1971

Water Resources Data for Maryland and Delaware

Part 2. Water Quality Records

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Prepared in cooperation with the States of Maryland and Delaware and with other agencies

CALENDAR FOR WATER YEAR 1971

OCTOBER 1970

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

NOVEMBER 1970

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

DECEMBER 1970

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

JANUARY 1971

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

FEBRUARY 1971

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

MARCH 1971

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

APRIL 1971

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

MAY 1971

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

JUNE 1971

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

JULY 1971

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

AUGUST 1971

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

SEPTEMBER 1971

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

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Prepared in cooperation with

Delaware Geological Survey
Maryland Geological Survey
Maryland National Capital Park
and Planning Commission
District of Columbia Department
of Environmental Services
Washington Suburban Sanitary Commission
Soil Conservation Service
U. S. Department of Agriculture
Environmental Protection Agency

Water resources records, 1971 for Maryland and Delaware are in the following reports of the U.S. Geological Survey:

1. Water Resources Data for Maryland and Delaware
   Part 1. Surface Water Records

2. Water Resources Data for Maryland and Delaware
   Part 2. Water Quality Records

Copies of this report may be obtained from
District Chief, Water Resources Division
U.S. Geological Survey
8809 Satyr Hill Road
Parkville, Maryland 21234

1974

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(Letters after station name designate type of data; (c) chemical; (t) water temperature; (s) sediment)

WATER RESOURCES DATA FOR MARYLAND AND DELAWARE, 1971

Part 2. Water Quality Records

INTRODUCTION

Water resources data for the 1971 water year for Maryland and Delaware include records of data for the chemical and physical characteristics of surface water. Data on the quality of surface water (chemical, temperature, and sediment) were collected from designated sampling sites at predetermined intervals such as once daily, weekly, monthly or less frequently, and at some sites data were recorded on punched paper tape at 15-, 30-, or 60-minute intervals. Locations of surface water-quality stations are shown in Figure 1. A few pertinent stations (not included above) in bordering States are also included. The records were collected by the Water Resources Division of the U.S. Geological Survey under the direction of W. F. White, district chief, Parkville, Md., and N. H. Beamer, district chief, Harrisburg, Pa. These data represent that portion of the National Water Data System collected by the U. S. Geological Survey and cooperating State and Federal agencies in Maryland and Delaware.

The Geological Survey has published records of chemical quality, water temperatures, and sediment since 1941 in an annual series of water-supply papers entitled, "Quality of Surface Waters of the United States." Beginning with the 1964 water year, water-quality records have been released by the Geological Survey in annual reports on a State-boundary basis. These reports are for limited distribution and are designed primarily for rapid release of data shortly after the end of the water year. These records will be published later in Geological Survey water-supply papers.

COOPERATION

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

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

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

Maryland National Capital Park and Planning Commission, J. P. Hewitt, executive director.

Washington Suburban Sanitary Commission, R. J. McLeod, general manager.

District of Columbia Department of Environmental Services (formerly Department of Sanitary Engineering), J. P. Alexander, director.

Assistance in the form of funds was given by the Water Quality Office, Environmental Protection Agency (formerly Federal Water Pollution Control Administration) for the collection of chemical analyses of 19 stream-sampling stations in this report.

Assistance was also furnished by Soil Conservation Service, U. S. Department of Agriculture.

DEFINITION OF TERMS

Terms related to water-quality and hydrologic data, as used in this report are defined below. See also list of factors for converting English Units to International System (SI) Units on page 14.

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, or about 646,000 gallons, and represents a runoff of approximately 0.0372 inches from 1 square mile.

Coliform organisms are a group of bacteria used as an indicator of the sanitary quality of the water. The number of coliform colonies per 100 milliliters is determined by the immediate or delayed incubation membrane filter method.

Cubic foot per second (cfs, CFS) 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.

Discharge is the volume of water (or more broadly, total fluids), that passes a given point within a given period of time.

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

Instantaneous discharge is the discharge at a particular instant of time. If this discharge is reported instead of the daily mean, the heading of the discharge column in the tables is "Discharge (cfs)."

Drainage area of a stream at a specified location is that area, measured in horizontal plane, enclosed by a topographic divide from which direct surface runoff from precipitation normally drains by gravity into the river above the specified point.

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 body of impounded surface water together with all tributary surface streams and bodies of impounded surface water.

Gaging station is a particular site on a stream, canal, lake, or reservoir where systematic observations of gage height or discharge are obtained. When used in connection with a discharge record, the term is applied only to those gaging stations where a continuous record of discharge is computed.

Hardness of water is a physical-chemical characteristic attributable to the presence of alkaline earths (principally calcium and magnesium) and is expressed as equivalent calcium carbonate ($CaCO_3$).

Methylene blue active substance (MBAS) is a measure of apparent detergents. This determination depends on the formation of a blue color when methylene blue dye reacts with synthetic detergent compounds.

Micrograms per liter (ug/l, UG/L) is a unit expressing the concentration of chemical constituents in solution as weight (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 weight of solute per unit volume of water. Milligrams or micrograms per liter may be converted to milliequivalents (one thousandth of a gram-equivalent weight of a constituent) per liter by multiplying by the factors in table 1, page 6. Concentration of suspended sediment also is expressed in mg/l, and is based on the weight of sediment per liter of water-sediment mixture. Sediment concentrations may be converted to parts per million by using the factors in table 2, p. 5.

Partial-record station is a particular site where limited streamflow 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 suspended sediment or bed material determined either by 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) (Guy, 1969).

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

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

The particle-size distributions given in this report are not necessarily representative of all particles in transport in the stream. Most of the organic material 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 (Guy, 1969). All particle size analyses in this report were performed in distilled water and chemically dispersed unless noted otherwise.

Table 1.--Factors for conversion of chemical constituents in milligrams or micrograms per liter to milliequivalents per liter

Ion	Multiply by	Ion	Multiply by
Aluminum (Al^{+3})*	0.11119	Iodide (I^{-1})	0.00788
Ammonia as NH^{+1}	.05544	Iron (Fe^{+3})*	.05372
Barium (Ba^{+2})	.01456	Lead (Pb^{+2})*	.00965
Bicarbonate (HCO_3^{-1})	.01639	Lithium (Li^{+1})*	.14411
Bromide (Br^{-1})	.01251	Magnesium (Mg^{+2})	.08226
Calcium (Ca^{+2})	.04990	Manganese (Mn^{+2})*	.03640
Carbonate (CO_3^{-2})	.03333	Nickel (Ni^{+2})*	.03406
Chloride (Cl^{-1})	.02821	Nitrate (NO_3^{-1})	.01613
Chromium (Cr^{+6})*	.11539	Nitrite (NO_2^{-1})	.02174
Cobalt (Co^{+2})*	.03394	Phosphate (PO_4^{-3})	.03159
Copper (Cu^{+2})*	.03148	Potassium (K^{+1})	.02557
Cyanide (CN^{-1})	.03844	Sodium (Na^{+1})	.04350
Fluoride (F^{-1})	.05264	Strontium (Sr^{+2})*	.02283
Hydrogen (H^{+1})	.99209	Sulfate (SO_4^{-2})	.02082
Hydroxide (OH^{-1})	.05880	Zinc (Zn^{+2})*	.03060

*Constituent reported in micrograms per liter; multiply by factor and divide results by 1,000.

Table 2.--Factors for conversion of sediment concentration in milligrams per liter to parts per million*
(All values calculated to three significant figures)

Range of concentration in 1000 mg/l	Divide by	Range of concentration in 1000 mg/l	Divide by	Range of concentration in 1000 mg/l	Divide by	Range of concentration in 1000 mg/l	Divide by
0 - 8	1.00	201-217	1.13	411-424	1.26	619-634	1.39
8.05- 24	1.01	218-232	1.14	427-440	1.27	636-650	1.40
24.2 - 40	1.02	234-248	1.15	443-457	1.28	652-666	1.41
40.5 - 56	1.03	250-264	1.16	460-473	1.29	668-682	1.42
56.5 - 72	1.04	266-280	1.17	476-489	1.30	684-698	1.43
72.5 - 88	1.05	282-297	1.18	492-506	1.31	700-715	1.44
88.5 -104	1.06	299-313	1.19	508-522	1.32	717-730	1.45
105 -120	1.07	315-329	1.20	524-538	1.33	732-747	1.46
121 -136	1.08	331-345	1.21	540-554	1.34	749-762	1.47
137 -152	1.09	347-361	1.22	556-570	1.35	765-780	1.48
153 -169	1.10	363-378	1.23	572-585	1.36	782-796	1.49
170 -185	1.11	380-393	1.24	587-602	1.37	798-810	1.50
186 -200	1.12	395-409	1.25	604-617	1.38		

*Based on water density of 1.000 g/ml and a specific gravity of sediment of 2.65.

Sediment is solid material that originates mostly from disintegrated rocks and is transformed 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.

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 discharge is the rate at which dry weight of sediment passes a section of a stream or is the quantity of sediment, as measured by dry weight, or by volume, that is discharged in a given time. It is computed by multiplying discharge times mg/l times 0.0027.

Total sediment discharge or total sediment load is the sum of the suspended-sediment discharge and the bedload discharge. It is the total quantity of sediment, as measured by dry weight or volume, that is discharged during a given time (Colby and Hembree, 1955).

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 or 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.

Solute is any substance derived from the atmosphere, vegetation, soil, or rocks that is dissolved in water.

Specific conductance is a measure of the ability of a water to conduct an electrical current and is expressed in micromhos per centimeter at 25°C. Because the specific conductance is related to the number and specific chemical types of ions in solution, it can be used for approximating the dissolved-solids content in the water. Commonly, the amount of dissolved solids (in milligrams per liter) is about 65 percent of the specific conductance (in micromhos). This relation

is not constant from stream to stream, and it may even vary in the same source with changes in the composition of the water.

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." Streamflow may be applied to discharge whether or not it is affected by diversion or regulation.

Thermograph is a thermometer that continuously and automatically records, on a chart, the water temperature of a stream. "Temperature recorder" is the term used to indicate the location of the thermograph or a digital mechanism that automatically records water temperature on paper tape.

DOWNSTREAM ORDER AND STATION NUMBER

Stations are listed in downstream direction along the main stream, and stations on tributaries are listed between stations on the main stream in the order in which those tributaries enter the main stream. Stations on tributaries entering above all mainstream stations are listed before the first mainstream station. Stations on tributaries to tributaries are listed in a similar manner. In the list of water-quality stations in the front of this report the rank of tributaries is indicated by indention, each indention representing one rank.

As an added means of identification, each water-quality station, gaging station, and partial-record station has been assigned a station number. These are in the same downstream order used in this report. In assigning station numbers, no distinction is made between partial-record and continuous-record stations; therefore, the station number for a partial-record station indicates downstream order position in a list made up of both types of stations. Water-quality stations located at or near gaging stations or partial-record stations have the same number as the gaging or partial-record station. Gaps are left in the numbers to allow for new stations that may be established; hence the numbers are not consecutive. The complete 8-digit number for each station, such as 01481500 which appears just to the left of the station name includes the 2-digit part number "01" plus the 6-digit downstream order number "481500." In this report the records are listed in downstream order by parts. The part number refers to an area whose boundaries coincide with certain

natural drainage lines. Records in this report are in Part 1 (North Atlantic Slope basins) and Part 3 (Ohio River basin). The station numbers shown on Figure 1 are the first four digits of the downstream order number plus the fifth or the fifth and sixth digits when required to distinguish the stations.

COLLECTION AND EXAMINATION OF DATA

Water samples for analyses usually are collected at or near gaging stations. The discharge records at these stations are used in conjunction with the computations of the chemical constituents and sediment loads. Discharge records for streams in Maryland and Delaware have been released in the report, "Water Resources Data for Maryland and Delaware, 1970, Part 1. Surface Water Records.

The data in this report include a description of the sampling station and tabulations of the samples analyzed. The description of the sampling station gives the location, drainage area, periods of record for the various water-quality data, extremes of the pertinent data, and general remarks, in a format similar to that used for streamflow gaging stations.

Water-quality information is presented for chemical quality, microbiological, water temperature, and fluvial sediment. Chemical quality includes concentrations of individual dissolved constituents and certain properties or characteristics such as hardness, specific conductance, and pH. Microbiological information includes quantitative identification of certain bacteriological indicator organisms. Water-temperature data represent once-daily observations except for stations where a continuous temperature recorder furnished information from which daily minimums and maximums are obtained. Fluvial-sediment information is given for suspended-sediment discharges and concentrations and for particle-size distribution of suspended sediment.

Prior to the 1968 water year, data for chemical constituents and concentrations of suspended sediment were reported in parts per million (ppm) and water temperatures were reported in degrees Fahrenheit (°F). In October 1967, the U.S. Geological Survey began to use the metric system; data for chemical constituents and concentrations of suspended sediment are now reported in milligrams per liter (mg/l) and water temperatures are given in degrees Celsius (centigrade, °C). In waters with a density of 1.000 g/ml

(grams per milliliter), parts per millions and milligrams per liter can be considered equal. In waters with a density greater than 1.000 g/ml, values in parts per million should be multiplied by the density to convert to milligrams per liter. To convert temperature in degrees Celsius to degrees Fahrenheit, see table 3 below.

Table 3.--Degrees Celsius (°C) to degrees Fahrenheit (°F)*
(Temperature reported to nearest 0.5°)

°C	°F	°C	°F	°C	°F	°C	°F	°C	°F
0.0	32	10.0	50	20.0	68	30.0	86	40.0	104
.5	33	10.5	51	20.5	69	30.5	87	40.5	105
1.0	34	11.0	52	21.0	70	31.0	88	41.0	106
1.5	35	11.5	53	21.5	71	31.5	89	41.5	107
2.0	36	12.0	54	22.0	72	32.0	90	42.0	108
2.5	36	12.5	54	22.5	72	32.5	90	42.5	108
3.0	37	13.0	55	23.0	73	33.0	91	43.0	109
3.5	38	13.5	56	23.5	74	33.5	92	43.5	110
4.0	39	14.0	57	24.0	75	34.0	93	44.0	111
4.5	40	14.5	58	24.5	76	34.5	94	44.5	112
5.0	41	15.0	59	25.0	77	35.0	95	45.0	113
5.5	42	15.5	60	25.5	78	35.5	96	45.5	114
6.0	43	16.0	61	26.0	79	36.0	97	46.0	115
6.5	44	16.5	62	26.5	80	36.5	98	46.5	116
7.0	45	17.0	63	27.0	81	37.0	99	47.0	117
7.5	45	17.5	63	27.5	81	37.5	99	47.5	117
8.0	46	18.0	64	28.0	82	38.0	100	48.0	118
8.5	47	18.5	65	28.5	83	38.5	101	48.5	119
9.0	48	19.0	66	29.0	84	39.0	102	49.0	120
9.5	49	19.5	67	29.5	85	39.5	103	49.5	121

*C = 5/9 (°F -32) or °F = 9/5 (°C) + 32

In October 1968, the Geological Survey began reporting many of the chemical constituents as well as the minor elements in micrograms per liter instead of milligrams per liter (See "Definitions of Terms," p. 4.)

Solutes

The methods of collecting and analyzing water samples for determing the kinds and concentrations of solutes are described by Brown, Skougstad, and Fishman (1970). One sample can define adequately the water quality at a given time if the mixture of solutes throughout the stream cross section is

homogeneous. However, the concentration of solutes at different locations in the cross section may vary widely with different rates of water discharge depending on the source of material and the turbulence and the mixing of the stream. Some must be sampled at several verticals across the channel to determine accurately the solute load.

Temperature

Water temperatures are measured at most of the water-quality stations. For daily stations, the water temperatures are taken at about the same time each day when sample is collected. 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 continuously recording thermographs are present, the records consist of maximum and minimum temperatures for each day.

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 sub-divided 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 sub-divided day method. For periods when no samples were collected, daily loads 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 in predicting long-term sediment-discharge characteristics of the stream.

In addition to the records of the quantities of suspended sediment, records of the periodic measurements of the particle-size distribution of the suspended sediment are included.

PUBLICATIONS

The annual series of water-supply papers that give information on quality of surface waters in Maryland and Delaware are listed below.

Year	WSP No.	Year	WSP No.
1946	1050	1959	1641 --
1948	1132	1960	1741 --
1949	1162	1961	1881 --
1950	1186	1962	1941 --
1951	1197	1963	1947, 1948
1952	1250	1964	1954, 1955
1953	1290	1965	1961, 1962
1954	1350	1966	1991, 1992
1955	1400	1967	2011, 2012
1956	1450	1968	2092, 2093
1957	1520	1969	A2141, A2143
1958	1571	1970	A2151, A2153

A in press.

SELECTED REFERENCES

American Public Health Association, and others 1971, Standard methods for the examination of water and wastewater, 13th ed.: Am. Public Health Assoc., New York, 874 p.

Brown, Eguene, Skougstad, M. W., and Fishman, M. J., 1970, Methods for collection and analysis of water samples for dissolved minerals and gases: U.S. Geol. Survey Techniques of Water-Resources Inv., book 5, chap. A1, 160 p.

Colby, B. R., 1963, Fluvial sediments--a summary of source, transportation, deposition, and measurement of sediment discharge: U.S. Geol. Survey Bull. 1181-A, 47 p.

Colby, B. R., and Hembree, C. H., 1955, Computations of total sediment discharge, Niobrara River near Cody, Nebraska: U.S. Geol. Survey Water-Supply Paper 1357, 187 p.

Colby, B. R., and Hubbell, D. W., 1961, Simplified methods for computing total sediment discharge with the modified Einstein procedure: U.S. Geol. Survey Water-Supply Paper 1593, 17 p.

Guy, H. P., 1970, Fluvial sediment concepts: U.S. Geol. Survey Techniques of Water-Resources Inv., book 3, chap. C1, 55 p.

———, 1969, Laboratory theory and methods for sediment analysis: U.S. Geol. Survey Techniques of Water-Resources Inv., book 5, chap. C1, 58 p.

Guy, H. P., and Norman, V. W., 1970, Field methods for measurement of fluvial sediment: U.S. Geol. Survey Techniques of Water-Resources Inv., book 3, chap. C2, 58 p.

Hem, J. D., 1970, Study and interpretation of the chemical characteristics of natural water, Revised edition: U.S. Geological Survey Water-Supply Paper 1473, 363 p.

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

Porterfield, George, 1972, Computations of fluvial-sediment discharge: U.S. Geol. Survey Techniques of Water Resources Inv., book 3, chap C3, 66 p.

U.S. Inter-Agency Committee on Water Resources, Subcommittee on Sedimentation, A study of methods used in measurement and analysis of sediment loads in streams. Published by the St. Anthony Falls Hydraulic Laboratory, Minneapolis, Minn.

——— 1941, Methods of analyzing sediment samples: Rept. 4.

——— 1953, Accuracy of sediment size analyses made by the bottom-withdrawal-tube method: Rept. 10.

U.S. Inter-Agency Committee on Water Resources, Subcommittee on Sedimentation, A study of methods used in measurement and analysis of sediment loads in streams. Published by the St. Anthony Falls Hydraulic Laboratory, Minneapolis, Minn.

_____ 1957, The development and calibration of visual accumulation tube: Rept. 11.

_____ 1957, Some Fundamentals of particle size analysis: Rept. 12.

_____ 1959, Federal Inter-agency sedimentation instruments and reports: Rept. AA.

_____ 1961, The single stage sampler for suspended sediment Rept. 13.

_____ 1963, Determinations of fluvial sediment discharge: Rept. 14.

FACTORS FOR CONVERTING ENGLISH UNITS TO INTERNATIONAL SYSTEM (SI) UNITS

The following factors may be used to convert the English units published herein to the International System of Units (SI). Subsequent reports will contain both the English and SI unit equivalents in the station manuscript descriptions until such time that all data will be published in SI units.

Multiply English units	By	To obtain SI units
	Length	
inches (in)	25.4	millimeters (mm)
	.0254	meters (m)
feet (ft)	.3048	meters (m)
yards (yd)	.9144	meters (m)
rods	5.0292	meters (m)
miles (mi)	1.609	kilometers (km)
	Area	
acres	4047	square meters (m^2)
	.4047	*hectares (ha)
	.4047	square hectometer (hm^2)
	.004047	square kilometers (km^2)
square miles (mi^2)	2.590	square kilometers (km^2)
	Volume	
gallons (gal)	3.785	**liters (l)
	3.785	cubic decimeters (dm^3)
	3.785×10^{-3}	cubic meters (m^3)
million gallons (10^6 gal)	3785	cubic meters (m^3)
	3.785×10^{-3}	cubic hectometers (hm^3)
cubic feet (ft^3)	28.32	cubic decimeters (dm^3)
	.02832	cubic meters (m^3)
cfs-day (ft^3/s-day)	2447	cubic meters (m^3)
	2.447×10^{-3}	cubic hectometers (hm^3)
acre-feet (acre-ft)	1233	cubic meters (m^3)
	1.233×10^{-3}	cubic hectometers (hm^3)
	1.233×10^{-6}	cubic kilometers (km^3)
	Flow	
cubic feet per second (ft^3/s)	28.32	liters per second (l/s)
	28.32	cubic decimeters per second (dm^3/s)
	.02832	cubic meters per second (m^3/s)
gallons per minute (gpm)	.06309	liters per second (l/s)
	.06309	cubic decimeters per second (dm^3/s)
	6.309×10^{-5}	cubic meters per second (m^3/s)
million gallons per day (mgd)	43.81	cubic decimeters per second (dm^3/s)
	.04381	cubic meters per second (m^3/s)
	Mass	
ton (short)	.9072	tonne (t)

*The unit hectare is approved for use with the International System (SI) for a limited time. See NBS Special Bulletin 330, p.15, 1972 edition.

**The unit liter is accepted for use with the International System (SI). See NBS Special Bulletin 330, p. 13, 1972 edition.

DELAWARE BAY

01412350 DELAWARE BAY AT SHIP JOHN SHOAL LIGHTHOUSE, N. J.

LOCATION.--Lat 39°18'19", long 75°22'37", Cumberland County, water-quality recorder on light ship in bay opposite Bombay Hook Island, Del., and 3 miles south southwest of mouth of Cohansey River, N. J.

PERIOD OF RECORD.--Chemical analyses: April 1969 to September 1971.
Water temperatures: March 1970 to September 1971.

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	36400	35200	36080	---	---	---	---	---	---	---	---	---
2	37200	34800	36130	---	---	---	---	---	---	---	---	---
3	38000	33200	36170	---	---	---	---	---	---	---	---	---
4	36400	32800	34650	---	---	---	---	---	---	---	---	---
5	35600	31200	33670	---	---	---	---	---	---	---	---	---
6	36000	31200	33340	---	---	---	---	---	---	---	---	---
7	37600	29600	33920	---	---	---	---	---	---	---	---	---
8	37600	31200	34430	---	---	---	---	---	---	---	---	---
9	38000	32000	35420	---	---	---	---	---	---	---	---	---
10	38000	33200	35950	---	---	---	---	---	---	---	---	---
11	36800	32000	34920	---	---	---	22400	17500	---	---	---	---
12	37200	32800	34830	---	---	---	23400	18300	20670	22500	18300	---
13	36400	32400	33580	---	---	---	23100	17600	20690	23000	18000	---
14	36400	32400	34190	---	---	---	21000	13600	17220	---	---	---
15	36000	31200	33570	---	---	---	15700	13500	14670	---	---	---
16	38800	30000	33870	---	---	---	20500	14400	16410	---	---	---
17	38800	32000	35450	---	---	---	---	---	---	---	---	---
18	37200	31600	34480	---	---	---	---	---	---	---	---	---
19	37200	31600	33720	---	---	---	---	---	---	---	---	---
20	39600	33600	36000	---	---	---	---	---	---	---	---	---
21	39600	32400	36280	---	---	---	---	---	---	---	---	---
22	40400	34400	38101	---	---	---	---	---	---	---	---	---
23	38000	32000	35720	---	---	---	---	---	---	---	---	---
24	35600	25600	32430	---	---	---	---	---	---	---	---	---
25	33600	25200	30250	---	---	---	---	---	---	---	---	---
26	38400	30800	33700	---	---	---	---	---	---	---	---	---
27	39600	34400	37020	---	---	---	---	---	---	---	---	---
28	37600	30000	35650	---	---	---	---	---	---	---	---	---
29	36400	30800	34450	---	---	---	---	---	---	---	---	---
30	38000	33200	35280	---	---	---	---	---	---	---	---	---
31	37600	34000	---	---	---	---	---	---	---	---	---	---
MONTH	40400	25200	34770	---	---	---	---	---	---	---	---	---

	FEBRUARY			MARCH			APRIL			MAY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	13700	7800	10910	17800	11700	15200	17600	12800	15600
2	---	---	---	13300	7200	10020	16600	11300	13720	18000	12200	15480
3	---	---	---	12900	6900	10130	15300	10000	13170	17900	12500	15500
4	---	---	---	14000	1500	7690	16400	9700	12910	17400	12700	---
5	---	---	---	7900	3900	4390	16000	10100	13120	---	---	---
6	---	---	---	10600	3800	7190	19000	12300	16730	---	---	---
7	---	---	---	13700	6600	9370	19500	11200	15460	---	---	---
8	---	---	---	14500	7000	9820	17000	11300	14340	---	---	---
9	---	---	---	13500	5100	9270	18000	11200	15670	---	---	---
10	---	---	---	14500	8700	11150	17000	7400	13170	---	---	---
11	---	---	---	15000	10800	13040	17500	10000	14760	---	---	---
12	---	---	---	15500	10000	13260	18500	11700	15570	---	---	---
13	---	---	---	15600	11300	13550	18000	12300	15700	---	---	---
14	---	---	---	15300	10800	13570	13600	8600	10250	16000	13000	---
15	---	---	---	15000	10500	13200	16100	10500	12250	16500	12300	14240
16	---	---	---	13700	9000	12090	16500	9000	13110	16300	9100	11400
17	---	---	---	13600	8400	11870	16900	10000	13410	14100	10100	12480
18	20600	7600	---	15100	8400	12200	17500	10900	14170	14400	9700	12500
19	22500	10500	16230	16400	9300	13130	18000	12500	15370	14400	10700	12620
20	20400	12500	16520	15100	6500	10920	19300	14000	16980	15000	10000	12310
21	21000	13700	17740	13600	6700	9670	20300	15400	18300	14600	10600	12970
22	22300	14000	19540	14900	8700	12000	19500	14700	17010	16600	11100	13390
23	22700	16900	19930	17200	10900	14290	19500	13100	16370	17100	11500	13650
24	20000	13400	16870	16400	12000	14010	20100	13800	16550	16000	12100	14100
25	19500	12500	16170	14300	9300	12290	19500	11900	14780	14900	9100	11910
26	18100	11500	15100	13500	9900	11550	18900	12000	15550	13000	9700	11650
27	16500	9500	13730	21100	10600	12950	18900	12300	15590	13200	10900	11950
28	16500	8500	12370	20500	11400	16000	19500	9600	14020	13300	10500	11560
29	---	---	---	18900	12200	15500	15700	11000	12300	11200	10700	10900
30	---	---	---	17400	11700	14000	18700	12300	15850	11400	10800	11250
31	---	---	---	16800	11500	14350	---	---	---	11600	10500	11310
MONTH	---	---	---	21100	1500	11720	20300	7400	14710	---	---	---

01412350 DELAWARE BAY AT SHIP JOHN SHOAL LIGHTHOUSE, N. J.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

	JUNE			JULY			AUGUST			SEPTEMBER		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	11100	10600	10920	21500	16400	18830	24000	16500	20840	21000	11500	17010
2	11400	10600	11050	20300	15300	17710	23000	12800	18620	21000	14500	17540
3	11500	11100	11340	20500	15400	18500	22000	12500	16790	20500	16400	18340
4	11300	10400	10670	22100	15400	19170	17200	10900	14620	19400	15300	17310
5	14700	10500	12170	21300	16300	18600	20000	11500	13450	20400	14300	16550
6	15900	12500	14260	21500	16800	19750	23600	16000	19400	19600	14500	17210
7	16200	13200	14650	22500	18700	20520	24500	16300	19430	21100	15600	18030
8	16400	13300	14820	22000	18300	20350	23500	18000	20480	20000	14900	17280
9	16500	13000	14900	23100	19500	21260	25900	18400	22050	19800	14600	17180
10	17500	13500	14960	23500	19400	21100	24900	16900	20650	21000	14800	17700
11	17400	12900	15120	24500	19300	21800	24500	17200	20220	20000	15300	17570
12	17300	13900	15380	24000	19600	21720	23300	17900	20320	19300	13000	16210
13	16100	13500	14570	25500	20500	23550	23500	17600	21350	19000	12600	16250
14	17200	12300	14563	24900	19200	22050	24400	17000	20700	16600	9600	13450
15	17000	12700	14790	26100	19500	22930	24000	18000	21500	15300	7400	12130
16	18100	12000	15450	25900	20600	23640	25000	18600	21960	17000	8500	13790
17	17300	14700	16330	23500	20000	21680	23700	18200	21390	17500	10700	14790
18	17600	14400	15980	25000	18000	21230	25000	18900	22100	17800	12400	15400
19	17400	14200	15843	24500	18500	21700	25400	20500	22850	18700	13300	15980
20	18300	13800	15870	25000	19500	21280	24200	20000	22380	18000	13100	15430
21	19100	14500	16050	26500	21100	23340	24400	20500	22320	15100	11000	13350
22	18800	14500	16290	26500	21200	23670	24400	20500	22700	17600	12400	14710
23	23000	15600	18560	25300	21500	23690	24000	20500	22830	17800	12500	15350
24	22300	18000	20090	26000	21000	23720	25200	21500	23870	16900	12400	14770
25	22000	17200	19400	24900	20800	23050	24000	20000	21970	19500	12700	15450
26	21600	14900	17910	24500	21000	23250	24500	19500	22250	18000	12800	15400
27	21600	17500	19720	25000	20600	23010	24200	13300	21340	19300	11900	15700
28	21400	16700	19400	24500	21500	23000	15000	9500	11520	18500	11700	15530
29	21600	15500	19050	24400	20000	22180	10600	7200	9020	18300	12600	15540
30	21300	17000	19280	23600	17000	21250	16100	5500	11120	21600	13600	18040
31	---	---	---	22100	17500	20230	20000	11000	16160	---	---	---
MONTH	23000	10400	15640	26500	15300	21540	25900	5500	19520	21600	7400	15970

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	24.0	23.0	23.5	15.0	15.0	15.0	9.5	9.0	9.0	---	---	---
2	23.5	23.0	23.0	15.0	15.0	15.0	9.0	9.0	9.0	---	---	---
3	23.0	21.5	22.5	15.0	14.5	15.0	9.5	9.0	9.0	---	---	---
4	21.5	20.5	21.0	15.0	15.0	15.0	9.5	9.0	9.5	---	---	---
5	20.5	20.0	20.5	15.0	14.5	14.5	9.0	8.5	8.5	---	---	---
6	20.0	19.5	20.0	14.5	13.5	14.0	8.5	7.0	8.0	---	---	---
7	20.0	19.5	19.5	14.0	13.5	13.5	7.0	5.5	6.5	---	---	---
8	20.0	19.5	20.0	13.5	13.5	13.5	6.0	5.5	6.0	---	---	---
9	20.0	20.0	20.0	14.0	13.5	13.5	6.0	5.5	6.0	---	---	---
10	20.5	20.0	20.0	13.5	13.5	13.5	6.0	6.0	6.0	---	---	---
11	20.5	20.0	20.0	14.0	13.5	13.5	6.0	6.0	6.0	---	---	---
12	20.5	20.5	20.5	14.0	14.0	14.0	6.5	6.0	6.0	---	---	---
13	20.5	20.5	20.5	14.0	14.0	14.0	6.5	6.0	6.0	---	---	---
14	21.0	20.5	20.5	14.0	14.0	14.0	6.0	6.0	6.0	---	---	---
15	21.0	20.5	20.5	14.0	13.5	14.0	6.0	5.5	6.0	---	---	---
16	21.0	19.5	20.0	14.0	13.5	13.5	5.5	5.0	5.5	---	---	---
17	19.5	18.0	18.5	13.5	12.0	13.0	---	---	---	---	---	---
18	18.0	16.5	17.0	12.0	12.0	12.0	---	---	---	---	---	---
19	16.5	16.0	16.5	12.0	11.5	12.0	---	---	---	---	---	---
20	16.5	16.0	16.0	12.0	11.5	12.0	---	---	---	---	---	---
21	16.0	16.0	16.0	12.0	11.0	11.5	---	---	---	---	---	---
22	16.0	16.0	16.0	11.5	11.0	11.5	---	---	---	---	---	---
23	16.5	16.5	16.5	11.5	10.5	11.0	---	---	---	---	---	---
24	17.0	16.5	16.5	10.5	9.0	10.0	---	---	---	---	---	---
25	17.0	16.5	17.0	9.0	8.0	9.0	---	---	---	---	---	---
26	16.5	16.5	16.5	9.0	8.5	8.5	---	---	---	---	---	---
27	16.5	16.0	16.0	9.0	8.5	9.0	---	---	---	---	---	---
28	16.0	15.5	15.5	9.0	9.0	9.0	---	---	---	---	---	---
29	15.5	15.5	15.5	9.5	9.0	9.0	---	---	---	---	---	---
30	15.5	15.0	15.5	9.5	9.0	9.0	---	---	---	---	---	---
31	15.5	15.0	15.0	---	---	---	---	---	---	---	---	---
MONTH	24.0	15.0	18.5	15.0	8.0	12.5	---	---	---	---	---	---

01412350 DELAWARE BAY AT SHIP JOHN SHOAL LIGHTHOUSE, N. J.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

	FEBRUARY			MARCH			APRIL			MAY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	16.0	15.5	---
15	---	---	---	---	---	---	---	---	---	16.0	15.5	16.0
16	---	---	---	---	---	---	---	---	---	16.0	15.5	16.0
17	---	---	---	---	---	---	---	---	---	16.5	15.5	16.0
18	---	---	---	---	---	---	---	---	---	18.5	16.5	17.5
19	---	---	---	---	---	---	---	---	---	19.0	18.0	18.0
20	---	---	---	---	---	---	---	---	---	18.5	17.0	18.0
21	---	---	---	---	---	---	---	---	---	18.5	17.0	18.0
22	---	---	---	---	---	---	---	---	---	19.0	17.0	18.0
23	---	---	---	---	---	---	---	---	---	18.5	18.0	18.0
24	---	---	---	---	---	---	11.5	11.5	---	18.5	18.0	18.5
25	---	---	---	---	---	---	11.5	11.5	11.5	19.0	18.5	18.5
26	---	---	---	---	---	---	11.5	11.5	11.5	20.0	18.5	19.0
27	---	---	---	---	---	---	11.5	11.5	11.5	19.5	19.0	19.0
28	---	---	---	---	---	---	11.5	11.5	11.5	19.0	18.5	18.5
29	---	---	---	---	---	---	11.5	11.5	11.5	18.5	18.5	18.5
30	---	---	---	---	---	---	11.5	11.5	---	18.5	18.0	18.0
31	---	---	---	---	---	---	---	---	---	20.0	18.0	18.5
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

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

01480000 RED CLAY CREEK AT WOODDALE, DEL.

LOCATION.--Lat 39°45'52", long 75°38'08", New Castle County, temperature recorder at gaging station on right bank 12 ft upstream from bridge on State Highway 48, 0.3 mile south of Wooddale, 2.3 miles north of Marshallton, and 4.9 miles upstream from mouth.

DRAINAGE AREA.--47.0 sq mi.

PERIOD OF RECORD.--Water temperatures: April 1953 to September 1971.

EXTREMES.--1970-71:
Water temperatures: Maximum, 26.0°C July 10, 29; minimum, 0.5°C on many days during January and February.

Period of record:
Water temperatures: Maximum, 30.5°C July 17, Aug. 2, 6, 1955, July 19, 1963; minimum, freezing point on many days during winter period.

