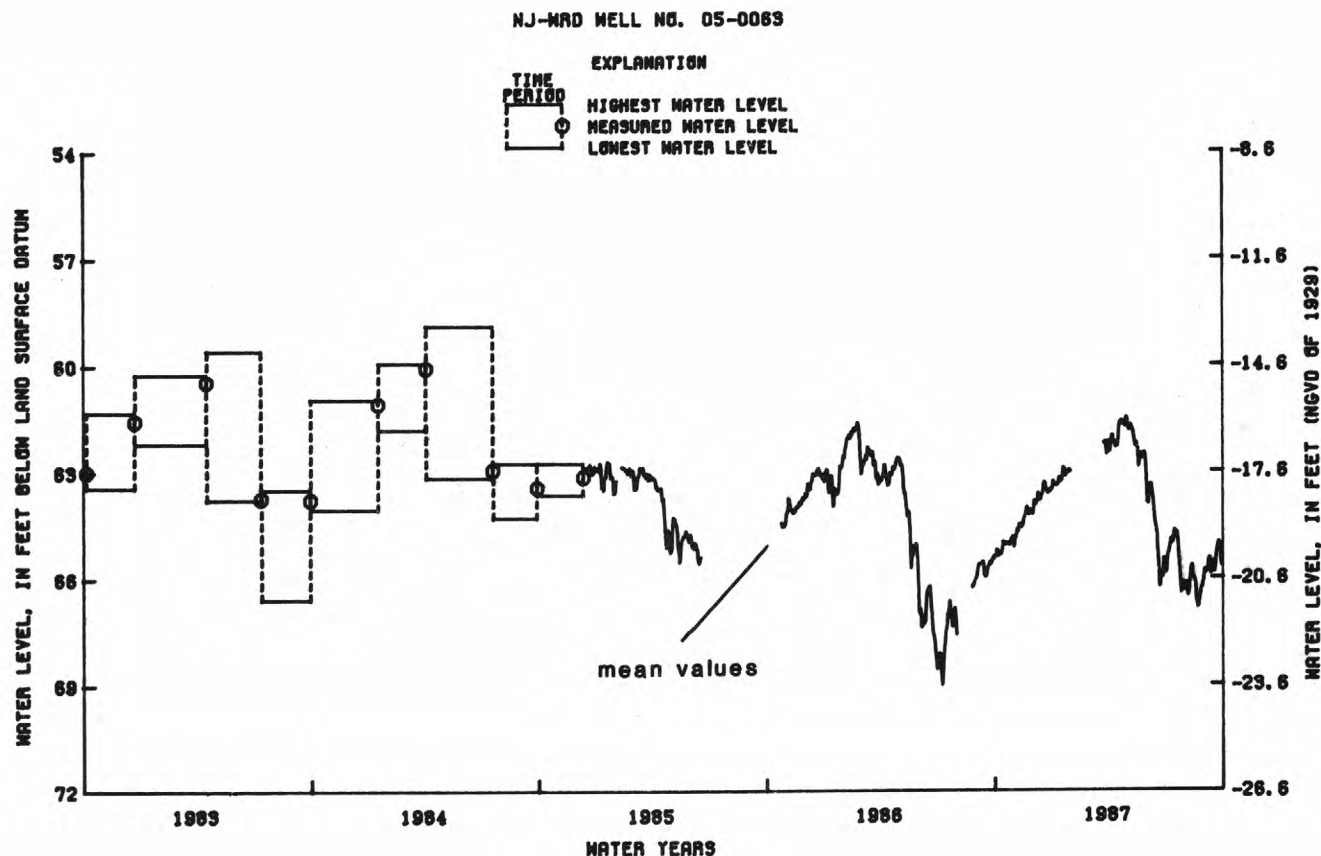
REMARKS.--Water level affected by nearby pumping. Missing record from January 31 to March 24, 1987 was due to recorder malfunction.

PERIOD OF RECORD.--March 1966 to September 1975, February 1977 to September 1987 (discontinued). Records for 1966 to 1975 are unpublished and are available in files of New Jersey District Office.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 46.25 ft below land-surface datum, Mar. 19, 1966; lowest, 69.05 ft below land-surface datum, July 9, 1986.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	65.22	64.71	63.92	63.39	---	---	62.17	61.78	63.45	65.29	66.48	65.81
10	65.33	64.60	63.66	63.35	---	---	62.17	61.93	63.68	64.89	65.75	65.66
15	65.00	64.47	63.67	63.30	---	---	62.32	62.18	64.57	64.66	66.00	65.53
20	65.01	64.12	63.33	62.93	---	---	61.59	62.75	65.77	64.94	66.71	65.31
25	65.08	64.23	63.63	63.01	---	62.20	61.59	62.65	65.92	66.27	66.47	65.04
EOM	65.08	64.19	63.53	---	---	62.15	61.51	63.21	65.80	66.35	65.91	---
MEAN	65.12	64.42	63.66	63.18	---	---	61.95	62.29	64.73	65.41	66.24	65.54
WATER YEAR 1987 -- HIGH 61.36 APR 29 LOW 66.91 AUG 22												



BURLINGTON COUNTY

400242074422301. Local I.D., Rhodia Corp. 1 Obs. NJ-WRD Well Number, 05-0440.

LOCATION.--Lat 40°02'42", long 74°42'23", Hydrologic Unit 02040201, on the lands of Rhodia Corporation near Jobstown.

Owner: Rhodia Corporation.

AQUIFER.--Middle aquifer, Potomac-Raritan-Magothy aquifer system of Cretaceous age.

WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 8 in, depth 615 ft, screened 603 to 613 ft.

INSTRUMENTATION.--Water-level extremes recorder, April 1977 to current year. Water-level recorder, December 1968 to March 1975.

DATUM.--Land-surface datum is 71.65 ft above National Geodetic Vertical Datum of 1929.

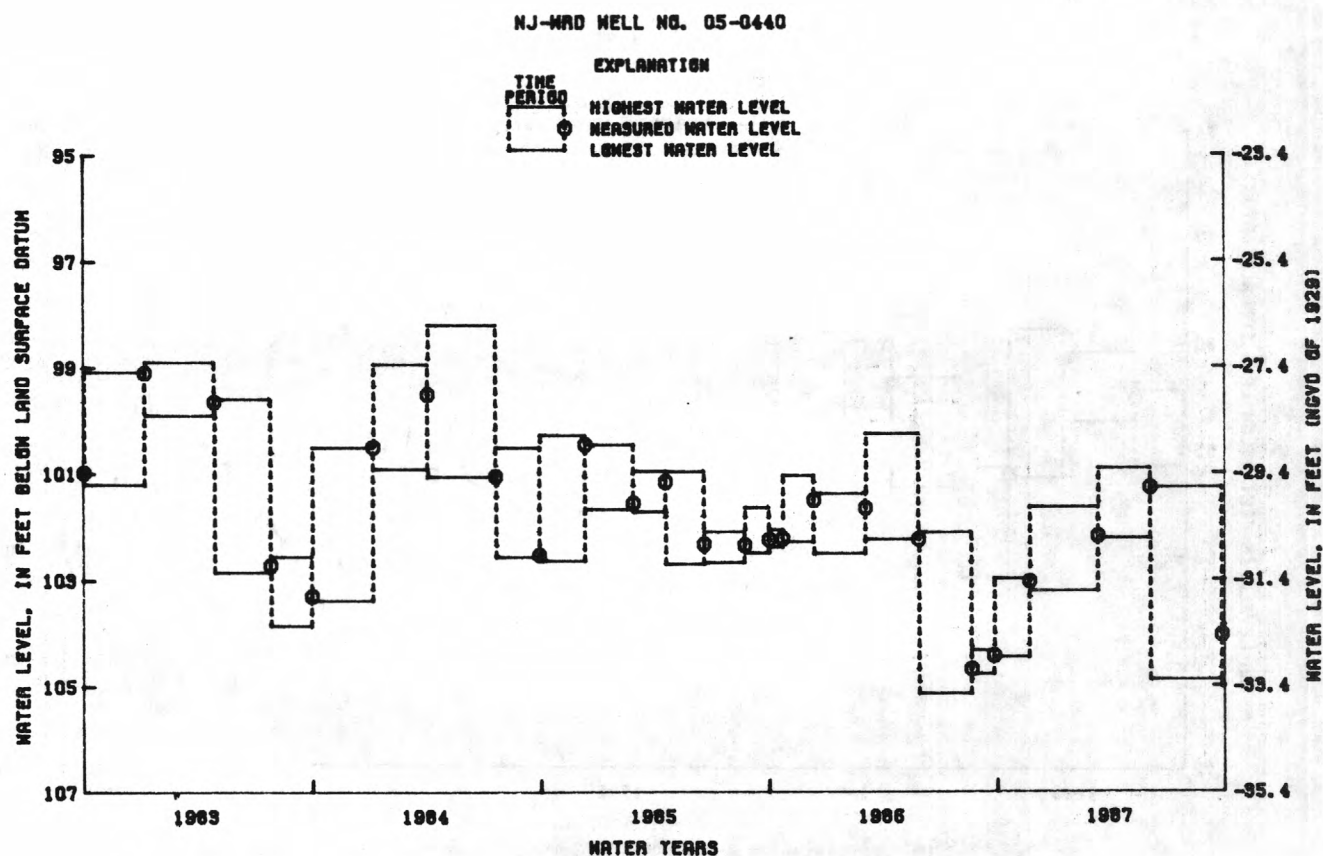
Measuring point: Front edge of cutout in recorder housing, 2.22 ft above land-surface datum.

PERIOD OF RECORD.--December 1968 to March 1975, April 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, 86.55 ft below land-surface datum, Dec. 31, 1969; lowest, 105.14 ft below land-surface datum, between May 27 and Aug. 20, 1986.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

WATER-LEVEL EXTREMES			MEASURED WATER LEVEL	
PERIOD	HIGHEST WATER LEVEL	LOWEST WATER LEVEL	DATE	WATER LEVEL
SEPT. 25, 1986 TO NOV. 21, 1986	102.97	104.45	NOV. 21, 1986	103.03
NOV. 21, 1986 TO MAR. 10, 1987	101.63	103.21	MAR. 10, 1987	102.18
MAR. 10, 1987 TO JUNE 2, 1987	100.90	102.22	JUNE 2, 1987	101.27
JUNE 2, 1987 TO SEPT. 25, 1987	101.26	104.88	SEPT. 25, 1987	104.04



CAMDEN COUNTY

394922074563301. Local I.D., Elm Tree Farm 2 Obs. NJ-WRD Well Number, 07-0412.

LOCATION.--Lat 39°49'22" Long 74°56'30", Hydrologic Unit 02040202, about 200 ft northeast of Thomas Road and about 2 mi northwest of Berlin.

Owner: New Jersey - American Water Company.

AQUIFER.--Lower aquifer, Potomac-Raritan-Magothy aquifer system of Cretaceous age.

WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 6 in, depth 1,092 ft, screened 1,082 to 1,092 ft.

INSTRUMENTATION.--Digital water-level recorder--60-minute punch. Water-level extremes recorder, February 1977 to December 1984.

DATUM.--Land-surface datum is 148.68 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top edge of recorder shelf, 2.80 ft above land-surface datum.

REMARKS.--Well was originally screened 1,217 to 1,227 ft; rehabilitated August 1969.

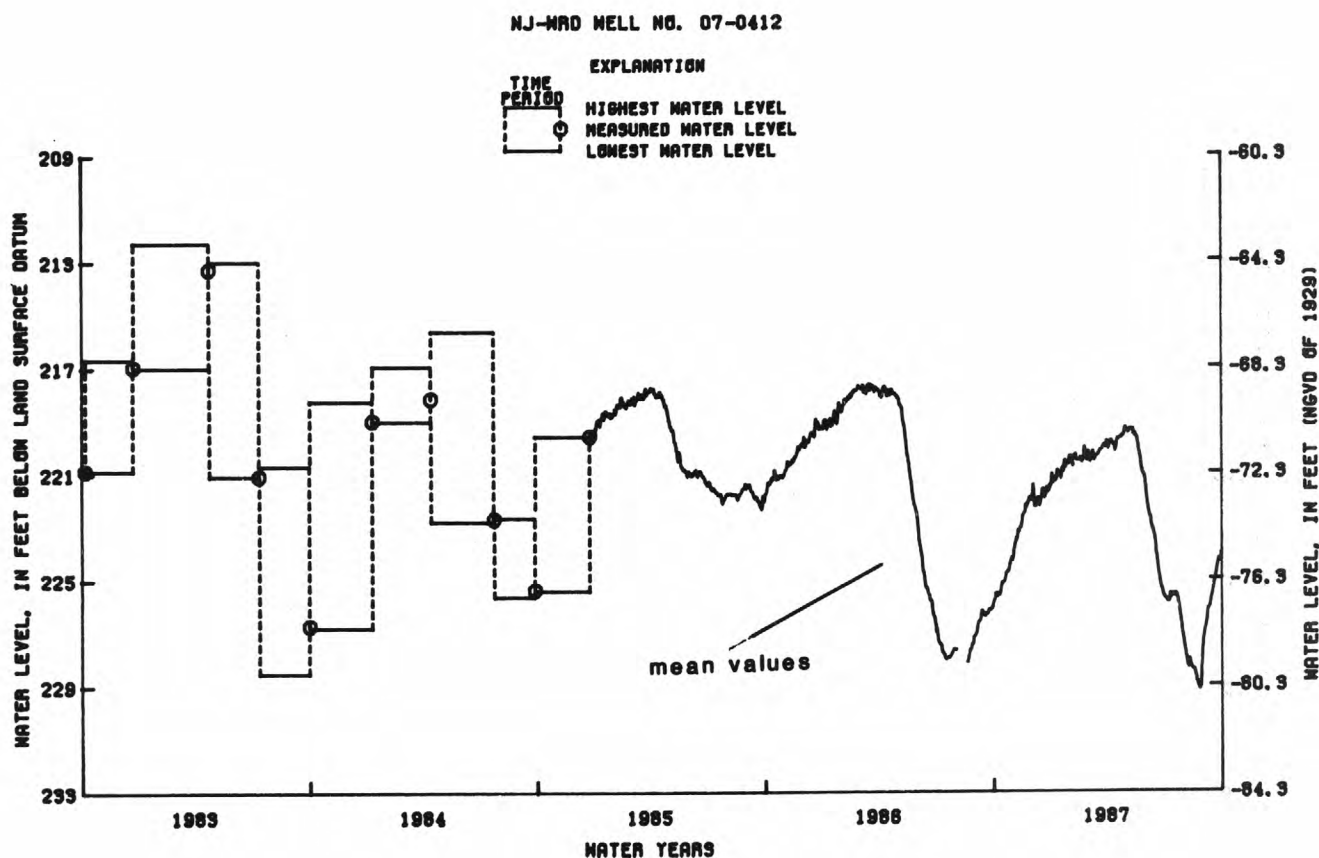
PERIOD OF RECORD.--January 1963 to June 1975, February 1977 to current year. Records for 1963 to 1975 are unpublished and are available in files of New Jersey District Office.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 166.06 ft below land-surface datum, July 21, 1965; lowest, 229.21 ft below land-surface datum, Aug. 26, 27, 1987.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	225.54	223.61	222.10	221.38	220.76	220.61	219.89	219.48	222.35	225.81	228.00	226.78
10	225.60	223.27	222.01	221.10	220.50	220.44	219.93	219.35	222.96	225.56	228.02	226.12
15	225.16	222.86	222.13	221.05	220.54	220.36	220.06	219.53	223.39	225.58	228.42	225.63
20	224.88	222.48	221.80	220.95	220.63	220.19	219.73	219.97	224.42	225.60	228.71	224.99
25	224.70	222.19	221.56	220.80	220.36	220.04	219.64	220.78	225.24	226.23	229.13	224.33
EOM	224.30	221.99	221.59	220.39	220.54	219.81	219.33	221.30	225.68	227.25	227.57	224.04
MEAN	225.09	222.83	221.89	220.97	220.47	220.26	219.80	219.98	223.73	225.96	228.39	225.53
WATER YEAR 1987 -- MEAN 222.93 HIGH 219.15 APR 29 LOW 229.21 AUG 26,27												



CAMDEN COUNTY

394922074563302. Local I.D., Elm Tree Farm 3 Obs. NJ-WRD Well Number, 07-0413.

LOCATION.--Lat 39°49'22", long 74°56'30", Hydrologic Unit 02040202, about 200 ft northeast of Thomas Road and about 2 miles northwest of Berlin.

Owner: New Jersey - American Water Company.

AQUIFER.--Middle aquifer, Potomac-Raritan-Magothy aquifer system of Cretaceous age.

WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 6 in, depth 717 ft, screened 706 to 717 ft.

INSTRUMENTATION.--Digital water-level recorder--60-minute punch.

DATUM.--Land-surface datum is 148.73 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top edge of recorder shelf, 0.60 ft above land-surface datum.