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971
(CONTINUOUS ETHYL ALCOHOL-ACTUATED THERMOGRAPH)

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	15.0	13.5	14.5	12.5	8.0	7.0	1.0	0.5	0.5	0.5	8.0	6.5
2	14.5	12.5	13.5	13.0	9.0	8.0	0.5	0.5	1.0	0.5	8.0	6.5
3	17.0	14.0	13.0	12.0	8.5	7.5	0.5	0.5	1.0	0.5	6.5	5.0
4	16.0	13.5	13.0	12.5	9.5	7.5	1.5	0.5	0.5	0.5	5.0	3.0
5	14.0	12.0	12.5	10.0	7.5	6.0	2.5	1.5	0.5	0.5	5.0	2.5
6	15.5	13.0	10.0	9.0	6.0	3.0	2.5	2.0	2.0	0.5	6.5	4.5
7	16.5	14.0	10.0	8.5	3.0	2.0	2.0	1.0	1.5	1.0	7.0	6.0
8	15.5	14.5	10.0	9.0	2.0	1.0	1.0	0.5	2.0	1.0	6.0	4.5
9	17.5	15.5	10.0	9.5	3.5	2.0	1.5	1.0	2.0	1.5	5.0	3.5
10	18.5	16.5	12.5	10.0	5.0	3.5	2.0	1.5	2.0	1.0	6.0	4.0
11	19.0	17.5	14.0	12.5	5.0	4.5	2.5	2.0	2.0	1.0	8.0	6.0
12	18.0	17.5	14.5	14.0	5.5	5.0	4.0	2.5	4.0	2.0	8.0	6.5
13	18.5	17.5	14.5	12.5	5.5	5.0	3.5	2.5	5.0	3.0	9.0	7.5
14	19.0	18.0	12.5	11.5	5.5	5.0	3.5	2.5	3.0	2.5	9.0	7.5
15	19.0	18.5	12.0	11.0	5.0	4.0	3.5	3.0	3.0	2.0	11.0	8.5
16	19.0	14.0	11.0	8.5	5.0	4.0	3.0	1.0	4.0	2.5	12.0	10.0
17	14.0	11.0	8.5	7.5	6.0	5.0	1.0	0.5	4.0	3.0	11.5	8.0
18	13.0	11.0	8.0	7.0	6.5	6.0	0.5	0.5	5.5	3.5	8.0	6.0
19	12.5	10.5	9.0	7.0	6.5	5.5	0.5	0.5	7.5	6.0	8.0	6.5
20	11.5	10.0	9.0	8.0	6.5	5.5	0.5	0.5	9.0	7.0	7.0	6.0
21	14.0	11.5	9.0	8.0	5.5	4.5	0.5	0.5	9.0	7.5	7.0	5.5
22	15.0	14.0	9.0	6.5	5.0	4.5	1.5	0.5	7.5	5.0	8.0	5.5
23	16.5	15.0	8.0	5.0	5.0	4.5	3.0	1.5	5.0	4.0	9.0	7.5
24	16.0	15.0	5.0	3.5	5.0	3.5	3.0	1.0	5.5	4.5	8.0	6.0
25	15.5	15.0	3.5	3.0	3.5	3.0	3.0	1.0	7.0	5.5	7.0	4.5
26	15.0	14.0	4.5	3.5	3.0	2.0	4.0	2.5	7.5	5.5	6.5	5.5
27	14.0	13.0	6.0	4.5	2.0	1.5	2.5	0.5	9.0	7.5	7.5	4.5
28	13.0	11.5	7.0	6.0	1.5	1.0	1.0	0.5	8.5	7.5	8.0	5.5
29	11.5	10.5	9.0	7.0	1.5	1.0	1.5	0.5	---	---	8.0	7.0
30	12.0	11.5	9.0	8.0	1.0	1.0	1.5	0.5	---	---	9.0	7.0
31	12.5	12.0	---	---	2.0	1.0	1.5	0.5	---	---	9.5	6.5
MONTH	19.0	10.0	14.5	3.0	9.5	1.0	4.0	0.5	9.0	0.5	12.0	2.5

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	10.0	7.0	13.5	10.0	17.5	14.5	25.0	23.0	23.5	22.5	21.0	20.5
2	11.5	9.5	13.5	11.5	17.5	16.5	24.5	23.0	23.0	22.0	20.5	19.5
3	11.5	9.5	12.5	11.5	19.0	17.0	23.0	21.0	24.5	22.5	20.5	19.0
4	11.5	8.5	14.5	11.0	21.0	18.0	22.5	20.0	24.0	22.5	21.5	20.0
5	11.0	9.0	16.0	12.0	21.0	19.5	21.5	18.5	22.5	21.0	22.0	20.0
6	10.5	6.0	16.0	15.0	21.0	19.5	21.0	19.0	22.5	20.0	23.0	21.5
7	9.0	4.0	16.0	13.5	22.0	19.0	24.5	21.0	23.0	21.0	22.5	21.0
8	9.5	7.0	16.0	13.0	23.0	21.0	25.0	21.0	24.0	21.5	23.5	21.5
9	11.0	7.5	13.0	12.5	23.0	21.5	25.0	22.5	24.5	22.0	24.0	22.5
10	11.0	9.5	16.0	12.0	21.5	20.0	26.0	23.0	25.0	22.5	24.0	23.0
11	10.5	7.0	18.0	14.0	21.0	19.0	24.5	20.0	25.5	24.5	23.0	22.0
12	12.0	8.0	17.5	16.0	22.0	20.0	21.0	18.5	24.5	22.5	22.5	21.5
13	14.0	10.0	16.5	15.0	21.5	20.0	22.0	19.0	23.0	20.0	21.5	20.0
14	14.5	12.5	16.5	13.5	21.0	19.5	23.5	21.0	23.5	20.5	20.0	20.0
15	12.5	10.0	16.0	14.0	19.5	17.5	23.0	20.0	23.0	21.0	20.5	19.5
16	12.5	9.5	15.0	12.5	18.0	16.5	22.0	20.0	23.0	21.5	20.0	19.5
17	14.0	11.0	16.0	12.5	19.0	17.0	24.5	21.0	23.5	20.5	20.0	19.5
18	14.5	12.0	18.0	14.0	20.0	17.0	23.5	21.5	22.5	20.5	20.0	19.5
19	15.0	11.5	20.0	16.0	21.0	18.5	22.0	21.5	23.0	22.0	20.0	19.5
20	16.0	13.0	19.0	17.0	21.5	19.0	23.0	21.0	23.5	21.5	19.5	19.0
21	15.5	13.5	18.5	15.5	21.0	20.0	22.0	19.5	25.0	22.5	19.5	19.0
22	15.0	12.5	15.5	14.0	22.5	20.5	23.0	19.5	25.0	23.5	19.0	17.0
23	13.5	11.0	16.0	13.0	22.0	21.0	23.0	21.0	24.5	22.0	17.5	17.5
24	14.0	11.5	16.0	13.5	23.5	21.5	23.5	21.0	22.0	19.5	17.5	16.5
25	13.0	10.5	18.0	16.0	24.0	22.0	24.0	22.0	21.5	18.0	16.5	14.5
26	12.5	11.0	18.0	17.0	24.0	23.0	24.5	22.5	21.5	19.5	15.0	15.0
27	13.5	10.0	17.5	15.5	24.0	22.0	24.5	23.0	21.5	20.5	15.5	15.0
28	13.0	12.0	16.0	15.0	23.5	22.5	24.5	22.0	21.0	20.0	17.0	15.5
29	12.0	11.5	16.5	15.0	22.5	22.0	26.0	23.0	21.0	20.0	17.5	16.5
30	12.5	10.5	16.5	14.5	23.5	22.0	25.5	22.5	21.5	20.0	17.5	17.0
31	---	---	15.0	14.0	---	---	23.0	22.5	21.5	21.0	---	---
MONTH	16.0	4.0	20.0	10.0	24.0	14.5	26.0	18.5	25.5	18.0	24.0	14.5

01481000 BRANDYWINE CREEK AT CHADDS FORD, PA.

LOCATION.--Lat 39°52'09", long 75°35'35", Delaware County, at gaging station located on left bank 27 ft upstream from Pennsylvania Railroad Bridge at Chadds Ford, and 1,200 ft downstream from highway bridge on U. S. Highway 1. Sediment samples collected at U. S. Highway 1 bridge.

DRAINAGE AREA.--287 sq mi.

PERIOD OF RECORD.--Chemical analyses: March 1964 to September 1971.
Water temperatures: October 1964 to September 1971.
Sediment records: July 1963 to September 1971.

EXTREMES.--1970-71:
Sediment concentrations: Maximum daily, 735 mg/l Feb. 13; minimum daily, 2 mg/l Feb. 4.
Sediment discharge: Maximum daily, 10,700 tons Feb. 13; minimum daily, 1.4 tons Feb. 4.

Period of record:
Specific conductance (1965-71): Maximum daily, 285 micromhos Sept. 2, 5, 1966, Mar. 4, 1969; minimum daily, 122 micromhos Aug. 10, 1967.
Water temperatures: Maximum daily, 29.0°C Aug. 9, 17, 1965; minimum, freezing point on many days during winter months.
Sediment concentrations: Maximum daily, 2,000 mg/l (estimated) Feb. 8, 1965; minimum daily, 1 mg/l on several days in 1964, 1966 to 1969.
Sediment discharge: Maximum daily, 20,000 tons (estimated) Feb. 8, 1965; minimum daily 0 tons Oct. 7, 8, 1967.

REMARKS.--Unpublished records of specific conductance, pH, and temperature of sediment samples available in the WRD district office at Harrisburg, Pa.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MANGANESE (MN) (UG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED POTASSIUM (K) (MG/L)	DIS-SOLVED SODIUM PLUS POTASSIUM (MG/L)	BICARBONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)
OCT.												
12...	118	11	1200	170	23	9.1	13	3.3	--	--	26	23
26...	176	14	--	--	22	7.9	10	5.0	--	66	28	18
NOV.												
30...	374	13	--	--	20	7.4	8.5	2.5	--	56	22	14
JAN.												
05...	2250	8.0	--	--	12	4.5	10	2.9	--	25	20	19
FEB.												
02...	201	13	--	--	21	7.5	11	2.8	--	57	26	19
MAR.												
16...	546	--	--	--	15	6.0	--	--	10	35	26	15
JUNE												
29...	266	--	--	--	18	6.9	--	--	16	63	27	13
AUG.												
09...	243	14	--	--	21	7.7	12	3.5	--	68	28	19

DATE	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED NITRATE (NO3) (MG/L)	DIS-SOLVED ORTHO PHOSPHATE (PO4) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	HARDNESS (CA,MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	COLOR (PLATINUM-COBALT UNITS)	TEMPERATURE (DEG C)
OCT.										
12...	.1	12	3.1	167	95	32	252	7.9	3	18.5
26...	.2	13	.72	182	88	34	248	8.1	5	14.0
NOV.										
30...	.3	12	.73	140	81	35	209	7.8	2	--
JAN.										
05...	.3	9.3	.37	104	49	28	172	7.5	8	1.5
FEB.										
02...	1.2	11	.82	163	84	37	249	8.1	3	.0
MAR.										
16...	--	9.1	--	--	62	34	188	7.4	4	13.0
JUNE										
29...	--	13	.68	--	74	22	222	7.8	7	21.0
AUG.										
09...	.3	10	.54	160	84	29	254	7.7	5	25.0

01481000 BRANDYWINE CREEK AT CHADDS FORD, PA.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	250	---	222	---	228	156	---	---	182	---	---	---
2	248	250	222	210	230	154	---	---	180	---	---	---
3	---	245	232	213	223	158	---	196	180	---	---	---
4	262	245	234	205	217	---	---	189	182	---	---	---
5	256	209	232	200	216	170	195	---	---	---	---	---
6	251	214	---	---	---	---	186	187	---	---	---	---
7	249	275	225	200	205	---	138	---	---	---	---	---
8	255	---	224	---	148	---	182	---	184	---	---	---
9	252	---	222	---	130	---	194	---	187	---	---	---
10	262	223	220	---	---	158	187	---	---	---	---	---
11	265	231	218	204	172	162	---	172	---	---	---	---
12	255	165	---	240	170	152	---	---	---	---	---	---
13	255	155	---	---	148	150	---	170	---	---	---	---
14	246	193	200	---	122	---	---	158	---	---	---	---
15	251	186	202	---	162	148	200	---	---	---	---	---
16	224	---	---	242	166	148	190	152	---	---	---	---
17	---	203	180	222	---	145	---	163	---	---	---	---
18	---	222	188	226	168	---	---	---	---	---	---	---
19	251	---	202	230	166	---	---	181	---	---	240	---
20	249	221	208	---	172	---	187	183	---	---	---	---
21	252	215	210	218	170	---	185	184	---	---	---	---
22	220	265	206	215	162	---	184	---	---	---	---	---
23	215	225	---	208	162	---	188	180	---	---	---	---
24	225	---	---	230	---	192	---	177	---	---	---	---
25	---	226	---	210	---	196	---	182	---	---	---	---
26	260	---	---	270	160	192	187	158	---	---	---	---
27	251	---	222	240	---	---	188	162	---	---	---	---
28	250	---	216	236	154	---	185	168	---	---	---	---
29	252	230	220	238	---	191	187	184	---	---	---	---
30	251	225	208	226	---	190	184	178	---	---	---	---
31	---	---	205	218	---	188	---	152	---	---	---	---
AVG	249	---	---	---	175	---	---	---	---	---	---	---

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14.5	---	8.0	---	1.0	7.0	---	---	18.0	---	---	---
2	14.0	13.0	8.0	2.0	0.0	6.5	---	---	19.0	---	---	---
3	---	12.0	8.0	2.0	1.0	6.0	---	14.0	19.5	---	---	---
4	14.0	12.0	9.0	1.0	2.0	---	---	14.5	21.0	---	---	---
5	14.5	11.0	8.0	3.5	3.5	1.5	11.5	---	---	---	---	---
6	14.0	12.0	---	---	---	---	8.5	15.5	---	---	---	---
7	15.0	11.0	3.0	2.0	2.0	---	8.0	19.5	---	---	---	---
8	16.0	---	4.0	---	2.0	---	8.5	---	24.0	---	---	---
9	17.0	---	1.0	---	---	---	9.0	---	23.5	---	---	---
10	19.0	11.0	1.0	---	---	4.5	10.0	---	---	---	---	---
11	19.0	12.0	---	3.5	2.0	6.0	---	---	---	---	---	---
12	18.5	14.0	---	4.5	3.0	6.0	---	---	---	---	---	---
13	19.0	14.0	---	---	2.0	10.0	---	18.0	---	---	---	---
14	20.0	15.0	4.5	---	---	---	---	15.0	---	---	---	---
15	20.0	13.0	5.0	---	3.0	9.5	9.5	---	---	---	---	---
16	17.0	---	---	3.0	3.5	9.5	9.0	15.0	---	---	---	---
17	---	7.0	5.5	4.0	---	9.0	---	13.0	---	---	---	---
18	---	8.0	7.0	0.0	6.0	---	---	---	---	---	---	---
19	11.0	---	7.0	0.0	7.0	---	---	14.5	---	---	22.0	---
20	11.0	8.0	---	---	---	---	13.5	14.5	---	---	---	---
21	13.0	10.0	6.5	1.0	8.0	---	15.5	13.0	---	---	---	---
22	14.0	10.0	6.0	3.0	8.0	---	13.0	---	---	---	---	---
23	13.0	4.0	---	2.0	5.5	---	13.0	---	---	---	---	---
24	10.0	---	---	3.0	---	6.5	---	---	---	---	---	---
25	---	3.0	---	3.5	---	6.0	---	15.0	---	---	---	---
26	16.0	---	---	4.5	7.0	6.5	11.0	15.0	---	---	---	---
27	16.0	---	---	1.5	---	---	11.5	14.5	---	---	---	---
28	12.0	---	2.0	1.0	7.0	---	13.0	16.5	---	---	---	---
29	11.0	10.0	1.5	1.0	---	7.0	13.5	---	---	---	---	---
30	12.0	---	1.5	2.0	---	8.5	13.0	---	---	---	---	---
31	---	---	1.5	---	---	9.0	---	18.0	---	---	---	---
AVG	15.5	---	---	---	---	---	---	---	---	---	---	---

01481000 BRANDYWINE CREEK AT CHADDS FORD, PA.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	124	18	6.0	149	15	6.0	315	7	6.0
2	127	19	6.5	143	17	6.6	283	8	6.1
3	127	15	5.1	149	16	6.4	272	8	5.9
4	130	13	4.6	276	50	37	280	9	6.8
5	124	13	4.4	1130	298	1080	268	7	5.1
6	121	15	4.9	412	40	44	260	6	4.2
7	118	16	5.1	283	20	15	242	5	3.3
8	116	15	4.7	245	18	12	230	4	2.5
9	121	14	4.6	230	17	11	245	4	2.6
10	116	16	5.0	227	14	8.6	253	3	2.0
11	118	14	4.5	260	20	14	249	5	3.4
12	118	19	6.1	731	113	301	344	20	19
13	118	17	5.4	1950	430	2660	408	16	18
14	116	15	4.7	726	60	118	315	10	8.5
15	223	25	15	1220	150	494	283	8	6.1
16	238	20	13	722	50	97	283	15	11
17	149	18	7.2	448	15	18	1410	301	1370
18	127	16	5.5	378	10	10	605	46	75
19	124	14	4.7	353	10	9.5	408	12	13
20	118	10	3.2	348	10	9.4	361	10	9.7
21	165	15	6.7	395	12	13	336	9	8.2
22	808	120	262	340	8	7.3	461	30	37
23	484	60	78	311	9	7.6	610	60	99
24	260	24	17	287	8	6.2	763	75	155
25	195	20	11	272	6	4.4	488	12	16
26	175	22	10	280	9	6.8	434	9	11
27	162	15	6.6	280	8	6.0	378	6	6.1
28	152	14	5.7	280	9	6.8	357	5	4.8
29	143	13	5.0	276	9	6.7	328	6	5.3
30	149	12	4.8	361	11	11	315	5	4.3
31	143	12	4.6	--	--	--	332	5	4.5
TOTAL	5509	--	531.6	13462	--	5033.3	12116	--	1929.4

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	328	4	3.5	210	7	4.0	632	10	17
2	361	5	4.9	210	6	3.4	569	10	15
3	357	10	9.6	200	4	2.2	614	16	27
4	493	30	40	256	2	1.4	1280	200	691
5	2110	329	1910	722	60	117	808	35	76
6	1150	90	279	826	45	100	830	25	56
7	587	20	32	812	92	202	1090	75	221
8	452	15	18	4620	440	6170	845	30	68
9	448	13	16	2350	390	3130	628	15	25
10	425	9	10	560	60	91	587	10	16
11	416	7	7.9	421	15	17	587	9	14
12	421	8	9.1	395	18	19	565	8	12
13	399	8	8.6	3560	735	10700	565	8	12
14	408	8	8.8	4890	461	8310	551	7	10
15	425	9	10	812	90	197	538	9	13
16	369	8	8.0	601	30	49	533	6	8.6
17	340	6	5.5	515	16	22	484	5	6.5
18	300	13	11	488	14	18	448	5	6.0
19	290	11	8.6	542	17	25	623	35	59
20	280	9	6.8	619	28	47	1360	215	789
21	270	8	5.8	885	80	191	650	30	53
22	320	8	6.9	910	150	369	547	10	15
23	340	7	6.4	1890	400	2040	601	15	24
24	336	8	7.3	830	50	112	533	9	13
25	336	7	6.4	628	20	34	470	9	11
26	524	35	50	560	12	18	475	8	10
27	400	20	22	1460	350	1380	457	8	9.9
28	320	12	10	860	80	186	443	7	8.4
29	260	12	8.4	--	--	--	448	7	8.5
30	270	10	7.3	--	--	--	434	8	9.4
31	260	8	5.6	--	--	--	412	7	7.8
TOTAL	13995	--	2543.4	31632	--	33555.0	19607	--	2312.1

01481000 BRANDYWINE CREEK AT CHADDS FORD, PA.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	404	6	6.5	365	10	9.9	695	40	75
2	408	5	5.5	374	10	10	497	19	25
3	448	7	8.5	395	12	13	502	18	24
4	408	6	6.6	365	9	8.9	461	20	25
5	382	5	5.2	336	8	7.3	412	17	19
6	434	12	14	434	21	25	408	16	18
7	2250	250	1520	497	12	16	452	20	24
8	1140	60	185	744	50	100	365	35	34
9	686	17	31	654	30	53	340	45	41
10	578	15	23	443	20	24	324	30	26
11	542	12	18	408	23	25	311	25	21
12	515	10	14	369	18	18	307	28	23
13	520	9	13	1320	350	1910	307	25	21
14	510	9	12	948	104	350	320	28	24
15	488	8	11	502	20	27	340	27	25
16	470	8	10	1190	173	771	344	31	29
17	450	7	8.5	872	47	120	348	28	26
18	430	7	8.1	569	15	23	307	30	25
19	425	8	9.2	502	13	18	283	25	19
20	404	8	8.7	452	14	17	287	21	16
21	399	17	18	479	20	26	264	19	14
22	399	15	16	515	21	29	291	18	14
23	404	12	13	438	12	14	283	17	13
24	399	10	11	408	13	14	256	21	15
25	399	9	9.7	404	12	13	260	16	11
26	395	8	8.5	452	11	13	245	14	9.3
27	374	8	8.1	374	13	13	249	15	10
28	378	8	8.2	361	11	11	238	28	18
29	528	17	24	348	12	11	238	29	19
30	412	11	12	506	25	34	242	30	20
31	--	--	--	1530	280	1160	--	--	--
TOTAL	15979	--	2046.3	17554	--	4884.1	10176	--	683.3

	JULY			AUGUST			SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	256	31	21	336	15	14	448	12	15
2	369	40	40	860	100	232	408	8	8.8
3	249	30	20	664	60	108	386	8	8.3
4	230	21	13	709	55	105	361	7	6.8
5	223	14	8.4	1220	290	955	340	6	5.5
6	220	14	8.3	382	35	36	328	5	4.4
7	220	15	8.9	276	20	15	315	5	4.3
8	209	14	7.9	242	15	9.8	307	5	4.1
9	209	13	7.3	220	14	8.3	299	5	4.0
10	216	16	9.3	206	13	7.2	287	4	3.1
11	213	14	8.1	199	12	6.4	722	180	351
12	230	27	17	213	8	4.6	2060	280	1560
13	213	29	17	195	8	4.2	6780	575	10500
14	206	27	15	185	7	3.5	5080	250	3430
15	199	28	15	188	7	3.6	1560	50	211
16	192	25	13	178	6	2.9	1100	35	104
17	195	23	12	168	5	2.3	960	28	73
18	209	21	12	168	6	2.7	850	22	50
19	223	18	11	181	7	3.4	754	17	35
20	220	17	10	175	7	3.3	704	16	30
21	199	16	8.6	168	6	2.7	1730	160	747
22	188	16	8.1	172	6	2.8	785	25	53
23	181	14	6.8	162	5	2.2	700	17	32
24	178	14	6.7	146	5	2.0	668	13	23
25	181	15	7.3	149	5	2.0	610	11	18
26	181	13	6.4	143	4	1.5	596	8	13
27	172	16	7.4	2160	500	2920	659	12	21
28	165	15	6.7	6910	210	3920	601	9	15
29	165	15	6.7	1310	65	230	565	8	12
30	925	220	549	659	25	44	542	7	10
31	560	75	113	511	20	28	--	--	--
TOTAL	7596	--	1000.9	19455	--	8682.4	31505	--	17352.3

TOTAL DISCHARGE FOR YEAR (CFS-DAYS) 198586
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR YEAR (TONS) 80554.1

01481000 BRANDYWINE CREEK AT CHADDS FORD, PA.--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	TIME	TEMPERATURE (DEG C)	DISCHARGE (CFS)	SUSPENDED SEDIMENT (MG/L)	SUSPENDED SEDIMENT DISCHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .004 MM	SUS. SED. FALL DIAM. % FINER THAN .008 MM
OCT.							
22...	0650	14.5	860	100	232	45	62
NOV.							
13...	0750	13.0	2750	759	5640	38	54
DEC.							
17...	1000	--	2180	629	3700	32	50
FEB.							
08...	0925	--	7310	630	12400	46	64
08...	1300	2.0	5820	294	4620	61	77
23...	0900	5.5	2490	428	2880	39	53
JULY							
30...	1300	23.0	2400	1000	6480	32	48
AUG.							
02...	1115	23.5	1330	220	790	39	58

DATE	SUS. SED. FALL DIAM. % FINER THAN .016 MM	SUS. SED. FALL DIAM. % FINER THAN .031 MM	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM	SUS. SED. SIEVE DIAM. % FINER THAN .250 MM	SUS. SED. SIEVE DIAM. % FINER THAN .500 MM
OCT.						
22...	82	96	99	100	--	--
NOV.						
13...	74	87	97	100	--	--
DEC.						
17...	68	77	93	99	100	--
FEB.						
08...	80	85	93	96	98	100
08...	90	97	99	100	--	--
23...	73	92	98	100	--	--
JULY						
30...	64	80	92	99	100	--
AUG.						
02...	79	96	99	100	--	--

01481500 BRANDYWINE CREEK AT WILMINGTON, DEL.

LOCATION.--Lat 39°46'09", long 75°34'25", New Castle County, at gaging station on right bank in Rockford Park, 0.2 mile downstream from Henry Clay Bridge, in Wilmington, and at mile 4.2. Sediment samples are collected at the Henry Clay Bridge.

DRAINAGE AREA.--314 sq mi.

PERIOD OF RECORD.--Chemical analyses: October 1947 to September 1950, November 1951 to September 1952, October 1956 to September 1971.
Water temperatures: November 1956 to September 1961.
Sediment records: December 1946 to September 1961, July 1962 to September 1971.

EXTREMES.--1970-71:
Sediment concentrations: Maximum daily, 1,270 mg/l Feb. 14; minimum daily, 3 mg/l on Mar. 25, 29, 31, Sept. 10.
Sediment discharge: Maximum daily, 35,700 tons Feb. 14; minimum daily, 1.60 tons Aug. 24, 25.

Period of record:
Water temperatures (1956-61): Maximum, 30.0°C June 17, 1957; minimum, freezing point on many days during winter period.
Sediment concentrations: Maximum daily, 1,700 mg/l Feb. 14, 1966; minimum daily, 1 mg/l on many days.
Sediment discharge: Maximum daily, 33,000 tons Feb. 14, 1966; minimum daily, less than 0.50 ton on many days.

REMARKS.--Published and unpublished chemical-quality data and specific conductance, pH, and temperature of sediment samples available in WRD office at Parkville, Md.

CHEMICAL ANALYSIS, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)
OCT.								
01...	153	11	--	--	22	8.0	8.8	3.5
12...	139	9.3	150	130	22	8.8	12	3.6
NOV.								
02...	157	11	--	--	24	7.4	12	3.3
DEC.								
01...	370	13	--	--	17	6.6	9.5	3.2
MAR.								
01...	797	11	--	--	15	5.9	9.1	3.7
APR.								
01...	493	8.5	--	--	16	6.2	9.1	2.2
MAY								
03...	487	6.8	--	--	16	6.1	10	2.0
JUNE								
01...	835	8.5	--	--	13	4.5	7.8	2.7
AUG.								
03...	823	11	--	--	16	5.3	11	4.2
SEP.								
01...	459	11	--	--	17	6.5	8.9	3.1
30...	655	12	--	--	17	6.7	8.4	2.6

DATE	BICAR-BONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRATE (NO3) (MG/L)	DIS-SOLVED ORTHO PHOS-PHATE (PO4) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)
OCT.							
01...	64	25	16	.2	12	.72	147
12...	70	24	19	.3	5.2	1.6	163
NOV.							
02...	70	26	18	.3	9.8	.78	151
DEC.							
01...	50	22	13	.5	6.5	.44	133
MAR.							
01...	35	24	14	.4	8.9	.33	137
APR.							
01...	42	23	14	.4	7.8	.22	130
MAY							
03...	44	21	13	.4	11	.40	125
JUNE							
01...	38	19	11	.2	8.7	.28	123
AUG.							
03...	51	21	16	.2	7.9	.53	140
SEP.							
01...	51	23	14	.4	8.2	.43	125
30...	49	21	14	.4	9.0	.28	125

01481500 BRANDYWINE CREEK AT WILMINGTON, DEL.--Continued

CHEMICAL ANALYSIS, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	HARDNESS (CA,MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	COLOR (PLATINUM-COBALT UNITS)	TOTAL ORGANIC CARBON (C) (MG/L)
OCT.						
01...	88	36	247	7.2	5	--
12...	91	34	240	7.9	1	5.0
NOV.						
02...	91	33	230	8.0	5	--
DEC.						
01...	70	29	199	7.9	0	--
MAR.						
01...	62	34	189	7.7	1	--
APR.						
01...	66	31	192	7.6	0	--
MAY						
03...	65	29	184	7.5	0	--
JUNE						
01...	51	20	168	7.3	20	--
AUG.						
03...	62	20	195	7.2	25	--
SEP.						
01...	69	27	205	7.5	5	--
30...	70	30	200	7.4	2	--

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15.0	8.0	---	---	8.0	---	10.0	9.0	---	---	---	---
2	---	---	---	---	---	---	---	---	---	24.0	---	21.0
3	16.0	---	8.0	---	---	---	10.0	---	22.0	---	22.0	22.0
4	---	---	9.0	---	---	9.0	---	---	---	22.0	---	22.0
5	---	10.0	10.0	---	---	---	---	21.0	16.5	---	23.0	25.0
6	---	---	---	---	8.0	10.0	---	14.5	20.0	---	22.0	19.0
7	---	10.0	---	---	---	---	---	---	---	---	23.0	---
8	12.0	11.0	---	---	---	---	10.0	14.5	---	22.0	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	12.0	---	---	---	---	---	---	---	20.0	21.0	---	18.0
11	---	11.0	---	---	8.0	8.0	10.0	---	23.0	---	22.0	---
12	---	9.0	---	---	---	---	---	---	20.0	---	---	---
13	---	9.0	---	---	---	---	---	15.0	---	25.0	---	22.0
14	---	8.0	---	---	---	9.0	---	---	---	23.0	23.0	---
15	12.0	---	---	---	8.0	---	11.0	---	---	25.0	---	---
16	---	---	---	---	---	---	---	---	---	---	25.0	20.0
17	10.0	8.0	9.0	---	---	---	10.0	---	22.0	24.0	28.0	---
18	---	---	---	9.0	8.0	9.0	---	---	---	---	---	21.0
19	---	9.0	---	---	---	---	---	---	21.0	---	---	---
20	10.0	---	---	---	---	10.0	9.0	20.0	---	---	28.0	---
21	---	8.0	9.0	---	8.0	---	8.0	18.0	---	---	22.0	---
22	12.0	---	---	9.0	---	---	---	19.0	---	25.0	---	18.5
23	---	---	---	---	---	---	---	---	---	---	---	20.0
24	---	---	9.0	---	---	---	8.0	---	22.0	22.0	---	---
25	9.0	---	---	10.0	8.0	9.0	---	---	23.0	21.0	---	22.0
26	10.0	9.0	9.0	---	---	8.0	---	---	22.0	---	21.0	---
27	---	---	---	---	---	---	---	---	23.0	---	---	---
28	---	9.0	9.0	8.0	8.0	9.0	---	17.0	21.0	23.0	21.0	---
29	---	---	---	---	---	---	9.0	---	---	23.0	---	---
30	---	---	---	8.0	---	---	---	15.0	---	22.0	---	15.0
31	9.0	---	9.0	---	---	---	---	---	---	22.0	---	---
AVG	---	---	---	---	---	---	---	---	---	---	---	---

01481500 BRANDYWINE CREEK AT WILMINGTON, DEL.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	23.0
2	18.0	---	12.0	9.0	3.5	5.0	9.0	---	23.0	25.0	---	---
3	---	---	---	11.0	7.0	5.5	9.0	---	---	24.0	---	22.0
4	---	12.0	12.0	---	1.5	---	8.0	13.0	---	---	22.0	---
5	---	---	---	---	1.5	6.5	7.0	---	20.0	---	---	---
6	---	11.0	---	---	---	---	---	---	20.0	---	22.0	---
7	17.0	---	---	7.0	---	---	---	11.0	20.0	24.0	---	---
8	---	---	---	0.0	---	---	---	---	---	---	---	---
9	16.0	12.0	8.0	0.0	5.0	---	8.0	14.0	19.0	---	---	22.0
10	---	---	---	0.0	5.5	4.5	---	---	20.0	24.0	---	21.0
11	---	12.0	5.0	0.0	4.5	---	---	---	22.0	24.0	23.0	---
12	---	---	8.0	0.0	4.5	---	---	---	23.0	---	---	---
13	---	12.0	---	0.0	---	5.5	---	21.0	24.0	---	25.0	---
14	17.0	---	---	0.0	---	---	6.5	---	21.0	23.0	---	---
15	---	---	---	0.0	---	---	8.0	18.0	---	---	---	18.0
16	13.0	---	8.0	0.0	---	---	9.0	---	18.0	22.0	---	---
17	---	---	---	0.0	5.0	5.5	4.5	---	20.0	21.0	---	18.0
18	---	12.0	10.0	0.0	---	---	4.5	15.0	20.0	24.0	24.0	---
19	---	8.0	---	0.0	4.0	5.0	---	12.0	22.0	---	---	---
20	---	---	---	0.0	---	---	---	---	26.0	---	21.0	---
21	14.0	---	---	0.0	---	7.0	9.0	17.0	---	24.0	24.0	---
22	---	6.0	---	0.0	---	5.5	---	---	20.0	---	---	18.0
23	12.0	---	3.0	0.0	---	5.5	12.0	---	19.0	---	---	---
24	---	---	10.0	0.0	1.5	5.5	13.0	22.0	18.0	23.0	21.0	18.0
25	---	5.0	---	0.0	---	---	11.0	---	---	---	21.0	---
26	---	---	---	0.0	3.5	5.5	---	---	---	24.0	---	---
27	---	5.0	---	0.0	---	---	---	14.0	22.0	---	22.0	---
28	8.0	---	---	0.0	4.5	4.5	13.5	12.0	---	23.0	---	---
29	---	---	---	3.5	---	---	---	---	---	---	---	18.0
30	12.0	---	23.0	---	---	4.5	12.0	---	23.0	27.0	---	---
31	---	---	22.0	---	---	6.5	---	---	---	25.0	---	---
AVG	---	---	---	1.0	---	---	---	---	---	---	---	---

TEMPEATURE (°C) OF WATER, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	9.0	---	---	4.0	6.0	10.0	20.0	24.0	24.0	21.0
2	19.0	---	---	---	---	4.0	8.0	15.0	17.0	22.0	24.0	19.0
3	---	12.0	8.0	---	---	3.0	9.0	15.0	15.0	---	21.0	19.0
4	---	---	---	---	---	4.0	10.0	15.0	17.0	---	24.0	20.0
5	---	12.0	---	5.0	---	4.0	10.0	13.0	9.0	17.0	21.0	22.0
6	20.0	10.0	---	2.0	---	5.0	10.0	15.0	20.0	20.0	24.0	25.0
7	---	---	---	4.0	5.0	5.0	10.0	18.0	10.0	22.0	24.0	22.0
8	20.0	---	8.0	---	---	5.0	8.0	18.0	21.0	20.0	24.0	22.0
9	---	---	---	---	---	5.0	10.0	15.0	24.0	20.0	21.0	22.0
10	---	12.0	6.0	---	6.0	5.0	9.0	15.0	21.0	21.0	24.0	19.0
11	---	---	---	---	6.0	7.0	10.0	15.0	20.0	25.0	---	24.0
12	19.0	15.0	5.0	4.0	6.0	5.0	8.0	18.0	24.0	18.5	24.0	22.0
13	21.0	15.0	---	---	7.0	7.0	10.0	18.0	18.5	22.0	22.0	20.0
14	19.0	---	---	4.0	6.0	7.0	12.0	15.0	25.0	21.0	22.0	19.0
15	---	13.0	5.0	---	4.0	5.0	12.0	17.0	20.0	23.0	23.0	19.0
16	---	12.0	---	---	4.0	7.0	11.0	15.0	20.0	23.0	23.0	19.0
17	---	---	6.0	---	3.0	7.0	12.0	18.0	---	23.0	21.0	16.0
18	---	---	---	---	6.0	8.0	11.0	15.0	---	24.0	24.0	20.0
19	---	8.0	---	---	4.0	6.0	10.0	19.0	22.0	22.0	24.0	20.0
20	19.0	---	---	---	6.0	8.0	9.0	20.0	21.0	22.0	24.0	18.0
21	---	10.0	---	---	5.0	8.0	10.0	18.0	13.0	23.0	24.0	20.0
22	15.0	---	5.0	---	4.0	8.0	10.0	20.0	---	25.0	25.5	---
23	17.0	---	6.0	---	7.0	10.0	9.0	---	24.5	20.0	24.0	---
24	16.0	12.0	4.0	---	5.0	6.0	10.0	18.0	21.0	21.0	23.5	17.0
25	---	---	---	---	5.0	8.0	10.0	18.0	18.5	22.0	24.0	15.0
26	---	10.0	---	---	7.0	8.0	10.0	18.0	25.5	24.0	22.0	14.0
27	15.0	---	---	---	4.0	8.0	15.0	17.0	18.5	22.0	22.0	15.0
28	---	---	---	---	5.0	15.0	10.0	18.0	25.5	26.5	21.0	19.0
29	11.0	---	4.0	---	---	7.0	11.0	18.0	20.0	26.5	20.0	19.0
30	---	---	---	---	---	7.0	10.0	15.0	18.5	25.5	21.0	16.0
31	---	---	3.0	---	---	9.0	---	15.0	---	22.0	21.0	---
AVG	---	---	---	---	---	6.5	10.0	16.5	19.5	22.5	23.0	19.5

01481500 BRANDYWINE CREEK AT WILMINGTON, DEL.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	145	8	3.1	171	14	6.5	378	18	18
2	142	8	3.1	171	17	7.8	330	12	11
3	151	8	3.3	175	23	11	310	11	9.2
4	148	8	3.2	610	75	124	315	10	8.5
5	145	8	3.1	1400	300	1130	306	9	7.4
6	145	12	4.7	522	50	70	292	7	5.5
7	139	10	3.8	320	25	22	274	7	5.2
8	137	10	3.7	270	18	13	253	4	2.7
9	137	10	3.7	245	16	11	270	4	2.9
10	139	10	3.8	233	15	9.4	288	6	4.7
11	139	9	3.4	274	20	15	279	8	6.0
12	139	8	3.0	757	70	143	366	23	23
13	139	5	1.9	2330	453	3340	514	14	19
14	139	6	2.3	883	105	250	378	5	5.1
15	213	16	9.2	1690	220	1000	330	5	4.5
16	315	23	20	980	80	212	320	16	14
17	185	17	8.5	586	38	60	1770	360	1720
18	148	15	6.0	483	20	26	802	55	119
19	142	14	5.4	455	12	15	506	17	23
20	139	9	3.4	414	13	15	434	13	15
21	201	15	8.1	483	12	16	390	9	9.5
22	1210	150	490	408	14	15	538	40	58
23	739	112	223	366	12	12	757	80	164
24	350	30	28	330	11	9.8	1010	105	286
25	257	22	15	306	10	8.3	674	18	33
26	221	22	13	315	10	8.5	562	14	21
27	201	19	10	315	12	10	483	9	12
28	185	17	8.5	315	13	11	434	8	9.4
29	178	15	7.2	310	12	10	384	7	7.3
30	175	13	6.1	414	17	19	350	6	5.7
31	171	14	6.5	--	--	--	360	6	5.8
TOTAL	7014	--	914.0	16531	--	6600.3	14657	--	2635.4

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	355	5	4.8	230	10	6.2	835	40	90
2	370	5	5.0	255	9	6.2	750	35	71
3	360	8	7.8	274	9	6.7	782	42	89
4	522	32	45	288	7	5.4	1570	270	1140
5	2560	385	2660	838	80	181	1040	77	216
6	1530	160	661	1010	60	164	1020	34	94
7	775	32	67	870	110	258	1260	60	204
8	578	21	33	5820	480	7540	1080	23	67
9	554	11	16	3180	420	3610	799	11	24
10	498	9	12	817	65	143	734	17	34
11	476	9	12	606	17	28	726	12	24
12	483	16	21	542	20	29	686	13	24
13	455	11	14	3830	678	11100	678	14	26
14	469	11	14	7640	1270	35700	662	11	20
15	490	10	13	1050	180	510	638	5	8.6
16	420	9	10	817	35	77	630	7	12
17	384	9	9.3	670	18	33	574	4	6.2
18	330	13	12	614	14	23	534	4	5.8
19	310	12	10	638	15	26	694	53	99
20	290	11	8.6	670	30	54	1610	315	1370
21	325	12	11	1010	95	259	790	60	128
22	372	9	9.0	1090	160	471	654	10	18
23	390	8	8.4	2500	490	3310	710	11	21
24	384	8	8.3	1090	70	206	638	7	12
25	378	8	8.2	871	26	61	574	3	4.6
26	514	40	56	766	16	33	558	6	9.0
27	530	19	27	1660	450	2020	542	6	8.8
28	275	12	8.9	1080	95	277	534	4	5.8
29	355	15	14	--	--	--	534	3	4.3
30	372	10	10	--	--	--	518	4	5.6
31	340	9	8.3	--	--	--	494	3	4.0
TOTAL	16444	--	3804.6	40726	--	66137.5	23848	--	3845.7

01481500 BRANDYWINE CREEK AT WILMINGTON, DEL.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	478	6	7.7	478	6	7.7	898	54	131
2	486	8	10	463	8	10	598	30	48
3	542	9	13	494	9	12	614	25	41
4	502	7	9.5	478	9	12	566	22	34
5	478	7	9.0	421	9	10	486	17	22
6	534	13	19	510	19	26	486	19	25
7	2750	460	3420	630	17	29	502	21	28
8	1520	110	451	726	60	118	456	27	33
9	988	25	67	880	40	95	407	37	41
10	826	13	29	574	8	12	394	28	30
11	742	6	12	486	9	12	376	25	25
12	686	5	9.3	435	9	11	370	28	28
13	662	6	11	1350	374	2420	370	26	26
14	630	9	15	1260	150	510	376	29	29
15	590	10	16	662	30	54	421	32	36
16	574	8	12	1570	240	1020	428	25	29
17	550	8	12	1200	75	243	394	22	23
18	542	10	15	880	15	36	346	20	19
19	510	10	14	726	12	24	329	19	17
20	502	11	15	638	12	21	324	17	15
21	494	8	11	678	18	33	307	17	14
22	494	9	12	678	21	38	335	19	17
23	478	8	10	558	23	35	296	18	14
24	470	9	11	502	26	35	291	17	13
25	456	7	8.6	494	20	27	285	16	12
26	456	7	8.6	598	24	39	270	13	9.5
27	463	6	7.5	478	23	30	270	16	12
28	449	9	11	449	27	33	250	13	8.8
29	630	21	36	449	18	22	240	16	10
30	542	9	13	502	24	33	260	18	13
31	--	--	--	1670	324	1460	--	--	--
TOTAL	20024	--	4295.2	21917	--	6467.7	11945	--	803.3

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

	JULY			AUGUST			SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	260	16	11	407	30	33	449	11	13
2	414	30	34	1020	130	358	406	8	8.8
3	296	22	18	782	60	127	380	6	6.2
4	245	17	11	835	60	135	353	6	5.7
5	235	9	5.7	1320	340	1210	327	5	4.4
6	231	13	8.1	518	75	105	313	5	4.2
7	231	14	8.7	340	28	26	296	7	5.6
8	215	13	7.5	280	25	19	284	5	3.8
9	211	12	6.8	250	19	13	281	5	3.8
10	215	14	8.1	227	13	8.0	263	3	2.1
11	215	13	7.5	215	10	5.8	1560	160	674
12	245	18	12	240	13	8.4	2970	290	2330
13	215	24	14	215	12	7.0	9770	650	17100
14	203	20	11	199	9	4.8	8840	300	7160
15	191	15	7.7	195	8	4.2	1930	65	339
16	184	6	3.0	195	7	3.7	1290	52	181
17	184	9	4.5	180	7	3.4	1110	62	186
18	195	13	6.8	184	8	4.0	1000	50	135
19	207	10	5.6	184	6	3.0	939	20	51
20	215	9	5.2	191	10	5.2	832	18	40
21	191	10	5.2	173	5	2.3	1940	200	1050
22	177	12	5.7	184	6	3.0	922	40	100
23	169	13	5.9	177	8	3.8	796	18	39
24	165	11	4.9	152	4	1.6	762	20	41
25	165	11	4.9	152	4	1.6	694	11	21
26	173	9	4.2	155	19	8.0	677	8	15
27	162	10	4.4	2320	450	2820	741	11	22
28	148	15	6.0	7300	275	5420	690	5	9.3
29	148	12	4.8	2240	75	454	647	5	8.7
30	970	250	655	678	25	46	622	6	10
31	742	100	200	518	21	29	--	--	--
TOTAL	7817	--	1097.2	22026	--	10872.8	42084	--	29569.6

TOTAL DISCHARGE FOR YEAR (CFS-DAYS) 245033
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR YEAR (TONS) 137043.3

01481500 BRANDYWINE CREEK AT WILMINGTON, DEL.--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	TIME	TEMPERATURE (DEG C)	DISCHARGE (CFS)	SUSPENDED SEDIMENT (MG/L)	SUSPENDED SEDIMENT DISCHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .004 MM	SUS. SED. FALL DIAM. % FINER THAN .008 MM	SUS. SED. FALL DIAM. % FINER THAN .016 MM
JAN.								
05...	1000	5.0	2980	397	3190	27	40	57
FEB.								
23...	0700	6.0	2650	365	2610	39	56	76
MAY								
16...	1600	18.0	2240	230	1390	31	44	59
31...	1030	15.0	2500	562	3790	38	56	74
AUG.								
05...	1510	26.0	2000	614	3320	28	47	67
27...	1515	23.0	3500	381	3600	27	46	64
28...	0845	20.0	7240	250	4890	36	47	62
SEP.								
14...	0800	19.0	10900	222	6530	27	32	42

DATE	SUS. SED. FALL DIAM. % FINER THAN .031 MM	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM	SUS. SED. SIEVE DIAM. % FINER THAN .250 MM	SUS. SED. SIEVE DIAM. % FINER THAN .500 MM	SUS. SED. SIEVE DIAM. % FINER THAN 1.00 MM	SUS. SED. SIEVE DIAM. % FINER THAN 2.00 MM
JAN.							
05...	75	89	97	98	99	100	--
FEB.							
23...	89	96	99	100	--	--	--
MAY							
16...	80	94	99	100	--	--	--
31...	82	96	100	--	--	--	--
AUG.							
05...	86	97	100	--	--	--	--
27...	78	92	98	99	100	--	--
28...	78	87	95	98	100	--	--
SEP.							
14...	46	48	52	57	84	97	100

01482100 DELAWARE RIVER AT DELAWARE MEMORIAL BRIDGE, NEAR WILMINGTON, DEL.

LOCATION.--Lat 39°41'18", long 75°31'06", New Castle County, at center of the navigational channel at bridge between Pigeon Point, Del. and Deepwater Point, N. J. Water-quality recorder (39°41'21", 75°31'19") at tidal gaging station located on channel side of west tower of south bridge.