PERIOD OF RECORD.--December 1963 to April 1975, March 1977 to current year. Records for 1963 to 1977 are unpublished and are available in files of New Jersey District Office.

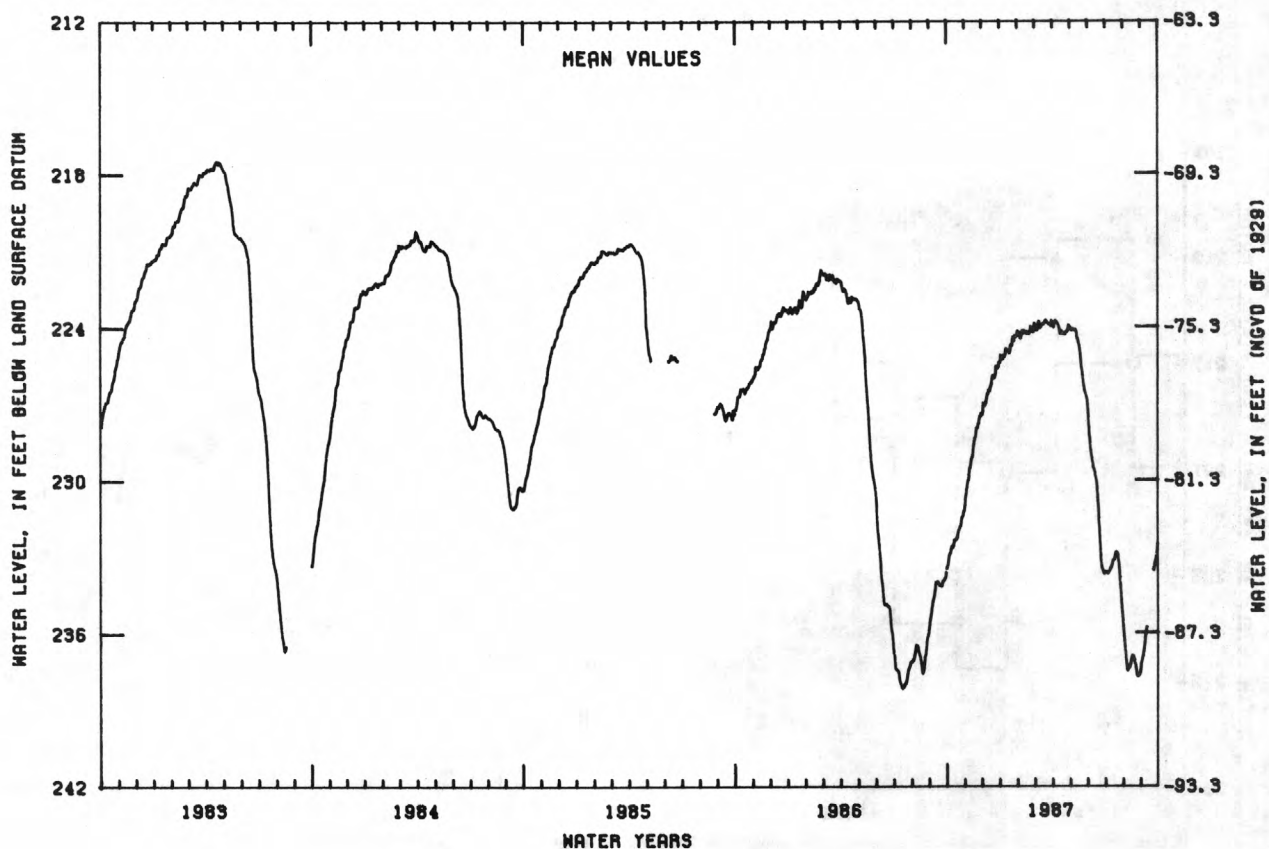
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 174.21 ft below land-surface datum, Feb. 6, 1964; lowest, 238.20 ft below land-surface datum, July 16, 1986.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	232.94	230.20	227.08	225.29	224.48	224.15	223.85	224.13	228.47	233.66	236.77	236.76
10	232.64	229.52	226.60	225.02	224.26	223.96	223.88	224.15	229.40	233.48	237.36	235.89
15	232.38	228.85	226.36	224.90	224.27	223.92	224.28	224.48	229.93	233.13	237.07	---
20	232.09	228.18	225.98	224.75	224.29	223.77	224.30	225.26	231.38	232.82	237.02	---
25	231.77	227.76	225.53	224.55	224.17	223.89	224.20	226.24	233.38	233.41	237.70	233.23
EOM	231.22	227.39	225.43	224.16	224.16	223.74	223.95	226.86	233.67	235.43	237.44	232.47
MEAN	232.29	228.86	226.31	224.82	224.22	223.91	224.07	225.03	230.59	233.55	237.16	235.06
WATER YEAR 1987 -- MEAN 228.66 HIGH 223.65 MAR 31 LOW 237.75 AUG 26												

NJ-WRD WELL NO. 07-0413



CAMDEN COUNTY

395229074571201. Local I.D., Hutton Hill 1 Obs. NJ-WRD Well Number, 07-0117.

LOCATION.--Lat 39°52'29", long 74°57'12", Hydrologic Unit 02040202, about 800 ft northeast of intersection of Kresson and Cropwell Roads, Cherry Hill Township.

Owner: New Jersey - American Water Company.

AQUIFER.--Upper aquifer, Potomac-Raritan-Magothy aquifer system of Cretaceous age.

WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 6 in, depth 562 ft, screened 552 to 562 ft.

INSTRUMENTATION.--Digital water-level recorder--60-minute punch. Water-level extremes recorder, February 1977 to December 1984.

DATUM.--Land-surface datum is 157.61 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top edge of recorder shelf, 1.60 ft above land-surface datum.

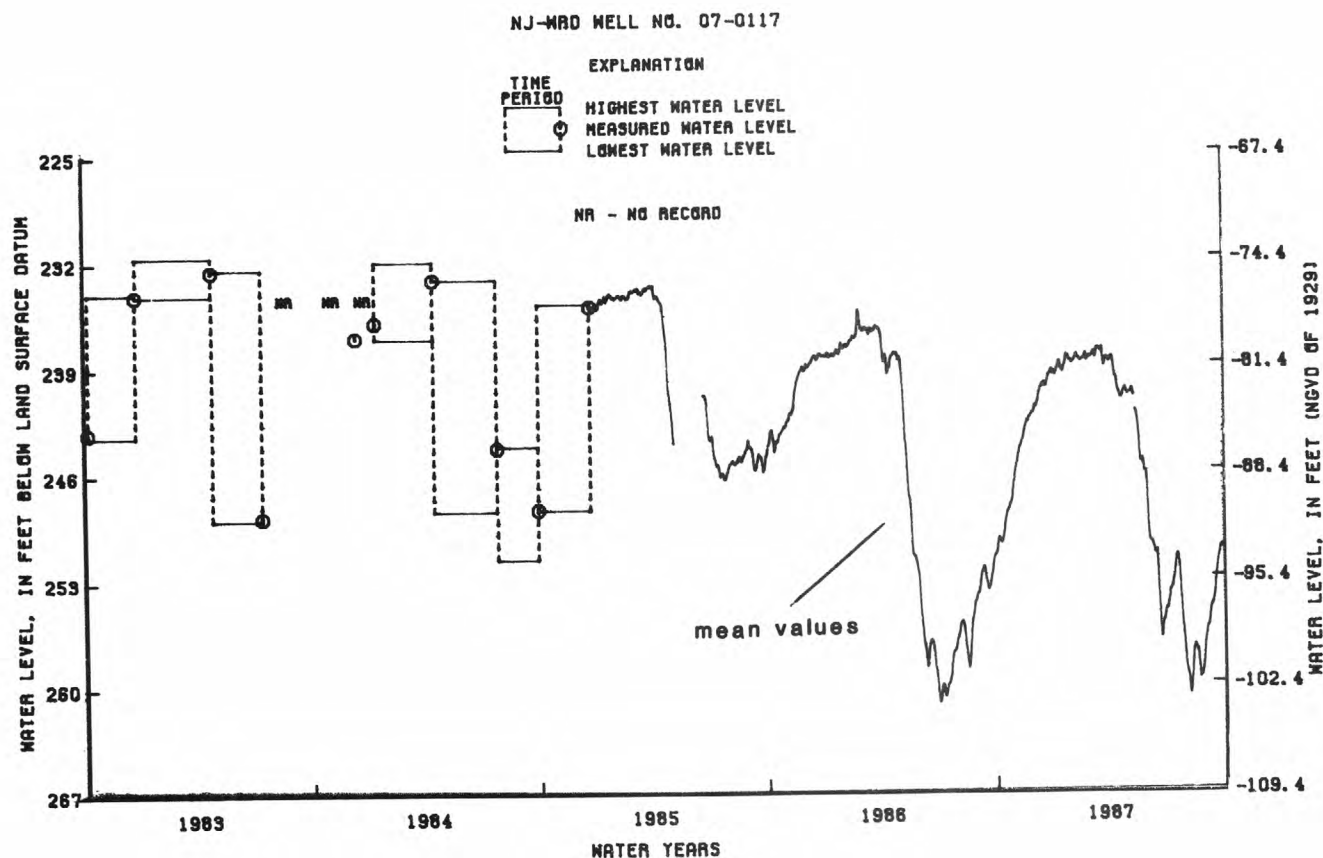
PERIOD OF RECORD.--August 1967 to April 1975, February 1977 to current year. Records for 1967 to 1975 are unpublished and are available in files of New Jersey District Office.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 200.77 ft below land-surface datum, Mar. 23, 1968; lowest, 261.32 ft below land-surface datum, July 1,2, 1986.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	250.55	245.32	241.82	239.72	238.75	238.47	238.63	240.89	250.67	254.27	260.50	256.23
10	250.69	244.39	240.83	238.99	238.61	238.59	239.72	241.13	251.01	253.66	258.72	254.85
15	249.89	243.66	240.25	239.28	238.81	237.96	240.70	242.49	251.25	252.01	257.57	253.83
20	248.61	242.84	240.49	239.05	238.70	238.17	241.29	245.22	255.89	252.12	258.90	251.94
25	248.13	242.49	239.68	238.61	238.79	238.96	240.70	245.47	255.92	255.72	259.41	251.00
EOM	246.53	242.16	239.59	238.81	238.65	238.72	240.91	247.41	255.06	258.96	257.11	250.85
MEAN	249.35	243.71	240.58	239.08	238.65	238.40	240.12	243.47	252.99	254.23	258.82	253.53
WATER YEAR 1987 -- MEAN 246.13 HIGH 238.15 FEB 23 LOW 260.81 AUG 6												



CAMDEN COUNTY

395246075043301. Local I.D., Egbert Station Obs. NJ-WRD Well Number, 07-0283.

LOCATION.--Lat 39°52'46", long 75°04'34", Hydrologic Unit 02040202, in Camden County Park, about 400 ft south of the corner of Dallas and Sylvan Avenues, Haddon Heights.

Owner: New Jersey - American Water Company.

AQUIFER.--Lower aquifer, Potomac-Raritan-Magothy aquifer system of Cretaceous age.

WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 6 in, depth 455 ft, screened 445 to 455 ft.

INSTRUMENTATION.--Digital water-level recorder--60-minute punch. Water-level extremes recorder, February 1977 to December 1984.

DATUM.--Land-surface datum is 23.66 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top edge of recorder shelf, 3.00 ft above land-surface datum.

REMARKS.--Water level affected by nearby pumping.

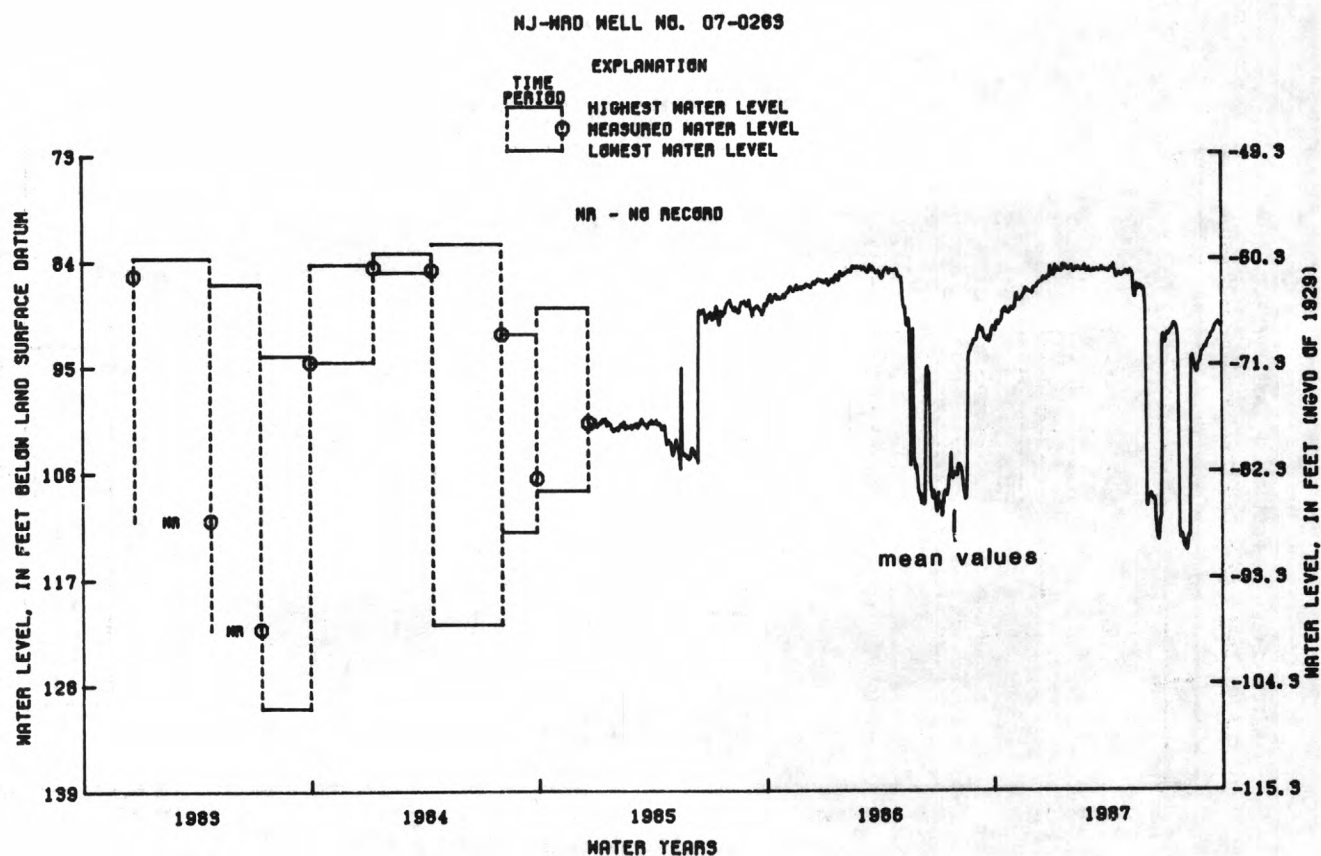
PERIOD OF RECORD.--July 1963 to August 1975, February 1977 to September 1987 (discontinued). Periodic manual measurements, September 1975 to January 1977. Records for 1963 to 1982 are unpublished and are available in files of New Jersey District Office.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 61.93 ft below land-surface datum, Apr. 8, 1964; lowest, 130.41 ft below land-surface datum, between July 12 and Sept. 29, 1983.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	90.35	87.59	86.93	85.67	85.27	85.31	84.88	85.20	108.56	91.61	114.17	93.25
10	90.41	88.14	86.43	85.15	85.12	85.15	84.48	85.46	108.54	91.38	112.54	92.33
15	89.20	87.80	86.27	85.18	84.92	84.98	85.84	87.92	109.14	90.65	94.15	91.72
20	89.45	86.93	85.91	84.81	85.11	85.07	85.41	87.11	112.93	91.23	95.62	90.87
25	89.44	87.27	85.75	84.80	85.13	85.17	85.50	86.97	110.71	112.66	94.84	90.56
EOM	89.24	87.35	85.39	84.74	85.19	85.07	85.21	89.58	92.29	113.53	93.61	90.68
MEAN	89.79	87.73	86.27	85.04	84.99	85.09	85.30	86.61	107.11	97.23	101.04	91.75
WATER YEAR 1987 --	MEAN 90.68	HIGH 84.11	APR 10	LOW 115.44	AUG 4							



CAPE MAY COUNTY

385607074555201. Local I.D., West Cape May 1 Obs. NJ-WRD Well Number, 09-0150.

LOCATION.--Lat 38°56'07", long 74°55'56", Hydrologic Unit 02040206, on the north side of Sunset Boulevard, West Cape May.

Owner: U.S. Geological Survey.

AQUIFER.--Cohansey Sand of Miocene age.

WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 6 in, depth 293 ft, screened 283 to 293 ft.

INSTRUMENTATION.--Water-level extremes recorder, May 1977 to current year. Water-level recorder, July 1957 to December 1972.

DATUM.--Land-surface datum is 6.60 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Front edge of cutout in recorder housing, 2.88 ft above land-surface datum.

REMARKS.--Water level affected by tidal fluctuation and nearby pumping.

PERIOD OF RECORD.--July 1957 to December 1972, May 1977 to current year. Periodic manual measurements, February 1973 to September 1976. Records for 1957 to 1982 are unpublished and are available in files of New Jersey District Office.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 14.38 ft below land-surface datum, between Jan. 10 and Apr. 10, 1984; lowest, 41.30 ft below land-surface datum, Sept. 3, 1963.

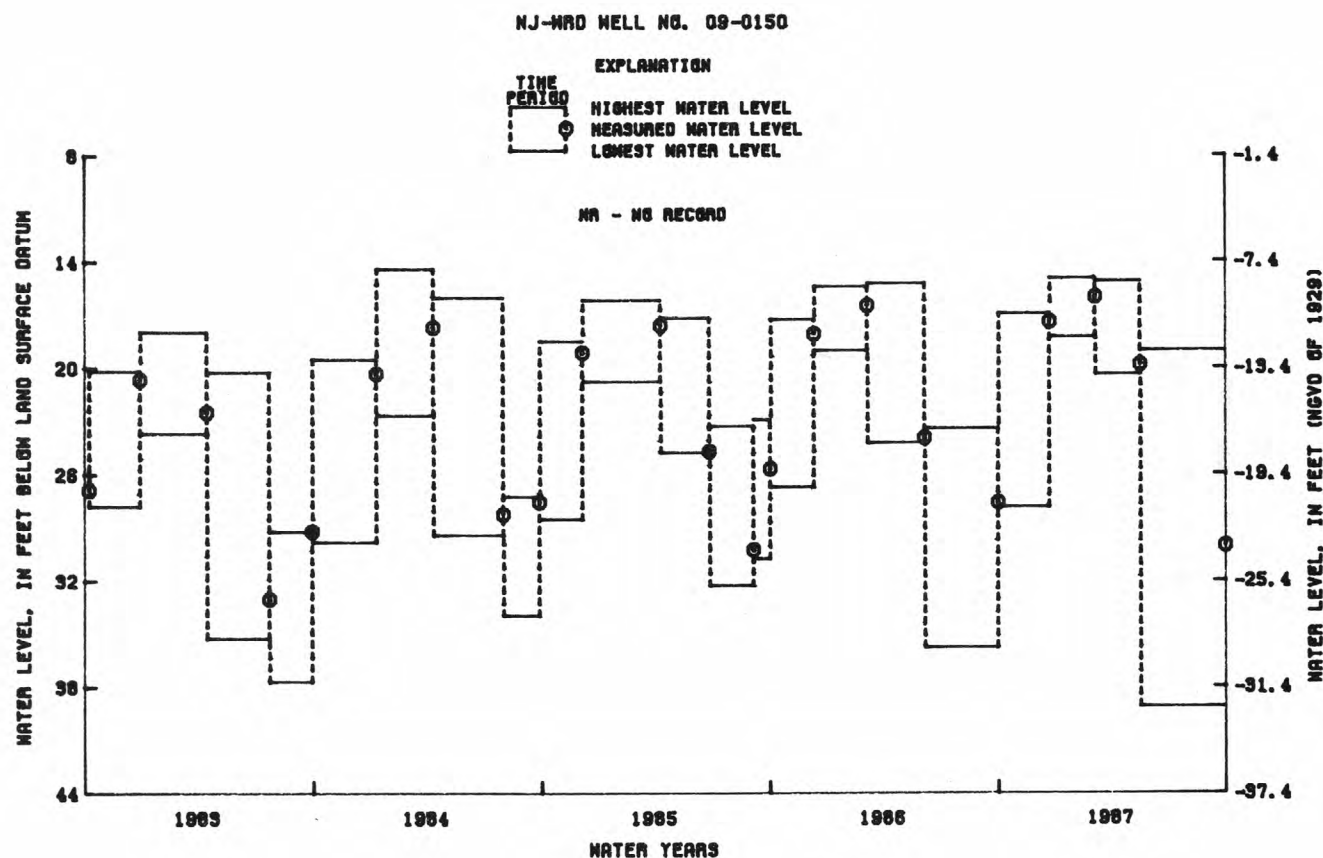
WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

WATER-LEVEL EXTREMES

PERIOD	HIGHEST WATER LEVEL	LOWEST WATER LEVEL
SEPT. 30, 1986 TO DEC. 22, 1986	16.91	27.84
DEC. 22, 1986 TO MAR. 4, 1987	14.92	18.28
MAR. 4, 1987 TO MAY 15, 1987	15.09	20.36
MAY 15, 1987 TO SEPT. 29, 1987	18.98	39.11

MEASURED WATER LEVEL

DATE	WATER LEVEL
DEC. 22, 1986	17.40
MAR. 4, 1987	16.01
MAY 15, 1987	19.82
SEPT. 29, 1987	30.01



GROUND-WATER LEVELS

CAPE MAY COUNTY

385804074574201. Local I.D., Higbee Beach 3 Obs. NJ-WRD Well Number, 09-0049.

LOCATION.--Lat 38°58'04", long 74°57'42", Hydrologic Unit 02040206, on the north bank of the west end of the Cape May Canal, Lower Township.

OWNER: U.S. Geological Survey.

AQUIFER.--Cohansey Sand of Miocene age.

WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 6 in, depth 250 ft, screened 241 to 250 ft.

INSTRUMENTATION.--Water-level extremes recorder, May 1977 to current year. Water-level recorder, June 1965 to September 1975.

DATUM.--Land-surface datum is 6.00 ft above National Geodetic Vertical Datum of 1929.

Measuring Point: Front edge of cutout in recorder housing, 2.93 ft above land-surface datum.

REMARKS.--Water level affected by tidal fluctuation and nearby pumping.

PERIOD OF RECORD.--June 1965 to September 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, 12.65 ft below land-surface datum, between Apr. 10 and July 31, 1984; lowest, 34.22 ft below land-surface datum, July 31, 1974.

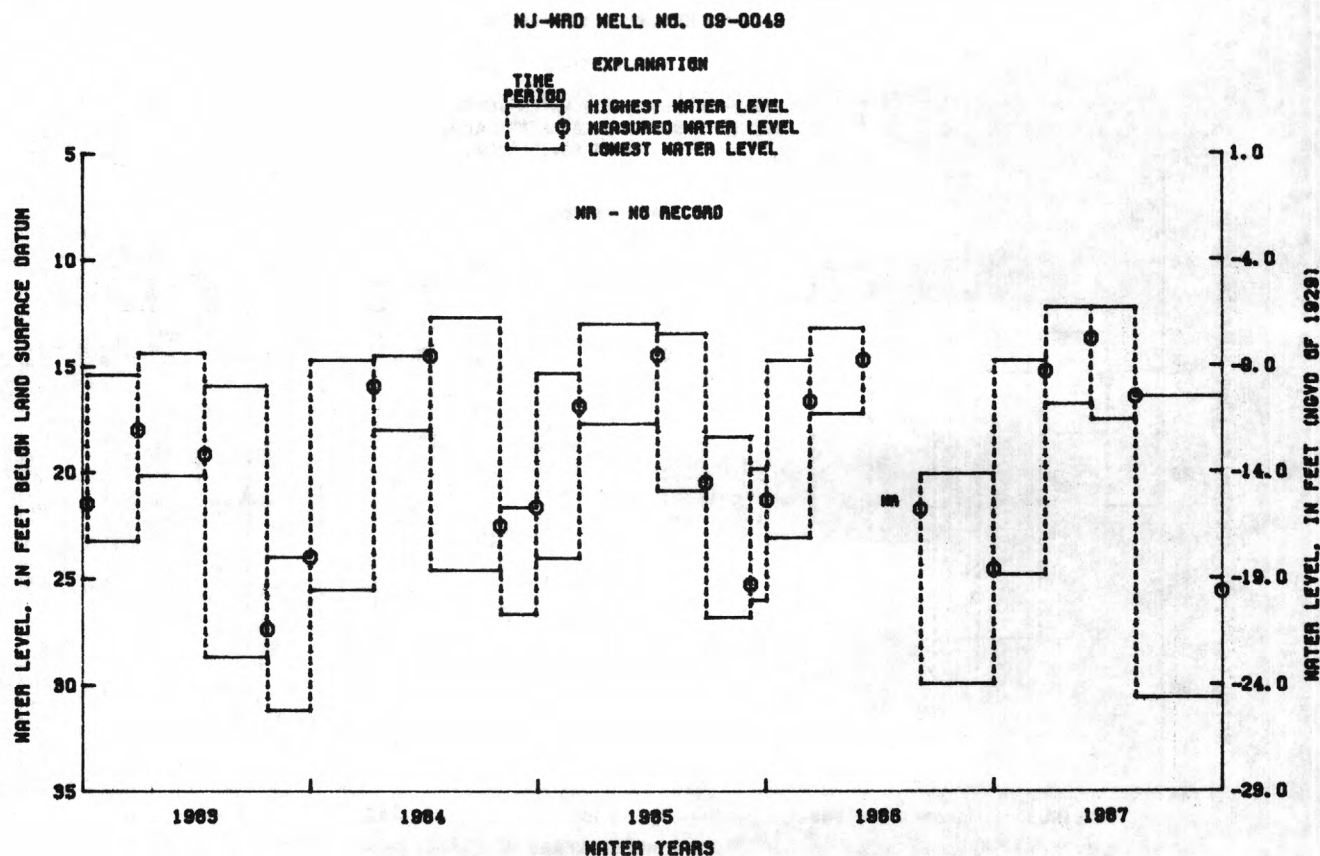
WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

WATER-LEVEL EXTREMES

PERIOD	HIGHEST WATER LEVEL	LOWEST WATER LEVEL
SEPT. 30, 1986 TO DEC. 22, 1986	14.74	24.84
DEC. 22, 1986 TO MAR. 4, 1987	12.22	16.81
MAR. 4, 1987 TO MAY 14, 1987	12.24	17.55
MAY 14, 1987 TO SEPT. 29, 1987	16.45	30.60

MEASURED WATER LEVEL

DATE	WATER LEVEL
DEC. 22, 1986	15.25
MAR. 4, 1987	13.72
MAY 14, 1987	16.45
SEPT. 29, 1987	25.62



CAPE MAY COUNTY

390425074544601. Local I.D., Oyster Lab 4 Obs. NJ-WRD Well Number, 09-0089.

LOCATION.--Lat 39°04'25", long 74°54'46", Hydrologic Unit 02040206, at the Rutgers Oyster Laboratory near Green Creek, Middle Township.

Owner: U.S. Geological Survey.

AQUIFER.--Cohansey Sand of Miocene age.

WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 6 in, depth 210 ft, screened 195 to 210 ft.

INSTRUMENTATION.--Water-level extremes recorder, May 1977 to current year. Water-level recorder, August 1957 to August 1975.

DATUM.--Land-surface datum is 7.37 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Front edge of cutout in recorder housing, 3.90 ft above land-surface datum.

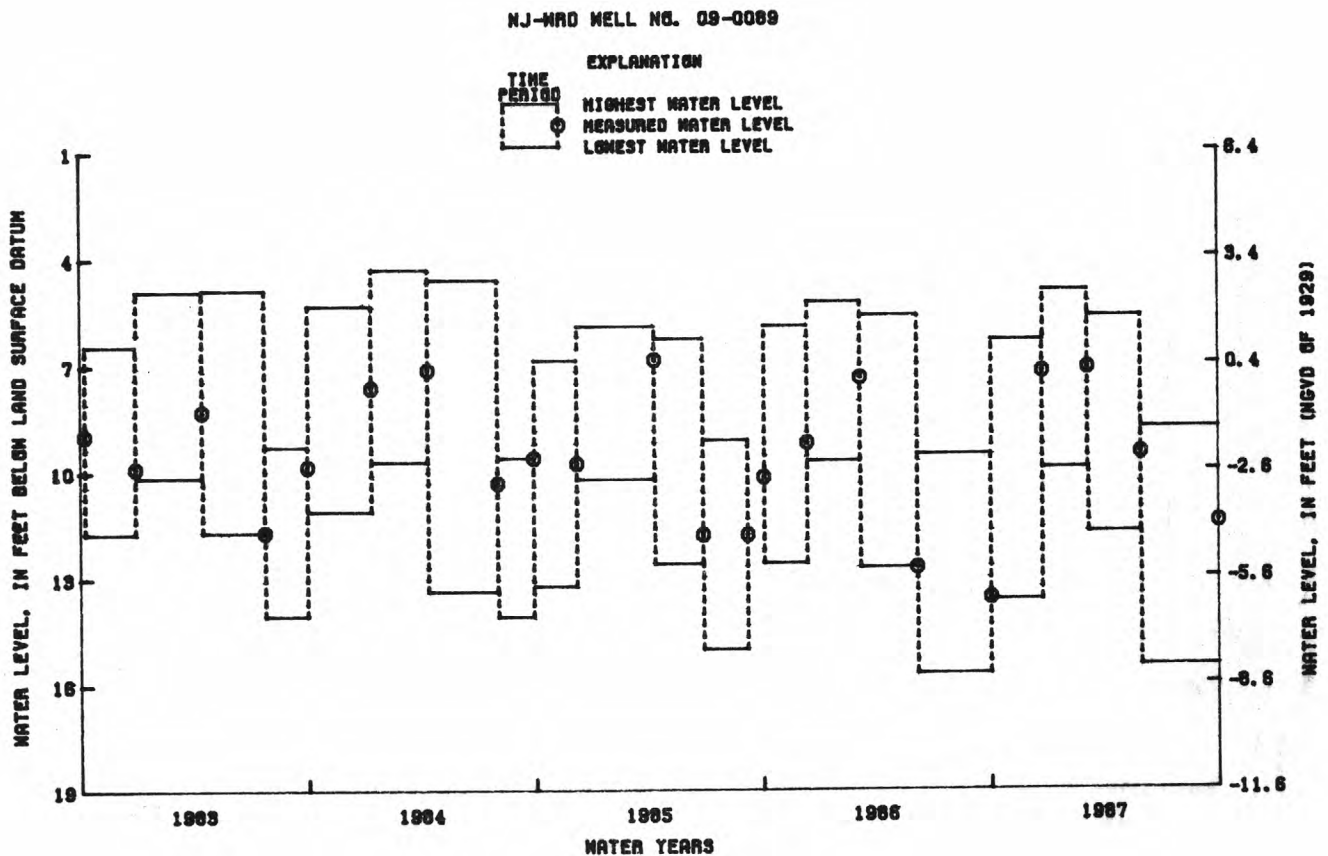
REMARKS.--Water level affected by tidal fluctuation and nearby pumping. Water-quality data for 1987 is published elsewhere in this report.

PERIOD OF RECORD.--August 1957 to August 1975, May 1977 to current year. Periodic manual measurements, September 1975 to April 1977. Records for 1957 to 1982 are unpublished and are available in files of New Jersey District Office.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 2.07 ft below land-surface datum, Apr. 3, 1958; lowest, 15.71 ft below land-surface datum, between June 4 and Sept. 30, 1986.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

WATER-LEVEL EXTREMES			MEASURED WATER LEVEL	
PERIOD	HIGHEST WATER LEVEL	LOWEST WATER LEVEL	DATE	WATER LEVEL
SEPT. 30, 1986 TO DEC. 22, 1986	6.31	13.64	DEC. 22, 1986	7.22
DEC. 22, 1986 TO MAR. 4, 1987	4.92	9.93	MAR. 4, 1987	7.12
MAR. 4, 1987 TO MAY 28, 1987	5.64	11.74	MAY 28, 1987	9.52
MAY 28, 1987 TO SEPT. 29, 1987	8.79	15.50	SEPT. 29, 1987	11.46



CUMBERLAND COUNTY

391828075120902. Local I.D., Jones Island 2 Obs. NJ-WRD Well Number, 11-0096.

LOCATION.--Lat 39°18'29", long 75°12'08", Hydrologic Unit 02040206, about 1.7 mi south of Cedarville at Jones Island, Lawrence Township.

Owner: Cumberland County.

AQUIFER.--Piney Point aquifer of Eocene age.

WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 4 in, depth 375 ft, screened 365 to 375 ft.

INSTRUMENTATION.--Digital water-level recorder--60-minute punch.

DATUM.--Land-surface datum is 10.10 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top edge of recorder shelf, 1.90 ft above land-surface datum.

REMARKS.--Water level affected by tidal fluctuation. Well was pumped on Sept. 22, 1986. After pumping, the water level did not recover to its previous level. The screen may have been partially clogged.