DRAINAGE AREA.--11,030 sq mi.

PERIOD OF RECORD.--Chemical analyses: July 1955 to September 1971.
Water temperatures: October 1956 to September 1971.

EXTREMES.--1970-71:
Specific conductance: Maximum, 8,120 micromhos Oct. 14; minimum, 100 micromhos Sept. 13-14.
Dissolved oxygen: Maximum, 12.3 mg/l Jan. 28; minimum, 0.1 mg/l on several days during June and September.
Water temperatures: Maximum, 28.0°C Aug. 10; minimum, freezing point on several days during winter months.

Period of record:
Specific conductance: Maximum, 14,600 micromhos Oct. 6, 1957; minimum, 100 micromhos on several days during the spring of most years.
Water temperatures: Maximum, 31.0°C Aug. 9, 1968; minimum, freezing point on many days during winter months.

REMARKS.--Samples collected approximately 3 feet from surface. Records of discharge are available for 01463500 Delaware River at Trenton, N. J. in, "Water Resources Data for New Jersey, Part 1, Surface Water Records."

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	6920	3160	5020	3990	460	1750	1360	200	540	2300	400	1200
2	7420	3480	5330	4120	500	2020	1280	200	618	2480	440	1410
3	7840	3490	5400	4740	780	2500	1220	220	553	2400	400	1350
4	6460	3390	4890	5620	720	2400	1040	200	508	2920	440	1410
5	6820	3240	4580	3420	340	1740	980	200	446	2840	420	1240
6	7200	3400	5070	3700	280	1540	760	200	381	1300	240	505
7	6900	3340	4950	3130	420	1530	660	200	343	640	260	351
8	6720	3300	4830	3340	400	1600	1000	260	576	560	260	323
9	6360	3260	4810	3420	480	1780	1100	280	568	1340	260	513
10	6880	2140	4810	3680	500	1950	1440	280	624	1380	280	638
11	7060	3160	4890	4040	540	2010	1540	280	738	1300	280	592
12	7380	3220	5090	4260	540	2030	2040	300	1020	1160	280	595
13	8000	3100	5230	3020	200	1310	2400	380	1200	1180	280	587
14	8120	3280	5450	1780	160	620	1820	260	914	1440	300	719
15	7580	3280	5470	880	120	326	2000	360	967	1180	280	654
16	7140	2960	4940	180	140	163	2180	380	1130	620	260	413
17	6040	2480	4530	220	140	162	1960	280	1130	1420	280	713
18	6640	2600	4720	200	140	168	920	260	511	1360	280	675
19	6820	2760	4560	200	140	158	1100	260	562	1340	340	705
20	6840	3180	4930	560	120	238	560	260	395	1500	300	705
21	7100	3200	4970	260	200	218	760	260	448	2340	300	1060
22	6280	3200	4710	460	200	238	1000	280	568	3260	300	1280
23	4920	1820	3390	260	200	210	1220	280	647	4080	320	1610
24	3820	840	2240	220	200	207	1760	280	624	4190	380	1690
25	2600	620	1580	400	180	246	1320	280	551	6340	460	2480
26	2680	560	1450	740	200	308	1820	280	748	6380	300	2040
27	2620	520	1480	1280	200	374	2260	280	780	2120	340	843
28	2620	500	1360	1420	200	433	1600	260	627	5700	380	2220
29	3020	540	1410	1600	200	517	1820	280	680	6340	540	1570
30	3780	440	1710	1340	200	539	1380	400	627	1620	680	1540
31	3960	380	1690	---	---	---	2300	420	959	1280	720	1250
MONTH	8120	100	4060	5620	120	976	2400	200	668	6380	240	1050

01482100 DELAWARE RIVER AT DELAWARE MEMORIAL BRIDGE, NEAR WILMINGTON, DEL.--Continued

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

	FEBRUARY			MARCH			APRIL			MAY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	2120	520	1670	260	250	---	820	250	421	1190	280	548
2	2440	620	1450	280	260	263	620	250	355	1250	280	574
3	---	---	---	280	250	262	430	260	309	1090	280	615
4	---	---	---	280	240	252	410	250	317	790	290	469
5	---	---	---	260	220	251	400	260	306	920	260	518
6	---	---	---	260	240	252	400	230	297	920	300	492
7	---	---	---	260	240	259	360	280	301	1080	300	531
8	3700	620	---	260	240	258	280	280	280	1400	300	614
9	3420	300	1070	260	240	256	320	280	287	1340	300	636
10	860	320	426	320	240	260	320	280	286	1560	300	605
11	1120	320	534	340	260	278	320	260	290	1540	320	698
12	1400	320	693	320	260	272	400	260	307	1840	320	766
13	1580	360	856	380	260	295	460	240	313	2040	320	835
14	1260	220	420	420	260	308	480	200	283	1160	320	594
15	240	200	218	440	260	310	320	200	251	860	320	518
16	260	200	225	320	260	288	380	200	254	680	320	419
17	280	200	231	300	260	275	420	200	263	480	320	364
18	280	180	206	280	260	278	380	220	255	440	320	359
19	240	180	196	320	280	287	360	200	261	540	320	388
20	260	180	202	300	280	281	500	200	306	660	320	409
21	220	180	193	280	260	279	840	200	382	640	320	411
22	440	180	---	300	280	284	560	220	314	740	300	399
23	---	---	---	400	280	295	820	200	356	720	300	418
24	---	---	---	300	260	278	880	220	408	740	320	459
25	---	---	---	320	260	274	940	220	416	1200	320	535
26	---	---	---	520	260	326	1120	240	488	900	300	473
27	---	---	---	580	260	362	1120	260	490	800	320	483
28	---	---	---	840	260	436	1400	280	625	860	320	502
29	---	---	---	1360	260	497	1280	260	609	780	320	514
30	---	---	---	620	260	348	1480	280	605	660	340	540
31	---	---	---	520	260	323	---	---	---	830	340	538
MONTH	---	---	---	1360	220	297	1480	200	354	2040	280	520

	JUNE			JULY			AUGUST			SEPTEMBER		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	740	260	451	4960	600	2490	2790	940	1950	---	---	---
2	760	260	458	2790	640	1740	2520	760	1620	---	---	---
3	520	260	366	3190	740	1820	2240	540	1390	---	---	---
4	640	260	363	3820	760	1920	1940	560	---	---	---	---
5	980	280	436	4100	740	1950	---	---	---	---	---	---
6	1220	280	509	3840	740	2190	---	---	---	---	---	---
7	1440	310	553	3900	760	2120	---	---	---	2500	160	---
8	1400	300	624	3860	780	2210	---	---	---	2320	140	1040
9	1880	300	619	4660	950	2450	---	---	---	3060	140	1180
10	1900	340	857	4500	960	2530	---	---	---	2680	160	1240
11	1260	320	590	4900	1030	2890	---	---	---	2360	200	1290
12	3340	380	1130	6890	1440	3140	---	---	---	1940	120	812
13	2530	400	1210	5130	1520	3430	---	---	---	560	100	305
14	2660	500	1400	5120	1440	3350	---	---	---	160	100	137
15	2760	560	1640	5440	1680	3310	---	---	---	140	120	139
16	2500	440	1460	6000	1820	3300	---	---	---	140	120	138
17	2560	420	1400	5240	1840	3460	---	---	---	180	120	142
18	2700	500	1370	5280	1780	3360	---	---	---	160	120	142
19	2860	480	1370	5480	1820	3520	1820	1020	---	160	140	145
20	3160	540	1470	5180	1820	3430	2900	630	1600	260	140	189
21	5000	580	2080	5200	1740	3290	3320	660	1860	240	200	213
22	5520	640	2560	5160	1820	3340	3200	680	1930	240	180	207
23	6240	840	3020	5240	1900	3370	3360	700	2120	280	200	225
24	6640	920	3250	4900	1860	3300	3540	860	2170	320	200	221
25	6800	920	3310	4840	1900	3400	2440	880	2180	260	200	222
26	6720	1000	3450	5240	2080	3600	3360	920	2220	380	200	242
27	5920	1160	3610	5040	1940	3290	3200	1020	---	440	220	287
28	6240	1160	3720	4420	2040	3290	---	---	---	680	260	351
29	7040	1440	4040	4380	2000	3320	---	---	---	1080	260	398
30	5840	1200	3700	3860	1720	2750	---	---	---	1160	280	480
31	---	---	---	3040	1240	2230	---	---	---	---	---	---
MONTH	7040	260	1710	6000	600	2900	---	---	---	3060	100	---

01482100 DELAWARE RIVER AT DELAWARE MEMORIAL BRIDGE, NEAR WILMINGTON, DEL.--Continued

DISSOLVED OXYGEN (DO), IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	4.9	1.7	3.4	4.8	3.2	3.7	7.2	5.8	6.4	11.3	9.3	10.4
2	5.2	1.9	3.7	5.4	3.4	4.0	6.9	5.2	6.2	11.6	9.1	10.6
3	5.9	2.6	4.4	5.3	2.9	3.9	6.3	4.9	5.7	11.0	8.8	10.0
4	5.5	2.0	3.9	5.6	2.7	3.6	6.9	5.1	6.0	10.5	8.5	9.6
5	5.6	1.9	3.4	5.6	2.7	3.7	9.5	5.8	7.0	10.2	8.2	9.1
6	6.1	1.5	3.6	5.6	2.7	3.6	8.5	6.4	7.6	9.3	7.3	8.2
7	5.7	1.0	3.1	4.7	3.2	3.8	10.7	7.3	8.8	8.9	7.3	8.0
8	5.4	0.7	2.7	4.5	2.8	3.5	11.6	8.4	9.9	9.0	7.6	8.1
9	5.1	0.6	2.5	4.3	2.8	3.4	10.8	8.1	9.5	10.0	7.7	8.4
10	5.8	0.6	2.7	4.3	2.4	3.2	10.4	7.7	9.0	9.6	7.6	8.4
11	5.3	0.7	2.7	4.0	2.0	2.7	10.2	7.6	8.9	9.1	7.5	8.1
12	5.5	0.6	2.6	4.1	1.7	2.5	10.6	7.9	9.4	8.8	7.5	8.0
13	5.2	0.5	2.6	3.5	1.6	2.3	10.6	8.2	9.5	9.0	7.7	8.2
14	5.0	0.5	2.8	2.1	1.4	1.8	10.0	7.1	8.8	9.1	7.6	8.3
15	5.4	0.7	2.9	2.9	1.5	2.2	9.8	7.6	8.7	8.5	7.5	8.0
16	5.1	0.6	3.1	4.0	2.8	3.4	10.3	7.5	9.0	8.9	7.5	8.2
17	6.4	1.5	4.1	4.5	3.4	3.8	10.4	7.5	9.3	9.6	8.1	8.9
18	7.2	3.1	5.2	4.6	3.5	3.8	9.4	6.9	8.3	9.6	7.7	8.7
19	7.4	3.0	5.2	4.8	3.3	3.8	9.0	6.7	8.0	9.4	7.9	8.6
20	7.6	3.3	5.2	5.0	3.4	4.1	8.3	6.6	7.6	9.5	7.8	8.7
21	7.4	3.7	5.5	5.7	4.8	5.3	8.4	6.2	7.5	10.1	7.9	9.2
22	6.7	3.7	5.2	6.3	5.4	5.7	8.9	6.7	7.8	10.2	8.1	9.0
23	5.4	2.1	3.7	6.9	5.8	6.3	8.5	6.3	7.6	10.4	8.0	9.1
24	3.3	0.8	2.0	7.8	6.3	7.1	9.0	6.6	7.7	10.4	8.1	9.0
25	1.8	0.4	1.1	8.3	6.5	7.5	8.8	6.4	7.6	10.7	7.7	9.0
26	2.9	0.8	1.6	8.5	6.6	7.6	9.3	6.6	8.0	10.4	7.6	8.9
27	4.1	2.1	2.9	8.4	6.3	7.2	10.2	7.0	8.4	10.6	8.4	9.5
28	4.3	3.1	3.6	7.9	6.0	6.8	9.8	7.0	8.2	12.3	9.5	10.4
29	4.2	3.0	3.5	7.7	6.1	6.6	10.3	7.4	8.5	10.7	8.9	9.8
30	4.8	3.1	3.7	7.3	5.9	6.5	10.4	7.6	8.7	9.7	7.5	8.6
31	4.6	3.2	3.6	---	---	---	10.4	7.6	8.9	9.0	7.1	8.2
MONTH	7.6	0.4	3.4	8.5	1.4	4.4	11.6	4.9	8.1	12.3	7.1	8.9

	FEBRUARY			MARCH			APRIL			MAY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	8.8	7.4	8.2	9.0	8.5	---	9.1	7.6	8.4	6.2	3.7	5.1
2	8.5	7.4	8.0	9.1	8.5	8.7	8.8	7.4	8.0	5.8	3.5	4.7
3	---	---	---	9.3	8.7	9.0	8.2	7.3	7.7	5.3	3.2	4.4
4	---	---	---	10.7	9.1	9.8	8.1	6.8	7.4	6.1	3.3	4.8
5	---	---	---	10.9	10.4	10.7	8.1	6.6	7.4	6.6	3.8	5.2
6	---	---	---	10.8	10.1	10.5	9.6	7.2	8.4	5.9	3.4	4.8
7	---	---	---	10.6	9.8	10.2	9.5	7.8	9.0	5.6	3.2	4.4
8	7.4	6.2	---	10.5	10.0	10.2	9.2	7.7	8.2	5.3	2.8	4.2
9	7.6	5.4	6.6	10.7	10.4	10.6	8.8	7.4	8.0	4.8	2.4	3.8
10	6.6	5.2	6.0	10.9	10.2	10.5	8.5	7.4	7.9	4.9	1.9	3.4
11	7.0	5.4	6.1	10.8	9.9	10.3	8.6	7.3	7.8	4.7	1.9	3.1
12	6.7	5.3	6.0	10.4	9.7	10.0	8.3	6.9	7.4	4.1	1.4	2.7
13	6.9	5.2	6.0	10.1	9.3	9.7	7.8	6.1	6.7	4.3	1.5	2.7
14	7.0	5.5	6.2	9.8	9.1	9.4	7.4	6.4	6.9	3.8	1.3	2.5
15	6.7	6.2	6.4	9.6	8.8	9.2	7.8	6.8	7.3	3.4	1.2	2.4
16	6.5	6.0	6.2	9.1	8.3	8.8	7.9	6.7	7.1	3.5	1.3	2.5
17	6.3	5.8	6.0	9.0	8.1	8.6	8.0	6.6	7.1	3.6	1.0	2.5
18	6.6	5.9	6.2	9.0	8.0	8.4	7.4	6.3	6.9	2.9	0.7	2.0
19	6.7	5.7	6.1	9.4	8.0	8.6	7.4	6.5	7.0	2.3	0.5	1.5
20	6.6	5.6	6.0	8.9	8.2	8.5	7.2	6.0	6.7	3.1	0.7	1.6
21	6.4	5.6	6.0	9.4	8.7	9.0	6.8	5.6	6.3	2.3	0.7	1.4
22	6.2	5.6	---	9.8	8.5	9.2	7.1	5.4	6.2	2.5	0.6	1.3
23	---	---	---	9.4	8.4	8.9	7.6	5.5	6.6	2.7	0.8	1.6
24	---	---	---	9.3	8.6	8.9	7.8	5.5	6.6	2.7	1.0	1.7
25	---	---	---	9.5	8.9	9.2	7.6	5.7	6.7	3.1	1.3	2.4
26	---	---	---	9.8	8.8	9.3	7.7	5 5	6.5	3.7	2.2	3.1
27	---	---	---	10.0	9.0	9.4	7.4	5.2	6.2	3.8	2.2	2.9
28	---	---	---	10.3	8.8	9.3	7.2	5.0	6.1	3.3	2.0	2.6
29	---	---	---	9.8	8.1	8.9	6.8	4.6	5.8	3.4	2.2	2.7
30	---	---	---	8.9	7.9	8.4	7.0	4.2	5.6	4.9	3.6	4.1
31	---	---	---	9.0	7.6	8.4	---	---	---	4.9	4.0	4.4
MONTH	---	---	---	10.9	7.6	9.4	9.6	4.2	7.1	6.6	0.5	3.1

01482100 DELAWARE RIVER AT DELAWARE MEMORIAL BRIDGE, NEAR WILMINGTON, DEL.--Continued

DISSOLVED OXYGEN (DO), IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

	JUNE			JULY			AUGUST			SEPTEMBER		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	4.4	3.5	4.0	2.9	1.3	2.0	4.6	1.7	3.1	1.1	0.5	0.7
2	4.1	3.2	3.7	3.0	1.6	2.2	4.4	1.5	2.7	1.3	0.4	0.5
3	4.1	2.7	3.5	4.6	1.8	3.0	4.5	1.1	2.5	1.1	0.3	0.5
4	3.9	2.2	3.2	4.9	2.4	3.2	3.5	0.4	1.9	1.0	0.3	0.5
5	4.3	2.1	3.0	5.2	2.6	3.3	3.2	0.5	2.1	1.3	0.2	0.5
6	3.5	1.9	2.5	4.6	2.1	3.3	3.3	0.3	1.7	1.2	0.1	0.5
7	3.1	1.5	2.2	4.5	1.6	2.8	2.6	0.2	1.4	1.7	0.1	0.7
8	3.4	1.3	1.9	4.4	1.2	2.4	2.5	0.3	1.4	1.6	0.2	0.8
9	3.6	1.0	1.8	4.7	1.1	2.4	2.7	0.2	1.3	2.0	0.2	0.7
10	3.9	0.8	1.8	4.2	0.7	2.1	2.7	0.2	1.4	1.7	0.2	0.6
11	3.7	0.3	1.5	4.1	0.5	2.0	3.1	1.0	1.9	1.7	0.2	0.8
12	4.0	0.2	1.5	3.9	0.8	2.4	3.5	0.6	1.8	1.8	0.7	1.1
13	3.4	0.1	1.4	4.2	1.1	2.9	3.4	0.6	1.8	2.2	1.0	1.6
14	3.1	0.1	1.6	4.5	1.9	3.4	3.3	0.6	1.7	2.3	1.2	1.7
15	3.5	0.8	2.2	5.0	1.9	3.4	3.0	0.8	1.7	1.5	0.9	1.2
16	3.2	0.5	2.1	5.0	1.7	3.1	3.4	0.8	2.1	0.9	0.3	0.7
17	2.7	0.3	1.5	4.8	1.6	3.1	2.7	1.0	2.0	0.7	0.2	0.5
18	3.6	0.2	1.5	4.6	1.4	2.8	3.0	0.8	1.7	0.8	0.2	0.5
19	3.4	0.3	1.5	4.6	1.6	2.9	2.6	0.6	1.5	1.7	0.4	1.0
20	3.8	0.3	1.6	4.4	1.2	2.7	2.4	0.4	1.4	1.5	0.8	1.3
21	3.0	0.4	1.6	4.5	1.3	2.7	2.6	0.6	1.6	1.5	0.7	1.2
22	3.2	0.2	1.5	4.6	1.0	2.6	2.6	0.8	1.8	1.5	1.0	1.1
23	3.1	0.2	1.4	4.5	1.0	2.6	2.8	1.1	2.0	1.2	0.2	0.6
24	3.0	0.2	1.3	4.4	0.9	2.5	3.4	1.3	2.3	1.7	0.2	0.7
25	2.3	0.4	1.3	3.8	1.3	2.6	3.4	1.1	2.3	1.8	0.3	0.8
26	2.5	0.7	1.4	4.2	1.5	2.8	3.4	1.3	2.4	2.2	0.2	0.7
27	2.3	0.8	1.4	4.4	1.6	3.0	3.3	1.2	2.3	2.0	0.2	0.7
28	2.0	0.8	1.4	4.9	1.9	3.4	3.0	1.1	1.9	2.0	0.1	0.6
29	2.5	1.2	1.7	5.3	2.0	3.6	1.7	0.9	1.3	2.0	0.1	0.6
30	2.2	1.1	1.6	4.5	2.3	3.4	1.3	0.6	0.9	2.7	0.1	0.9
31	---	---	---	5.1	2.0	3.5	1.8	0.5	0.9	---	---	---
MONTH	4.4	0.1	2.0	5.3	0.5	2.8	4.6	0.2	1.8	2.7	0.1	0.8

pH (UNITS), WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	6.8	6.4	6.6	---	---	9.1	8.1	6.4	7.0	---	---	---
2	6.8	6.4	6.6	---	---	9.0	8.3	7.1	7.9	---	---	---
3	6.8	6.0	6.5	---	---	8.9	7.6	6.6	7.1	---	---	---
4	6.8	6.4	6.6	8.3	6.8	8.0	7.7	6.4	6.9	---	---	---
5	6.6	6.3	---	7.7	6.8	7.2	6.8	6.4	6.5	---	---	---
6	---	---	---	7.0	6.8	6.9	6.6	6.5	6.6	6.7	6.7	---
7	---	---	---	7.0	6.7	7.1	6.9	6.4	6.7	6.8	6.6	6.7
8	---	---	---	7.2	6.7	7.0	7.0	6.6	6.7	6.8	6.4	6.7
9	---	---	---	6.9	6.5	6.8	6.8	6.5	6.6	6.8	6.6	6.7
10	---	---	---	9.3	6.6	8.1	6.8	6.4	6.6	6.8	6.5	6.6
11	---	---	---	9.3	8.8	9.1	6.7	5.5	6.3	6.7	6.4	6.6
12	---	---	---	9.1	8.7	9.0	6.7	5.4	6.1	6.6	6.5	6.6
13	---	---	---	9.3	8.6	8.9	7.1	6.0	6.4	6.6	5.6	---
14	---	---	---	8.6	7.6	8.0	6.6	6.3	6.5	---	---	---
15	---	---	---	8.4	7.0	7.9	6.6	6.4	6.5	---	---	---
16	---	---	---	7.0	6.9	6.9	7.2	6.1	6.5	---	---	---
17	---	---	---	7.0	6.9	6.9	8.0	6.5	6.9	---	---	---
18	---	---	---	6.9	6.7	6.9	6.6	6.5	6.5	---	---	---
19	---	---	---	7.2	6.5	6.8	6.6	6.5	6.5	---	---	---
20	---	---	---	7.2	6.4	6.7	6.6	6.5	6.6	---	---	---
21	---	---	---	7.0	6.7	6.9	7.0	6.5	6.6	---	---	---
22	---	---	---	7.1	6.8	6.9	6.6	6.5	6.6	---	---	---
23	---	---	---	7.1	6.8	7.0	6.6	6.3	6.5	---	---	---
24	---	---	---	7.1	6.8	7.0	6.7	6.3	6.6	---	---	---
25	---	---	---	7.1	6.8	7.0	6.7	6.6	6.7	---	---	---
26	---	---	---	7.1	6.8	7.0	6.8	6.6	6.7	---	---	---
27	---	---	---	7.1	6.8	6.9	6.8	6.7	6.7	---	---	---
28	---	---	---	7.0	6.8	6.9	6.8	6.7	6.8	---	---	---
29	---	---	---	7.4	6.8	7.0	7.3	6.7	6.8	---	---	---
30	---	---	---	7.5	6.5	7.0	6.9	6.8	6.8	---	---	---
31	---	---	---	---	---	---	6.9	6.7	6.8	---	---	---
MONTH	---	---	---	9.3	6.4	7.5	8.3	5.4	6.7	---	---	---

01482100 DELAWARE RIVER AT DELAWARE MEMORIAL BRIDGE, NEAR WILMINGTON, DEL.--Continued

pH (UNITS), WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

	FEBRUARY			MARCH			APRIL			MAY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	6.5	6.3	---
8	---	---	---	---	---	---	---	---	---	6.5	6.3	6.4
9	---	---	---	---	---	---	---	---	---	6.5	6.4	6.4
10	---	---	---	---	---	---	---	---	---	6.5	6.3	6.4
11	---	---	---	---	---	---	---	---	---	6.5	6.4	6.4
12	---	---	---	---	---	---	---	---	---	6.5	6.4	6.4
13	---	---	---	---	---	---	---	---	---	6.6	6.4	6.5
14	---	---	---	---	---	---	---	---	---	6.6	6.4	6.5
15	---	---	---	---	---	---	---	---	---	6.6	6.4	6.5
16	---	---	---	---	---	---	---	---	---	6.6	6.4	6.5
17	---	---	---	---	---	---	---	---	---	6.7	6.5	6.6
18	---	---	---	---	---	---	---	---	---	6.7	6.5	6.6
19	---	---	---	---	---	---	---	---	---	6.6	6.5	6.6
20	---	---	---	---	---	---	---	---	---	6.6	6.5	6.6
21	---	---	---	---	---	---	---	---	---	6.6	6.5	6.5
22	---	---	---	---	---	---	---	---	---	6.6	6.5	6.5
23	---	---	---	---	---	---	---	---	---	6.6	6.4	6.5
24	---	---	---	---	---	---	---	---	---	6.6	6.4	6.6
25	---	---	---	---	---	---	---	---	---	6.7	6.5	6.6
26	---	---	---	---	---	---	---	---	---	6.7	6.5	6.6
27	---	---	---	---	---	---	---	---	---	6.6	6.5	6.6
28	---	---	---	---	---	---	---	---	---	6.9	6.5	6.7
29	---	---	---	---	---	---	---	---	---	6.9	6.9	6.9
30	---	---	---	---	---	---	---	---	---	6.9	6.9	6.9
31	---	---	---	---	---	---	---	---	---	6.9	6.9	6.9
MONTH	---	---	---	---	---	---	---	---	---	6.9	6.3	---

	JUNE			JULY			AUGUST			SEPTEMBER		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	6.9	6.9	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

01482100 DELAWARE RIVER AT DELAWARE MEMORIAL BRIDGE, NEAR WILMINGTON, DEL.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	22.0	21.5	21.5	15.5	15.0	15.5	9.0	9.0	9.0	3.5	2.0	3.0
2	21.5	21.0	21.0	15.5	15.0	15.0	9.5	9.0	9.0	3.0	1.5	2.5
3	21.5	20.5	21.0	15.5	14.5	15.0	9.5	9.0	9.0	3.0	2.0	2.5
4	21.0	20.0	20.5	15.0	14.5	15.0	9.5	9.0	9.5	3.5	2.0	2.5
5	20.5	20.0	20.5	15.0	14.5	14.5	9.0	8.0	8.5	3.5	2.0	3.0
6	20.5	20.0	20.0	14.5	13.5	14.0	9.0	8.0	8.5	3.5	3.0	3.0
7	20.5	20.0	20.5	14.0	13.5	14.0	8.0	6.0	7.0	3.5	2.0	3.0
8	21.0	20.0	20.5	14.0	13.5	13.5	7.0	5.5	6.0	3.0	2.0	2.5
9	21.0	20.0	20.5	14.0	13.5	13.5	6.5	5.5	6.0	3.0	1.5	2.0
10	21.0	20.5	20.5	14.0	13.5	13.5	6.5	5.5	6.0	3.0	1.5	2.0
11	21.0	20.5	20.5	14.0	13.5	14.0	6.5	5.5	6.0	3.0	1.5	2.0
12	21.0	20.5	20.5	14.5	14.0	14.0	6.5	5.5	6.0	3.0	2.0	2.0
13	21.0	20.5	20.5	14.5	14.0	14.0	6.5	5.5	6.0	3.0	1.5	2.0
14	21.0	20.5	21.0	14.5	14.0	14.5	6.5	6.0	6.0	2.0	1.5	1.5
15	21.0	20.5	21.0	14.5	14.0	14.0	6.0	5.5	6.0	2.0	1.5	2.0
16	21.0	20.0	20.5	14.0	13.5	14.0	6.0	5.5	5.5	3.0	1.5	2.0
17	20.0	18.5	19.5	13.5	13.0	13.0	6.5	5.5	6.0	2.0	1.0	1.5
18	19.0	18.0	18.5	13.0	12.0	12.5	6.5	6.0	6.0	1.5	1.0	1.5
19	18.5	17.0	18.0	13.0	12.0	12.0	6.5	6.0	6.0	1.5	1.0	1.0
20	18.5	16.5	17.0	12.0	12.0	12.0	6.5	6.0	6.0	1.5	0.5	1.0
21	18.0	16.5	17.0	12.0	11.5	11.5	6.5	5.5	6.0	1.5	0.0	0.5
22	18.0	16.5	17.0	11.5	11.5	11.5	6.0	5.5	6.0	1.0	0.5	1.0
23	18.5	17.0	18.0	11.5	11.0	11.0	6.5	5.5	5.5	1.5	0.5	1.0
24	18.5	17.0	18.0	11.0	10.0	10.0	6.0	5.5	5.5	1.5	0.5	1.0
25	18.5	18.0	18.0	10.0	9.0	9.5	6.0	5.0	5.5	1.5	0.5	1.0
26	18.5	17.0	18.0	9.5	8.5	9.0	5.5	5.0	5.0	1.5	1.0	1.0
27	18.0	16.5	17.0	9.0	8.5	9.0	5.0	4.0	4.5	2.0	0.5	1.0
28	17.0	16.0	16.5	9.0	8.5	9.0	5.0	4.0	4.5	1.0	0.0	0.5
29	16.5	15.5	16.0	9.0	9.0	9.0	4.5	3.5	4.0	0.5	0.0	0.0
30	16.0	15.0	15.5	9.5	9.0	9.0	4.0	3.0	3.5	0.0	0.0	0.0
31	15.5	15.0	15.5	---	---	---	3.5	3.0	3.5	0.5	0.0	0.0
MONTH	22.0	15.0	19.0	15.5	8.5	12.5	9.5	3.0	6.0	3.5	0.0	1.5

	FEBRUARY			MARCH			APRIL			MAY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	0.5	0.0	0.0	6.5	6.0	---	7.0	6.5	6.5	13.5	12.0	12.5
2	0.5	0.0	0.0	6.5	6.0	6.0	8.0	6.5	7.0	13.5	13.0	13.0
3	---	---	---	6.0	5.5	6.0	8.5	7.0	7.5	13.5	13.0	13.0
4	---	---	---	6.0	5.0	5.5	9.0	8.0	8.0	13.5	13.0	13.0
5	---	---	---	5.5	4.5	5.0	9.0	8.0	8.5	14.0	13.0	13.5
6	---	---	---	5.5	5.0	5.0	8.5	8.0	8.5	14.0	13.5	13.5
7	---	---	---	5.5	5.0	5.0	8.5	8.0	8.0	14.5	13.5	14.0
8	0.5	0.5	---	5.5	4.5	5.0	9.0	8.0	8.5	14.5	14.0	14.0
9	1.5	0.5	0.5	5.0	4.0	4.5	9.5	8.5	9.0	14.5	14.0	14.0
10	1.5	0.5	1.0	4.5	4.5	4.5	9.5	9.0	9.0	15.0	14.0	14.5
11	1.0	0.5	0.5	5.0	4.5	4.5	10.0	9.0	9.5	15.5	14.5	15.0
12	1.5	0.5	1.0	5.0	4.5	4.5	10.5	9.5	10.0	15.5	15.0	15.0
13	2.0	0.5	1.0	5.0	4.5	5.0	10.5	10.0	10.0	15.5	15.0	15.5
14	3.0	1.0	2.0	5.5	5.0	5.0	11.0	10.0	10.5	16.0	15.0	15.5
15	3.0	2.0	2.0	6.0	5.0	5.5	10.5	10.0	10.5	16.0	15.5	16.0
16	2.0	1.5	2.0	6.5	5.5	6.0	10.5	10.0	10.5	16.0	15.5	15.5
17	3.0	2.0	2.0	6.5	6.0	6.0	11.0	10.5	10.5	16.5	15.5	16.0
18	3.0	2.0	2.5	6.5	6.0	6.5	11.0	10.5	11.0	17.0	16.0	16.5
19	3.5	2.0	3.0	6.5	6.0	6.0	11.5	10.5	11.0	18.0	16.5	17.0
20	4.0	3.0	3.0	7.0	6.0	6.5	12.0	11.0	11.5	18.0	17.0	17.5
21	4.0	3.5	3.5	7.0	6.5	6.5	13.0	11.5	12.0	18.0	17.0	18.0
22	4.0	3.5	---	7.0	6.0	6.5	13.0	12.0	12.0	18.0	17.0	17.5
23	---	---	---	8.0	6.5	7.0	12.0	11.5	12.0	18.0	17.0	17.5
24	---	---	---	7.0	6.5	7.0	13.0	11.5	12.0	18.5	18.0	18.0
25	---	---	---	7.0	6.5	6.5	13.0	12.0	12.0	18.5	18.0	18.5
26	---	---	---	6.5	6.0	6.5	13.0	12.0	12.0	19.0	18.5	18.5
27	---	---	---	6.0	6.0	6.0	13.0	11.5	12.0	19.0	18.5	18.5
28	---	---	---	6.5	6.0	6.0	13.0	12.0	12.0	19.0	18.5	18.5
29	---	---	---	6.5	6.0	6.5	13.0	12.0	12.0	19.0	18.5	18.5
30	---	---	---	6.5	6.0	6.5	13.0	12.0	12.5	18.5	18.0	18.0
31	---	---	---	6.5	6.0	6.5	---	---	---	18.5	18.0	18.0
MONTH	---	---	---	8.0	4.0	6.0	13.0	6.5	10.0	19.0	12.0	16.0

01482100 DELAWARE RIVER AT DELAWARE MEMORIAL BRIDGE, NEAR WILMINGTON, DEL.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

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

01482800 DELAWARE RIVER AT REEDY ISLAND JETTY, DEL.

LOCATION.--Lat 39°30'03", long 75°34'07", New Castle County, water-quality recorder located on platform about 0.4 mile downstream from Reedy Island near Port Penn.

DRAINAGE AREA.--11,222 sq mi, approximately.

PERIOD OF RECORD.--Chemical analyses: October 1963 to September 1971

EXTREMES.--1970-71:
Specific conductance: Maximum, 17,720 micromhos Oct. 2; minimum, 400 micromhos Sept. 15, 18.
Dissolved oxygen: Minimum, 0.3 mg/l Sept. 16-17.
Water temperatures: Maximum, 27.0°C Aug. 1.
pH: Maximum, 8.3 Aug. 31, Sept. 14; minimum, 6.0 Aug. 20.

Period of record:
Specific conductance: Maximum, 35,400 micromhos Nov. 7, 1963; minimum, 100 micromhos on several days in 1969 and 1970
Dissolved oxygen (1970-71): Maximum, 12.5 mg/l Feb. 14, 1970; minimum, 0.3 mg/l Sept. 16-17, 1971.
Water temperatures (1970-71): Maximum, 28.5°C Aug. 2, 1970.
pH (1970-71): Maximum, 8.3 Aug. 31, Sept. 14, 1971; minimum, 6.0 Aug. 20, 1971.