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

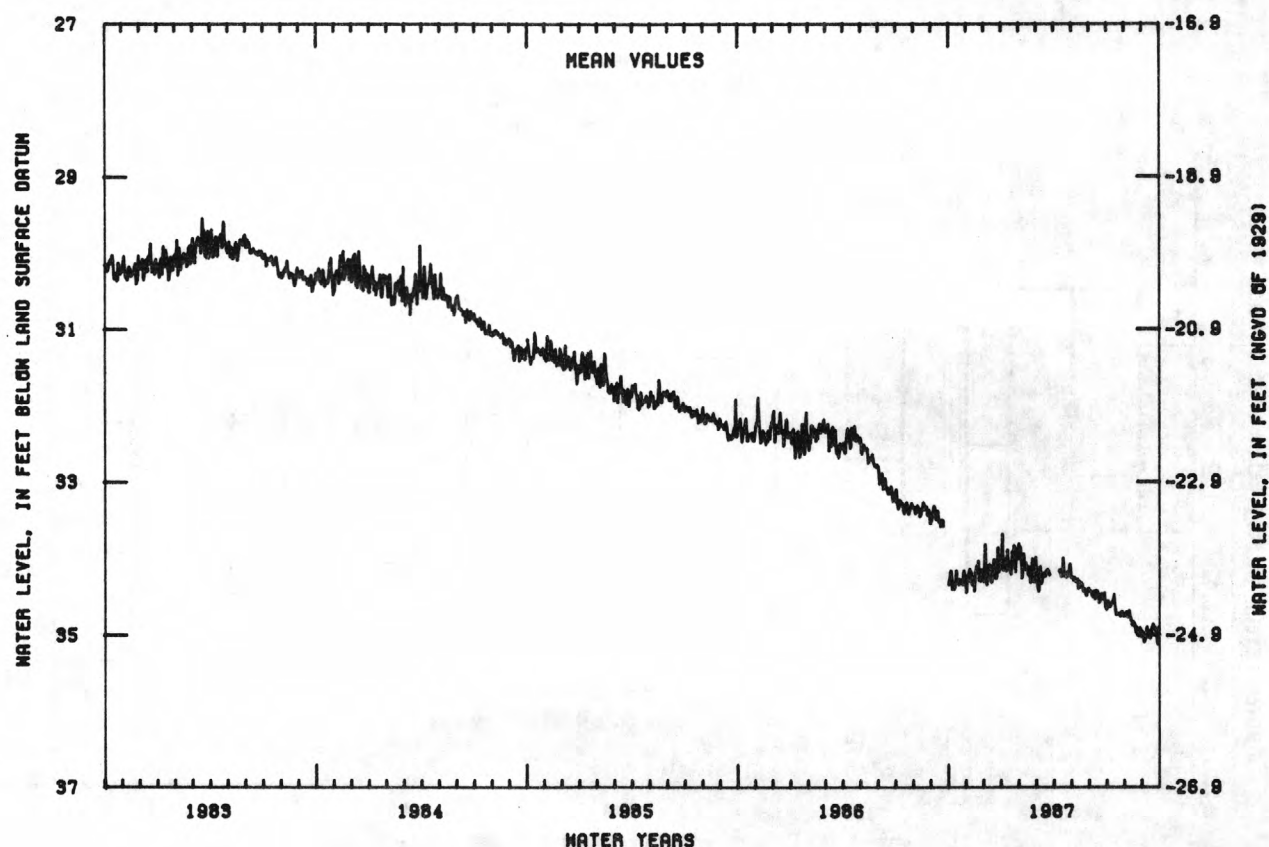
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 19.99 ft below land-surface datum, Mar. 22, 1977; lowest, 35.19 ft below land-surface datum, Sept. 28, 1987.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	34.18	34.18	34.32	34.14	34.26	34.41	---	34.29	34.45	34.61	34.70	35.09
10	34.41	34.35	34.08	33.99	34.13	34.25	34.16	34.30	34.51	34.58	34.68	35.00
15	34.26	34.30	34.28	34.07	34.18	34.19	34.18	34.30	34.43	34.59	34.88	35.05
20	34.32	34.09	34.14	34.03	34.32	34.15	34.24	34.34	34.53	34.72	34.91	34.86
25	34.35	34.30	33.86	34.18	34.28	34.22	34.22	34.42	34.53	34.76	35.01	34.98
EOM	34.45	34.26	34.10	33.81	34.26	---	34.16	34.39	34.66	34.76	34.99	34.90
MEAN	34.30	34.23	34.16	34.02	34.14	34.22	34.18	34.35	34.49	34.66	34.85	34.99
WATER YEAR 1987	--	MEAN	34.39	HIGH	33.48	JAN 2,22	LOW	35.19	SEP 28			

NJ-WRD WELL NO. 11-0096



GLOUCESTER COUNTY

394942075131701. Local I.D., Shell Chemical 5 Obs. NJ-WRD Well Number, 15-0296.

LOCATION.--Lat 39°49'42", long 75°13'17", Hydrologic Unit 02040202, near the intersection of Mantua Grove Road and Route 295, West Deptford Township.

Owner: Shell Chemical Company.

AQUIFER.--Lower aquifer, Potomac-Raritan-Magothy aquifer system of Cretaceous age.

WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 6 in, depth 327 ft, screened 321 to 326 ft.

INSTRUMENTATION.--Digital water-level recorder--60-minute punch.

DATUM.--Land-surface datum is 20.76 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top edge of recorder shelf, 2.90 ft above land-surface datum.

REMARKS.--Water level affected by tidal fluctuation and nearby pumping. Water quality data for 1987 is published elsewhere in this report. Missing data from October 16 to November 20, 1986 was due to recorder malfunction.

PERIOD OF RECORD.--June 1962 to current year. Records for 1962 to 1977 are unpublished and are available in files of New Jersey District Office.

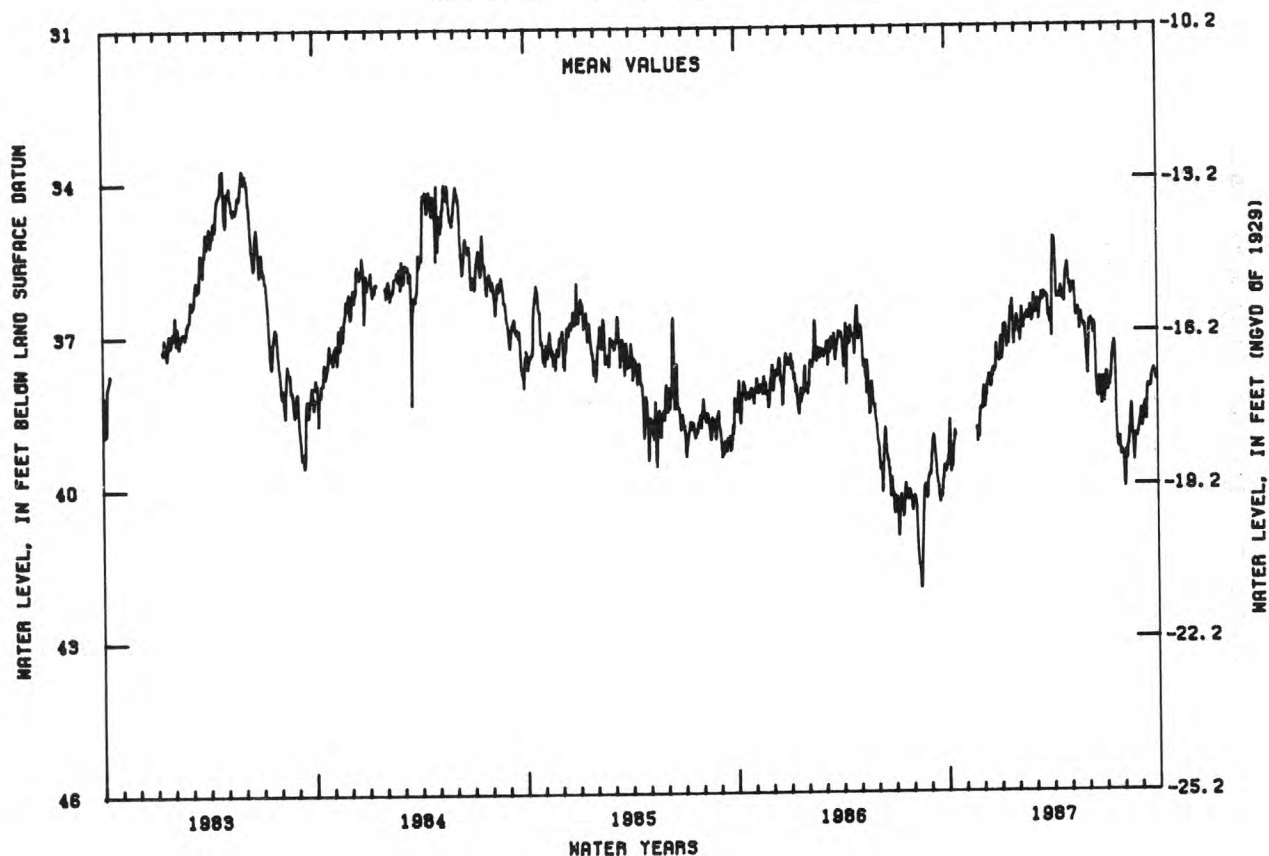
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 27.75 ft below land-surface datum, Dec. 6, 1962; lowest, 42.50 ft below land-surface datum, Aug. 15, 1986.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	38.71	---	38.48	37.42	37.19	36.62	35.19	36.17	36.79	37.82	40.06	38.76
10	39.59	---	37.95	36.85	36.89	36.76	36.35	36.07	36.81	38.08	39.25	38.65
15	39.04	---	38.06	37.10	36.68	36.23	36.29	36.63	37.35	37.40	38.62	38.10
20	---	---	37.71	36.53	36.75	36.26	36.34	36.77	38.29	37.72	39.37	37.91
25	---	39.06	37.24	37.25	36.78	36.31	35.94	36.84	38.23	39.23	39.08	37.83
EOM	---	38.51	37.58	36.72	36.64	36.68	35.90	37.51	38.31	39.38	38.73	37.86
MEAN	---	---	37.91	36.99	36.78	36.47	36.02	36.59	37.61	38.28	39.18	38.21
WATER YEAR 1987 -- HIGH 34.81 APR 4 LOW 40.34 AUG 6												

NJ-WRD WELL NO. 15-0296



GLOUCESTER COUNTY

394957075053001. Local I.D., Deptford Deep Obs. NJ-WRD Well Number, 15-0671.

LOCATION.--Lat 39°49'57", Long 75°05'30", Hydrologic Unit 02040202, at N.J. Dept. of Transportation facility off N.J. Route 41 south, Deptford Township.

Owner: U.S. Geological Survey.

AQUIFER.--Lower aquifer, Potomac-Raritan-Magothy aquifer system of Cretaceous age.

WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 4 in, depth 670 ft, screened 650 to 670 ft.

INSTRUMENTATION.--Digital water-level recorder--60-minute punch.

DATUM.--Land-surface datum is 35 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top edge of recorder shelf, 3.55 ft above land-surface datum.

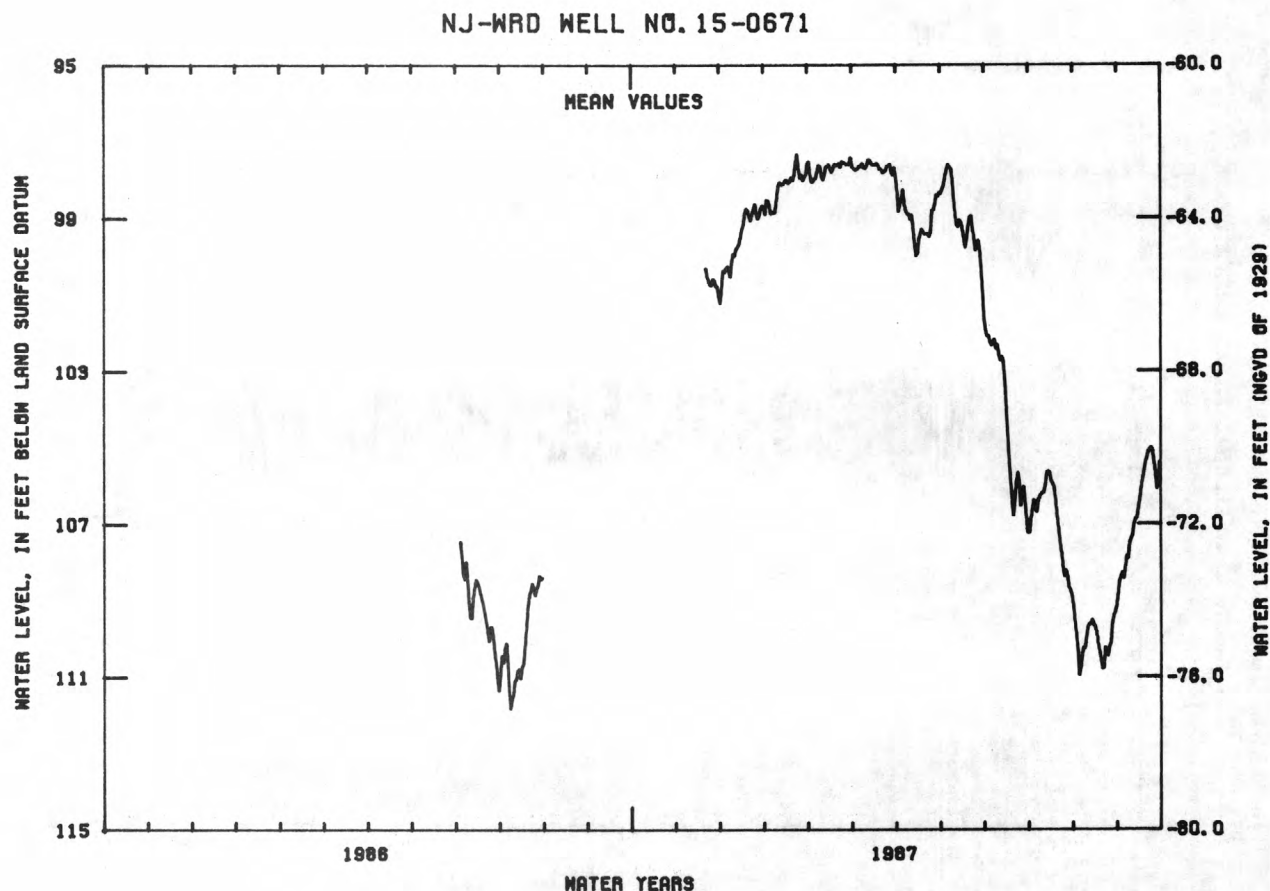
REMARKS.--Water level affected by nearby pumping. Missing record from August 1 to November 20, 1986 was due to recorder malfunction.

PERIOD OF RECORD.--June 1986 to current year. Records for 1986 are unpublished and are available in files of New Jersey District Office.

EXTREMES FOR PERIOD OF RECORD.--Highest water level 97.10 ft below land surface datum, Jan. 22, 1987; lowest 111.98 ft below land surface datum, July 9, 1986.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	---	---	100.31	98.89	97.95	97.74	98.49	97.90	102.24	106.38	110.96	108.42
10	---	---	99.93	98.18	98.01	97.70	98.89	98.03	102.30	106.23	109.94	107.39
15	---	---	99.49	98.01	97.73	97.57	99.99	99.05	103.22	105.62	109.61	106.62
20	---	---	98.81	98.02	97.61	97.63	99.38	99.51	106.42	106.41	110.57	105.39
25	---	100.76	98.63	97.96	97.57	97.76	99.35	99.54	105.89	108.15	110.45	105.10
EOM	---	101.05	98.70	97.52	97.59	97.68	98.43	100.99	106.89	108.86	109.13	105.38
MEAN	---	---	99.53	98.15	97.73	97.66	99.01	98.97	104.13	106.92	110.01	106.63
WATER YEAR 1987 -- HIGH 97.10 JAN 22 LOW 111.98 JUL 9												



GLOUCESTER COUNTY

395232075094201. Local I.D., Eagle Point 3 Obs. NJ-WRD Well Number, 15-0323.

LOCATION.--Lat 39°52'35", long 75°09'50", Hydrologic Unit 02040202, at the Coastal Eagle Point Oil Company, West Deptford Township.

Owner: Coastal Eagle Point Oil Company.

AQUIFER.--Lower aquifer, Potomac-Raritan-Magothy aquifer system of Cretaceous age.

WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 8 in, depth 276 ft, screened 255 to 275 ft.

INSTRUMENTATION.--Digital water-level recorder--60-minute punch. Water-level extremes recorder, April 1981 to December 1984.

DATUM.--Land-surface datum is 20.96 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of casing, 3.00 ft above land-surface datum.

REMARKS.--Water level affected by tidal fluctuation and nearby pumping.

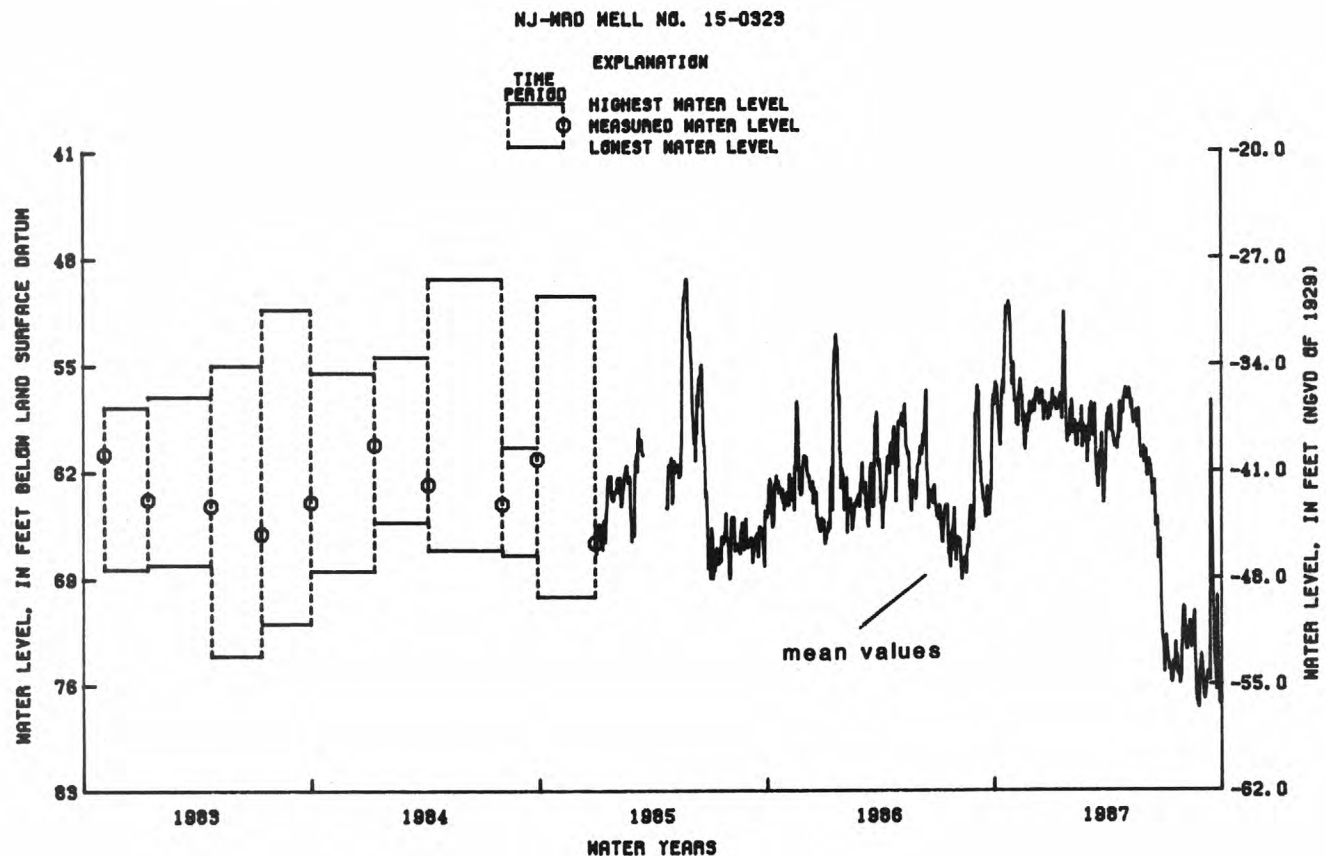
PERIOD OF RECORD.--November 1949 to July 1975, April 1981 to current year. Periodic manual measurements, October 1976 to March 1981. Records for 1975 to 1981 are unpublished and are available in files of New Jersey District Office.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 37.70 ft below land-surface datum, Nov. 25, 1950; lowest, 87.30 ft below land-surface datum, June 28, 1963.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	56.98	58.89	57.40	57.34	59.23	57.49	58.63	56.58	61.34	73.95	73.72	76.10
10	60.31	56.83	56.76	57.96	59.19	59.50	60.05	58.30	62.61	74.80	71.82	75.40
15	56.88	58.76	57.22	56.89	59.40	62.35	60.10	58.43	63.66	74.45	72.01	66.22
20	51.30	59.70	57.48	51.52	58.87	61.09	57.47	57.91	67.69	74.06	76.64	75.00
25	51.21	58.83	57.85	59.93	60.07	64.08	58.19	60.63	70.18	75.95	75.63	74.80
EOM	54.93	57.81	57.99	57.92	60.59	58.26	57.22	60.58	75.18	70.86	75.70	76.93
MEAN	55.28	58.10	57.57	57.43	59.31	60.41	58.74	58.85	65.57	74.35	73.92	73.53
WATER YEAR 1987 --	MEAN 62.77			HIGH 49.69	OCT 20		LOW 78.73	AUG 23				



HUNTERDON COUNTY

402644074563601. Local I.D., Bird Obs. NJ-WRD Well Number, 19-0002.

LOCATION.--Lat 40°26'44", long 74°56'36", Hydrologic Unit 02040105, near U.S. Post Office, Sergeantsville.

Owner: Phillip Fleming.

AQUIFER.--Stockton Formation of Triassic age.

WELL CHARACTERISTICS.--Dug water-table observation well, diameter 3 ft, depth 21 ft, lined with stone.

INSTRUMENTATION.--Digital water-level recorder--60-minute punch.

DATUM.--Land-surface datum is 342.08 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top edge of recorder shelf, 1.50 ft above land-surface datum.

PERIOD OF RECORD.--June 1965 to July 1970, May 1977 to current year. Periodic manual measurements, September 1970 to September 1976. Records for 1965 to 1976 are unpublished and are available in files of New Jersey District Office.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 6.37 ft below land-surface datum, Apr. 18, 1983; lowest, 17.04 ft below land-surface datum, Jan. 26-28, 1981.

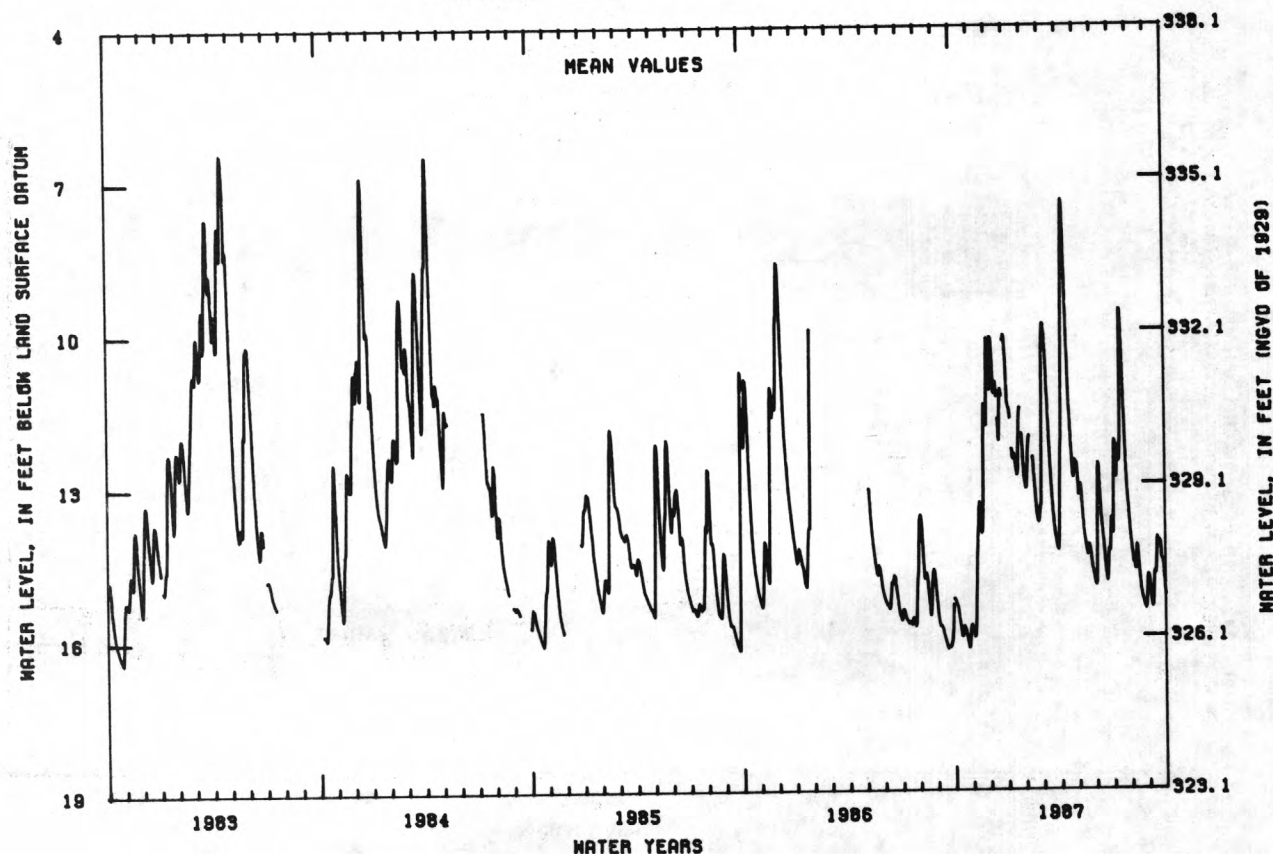
WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	15.35	16.01	10.15	11.58	12.45	9.87	9.22	---	13.72	12.16	14.45	15.26
10	15.69	14.28	11.08	12.50	---	10.91	8.08	13.48	13.23	12.27	14.69	14.93
15	15.96	13.39	---	12.56	12.67	12.39	10.47	14.11	14.07	9.59	14.57	14.21
20	15.86	13.47	11.19	12.17	13.50	13.42	12.03	14.40	14.75	10.97	15.16	14.14
25	16.16	11.76	---	---	13.68	14.04	12.89	14.40	14.29	12.75	15.41	14.52
EOM	15.76	10.50	10.90	12.96	13.39	14.10	12.60	14.85	13.71	13.85	14.79	15.21
MEAN	15.77	13.45	10.91	12.20	13.08	12.36	10.94	13.95	14.09	12.24	14.79	14.73

WATER YEAR 1987 -- MEAN 13.25 HIGH 7.40 APR 8 LOW 16.23 OCT 26,27

NJ-WRD WELL NO. 19-0002



SALEM COUNTY

393348075275701. Local I.D., Salem 1 Obs. NJ-WRD Well Number, 33-0251.

LOCATION.--Lat 39°33'48", long 75°27'55", Hydrologic Unit 02040206, about 300 ft south of the intersection of Elm and Magnolia Streets, Salem.

Owner: U.S. Geological Survey.

AQUIFER.--Middle aquifer, Potomac-Raritan-Magothy aquifer system of Cretaceous age.

WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 6 in, depth 709 ft, screened 699 to 709 ft.

INSTRUMENTATION.--Water-level extremes recorder, May 1977 to current year. Water-level recorder, December 1965 to August 1975.

DATUM.--Land-surface datum is 3.00 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Front edge of cutout in recorder housing, 2.87 ft above land-surface datum.

PERIOD OF RECORD.--December 1965 to August 1975, May 1977 to current year. Records for 1965 to 1980 are unpublished and are available in files of New Jersey District Office.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 14.97 ft below land-surface datum, Dec. 13, 1965; lowest, 34.01 ft below land-surface datum, between Sept. 29 and Dec. 24, 1986.

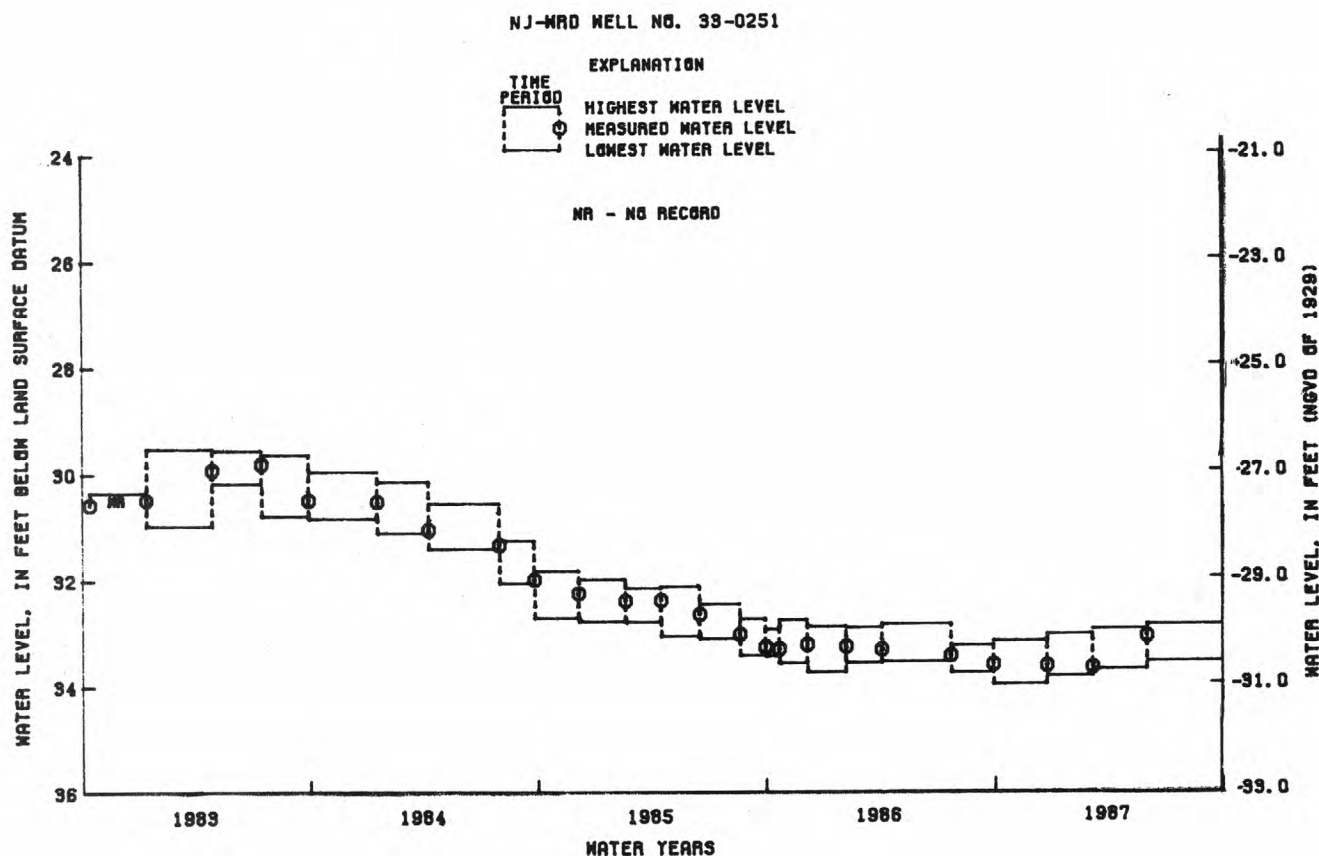
WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

WATER-LEVEL EXTREMES

PERIOD	HIGHEST WATER LEVEL	LOWEST WATER LEVEL
SEPT. 29, 1986 TO DEC. 24, 1986	33.19	34.01
DEC. 24, 1986 TO MAR. 6, 1987	33.06	33.86
MAR. 6, 1987 TO JUNE 1, 1987	32.97	33.74
JUNE 1, 1987 TO OCT. 6, 1987	32.89	33.60

MEASURED WATER LEVEL

DATE	WATER LEVEL
DEC. 24, 1986	33.67
MAR. 6, 1987	33.70
JUNE 1, 1987	33.12
OCT. 6, 1987	33.35



SALEM COUNTY

393348075275703. Local I.D., Salem 3 Obs. NJ-WRD Well Number, 33-0253.

LOCATION.--Lat 39°33'48", long 75°27'55", Hydrologic Unit 02040206, about 300 ft south of the intersection of Elm and Magnolia Streets, Salem.

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 340 ft, screened 335 to 340 ft.

INSTRUMENTATION.--Water-level extremes recorder, May 1977 to current year. Water-level recorder, November 1965 to August 1975.

DATUM.--Land-surface datum is 3.00 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Front edge of cutout in recorder housing, 2.30 ft above land-surface datum.

PERIOD OF RECORD.--November 1965 to August 1975, May 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, 12.28 ft below land-surface datum, Feb. 13, 1966; lowest, 29.23 ft below land-surface datum, between June 1 and Oct. 2, 1987.