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	14880	10000	11880	---	---	---	---	---	---	---	---	---
2	17720	10880	13450	---	---	---	---	---	---	---	---	---
3	16720	10400	13510	---	---	---	---	---	---	---	---	---
4	15360	9280	11920	---	---	---	---	---	---	---	---	---
5	15800	9640	12260	---	---	---	---	---	---	---	---	---
6	16160	9840	12490	---	---	---	---	---	---	---	---	---
7	16000	9800	12710	---	---	---	---	---	---	---	---	---
8	13960	9040	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

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

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

	JUNE			JULY			AUGUST			SEPTEMBER		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	---	---	---	10620	5160	7290	11080	2440	5750
2	---	---	---	---	---	---	8100	4980	---	10280	3000	5490
3	---	---	---	---	---	---	---	---	---	10360	3360	5600
4	---	---	---	---	---	---	---	---	---	9840	3440	5410
5	---	---	---	---	---	---	---	---	---	9600	3240	5250
6	---	---	---	---	---	---	---	---	---	10440	3280	5590
7	---	---	---	---	---	---	---	---	---	10160	3680	6280
8	---	---	---	---	---	---	---	---	---	9640	4080	6070
9	---	---	---	---	---	---	---	---	---	10360	3840	6140
10	---	---	---	---	---	---	---	---	---	10320	4040	6070
11	---	---	---	---	---	---	---	---	---	10480	4400	6530
12	---	---	---	---	---	---	---	---	---	7920	4040	5540
13	---	---	---	---	---	---	---	---	---	5760	3240	4380
14	---	---	---	---	---	---	---	---	---	3440	480	1800
15	---	---	---	---	---	---	---	---	---	4040	400	1170
16	---	---	---	---	---	---	---	---	---	4280	440	1200
17	---	---	---	---	---	---	---	---	---	3680	560	1210
18	---	---	---	---	---	---	---	---	---	5080	400	1610
19	---	---	---	---	---	---	13640	6000	---	4640	800	2130
20	---	---	---	13440	7320	---	12960	6640	9430	5320	1040	2650
21	---	---	---	13860	7380	9430	12200	6520	9100	4320	920	1930
22	---	---	---	13320	7560	9710	13200	6560	9200	4600	800	1870
23	---	---	---	13680	8040	10050	13900	6920	9470	5560	1120	2630
24	---	---	---	13560	7980	10030	12300	6680	9250	4960	1200	2570
25	---	---	---	13920	8100	10290	11400	10080	---	6080	1160	2970
26	---	---	---	13620	8160	10460	12000	7600	---	7080	1640	3820
27	---	---	---	13560	8100	10260	12300	7080	9470	7680	1840	4210
28	---	---	---	13440	8100	10310	9240	2360	5890	8560	1920	4410
29	---	---	---	12960	8400	10640	5000	800	2430	8720	2440	5210
30	---	---	---	11100	7290	9140	7720	800	2990	9600	2920	5570
31	---	---	---	10200	6480	8260	8160	1360	3870	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	11080	400	4050

DISSOLVED OXYGEN (DO), IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	7.0	5.3	6.2	---	---	---	---	---	---	---	---	---
2	6.8	6.0	6.4	---	---	---	---	---	---	---	---	---
3	6.7	6.0	6.3	---	---	---	---	---	---	---	---	---
4	6.6	5.8	6.3	---	---	---	---	---	---	---	---	---
5	6.4	5.6	6.0	---	---	---	---	---	---	---	---	---
6	7.2	5.6	6.5	---	---	---	---	---	---	---	---	---
7	7.1	6.4	6.7	---	---	---	---	---	---	---	---	---
8	7.0	6.5	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

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

DISSOLVED OXYGEN (DO), IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

	JUNE			JULY			AUGUST			SEPTEMBER		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	---	---	---	7.0	6.0	6.4	4.9	2.9	3.8
2	---	---	---	---	---	---	6.5	5.0	---	4.3	2.6	3.5
3	---	---	---	---	---	---	---	---	---	4.1	2.8	3.4
4	---	---	---	---	---	---	---	---	---	3.9	2.6	3.2
5	---	---	---	---	---	---	---	---	---	3.6	2.3	3.0
6	---	---	---	---	---	---	---	---	---	3.7	2.0	3.0
7	---	---	---	---	---	---	---	---	---	4.0	2.5	3.4
8	---	---	---	---	---	---	---	---	---	3.7	2.6	3.3
9	---	---	---	---	---	---	---	---	---	3.7	2.6	3.2
10	---	---	---	---	---	---	---	---	---	3.6	2.6	3.1
11	---	---	---	---	---	---	---	---	---	3.8	3.0	3.4
12	---	---	---	---	---	---	---	---	---	3.8	3.0	3.4
13	---	---	---	---	---	---	---	---	---	3.9	3.4	3.7
14	---	---	---	---	---	---	---	---	---	3.3	1.3	2.5
15	---	---	---	---	---	---	---	---	---	2.3	0.7	1.6
16	---	---	---	---	---	---	---	---	---	1.9	0.3	1.1
17	---	---	---	---	---	---	---	---	---	1.6	0.3	1.2
18	---	---	---	---	---	---	---	---	---	2.1	0.6	1.1
19	---	---	---	---	---	---	5.5	4.8	---	2.3	0.9	1.6
20	---	---	---	6.3	5.4	---	5.5	4.6	5.1	2.9	1.5	2.3
21	---	---	---	5.9	5.1	5.5	5.6	4.8	5.1	2.9	1.7	2.3
22	---	---	---	5.7	5.0	5.4	6.0	4.9	5.3	2.9	2.0	2.5
23	---	---	---	6.1	4.9	5.6	6.1	4.9	5.4	3.8	2.1	2.9
24	---	---	---	5.9	5.1	5.5	6.4	5.6	5.9	3.7	2.6	3.3
25	---	---	---	5.8	5.1	5.5	6.0	6.0	---	4.4	3.3	3.9
26	---	---	---	6.2	5.2	5.6	6.3	5.8	---	4.9	3.7	4.3
27	---	---	---	6.0	5.3	5.7	6.3	5.8	6.0	4.9	3.8	4.3
28	---	---	---	6.6	5.5	5.9	6.4	4.3	5.8	5.2	3.7	4.4
29	---	---	---	6.5	5.8	6.1	5.2	3.3	4.2	5.0	3.7	4.4
30	---	---	---	6.6	5.8	6.1	4.6	2.6	3.7	5.1	3.8	4.5
31	---	---	---	6.8	5.9	6.3	5.5	2.6	4.0	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	5.2	0.3	3.1

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	21.0	20.5	21.0	---	---	---	---	---	---	---	---	---
2	20.5	20.5	20.5	---	---	---	---	---	---	---	---	---
3	20.5	20.0	20.5	---	---	---	---	---	---	---	---	---
4	20.5	19.5	20.0	---	---	---	---	---	---	---	---	---
5	20.0	19.0	19.5	---	---	---	---	---	---	---	---	---
6	20.0	19.0	19.5	---	---	---	---	---	---	---	---	---
7	20.5	19.0	19.5	---	---	---	---	---	---	---	---	---
8	20.5	19.5	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

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

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

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

pH (UNITS), WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	---	---	---	---	---	---	---	---	---
2	7.3	7.0	---	---	---	---	---	---	---	---	---	---
3	7.1	6.9	7.0	---	---	---	---	---	---	---	---	---
4	7.0	6.7	6.9	---	---	---	---	---	---	---	---	---
5	7.0	6.7	6.8	---	---	---	---	---	---	---	---	---
6	7.0	6.7	6.9	---	---	---	---	---	---	---	---	---
7	7.9	6.9	7.6	---	---	---	---	---	---	---	---	---
8	7.8	7.6	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

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

pH (UNITS), WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

	JUNE			JULY			AUGUST			SEPTEMBER		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	---	---	---	7.2	6.8	7.0	7.9	7.6	7.8
2	---	---	---	---	---	---	6.9	6.7	---	7.6	7.0	7.4
3	---	---	---	---	---	---	---	---	---	7.5	7.2	7.4
4	---	---	---	---	---	---	---	---	---	7.5	7.3	7.4
5	---	---	---	---	---	---	---	---	---	7.5	7.3	7.4
6	---	---	---	---	---	---	---	---	---	7.4	7.2	7.4
7	---	---	---	---	---	---	---	---	---	7.5	7.3	7.4
8	---	---	---	---	---	---	---	---	---	7.5	7.2	7.3
9	---	---	---	---	---	---	---	---	---	7.5	7.2	7.3
10	---	---	---	---	---	---	---	---	---	7.6	7.3	7.4
11	---	---	---	---	---	---	---	---	---	7.5	7.2	7.4
12	---	---	---	---	---	---	---	---	---	7.6	7.2	7.5
13	---	---	---	---	---	---	---	---	---	7.6	7.3	7.5
14	---	---	---	---	---	---	---	---	---	8.3	7.4	7.7
15	---	---	---	---	---	---	---	---	---	8.2	7.0	7.6
16	---	---	---	---	---	---	---	---	---	7.9	7.0	7.5
17	---	---	---	---	---	---	---	---	---	8.2	7.0	7.6
18	---	---	---	---	---	---	---	---	---	8.2	7.1	7.6
19	---	---	---	---	---	---	6.3	6.1	---	8.1	7.2	7.5
20	---	---	---	7.5	7.0	---	6.6	6.0	6.3	8.2	7.2	7.5
21	---	---	---	7.5	7.2	7.4	6.6	6.1	6.4	7.9	7.3	---
22	---	---	---	7.4	7.0	7.4	6.8	6.4	6.7	---	---	---
23	---	---	---	7.4	7.2	7.3	7.2	6.5	6.9	6.8	6.4	---
24	---	---	---	7.4	7.0	7.2	7.4	6.9	7.1	6.9	6.5	6.7
25	---	---	---	7.2	6.9	7.1	7.2	7.1	---	7.1	6.6	6.8
26	---	---	---	7.2	6.9	7.0	7.5	7.3	---	7.1	6.7	6.9
27	---	---	---	7.1	6.8	7.0	7.4	7.1	7.3	7.2	6.7	6.9
28	---	---	---	7.1	6.8	7.0	7.4	7.1	7.3	7.2	6.7	6.9
29	---	---	---	7.2	6.8	7.0	7.6	7.0	7.3	7.3	6.6	7.0
30	---	---	---	7.1	6.8	6.9	8.2	7.5	7.8	7.3	6.7	7.0
31	---	---	---	7.1	6.8	7.0	8.3	7.7	8.0	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	8.3	6.4	7.3

01483700 ST. JONES RIVER AT DOVER, DEL.

LOCATION.--Lat 39°09'49", long 75°31'10", Kent County, at gaging station 150 ft upstream from Division Street Bridge in Dover, 1,950 feet downstream from Silver Lake, and 12.5 miles upstream from mouth.

DRAINAGE AREA.--31.9 sq mi.

PERIOD OF RECORD.--Chemical analyses: February 1965 to September 1971.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRATE (NO3) (MG/L)
OCT.											
02...	1.0	28	32	4.7	31	4.5	78	43	24	.3	40
NOV.											
05...	19	16	19	3.8	35	4.2	20	59	41	.3	18
DEC.											
02...	8.4	3.5	20	4.0	33	3.4	6	66	45	.2	14
JAN.											
04...	13	10	19	14	30	4.0	8	51	40	.4	7.7
FEB.											
01...	13	19	15	3.5	20	4.0	14	38	26	.4	9.6
04...	9.5	12	9.0	2.7	12	2.7	14	25	15	.3	7.1
MAR.											
01...	96	9.4	6.7	2.0	9.1	2.2	5	26	11	.3	3.0
MAY											
03...	22	4.8	9.6	2.7	15	1.7	21	21	17	.4	4.6
JUNE											
01...	38	11	11	2.7	16	1.4	23	22	21	.1	8.7
JULY											
01...	4.8	19	11	2.5	17	2.8	33	20	19	.2	6.7
AUG.											
02...	7.6	14	12	2.8	18	3.6	32	25	25	.1	5.8
SEP.											
01...	70	6.7	5.8	1.6	3.5	2.4	7	13	5.0	.4	2.8
30...	22	16	9.0	2.7	8.1	3.0	15	16	12	.4	4.2

DATE	DIS-SOLVED ORTHO PHOS-PHATE (PO4) (MG/L)	TOTAL ORTHO PHOS-PHORUS (P) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	COLOR (PLAT-INUM-COBALT UNITS)	TEMPER-ATURE (DEG C)
OCT.										
02...	.30	--	265	--	100	36	374	7.5	3	19.4
NOV.										
05...	.17	--	217	--	83	47	328	7.0	15	13.8
DEC.										
02...	.03	--	207	--	67	62	328	6.8	10	10.6
JAN.										
04...	.01	--	198	--	54	47	291	6.7	3	3.5
FEB.										
01...	.06	--	174	--	52	41	231	7.1	5	2.2
04...	.09	--	115	--	34	22	145	7.1	12	10.5
MAR.										
01...	.01	--	90	--	25	21	111	6.4	15	9.5
MAY										
03...	.11	--	113	--	35	18	164	7.0	17	15.0
JUNE										
01...	.20	--	126	--	39	20	175	7.0	40	--
JULY										
01...	.15	--	142	--	38	11	163	6.8	50	26.5
AUG.										
02...	.10	--	159	--	43	17	211	6.9	20	27.0
SEP.										
01...	.05	.014	65	45	21	16	70	6.5	60	22.0
30...	.12	.039	107	79	34	21	122	6.7	90	21.5

01486500 BEAVERDAM CREEK NEAR SALISBURY, MD.

LOCATION.--Lat 38°21'05", long 75°34'11", Wicomico County, at gaging station, 0.6 mile upstream from Beaglin Branch, 2 miles southeast of Salisbury, and 0.6 mile upstream from mouth.

DRAINAGE AREA.--19.5 sq mi.

PERIOD OF RECORD.--Chemical analyses: October 1965 to September 1971

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRATE (NO3) (MG/L)
OCT.											
15...	7.1	15	4.6	1.4	8.0	1.3	26	2.1	8.8	.1	4.0
NOV.											
24...	16	16	4.4	2.0	8.4	2.1	20	7.5	9.7	.2	6.2
JAN.											
07...	50	10	4.8	2.0	7.5	2.6	6	15	9.6	.3	4.3
FEB.											
18...	40	14	4.1	2.1	7.1	3.2	8	7.6	11	.3	4.8
MAR.											
24...	29	14	4.3	1.6	7.9	1.8	15	4.3	8.3	.3	5.9
MAY											
07...	17	14	4.8	2.1	8.5	2.1	20	2.4	9.2	.3	6.0
JUNE											
15...	17	13	3.5	1.5	7.8	1.6	15	2.1	8.0	.1	4.2
JULY											
27...	11	5.9	3.8	1.5	7.9	1.8	22	1.5	7.4	.2	1.4

DATE	DIS-SOLVED ORTHO PHOS-PHATE (PO4) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	COLOR (PLAT-INUM-COBALT UNITS)	TEMPER-ATURE (DEG C)
OCT.								
15...	.02	64	18	0	81	7.6	4	26.6
NOV.								
24...	.02	75	19	2	84	6.8	50	6.6
JAN.								
07...	.00	81	20	15	92	6.8	20	5.0
FEB.								
18...	.04	77	19	12	78	6.8	5	9.8
MAR.								
24...	.00	74	17	5	78	7.0	10	8.5
MAY								
07...	.04	76	21	4	81	7.4	12	18.0
JUNE								
15...	.01	58	15	2	68	6.9	40	21.5
JULY								
27...	.00	52	16	0	76	6.8	10	27.0

01487000 NANTICOKE RIVER NEAR BRIDGEVILLE, DEL.

LOCATION.--Lat 38°43'45", long 75°33'41", Sussex County, at gaging station, 1,100 feet downstream from Gum Branch, 2.5 miles southeast of Bridgeville, and 50.5 miles upstream from mouth.

DRAINAGE AREA.--75.4 sq mi.

PERIOD OF RECORD.--Chemical analyses: October 1961 to September 1971.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	DIS-SOLVED SODIUM PLUS POTAS-SIUM (MG/L)	BICAR-BONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)
OCT.											
02...	27	--	5.2	1.8	--	--	14	14	4.6	16	--
NOV.											
04...	39	16	4.2	2.0	7.4	6.2	--	23	4.3	8.8	.1
DEC.											
03...	44	16	4.0	1.7	7.3	2.2	--	15	4.3	7.2	.1
29...	65	20	4.5	1.6	7.7	2.0	--	10	8.6	6.7	.2
FEB.											
17...	159	17	5.4	1.0	7.9	2.6	--	10	10	7.1	.3
MAR.											
25...	127	17	4.8	2.0	7.2	1.7	--	10	7.4	7.5	.2
MAY											
04...	94	17	4.6	2.0	7.5	1.7	--	10	7.4	6.9	.3
JUNE											
18...	72	15	4.5	1.9	5.3	2.2	--	12	4.8	11	.0
JULY											
29...	34	15	4.5	2.0	5.8	2.7	--	21	4.6	10	.0

DATE	DIS-SOLVED NITRATE (NO3) (MG/L)	DIS-SOLVED ORTHO-PHOS-PHATE (PO4) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	COLOR (PLAT-INUM-COBALT UNITS)	TEMPER-ATURE (DEG C)
OCT.									
02...	14	.12	--	21	9	115	7.2	3	11.4
NOV.									
04...	12	.47	75	19	0	97	7.0	25	11.6
DEC.									
03...	11	.18	60	17	5	81	7.1	5	11.0
29...	9.3	.05	84	18	10	90	7.0	0	2.5
FEB.									
17...	12	.08	89	18	10	93	7.1	2	8.0
MAR.									
25...	12	.03	80	20	12	88	7.0	0	10.0
MAY									
04...	14	.05	83	20	12	92	6.9	0	13.0
JUNE									
18...	14	.06	81	19	9	92	6.9	1	18.0
JULY									
29...	10	.14	84	20	3	108	7.1	5	22.0

01488110 NANTICOKE RIVER AT SHARPTOWN, MD.

LOCATION.--Lat 38°32'39", long 75°43'15", Wicomico County, at drawbridge on Maryland State Highway 313, 1.6 miles downstream from Delaware-Maryland State line, and 2.4 miles upstream from Marshyhope Creek.

DRAINAGE AREA.--406 sq mi, approximately.

PERIOD OF RECORD.--Chemical analyses: September 1969 to September 1971.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MANGANESE (MN) (UG/L)	BICARBONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	HARDNESS (CA,MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	COLOR (PLATINUM-COBALT UNITS)
OCT.											
21...	30	40	25	40	300	.1	.010	602	112	91	7

DATE	PHOS-PHATE-ORTHO (MG/L AS P)	DIS-SOLVED ALUMINUM (AL) (UG/L)	DIS-SOLVED CADMIUM (CD) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)	TOTAL CHROMIUM (CR) (UG/L)	TURBIDITY (JTU)	TOTAL NON-FILTRABLE RESIDUE (MG/L)	BIOCHEMICAL OXYGEN DEMAND (MG/L)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)
OCT.											
21...	0	0	0	3	0	10	0	10	25	2.7	.09

DATE	CYANIDE (CN) (MG/L)	PHENOLS (UG/L)	DIS-SOLVED GROSS ALPHA AS U-NAT. (PC/L)	SUS-PENDED GROSS ALPHA AS U-NAT. (PC/L)	TOTAL ALPHA (PC/L)	DIS-SOLVED GROSS BETA AS CS-137 (PC/L)	SUS-PENDED GROSS BETA AS CS-137 (PC/L)	TOTAL BETA (PC/L)
OCT.								
21...	.00	2	<2.2	.3	1.2	12	1.0	13

ON-SITE DATA, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	TIME	TEMPERATURE (DEG C)	DIS-SOLVED OXYGEN (MG/L)	PH (UNITS)	SPECIFIC CONDUCTANCE (MICROMHOS)	FECAL COLIFORM (COL. PER 100 ML)
OCT.						
21...	1715	16.5	9.7	6.9	1050	72
NOV.						
27...	1015	7.0	7.9	6.4	290	92
DEC.						
24...	0750	5.5	9.4	6.3	255	210
JAN.						
29...	1255	.0	13.8	6.2	93	65
FEB.						
25...	1200	8.0	9.8	5.8	90	40
MAR.						
19...	1600	9.5	10.4	6.2	88	40
APR.						
14...	1530	14.5	9.3	6.4	75	26B
MAY						
24...	1320	18.5	8.4	6.7	73	480
JUNE						
25...	1415	26.0	6.5	6.2	100	800
JULY						
19...	1140	25.0	7.9	6.9	380	150
AUG.						
13...	1645	25.5	8.7	6.6	112	--
26...	1300	25.0	5.8	6.4	390	90

B RESULTS BASED ON COLONY COUNT OUTSIDE THE ACCEPTABLE RANGE (NON-IDEAL COLONY COUNT).

01491000 CHOPTANK RIVER NEAR GREENSBORO, MD.

LOCATION.--Lat 38°59'50", long 75°47'09", Caroline County, at gaging station, 0.1 mile upstream from Gravelly Branch, 2.0 miles northeast of Greensboro, and 60 miles upstream from mouth.

DRAINAGE AREA.--113 sq mi.

PERIOD OF RECORD.--Chemical analyses: February 1965 to September 1971.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	TOTAL IRON (FE) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)	TOTAL MANGANESE (MN) (UG/L)	DIS-SOLVED MANGANESE (MN) (UG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)
OCT.											
21...	11	12	--	300	--	40	12	3.3	6.5	2.6	31
NOV.											
27...	29	17	760	--	50	--	14	3.6	7.8	2.8	20
DEC.											
24...	158	12	570	--	60	--	11	3.1	7.9	2.8	9
JAN.											
29...	80	20	550	--	60	--	9.8	2.9	7.9	1.7	10
FEB.											
26...	390	10	460	--	80	--	5.8	2.0	3.1	2.1	4
MAR.											
19...	115	16	750	--	50	--	7.9	2.4	5.7	1.6	10
APR.											
16...	119	15	1000	--	100	--	7.5	2.3	6.3	1.6	10
MAY											
24...	70	17	2200	--	120	--	7.7	2.4	6.1	1.8	14
JUNE											
25...	32	19	2700	--	70	--	9.5	2.6	7.0	1.6	22
JULY											
19...	10	15	1000	--	40	--	11	3.0	8.0	2.0	27
AUG.											
13...	43	16	1100	--	70	--	10	2.7	6.1	1.9	19

DATE	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRATE (NO3) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	COLOR (PLAT-INUM-COBALT UNITS)	COLOR (THRES-HOLD NUMBER)
OCT.											
21...	14	13	.1	4.4	.013	83	86	44	18	5	0
NOV.											
27...	27	16	.1	3.5	--	102	--	50	34	5	--
DEC.											
24...	30	15	.1	3.1	--	89	--	41	33	0	--
JAN.											
29...	26	13	.1	3.9	--	90	--	37	29	15	--
FEB.											
26...	19	5.8	.2	2.8	--	53	--	23	19	60	--
MAR.											
19...	20	9.1	.2	3.6	--	72	--	30	22	20	--
APR.											
16...	19	9.2	.2	4.1	--	70	--	28	20	25	--
MAY											
24...	15	10	.2	5.0	--	72	--	29	18	90	--
JUNE											
25...	16	9.7	.2	4.4	--	81	--	34	16	35	--
JULY											
19...	15	13	.2	3.9	--	84	--	40	18	0	--
AUG.											
13...	21	10	.1	2.4	--	79	--	36	21	10	--

01491000 CHOPTANK RIVER NEAR GREENSBORO, MD.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	DIS-SOLVED ALUM-INUM (AL) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)	TOTAL CHRO-MIUM (CR) (UG/L)	TUR-BID-ITY (JTU)	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)	CYANIDE (CN) (MG/L)
OCT.											
21...	0	0	4	0	20	0	10	17	1.3	.01	.00
NOV.											
27...	--	--	--	--	--	--	--	--	--	--	--
DEC.											
24...	--	--	--	--	--	--	--	--	--	--	--
JAN.											
29...	--	--	--	--	--	--	--	--	--	--	--
FEB.											
26...	600	--	--	--	--	--	--	--	--	--	--
MAR.											
19...	--	--	--	--	--	--	--	--	--	--	--
APR.											
16...	--	--	--	--	--	--	--	--	--	--	--
MAY											
24...	--	--	--	--	--	--	--	--	--	--	--
JUNE											
25...	--	--	--	--	--	--	--	--	--	--	--
JULY											
19...	--	--	--	--	--	--	--	--	--	--	--
AUG.											
13...	--	--	--	--	--	--	--	--	--	--	--

DATE	PHENOLS (UG/L)	DIS-SOLVED GROSS ALPHA AS U-NAT. (PC/L)	SUS-PENDED GROSS ALPHA AS U-NAT. (PC/L)	TOTAL ALPHA (PC/L)	DIS-SOLVED GROSS BETA AS CS-137 (PC/L)	SUS-PENDED GROSS BETA AS CS-137 (PC/L)	TOTAL BETA (PC/L)
OCT.							
21...	2	<.4	<.1	.2	3.9	.4	4.3

ON-SITE DATA, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	TIME	DIS-CHARGE (CFS)	TEMPER-ATURE (DEG C)	DIS-SOLVED OXYGEN (MG/L)	PH (UNITS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	FECAL COLI-FORM (COL. PER 100 ML)
OCT.							
21...	1020	11	12.0	8.7	6.9	125	68
NOV.							
27...	1100	28	3.0	12.7	6.5	170	160
DEC.							
24...	0911	158	4.0	10.4	6.2	155	1900
JAN.							
29...	1410	80	.0	13.9	6.1	140	28
FEB.							
26...	0918	390	6.0	10.5	6.2	87	48
MAR.							
19...	1425	115	6.5	11.2	6.4	110	40
APR.							
16...	1700	118	13.5	9.5	6.5	100	54
MAY							
24...	1140	70	15.5	7.4	6.7	100	69
JUNE							
25...	1245	32	23.0	6.6	6.2	115	190
JULY							
19...	1300	10	24.0	7.2	7.1	135	80
AUG.							
13...	1515	43	21.0	6.8	7.4	109	--
26...	1102	27	19.0	7.3	6.8	130	92

01581500 BYNUM RUN AT BEL AIR, MD.

LOCATION.--Lat 39°32'30", long 76°19'50", Harford County, at gaging station, 30 ft downstream from bridge on State Highway 22, 1.0 mile east of Bel Air, and 8.5 miles upstream from mouth.

DRAINAGE AREA.--8.52 sq mi.

PERIOD OF RECORD.--Chemical analyses: July 1969 to September 1971

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	DIS-CHARGE (CFS)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	BICAR-BONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	COLOR (PLAT-INUM-COBALT UNITS)
OCT.												
13...	1.9	80	30	66	10	11	.1	.003	112	71	17	3
SEP.												
23...	7.0	100	16	61	11	11	.1	.21	128	70	20	5

DATE	ODOR (THRES-HOLD NUMBER)	DIS-SOLVED ALUM-INUM (AL) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)	DIS-SOLVED CHRO-MIUM (CR) (UG/L)	TUR-BID-ITY (JTU)	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)
OCT.											
13...	0	0	0	6	0	20	0	2	7	.5	.03
SEP.											
23...	0	0	0	6	15	20	0	1	5	.7	.06

DATE	CYANIDE (CN) (MG/L)	PHENOLS (UG/L)	DIS-SOLVED GROSS ALPHA AS U-NAT. (PC/L)	SUS-PENDED GROSS ALPHA AS U-NAT. (PC/L)	TOTAL ALPHA (PC/L)	DIS-SOLVED GROSS BETA AS CS-137 (PC/L)	SUS-PENDED GROSS BETA AS CS-137 (PC/L)	TOTAL BETA (PC/L)
OCT.								
13...	.00	6	<.3	<.1	.2	3.4	.5	3.9
SEP.								
23...	.01	0	<.5	<.1	.3	3.9	<.4	4.1

ON-SITE DATA, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	TIME	DIS-CHARGE (CFS)	TEMPER-ATURE (DEG C)	DIS-SOLVED OXYGEN (MG/L)	PH (UNITS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	FECAL COLI-FORM (COL. PER 100 ML)
OCT.							
13...	0958	1.9	16.5	8.5	7.4	160	440
DEC.							
21...	0945	6.3	3.5	12.4	6.8	180	88300
MAR.							
15...	1004	8.7	8.0	12.0	8.2	170	850
JUNE							
21...	1015	4.6	21.0	11.5	8.1	170	580
JULY							
15...	1010	2.4	18.5	10.6	7.8	190	420
AUG.							
19...	0945	4.9	19.5	9.4	7.7	160	440
SEP.							
23...	1030	7.0	17.0	9.5	7.5	195	340

01585100 WHITEMARSH RUN AT WHITE MARSH, MD.

LOCATION.--Lat 39°22'15", long 76°26'46", Baltimore County, at gaging station on State Highway 7, 1 mile southwest of White Marsh, and 3 miles upstream from mouth.

DRAINAGE AREA.--7.61 sq mi.

PERIOD OF RECORD.--Chemical analyses: July 1969 to September 1971

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	DIS-CHARGE (CFS)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	BICAR-BONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	COLOR (PLAT-INUM-COBALT UNITS)
OCT.												
13...	1.6	10	70	54	20	21	.2	.003	114	67	23	3
SEP.												
14...	20	140	160	48	22	13	.3	.12	125	63	24	5

DATE	ODOR (THRES-HOLD NUMBER)	DIS-SOLVED ALUM-INUM (AL) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)	DIS-SOLVED CHRO-MIUM (CR) (UG/L)	TOTAL CHRO-MIUM (CR) (UG/L)	TUR-BID-ITY (JTU)	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)
OCT.												
13...	8	0	0	3	0	10	--	0	3	9	1.1	.03
SEP.												
14...	0	200	0	14	0	100	0	--	180	241	.9	.08

DATE	CYANIDE (CN) (MG/L)	PHENOLS (UG/L)	DIS-SOLVED GROSS ALPHA AS U-NAT. (PC/L)	SUS-PENDED GROSS ALPHA AS U-NAT. (PC/L)	TOTAL ALPHA (PC/L)	DIS-SOLVED GROSS BETA AS CS-137 (PC/L)	SUS-PENDED GROSS BETA AS CS-137 (PC/L)	TOTAL BETA (PC/L)
OCT.								
13...	.00	6	<.3	.2	.4	12	.9	13
SEP.								
14...	.00	0	.9	7.2	8.1	8.0	9.5	17

ON-SITE DATA, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	TIME	DIS-CHARGE (CFS)	TEMPER-ATURE (DEG C)	DIS-SOLVED OXYGEN (MG/L)	PH (UNITS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	FECAL COLI-FORM (COL. PER 100 ML)
OCT.							
13...	0815	1.6	18.5	9.1	7.4	180	180
DEC.							
21...	1030	4.2	3.0	12.3	7.2	250	1500
MAR.							
15...	1055	5.2	10.5	11.1	7.4	250	74
JUNE							
21...	0855	3.0	21.0	9.2	7.1	235	1000
JULY							
15...	1115	1.6	26.0	9.9	8.0	240	640
AUG.							
19...	1111	3.4	21.0	8.3	7.8	305	5200
SEP.							
14...	0915	20	20.0	8.4	6.8	185	5200

01587500 SOUTH BRANCH PATAPSCO RIVER AT HENRYTON, MD.

LOCATION.--Lat 39°21'05", long 76°54'50", Howard County, at gaging station at bridge on Henryton Road at Henryton, 1.3 miles upstream from Piney Run, 2.3 miles upstream from confluence with North Branch, and 3.2 miles southeast of Sykesville.

DRAINAGE AREA.--64.4 sq mi.

PERIOD OF RECORD.--Chemical analyses: November 1965 to September 1971.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	TOTAL IRON (FE) (UG/L)	TOTAL MAN-GANESE (MN) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
OCT.											
09...	12	6.8	--	--	9.2	2.8	5.2	2.2	34	5.6	7.2
NOV.											
13...	58	9.1	--	--	9.8	3.1	4.7	3.8	30	9.2	7.8
DEC.											
23...	103	6.9	330	120	9.0	2.9	5.4	4.0	19	14	11
JAN.											
28...	45	9.1	200	40	8.7	3.0	5.9	2.6	22	10	11
MAR.											
09...	92	7.5	110	40	8.0	2.8	4.7	1.6	21	9.8	8.0
APR.											
15...	60	3.2	160	80	7.7	2.7	4.8	1.3	23	7.2	7.2
MAY											
18...	90	7.4	290	100	8.6	2.8	4.6	2.0	22	13	6.7
JUNE											
23...	40	8.4	200	50	8.7	2.8	4.7	1.8	28	6.8	7.0
AUG.											
24...	51	6.7	130	10	9.5	2.9	4.7	1.6	30	5.4	8.7
SEP.											
16...	133	9.6	--	--	11	2.6	4.3	2.1	30	9.8	7.7

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	COLOR (PLAT-INUM-COBALT UNITS)	TEMPER-ATURE (DEG C)
OCT.									
09...	.1	6.7	63	35	7	108	7.3	2	16.0
NOV.									
13...	.1	5.3	68	38	13	116	7.0	5	5.0
DEC.									
23...	.1	8.6	71	35	19	118	6.6	8	3.0
JAN.									
28...	.1	10	71	34	16	115	6.8	0	.5
MAR.									
09...	.1	7.7	60	32	15	98	7.1	0	1.0
APR.									
15...	.1	6.2	51	30	11	95	7.4	0	7.0
MAY									
18...	.1	7.0	63	33	15	97	6.6	0	14.5
JUNE									
23...	.1	6.6	61	33	10	102	6.7	6	19.5
AUG.									
24...	.1	6.5	61	36	11	104	7.7	0	--
SEP.									
16...	.1	6.6	69	38	14	119	7.1	2	--

01589000 PATAPSCO RIVER AT HOLLOFIELD, MD.

LOCATION.--Lat 39°18'36", long 76°47'39", Howard County, at gaging station on highway bridge, at Hollofield, 0.3 mile downstream from Dogwood Run, 3.0 miles north of Ellicott City, and 28 miles upstream from mouth.

DRAINAGE AREA.--285 sq mi.

PERIOD OF RECORD.--Chemical analyses: July 1969 to September 1971.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	DIS-CHARGE (CFS)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	BICAR-BONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	COLOR (PLAT-INUM-COBALT UNITS)
OCT.												
15...	34	110	70	51	8.4	9.1	.2	.05	84	51	9	10
SEP.												
23...	191	70	26	40	10	8.5	.1	.080	88	46	13	0

DATE	FOOR (THRES-HOLD NUMBER)	DIS-SOLVED ALUM-INUM (AL) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)	DIS-SOLVED CHRO-MIUM (CR) (UG/L)	TOTAL CHRO-MIUM (CR) (UG/L)	TUR-BID-ITY (JTU)	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)
OCT.												
15...	0	0	0	5	0	20	--	0	15	28	1.0	.01
SEP.												
23...	0	0	0	2	0	140	0	--	2	6	.6	.04

DATE	CYANIDE (CN) (MG/L)	PHENOLS (UG/L)	DIS-SOLVED GROSS ALPHA AS U-NAT. (PC/L)	SUS-PENDED GROSS ALPHA AS U-NAT. (PC/L)	TOTAL ALPHA (PC/L)	DIS-SOLVED GROSS BETA AS CS-137 (PC/L)	SUS-PENDED GROSS BETA AS CS-137 (PC/L)	TOTAL BETA (PC/L)
OCT.								
15...	.00	2	<.3	.7	.8	4.3	2.1	6.4
SEP.								
23...	.01	2	<.4	<.1	.2	4.0	<.5	4.2

ON-SITE DATA, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	TIME	DIS-CHARGE (CFS)	TEMPER-ATURE (DEG C)	DIS-SOLVED OXYGEN (MG/L)	PH (UNITS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	FECAL COLI-FORM (COL. PER 100 ML)
OCT.							
15...	1253	34	18.0	7.8	7.1	125	440
DEC.							
21...	1210	66	3.0	12.8	8.2	140	880
MAR.							
16...	0921	130	7.5	11.5	7.5	123	160
JUNE							
21...	1615	84	23.0	10.6	8.2	125	880
JULY							
15...	1410	61	23.0	8.9	8.1	140	320
AUG.							
23...	0857	96	20.0	10.2	7.2	135	400
SEP.							
23...	1250	191	17.5	10.0	6.5	165	640

01589100 EAST BRANCH HERBERT RUN AT ARBUTUS, MD.

LOCATION.--Lat 39°14'24", long 76°41'33", Baltimore County, at gaging station on highway bridge on Tom Day Boulevard at U. S. Route 1 in Arbutus, 0.5 mile upstream from mouth, and 2 miles south of Baltimore city limits.

DRAINAGE AREA.--2.47 sq mi.

PERIOD OF RECORD.--Chemical analyses: July 1969 to September 1971.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	DIS-CHARGE (CFS)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MANGANESE (MN) (UG/L)	BICAR-BONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	COLOR (PLAT-INUM-COBALT UNITS)
OCT.												
15...	.94	0	20	83	32	23	.8	.005	184	108	37	7
SEP.												
14...	4.2	10	260	104	51	24	.5	.16	258	146	61	5

DATE	COLOR (THRES-HOLD NUMBER)	DIS-SOLVED ALUM-INUM (AL) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)	DIS-SOLVED CHRO-MIUM (CR) (UG/L)	TOTAL CHRO-MIUM (CR) (UG/L)	TUR-BID-ITY (JTU)	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)
OCT.												
15...	0	100	0	6	0	10	--	49	85	124	2.5	.11
SEP.												
14...	0	100	0	8	0	180	0	--	1	4	.8	.08

DATE	CYANIDE (CN) (MG/L)	PHENOLS (UG/L)	DIS-SOLVED GROSS ALPHA AS U-NAT. (PC/L)	SUS-PENDED GROSS ALPHA AS U-NAT. (PC/L)	TOTAL ALPHA (PC/L)	DIS-SOLVED GROSS BETA AS CS-137 (PC/L)	SUS-PENDED GROSS BETA AS CS-137 (PC/L)	TOTAL BETA (PC/L)	CAR-BONATE (CO3) (MG/L)
OCT.									
15...	.02	6	.9	1.9	2.8	6.9	4.6	12	2
SEP.									
14...	.00	2	1.9	<.1	1.9	8.2	<.7	8.5	0

ON-SITE DATA, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	TIME	DIS-CHARGE (CFS)	TEMPER-ATURE (DEG C)	DIS-SOLVED OXYGEN (MG/L)	PH (UNITS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	FECAL COLI-FORM (COL. PER 100 ML)
OCT.							
15...	0915	.94	19.5	7.6	9.0	275	865000
DEC.							
21...	1120	1.3	5.0	11.6	8.0	385	11000
MAR.							
16...	1130	1.6	13.0	9.9	8.3	370	3900
JUNE							
21...	1300	1.6	25.0	8.4	6.7	420	20000
JULY							
15...	1451	1.1	26.0	7.4	9.0	380	940
AUG.							
23...	1020	1.4	16.0	9.8	8.3	400	13000
SEP.							
14...	1105	4.2	21.0	8.3	7.6	375	7900

01589300 GWYNNS FALLS AT VILLA NOVA, MD.

LOCATION.--Lat 39°20'45", long 76°44'01", Baltimore County, at gaging station 300 ft downstream from bridge on Essex Road, 300 ft north of State Highway 26 (Liberty Road), in Villa Nova, 1.1 miles west of Baltimore city limits, and 11.5 miles upstream from mouth.

DRAINAGE AREA.--32.5 sq mi.