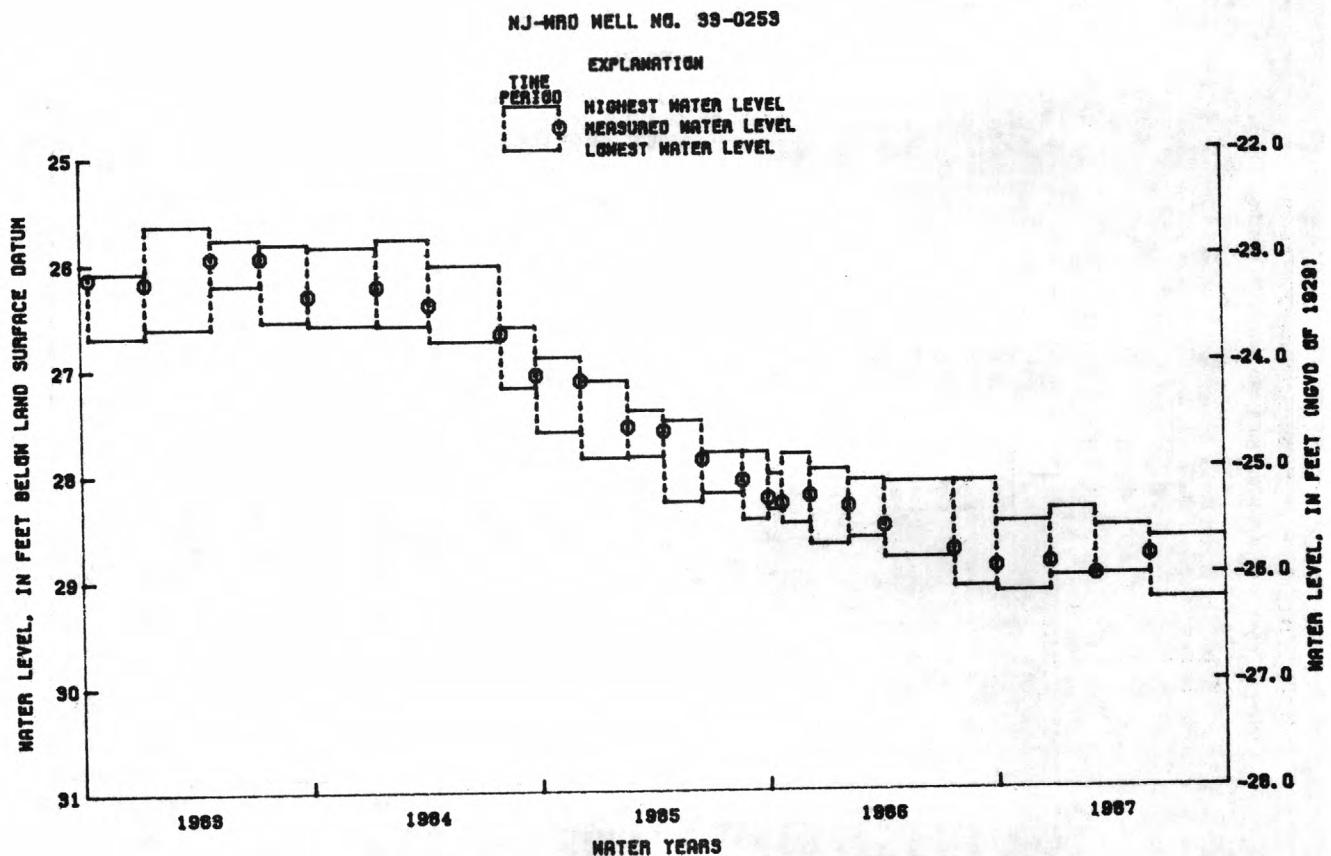
WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

WATER-LEVEL EXTREMES

PERIOD	HIGHEST WATER LEVEL	LOWEST WATER LEVEL
SEPT. 29, 1986 TO DEC. 24, 1986	28.49	29.15
DEC. 24, 1986 TO MAR. 6, 1987	28.37	29.01
MAR. 6, 1987 TO JUNE 1, 1987	28.54	29.00
JUNE 1, 1987 TO OCT. 2, 1987	28.65	29.23

MEASURED WATER LEVEL

DATE	WATER LEVEL
DEC. 24, 1986	28.88
MAR. 6, 1987	29.00
JUNE 1, 1987	28.82
OCT. 2, 1987	29.06



SALEM COUNTY

393348075275702. Local I.D., Salem 2 Obs. NJ-WRD Well Number, 33-0252.

LOCATION.--Lat 39°33'48", long 75°27'55", Hydrologic Unit 02040206, about 300 ft south of the intersection of Elm and Magnolia Streets, Salem.

Owner: U.S. Geological Survey.

AQUIFER.--Wenonah-Mount Laurel aquifer of Cretaceous age.

WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 4 in, depth 96 ft, screened 91 to 96 ft.

INSTRUMENTATION.--Water-level extremes recorder, May 1977 to current year. Water-level recorder, November 1965 to July 1975.

DATUM.--Land-surface datum is 3.25 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Front edge of cutout in recorder housing, 2.77 ft above land-surface datum.

PERIOD OF RECORD.--November 1965 to July 1975, May 1977 to current year. Records for 1965 to 1981 are unpublished and are available in files of New Jersey District Office.

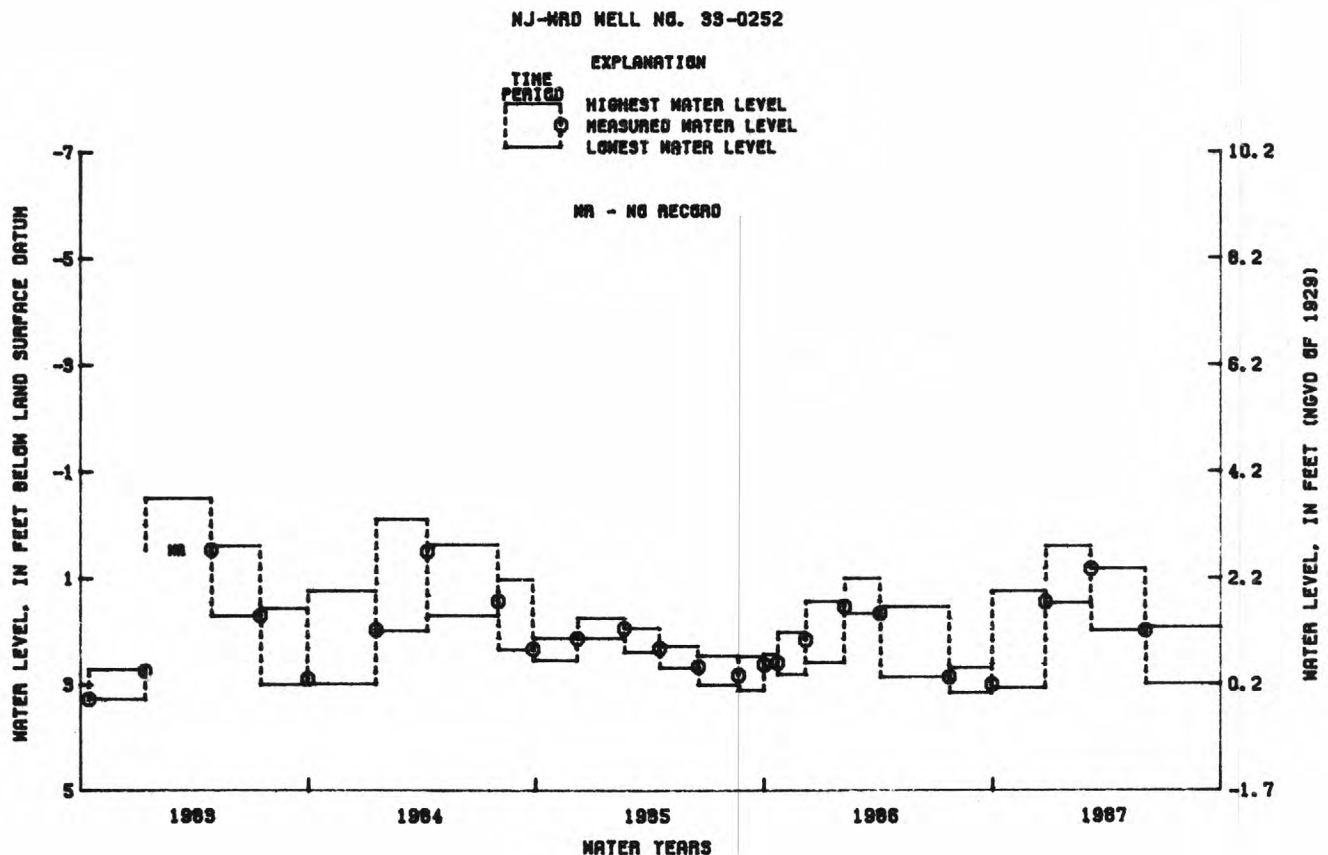
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 0.51 ft above land-surface datum, between Jan. 12 and Apr. 27, 1983; lowest, 6.45 ft below land-surface datum, Sept. 9, 1966.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

WATER-LEVEL EXTREMES

MEASURED WATER LEVEL

PERIOD	HIGHEST WATER LEVEL	LOWEST WATER LEVEL	DATE	WATER LEVEL
SEPT. 29, 1986 TO DEC. 24, 1986	1.24	3.07	DEC. 24, 1986	1.45
DEC. 24, 1986 TO MAR. 6, 1987	0.39	1.47	MAR. 6, 1987	0.82
MAR. 6, 1987 TO JUNE 1, 1987	0.81	1.99	JUNE 1, 1987	1.99
JUNE 1, 1987 TO OCT. 2, 1987	1.92	2.99	OCT. 2, 1987	2.99



SALEM COUNTY

394037075191501. Local I.D., Point Airy Obs. NJ-WRD Well Number, 33-0187.

LOCATION.--Lat 39°40'37", long 75°19'14", Hydrologic Unit 02040206, at intersection of Point Airy and Woodstown-Swedesboro Roads, 1 mi north of Woodstown Borough boundary.

Owner: U.S. Geological Survey.

AQUIFER.--Lower aquifer, Potomac-Raritan-Magothy aquifer system of Cretaceous age.

WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 6 in, depth 672 ft, screened 664 to 672 ft.

INSTRUMENTATION.--Digital water-level recorder--60-minute punch.

DATUM.--Land-surface datum is 72.97 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of 6 inch casing, 1.80 ft above land-surface datum.

PERIOD OF RECORD.--February 1959 to August 1975, March 1977 to current year.

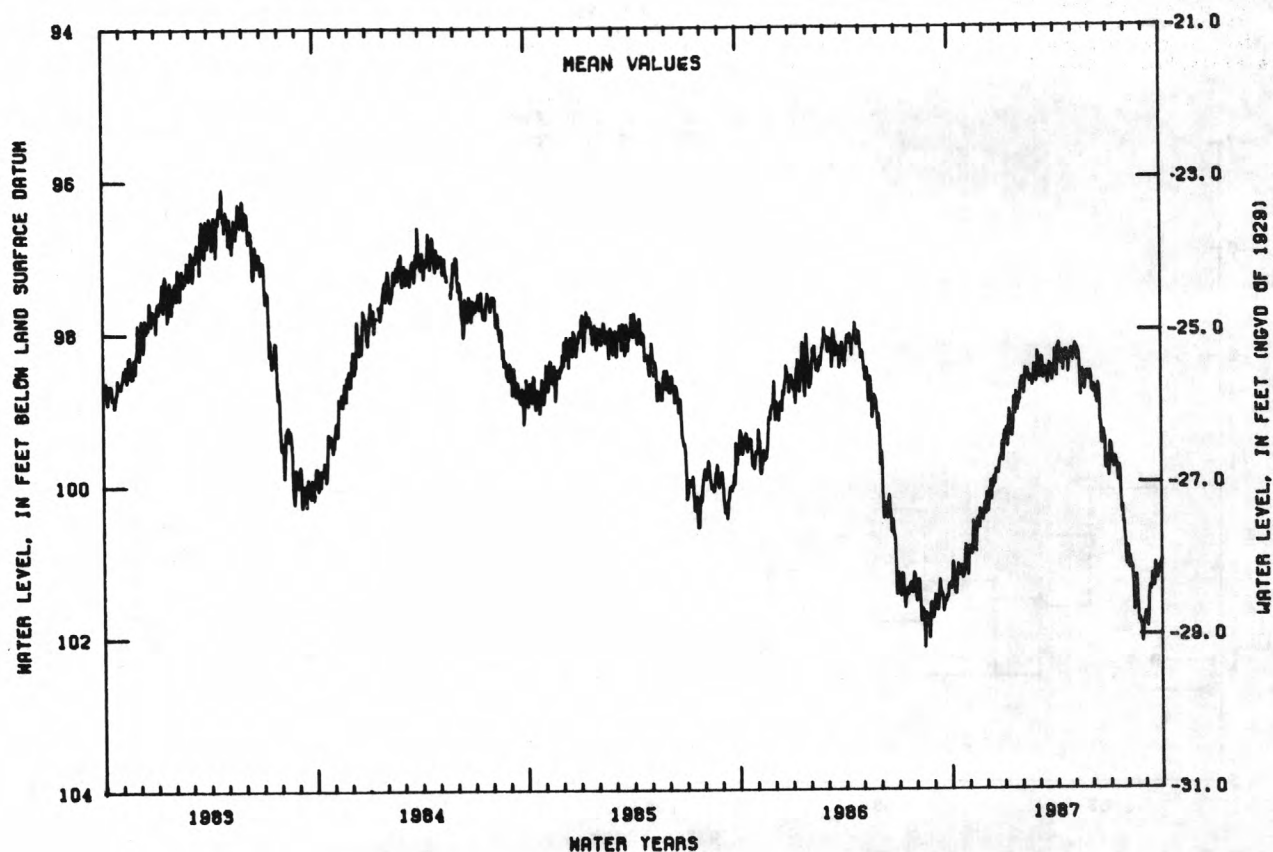
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 78.55 ft below land-surface datum, Mar. 6, 1959; lowest, 102.22 ft below land-surface datum, Aug. 17, 1986.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	101.03	100.92	100.38	99.37	98.83	98.62	98.22	98.17	98.82	99.50	101.13	101.90
10	101.46	100.81	99.97	99.21	98.63	98.53	98.34	98.33	98.84	99.80	101.09	101.42
15	101.20	100.64	99.92	99.23	98.67	98.51	98.40	98.68	98.84	99.74	101.35	101.26
20	101.08	100.59	99.84	99.07	98.72	98.61	98.25	98.63	99.49	99.82	101.68	101.19
25	101.11	100.44	99.70	99.05	98.63	98.60	98.35	98.53	99.78	100.30	101.87	101.12
EOM	101.21	100.31	99.71	98.67	98.55	98.25	98.25	98.53	99.84	101.08	101.76	101.01
MEAN	101.18	100.62	99.95	99.15	98.63	98.51	98.34	98.49	99.15	100.01	101.46	101.34
WATER YEAR 1987	--	MEAN 99.74		HIGH 98.09	MAR 31, APR 7, MAY 5	LOW 102.15	AUG 27					

NJ-WRD WELL NO. 33-0187



GROUND-WATER LEVELS - SECONDARY OBSERVATION WELLS
OTHER SITES FOR WHICH DATA ARE AVAILABLE

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NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	AQUIFER UNIT	WC	PERIOD OF RECORD
05-274	CAMPBELL SOUP	CAMPBELL 1	395841	745905	211MRPAM	A	1972-P
05-648	WILLINGBORO MUA	WMUA 3-OBS	400103	745409	211MRPAL	A	1966-1986
05-690	US GEOL SURVEY	LEBANON SF 2	395211	743103	121CKKD	W	1964-1986
07-030	SO JRSY PORT CM	NY SHIP 5A	395447	750711	211MRPAU	W	1950-1986
07-118	NJ WATER CO	HUTTON HILL 2	395229	745712	211MLRW	A	1967-P
07-322	NJ WATER CO	OAKLYN TEST	395359	750445	211MRPAU	U	1963-1986
07-354	GENERAL FOODS	PETTY IS OBS	395811	750556	211MRPAL	W	1950-P
09-020	US GEOL SURVEY	TRAFFIC CIRCLE	385616	745800	112CPMY	W	1967-P
09-060	US GEOL SURVEY	AIRPORT T7	390056	745426	121CNSY	A	1963-P
09-097	US GEOL SURVEY	BDWLL DCH 31ES	390527	745024	112ESRNS	A	1968-1984
09-098	US GEOL SURVEY	BDWLL DCH 31HB	390527	745024	112HLBC	W	1968-1984
09-099	US GEOL SURVEY	COUNTY PARK T8	390611	744838	112CNSY	A	1957-P
11-042	CUMBERLAND CO	VOCAT SCH 2	392732	750929	121CKKD	W	1972-P
11-043	CUMBERLAND CO	VOCAT SCH 1	392732	750929	121CKKD	W	1972-P
11-044	CUMBERLAND CO	VOCAT SCH 3	392732	750929	124PNPN	A	1972-P
11-073	CUMBERLAND CO	SHEPPARDS 2	392508	751846	121CKKD	W	1973-P
11-097	CUMBERLAND CO	JONES ISLAND 1	391829	751208	121CKKD	U	1972-P
11-118	CUMBERLAND CO	HEISLERVILLE 1	391350	750018	112CKKD	W	1972-P
11-119	CUMBERLAND CO	HEISLERVILLE 2	391350	750018	121CKKD	W	1972-P
11-141	MILLVILLE WD	ORANGE ST	392219	750113	121CKKD	W	1962-1986
11-161	CUMBERLAND CO	FAIR GROUNDS 1	392526	750643	121CKKD	W	1972-1986
11-162	CUMBERLAND CO	FAIR GROUNDS 2	392526	750643	121CKKD	W	1972-1986
11-163	CUMBERLAND CO	FAIR GROUNDS 3	392526	750643	124PNPN	A	1973-P
11-188	CUMBERLAND CO	BOSTWICK LK 1	393141	751601	121CKKD	W	1972-1986
11-237	CUMBERLAND CO	NATURAL AREA 1	392920	745700	121CKKD	W	1972-P
15-097	HERCULES CHEM	GIBBSTOWN TH 8	395000	751636	211MRPAM	W	1953-P
*15-279	SHELL CHEM CO	SHELL OBS 7	394857	751250	211MRPAL	A	1962-1986
*15-297	SHELL CHEM CO	SHELL OBS 6	394942	751317	211MRPAU	A	1970-P
21-028	STATE OF NJ	CIVIL DEFENSE	401553	745012	231SCKN	W	1964-P
33-020	HORNER, EPHRAIM	HORNER	393534	751752	211MLRW	A	1959-P
33-279	GARRISON, HENRY	GARRISON	393622	751531	211MLRW	A	1959-1986
33-342	NJ WATER POLICY	PENNS GROVE 24	394236	752724	211MRPAU	A	1942-P
33-348	NJ WATER POLICY	PENNS GROVE 14	394317	752619	112CPMY	W	1959-P
41-013	HOFFMAN-LAROCHE	HOF LAR 4	405050	750332	112SFDF	U	1960-1985

See figure 12 for well locations.