PERIOD OF RECORD.--Chemical analyses: July 1969 to September 1971.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	DIS-CHARGE (CFS)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MANGANESE (MN) (UG/L)	BICARBONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	COLOR (PLATINUM-COBALT UNITS)
OCT. 15...	8.6	100	60	72	13	19	.2	.059	135	78	19	20
SEP. 23...	26	280	55	72	12	21	.1	.070	147	82	23	5

DATE	ODOR (THRESHOLD NUMBER)	DIS-SOLVED ALUMINUM (AL) (UG/L)	DIS-SOLVED CADMIUM (CD) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)	DIS-SOLVED CHROMIUM (CR) (UG/L)	TOTAL CHROMIUM (CR) (UG/L)	TURBIDITY (JTU)	TOTAL NONFILTRABLE RESIDUE (MG/L)	BIOCHEMICAL OXYGEN DEMAND (MG/L)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)
OCT. 15...	0	100	0	11	0	30	--	0	10	29	>5.1	.26
SEP. 23...	0	100	0	5	0	140	0	--	4	8	.0	.03

DATE	CYANIDE (CN) (MG/L)	PHENOLS (UG/L)	DIS-SOLVED GROSS ALPHA AS U-NAT. (PC/L)	SUS-PENDED GROSS ALPHA AS U-NAT. (PC/L)	TOTAL ALPHA (PC/L)	DIS-SOLVED GROSS BETA AS CS-137 (PC/L)	SUS-PENDED GROSS BETA AS CS-137 (PC/L)	TOTAL BETA (PC/L)
OCT. 15...	.01	7	.4	1.4	1.8	7.4	5.2	13
SEP. 23...	.01	0	<.6	.3	.6	3.7	<.4	3.9

ON-SITE DATA, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	TIME	DIS-CHARGE (CFS)	TEMPERATURE (DEG C)	DIS-SOLVED OXYGEN (MG/L)	PH (UNITS)	SPECIFIC CONDUCTANCE (MICROMHOS)	FECAL COLIFORM (COL. PER 100 ML)
OCT. 15...	1108	8.6	18.5	7.4	7.4	180	28000
NOV. 03...	1024	22	13.0	9.4	7.5	215	12000
DEC. 21...	1241	18	3.0	12.3	7.6	270	120
MAR. 16...	0847	27	7.5	12.2	7.7	235	310
JUNE 21...	1225	18	24.0	9.9	7.9	210	7800
JULY 15...	1250	13	22.0	9.2	8.4	235	380
AUG. 19...	1234	72	21.5	8.2	7.8	205	39000
SEP. 23...	1425	26	17.5	10.0	7.4	265	3100

01595500 NORTH BRANCH POTOMAC RIVER AT KITZMILLER, MD.

LOCATION.--Lat 39°23'38", long 79°10'55", Garrett County, temperature recorder at gaging station on left bank 0.6 mile downstream from bridge on State Highway 38 in Kitzmiller, 1.5 miles downstream from Wolfden Run, and at mile 68.9.
DRAINAGE AREA.--225 sq mi.
PERIOD OF RECORD.--Water temperatures: August 1961 to September 1971.
EXTREMES.--1970-71:
Water temperatures: Maximum, 28.5°C June 28; minimum, freezing point on many days during winter months.
Period of Record:
Water temperatures: Maximum, 32.0°C Aug. 15, 16, 18, 1965; minimum, freezing point on many days during winter months.
REMARKS.--Records fair, probably because of friction in recorder. No temperature record Nov. 17 to Mar. 31.

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971
(CONTINUOUS ETHYL ALCOHOL-ACTUATED THERMOGRAPH)

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	16.5	11.5	11.5	11.0	---	---	---	---	---	0.0	---	---
2	15.5	11.5	12.0	11.5	---	---	---	---	---	---	---	---
3	16.0	13.5	12.0	10.0	---	---	---	---	---	---	---	---
4	14.0	10.5	10.0	9.0	---	---	---	---	---	---	---	---
5	15.5	10.0	9.0	8.5	---	---	---	---	---	---	---	---
6	16.5	11.0	9.0	8.0	---	---	---	---	---	---	---	---
7	16.5	11.5	9.5	8.5	---	---	---	---	---	---	---	---
8	16.5	12.0	9.5	8.0	---	---	---	---	---	---	---	---
9	16.5	14.0	8.5	7.0	---	---	---	---	---	---	---	---
10	16.5	14.5	9.5	8.5	---	---	---	---	---	---	---	---
11	16.5	15.5	10.0	9.5	---	---	---	---	---	---	---	---
12	16.5	15.0	10.0	9.5	---	---	---	---	---	---	---	---
13	18.5	15.5	10.0	9.0	---	---	---	---	---	---	---	---
14	18.0	14.5	9.0	9.0	---	---	---	---	---	---	---	---
15	16.5	15.0	9.0	6.5	---	---	---	---	---	---	---	---
16	15.5	11.0	6.0	5.0	---	---	---	---	---	---	---	---
17	11.0	9.0	---	---	---	---	---	---	---	---	---	---
18	12.0	9.5	---	---	---	---	---	---	---	---	---	---
19	12.0	9.5	---	---	---	---	---	---	---	---	---	---
20	11.0	9.0	---	---	---	---	---	---	---	---	---	---
21	11.0	10.0	---	---	---	---	---	---	---	---	---	---
22	13.5	11.0	---	---	---	---	---	---	---	---	---	---
23	14.5	11.5	---	---	---	---	---	---	---	---	---	---
24	13.5	11.0	---	---	---	---	---	---	---	---	---	---
25	14.0	11.5	---	---	---	---	---	---	---	---	---	---
26	13.5	12.0	---	---	---	---	---	---	---	---	---	---
27	12.0	11.0	---	---	---	---	---	---	---	---	---	---
28	11.0	10.0	---	---	---	---	---	---	---	---	---	---
29	10.0	10.0	---	---	---	---	---	---	---	---	---	---
30	10.5	10.0	---	---	---	---	---	---	---	---	---	---
31	11.0	10.5	---	---	---	---	---	---	---	---	---	---
MONTH	18.5	9.0	---	---	---	---	---	---	---	---	---	---

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

01595800 NORTH BRANCH POTOMAC RIVER AT BARNUM, W. VA.

LOCATION.--Lat 39°26'44", 79°06'39", Garrett County, Md., at gaging station, at Barnum, W. Va., 0.4 mile upstream from Folly Run, and 4 miles southwest of Piedmont, W. Va.

DRAINAGE AREA.--226 sq mi

PERIOD OF RECORD.--Chemical analyses: April 1967 to September 1971.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	DIS-CHARGE (CFS)	TOTAL ACIDITY AS CACO3 (MG/L)	DIS-SOLVED ALUM-INUM (AL) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)
OCT.											
06...	35	180	13000	9500	3000	330	0	0	4.9	.4	.000
NOV.											
18...	453	44	3200	2000	1100	94	--	--	--	--	--
DEC.											
08...	248	60	10000	5200	1200	120	--	--	--	--	--
JAN.											
06...	2010	60	5900	8400	930	97	--	--	--	--	--
FEB.											
10...	397	57	5900	6500	980	120	--	--	--	--	--
MAR.											
10...	692	41	3900	5100	730	100	--	--	--	--	--
APR.											
06...	382	52	4400	3300	900	121	--	--	--	--	--
MAY											
04...	248	67	6000	3800	1200	140	--	--	--	--	--
JUNE											
15...	589	25	1900	320	900	28	--	--	--	--	--
JULY											
13...	77	105	8800	1800	2400	280	--	--	--	--	--
AUG.											
17...	46	180	12000	4700	2800	380	--	--	--	--	--
SEP.											
21...	602	43	4100	700	1200	120	0	0	2.6	.3	.060

DATE	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	COLOR (PLAT-INUM-COBALT UNITS)	ODOR (THRES-HOLD NUMBER)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	TOTAL CHRO-MIUM (CR) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)	TUR-BID-ITY (JTU)
OCT.											
06...	587	180	180	0	0	6	9	74	0	540	3
NOV.											
18...	--	--	--	--	--	--	--	--	--	--	--
DEC.											
08...	--	--	--	--	--	--	--	--	--	--	--
JAN.											
06...	--	--	--	--	--	--	--	--	--	--	--
FEB.											
10...	--	--	--	--	--	--	--	--	--	--	--
MAR.											
10...	--	--	--	--	--	--	--	--	--	--	--
APR.											
06...	--	--	--	--	--	--	--	--	--	--	--
MAY											
04...	--	--	--	--	--	--	--	--	--	--	--
JUNE											
15...	--	--	--	--	--	--	--	--	--	--	--
JULY											
13...	--	--	--	--	--	--	--	--	--	--	--
AUG.											
17...	--	--	--	--	--	--	--	--	--	--	--
SEP.											
21...	197	90	90	0	0	1	5	24	0	210	6

01595800 NORTH BRANCH POTOMAC RIVER AT BARNUM, W. VA.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	TOTAL NON-FILTRABLE RESIDUE (MG/L)	BIO-CHEMICAL OXYGEN DEMAND (MG/L)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)	CYANIDE (CN) (MG/L)	PHENOLS (UG/L)	DISSOLVED GROSS ALPHA AS U-NAT. (PC/L)	SUSPENDED GROSS ALPHA AS U-NAT. (PC/L)	TOTAL ALPHA (PC/L)	DISSOLVED GROSS BETA AS CS-137 (PC/L)	SUSPENDED GROSS BETA AS CS-137 (PC/L)	TOTAL BETA (PC/L)
OCT.											
06...	2	2.8	.00	.00	1	3.9	<.1	3.9	11	<.5	11
NOV.											
18...	--	--	--	--	--	--	--	--	--	--	--
DEC.											
08...	--	--	--	--	--	--	--	--	--	--	--
JAN.											
06...	--	--	--	--	--	--	--	--	--	--	--
FEB.											
10...	--	--	--	--	--	--	--	--	--	--	--
MAR.											
10...	--	--	--	--	--	--	--	--	--	--	--
APR.											
06...	--	--	--	--	--	--	--	--	--	--	--
MAY											
04...	--	--	--	--	--	--	--	--	--	--	--
JUNE											
15...	--	--	--	--	--	--	--	--	--	--	--
JULY											
13...	--	--	--	--	--	--	--	--	--	--	--
AUG.											
17...	--	--	--	--	--	--	--	--	--	--	--
SEP.											
21...	19	.2	.03	.00	2	1.5	<.1	1.5	5.1	<.4	5.3

ON SITE DATA, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	TIME	DISCHARGE (CFS)	TEMPERATURE (DEG C)	DISSOLVED OXYGEN (MG/L)	PH (UNITS)	SPECIFIC CONDUCTANCE (MICROMHOS)	FECAL COLIFORM (COL. PER 100 ML)
OCT.							
06...	0835	35	10.5	10.6	3.2	860	0
NOV.							
18...	0842	453	4.0	11.7	3.6	315	1
DEC.							
08...	0826	248	.0	14.0	3.5	370	0
JAN.							
06...	0855	2010	.0	12.8	3.5	300	0
FEB.							
10...	1400	397	.0	13.5	3.6	365	0
MAR.							
10...	0853	692	.0	13.5	3.7	290	0
APR.							
06...	0911	382	5.0	12.0	3.4	357	1
MAY							
04...	0830	248	5.5	13.5	3.3	430	0
JUNE							
15...	0916	585	18.0	10.5	3.8	260	630
JULY							
13...	0945	77	19.0	9.1	3.2	695	0
AUG.							
17...	1137	46	21.0	7.7	3.3	730	0
SEP.							
21...	0925	602	17.0	8.7	3.6	335	0

01598500 NORTH BRANCH POTOMAC RIVER AT LUKE, MD.

LOCATION.--Lat 39°28'45", long 79°03'55", Mineral County, W. Va., temperature recorder at gaging station on right bank, 0.2 mile downstream from Savage River, 0.5 mile northwest of Luke, and at mile 53.3.
DRAINAGE AREA.--404 sq mi.
PERIOD OF RECORD.--Water temperatures: December 1961 to December 1962, July to September 1963, December 1963 to September 1971.
EXTREMES.--1970-71:
Water temperatures: Maximum, 29.5°C June 29: minimum, freezing point on many days during winter months.
Period of record:
Water temperatures: Maximum, 33.0°C July 3, 1966; minimum, freezing point on many days during winter months.
REMARKS.--Records fair, probably because of friction in recorder.

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971
(CONTINUOUS ETHYL ALCOHOL-ACTUATED THERMOGRAPH)

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	17.0	13.5	12.0	11.0	8.5	6.5	0.5	0.5	0.0	0.0	4.5	3.0
2	17.0	13.5	12.0	12.0	6.5	6.0	0.5	0.5	0.0	0.0	4.5	4.0
3	17.0	15.0	12.0	10.0	6.0	5.0	0.5	0.5	0.0	0.0	4.0	2.0
4	15.0	13.0	10.0	9.0	5.0	5.0	0.5	0.5	0.0	0.0	2.0	1.0
5	15.5	10.5	9.0	8.5	5.0	4.0	2.0	0.5	0.0	0.0	1.5	0.5
6	16.0	11.0	9.0	8.5	4.0	1.5	2.0	1.0	0.0	0.0	2.0	1.5
7	17.0	12.0	9.5	9.0	1.5	0.5	1.0	0.5	0.0	0.0	3.5	2.0
8	16.5	14.0	9.0	8.5	0.5	0.5	0.5	0.5	0.0	0.0	3.0	1.0
9	16.5	14.5	9.0	8.5	1.5	0.5	0.5	0.5	0.0	0.0	1.0	0.5
10	17.0	15.0	10.0	9.0	3.5	1.5	1.0	0.5	0.0	0.0	2.0	1.5
11	17.0	16.5	11.0	10.0	3.5	3.5	2.0	1.0	0.0	0.0	3.0	2.0
12	18.5	17.0	12.0	11.0	4.0	3.5	2.0	2.0	0.0	0.0	4.5	2.5
13	20.0	17.0	12.0	11.5	4.0	4.0	2.0	1.0	0.0	0.0	4.5	4.5
14	20.0	18.0	11.5	10.5	4.0	2.0	2.5	1.0	0.0	0.0	6.0	4.5
15	19.0	17.0	10.5	9.0	2.0	1.5	2.5	2.0	0.0	0.0	6.5	5.5
16	17.0	12.0	9.0	6.5	1.5	0.5	2.0	0.0	1.0	0.0	6.5	5.5
17	13.0	11.0	7.0	6.0	1.5	0.5	0.0	0.0	1.0	0.0	6.5	4.0
18	13.0	9.5	6.0	6.0	2.0	1.5	0.0	0.0	2.5	0.5	4.5	2.5
19	13.0	9.0	7.0	6.0	4.0	2.0	0.0	0.0	2.5	1.5	4.5	3.5
20	11.0	10.0	8.0	7.0	4.0	3.0	0.0	0.0	3.0	2.0	4.0	2.5
21	11.5	10.5	8.0	6.5	3.0	2.5	0.5	0.0	3.0	3.0	3.5	1.5
22	13.0	11.5	6.5	6.0	4.0	2.5	1.0	0.5	4.0	3.0	4.0	2.5
23	14.5	12.0	6.5	3.0	5.0	4.0	1.5	1.0	3.0	3.0	4.0	2.5
24	13.5	12.0	3.0	1.5	5.0	3.0	1.0	0.5	3.0	2.5	3.0	2.0
25	14.0	12.0	1.5	1.5	3.0	2.5	2.0	0.5	4.0	2.0	3.5	1.5
26	13.5	13.5	1.5	1.5	3.0	0.5	2.0	0.5	4.0	3.5	3.5	2.5
27	13.5	11.5	3.0	1.5	0.5	0.5	0.5	0.0	5.5	4.0	4.5	1.5
28	11.5	10.5	5.5	3.0	0.5	0.5	0.0	0.0	5.0	3.0	7.0	4.0
29	10.5	10.5	7.0	5.5	0.5	0.5	0.0	0.0	---	---	7.0	6.0
30	10.5	10.5	8.5	7.0	0.5	0.5	0.0	0.0	---	---	6.0	4.5
31	11.0	10.5	---	---	0.5	0.5	0.0	0.0	---	---	6.0	3.0
MONTH	20.0	9.0	12.0	1.5	8.5	0.5	2.5	0.0	5.5	0.0	7.0	0.5

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

01599000 GEORGES CREEK AT FRANKLIN, MD.

LOCATION.--Lat 39°29'38", long 79°02'42", Allegany County, at gaging station at Franklin, and 1.2 miles upstream from Westernport and mouth.

DRAINAGE AREA.--72.4 sq mi.

PERIOD OF RECORD.--Chemical analyses: May 1969 to September 1971.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	DIS-CHARGE (CFS)	TOTAL ACIDITY AS CACO3 (MG/L)	DIS-SOLVED ALUM-INUM (AL) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)
OCT.											
06...	5.5	66	6700	1400	4900	770	0	0	11	.5	.000
NOV.											
18...	72	--	1300	570	1800	170	1	0	--	--	--
DEC.											
08...	34	0	1700	270	2300	270	0	0	--	--	--
JAN.											
06...	304	15	1500	840	1300	150	0	0	--	--	--
FEB.											
10...	56	--	3400	800	2700	350	1	0	--	--	--
MAR.											
10...	167	--	1800	1100	1800	280	1	0	--	--	--
APR.											
06...	94	--	800	350	1500	280	2	0	--	--	--
MAY											
04...	38	--	2400	340	2100	410	2	0	--	--	--
JUNE											
15...	36	18	2200	440	2800	450	0	0	--	--	--
JULY											
13...	14	50	6100	700	4000	670	--	--	--	--	--
AUG.											
17...	10	47	2900	1200	3700	740	--	--	--	--	--
SEP.											
21...	48	26	2800	730	3300	330	--	--	10	.5	.090

DATE	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	COLOR (PLAT-INUM-COBALT UNITS)	ODOR (THRES-HOLD NUMBER)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	TOTAL CHRO-MIUM (CR) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)	TUR-BID-ITY (JTU)
OCT.											
06...	1250	660	660	2	1	4	7	59	0	420	30
NOV.											
18...	--	--	--	--	--	--	--	--	--	--	--
DEC.											
08...	--	--	--	--	--	--	--	--	--	--	--
JAN.											
06...	--	--	--	--	--	--	--	--	--	--	--
FEB.											
10...	--	--	--	--	--	--	--	--	--	--	--
MAR.											
10...	--	--	--	--	--	--	--	--	--	--	--
APR.											
06...	--	--	--	--	--	--	--	--	--	--	--
MAY											
04...	--	--	--	--	--	--	--	--	--	--	--
JUNE											
15...	--	--	--	--	--	--	--	--	--	--	--
JULY											
13...	--	--	--	--	--	--	--	--	--	--	--
AUG.											
17...	--	--	--	--	--	--	--	--	--	--	--
SEP.											
21...	512	300	300	5	0	1	0	18	13	380	45

01599000 GEORGES CREEK AT FRANKLIN, MD.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	TOTAL NON-FILTRABLE RESIDUE (MG/L)	BIO-CHEMICAL OXYGEN DEMAND (MG/L)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)	CYANIDE (CN) (MG/L)	PHENOLS (UG/L)	DISSOLVED GROSS ALPHA AS U-NAT. (PC/L)	SUSPENDED GROSS ALPHA AS U-NAT. (PC/L)	TOTAL ALPHA (PC/L)	DISSOLVED GROSS BETA AS CS-137 (PC/L)	SUSPENDED GROSS BETA AS CS-137 (PC/L)	TOTAL BETA (PC/L)
OCT.											
06...	20	1.8	.03	.00	0	4.9	.2	5.1	7.1	1.2	8.3
NOV.											
18...	--	--	--	--	--	--	--	--	--	--	--
DEC.											
08...	--	--	--	--	--	--	--	--	--	--	--
JAN.											
06...	--	--	--	--	--	--	--	--	--	--	--
FEB.											
10...	--	--	--	--	--	--	--	--	--	--	--
MAR.											
10...	--	--	--	--	--	--	--	--	--	--	--
APR.											
06...	--	--	--	--	--	--	--	--	--	--	--
MAY											
04...	--	--	--	--	--	--	--	--	--	--	--
JUNE											
15...	--	--	--	--	--	--	--	--	--	--	--
JULY											
13...	--	--	--	--	--	--	--	--	--	--	--
AUG.											
17...	--	--	--	--	--	--	--	--	--	--	--
SEP.											
21...	94	.7	.03	.00	0	<2.1	1.2	2.2	7.0	2.2	9.2

ON SITE-DATA, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	TIME	DISCHARGE (CFS)	TEMPERATURE (DEG C)	DISSOLVED OXYGEN (MG/L)	PH (UNITS)	SPECIFIC CONDUCTANCE (MICROMHOS)	FECAL COLIFORM (COL. PER 100 ML)
OCT.							
06...	1058	5.5	11.5	10.7	4.1	1360	11
NOV.							
18...	1018	72	4.0	12.2	4.5	430	770
DEC.							
08...	1007	34	.0	14.0	5.4	600	1200
JAN.							
06...	1145	304	.5	12.9	4.7	385	900
FEB.							
10...	1506	56	.0	12.5	4.8	742	47
MAR.							
10...	1017	167	2.0	13.1	5.2	635	68
APR.							
06...	1030	94	5.0	12.1	5.4	580	17
MAY							
04...	1045	38	7.0	13.5	4.9	770	2
JUNE							
15...	1042	36	17.0	10.5	4.2	845	320
JULY							
13...	1130	14	19.0	9.9	4.4	1050	1700
AUG.							
17...	1355	10	24.0	7.8	4.8	1180	7
SEP.							
21...	1142	48	18.0	9.1	4.6	655	930

01600000 NORTH BRANCH POTOMAC RIVER AT PINTO, MD.

LOCATION.--Lat 39°33'59", long 78°50'25", Mineral County, West Virginia, at gaging station on right bank at downstream side of Western Maryland Railway bridge at Pinto, 2.8 miles downstream from Mill Run, and at mile 32.6.

DRAINAGE AREA.--596 sq mi.

PERIOD OF RECORD.--Chemical analyses: July 1969 to September 1971.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	DIS-CHARGE (CFS)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	BICAR-BONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	COLOR (PLAT-INUM-COBALT UNITS)
OCT.												
06...	135	290	1700	26	210	130	.3	.036	682	304	283	80
SEP.												
30...	438	160	1200	8	140	41	.2	.060	316	180	173	5

DATE	COLOR (THRES-HOLD NUMBER)	DIS-SOLVED ALUM-INUM (AL) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)	TOTAL CHRO-MIUM (CR) (UG/L)	TUR-BID-ITY (JTU)	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)
OCT.											
06...	4	300	3	11	24	110	7	110	56	4.5	.17
SEP.											
30...	8	100	1	8	11	150	0	20	24	1.9	.10

DATE	CYANIDE (CN) (MG/L)	PHENOLS (UG/L)	DIS-SOLVED GROSS ALPHA AS U-NAT. (PC/L)	SUS-PENDED GROSS ALPHA AS U-NAT. (PC/L)	TOTAL ALPHA (PC/L)	DIS-SOLVED GROSS BETA AS CS-137 (PC/L)	SUS-PENDED GROSS BETA AS CS-137 (PC/L)	TOTAL BETA (PC/L)
OCT.								
06...	.00	13	<2.3	.4	1.6	8.4	3.5	12
SEP.								
30...	.00	26	1.8	.4	2.2	6.2	.8	7.0

ON-SITE DATA, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	TIME	DIS-CHARGE (CFS)	TEMPER-ATURE (DEG C)	DIS-SOLVED OXYGEN (MG/L)	PH (UNITS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	FECAL COLI-FORM (COL. PER 100 ML)
OCT.							
06...	1430	135	17.5	7.5	7.0	860	800
NOV.							
18...	1358	826	6.5	10.7	5.3	370	6
DEC.							
08...	1341	447	3.5	12.2	7.1	460	6
JAN.							
06...	1410	3290	2.0	12.5	5.0	255	4
FEB.							
09...	1300	820	.5	12.2	5.0	385	0
MAR.							
10...	1130	1650	2.5	12.9	5.6	270	1
APR.							
06...	1327	598	8.0	10.5	5.5	421	0
MAY							
04...	1452	367	13.0	10.4	6.5	760	1
JUNE							
15...	1445	862	21.0	8.4	5.9	340	11
JULY							
13...	1425	176	25.0	5.9	6.4	930	41
AUG.							
17...	1705	130	25.0	6.1	6.7	1120	690
SEP.							
30...	1050	438	22.0	8.3	6.4	460	1400

01603000 NORTH BRANCH POTOMAC RIVER NEAR CUMBERLAND, MD.

LOCATION.--Lat 39°37'16", long 78°46'24", Allegany County, at gaging station, at Wiley Ford Bridge, 2 miles south of Cumberland, 2.1 miles downstream from Wills Creek, and at mile 19.6.

DRAINAGE AREA.--875 sq mi.

PERIOD OF RECORD.--Chemical analyses: December 1964 to September 1971.
Water temperatures: October 1964 to September 1971.
Sediment records: October 1964 to September 1971.

EXTREMES.--1969-71:
Water temperatures: Maximum 31.0°C June 28; minimum, freezing point Feb. 10, and probably several other days during period of missing record.
Sediment concentrations: Maximum daily, 1,330 mg/l Dec. 22; minimum daily, 5 mg/l Aug. 27.
Sediment discharge: Maximum daily, 23,800 tons Dec. 23; minimum daily, 2.1 tons Aug. 27.

Period of record:
Water temperatures: Maximum, 33.0°C July 13, 14, 1966, July 16, 18, Aug. 19, 23, 1968; minimum freezing point on many days during winter period.
Sediment concentration: Maximum daily, 1,600 mg/l Feb. 13, 1966; minimum daily, 3 mg/l Aug. 13, 1969.
Sediment discharge: Maximum daily, 61,000 tons Mar. 6, 1967; minimum daily, 2.1 tons Aug. 27, 1971.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	TOTAL IRON (FE) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)	TOTAL MAN-GANESE (MN) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)
OCT.											
02...	197	8.2	30	--	130	--	80	15	46	4.3	2
08...	147	--	--	120	--	1600	--	--	--	--	44
NOV.											
02...	2220	5.5	3500	--	750	--	24	6.4	9.1	2.0	5
JAN.											
04...	1710	4.6	970	--	260	--	17	4.1	9.4	1.6	21
FEB.											
10...	1000	5.7	3300	--	860	--	29	7.3	12	1.3	4
MAR.											
05...	2390	5.2	1450	--	400	--	23	6.4	8.7	1.3	15
APR.											
04...	1040	5.0	1100	--	500	--	32	8.7	8.6	1.3	13
MAY											
02...	715	5.4	1500	--	550	--	60	13	24	2.3	18
JUNE											
02...	600	5.5	590	--	700	--	42	10	17	1.9	20
JULY											
13...	238	6.9	1800	--	1100	--	88	15	50	4.1	43
AUG.											
17...	188	5.3	190	--	1300	--	69	14	28	2.7	8
SEP.											
30...	544	6.0	--	90	--	1000	47	8.3	19	2.0	16

DATE	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS_SOLVED NITRATE (NO3) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)
OCT.											
02...	260	71	.3	5.0	--	--	491	261	260	776	5.2
08...	220	110	.2	--	.016	597	--	268	232	--	--
NOV.											
02...	80	15	.1	2.2	--	--	146	87	83	246	6.2
JAN.											
04...	40	16	.1	2.7	--	--	106	60	43	184	7.1
FEB.											
10...	90	24	.2	1.9	--	--	173	103	99	--	--
MAR.											
05...	67	15	.2	2.6	--	--	135	84	72	226	6.6
APR.											
04...	101	16	.2	1.3	--	--	180	116	106	295	6.6
MAY											
02...	180	44	.3	.9	--	--	339	208	188	542	6.6
JUNE											
02...	130	29	.2	1.2	--	--	247	146	130	397	6.9
JULY											
13...	230	86	.4	1.4	--	--	503	281	246	--	--
AUG.											
17...	220	43	.3	4.3	--	--	391	230	223	--	--
SEP.											
30...	130	29	.2	.8	.060	280	250	150	137	--	--

01603000 NORTH BRANCH POTOMAC RIVER NEAR CUMBERLAND, MD.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	COLOR (PLATINUM-COBALT UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	ODOR (THRESHOLD NUMBER)	DISSOLVED ALUMINUM (AL) (UG/L)	DISSOLVED CADMIUM (CD) (UG/L)	DISSOLVED COPPER (CU) (UG/L)	DISSOLVED LEAD (PB) (UG/L)	DISSOLVED ZINC (ZN) (UG/L)	TOTAL CHROMIUM (CR) (UG/L)	TOTAL NONFILTRABLE RESIDUE (MG/L)
OCT.											
02...	--	20.0	--	--	--	--	--	--	--	--	--
08...	15	--	35	8	100	0	5	0	70	9	28
NOV.											
02...	3	15.5	--	--	--	--	--	--	--	--	--
JAN.											
04...	15	5.5	--	--	--	--	--	--	--	--	--
FEB.											
10...	2	.0	--	--	--	--	--	--	--	--	--
MAR.											
05...	0	4.0	--	--	--	--	--	--	--	--	--
APR.											
04...	0	11.0	--	--	--	--	--	--	--	--	--
MAY											
02...	0	16.0	--	--	--	--	--	--	--	--	--
JUNE											
02...	0	21.0	--	--	--	--	--	--	--	--	--
JULY											
13...	80	25.0	--	--	--	--	--	--	--	--	--
AUG.											
17...	5	--	--	--	--	--	--	--	--	--	--
SEP.											
30...	0	--	2	8	100	1	9	8	210	0	5

DATE	BIOCHEMICAL OXYGEN DEMAND (MG/L)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)	CYANIDE (CN) (MG/L)	PHENOLS (UG/L)	DISSOLVED GROSS ALPHA AS U-NAT. (PC/L)	SUSPENDED GROSS ALPHA AS U-NAT. (PC/L)	TOTAL ALPHA (PC/L)	DISSOLVED GROSS BETA AS CS-137 (PC/L)	SUSPENDED GROSS BETA AS CS-137 (PC/L)	TOTAL BETA (PC/L)
OCT.										
02...	--	--	--	--	--	--	--	--	--	--
08...	14	.14	.00	15	<2.2	.6	1.7	9.1	1.7	11
NOV.										
02...	--	--	--	--	--	--	--	--	--	--
JAN.										
04...	--	--	--	--	--	--	--	--	--	--
FEB.										
10...	--	--	--	--	--	--	--	--	--	--
MAR.										
05...	--	--	--	--	--	--	--	--	--	--
APR.										
04...	--	--	--	--	--	--	--	--	--	--
MAY										
02...	--	--	--	--	--	--	--	--	--	--
JUNE										
02...	--	--	--	--	--	--	--	--	--	--
JULY										
13...	--	--	--	--	--	--	--	--	--	--
AUG.										
17...	--	--	--	--	--	--	--	--	--	--
SEP.										
30...	1.3	.06	.00	10	<1.1	<.1	.6	4.5	<.4	4.7

ON SITE DATA, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	TIME	DISCHARGE (CFS)	TEMPERATURE (DEG C)	DISSOLVED OXYGEN (MG/L)	PH (UNITS)	SPECIFIC CONDUCTANCE (MICROMHOS)	FECAL COLIFORM (COL. PER 100 ML)
OCT.							
08...	1200	147	17.5	3.1	6.9	840	8400
NOV.							
18...	1303	1360	6.5	11.7	6.5	273	410
DEC.							
08...	1302	734	3.0	13.3	7.1	347	56
JAN.							
06...	1450	5300	2.0	12.7	5.3	215	0
FEB.							
10...	1543	1000	.0	13.9	6.2	300	0
MAR.							
09...	1525	2420	3.5	13.3	6.4	250	0
APR.							
06...	1410	914	8.0	11.4	6.6	355	7
MAY							
04...	1344	506	13.5	12.1	6.8	333	56
JUNE							
15...	1335	995	--	11.8	5.4	420	98
JULY							
13...	1514	238	25.0	6.7	7.2	790	3000
AUG.							
17...	1803	188	27.0	8.5	7.0	615	63
SEP.							
30...	1244	544	21.5	9.1	6.7	435	1300

01603000 NORTH BRANCH POTOMAC RIVER NEAR CUMBERLAND, MD.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971
(ONCE-DAILY MEASUREMENT AT 2300)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.0	15.5	10.0	---	---	8.0	14.5	15.5	22.0	29.C	25.5	24.5
2	20.0	15.5	9.0	---	---	5.5	9.0	15.5	21.0	25.5	26.5	25.5
3	18.5	12.0	9.0	---	---	---	10.0	13.5	22.0	24.5	25.5	26.5
4	15.5	11.0	8.0	6.0	---	---	11.0	15.5	23.5	25.5	25.5	26.5
5	19.0	10.0	8.0	4.0	---	4.5	10.0	15.5	---	26.5	26.5	26.5
6	19.0	5.0	7.0	3.5	---	5.5	9.0	15.5	24.5	---	26.5	26.5
7	20.0	12.0	2.0	2.0	---	3.5	10.0	18.0	24.5	---	25.5	26.5
8	20.0	13.0	3.0	---	---	4.5	11.0	15.5	24.5	29.C	26.5	28.0
9	21.0	13.5	8.0	4.5	---	1.C	---	15.5	24.5	28.0	26.5	26.5
10	21.0	13.5	8.0	4.5	0.0	6.5	12.0	19.0	19.0	28.0	---	---
11	22.0	15.5	8.0	5.5	---	5.5	12.0	19.0	25.5	24.0	26.5	26.5
12	24.0	15.5	7.0	4.5	---	7.C	16.5	19.0	---	24.0	25.5	25.5
13	---	16.0	8.0	4.5	---	9.0	18.0	---	23.5	25.C	26.5	25.5
14	24.5	---	7.0	4.5	---	9.C	11.0	17.0	24.5	24.5	26.5	21.0
15	21.0	11.0	7.0	---	---	8.C	13.0	16.5	22.0	24.5	25.5	21.0
16	15.5	9.0	4.C	---	---	5.5	15.5	18.0	20.0	26.5	26.5	21.0
17	15.5	8.0	6.0	1.5	---	---	15.5	---	22.0	26.5	26.5	20.0
18	16.5	8.0	6.C	---	5.5	6.5	16.0	20.0	23.5	26.5	25.5	21.C
19	15.5	10.0	---	---	5.5	6.C	16.5	22.0	24.5	25.5	26.5	21.0
20	15.5	10.0	7.0	---	---	6.5	16.5	---	25.5	25.5	---	21.C
21	16.5	10.0	6.0	4.5	8.0	10.C	17.0	17.0	28.0	26.5	25.5	21.0
22	16.5	10.0	6.0	---	4.5	---	13.5	19.0	25.5	25.5	25.5	21.C
23	18.0	4.0	7.0	---	4.5	---	13.0	17.0	24.5	25.5	24.5	20.0
24	---	3.0	---	---	5.5	6.5	13.5	19.0	---	25.5	---	19.5
25	16.5	3.0	6.0	---	8.0	5.5	15.5	16.5	26.5	26.C	---	19.5
26	16.5	---	---	---	8.0	---	15.5	18.0	---	26.5	---	---
27	16.5	7.0	3.0	---	8.0	8.5	16.0	18.5	28.0	26.5	24.0	22.0
28	15.5	10.0	2.0	---	8.0	13.5	18.0	19.0	31.0	26.5	---	21.0
29	14.5	11.0	2.0	---	---	12.0	15.5	---	---	26.5	24.5	20.0
30	20.0	10.0	3.0	---	---	11.0	---	19.0	26.5	25.5	25.5	25.5
31	14.5	---	---	---	---	11.C	---	20.0	---	26.5	---	---
AVG	18.0	10.5	6.0	---	---	7.C	13.5	16.5	24.5	26.0	---	23.0

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	TIME	TEMPERATURE (DEG C)	DISCHARGE (CFS)	SUSPENDED SEDIMENT (MG/L)	SUSPENDED SEDIMENT DISCHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .002 MM	SUS. SED. FALL DIAM. % FINER THAN .004 MM	SUS. SED. FALL DIAM. % FINER THAN .008 MM
DEC.								
23...	0530	4.0	11500	973	30200	--	47	66
FEB.								
23...	0100	4.0	13200	326	11600	20	30	43
27...	2240	8.0	8320	241	5410	10	22	29
MAY								
08...	2300	15.5	7320	305	6030	26	31	43

DATE	SUS. SED. FALL DIAM. % FINER THAN .016 MM	SUS. SED. FALL DIAM. % FINER THAN .031 MM	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM	SUS. SED. SIEVE DIAM. % FINER THAN .250 MM	SUS. SED. SIEVE DIAM. % FINER THAN .500 MM	SUS. SED. SIEVE DIAM. % FINER THAN 1.00 MM	SUS. SED. SIEVE DIAM. % FINER THAN 2.00 MM
DEC.								
23...	88	88	92	95	97	99	100	--
FEB.								
23...	59	65	72	82	89	96	100	--
27...	40	45	47	54	60	87	100	--
MAY								
08...	51	70	77	82	84	94	99	100

01603000 NORTH BRANCH POTOMAC RIVER NEAR CUMBERLAND, MD.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	191	10	5.2	2380	103	662	732	10	20
2	191	14	7.2	2440	92	606	700	5	9.5
3	178	26	12	2880	129	1090	664	6	11
4	164	38	17	3430	178	1720	740	15	30
5	160	38	16	2400	100	648	940	25	63
6	155	39	16	2490	124	834	896	18	44
7	147	40	16	1990	84	451	836	11	25
8	142	40	15	1670	44	198	746	8	16
9	138	40	15	1010	16	44	721	10	19
10	142	41	16	852	13	30	709	14	27
11	169	38	17	862	16	37	704	11	21
12	205	35	19	1320	20	71	1030	27	86
13	300	51	41	1730	21	98	2030	65	356
14	257	39	27	1750	22	104	1730	30	140
15	205	21	12	2560	39	270	1830	54	267
16	164	14	6.2	2190	32	189	1650	45	200
17	151	15	6.1	1700	18	83	1750	48	227
18	155	13	5.4	1380	20	75	1640	40	177
19	147	45	18	1200	17	55	1460	39	154
20	142	59	23	1130	17	52	2190	53	313
21	328	324	368	1220	20	66	2030	35	192
22	779	381	801	1090	13	38	4770	1330	23200
23	608	74	121	1000	14	39	11700	758	23800
24	402	35	38	887	12	29	11700	356	11200
25	328	29	26	752	11	22	8640	150	3440
26	289	20	16	725	10	20	5920	145	2320
27	262	16	11	700	15	28	3590	120	1160
28	243	20	13	686	19	35	2810	65	493
29	243	24	16	777	25	57	2180	39	230
30	716	299	710	736	14	28	1500	35	142
31	2200	400	2380	--	--	--	1270	35	120
TOTAL	9901	--	4810.1	45937	--	7673	79808	--	68502.5

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	1210	35	114	1400	32	121	6550	79	1400
2	1150	34	106	920	24	60	5380	46	668
3	1100	31	92	800	29	63	3960	46	492
4	1480	70	338	965	40	104	3440	45	418
5	7500	209	4270	1440	78	303	2430	44	289
6	5840	91	1470	1870	100	505	2210	34	203
7	4720	64	816	1560	74	312	2270	39	239
8	3910	71	750	1240	55	184	2650	40	286
9	2320	49	307	1170	48	152	2510	51	346
10	1830	35	173	1000	61	165	2250	39	237
11	1520	34	140	840	35	79	1750	35	165
12	2210	59	352	918	45	112	1640	39	173
13	2170	50	293	2970	160	1280	2310	55	343
14	2120	54	309	6260	230	3890	3830	59	610
15	5320	126	1810	4210	134	1520	4410	70	833
16	3320	86	771	3240	93	814	5100	65	895
17	2520	46	313	2590	86	601	4680	50	632
18	2520	51	347	2290	65	402	3750	37	375
19	2860	87	672	3410	100	921	2340	37	234
20	1330	40	144	5240	222	3140	2770	56	419
21	1160	28	88	9500	210	5390	2290	44	272
22	1230	30	100	9900	269	7710	2720	64	470
23	1210	30	98	12400	211	7120	2130	35	201
24	1270	35	120	8630	136	3170	1920	35	181
25	1180	31	99	6260	91	1540	1660	34	152
26	1380	45	168	4780	126	1630	1530	27	112
27	1700	55	252	6670	198	3570	1380	26	97
28	950	30	77	8110	180	3940	1320	30	107
29	1100	41	122	--	--	--	1520	40	164
30	1280	50	173	--	--	--	1560	41	173
31	1810	75	367	--	--	--	1410	35	133
TOTAL	71220	--	15251	110583	--	48798	85670	--	11319

01603000 NORTH BRANCH POTOMAC RIVER NEAR CUMBERLAND, MD.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	1280	24	83	579	20	31	698	8	15
2	1240	21	70	715	33	64	602	15	24
3	1210	20	65	635	24	41	597	15	24
4	1080	16	47	493	15	20	547	9	13
5	967	13	35	464	19	24	501	11	15
6	936	12	30	1980	92	611	713	30	58
7	1020	15	41	4110	140	1550	756	25	51
8	1120	12	36	6000	247	4000	858	23	53
9	1160	19	60	6510	172	3020	691	19	35
10	1390	25	94	4020	44	478	555	28	42
11	1330	22	79	2790	29	218	477	49	63
12	1170	10	32	2150	25	145	432	47	55
13	1110	10	30	3630	67	657	497	61	82
14	1080	10	29	5410	60	876	1020	80	220
15	1030	10	28	4100	38	421	1070	36	104
16	955	11	28	3320	33	296	904	40	98
17	902	10	24	2770	24	179	722	48	94
18	931	9	22	2140	21	121	614	32	53
19	870	11	26	1670	12	54	516	20	28
20	787	9	19	1410	9	34	452	26	32
21	735	8	16	1240	9	30	427	15	17
22	700	6	11	1090	9	26	409	14	15
23	664	7	13	962	10	26	386	19	20
24	629	12	20	878	10	24	342	20	18
25	538	10	16	827	9	20	294	21	17
26	539	6	8.7	761	10	21	253	20	14
27	496	8	11	679	15	27	238	17	11
28	500	7	9.5	613	21	35	217	16	9.4
29	520	6	8.4	577	24	37	229	22	14
30	435	9	12	651	30	53	234	35	22
31	--	--	--	862	38	88	--	--	--
TOTAL	27414	--	1003.6	64026	--	13227	16251	--	1316.4

	JULY			AUGUST			SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	249	35	24	273	35	26	171	13	6.0
2	263	22	16	311	35	29	143	20	7.7
3	236	38	24	580	121	189	135	20	7.3
4	223	45	27	781	169	356	320	53	61
5	179	26	13	1160	144	451	589	72	145
6	175	18	8.5	690	30	56	452	85	118
7	163	20	8.8	403	29	32	162	55	24
8	153	21	8.7	345	20	19	332	52	47
9	155	19	8.0	315	12	10	340	31	28
10	183	19	9.4	254	15	10	254	44	30
11	210	25	14	215	18	10	201	101	55
12	283	39	30	216	14	8.2	643	155	296
13	250	44	30	232	12	7.5	1890	170	876
14	195	41	22	220	11	6.5	2040	536	3640
15	166	40	18	181	13	6.4	3320	750	6720
16	163	34	15	171	26	12	2120	80	458
17	152	30	12	198	28	14	1690	41	187
18	148	30	12	186	28	14	1520	36	148
19	170	34	16	181	26	13	1330	26	93
20	198	33	18	175	20	9.5	1590	35	150
21	191	31	16	159	20	8.6	1080	19	55
22	169	34	16	239	14	9.0	934	11	28
23	151	29	12	364	22	22	783	7	15
24	150	32	13	280	14	11	696	10	19
25	162	34	15	245	12	7.9	610	11	18
26	162	35	15	197	11	5.9	583	16	25
27	188	35	18	157	5	2.1	822	20	44
28	181	32	16	192	6	3.1	730	10	20
29	214	30	17	398	19	20	580	11	17
30	235	31	20	262	8	5.7	546	11	16
31	255	30	21	208	11	6.2	--	--	--
TOTAL	5972	--	513.4	9778	--	1380.6	26606	--	13354.0

TOTAL DISCHARGE FOR YEAR (CFS-DAYS) 553166
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR YEAR (TONS) 187153.6

01613000 POTOMAC RIVER AT HANCOCK, MD.

LOCATION.--Lat 39°41'49", long 78°10'39", Washington County, at U. S. Highway 522 at Hancock, 0.5 mile upstream from gaging station, 0.3 mile upstream from Little Tonoloway Creek, 1.6 miles upstream from Tonoloway Creek (formerly called Great or Big Tonoloway Creek), and at mile 239.