P - present

Aquifer unit: see definition of terms

WC - (Water Condition): A-Artesian, W-Water table, U-Undetermined

* - Water-quality data for 1987 is published elsewhere in this report.

Data available in the files of the New Jersey District Office.

QUALITY OF GROUND WATER - SALTWATER MONITORING NETWORK
WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
CAPE MAY COUNTY

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	ELEV. LAND SURF. (FT. NGVD)	SCREENED INTERVAL (FT.)	AQUIFER UNIT
09-027	CAPE MAY CITY WD	CMCWD 3	385643	745533	7	277 - 306	121CNSY
09-036	CAPE MAY CITY WD	CMCWD 2	385701	745528	10	174 - 282	121CNSY
09-043	CAPE MAY CITY WD	CMCWD 5	385724	745521	15	276*	121CNSY
09-052	LOWER TWP MUA	LTMUA 1	385851	745715	18	241 - 262	121CNSY
09-054	LOWER TWP MUA	LTMUA 2	385905	745625	14	212 - 247	121CNSY
09-057	LOWER TWP MUA	LTMUA 3	385919	745518	20	263 - 303	121CNSY
09-067	WILDWOOD WD	RIO GRANDE 38	390135	745352	10	461 - 590	122KRKDU
09-072	WILDWOOD WD	RIO GRANDE 31	390138	745350	10	108 - 135	112ESRNS
09-074	WILDWOOD WD	RIO GRANDE 29	390139	745349	8	191 - 231	121CNSY
09-188	CAPE MAY COUNTY	F-36	390211	745457	10	229 - 233	121CNSY
09-188	CAPE MAY COUNTY	F-36	390211	745457	10	229 - 233	121CNSY
09-189	CAPE MAY COUNTY	F-37	390211	745457	5	83 - 87	112ESRNS
09-190	WILDWOOD CITY	F-40	390211	745457	5	22 - 31	112HLBC
09-198	US GEOL SURVEY	BSR-1 DRIVEPOINT	390212	745557	7	10 - 12	112HLBC
09-199	US GEOL SURVEY	BSR-2 DRIVEPOINT	390212	745557	7	20 - 22	112HLBC
09-200	US GEOL SURVEY	BSR-3 DRIVEPOINT	390212	745557	7	28 - 30	112HLBC
09-201	US GEOL SURVEY	BSR-4 DRIVEPOINT	390212	745557	7	39 - 41	112HLBC
09-202	US GEOL SURVEY	BSR-5 DRIVEPOINT	390212	745557	7	54 - 56	112ESRNS
09-187	CAPE MAY COUNTY	F-35	390218	745609	10	186 - 190	121CNSY
09-187	CAPE MAY COUNTY	F-35	390218	745609	10	186 - 190	121CNSY
09-195	US GEOL SURVEY	FC-1 DRIVEPOINT	390219	745608	8	15 - 17	112HLBC
09-196	US GEOL SURVEY	FC-2 DRIVEPOINT	390219	745608	8	25 - 27	112HLBC
09-197	US GEOL SURVEY	FC-3 DRIVEPOINT	390219	745608	8	46 - 48	112ESRNS
09-191	US GEOL SURVEY	FISHING CREEK	390219	745611	10	14 - 17	112HLBC
09-089	US GEOL SURVEY	OYSTER LAB 4	390425	745446	7	195 - 210	121CNSY
09-192	RUTGERS UNIVERSITY	RUTGERS-OYSTER	390425	745446	7	64 - 71	112ESRNS
09-203	US GEOL SURVEY	RB-1 DRIVEPOINT	390738	745330	10	10 - 12	112HLBC
09-204	US GEOL SURVEY	RB-2 DRIVEPOINT	390738	745330	10	40 - 42	112HLBC
09-205	US GEOL SURVEY	RB-3 DRIVEPOINT	390738	745330	10	50 - 52	112HLBC

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	DATE OF SAMPLE	TEMPER- ATURE (DEG C)	SPE- CIFIC CONDUCT- -ANCE (US/CM)	PH (UNITS)	SODIUM DIS- SOLVED (MG/L AS NA)	CHLORIDE DIS- SOLVED (MG/L AS CL)
09-027	CAPE MAY CITY WD	CMCWD 3	8/26/1987	15.0	810	7.5	---	170
09-036	CAPE MAY CITY WD	CMCWD 2	8/26/1987	15.0	640	7.6	---	120
09-043	CAPE MAY CITY WD	CMCWD 5	8/26/1987	15.0	295	7.6	---	18
09-052	LOWER TWP MUA	LTMUA 1	8/24/1987	15.0	260	7.8	---	10
09-054	LOWER TWP MUA	LTMUA 2	8/24/1987	14.5	255	7.8	---	14
09-057	LOWER TWP MUA	LTMUA 3	8/24/1987	15.0	195	7.7	---	7.3
09-067	WILDWOOD WD	RIO GRANDE 38	8/24/1987	16.0	535	8.1	---	81
09-072	WILDWOOD WD	RIO GRANDE 31	8/24/1987	13.0	197	7.7	---	10
09-074	WILDWOOD WD	RIO GRANDE 29	8/24/1987	13.5	209	7.4	---	20
09-188	CAPE MAY COUNTY	F-36	11/18/1986	14.5	138	7.0	11	9.6
09-188	CAPE MAY COUNTY	F-36	5/27/1987	14.5	145	7.2	---	14
09-189	CAPE MAY COUNTY	F-37	5/27/1987	13.0	217	7.9	---	16
09-190	WILDWOOD CITY	F-40	5/27/1987	11.5	91	5.7	---	17
09-198	US GEOL SURVEY	BSR-1 DRIVEPOINT	5/12/1987	12.0	255	6.0	---	38
09-199	US GEOL SURVEY	BSR-2 DRIVEPOINT	5/12/1987	13.0	215	4.8	---	19
09-200	US GEOL SURVEY	BSR-3 DRIVEPOINT	5/13/1987	13.5	185	6.0	---	30
09-201	US GEOL SURVEY	BSR-4 DRIVEPOINT	5/13/1987	17.0	162	7.7	---	19
09-202	US GEOL SURVEY	BSR-5 DRIVEPOINT	5/13/1987	16.0	980	9.0	---	330
09-187	CAPE MAY COUNTY	F-35	11/18/1986	16.5	320	7.0	15	60
09-187	CAPE MAY COUNTY	F-35	5/27/1987	16.0	360	---	---	66
09-195	US GEOL SURVEY	FC-1 DRIVEPOINT	5/20/1987	13.5	498	6.6	---	95
09-196	US GEOL SURVEY	FC-2 DRIVEPOINT	5/21/1987	14.5	1,460	6.9	---	370
09-197	US GEOL SURVEY	FC-3 DRIVEPOINT	5/21/1987	---	1,380	7.2	---	330
09-191	US GEOL SURVEY	FISHING CREEK	5/27/1987	13.0	700	---	---	130
09-089	US GEOL SURVEY	OYSTER LAB 4	5/28/1987	16.0	143	7.8	---	34
09-192	RUTGERS UNIVERSITY	RUTGERS-OYSTER	5/28/1987	18.0	610	7.5	---	170
09-203	US GEOL SURVEY	RB-1 DRIVEPOINT	5/14/1987	12.5	13,800	7.3	---	6,300
09-204	US GEOL SURVEY	RB-2 DRIVEPOINT	5/15/1987	15.0	7,100	---	---	2,700
09-205	US GEOL SURVEY	RB-3 DRIVEPOINT	5/15/1987	15.0	4,500	---	---	1,600

* Total depth of well.

Aquifer unit:

112HLBC - Holly Beach water-bearing zone
112ESRNS - Cape May Formation, estuarine sand facies
121CNSY - Cohansey Sand

122KRKDU - Rio Grande water-bearing zone
of the Kirkwood Formation

QUALITY OF GROUND WATER - SALTWATER MONITORING NETWORK
WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
CUMBERLAND COUNTY

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NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	ELEV. LAND SURF. (FT. NGVD)	SCREENED INTERVAL (FT.)	AQUIFER UNIT
11-324	EAST PT W ASSOC	1	391138	750117	5	242 - 262	121CKKD
11-052	FORTESCUE REALTY	FORTESCUE 4	391420	751023	8	283 - 303	121CKKD
11-326	STANGER, GEORGE	1	391617	751355	5	440*	124PNPN
11-327	MYERS, H	1	391619	751357	5	399 - 409	124PNPN
11-343	NEIL, A	1	391619	751405	5	459*	124PNPN
11-338	MAZZOLA, JOSEPH	1	391623	751418	5	400*	124PNPN
11-056	MONEY IS MARINA	POLLINO 1	391704	751415	4	350 - 370	124PNPN
11-092	BAY PT ROD GUN	BAY POINT 2	391746	751510	5	397 - 417	124PNPN
11-093	CEDR BROOK FRMS	COOK FARM 1	391824	751329	10	37 - 62	121CKKD
11-100	CEDR BROOK FRMS	HOWELL FARM 1	391842	751337	10	48 - 74	121CKKD
11-061	GRIFFITH, MAE	SEA BREEZE	391926	751921	4	281 - 354	124PNPN
11-370	SOBUSIAK, WALTER	SOBUSIAK 1	391938	751923	5	350*	124PNPN
11-360	SHEPPARD FARMS	FARM 2	392026	751507	10	20 - 60	121CKKD
11-002	BRIDGETON WD	BWD 2 REP	392430	751313	20	72 - 98	121CKKD

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	DATE OF SAMPLE	TEMPER- ATURE (DEG C)	SPE- CIFIC CONDUCT- ANCE (US/CM)	PH (UNITS)	SODIUM DIS- SOLVED (MG/L AS NA)	CHLORIDE DIS- SOLVED (MG/L AS CL)
11-324	EAST PT W ASSOC	1	9/ 9/1987	---	192	---	---	4.3
11-052	FORTESCUE REALTY	FORTESCUE 4	9/ 9/1987	---	223	---	---	5.2
11-326	STANGER, GEORGE	1	9/ 9/1987	---	1,180	---	---	260
11-327	MYERS, H	1	9/ 9/1987	---	1,050	---	---	210
11-343	NEIL, A	1	9/ 9/1987	---	620	---	---	52
11-338	MAZZOLA, JOSEPH	1	9/ 9/1987	---	645	---	---	58
11-056	MONEY IS MARINA	POLLINO 1	9/ 9/1987	---	730	---	---	76
11-092	BAY PT ROD GUN	BAY POINT 2	9/10/1987	---	780	---	---	82
11-093	CEDR BROOK FRMS	COOK FARM 1	8/11/1987	---	430	5.0	4.4	30
11-100	CEDR BROOK FRMS	HOWELL FARM 1	8/11/1987	14.0	590	5.2	10	42
11-061	GRIFFITH, MAE	SEA BREEZE	9/10/1987	---	720	---	---	68
11-370	SOBUSIAK, WALTER	SOBUSIAK 1	9/10/1987	---	920	---	---	130
11-360	SHEPPARD FARMS	FARM 2	7/ 6/1987	14.0	369	4.4	6.3	25
11-002	BRIDGETON WD	BWD 2 REP	8/14/1987	14.5	110	5.1	14	11

* Total depth of well.

Aquifer unit:

121CKKD - Kirkwood-Cohansey aquifer system
124PNPN - Piney Point aquifer

QUALITY OF GROUND WATER - SALTWATER MONITORING NETWORK
WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
GLOUCESTER COUNTY

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	ELEV. LAND SURF. (FT. NGVD)	SCREENED INTERVAL (FT.)	AQUIFER UNIT
15-001	CLAYTON WD	CWD 3	393913	750517	133	746 - 800	211MRPAU
15-003	CLAYTON WD	4-1973	394015	750559	140	670 - 740	211MRPAU
15-361	GLASSBORO WD	GWD 5	394141	750710	140	610 - 657	211MRPAU
15-385	PITMAN WD	PWD P4	394345	750804	125	520*	211MRPAU
15-130	SO JERSEY WC	SJWC 3	394408	751330	35	234 - 265	211MRPAU
15-236	SWEDSBORO WD	SBWD 3	394434	751843	75	241 - 312	211MRPAU
15-240	DEL MONTE CORP	9	394510	751838	30	190 - 231	211MRPAU
15-569	PURELAND WC	PWC 3	394529	752045	40	161 - 201	211MRPAU
15-139	LANDTECT CORP	TEST WELL 3	394608	752135	8	301 - 345	211MRPAL
15-363	SHERMAN, A	1	394618	751542	40	145 - 151	211MRPAU
15-191	MANTUA TWP MUA	MTMUA 2	394629	750859	71	336 - 368	211MRPAU
15-191	MANTUA TWP MUA	MTMUA 2	394629	750859	71	336 - 368	211MRPAU
15-501	HENDERSON, VIRGINIA	1	394632	751614	50	162 - 167	211MRPAU
15-616	US GEOL SURVEY	SHIVELER MIDDLE	394637	751916	30	230 - 240	211MRPAM
15-615	US GEOL SURVEY	SHIVELER LOWER	394637	751916	30	378 - 388	211MRPAL
15-617	US GEOL SURVEY	SHIVELER UPPER	394637	751916	30	60 - 70	211MRPAU
15-192	MANTUA TWP MUA	MTMUA 5	394641	751109	88	315 - 337	211MRPAU
15-345	MUSUMECI, PETER	1	394642	751823	62	94 - 100	211MRPAU
15-627	LOGAN TWP-PURELAND	MW 103 D	394644	752136	7	65 - 75	211MRPAU
15-519	MISKOFKY, NICHOLAS	1	394649	751738	35	75 - 87	211MRPAU
15-742	US GEOL SURVEY	MANTUA DEEP	394652	751004	84	757 - 777	211MRPAL
15-741	US GEOL SURVEY	MANTUA SHALLOW	394652	751004	82	293 - 313	211MRPAL
15-500	THOMPSON, HERBERT P	1	394704	751555	62	24 - 29	211MRPAU
15-626	LOGAN TWP-A PIERCE	MW 102 S	394729	752101	12	9 - 19	211MRPAU
15-194	MANTUA TWP MUA	MTMUA 4	394732	751037	10	233 - 265	211MRPAU

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	DATE OF SAMPLE	TEMPER- ATURE (DEG C)	SPE- CIFIC CONDUCT- ANCE (US/CM)	PH (UNITS)	SODIUM DIS- SOLVED (MG/L AS NA)	CHLORIDE DIS- SOLVED (MG/L AS CL)
15-001	CLAYTON WD	CWD 3	8/18/1987	20.5	1,010	8.4	---	140
15-003	CLAYTON WD	4-1973	8/18/1987	19.5	950	8.4	---	110
15-361	GLASSBORO WD	GWD 5	8/18/1987	19.5	700	8.6	---	61
15-385	PITMAN WD	PWD P4	8/18/1987	16.5	585	8.3	---	44
15-130	SO JERSEY WC	SJWC 3	8/18/1987	15.0	1,000	8.2	---	170
15-236	SWEDSBORO WD	SBWD 3	8/18/1987	15.0	395	7.2	---	41
15-240	DEL MONTE CORP	9	11/16/1986	14.0	179	6.4	14	22
15-569	PURELAND WC	PWC 3	11/10/1986	13.5	231	6.6	22	15
15-139	LANDTECT CORP	TEST WELL 3	11/10/1986	13.0	2,680	7.5	530	820
15-363	SHERMAN, A	1	11/20/1986	13.5	506	7.8	87	76
15-191	MANTUA TWP MUA	MTMUA 2	12/16/1986	14.5	409	8.3	82	26
15-191	MANTUA TWP MUA	MTMUA 2	8/19/1987	15.5	445	8.1	---	31
15-501	HENDERSON, VIRGINIA	1	11/19/1986	12.0	400	7.3	69	50
15-616	US GEOL SURVEY	SHIVELER MIDDLE	11/26/1986	13.5	99	6.5	2.4	5.2
15-615	US GEOL SURVEY	SHIVELER LOWER	12/ 2/1986	13.0	2,550	7.2	490	790
15-617	US GEOL SURVEY	SHIVELER UPPER	12/ 3/1986	13.0	241	6.4	3.4	11
15-192	MANTUA TWP MUA	MTMUA 5	8/19/1987	15.0	535	8.1	---	45
15-345	MUSUMECI, PETER	1	12/ 4/1986	13.5	204	6.4	2.1	16
15-627	LOGAN TWP-PURELAND	MW 103 D	10/ 6/1986	14.0	296	5.4	38	77
15-519	MISKOFKY, NICHOLAS	1	11/18/1986	13.0	209	6.2	4.1	15
15-742	US GEOL SURVEY	MANTUA DEEP	5/13/1987	15.0	686	8.0	140	140
15-741	US GEOL SURVEY	MANTUA SHALLOW	5/14/1987	15.0	393	8.2	83	23
15-500	THOMPSON, HERBERT P	1	11/19/1986	15.5	185	5.0	2.5	18
15-626	LOGAN TWP-A PIERCE	MW 102 S	12/ 5/1986	14.5	269	5.3	3.2	14
15-194	MANTUA TWP MUA	MTMUA 4	8/19/1987	15.5	460	8.1	---	36

* Total depth of well.