DRAINAGE AREA.--4,073 sq mi.

PERIOD OF RECORD.--Chemical analyses: July 1969 to September 1971.
Water temperatures: July 1952 to February 1964, July 1966 to September 1971.

EXTREMES.--1970-71:
Water temperatures: Maximum, 31.0°C July 8, 10; minimum, freezing point on many days during winter period.

Period of record:
Water temperatures: Maximum, 34.0°C July 22, 1952; minimum, freezing point on many days during winter period.

REMARKS.--Records fair, probably because of friction in recorder. Temperature recorder at gaging station 0.5 mile downstream from sampling site.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	DIS-CHARGE (CFS)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	BICAR-BONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	COLOR (PLAT-INUM-COBALT UNITS)
OCT.												
08...	390	0	40	70	110	33	.2	.013	328	170	109	3
SEP.												
23...	3950	50	76	63	37	6.2	.1	.11	150	88	36	5

DATE	COLIFORM (THERMO-TOLO NUMBER)	DIS-SOLVED ALUM-INUM (AL) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)	TOTAL CHRO-MIUM (CR) (UG/L)	TUR-BID-ITY (JTU)	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)
OCT.											
08...	0	100	0	17	5	60	0	1	0	1.3	.05
SEP.											
23...	1	100	0	5	0	110	9	15	28	.4	.03

DATE	CYANIDE (CN) (MG/L)	PHENOLS (UG/L)	DIS-SOLVED GROSS ALPHA AS U-NAT. (PC/L)	SUS-PENDED GROSS ALPHA AS U-NAT. (PC/L)	TOTAL ALPHA (PC/L)	DIS-SOLVED GROSS BETA AS CS-137 (PC/L)	SUS-PENDED GROSS BETA AS CS-137 (PC/L)	TOTAL BETA (PC/L)	CAR-BONATE (CO3) (MG/L)
OCT.									
08...	.00	1	<.8	<.1	.4	5.2	<.4	5.4	2
SEP.									
23...	.00	3	.6	.4	.6	3.0	1.6	4.6	0

ON SITE DATA, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	TIME	DIS-CHARGE (CFS)	TEMPER-ATURE (DEG C)	DIS-SOLVED OXYGEN (MG/L)	PH (UNITS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	FECAL COLI-FORM (COL. PER 100 ML)
OCT.							
08...	1640	390	18.5	10.1	8.7	430	6
NOV.							
19...	1242	4840	8.0	11.7	7.3	190	83
DEC.							
09...	1120	1800	1.5	13.4	7.2	265	7
JAN.							
04...	1636	4400	.5	13.5	7.8	230	17
FEB.							
09...	1430	5400	.0	13.2	7.7	190	70
MAR.							
09...	1140	13500	2.5	12.6	7.4	150	76
APR.							
05...	1442	3380	10.0	11.8	7.7	218	--
07...	0934	3140	6.0	12.1	7.2	227	3
MAY							
03...	1426	1960	12.0	11.2	8.1	314	4
JUNE							
14...	1407	2520	23.0	9.1	8.0	225	52
JULY							
12...	1530	668	27.0	10.0	8.3	365	3
AUG.							
18...	1115	1430	24.0	8.3	8.1	355	200
SEP.							
23...	1005	3950	19.0	9.1	7.2	220	96

01613000 POTOMAC RIVER AT HANCOCK, MD.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971
(CONTINUOUS ETHYL ALCOHOL-ACTUATED THERMOGRAPH)

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	19.5	16.5	12.0	12.0	6.5	6.C	---	---	---	---	6.0	5.5
2	19.5	16.0	13.0	12.0	6.5	6.C	---	---	0.0	0.0	6.0	5.5
3	20.0	18.0	13.0	12.0	6.5	6.0	1.0	0.5	0.0	0.C	5.5	4.5
4	19.0	16.5	12.0	11.0	6.5	5.5	1.5	0.5	0.0	0.0	4.5	3.5
5	18.5	15.0	11.0	10.0	5.5	5.0	1.5	1.5	0.0	0.C	3.5	2.0
6	19.0	15.0	10.0	10.C	5.5	4.5	1.5	0.5	0.0	0.0	3.5	3.0
7	19.5	16.0	10.0	9.5	4.5	3.5	2.0	1.5	0.0	0.0	4.5	3.5
8	19.0	17.0	10.0	9.5	3.5	3.0	1.5	1.0	0.0	0.0	4.5	4.0
9	19.0	18.0	10.0	9.5	3.5	3.C	1.0	1.0	C.0	0.0	4.0	3.5
10	19.0	18.0	10.0	10.0	4.0	3.5	1.0	0.5	0.0	0.C	4.0	3.5
11	19.0	18.5	11.0	10.0	4.0	4.C	1.0	0.5	0.0	0.C	4.5	3.5
12	19.5	18.5	12.0	11.0	4.5	4.0	2.0	1.0	0.0	0.C	5.0	4.C
13	21.0	19.0	12.0	11.5	4.5	4.C	2.0	2.0	0.0	0.0	6.5	5.0
14	21.5	19.5	11.5	11.5	4.5	4.5	3.0	2.0	0.0	0.C	6.5	6.0
15	21.5	20.5	11.5	11.0	4.5	4.5	3.0	3.0	1.0	0.0	8.0	6.5
16	20.5	17.0	11.0	9.5	4.5	3.5	3.0	2.0	1.5	1.C	8.5	7.0
17	17.0	14.0	9.5	9.0	4.0	3.5	2.0	1.5	2.0	1.5	8.5	7.0
18	15.5	13.0	9.0	8.0	4.5	4.C	---	---	3.0	1.5	7.0	6.5
19	15.5	12.0	8.0	7.0	5.0	4.0	---	---	3.5	3.0	6.5	5.5
20	14.5	13.0	8.0	7.C	5.0	5.C	---	---	4.0	3.5	5.5	5.0
21	13.5	13.0	8.0	7.0	5.0	4.5	---	---	4.5	4.C	5.5	4.5
22	15.0	13.0	8.0	6.5	4.5	4.5	---	---	4.5	4.0	6.0	5.0
23	15.5	14.0	8.0	6.0	5.0	4.5	---	---	4.0	4.C	5.5	5.0
24	14.5	13.5	6.0	4.5	5.5	5.0	---	---	4.0	4.C	5.0	4.5
25	14.0	13.5	4.5	3.5	5.0	4.5	---	---	4.5	4.C	5.0	4.0
26	14.0	13.5	3.5	3.5	4.5	3.5	---	---	5.0	4.C	5.0	4.5
27	13.5	13.5	4.0	3.5	3.5	3.C	---	---	6.0	5.0	5.5	4.0
28	13.5	12.0	4.5	4.0	---	---	---	---	6.5	5.5	7.0	5.0
29	12.0	11.5	5.5	4.5	---	---	---	---	---	---	8.0	6.5
30	11.5	11.0	6.5	5.5	---	---	---	---	---	---	8.5	7.0
31	12.0	11.0	---	---	---	---	---	---	---	---	9.0	7.C
MONTH	21.5	11.0	13.0	3.5	6.5	---	---	---	6.5	0.C	9.0	2.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	9.5	8.0	14.5	10.5	15.0	14.C	30.0	28.5	25.0	24.5	24.5	22.0
2	9.5	8.5	13.5	12.0	16.5	15.C	30.0	28.0	25.0	24.C	22.0	21.0
3	9.0	7.0	12.0	11.0	18.5	16.5	29.5	26.0	24.5	24.C	24.5	21.0
4	9.0	8.0	13.5	10.0	20.0	18.0	29.0	25.C	24.0	23.0	27.0	22.0
5	10.0	8.5	14.5	11.5	21.0	19.5	29.0	25.0	23.0	21.5	28.0	23.5
6	10.0	8.0	14.0	11.5	23.0	20.5	30.C	26.C	23.5	21.5	28.0	25.0
7	9.5	6.5	13.0	11.5	23.0	21.5	30.5	26.5	24.0	22.C	28.0	25.5
8	10.0	8.0	12.0	11.0	24.0	21.5	31.0	26.5	25.0	23.0	28.5	25.0
9	10.5	8.5	13.0	11.0	24.0	22.C	30.C	28.0	26.0	23.5	29.0	25.0
10	11.0	9.5	14.0	11.5	23.5	21.5	31.0	26.5	27.0	24.5	28.0	25.C
11	11.5	9.5	15.0	13.0	24.0	21.5	29.0	24.5	27.0	26.C	26.5	23.5
12	12.0	10.0	15.0	14.5	24.0	23.0	27.0	23.0	26.5	24.C	24.0	21.5
13	13.5	11.0	15.0	13.5	23.0	21.5	27.0	23.0	26.5	23.0	24.0	20.5
14	13.5	12.0	13.5	12.0	23.0	21.5	28.5	25.0	26.5	23.5	22.0	21.C
15	13.0	11.0	13.5	12.0	23.0	21.0	28.5	24.0	26.0	23.5	22.0	21.0
16	13.5	11.5	14.0	13.5	21.0	20.0	29.0	24.5	24.5	22.C	22.0	20.5
17	13.0	11.5	15.0	13.5	20.5	20.C	29.0	24.5	25.0	21.5	20.5	20.0
18	14.0	11.5	16.5	14.0	22.0	20.0	28.5	25.0	25.5	23.5	20.5	20.0
19	14.5	12.0	19.0	16.0	23.5	21.0	26.5	25.0	25.5	24.0	20.5	20.0
20	15.0	13.5	19.0	16.0	25.0	22.C	27.0	24.0	25.5	23.5	21.0	20.0
21	15.0	14.0	16.5	15.5	24.5	24.0	28.0	23.0	25.0	23.5	21.0	20.0
22	14.0	11.5	16.5	15.5	25.5	23.5	28.5	23.5	24.0	22.0	20.5	20.0
23	13.5	10.5	17.0	15.0	25.5	24.5	28.5	24.5	26.5	22.C	20.0	19.5
24	12.0	11.0	16.5	15.C	28.0	25.0	28.0	25.0	25.0	21.0	20.0	19.0
25	12.0	10.0	17.0	15.5	28.5	26.C	28.0	24.5	24.5	21.0	19.5	18.0
26	11.5	10.5	18.0	16.5	29.0	26.5	29.0	25.0	25.5	22.0	19.0	17.0
27	13.0	10.0	17.0	15.5	29.5	26.5	29.0	26.0	24.0	22.0	17.0	16.5
28	13.5	11.5	16.5	15.5	29.5	27.0	27.0	24.0	24.5	21.5	19.0	17.C
29	13.0	11.5	16.0	15.0	29.0	26.5	26.5	24.5	25.5	21.0	20.5	19.0
30	13.0	10.5	15.0	14.5	30.0	27.0	27.0	24.5	26.5	21.5	20.5	20.0
31	---	---	15.5	15.0	---	---	26.0	23.0	26.0	22.0	---	---
MONTH	15.0	6.5	19.0	10.0	30.0	14.0	31.0	23.0	27.0	21.C	29.0	16.5
YEAR	31.0	0.0										

01614500 CONOCOCHEAGUE CREEK AT FAIRVIEW, MD.

LOCATION.--Lat 39°42'57", long 77°49'28", Washington County, at highway bridge at Fairview, 0.7 mile downstream from gaging station, 1.3 miles upstream from Rockdale Run, 6 miles northwest of Hagerstown, and 18 miles upstream from mouth.

DRAINAGE AREA.--495 sq mi.

PERIOD OF RECORD.--Chemical analyses: October 1965 to September 1971.
Water temperatures: November 1966 to September 1971.
Sediment records: October 1966 to September 1971.

EXTREMES.--1970-71:
Water temperatures: Maximum, 26°C July 8, 9, 10, 18, Aug. 20; minimum, 1.0°C several days during winter period.
Sediment concentrations: Maximum daily, 666 mg/l June 15; minimum daily, 1 mg/l Oct. 8, 9.
Sediment discharge: Maximum daily, 4,250 tons Feb. 23; minimum daily, 0.34 ton Oct. 9.

Period of record:
Water temperatures: Maximum, 30°C July 17, 1969; minimum, freezing point on many days during winter period.
Sediment concentrations: Maximum daily, 940 mg/l Mar. 25, 1969; minimum daily, 1 mg/l, on many days during 1967, 1970, 1971.
Sediment discharge: Maximum daily, 11,000 tons Mar. 7, 1967; minimum daily, 0.17 ton Nov. 24, 26, 27, 1966.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	TOTAL IRON (FE) (UG/L)	TOTAL MAN-GANESE (MN) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
OCT.											
29...	170	5.9	60	30	51	11	7.0	3.0	174	25	13
DEC.											
31...	890	7.2	130	10	46	9.8	4.7	1.7	150	23	9.7
MAR.											
01...	2510	6.8	280	40	30	6.2	3.6	1.7	91	18	6.9
APR.											
19...	382	1.5	30	0	46	10	5.8	1.9	154	21	12
JUNE											
03...	493	6.9	220	40	42	8.7	5.6	2.1	135	17	9.6
14...	366	6.9	170	60	48	9.5	6.3	2.7	156	23	11
JULY											
12...	240	2.2	50	0	56	12	5.8	2.7	190	18	12
14...	178	2.4	80	0	52	11	5.6	2.1	180	21	11
AUG.											
16...	144	3.6	60	0	53	11	9.9	2.4	181	25	16
SEP.											
09...	94	4.6	50	0	54	13	8.0	2.7	198	22	14

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	COLOR (PLAT-INUM-COBALT UNITS)	TEMPER-ATURE (DEG C)
OCT.									
29...	.2	7.0	209	172	30	365	7.9	5	11.7
DEC.									
31...	.1	14	192	161	38	333	8.0	0	2.0
MAR.									
01...	.1	9.7	128	101	26	227	7.5	0	6.5
APR.									
19...	.2	9.0	183	156	30	325	7.8	1	14.5
JUNE									
03...	.2	10	168	141	30	305	7.4	0	18.0
14...	.2	13	198	159	31	328	7.8	0	21.5
JULY									
12...	.2	13	215	189	34	383	8.2	1	21.5
14...	.1	10	204	175	27	359	7.9	5	22.0
AUG.									
16...	.1	11	221	177	29	392	8.3	7	23.0
SEP.									
09...	.2	8.0	224	188	26	401	8.0	5	25.0

01614500 CONOCOCHEAGUE CREEK AT FAIRVIEW, MD.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971
(ONCE-DAILY MEASUREMENT AT 0900)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14.0	13.0	10.0	3.0	1.0	8.0	8.0	12.0	16.0	24.0	22.0	22.0
2	13.0	13.0	10.0	2.0	1.0	6.0	9.0	13.0	16.0	25.0	22.0	21.0
3	16.0	13.0	8.0	2.0	1.0	6.0	7.0	13.0	16.0	24.0	22.0	21.0
4	17.0	13.0	---	5.0	1.0	---	7.0	13.0	16.0	24.0	22.0	22.0
5	18.0	13.0	8.0	5.0	2.0	---	8.0	14.0	17.0	25.0	21.0	22.0
6	19.0	12.0	6.0	5.0	3.0	---	8.0	15.0	16.0	---	24.0	---
7	18.0	12.0	6.0	3.0	2.0	---	8.0	12.0	19.0	---	24.0	---
8	18.0	12.0	6.0	2.0	2.0	---	8.0	14.0	20.0	26.0	25.0	24.0
9	19.0	12.0	6.0	3.0	2.0	---	8.0	14.0	20.0	26.0	24.0	25.0
10	18.0	13.0	5.0	3.0	3.0	5.0	9.0	14.0	20.0	26.0	25.0	23.0
11	18.0	13.0	6.0	2.0	3.0	6.0	9.0	15.0	20.0	24.0	24.0	23.0
12	19.0	14.0	6.0	3.0	4.0	7.0	10.0	15.0	20.0	25.0	22.0	24.0
13	16.0	13.0	6.0	2.0	4.0	7.0	12.0	15.0	21.0	25.0	23.0	22.0
14	17.0	13.0	6.0	3.0	3.0	8.0	14.0	13.0	21.0	24.0	23.0	22.0
15	18.0	12.0	5.0	3.0	3.0	8.0	12.0	14.0	19.0	25.0	---	22.0
16	16.0	11.0	6.0	3.0	---	8.0	12.0	16.0	18.0	25.0	24.0	22.0
17	16.0	10.0	6.0	3.0	4.0	7.0	14.0	18.0	18.0	25.0	22.0	22.0
18	19.0	10.0	6.0	3.0	4.0	8.0	12.0	16.0	20.0	26.0	22.0	23.0
19	18.0	11.0	6.0	3.0	4.0	7.0	14.0	18.0	20.0	24.0	25.0	22.0
20	18.0	12.0	6.0	2.0	3.0	6.0	14.0	18.0	19.0	24.0	26.0	20.0
21	19.0	13.0	6.0	2.0	4.0	6.0	12.0	18.0	21.0	24.0	23.0	21.0
22	17.0	10.0	5.0	2.0	4.0	6.0	14.0	18.0	20.0	24.0	22.0	20.0
23	16.0	8.0	6.0	3.0	---	6.0	12.0	18.0	20.0	23.0	24.0	20.0
24	16.0	6.0	6.0	3.0	---	7.0	14.0	16.0	21.0	23.0	---	20.0
25	16.0	6.0	5.0	4.0	5.0	6.0	14.0	17.0	23.0	23.0	---	19.0
26	15.0	7.0	5.0	4.0	7.0	6.0	13.0	16.0	23.0	24.0	---	19.0
27	14.0	6.0	4.0	2.0	6.0	6.0	13.0	14.0	23.0	24.0	23.0	18.0
28	12.0	7.0	4.0	2.0	7.0	8.0	12.0	16.0	23.0	24.0	22.0	19.0
29	13.0	8.0	4.0	2.0	---	8.0	12.0	15.0	23.0	25.0	22.0	19.0
30	12.0	8.0	4.0	1.0	---	7.0	12.0	15.0	23.0	22.0	22.0	19.0
31	12.0	---	4.0	1.0	---	7.0	---	16.0	---	23.0	22.0	---
AVG	16.5	11.0	6.0	3.0	3.5	7.0	11.0	15.0	19.5	24.5	23.0	21.5

01614500 CONOCOCHEAGUE CREEK AT FAIRVIEW, MD.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	202	3	1.6	1170	37	117	761	15	31
2	191	5	2.6	786	22	47	650	9	16
3	180	15	7.3	1650	104	491	598	6	9.7
4	169	13	5.6	2730	168	1220	617	4	6.7
5	155	7	2.9	1450	59	231	575	6	9.3
6	146	3	1.2	985	17	45	522	6	8.5
7	137	3	1.1	748	7	14	476	5	6.4
8	131	1	.35	604	11	18	450	5	6.1
9	127	1	.34	507	11	15	433	4	4.7
10	123	2	.66	466	11	14	433	2	2.3
11	125	3	1.0	1030	80	222	414	6	6.7
12	127	4	1.4	2430	171	1170	566	45	69
13	131	2	.71	3960	192	2050	1190	57	183
14	123	3	1.0	3020	39	318	924	20	50
15	125	6	2.0	2970	55	441	772	10	21
16	121	3	.98	2630	49	348	684	44	81
17	121	2	.65	1880	32	162	1750	139	701
18	123	2	.66	1520	21	86	2210	85	507
19	117	3	.95	1270	15	51	1700	38	174
20	119	10	3.2	1190	77	247	1400	19	72
21	133	12	4.3	1920	91	420	1180	17	54
22	602	65	106	1470	26	103	1680	51	231
23	758	85	174	1240	19	64	2990	110	888
24	383	24	25	1030	11	31	3720	117	1180
25	279	7	5.3	889	8	19	2480	50	335
26	234	6	3.8	796	6	13	1990	22	118
27	209	4	2.3	743	8	16	1600	19	82
28	185	3	1.5	695	8	15	1360	15	55
29	172	2	.93	643	7	12	1160	19	60
30	191	9	4.6	799	12	26	1010	18	49
31	856	80	185	--	--	--	910	8	20
TOTAL	6786	--	548.93	43191	--	8026	37205	--	5037.4

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	840	4	9.1	420	7	7.9	2550	40	275
2	800	10	22	370	6	6.0	2160	29	169
3	770	12	25	350	5	4.7	1930	25	130
4	1060	72	206	340	8	7.3	1800	21	102
5	3150	143	1220	430	8	9.3	1560	18	76
6	2520	59	401	552	9	13	1680	18	82
7	1870	19	96	635	11	19	1940	19	100
8	1460	17	67	544	8	12	1970	19	101
9	1200	18	58	685	9	17	1600	17	73
10	1100	15	45	550	9	13	1420	16	61
11	1060	10	29	490	8	11	1330	15	54
12	1000	6	16	490	7	9.3	1240	15	50
13	930	11	28	1770	87	903	1240	15	50
14	911	16	39	3730	86	1030	1270	15	51
15	905	12	29	1910	51	263	1180	10	32
16	790	7	15	1430	32	124	1170	7	22
17	700	9	17	1270	27	93	1050	9	26
18	640	7	12	1720	60	381	955	7	18
19	590	8	13	2970	220	1760	948	5	13
20	580	14	22	3510	60	569	1280	29	100
21	580	10	16	4260	125	1440	1240	32	107
22	580	11	17	4790	125	1620	1190	10	32
23	599	14	23	6970	226	4250	1160	7	22
24	617	10	17	4690	95	1200	1060	5	14
25	575	10	16	3240	56	490	951	4	10
26	630	20	34	2820	47	358	892	5	12
27	590	31	49	3210	75	650	842	5	11
28	470	21	27	3090	64	534	797	4	8.6
29	470	6	7.6	--	--	--	763	2	4.1
30	540	16	23	--	--	--	719	5	9.7
31	530	9	13	--	--	--	671	5	9.1
TOTAL	29057	--	2611.7	57240	--	15794.5	40558	--	1824.5

01614500 CONOCOCHEAGUE CREEK AT FAIRVIEW, MD.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	630	7	12	310	2	1.7	488	15	20
2	509	2	3.3	306	3	2.5	432	31	36
3	396	3	4.8	346	5	4.7	488	29	38
4	555	3	4.5	326	2	1.8	614	57	94
5	522	5	7.0	296	6	4.8	488	80	105
6	505	11	15	752	63	184	574	260	403
7	608	29	50	1390	97	364	568	160	245
8	530	23	48	1200	23	75	846	238	544
9	546	7	10	1140	15	45	601	78	127
10	499	5	8.1	919	18	45	470	40	51
11	469	13	16	780	17	36	414	25	28
12	450	8	9.7	694	26	49	385	62	64
13	440	6	7.1	995	47	126	377	66	67
14	426	7	8.1	1580	51	218	391	50	53
15	412	4	4.4	1220	30	99	1630	566	3240
16	400	3	3.2	1180	30	96	1040	170	477
17	394	6	6.4	1170	25	79	715	65	125
18	397	6	6.4	948	19	49	559	58	88
19	382	8	8.3	827	18	40	469	41	52
20	364	5	5.0	947	39	100	416	26	29
21	363	4	3.9	1360	30	110	386	25	26
22	354	6	5.7	988	22	59	366	29	29
23	347	3	2.8	794	20	43	333	24	22
24	337	3	2.7	696	21	39	310	24	20
25	327	5	4.4	653	16	28	292	15	12
26	324	4	3.5	668	33	60	270	13	9.5
27	317	4	3.4	562	20	30	260	11	7.7
28	319	4	3.4	506	14	19	247	10	6.7
29	334	3	2.7	475	15	19	247	11	7.3
30	337	5	4.5	506	22	30	250	9	6.1
31	--	--	--	577	23	36	--	--	--
TOTAL	13230	--	274.3	25111	--	2094.5	14926	--	6032.3

	JULY			AUGUST			SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	237	11	7.0	393	71	75	113	10	3.1
2	231	8	5.0	370	40	40	113	9	2.7
3	213	8	4.6	445	43	52	113	8	2.4
4	194	8	4.2	661	120	214	105	8	2.3
5	188	10	5.1	643	87	151	99	8	2.1
6	183	15	7.4	428	10	12	100	8	2.2
7	178	18	8.7	307	7	5.8	99	6	1.6
8	172	25	12	242	10	6.5	100	5	1.4
9	165	29	13	204	6	3.3	97	4	1.0
10	155	39	16	196	6	3.0	94	4	1.0
11	165	19	8.5	179	6	2.9	126	10	3.4
12	222	45	27	205	5	2.8	337	39	35
13	219	51	30	195	10	5.0	261	29	20
14	191	15	7.7	161	14	6.1	245	24	16
15	164	9	4.0	144	8	3.1	186	19	9.5
16	156	7	2.9	144	4	1.6	150	10	4.1
17	147	11	4.4	139	5	1.9	224	30	18
18	144	15	5.8	138	5	1.9	235	34	22
19	146	16	6.3	130	5	1.8	182	13	6.4
20	155	12	5.0	129	5	1.7	234	25	16
21	151	7	2.9	133	5	1.8	340	45	41
22	143	17	6.6	130	6	2.1	301	12	9.8
23	136	20	7.3	130	5	1.8	220	12	7.1
24	131	5	1.8	127	7	2.4	191	13	6.7
25	123	5	1.7	118	9	2.9	170	5	2.3
26	129	7	2.4	112	9	2.7	158	10	4.3
27	133	5	1.8	116	9	2.8	245	19	13
28	122	5	1.6	154	16	6.7	238	10	6.4
29	123	5	1.7	167	16	7.2	210	6	3.4
30	211	34	19	142	10	3.8	181	9	4.4
31	435	78	92	124	11	3.7	--	--	--
TOTAL	5467	--	323.4	6890	--	629.3	5471	--	268.6

TOTAL DISCHARGE FOR YEAR (CFS-DAYS) 285132
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR YEAR (TONS) 43465.43

01619000 ANTIETAM CREEK NEAR WAYNESBORO, PA.

LOCATION.--Lat 39°42'59", long 77°36'28", Washington County, Md., at highway bridge at Rocky Forge 100 feet downstream from gaging station, 0.4 mile downstream from Pennsylvania-Maryland State line, 0.7 mile downstream from confluence of west and east branches, 1.9 miles northeast of Leitersburg, Md., 2.5 miles southwest of Waynesboro, Pa., and 36.6 miles upstream from mouth.

DRAINAGE AREA.--93.5 sq mi.

PERIOD OF RECORD.--Chemical analyses: October 1968 to September 1971.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	DIS-CHARGE (CFS)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	BICAR-BONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	COLOR (PLAT-INUM-COBALT UNITS)
OCT.												
14...	42	40	20	211	20	8.6	.2	.075	240	207	34	3
SEP.												
16...	41	40	24	199	21	6.8	.2	.27	250	177	14	0

DATE	COLI-FORM (TEMPES-HOLD NUMBER)	DIS-SOLVED ALUM-INUM (AL) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)	TOTAL CHRO-MIUM (CR) (UG/L)	TUR-BID-ITY (JTU)	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)
OCT.											
14...	0	0	0	7	0	10	5	7	20	2.4	.04
SEP.											
16...	0	0	0	10	0	20	5	2	13	1.0	.05

DATE	CYANIDE (CN) (MG/L)	PHENOLS (UG/L)	DIS-SOLVED GROSS ALPHA AS U-NAT. (PC/L)	SUS-PENDED GROSS ALPHA AS U-NAT. (PC/L)	TOTAL ALPHA (PC/L)	DIS-SOLVED GROSS BETA AS CS-137 (PC/L)	SUS-PENDED GROSS BETA AS CS-137 (PC/L)	TOTAL BETA (PC/L)
OCT.								
14...	.00	5	<1.0	<.1	.6	3.9	1.1	5.0
SEP.								
16...	.00	8	<1.0	.1	.6	4.1	.6	4.7

ON-SITE DATA, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	TIME	DIS-CHARGE (CFS)	TEMPER-ATURE (DEG C)	DIS-SOLVED OXYGEN (MG/L)	PH (UNITS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	FECAL COLI-FORM (COL. PER 100 ML)
OCT.							
14...	1200	42	15.5	9.7	8.2	375	2000
NOV.							
17...	1400	107	7.5	11.6	8.0	265	220
DEC.							
07...	1537	67	3.0	14.0	8.5	320	86
JAN.							
04...	1340	197	4.0	12.4	7.9	315	1900
FEB.							
09...	1200	140	2.0	13.0	7.6	315	860
MAR.							
09...	1003	248	2.0	13.1	7.9	275	190
APR.							
05...	1101	127	8.0	15.8	8.7	324	22
MAY							
03...	1216	100	10.0	14.2	8.9	314	180
JUNE							
14...	1107	110	17.0	9.7	8.1	275	--
16...	1205	166	13.5	10.3	7.6	230	2700
JULY							
12...	1245	74	17.0	11.1	8.3	305	2400
AUG.							
16...	1245	46	17.5	9.3	6.9	400	1900
SEP.							
16...	1330	41	18.0	9.5	7.5	370	1500

01619500 ANTIETAM CREEK NEAR SHARPSBURG, MD.

LOCATION.--Lat 39°27'01", long 77°43'52", Washington County, temperature recorder at gaging station on left bank 400 ft downstream from Burnside Bridge, 1 mile southeast of Sharpsburg, and 4.0 miles upstream from mouth.

DRAINAGE AREA.--281 sq mi.

PERIOD OF RECORD.--Chemical analyses: August 1965 to September 1971.
Water temperatures: October 1962 to September 1971.

EXTREMES.--1970-71:
Water temperatures: Maximum, 24.0°C on several days in Aug. and Sept; minimum, 0.5°C Jan. 20, 21, Feb. 2, 3.

Period of record:
Water temperatures: Maximum, 28°C June 28, July 1-3, 1963, Aug. 21, 23, 24, 1968, June 28, 1969; freezing point on many days during winter period.