Aquifer unit:

211MRPAU - Upper aquifer, Potomac-Raritan-Magothy aquifer system
211MRPAM - Middle aquifer, Potomac-Raritan-Magothy aquifer system
211MRPAL - Lower aquifer, Potomac-Raritan-Magothy aquifer system

QUALITY OF GROUND WATER - SALTWATER MONITORING NETWORK
WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
GLOUCESTER COUNTY

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NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	ELEV. LAND SURF. (FT. NGVD)	SCREENED INTERVAL (FT.)	AQUIFER UNIT
15-275	WENONAH WD	WWD 2	394751	750912	50	268 - 310	211MRPAU
15-028	E GREENWICH WD	EGWD 2	394755	751327	70	191 - 216	211MRPAU
15-166	PENNS GROVE WSC	BRIDGEPORT 2	394755	752108	5	65 - 85	211MRPAM
15-395	REPAUPO FIRE CO	30-1972	394801	751759	20	93 - 113	211MRPAU
15-564	US EPA-GAVENTA	S-9	394802	751933	5	42 - 52	211MRPAU
15-618	US GEOL SURVEY	GAVENTA DEEP	394804	751933	10	230 - 240	211MRPAL
15-713	US GEOL SURVEY	STEFKA 2	394808	751724	5	125 - 155	211MRPAM
15-712	US GEOL SURVEY	STEFKA 1	394808	751724	5	275 - 290	211MRPAL
15-712	US GEOL SURVEY	STEFKA 1	394808	751724	5	275 - 290	211MRPAL
15-728	US GEOL SURVEY	STEFKA 4	394808	751724	5	46 - 56	211MRPAU
15-727	US GEOL SURVEY	STEFKA 3	394808	751724	5	195 - 216	211MRPAM
15-276	W DEPTFORD TWP WD	WDTWD 4	394821	751026	60	242 - 288	211MRPAU
15-435	W DEPTFORD TWP WD	WDTWD 8	394836	751046	40	252 - 312	211MRPAM
15-279	SHELL CHEM CO	SHELL OBS 7	394857	751250	17	315 - 320	211MRPAM
15-348	GREENWICH TWP WD	GTWD 6	394910	751541	20	105 - 135	211MRPAM
15-069	GREENWICH TWP WD	GTWD 3(NEW 4)	394920	751619	10	108 - 168	211MRPAM
15-210	PAULSBORO WD	6-1973	394921	751417	15	185 - 227	211MRPAM
15-398	PETTIT, LOUIS	419	394928	751941	1	50 - 60	211MRPAL
15-212	PAULSBORO WD	PWD 4	394929	751447	15	192 - 220	211MRPAM
15-296	SHELL CHEM CO	SHELL OBS 5	394942	751317	21	321 - 326	211MRPAL
15-297	SHELL CHEM CO	SHELL OBS 6	394942	751317	21	113 - 118	211MRPAU
15-213	PAULSBORO WD	PWD 5	394947	751416	10	135 - 175	211MRPAM
15-332	WOODBURY WD	PARKING LOT 3	395017	750928	50	148 - 188	211MRPAU
15-431	WOODBURY WD	RED BANK 6	395034	750842	30	211 - 305	211MRPAM
15-312	W DEPTFORD TWP WD	6 RED BANK AVE	395107	750946	20	322 - 372	211MRPAL

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	DATE OF SAMPLE	TEMPER- ATURE (DEG C)	SPE- CIFIC CONDUCT- -ANCE (US/CM)	PH (UNITS)	SODIUM DIS- SOLVED (MG/L AS NA)	CHLORIDE DIS- SOLVED (MG/L AS CL)
15-275	WENONAH WD	WWD 2	8/19/1987	15.0	390	8.0	---	24
15-028	E GREENWICH WD	EGWD 2	10/10/1986	14.0	446	7.9	83	42
15-166	PENNS GROVE WSC	BRIDGEPORT 2	8/ 7/1987	14.0	260	4.8	---	---
15-395	REPAUPO FIRE CO	30-1972	10/30/1986	13.5	185	5.6	3.8	9.4
15-564	US EPA-GAVENTA	S-9	11/25/1986	14.0	374	6.5	5.8	12
15-618	US GEOL SURVEY	GAVENTA DEEP	11/24/1986	13.0	1,420	6.7	250	400
15-713	US GEOL SURVEY	STEFKA 2	12/ 3/1986	13.5	168	6.6	12	7.5
15-712	US GEOL SURVEY	STEFKA 1	12/16/1986	14.0	2,250	6.8	370	670
15-712	US GEOL SURVEY	STEFKA 1	3/19/1987	14.0	2,160	6.7	360	660
15-728	US GEOL SURVEY	STEFKA 4	4/22/1987	14.0	211	6.2	7.8	13
15-727	US GEOL SURVEY	STEFKA 3	6/22/1987	15.0	770	6.4	120	240
15-276	W DEPTFORD TWP WD	WDTWD 4	11/ 3/1986	14.5	410	7.7	79	41
15-435	W DEPTFORD TWP WD	WDTWD 8	12/ 5/1986	14.5	387	8.0	74	37
15-279	SHELL CHEM CO	SHELL OBS 7	10/15/1986	13.5	725	8.0	150	140
15-348	GREENWICH TWP WD	GTWD 6	11/17/1986	13.5	197	4.4	13	11
15-069	GREENWICH TWP WD	GTWD 3(NEW 4)	11/ 5/1986	12.5	186	4.9	13	13
15-210	PAULSBORO WD	6-1973	10/22/1986	14.5	243	6.0	25	26
15-398	PETTIT, LOUIS	419	11/17/1986	13.0	769	6.5	52	140
15-212	PAULSBORO WD	PWD 4	10/22/1986	16.5	217	6.5	27	16
15-296	SHELL CHEM CO	SHELL OBS 5	10/16/1986	13.5	881	7.8	180	190
15-297	SHELL CHEM CO	SHELL OBS 6	10/16/1986	13.0	427	7.2	18	14
15-213	PAULSBORO WD	PWD 5	10/24/1986	15.0	244	4.4	18	29
15-332	WOODBURY WD	PARKING LOT 3	10/29/1986	16.5	402	7.9	80	31
15-431	WOODBURY WD	RED BANK 6	10/29/1986	14.0	335	7.5	32	21
15-312	W DEPTFORD TWP WD	6 RED BANK AVE	10/17/1986	14.0	346	7.9	67	42

Aquifer unit:

211MRPAU - Upper aquifer, Potomac-Raritan-Magothy aquifer system
211MRPAM - Middle aquifer, Potomac-Raritan-Magothy aquifer system
211MRPAL - Lower aquifer, Potomac-Raritan-Magothy aquifer system

QUALITY OF GROUND WATER
WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
HUNTERDON COUNTY

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	ELEV. LAND SURF. (FT. NGVD)	OPEN OR SCREENED INTERVAL (FT.)	AQUIFER UNIT
19-0012	MILFORD BORO	1	403424	0750548	--	100*	231BRCK
19-0015	GALUSKA, JULIA	GALUSKA 1	402502	0750124	260	26 - 250	231SCKN
19-0077	STOCKTON BORO WD	WD 3	402425	0745830	200	41.4 - 278	231SCKN

NJ-WRD WELL NUMBER	DATE	TEMPER- ATURE WATER (DEG C)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	HARD- NESS (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)
19-0012	04-30-87	12.0	614	7.5	200	54	17	32	1.7
19-0015	07-23-87	11.5	140	6.7	61	15	5.8	8.5	0.8
19-0077	04-22-87	12.5	209	6.7	81	23	5.8	10	1.2

NJ-WRD WELL NUMBER	BICAR- BONATE IT-FLD (MG/L AS HCO3)	CAR- BONATE IT-FLD (MG/L AS CO3)	ALKA- LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)
19-0012	133	<1.0	108	78	60	<0.1	15	320	<0.010
19-0015	78	<1.0	63	13	3.3	0.1	27	110	<0.010
19-0077	--	--	59**	32	4.9	<0.1	26	180	<0.010

NJ-WRD WELL NUMBER	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)
19-0012	2.0	<0.010	0.30	0.020	0.010	6	4	<1	<1
19-0015	0.49	<0.010	0.40	0.140	0.120	<10	<1	<1	<1
19-0077	1.5	0.010	0.30	0.060	0.050	<10	2	1	<1

NJ-WRD WELL NUMBER	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)
19-0012	2	4	<5	<1	<0.1	14	0.8	3
19-0015	4	4	<5	<1	<0.1	32	1.7	3
19-0077	<1	25	<5	1	<0.1	16	0.6	5

* Total depth of well.

** Laboratory determination.

Aquifer Units

231BRCK-Brunswick Group (undifferentiated).
231SCKN-Stockton Formation.

QUALITY OF GROUND WATER

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WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MERCER COUNTY

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	ELEV. LAND SURF. (FT. NGVD)	OPEN OR SCREENED INTERVAL (FT.)	AQUIFER UNIT		
21-0146	LAWRENCEVILLE WC	LAW 6-1975	401721	0744410	125	50 - 500	231SCKN		
21-0248	GREEN ACRES CNTRY CLUB	2-GOLF COURSE	401642	0744324	80	32 - 408	231SCKN		
NJ-WRD WELL NUMBER	DATE	TEMPER- ATURE WATER (DEG C)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	HARD- NESS (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)
21-0146	04-22-87	12.0	265	6.6	120	30	11	8.9	1.3
21-0248	09-03-87	13.0	229	6.6	85	22	7.4	14	1.1
NJ-WRD WELL NUMBER	BICAR- BONATE IT-FLD (MG/L AS HCO3)	CAR- BONATE IT-FLD (MG/L AS CO3)	ALKA- LITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)
21-0146	117	<1.0	94	23	11	<0.1	24	170	<0.010
21-0248	--	<1.0	72	20	8.5	0.1	28	140	<0.010
NJ-WRD WELL NUMBER	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)
21-0146	1.6	<0.010	0.50	0.060	0.050	<10	<1	1	<1
21-0248	3.0	0.060	0.60	0.100	0.090	<10	<1	<1	2
NJ-WRD WELL NUMBER	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)	
21-0146	<1	10	<5	4	<0.1	3	0.7	7	
21-0248	3	8	<5	<1	<0.1	11	0.8	1	

Aquifer Unit

231SCKN-Stockton Formation.

QUALITY OF GROUND WATER - SALTWATER MONITORING NETWORK
WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
SALEM COUNTY

NJ-WRD WELL NUMBER	SITE OWNER	LOCAL IDENTIFIER	LATITUDE	LONGITUDE	ELEV. LAND SURF. (FT. NGVD)	SCREENED INTERVAL (FT.)	AQUIFER UNIT
33-032	PUBLIC SERV E-G	PW-3	392740	753201	20	242 - 293	211MLRW
33-364	PUBLIC SERV E-G	PW-5	392743	753158	17	765 - 840	211MRPAM
33-035	PUBLIC SERV E-G	PW-2	392744	753206	20	230 - 281	211MLRW
33-457	PUBLIC SERV E-G	PSEG-6	392751	753207	20	1115 - 1135	211MRPAM
33-108	US ARMY	FINNS POINT	393641	753322	7	290 - 319	211MRPAM
33-112	PENNSVILLE TWP WD	PTWD 4	393754	753147	10	117 - 137	211MRPAU
33-354	WOODSTOWN WD	WWD 2	393904	751946	45	670 - 705	211MRPAM
33-362	WOODSTOWN WD	WWD 3	393926	751927	60	692 - 712	211MRPAM
33-459	RICHMAN ICE CRM	1A	393928	752147	25	414 - 457	211MRPAM
33-118	PENNSVILLE TWP WD	PTWD 1	393958	753045	8	213 - 238	211MRPAM
33-119	PENNSVILLE TWP WD	PTWD 2	394009	753043	7	210 - 230	211MRPAM
33-122	ATL CITY ELEC	DEEPWATER 3R	394045	753018	10	165 - 235	211MRPAM
33-137	E I DUPONT	DRINKWATER 8	394112	753028	14	317 - 347	211MRPAL
33-460	PENNS GROVE WSC	PGWSC 1A	394247	752714	19	41 - 61	211MRPAU
33-346	PENNS GROVE WSC	LAYNE 1	394256	752718	19	317 - 357	211MRPAL
33-439	BOND, WILLARD K	1	394453	752351	23	49 - 59	211MRPAU
33-083	B F GOODRICH CO	#9 (PW-1)	394547	752535	10	93 - 133	211MRPAM
33-085	B F GOODRICH CO	#6 (PW-2)	394556	752530	10	109 - 129	211MRPAM
33-086	B F GOODRICH CO	#4 (PW-3)	394557	752523	13	169 - 189	211MRPAL

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)
33-032	PUBLIC SERV E-G	PW-3	8/21/1987	16.0	790	8.0	160
33-364	PUBLIC SERV E-G	PW-5	8/21/1987	20.0	400	7.8	27
33-035	PUBLIC SERV E-G	PW-2	8/21/1987	15.5	1,600	7.6	370
33-457	PUBLIC SERV E-G	PSEG-6	8/21/1987	21.5	875	7.8	210
33-108	US ARMY	FINNS POINT	8/20/1987	15.0	565	7.5	---
33-112	PENNSVILLE TWP WD	PTWD 4	8/20/1987	13.5	192	6.8	12
33-354	WOODSTOWN WD	WWD 2	8/20/1987	17.0	980	8.1	200
33-362	WOODSTOWN WD	WWD 3	8/20/1987	17.5	880	8.1	160
33-459	RICHMAN ICE CRM	1A	8/20/1987	15.0	390	7.6	17
33-118	PENNSVILLE TWP WD	PTWD 1	8/20/1987	14.0	424	6.6	210
33-119	PENNSVILLE TWP WD	PTWD 2	8/20/1987	15.0	600	6.9	120
33-122	ATL CITY ELEC	DEEPWATER 3R	8/26/1987	14.5	410	7.1	50
33-137	E I DUPONT	DRINKWATER 8	8/21/1987	15.0	540	7.7	80
33-460	PENNS GROVE WSC	PGWSC 1A	8/20/1987	14.0	190	4.8	11
33-346	PENNS GROVE WSC	LAYNE 1	8/20/1987	15.5	1,000	7.0	63
33-439	BOND, WILLARD K	1	8/13/1987	16.5	410	4.1	---
33-083	B F GOODRICH CO	#9 (PW-1)	8/21/1987	13.5	207	6.0	24
33-085	B F GOODRICH CO	#6 (PW-2)	8/21/1987	14.0	243	6.0	29
33-086	B F GOODRICH CO	#4 (PW-3)	8/21/1987	15.0	1,250	7.2	270

Aquifer unit:

211MLRW - Wenonah-Mount Laurel aquifer
211MRPAU - Upper aquifer, Potomac-Raritan-Magothy aquifer system
211MRPAM - Middle aquifer, Potomac-Raritan-Magothy aquifer system
211MRPAL - Lower aquifer, Potomac-Raritan-Magothy aquifer system

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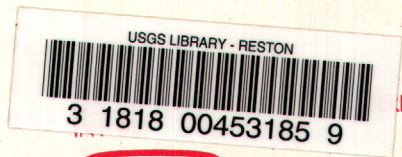
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October 1, 1978

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
<i>Length</i>		
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)
<i>Area</i>		
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)
<i>Volume</i>		
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)
<i>Flow</i>		
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)
<i>Mass</i>		
tons (short)	9.072×10^{-1}	megagrams (Mg) or metric tons



JOR

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