REMARKS.--Temperature records poor, probably because of friction in recorder. Chemical samples collected from Burnside Bridge.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	TOTAL IRON (FE) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)	TOTAL MAN-GANESE (MN) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)
OCT.											
20...	128	3.8	--	50	--	20	68	15	9.0	3.6	242
NOV.											
24...	266	9.0	140	--	20	--	62	13	6.0	3.1	197
DEC.											
09...	184	6.8	100	--	20	--	69	14	8.2	3.1	220
JAN.											
20...	300	7.7	120	--	20	--	69	15	7.2	2.9	220
FEB.											
08...	335	7.1	130	--	20	--	62	13	10	3.3	199
MAR.											
08...	825	7.0	500	--	40	--	54	11	6.4	3.2	168
APR.											
07...	450	4.3	100	--	20	--	62	13	6.8	3.1	194
MAY											
06...	322	3.6	160	--	60	--	62	13	7.2	3.3	200
JUNE											
16...	420	7.8	920	--	120	--	39	7.9	5.3	3.5	125
JULY											
14...	170	6.3	100	--	20	--	66	14	10	3.5	216
AUG.											
18...	152	6.0	100	--	20	--	70	14	12	3.5	214
SEP.											
23...	160	8.8	20	20	58	59	58	12	11	4.2	197

DATE	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRATE (NO3) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	COLOR (PLAT-INUM-COBALT UNITS)	ODOR (THRES-HOLD NUMBER)
OCT.											
20...	30	16	.2	14	.173	279	301	244	46	0	1
NOV.											
24...	30	13	.2	15	--	248	--	208	47	5	--
DEC.											
09...	30	16	.3	17	--	272	--	230	49	5	--
JAN.											
20...	31	15	.3	17	--	273	--	234	53	2	--
FEB.											
08...	28	20	.2	16	--	258	--	208	45	5	--
MAR.											
08...	28	14	.2	14	--	221	--	180	42	0	--
APR.											
07...	28	14	.3	14	--	240	--	208	49	2	--
MAY											
06...	27	14	.3	15	--	243	--	208	44	0	--
JUNE											
16...	24	9.1	.3	11	--	169	--	130	28	5	--
JULY											
14...	31	17	.3	20	--	274	--	222	45	0	--
AUG.											
18...	30	22	.3	16	--	287	--	232	43	7	--
SEP.											
23...	27	17	.3	14	.55	249	288	200	38	5	1

01619500 ANTIETAM CREEK NEAR SHARPSBURG, MD.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	DIS-SOLVED ALUM-INUM (AL) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)	TOTAL CHRO-MIUM (CR) (UG/L)	TUR-BID-ITY (JTU)	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)	CYANIDE (CN) (MG/L)
OCT.											
20...	0	0	4	0	20	0	4	8	1.5	.08	.00
NOV.											
24...	--	--	--	--	--	--	--	--	--	--	--
DEC.											
09...	--	--	--	--	--	--	--	--	--	--	--
JAN.											
20...	--	--	--	--	--	--	--	--	--	--	--
FEB.											
08...	--	--	--	--	--	--	--	--	--	--	--
MAR.											
08...	--	--	--	--	--	--	--	--	--	--	--
APR.											
07...	--	--	--	--	--	--	--	--	--	--	--
MAY											
06...	--	--	--	--	--	--	--	--	--	--	--
JUNE											
16...	--	--	--	--	--	--	--	--	--	--	--
JULY											
14...	--	--	--	--	--	--	--	--	--	--	--
AUG.											
18...	--	--	--	--	--	--	--	--	--	--	--
SEP.											
23...	200	0	9	15	150	0	2	30	.9	.07	.00

DATE	PHENOLS (UG/L)	DIS-SOLVED GROSS ALPHA AS U-NAT. (PC/L)	SUS-PENDED GROSS ALPHA AS U-NAT. (PC/L)	TOTAL ALPHA (PC/L)	DIS-SOLVED GROSS BETA AS CS-137 (PC/L)	SUS-PENDED GROSS BETA AS CS-137 (PC/L)	TOTAL BETA (PC/L)
OCT.							
20...	2	<1.1	<.1	.6	6.0	.9	6.9
NOV.							
24...	--	--	--	--	--	--	--
DEC.							
09...	--	--	--	--	--	--	--
JAN.							
20...	--	--	--	--	--	--	--
FEB.							
08...	--	--	--	--	--	--	--
MAR.							
08...	--	--	--	--	--	--	--
APR.							
07...	--	--	--	--	--	--	--
MAY							
06...	--	--	--	--	--	--	--
JUNE							
16...	--	--	--	--	--	--	--
JULY							
14...	--	--	--	--	--	--	--
AUG.							
18...	--	--	--	--	--	--	--
SEP.							
23...	1	3.0	.3	3.3	6.8	1.7	8.5

ON-SITE DATA, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	TIME	DIS-CHARGE (CFS)	TEMPER-ATURE (DEG C)	DIS-SOLVED OXYGEN (MG/L)	PH (UNITS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	FECAL COLI-FORM (COL. PER 100 ML)
OCT.							
20...	0853	128	11.5	8.7	8.0	440	190
NOV.							
24...	1015	266	3.0	12.0	7.7	430	130
DEC.							
09...	1330	184	4.0	13.1	8.2	465	120
JAN.							
20...	1140	326	.5	13.9	7.9	460	13
FEB.							
08...	1050	335	4.0	12.0	7.6	460	170
MAR.							
08...	1035	825	5.0	11.9	8.1	380	68
APR.							
07...	1035	450	6.0	13.4	8.1	430	620
MAY							
06...	1007	322	13.5	8.9	7.4	425	980
JUNE							
16...	1100	420	15.5	9.0	7.4	290	8000
JULY							
14...	1107	170	21.0	9.4	7.9	480	440
AUG.							
18...	1250	152	22.0	8.9	8.3	500	520
SEP.							
23...	1432	160	18.0	9.6	7.8	425	1300

01619500 ANTIETAM CREEK NEAR SHARPSBURG, MD.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971
(CONTINUOUS ETHYL ALCOHOL-ACTUATED THERMOGRAPH)

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	15.0	14.5	12.5	12.0	8.0	8.0	1.5	1.0	1.5	1.0	7.0	6.0
2	15.0	14.5	12.0	12.0	8.0	8.0	1.0	1.0	1.0	0.5	7.0	6.5
3	15.5	15.0	12.0	12.0	8.0	8.0	1.0	1.0	1.0	0.5	6.5	5.5
4	15.5	14.0	12.0	11.0	8.0	7.5	2.5	1.0	1.5	1.0	6.0	4.0
5	14.0	13.5	11.0	10.5	8.0	6.5	4.0	2.5	3.0	1.5	4.0	2.5
6	14.0	13.5	10.5	9.5	6.5	5.5	3.5	3.5	4.0	3.0	5.5	4.0
7	14.5	14.0	9.5	9.5	5.5	4.0	3.5	2.5	4.0	4.0	6.0	5.5
8	15.5	14.5	9.5	9.5	4.0	3.5	2.5	1.5	4.0	3.5	6.0	4.5
9	15.5	15.5	9.5	9.5	4.0	3.5	2.0	1.5	4.0	4.0	4.5	3.5
10	16.0	15.5	10.0	9.5	4.5	4.0	2.0	2.0	4.0	3.0	4.5	3.5
11	17.0	16.0	11.0	10.0	5.0	4.5	3.0	2.0	3.5	3.0	5.5	4.5
12	17.0	17.0	11.5	10.5	5.5	5.0	4.0	3.0	4.5	3.5	7.0	5.5
13	18.0	17.0	11.5	11.5	6.0	5.5	4.0	3.5	4.0	3.5	8.0	7.0
14	18.5	18.0	11.5	11.5	6.0	5.5	3.5	3.5	3.5	1.5	8.0	8.0
15	18.5	18.5	11.5	10.5	5.5	5.0	3.5	3.5	3.0	1.5	9.0	8.0
16	18.5	15.0	10.5	8.5	5.0	4.5	3.5	2.5	4.0	3.0	9.0	8.5
17	15.0	12.5	8.5	6.0	5.0	4.5	2.5	1.5	4.0	4.0	9.0	7.5
18	12.5	11.5	6.0	6.0	5.0	4.5	1.5	1.0	5.5	4.0	7.5	6.5
19	11.5	11.5	6.0	5.5	6.0	5.0	1.0	1.0	6.5	5.5	6.5	6.0
20	11.5	11.5	6.0	5.5	6.0	6.0	1.0	0.5	8.0	6.5	6.0	5.5
21	12.0	11.5	6.0	5.5	6.0	5.5	1.0	0.5	8.0	8.0	6.5	5.5
22	12.0	12.0	5.5	5.5	5.5	5.5	2.0	1.0	8.0	6.5	8.0	6.5
23	13.0	12.0	6.0	4.5	5.5	5.5	3.5	2.0	6.5	5.0	8.0	8.0
24	13.0	13.0	4.5	3.0	5.5	5.0	4.0	3.5	5.0	5.0	8.0	6.5
25	13.5	13.0	3.0	2.5	5.0	---	4.0	4.0	6.0	5.0	6.5	5.5
26	13.5	13.5	3.0	2.5	---	---	4.0	3.5	6.5	6.0	6.5	6.5
27	13.5	13.5	4.0	3.0	---	---	3.5	1.0	7.0	6.5	7.0	6.0
28	14.0	13.0	5.0	4.0	---	---	1.0	1.0	6.5	6.5	8.5	7.0
29	13.0	13.0	7.0	5.0	---	---	1.0	1.0	---	---	8.5	8.5
30	13.0	13.0	8.0	7.0	---	---	2.0	1.0	---	---	8.5	8.5
31	13.0	12.5	---	---	---	1.5	2.5	1.5	---	---	8.5	7.0
MONTH	18.5	11.5	12.5	2.5	8.0	1.5	4.0	0.5	8.0	0.5	9.0	2.5

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	9.0	8.0	---	---	16.5	15.5	22.0	21.5	22.0	22.0	21.5	21.0
2	9.0	9.0	11.5	11.0	16.5	16.5	22.0	22.0	22.0	22.0	21.0	20.5
3	9.0	8.0	11.0	11.0	18.0	16.5	22.0	21.0	22.0	22.0	21.5	20.5
4	9.0	8.5	12.0	11.0	19.0	18.0	21.0	21.0	22.0	22.0	22.5	21.5
5	9.0	9.0	13.5	12.0	19.0	19.0	21.0	20.5	22.0	20.5	23.5	22.5
6	---	---	13.5	13.5	19.5	18.5	21.5	21.0	21.0	20.5	24.0	23.0
7	---	---	13.5	13.5	19.5	19.0	22.0	21.5	21.0	20.5	24.0	23.5
8	---	---	13.5	13.0	19.5	18.5	22.0	21.5	23.0	21.0	24.0	23.0
9	---	---	14.0	13.0	19.5	19.0	22.0	22.0	23.5	23.0	24.0	23.5
10	---	---	15.0	13.5	19.0	18.5	23.5	22.0	24.0	23.0	23.5	23.0
11	---	---	15.5	14.0	19.0	18.5	23.5	20.5	24.0	23.0	23.5	23.0
12	---	---	---	---	19.0	19.0	20.5	20.0	23.0	22.5	23.0	21.5
13	---	---	---	---	19.0	18.0	21.0	20.5	22.5	21.5	21.5	21.5
14	---	---	---	---	18.0	18.0	21.5	21.0	22.5	21.5	21.5	21.0
15	---	---	---	---	18.0	17.0	21.5	21.0	23.0	22.5	21.0	20.5
16	---	---	---	---	17.0	15.5	23.0	21.5	23.0	23.0	21.0	21.0
17	---	---	---	---	15.5	15.5	23.0	21.5	23.0	22.5	21.0	20.0
18	---	---	---	---	16.5	15.5	23.0	21.5	23.5	22.5	20.0	19.0
19	---	---	---	---	18.0	16.5	21.5	21.5	24.0	23.5	19.0	19.0
20	---	---	---	---	19.5	18.0	21.5	21.0	24.0	23.5	19.5	19.0
21	---	---	---	---	20.0	19.5	21.0	20.0	23.5	23.5	19.5	19.5
22	---	---	---	---	19.5	19.5	21.5	20.5	23.5	23.5	19.5	18.0
23	---	---	---	---	19.5	19.5	23.0	21.0	23.5	22.5	18.0	18.0
24	---	---	---	---	20.0	19.5	23.5	23.0	22.5	21.0	18.0	16.5
25	---	---	---	---	20.5	20.0	23.0	23.0	21.0	20.0	16.5	15.5
26	---	---	---	---	21.0	20.5	23.5	23.0	23.0	21.0	15.5	15.5
27	---	---	16.5	16.0	21.5	21.0	23.5	22.0	23.0	21.5	15.5	15.0
28	---	---	16.0	15.0	21.5	21.5	23.0	22.0	21.5	21.5	16.5	15.0
29	---	---	15.0	15.0	21.5	21.0	23.0	22.0	21.5	21.5	18.0	16.5
30	---	---	15.0	14.5	21.5	21.5	23.0	22.0	22.0	21.0	18.0	18.0
31	---	---	16.5	14.5	---	---	22.0	22.0	22.0	21.5	---	---
MONTH	---	---	---	---	21.5	15.5	23.5	20.0	24.0	20.0	24.0	15.0

01638500 POTOMAC RIVER AT POINT OF ROCKS, MD.

LOCATION.--Lat 39°16'25", long 77°32'35", Frederick County, at gaging station at bridge on U. S. Highway 15 at Point of Rocks, 0.3 mile downstream from Catoctin Creek (Virginia), 6 miles upstream from Monocacy River and at mile 159.5.

DRAINAGE AREA.--9,651 sq mi.

PERIOD OF RECORD.--Chemical analyses: December 1964 to September 1971.
Water temperatures: October 1960 to September 1971.
Sediment records: October 1960 to September 1971.

EXTREMES.--1970-71:
Water temperatures: Maximum, 28°C Aug. 19, Sept. 5, 6, 8, 9; minimum freezing point on several days during winter period.
Sediment concentrations: Maximum daily, 758 mg/l Feb. 15; minimum daily, 2 mg/l Dec. 8.
Sediment discharge: Maximum daily, 150,000 tons Feb. 15; minimum daily, 26 tons Dec. 8.

Period of record:
Water temperatures: Maximum, 33.5°C Aug. 24, 1964; minimum, freezing point on many days during winter period.
Sediment concentrations: Maximum daily, 2,350 mg/l Apr. 3, 1970; minimum daily, 1 mg/l on many days.
Sediment discharge: Maximum daily, 523,000 tons Apr. 3, 1970; minimum daily, 2 tons on several days during September 1964, July to September 1966, November 1967, January and December 1968, and January 1969.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	TOTAL IRON (FE) (UG/L)	TOTAL MAN-GANESE (MN) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)
OCT.									
01...	2000	2.3	70	80	48	12	21	2.9	128
02...	1970	--	--	--	--	--	--	--	--
NOV.									
01...	2840	5.9	570	150	57	11	19	3.5	128
02...	11000	--	--	--	--	--	--	--	--
DEC.									
01...	6220	7.1	20	20	37	7.6	6.0	1.9	99
03...	5640	--	--	--	--	--	--	--	--
05...	5140	5.4	0	0	57	11	20	3.4	128
JAN.									
03...	8200	7.0	270	60	32	6.9	5.0	1.7	78
FEB.									
01...	9000	6.7	320	100	35	7.6	8.5	1.8	83
11...	10000	--	--	--	--	--	--	--	--
JUNE									
03...	25200	7.2	500	70	22	3.9	3.5	1.8	67
AUG.									
06...	14500	5.5	300	100	36	6.2	13	2.8	94

DATE	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)
OCT.									
01...	75	24	.2	2.4	251	170	65	434	8.1
02...	--	--	--	--	--	--	--	--	--
NOV.									
01...	73	32	.2	5.8	270	187	82	458	8.0
02...	--	--	--	--	--	--	--	--	--
DEC.									
01...	33	11	.1	5.3	158	124	43	273	7.8
03...	--	--	--	--	--	--	--	--	--
05...	82	32	.3	5.4	280	187	82	481	8.0
JAN.									
03...	37	9.2	.2	6.9	144	109	45	246	8.1
FEB.									
01...	45	16	.2	6.7	168	119	51	285	8.0
11...	--	--	--	--	--	--	--	--	--
JUNE									
03...	21	4.1	.1	.0	97	71	16	164	7.6
AUG.									
06...	48	16	.2	3.6	177	120	43	308	7.6

01638500 POTOMAC RIVER AT POINT OF ROCKS, MD.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	COLOR (PLATINUM-COBALT UNITS)	TEMPERATURE (DEG C)	TOTAL FILTRABLE RESIDUE (MG/L)	TOTAL NON-FILTRABLE RESIDUE (MG/L)	DISSOLVED GROSS ALPHA AS U-NAT. (PC/L)	SUSPENDED GROSS ALPHA AS U-NAT. (PC/L)	DISSOLVED GROSS BETA AS CS-137 (PC/L)	SUSPENDED GROSS BETA AS CS-137 (PC/L)
OCT.								
01...	5	--	--	--	--	--	--	--
02...	--	--	320	17	<1.1	.2	5.2	.9
NOV.								
01...	5	16.0	--	--	--	--	--	--
02...	--	--	310	52	1.7	1.0	6.2	3.8
DEC.								
01...	2	7.0	--	--	--	--	--	--
03...	--	--	200	7	<.7	<.1	2.5	.4
05...	5	--	--	--	--	--	--	--
JAN.								
03...	5	1.0	--	--	--	--	--	--
FEB.								
01...	3	--	--	--	--	--	--	--
11...	--	--	180	6	.6	<.1	4.4	1.0
JUNE								
03...	0	--	--	--	--	--	--	--
AUG.								
06...	1	24.0	--	--	--	--	--	--

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971
(ONCE-DAILY MEASUREMENT AT 1700)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	16.0	---	---	1.0	---	9.0	---	21.0	---	---	22.0
2	---	16.0	8.0	---	0.0	7.C	9.0	17.0	---	---	---	21.0
3	---	15.0	7.0	1.0	1.0	6.C	9.0	17.0	21.0	25.0	---	25.0
4	---	13.0	8.0	---	---	7.0	9.0	17.0	---	---	---	26.C
5	---	13.0	8.0	---	---	---	9.0	17.0	---	---	---	28.0
6	---	13.0	7.0	---	4.0	7.0	---	19.0	---	---	24.0	28.C
7	---	13.0	6.0	---	3.0	7.C	9.0	19.0	22.0	---	---	27.0
8	---	11.0	6.0	2.0	3.0	6.0	10.0	19.0	---	26.C	---	28.0
9	---	11.0	10.0	1.0	3.0	6.0	10.0	17.0	---	---	---	28.0
10	---	---	6.0	1.0	2.0	6.C	---	19.0	---	---	26.0	26.0
11	---	13.0	6.0	2.0	---	8.0	11.0	19.0	---	---	26.0	25.0
12	20.0	---	6.0	4.0	---	8.0	12.0	19.0	---	---	25.0	24.0
13	20.0	---	6.0	4.0	---	7.0	12.0	19.0	---	---	26.0	24.0
14	20.0	13.0	6.0	---	2.0	8.C	13.0	19.0	---	---	26.0	23.0
15	21.0	---	7.0	---	---	8.0	13.0	19.0	23.0	---	27.0	24.0
16	20.0	11.0	8.0	---	3.0	7.C	13.0	19.0	23.0	---	26.0	23.0
17	20.0	11.0	---	---	4.0	7.0	15.0	---	23.0	---	27.0	23.0
18	21.0	11.0	7.0	---	7.0	8.0	---	19.0	23.0	---	26.0	23.0
19	20.0	11.0	---	1.0	5.0	8.0	---	19.0	---	---	28.0	23.0
20	20.0	11.0	7.0	2.0	5.0	8.0	16.0	19.0	---	---	27.0	23.0
21	20.0	---	7.0	1.0	6.0	7.C	16.C	20.0	---	---	27.0	23.0
22	20.0	11.0	7.0	3.0	5.0	8.0	16.0	20.0	23.0	---	25.0	21.0
23	20.0	11.0	7.0	3.0	6.0	6.C	---	21.0	24.0	---	26.0	20.0
24	17.0	9.0	7.0	3.0	---	8.C	---	21.0	---	---	25.0	---
25	---	---	6.0	3.0	6.0	8.0	16.0	21.0	21.0	---	26.0	21.0
26	17.0	8.0	6.0	---	6.0	8.C	15.0	---	---	---	24.0	18.0
27	16.0	8.0	4.0	1.0	7.0	8.0	16.0	---	24.0	---	23.0	19.0
28	16.0	9.0	6.0	0.0	---	8.C	16.0	---	---	---	---	21.0
29	15.0	9.0	6.0	---	---	8.0	16.0	---	---	---	26.0	21.0
30	16.0	9.0	---	---	---	8.0	16.0	---	---	---	27.0	26.0
31	16.0	---	---	0.0	---	8.C	---	---	---	---	25.0	---
AVG	---	---	6.5	---	---	7.5	13.0	---	---	---	---	23.5

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	TIME	TEMPERATURE (DEG C)	DISCHARGE (CFS)	SUSPENDED SEDIMENT (MG/L)	SUSPENDED SEDIMENT DISCHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .002 MM	SUS. SED. FALL DIAM. % FINER THAN .004 MM	SUS. SED. FALL DIAM. % FINER THAN .008 MM	SUS. SED. FALL DIAM. % FINER THAN .016 MM	SUS. SED. FALL DIAM. % FINER THAN .031 MM	SUS. SED. FALL DIAM. % FINER THAN .062 MM	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM	SUS. SED. SIEVE DIAM. % FINER THAN .250 MM
NOV.													
05...	1740	13.0	19740	82	4370	--	--	--	--	--	93	100	
DEC.													
25...	1145	6.0	54600	275	40500	39	56	70	84	95	98	100	
FEB.													
25...	1715	6.0	54300	162	23800	38	55	70	84	92	96	100	

01638500 POTOMAC RIVER AT POINT OF ROCKS, MD.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	2030	49	269	2950	47	374	6190	4	67
2	1970	51	271	11000	119	3630	5960	3	48
3	1880	50	254	13400	83	3000	5640	8	122
4	1660	48	215	17000	78	3580	5310	9	129
5	1590	42	180	19400	90	4710	5160	8	111
6	1520	39	160	17400	60	2820	5130	8	111
7	1430	39	151	15100	51	2080	4920	3	40
8	1390	54	203	13100	61	2160	4840	2	26
9	1350	91	332	11200	72	2180	4670	3	38
10	1300	28	98	9480	49	1250	4500	5	61
11	1220	23	76	8800	32	760	4230	3	34
12	1270	29	99	12700	155	5550	4350	3	35
13	1410	21	80	29700	542	45600	4570	3	37
14	1660	46	206	46000	673	84100	6250	7	118
15	1750	43	203	32100	225	20300	7790	68	1430
16	1700	18	83	26500	105	7510	7630	125	2580
17	1620	19	83	22500	52	3160	9160	171	4230
18	1600	17	73	17400	48	2260	14800	435	17400
19	1510	39	159	14100	30	1140	16000	162	7000
20	1390	45	169	12200	22	725	14000	35	1320
21	1480	46	184	12000	23	745	12000	20	648
22	1810	47	230	12400	23	770	12600	150	5100
23	1650	65	290	11200	16	484	22500	88	4530
24	1700	53	243	10100	9	245	58900	72	12000
25	2670	71	512	9170	6	149	54600	247	36400
26	3060	87	719	8230	4	89	38700	123	13100
27	2570	70	486	7540	4	81	28700	70	5420
28	2380	53	341	6830	16	295	21200	35	2000
29	2460	58	385	6510	8	141	16300	25	1100
30	2500	50	338	6370	4	69	13900	28	1050
31	2540	45	309	--	--	--	11800	17	542
TOTAL	56070	--	7401	442380	--	199957	432300	--	116827

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	10000	15	405	9000	13	316	35500	50	4790
2	8600	15	348	8800	6	143	30700	45	3730
3	8200	23	509	7500	5	101	26400	60	4280
4	8600	52	1210	6800	5	92	24300	145	9510
5	15000	138	5960	7200	6	117	22500	85	5160
6	36800	258	25200	8570	9	208	21700	25	1460
7	46800	99	12500	10100	12	327	21500	28	1630
8	36400	70	6880	15700	223	9930	24800	70	4690
9	26900	45	3270	14200	360	13800	29600	95	7590
10	21300	25	1440	11200	430	13000	25900	57	3990
11	17300	11	514	10000	400	10800	21700	48	2810
12	15100	12	489	9650	245	6380	19100	40	2060
13	14000	10	378	13000	150	5270	17200	35	1630
14	15100	12	489	35200	382	43800	16400	25	1110
15	15700	15	636	73000	758	150000	17100	28	1290
16	18700	88	4670	44300	330	40500	18000	25	1220
17	22900	78	4820	29900	145	11900	18300	23	1140
18	18400	30	1490	23900	75	4840	18000	18	875
19	15500	20	837	22800	55	3390	16400	21	930
20	13500	25	911	30100	100	8240	15200	37	1520
21	12700	60	2060	40200	171	18700	14900	25	1010
22	11000	50	1490	59700	110	17700	14900	30	1210
23	10800	15	437	72400	152	30300	13900	25	938
24	10900	40	1180	83200	240	53900	13300	20	718
25	11400	130	4000	60700	182	30300	12200	10	329
26	12200	120	3950	42400	103	11900	11600	12	376
27	11800	40	1270	35500	70	6710	10800	8	233
28	10800	75	2190	35300	75	7150	10300	9	250
29	10000	45	1220	--	--	--	9930	6	161
30	9000	22	535	--	--	--	9540	10	258
31	9200	35	869	--	--	--	9520	9	231
TOTAL	504600	--	92157	820320	--	499814	571190	--	67129

01638500 POTOMAC RIVER AT POINT OF ROCKS, MD.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	9590	8	207	5240	70	990	73800	390	77300
2	9280	5	125	5250	130	1840	44700	178	22600
3	8850	5	119	5140	160	2220	27400	145	10700
4	8470	18	412	5270	165	2350	21400	110	6360
5	8150	12	264	5170	170	2370	16900	80	3650
6	7860	10	212	5110	240	3310	14700	60	2380
7	8720	16	377	7320	407	8450	13100	62	2250
8	10400	30	842	14400	590	22700	12900	110	3830
9	12900	108	3760	18200	245	11900	12600	90	3060
10	14100	85	3240	19900	150	8060	11400	65	2000
11	15400	40	1660	16100	120	5220	9830	50	1330
12	16500	17	757	12800	140	4840	8460	35	799
13	15300	15	620	11500	70	2170	7960	40	860
14	13500	17	620	13700	33	1220	8040	55	1190
15	12100	12	392	21500	35	2030	8570	119	2750
16	11000	12	356	20400	72	3970	11100	349	10500
17	10100	30	818	19500	95	5000	11100	90	2700
18	9480	30	768	18600	62	3110	10300	50	1390
19	8920	25	602	17000	48	2200	9140	50	1230
20	8420	67	1520	14800	60	2400	8150	35	770
21	8010	30	649	16800	72	3270	7210	25	487
22	7420	11	220	23300	62	3900	6740	28	510
23	6990	15	283	22500	120	7290	6290	42	713
24	6750	20	365	16300	24	1060	6070	45	738
25	6490	25	438	13100	15	531	6240	45	758
26	6250	35	591	11700	17	537	5840	20	315
27	6100	67	1100	10100	20	545	5550	25	375
28	5740	105	1630	8680	25	586	4930	24	319
29	5600	118	1780	7810	30	633	4530	29	355
30	5380	87	1260	9200	28	696	4210	31	352
31	--	--	--	33400	285	32000	--	--	--
TOTAL	283770	--	25987	429790	--	147398	399160	--	162571

	JULY			AUGUST			SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	3980	30	322	2850	40	308	3760	266	3880
2	3990	50	539	4720	80	1020	3080	146	1390
3	4030	60	653	5670	90	1380	2220	35	210
4	4130	70	781	7890	90	1920	2160	30	175
5	4080	45	496	11600	130	4070	2080	32	180
6	3520	36	342	14600	105	4140	1910	30	155
7	3270	28	247	13700	60	2220	1820	32	157
8	2960	50	400	9060	35	856	1810	36	176
9	2930	50	396	6500	30	527	2010	35	190
10	3130	41	346	5190	30	420	1990	30	161
11	2800	33	249	4410	30	357	2370	39	265
12	2740	33	244	4640	31	388	6540	106	1870
13	2930	44	348	4260	23	265	5630	87	1320
14	3400	65	597	3630	22	216	8560	82	1900
15	3050	48	395	3240	20	175	11900	75	2410
16	2840	39	299	3130	19	161	11100	46	1380
17	2610	35	247	2990	16	129	11400	56	1720
18	2560	28	194	2920	22	173	9190	42	1040
19	2510	28	190	2930	22	174	7370	32	637
20	2420	26	170	3050	21	173	6720	30	544
21	2360	25	159	2750	23	171	7740	36	752
22	2260	22	134	2510	22	149	8810	38	904
23	2210	25	149	2480	30	201	8950	33	797
24	2160	22	128	2330	22	138	8150	29	638
25	2240	41	248	2240	19	115	6810	24	441
26	2230	37	223	2170	20	117	5920	20	320
27	2250	32	194	2490	36	242	5300	20	286
28	2140	30	173	2650	25	179	4880	20	264
29	2280	64	394	2440	21	138	4700	25	317
30	2800	60	454	2370	22	141	4790	18	233
31	3090	65	542	2420	25	163	--	--	--
TOTAL	89900	--	10253	143830	--	20826	169670	--	24712

TOTAL DISCHARGE FOR YEAR (CFS-DAYS) 4342980
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR YEAR (TONS) 1375032

01639000 MONOCACY RIVER AT BRIDGEPORT, MD.

LOCATION.--Lat 39°40'43", long 77°14'06", Frederick County, at bridge on Maryland State Highway 97, 60 feet upstream from gaging station at Bridgeport, 0.9 mile upstream from Cattail Branch, 3.4 miles northwest of Taneytown, 4.8 miles downstream from confluence of Rock and Marsh Creeks at Pennsylvania-Maryland State line, and 49 miles upstream from mouth.

DRAINAGE AREA.--173 sq mi.

PERIOD OF RECORD.--Chemical analyses: April 1948 to June 1951, July 1969 to September 1971.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	DIS-CHARGE (CFS)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	BICAR-BONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	COLOR (PLAT-INUM-COBALT UNITS)
OCT.												
14...	6.5	20	8	114	32	17	.2	.173	182	114	20	7
SEP.												
16...	20	90	54	92	28	14	.3	.60	169	98	23	10

DATE	COLOR (THRES-HOLD NUMBER)	DIS-SOLVED ALUM-INUM (AL) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)	TOTAL CHRO-MIUM (CR) (UG/L)	TUR-BID-ITY (JTU)	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)
OCT.											
14...	0	0	0	8	C	10	C	7	12	1.7	.06
SEP.											
16...	0	100	0	8	C	4	C	7	18	.9	.06

DATE	CYANIDE (CN) (MG/L)	PHENOLS (UG/L)	DIS-SOLVED GROSS ALPHA AS U-NAT. (PC/L)	SUS-PENDED GROSS ALPHA AS U-NAT. (PC/L)	TOTAL ALPHA (PC/L)	DIS-SOLVED GROSS BETA AS CS-137 (PC/L)	SUS-PENDED GROSS BETA AS CS-137 (PC/L)	TOTAL BETA (PC/L)
OCT.								
14...	.00	9	<.7	5.5	5.8	7.3	6.5	14
SEP.								
16...	.00	6	<.4	.3	.5	9.1	1.3	10

ON-SITE DATA, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	TIME	DIS-CHARGE (CFS)	TEMPER-ATURE (DEG C)	DIS-SOLVED OXYGEN (MG/L)	PH (UNITS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	FECAL COLI-FORM (COL. PER 100 ML)
OCT.							
14...	0954	6.5	17.5	6.9	7.7	275	84
NOV.							
17...	1000	254	6.0	11.1	7.3	215	300
DEC.							
07...	1148	80	1.0	13.2	7.5	240	29
JAN.							
04...	1207	136	.0	13.4	7.1	215	92
FEB.							
09...	0925	1130	.0	13.3	6.8	187	4700
MAR.							
09...	0839	305	.0	13.7	7.0	165	100
APR.							
05...	0943	76	7.5	12.3	8.5	195	10
MAY							
03...	1055	88	12.0	10.4	8.3	220	52
JUNE							
14...	1007	45	21.5	6.3	7.4	205	230
JULY							
12...	1115	19	20.0	6.3	7.4	225	440
AUG.							
16...	1117	12	22.0	7.8	7.5	255	140
SEP.							
16...	1110	20	22.0	6.0	7.0	265	290

01643020 MONOCACY RIVER AT REICH'S FORD BRIDGE, NEAR FREDERICK, MD.
(Formerly published as 01643000 Monocacy River at Jug Bridge, near Frederick, Md.)

LOCATION.--Lat 39°23'16", long 77°22'40", Frederick County, at Reich's Ford Bridge, 1 mile downstream from U. S. Highway 40, 1.2 miles downstream from gaging station, 2 miles southeast of Frederick, and 16.6 miles upstream from mouth.

DRAINAGE AREA.--817 sq mi, upstream from gaging station.

PERIOD OF RECORD.--Chemical analyses: December 1964 to September 1971.
Water temperatures: October 1960 to September 1971.
Sediment records: October 1960 to September 1971.

EXTREMES.--1970-71:
Water temperatures: Maximum, 29.0°C July 8; minimum, freezing point Jan. 20, 27, 31, Feb. 9, 10, and probably several other days during period of missing record.
Sediment concentrations: Maximum daily, 1,100 mg/l Feb. 14; minimum daily, 6 mg/l Jan. 13, 14.
Sediment discharge: Maximum daily, 34,500 tons Feb. 14; minimum daily, 2.90 tons Oct. 10.

Period of record:
Water temperatures: Maximum, 30.5°C July 2, 12-13, 26 Aug. 27, 1966; minimum, freezing point on many days during winter period.
Sediment concentrations: Maximum daily, 2,000 mg/l July 10, 1970; minimum daily, 1 mg/l on many days.
Sediment discharge: Maximum daily, 67,900 tons July 10, 1970; minimum daily, less than 0.50 ton on many days.

REMARKS.--No appreciable inflow between sampling point and gaging station during periods of heavy local runoff.
Records of discharge are given for station 01643000 Monocacy River at Jug Bridge, near Frederick, Md.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	TOTAL IRON (FE) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)	TOTAL MAN-GANESE (MN) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)
OCT.											
01...	139	4.6	70	--	20	--	25	6.2	8.6	3.6	85
20...	127	--	--	50	--	40	--	--	--	--	130
NOV.											
02...	506	6.6	190	--	20	--	28	6.5	7.4	4.2	78
JAN.											
04...	1110	8.0	--	--	--	--	22	5.0	12	1.8	56
MAR.											
08...	2840	7.6	220	--	20	--	18	4.8	5.4	2.0	42
APR.											
07...	1120	2.7	160	--	20	--	23	4.8	6.0	2.2	62
MAY											
06...	436	1.8	250	--	80	--	28	5.4	7.1	2.0	84
JUNE											
16...	889	8.3	860	--	220	--	21	4.4	4.9	3.2	57
JULY											
14...	220	4.6	140	--	60	--	33	5.8	7.0	2.7	100
AUG.											
18...	264	5.0	140	--	40	--	32	5.1	5.9	3.6	94
SEP.											
28...	420	8.8	--	20	--	41	33	6.1	7.1	3.0	97

DATE	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRATE (NO3) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	COLOR (PLAT-INUM-COBALT UNITS)	COLOR (THRES-HOLD NUMBER)
OCT.											
01...	16	15	.3	4.8	--	126	--	88	19	5	--
20...	21	15	.1	--	.144	--	180	130	23	5	1
NOV.											
02...	29	13	.2	6.3	--	139	--	97	33	15	--
JAN.											
04...	21	20	.1	12	--	130	--	76	30	3	--
MAR.											
08...	24	10	.1	8.1	--	101	--	65	30	15	--
APR.											
07...	18	12	.2	7.7	--	108	--	77	26	5	--
MAY											
06...	17	12	.1	8.0	--	122	--	92	23	0	--
JUNE											
16...	18	7.8	.2	8.8	--	105	--	71	24	9	--
JULY											
14...	17	12	.2	7.6	--	140	--	107	25	15	--
AUG.											
18...	17	13	.1	10	--	138	--	101	24	10	--
SEP.											
28...	21	12	.2	12	.35	151	153	110	30	5	0

01643020 MONOCACY RIVER AT REICH'S FORD BRIDGE, NEAR FREDERICK, MD.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	PHENOLS (UG/L)	DIS-SOLVED GROSS ALPHA AS U-NAT. (PC/L)	SUS-PENDED GROSS ALPHA AS U-NAT. (PC/L)	TOTAL ALPHA (PC/L)	DIS-SOLVED GROSS BETA AS CS-137 (PC/L)	SUS-PENDED GROSS BETA AS CS-137 (PC/L)	TOTAL BETA (PC/L)	TEMPER-ATURE (DEG C)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)
OCT.										
01...	--	--	--	--	--	--	--	18.0	230	7.8
20...	2	1.0	.2	1.2	6.2	1.5	7.7	--	--	--
NOV.										
02...	--	--	--	--	--	--	--	13.0	241	7.8
JAN.										
04...	--	--	--	--	--	--	--	2.0	222	7.9
MAR.										
08...	--	--	--	--	--	--	--	--	--	--
APR.										
07...	--	--	--	--	--	--	--	--	--	--
MAY										
06...	--	--	--	--	--	--	--	--	--	--
JUNE										
16...	--	--	--	--	--	--	--	--	--	--
JULY										
14...	--	--	--	--	--	--	--	--	--	--
AUG.										
18...	--	--	--	--	--	--	--	--	--	--
SEP.										
28...	0	.9	.6	.9	5.8	2.3	8.1	--	--	--

DATE	DIS-SOLVED ALUM-INUM (AL) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)	TOTAL CHRO-MIUM (CR) (UG/L)	TUR-BID-ITY (JTU)	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)	CYANIDE (CN) (MG/L)
OCT.											
01...	--	--	--	--	--	--	--	--	--	--	--
20...	0	0	9	0	10	0	8	15	3.4	.10	.00
NOV.											
02...	--	--	--	--	--	--	--	--	--	--	--
JAN.											
04...	--	--	--	--	--	--	--	--	--	--	--
MAR.											
08...	--	--	--	--	--	--	--	--	--	--	--
APR.											
07...	--	--	--	--	--	--	--	--	--	--	--
MAY											
06...	--	--	--	--	--	--	--	--	--	--	--
JUNE											
16...	--	--	--	--	--	--	--	--	--	--	--
JULY											
14...	--	--	--	--	--	--	--	--	--	--	--
AUG.											
18...	--	--	--	--	--	--	--	--	--	--	--
SEP.											
28...	100	1	1	12	140	0	20	37	1.1	.06	.00

ON-SITE DATA, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	TIME	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	DIS-SOLVED OXYGEN (MG/L)	PH (UNITS)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	FECAL COLI-FORM (COL. PER 100 ML)
OCT.							
20...	1322	127	13.0	8.7	7.6	280	817000
NOV.							
24...	1308	762	3.0	12.0	7.4	215	--
30...	1000	555	6.5	11.6	7.4	225	9
DEC.							
22...	0939	1190	3.0	12.0	7.0	210	3000
JAN.							
20...	1409	650	.0	14.0	7.4	250	0
FEB.							
08...	1323	5180	.0	12.6	7.0	190	6400
MAR.							
08...	1305	2840	3.0	12.4	7.4	175	190
APR.							
07...	1300	1120	7.0	13.0	7.9	196	1200
MAY							
06...	1315	436	11.5	8.6	7.7	245	1500
JUNE							
16...	1436	889	17.5	8.0	7.2	175	15000
JULY							
14...	1410	220	25.0	8.0	7.9	245	24000
AUG.							
18...	1535	264	23.5	7.5	7.6	235	500
SEP.							
28...	1350	420	17.5	8.5	7.5	270	480

01643020 MONONACY RIVER AT REICH'S FORD BRIDGE, NEAR FREDERICK, MD,--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971
(ONCE-DAILY MEASUREMENT AT 1800)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.0	---	---	---	---	---	10.0	15.0	19.0	26.0	25.0	22.0
2	18.0	11.0	---	---	---	---	9.0	14.0	19.0	26.0	24.0	22.0
3	16.0	11.0	---	1.0	---	4.0	9.0	11.0	20.0	---	24.0	24.0
4	17.0	11.0	7.0	2.0	---	2.0	13.0	15.0	22.0	---	20.0	---
5	15.0	10.0	6.0	---	---	---	12.0	16.0	23.0	---	21.0	25.0
6	18.0	11.0	3.0	1.0	3.0	4.0	---	11.5	24.0	25.0	23.0	27.0
7	16.0	11.0	4.0	1.0	---	5.0	11.0	15.0	23.0	27.0	24.0	27.0
8	18.0	10.0	3.0	---	2.0	5.0	10.0	15.0	24.0	29.0	25.0	26.0
9	19.0	11.0	---	1.0	0.0	4.0	14.0	15.0	24.0	27.0	26.0	27.0
10	18.0	11.0	---	1.0	0.0	4.0	---	18.0	24.0	28.0	27.0	27.0
11	18.0	13.0	4.0	2.0	---	---	13.0	19.0	---	21.0	24.0	24.0
12	20.0	14.0	4.0	3.0	4.0	8.0	15.0	---	24.0	25.0	25.0	24.0
13	20.0	14.0	5.0	---	3.0	8.0	15.0	15.0	23.0	26.0	25.0	23.0
14	20.0	---	5.0	3.0	---	8.0	15.0	16.0	23.0	26.0	25.0	22.0
15	20.0	---	5.0	3.0	2.0	9.0	14.0	15.0	19.0	26.0	25.0	---
16	15.0	10.0	3.0	1.0	3.0	11.0	15.0	15.0	19.0	27.0	---	22.0
17	14.0	11.0	---	1.0	2.0	9.0	15.0	15.0	22.0	27.0	25.0	22.0
18	14.0	11.0	---	1.0	4.0	9.0	17.0	19.0	23.0	25.0	25.0	22.0
19	15.0	11.0	7.0	1.0	4.0	6.0	17.0	20.0	23.0	25.0	25.0	---
20	13.0	10.0	7.0	0.0	---	5.0	17.0	21.0	---	25.0	25.0	22.0
21	14.0	7.0	---	---	4.0	6.0	15.0	21.0	24.0	25.0	25.0	21.0
22	14.0	8.0	4.0	---	3.0	8.0	14.0	20.0	25.0	26.0	---	20.0
23	15.0	6.0	3.0	1.0	4.0	6.0	14.0	20.0	25.0	26.0	24.0	---
24	15.0	4.0	3.0	1.0	4.0	5.0	---	18.0	27.0	---	25.0	---
25	16.0	4.0	4.0	3.0	6.0	6.0	---	18.0	26.0	25.0	24.0	18.0
26	16.0	3.0	---	2.0	7.0	6.0	13.0	20.0	---	27.0	24.0	15.0
27	14.0	5.0	2.0	0.0	8.0	9.0	15.0	18.0	26.0	24.0	---	17.0
28	13.0	5.0	3.0	---	---	11.0	15.0	17.0	28.0	26.0	---	19.0
29	13.0	---	1.0	---	---	10.0	12.0	17.0	25.0	---	---	20.0
30	13.0	6.5	1.0	---	---	10.0	13.0	---	27.0	22.0	---	---
31	13.0	---	2.0	0.0	---	---	---	18.0	---	24.0	---	---
AVG	16.0	9.0	---	---	---	7.0	13.5	17.0	23.5	25.5	---	22.5

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	TIME	TEMPERATURE (DEG C)	DISCHARGE (CFS)	SUSPENDED SEDIMENT (MG/L)	SUSPENDED SEDIMENT DISCHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .002 MM	SUS. SED. FALL DIAM. % FINER THAN .004 MM
NOV.							
16...	0650	10.0	3350	154	1390	37	50
21...	1945	7.0	3220	223	1940	45	59
DEC.							
24...	1100	3.0	6650	148	2660	37	59
JAN.							
06...	1000	1.0	4830	115	1500	38	51
FEB.							
09...	1800	.0	3684	440	4380	39	56
19...	1700	4.0	3570	260	2510	35	53
23...	1630	4.0	9650	236	6150	26	37
JUNE							
15...	1700	19.0	2060	1110	6170	--	64
AUG.							
04...	1930	20.0	2740	773	5720	--	58

DATE	SUS. SED. FALL DIAM. % FINER THAN .008 MM	SUS. SED. FALL DIAM. % FINER THAN .016 MM	SUS. SED. FALL DIAM. % FINER THAN .031 MM	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM	SUS. SED. SIEVE DIAM. % FINER THAN .250 MM	SUS. SED. SIEVE DIAM. % FINER THAN .500 MM
NOV.							
16...	65	83	92	96	99	100	--
21...	83	94	97	99	100	--	--
DEC.							
24...	68	82	91	96	99	100	--
JAN.							
06...	68	84	94	96	98	99	100
FEB.							
09...	70	88	95	97	99	100	--
19...	72	87	96	99	100	--	--
23...	63	78	92	97	99	100	--
JUNE							
15...	83	94	94	99	100	--	--
AUG.							
04...	77	82	93	98	100	--	--

01643020 MONOCACY RIVER AT REICH'S FORD BRIDGE, NEAR FREDERICK, MD.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	142	45	17	791	192	410	890	38	91
2	127	24	8.2	506	156	213	564	20	30
3	123	28	9.3	849	365	1310	491	20	27
4	112	26	7.9	1890	823	4200	479	18	23
5	109	18	5.3	2140	470	2720	516	14	20
6	106	12	3.4	1130	110	362	446	12	14
7	104	16	4.5	598	41	66	391	12	13
8	105	16	4.5	458	20	25	347	10	9.4
9	105	18	5.1	388	30	31	335	10	9.0
10	106	10	2.9	347	24	22	344	10	9.3
11	116	20	6.3	358	24	23	342	12	11
12	118	12	3.8	737	51	116	403	16	17
13	117	11	3.5	1580	92	392	966	36	94
14	116	14	4.4	1350	76	277	771	22	46
15	127	18	6.2	1900	105	629	552	16	24
16	169	17	7.8	2700	118	962	496	11	15
17	203	14	7.7	1150	36	112	4250	94	1220
18	162	12	5.2	834	26	59	3220	55	506
19	137	12	4.4	707	10	19	1510	18	73
20	127	11	3.8	802	30	107	1150	9	28
21	170	22	12	3570	301	2960	940	8	20
22	630	136	250	1480	88	377	2040	62	552
23	708	92	184	982	30	80	4620	210	2640
24	336	39	35	777	21	44	5630	140	2130
25	236	31	20	632	13	22	2600	40	281
26	201	32	17	624	11	19	1840	21	104
27	179	26	13	607	9	15	1420	18	69
28	161	16	7.0	593	10	16	1100	13	39
29	153	8	3.3	564	12	18	950	12	31
30	180	14	6.8	554	14	21	850	10	23
31	457	32	78	--	--	--	750	9	18
TOTAL	5942	--	747.3	31598	--	15627	41203	--	8186.7

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	500	10	14	460	16	20	2320	37	232
2	480	10	13	420	16	18	1950	24	126
3	500	10	14	400	16	17	1850	24	120
4	700	31	89	400	16	17	2800	60	454
5	4830	280	3590	440	16	19	2290	41	254
6	4520	116	1570	800	80	240	2960	61	488
7	2500	29	196	1730	143	749	3560	77	738
8	1700	16	73	4500	610	7310	2870	45	349
9	1400	10	38	5030	588	8410	1820	24	118
10	1220	12	40	1690	150	738	1540	18	75
11	1080	16	47	1100	40	119	1450	14	55
12	1030	10	28	1000	48	160	1340	13	47
13	1020	6	17	5300	860	19800	1270	16	55
14	998	6	16	11000	1100	34500	1380	20	75
15	1170	7	22	2550	162	1240	1200	17	55
16	955	10	26	1700	30	138	1190	17	55
17	750	16	32	1490	20	80	1030	16	44
18	750	13	26	1860	40	201	898	11	27
19	650	14	25	3690	305	3100	988	16	43
20	650	18	32	3780	215	2190	3000	181	1530
21	600	20	32	4350	200	2350	1950	60	316
22	650	20	35	4990	252	3910	1400	20	76
23	738	20	40	9720	377	12100	1220	14	46
24	774	20	42	5000	80	1090	1060	14	40
25	706	14	27	3150	48	408	933	19	48
26	840	34	77	2700	40	292	879	12	28
27	950	38	97	4210	115	1410	846	8	18
28	650	22	39	3570	82	802	808	8	17
29	600	70	113	--	--	--	780	9	19
30	550	42	62	--	--	--	746	8	16
31	550	20	30	--	--	--	691	9	17
TAL	35011	--	6502	87030	--	101428	49019	--	5581

01643020 MONOCACY RIVER AT REICH'S FORD BRIDGE, NEAR FREDERICK, MD.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	648	10	17	395	9	9.6	1530	174	774
2	638	12	21	377	12	12	861	65	151
3	664	12	22	416	15	17	785	57	121
4	625	12	20	425	12	14	1070	100	289
5	571	10	15	377	14	14	915	205	506
6	579	13	20	438	23	27	714	90	174
7	1100	38	113	1150	82	263	814	84	185
8	1360	48	176	1140	53	163	939	104	264
9	848	19	44	1780	88	445	779	70	147
10	710	12	23	1000	34	92	586	50	79
11	636	10	17	761	40	82	507	40	55
12	597	10	16	658	54	96	465	27	34
13	576	14	22	962	75	208	456	31	38
14	554	15	22	2380	112	730	444	28	34
15	514	12	17	1250	48	162	1340	845	3670
16	500	10	14	1410	88	383	989	365	1010
17	485	12	16	2230	105	644	734	126	250
18	488	10	13	1280	56	194	591	68	109
19	465	13	16	975	41	108	501	59	80
20	443	12	14	839	49	111	447	56	68
21	434	22	26	810	44	96	417	51	57
22	430	20	23	785	25	53	398	47	51
23	419	26	29	668	24	43	367	30	30
24	410	30	33	587	27	43	345	23	21
25	397	22	24	587	37	61	323	23	20
26	385	12	12	629	154	262	301	28	23
27	371	8	8.0	517	58	81	289	49	38
28	368	12	12	463	44	55	290	49	38
29	387	14	15	451	36	44	343	52	48
30	435	15	18	855	172	523	320	48	41
31	--	--	--	2390	348	2250	--	--	--
TOTAL	17037	--	838.0	28985	--	7285.6	18860	--	8405

	JULY			AUGUST			SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	344	45	42	381	100	103	252	36	24
2	337	43	39	1010	329	1040	230	17	11
3	307	38	31	1340	575	2190	221	26	16
4	263	36	26	3380	968	9010	215	33	19
5	237	36	23	3600	600	5830	203	34	19
6	222	35	21	1490	224	1020	197	24	13
7	218	24	14	746	73	147	193	20	10
8	210	15	8.5	586	52	82	186	21	11
9	199	44	24	446	42	51	179	26	13
10	196	96	51	368	32	32	175	50	24
11	201	72	39	363	34	33	684	409	922
12	218	36	21	406	45	49	1660	371	1740
13	230	22	14	337	33	30	1010	150	409
14	222	15	9.0	294	24	19	709	100	191
15	195	14	7.4	404	44	69	485	80	105
16	188	16	8.1	469	73	92	370	70	70
17	182	36	18	338	40	37	439	160	186
18	174	34	16	265	26	19	388	80	84
19	174	20	9.4	256	32	22	343	30	28
20	183	10	4.9	283	46	35	322	30	26
21	180	10	4.9	298	46	37	1340	515	2790
22	164	15	6.6	255	31	21	1020	295	888
23	153	60	25	238	21	13	515	100	139
24	148	44	18	220	28	17	416	50	56
25	148	24	9.6	205	40	22	362	36	35
26	147	38	15	198	32	17	338	37	34
27	147	44	17	306	57	54	359	36	35
28	139	39	15	683	118	218	406	52	57
29	183	145	113	680	102	187	381	43	44
30	750	620	1260	368	66	66	331	32	29
31	500	230	311	272	50	37	--	--	--
TOTAL	7159	--	2221.4	20485	--	20599	13929	--	8028

TOTAL DISCHARGE FOR YEAR (CFS-DAYS) 356258
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR YEAR (TONS) 185449.0

01643500 BENNETT CREEK AT PARK MILLS, MD.

LOCATION.--Lat 39°17'40", long 77°24'30", Frederick County, at gaging station, 75 feet downstream from highway bridge, 0.2 mile south of Park Mills, 1.8 miles upstream from mouth and 3.7 miles southwest of Urbana.

DRAINAGE AREA.--62.8 sq mi.

PERIOD OF RECORD.--Chemical analyses: March to September 1968, July 1969 to September 1971.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	DIS-CHARGE (CFS)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MANGANESE (MN) (UG/L)	BICARBONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	COLOR (PLATINUM-COBALT UNITS)
OCT.												
20...	12	140	10	49	4.8	5.7	.1	.003	61	50	10	5
SEP.												
28...	68	50	41	36	7.0	5.7	.1	.070	65	46	16	C

DATE	COLI-FORM (THRESHOLD NUMBER)	DIS-SOLVED ALUMINUM (AL) (UG/L)	DIS-SOLVED CADMIUM (CD) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)	TOTAL CHROMIUM (CR) (UG/L)	TURBIDITY (JTU)	TOTAL NONFILTRABLE RESIDUE (MG/L)	BIOCHEMICAL OXYGEN DEMAND (MG/L)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)
OCT.											
20...	0	0	0	3	C	10	0	4	7	1.4	.02
SEP.											
28...	0	100	0	5	11	140	0	1	4	.3	.06

DATE	CYANIDE (CN) (MG/L)	PHENOLS (UG/L)	DIS-SOLVED GROSS ALPHA AS U-NAT. (PC/L)	SUS-PENDED GROSS ALPHA AS U-NAT. (PC/L)	TOTAL ALPHA (PC/L)	DIS-SOLVED GROSS BETA AS CS-137 (PC/L)	SUS-PENDED GROSS BETA AS CS-137 (PC/L)	TOTAL BETA (PC/L)
OCT.								
20...	.00	2	<.3	<.1	.2	3.1	<.4	3.3
SEP.								
28...	.00	0	<.2	<.5	.3	4.1	<.4	4.3

ON-SITE DATA, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	TIME	DIS-CHARGE (CFS)	TEMPERATURE (DEG C)	DIS-SOLVED OXYGEN (MG/L)	PH (UNITS)	SPECIFIC CONDUCTANCE (MICROMHOS)	FECAL COLIFORM (COL. PER 100 ML)
OCT.							
20...	1207	12	10.5	10.7	7.4	100	60
NOV.							
24...	1206	26	1.5	13.2	7.5	128	130
DEC.							
22...	1113	301	3.0	12.2	7.1	145	10000
JAN.							
20...	1320	46	.0	14.2	7.9	120	9
FEB.							
08...	1225	737	1.0	12.8	7.6	105	2500
MAR.							
08...	1205	115	3.0	13.0	7.6	98	44
APR.							
07...	1141	242	5.0	13.1	7.2	132	5800
MAY							
06...	1130	48	13.5	11.0	7.7	98	150
JUNE							
16...	1352	61	15.0	10.5	7.4	107	3300
JULY							
14...	1245	21	22.0	10.2	8.3	130	270
AUG.							
18...	1420	39	19.5	9.8	8.2	130	620
SEP.							
28...	1145	68	16.5	9.8	7.2	115	660

01645000 SENECA CREEK AT DAWSONVILLE, MD.

LOCATION.--Lat 39°07'41", long 77°20'13", Montgomery County, at gaging station 60 ft downstream from bridge on State Highway 28, 150 ft downstream from mouth of Great Seneca Creek, 0.5 mile east of Dawsonville, and 5.8 miles upstream from mouth.

DRAINAGE AREA.--101 sq mi.

PERIOD OF RECORD.--Chemical analyses: November 1965 to September 1971

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	TOTAL IRON (FE) (UG/L)	TOTAL MAN-GANESE (MN) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
NOV.											
24...	59	10	340	90	9.9	3.1	5.4	2.0	30	10	9.2
DEC.											
24...	150	9.5	200	20	9.9	3.2	5.1	2.2	23	16	8.7
FEB.											
01...	39	9.3	150	20	11	3.6	5.1	1.6	24	14	9.7
25...	184	9.0	140	30	9.4	3.2	5.3	1.8	19	16	8.6
MAR.											
25...	94	7.5	130	50	7.9	3.1	4.5	1.3	22	9.8	7.2
APR.											
26...	72	4.9	110	30	7.3	2.8	4.1	1.3	24	7.2	6.0
MAY											
24...	101	7.0	160	60	8.7	3.0	4.4	1.5	--	9.0	5.8
JUNE											
25...	72	7.6	180	40	7.9	2.7	4.2	1.7	--	6.0	5.8
JULY											
26...	52	8.4	300	50	8.1	2.7	4.3	2.2	27	6.0	7.4
AUG.											
03...	480	9.9	170	10	9.4	2.7	4.5	1.9	32	7.4	6.3
SEP.											
28...	112	10	20	10	9.4	2.8	4.5	2.0	31	7.4	7.5

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS_ SOLVED NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	COLOR (PLAT-INUM-COBALT UNITS)	TEMPER-ATURE (DEG C)
NOV.									
24...	.1	6.3	71	38	13	118	7.0	5	2.0
DEC.									
24...	.0	6.2	72	38	19	120	7.0	5	1.0
FEB.									
01...	.1	11	77	43	23	123	7.5	0	.0
25...	.1	10	72	37	21	112	7.2	--	4.5
MAR.									
25...	.1	8.7	61	33	15	100	7.4	5	20.0
APR.									
26...	.1	6.0	52	30	10	89	6.8	1	11.0
MAY									
24...	.1	3.9	58	34	8	100	--	6	14.5
JUNE									
25...	.1	6.3	56	31	8	93	--	8	20.0
JULY									
26...	.1	8.0	60	31	9	97	6.7	30	19.0
AUG.									
03...	.1	5.7	64	35	9	106	7.1	5	18.5
SEP.									
28...	.1	5.8	64	35	10	108	7.1	5	16.5

01647685 WILLIAMSBURG RUN NEAR OLNEY, MD.

LOCATION.--Lat 39°08'32", long 77°05'48", Montgomery County, on right bank 200 ft downstream from vehicle bridge, on golf course of Norbeck Country Club, 0.2 mile downstream from Cashell Road, 0.5 mile upstream from mouth, and 1.8 miles southwest of Olney.

DRAINAGE AREA.--2.25 sq mi.

PERIOD OF RECORD.--Sediment records: November 1966 to September 1968, October 1968 to September 1971 (partial-record station).

REMARKS.--All particle-size analyses for this station are included.

SUSPENDED-SEDIMENT DISCHARGE FOR SELECTED DAYS, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	DIS-CHARGE (CFS)	SUS-PENDED SEDI-MENT (MG/L)	SUS-PENDED SEDI-MENT DIS-CHARGE (T/DAY)
NOV.			
03...	4.2	266	8.0
04...	23	487	77
05...	17	145	18
14...	1.5	50	.70
15...	20	414	48
DEC.			
16...	8.4	346	30
17...	5.6	142	4.0
22...	18	262	28
FEB.			
07...	40	521	157
08...	36	552	104
09...	4.2	93	1.4
22...	30	899	132
23...	13	206	17
MAY			
13...	32	814	197
14...	2.4	22	.16
30...	11	258	15
31...	28	237	38
JUNE			
02...	23	641	243
03...	11	444	25
04...	4.0	76	1.2
JULY			
29...	6.7	670	72
30...	2.1	236	1.8
AUG.			
01...	7.0	313	61
02...	15	504	68
03...	57	380	497
04...	23	237	31
27...	57	336	121
28...	3.5	19	.25

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, FOR SELECTED DAYS, WATER YEARS 1968, 1969, 1971

DATE	TIME	TEMPER-ATURE (DEG C)	DIS-CHARGE (CFS)	SUS-PENDED SEDI-MENT (MG/L)	SUS-PENDED SEDI-MENT DIS-CHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .004 MM	SUS. SED. FALL DIAM. % FINER THAN .008 MM	SUS. SED. FALL DIAM. % FINER THAN .016 MM	SUS. SED. FALL DIAM. % FINER THAN .031 MM	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM	SUS. SED. SIEVE DIAM. % FINER THAN .250 MM
JUNE, 1968												
26...	2230	23.0	5.2	15200	213	45	59	77	91	95	99	100
JUNE, 1969												
18...	2035	18.0	.73	30200	60	20	29	41	60	75	98	100
JULY, 1971												
30...	1030	21.0	7.2	1370	27	49	72	92	100	--	--	--

01647720 NORTH BRANCH ROCK CREEK NEAR NORBECK, MD.

LOCATION.--Lat 39°06'59", long 77°06'09", Montgomery County, at gaging station 550 ft downstream from bridge on Muncaster Mill Road (State Highway 115), 0.7 mile upstream from Manor Run, 1.5 miles northwest of Norbeck, and 2 miles upstream from mouth.

DRAINAGE AREA.--9.73 sq mi.

PERIOD OF RECORD.--Sediment records: November 1966 to September 1971 (partial-record station)

REMARKS.--All particle size analyses for this station are included.

SUSPENDED-SEDIMENT DISCHARGE FOR SELECTED DAYS, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	DIS-CHARGE (CFS)	SUS-PENDED SEDI-MENT (MG/L)	SUS-PENDED SEDI-MENT DIS-CHARGE (T/DAY)
NOV.			
04...	35	340	189
05...	76	230	133
DEC.			
16...	16	227	40
17...	34	54	8.8
22...	58	285	82
23...	20	29	1.7
FEB.			
07...	126	613	707
08...	158	863	647
09...	33	277	33
13...	276	841	1110
14...	65	331	83
22...	100	804	417
23...	75	259	117
APR.			
06...	19	132	23
07...	50	152	28
MAY			
13...	131	812	607
14...	17	34	1.6
16...	100	300	159
17...	18	26	1.3
30...	38	190	30
31...	123	423	259
JUNE			
01...	15	168	6.4
02...	34	619	426
03...	53	698	295
04...	22	206	18
JULY			
01...	13	254	81
02...	27	280	83
29...	18	429	85
30...	9.2	169	4.8
AUG.			
01...	11	209	46
02...	70	395	136
03...	58	285	204
04...	184	375	581
05...	35	212	24
06...	8.0	50	1.1
19...	22	242	39
27...	163	801	642
28...	21	85	7.5
SEP.			
17...	17	274	23
18...	7.8	75	1.6

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, FOR SELECTED DAYS, WATER YEARS 1969, 1970, 1971

DATE	TIME	TEMPER-ATURE (DEG C)	DIS-CHARGE (CFS)	SUS-PENDED SEDI-MENT (MG/L)	SUS-PENDED SEDI-MENT DIS-CHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .004 MM	SUS. SED. FALL DIAM. % FINER THAN .008 MM
JUNE, 1969							
18...	2250	18.0	90	4090	994	37	51
APR., 1970							
02...	1450	11.0	143	2840	1100	32	45
SEP., 1971							
12...	1530	--	154	655	270	--	53

DATE	SUS. SED. FALL DIAM. % FINER THAN .016 MM	SUS. SED. FALL DIAM. % FINER THAN .031 MM	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM	SUS. SED. SIEVE DIAM. % FINER THAN .250 MM	SUS. SED. SIEVE DIAM. % FINER THAN .500 MM	SUS. SED. SIEVE DIAM. % FINER THAN 1.00 MM
JUNE, 1969							
18...	71	89	95	99	100	--	--
APR., 1970							
02...	64	81	88	96	99	100	--
SEP., 1971							
12...	65	76	80	88	93	98	100

01647725 MANOR RUN NEAR NORBECK, MD.

LOCATION.--Lat 39°06'36", long 77°06'00", Montgomery County, at gaging station 100 ft downstream from ford on farm lane, 0.5 mile upstream from mouth and 1.2 miles west of Norbeck.

DRAINAGE AREA.--1.01 sq mi.

PERIOD OF RECORD.--Sediment records: November 1966 to September 1971 (partial-record station).

REMARKS.--All particle size analyses for this station are included.

SUSPENDED-SEDIMENT DISCHARGE FOR SELECTED DAYS, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	DIS-CHARGE (CFS)	SUS-PENDED SEDI-MENT (MG/L)	SUS-PENDED SEDI-MENT DIS-CHARGE (T/DAY)
NOV.			
03...	2.4	340	10
04...	19	554	81
05...	5.4	187	10
14...	1.2	127	3.9
15...	11	393	70
DEC.			
22...	11	476	48
FEB.			
07...	21	439	98
08...	15	555	113
MAY			
13...	18	1780	382
JULY			
29...	8.4	459	148
AUG.			
01...	5.7	290	70
02...	3.9	219	6.3
03...	25	402	234
04...	8.2	283	16
05...	3.6	95	3.8
27...	30	656	223

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, FOR SELECTED DAYS, WATER YEARS 1967 TO 1970

DATE	TIME	TEMPER-ATURE (DEG C)	DIS-CHARGE (CFS)	SUS-PENDED SEDI-MENT (MG/L)	SUS-PENDED SEDI-MENT DIS-CHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .004 MM	SUS. SED. FALL DIAM. % FINER THAN .008 MM
MAY , 1967							
07...	1030	9.0	53	10000	1430	31	43
JUNE							
22...	1605	22.0	18	28400	1380	42	58
MAR., 1968							
18...	0725	5.0	6.3	2780	47	48	64
JUNE							
19...	2020	18.5	97	9890	2590	36	48
JULY, 1969							
22...	1815	22.0	30	22500	1822	36	50
22...	2000	22.0	2.6	2610	1820	58	78
SEP., 1970							
10...	1500	20.0	77	6380	1330	32	41

DATE	SUS. SED. FALL DIAM. % FINER THAN .016 MM	SUS. SED. FALL DIAM. % FINER THAN .031 MM	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM	SUS. SED. SIEVE DIAM. % FINER THAN .250 MM	SUS. SED. SIEVE DIAM. % FINER THAN .500 MM
MAY , 1967						
07...	57	70	77	91	98	100
JUNE						
22...	76	89	92	99	100	--
MAR., 1968						
18...	71	92	96	99	100	--
JUNE						
19...	61	70	75	87	97	100
JULY, 1969						
22...	68	82	88	96	99	100
22...	95	97	99	100	--	--
SEP., 1970						
10...	54	67	75	89	97	100

01647740 NORTH BRANCH ROCK CREEK NEAR ROCKVILLE, MD.

LOCATION.--Lat 39°06'09", long 77°07'12", Montgomery County, at gaging station 170 ft downstream from outlet of Bernard Frank Lake, 370 ft upstream from mouth, and 2.4 miles northeast of Rockville.

DRAINAGE AREA.--12.5 sq mi.

PERIOD OF RECORD.--Sediment records: September 1967 to September 1971.

EXTREMES.--1970-71:
Sediment concentrations: Maximum daily, 182 mg/l Feb. 14; minimum daily, 9 mg/l Sept. 30.
Sediment discharge: Maximum daily, 47 tons Feb. 14; minimum daily, 0 tons July 29.

Period of record:
Sediment concentrations: Maximum daily, 450 mg/l Nov. 2, 1967; minimum daily, 4 mg/l Jan. 12-13, 1968.
Sediment discharge: Maximum daily, 28 tons Apr. 16, 1970; minimum daily, 0 tons July 29, 1971.

REMARKS.--Flow regulated by dam above station; drain gate open at times; variable backwater at times from Rock Creek.

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	5.8	52	.81	6.2	25	.42	8.6	23	.53
2	5.8	45	.70	6.2	28	.47	8.6	23	.53
3	5.8	42	.66	6.2	29	.49	8.6	22	.51
4	5.8	42	.66	6.3	29	.49	8.6	20	.46
5	5.8	42	.66	24	97	6.5	8.6	20	.46
6	5.8	42	.66	22	73	4.3	8.6	20	.46
7	5.8	42	.66	16	64	2.8	8.6	20	.46
8	5.8	42	.64	11	57	1.7	8.6	18	.42
9	5.8	42	.66	10	55	1.5	8.6	18	.42
10	5.8	35	.55	9.0	51	1.2	8.6	11	.26
11	5.8	28	.44	9.4	47	1.2	8.6	13	.30
12	5.8	20	.31	15	25	1.0	8.6	14	.33
13	5.8	14	.22	15	22	.89	8.6	16	.37
14	5.8	20	.31	12	21	.68	8.6	18	.42
15	5.8	33	.52	37	77	7.9	8.6	15	.35
16	6.2	50	.84	35	50	4.7	9.4	13	.33
17	6.2	49	.82	26	31	2.2	29	77	6.0
18	6.2	40	.67	19	40	2.1	25	70	4.7
19	6.2	39	.65	15	40	1.6	19	60	3.1
20	6.2	35	.59	12	29	.94	16	47	2.0
21	6.2	32	.54	15	27	1.1	13	31	1.1
22	6.2	176	2.9	12	27	.87	28	22	1.7
23	6.2	162	2.7	11	27	.80	40	48	5.2
24	6.5	78	1.4	10	26	.70	33	45	4.0
25	6.5	48	.84	9.4	26	.66	27	25	1.8
26	6.5	40	.70	9.0	25	.61	21	25	1.4
27	6.5	32	.56	9.0	25	.61	18	24	1.2
28	6.5	28	.49	9.0	25	.61	15	23	.93
29	6.5	24	.42	9.0	24	.58	13	23	.81
30	6.5	21	.37	8.6	24	.56	11	22	.65
31	6.2	23	.39	--	--	--	11	21	.62
TOTAL	188.3	--	23.36	414.3	--	50.18	457.4	--	41.82

01647740 NORTH BRANCH ROCK CREEK NEAR ROCKVILLE, MD.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	11	20	.59	10	16	.43	33	61	5.4
2	11	20	.59	9.6	17	.44	26	60	4.2
3	11	19	.56	9.2	17	.42	25	57	3.8
4	12	18	.58	9.0	16	.39	47	63	8.0
5	28	17	1.3	11	15	.45	45	60	7.3
6	35	16	1.5	17	19	.87	41	50	5.5
7	32	15	1.3	25	20	1.4	37	50	5.0
8	29	15	1.2	71	101	19	32	48	4.1
9	24	15	.97	96	145	38	26	47	3.3
10	20	15	.81	92	119	30	22	45	2.7
11	17	14	.64	75	103	21	19	42	2.2
12	15	14	.57	54	102	15	17	41	1.9
13	15	14	.57	62	109	19	16	40	1.7
14	15	14	.57	96	182	47	15	40	1.6
15	15	14	.57	90	133	32	15	39	1.6
16	15	13	.53	80	130	28	15	37	1.5
17	13	13	.46	67	130	24	13	33	1.2
18	12	13	.42	50	121	16	13	30	1.1
19	11	13	.39	37	116	12	15	36	1.5
20	10	13	.35	30	110	8.9	27	70	5.1
21	9.8	12	.32	27	103	7.5	23	53	3.3
22	9.4	12	.30	33	103	9.2	19	34	1.7
23	11	12	.36	59	153	24	18	27	1.3
24	13	13	.46	55	102	15	16	24	1.0
25	13	14	.49	51	72	9.9	15	20	.81
26	16	14	.60	45	67	8.1	13	18	.63
27	18	14	.68	42	65	7.4	13	20	.70
28	16	13	.56	38	62	6.4	12	21	.68
29	13	13	.46	--	--	--	12	19	.62
30	12	12	.39	--	--	--	12	13	.42
31	11	13	.39	--	--	--	12	12	.39
TOTAL	493.2	--	19.48	1340.8	--	401.80	664	--	80.25

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	11	11	.33	8.6	20	.46	43	20	2.3
2	11	13	.39	8.2	21	.46	29	20	1.6
3	12	10	.32	8.6	21	.49	47	49	6.2
4	12	13	.42	8.6	21	.49	38	38	3.9
5	12	16	.52	8.6	21	.49	29	31	2.4
6	13	18	.63	8.6	20	.46	21	28	1.6
7	39	31	3.3	8.6	20	.46	25	43	2.9
8	37	29	2.9	10	19	.51	24	41	2.7
9	30	22	1.8	13	18	.63	18	39	1.9
10	24	20	1.3	12	18	.58	15	37	1.5
11	19	16	.82	11	17	.50	12	35	1.1
12	16	18	.78	9.9	16	.43	11	32	.95
13	15	18	.73	54	84	16	11	30	.89
14	13	15	.53	73	79	15	11	28	.83
15	13	12	.42	60	60	9.7	11	26	.77
16	12	13	.42	71	78	15	11	25	.74
17	11	14	.42	69	70	13	11	25	.74
18	11	15	.45	41	62	6.9	11	25	.74
19	11	15	.45	32	54	4.7	10	28	.76
20	11	14	.42	32	46	4.0	9.4	30	.76
21	11	14	.42	32	38	3.3	9.4	32	.81
22	10	13	.35	32	37	3.2	9.0	33	.80
23	10	13	.35	30	36	2.9	8.6	34	.79
24	9.8	13	.34	31	35	2.9	8.6	35	.81
25	9.8	13	.34	31	34	2.8	8.6	37	.86
26	9.8	13	.34	21	32	1.8	8.6	37	.86
27	8.6	13	.30	7.2	30	.58	8.6	38	.88
28	8.6	13	.30	7.2	29	.56	8.6	38	.88
29	8.6	15	.35	7.2	28	.54	8.6	39	.91
30	8.6	19	.44	7.5	25	.51	8.6	39	.91
31	--	--	--	45	22	2.7	--	--	--
TOTAL	427.8	--	20.88	798.8	--	112.05	484.6	--	43.79

01647740 NORTH BRANCH ROCK CREEK NEAR ROCKVILLE, MD.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

	JULY			AUGUST			SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	8.6	40	.93	3.3	65	.58	24	19	1.2
2	13	30	1.1	42	36	4.1	16	17	.73
3	12	28	.91	41	32	3.5	12	15	.49
4	10	30	.81	89	115	28	10	14	.38
5	9.0	30	.73	84	70	16	9.4	14	.36
6	8.2	30	.66	72	60	12	9.4	14	.36
7	8.2	31	.69	58	50	7.8	8.2	13	.29
8	8.2	33	.73	45	43	5.2	7.9	13	.28
9	8.2	34	.75	29	31	2.4	7.6	12	.25
10	8.2	35	.77	18	30	1.5	7.6	12	.25
11	8.2	35	.77	11	40	1.2	34	40	5.2
12	7.9	34	.73	11	39	1.2	75	65	13
13	7.9	35	.75	8.6	35	.81	70	40	7.6
14	7.9	40	.85	7.2	30	.58	58	34	5.3
15	7.9	46	.98	6.5	23	.40	45	31	3.8
16	7.9	45	.96	6.2	19	.32	29	27	2.1
17	7.9	44	.94	6.2	22	.37	24	22	1.4
18	7.6	44	.90	5.8	20	.31	21	20	1.1
19	7.6	43	.88	13	19	.67	15	17	.69
20	7.6	43	.88	16	17	.73	12	14	.45
21	7.2	40	.78	11	16	.48	9.8	15	.40
22	7.2	37	.72	9.0	18	.44	9.4	17	.43
23	7.2	37	.72	7.9	20	.43	9.0	16	.39
24	6.8	38	.70	7.2	21	.41	8.6	15	.35
25	7.2	41	.80	6.5	21	.37	8.2	14	.31
26	7.2	43	.84	6.2	19	.32	7.9	13	.28
27	7.6	45	.92	33	35	5.1	9.8	12	.32
28	5.2	48	.67	75	50	10	9.8	11	.29
29	.02	52	0	63	22	3.7	9.0	10	.24
30	1.3	58	.20	52	19	2.7	8.2	9	.20
31	2.6	65	.46	38	19	1.9	--	--	--
TOTAL	231.52	--	23.53	881.6	--	113.52	584.8	--	48.44

TOTAL DISCHARGE FOR YEAR (CFS-DAYS) 6967.12
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR YEAR (TONS) 979.10

01649500 NORTHEAST BRANCH ANACOSTIA RIVER AT RIVERDALE, MD.

LOCATION.--Lat 38°57'37", long 76°55'34", Prince Georges County, at gaging station at downstream side of bridge on Riverdale Road, in Riverdale, 1.8 miles downstream from Indian Creek, and 1.8 miles upstream from confluence with Northwest Branch.

DRAINAGE AREA.--72.8 sq mi.

PERIOD OF RECORD.--Chemical analyses: July 1969 to September 1971.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	DIS-CHARGE (CFS)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	BICAR-BONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	COLOR (PLAT-INUM-COBALT UNITS)
OCT.												
07...	11	20	130	66	77	57	1.0	.023	294	40	0	5
SEP.												
29...	42	10	150	36	37	22	.3	.16	183	44	14	0

DATE	COLOR (THRES-HOLD NUMBER)	DIS-SOLVED ALUM-INUM (AL) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)	TOTAL CHRO-MIUM (CR) (UG/L)	TUR-BID-ITY (JTU)	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)
OCT.											
07...	1	100	0	18	0	80	15	45	44	2.4	.06
SEP.											
29...	1	100	1	2	0	100	7	30	38	1.1	.90

DATE	CYANIDE (CN) (MG/L)	PHENOLS (UG/L)	DIS-SOLVED GROSS ALPHA AS U-NAT. (PC/L)	SUS-PENDED GROSS ALPHA AS U-NAT. (PC/L)	TOTAL ALPHA (PC/L)	DIS-SOLVED GROSS BETA AS CS-137 (PC/L)	SUS-PENDED GROSS BETA AS CS-137 (PC/L)	TOTAL BETA (PC/L)
OCT.								
07...	.00	3	<.8	.9	1.3	5.5	2.2	12
SEP.								
29...	.00	0	<.6	<1.0	.8	6.9	1.7	8.6

ON-SITE DATA, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	TIME	DIS-CHARGE (CFS)	TEMPER-ATURE (DEG C)	DIS-SOLVED OXYGEN (MG/L)	PH (UNITS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	FECAL COLI-FORM (COL. PER 100 ML)
OCT.							
07...	1028	11	14.5	10.4	7.7	470	460
NOV.							
23...	1217	40	6.5	10.9	7.1	210	190
DEC.							
10...	1311	31	6.5	11.6	7.0	445	130
JAN.							
07...	1350	117	2.0	13.2	6.6	235	66
FEB.							
18...	1137	81	3.5	13.2	6.5	215	18
MAR.							
11...	1508	67	9.0	10.7	6.8	245	76
APR.							
08...	1130	200	8.5	11.6	6.8	193	260
MAY							
10...	1210	42	17.0	10.2	7.6	175	210
JUNE							
17...	1217	38	21.0	11.1	7.0	315	280
JULY							
16...	1152	19	25.0	10.2	7.7	440	440
AUG.							
25...	1234	21	22.0	10.5	8.1	315	250
SEP.							
29...	1054	42	17.5	8.8	6.8	240	520

01650050 NORTHWEST BRANCH ANACOSTIA RIVER AT NORWOOD, MD.

LOCATION.--Lat 39°07'36", long 77°01'15", Montgomery County, at gaging station 20 ft downstream from bridge on Ednor Road, 0.2 mile downstream from tributary, 0.4 mile east of Norwood, 1.6 miles south of Sandy Spring, and 19 miles upstream from confluence with Northeast Branch.

DRAINAGE AREA.--2.45 sq mi.

PERIOD OF RECORD.--Sediment records: March 1967 to September 1971 (partial-record station).

REMARKS.--All particle-size analyses for this station are included.

SUSPENDED-SEDIMENT DISCHARGE FOR SELECTED DAYS, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	DIS-CHARGE (CFS)	SUS-PENDED SEDI-MENT (MG/L)	SUS-PENDED SEDI-MENT DIS-CHARGE (T/DAY)
NOV.			
04...	16	120	25
05...	9.2	42	2.6
DEC.			
22...	16	96	10
FEB.			
07...	47	221	89
08...	47	310	140
09...	5.0	25	.34
MAY			
13...	38	474	184
JULY			
01...	8.6	215	34
02...	3.2	50	.64
AUG.			
01...	14	167	62
02...	17	129	18
03...	75	241	344
04...	35	101	28
27...	62	284	126

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, FOR SELECTED DAYS, WATER YEARS 1968 TO 1970

DATE	TIME	TEMPER-ATURE (DEG C)	DIS-CHARGE (CFS)	SUS-PENDED SEDI-MENT (MG/L)	SUS-PENDED SEDI-MENT DIS-CHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .004 MM	SUS. SED. FALL DIAM. % FINER THAN .008 MM
JUNE, 1968							
19...	2055	19.0	119	3880	1250	60	76
JUNE, 1969							
02...	2350	19.0	60	4670	757	32	47
JULY							
22...	2030	21.0	5.9	726	12	82	93
APR., 1970							
02...	1340	11.0	95	4700	1210	45	60

DATE	SUS. SED. FALL DIAM. % FINER THAN .016 MM	SUS. SED. FALL DIAM. % FINER THAN .031 MM	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM	SUS. SED. SIEVE DIAM. % FINER THAN .250 MM	SUS. SED. SIEVE DIAM. % FINER THAN .500 MM
JUNE, 1968						
19...	89	93	95	98	100	--
JUNE, 1969						
02...	59	76	86	94	99	100
JULY						
22...	98	99	100	--	--	--
APR., 1970						
02...	76	86	90	96	99	100

01650085 NURSERY RUN AT CLOVERLY, MD.

LOCATION.--Lat 39°07'05", long 77°00'24", Montgomery County, at gaging station 300 ft upstream from culvert on Bryants Nursery Road, 350 ft upstream from mouth, 0.8 mile northwest of Cloverly, and 2.4 miles southeast of Sandy Spring.

DRAINAGE AREA.--0.35 sq mi.

PERIOD OF RECORD.--Sediment records: December 1966 to September 1968, October 1968 to September 1971 (partial-record station).

REMARKS.--All particle-size analyses for this station are included.

SUSPENDED-SEDIMENT DISCHARGE FOR SELECTED DAYS, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	DIS-CHARGE (CFS)	SUS-PENDED SEDI-MENT (MG/L)	SUS-PENDED SEDI-MENT DIS-CHARGE (T/DAY)
NOV.			
04...	2.4	156	4.1
05...	1.2	23	.16
DEC.			
22...	1.6	73	.64
FEB.			
07...	4.6	152	7.5
08...	4.0	262	11
09...	.70	15	.03
MAY			
13...	2.0	197	3.4
JULY			
01...	2.2	358	28
02...	.53	58	.11
29...	.70	138	1.4
30...	.48	57	.09
AUG.			
03...	5.2	246	76
04...	2.1	51	.55
27...	6.0	280	15

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, FOR SELECTED DAYS, WATER YEARS 1968 TO 1970

DATE	TIME	TEMPER-ATURE (DEG C)	DIS-CHARGE (CFS)	SUS-PENDED SEDI-MENT (MG/L)	SUS-PENDED SEDI-MENT DIS-CHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .004 MM	SUS. SED. FALL DIAM. % FINER THAN .008 MM
JUNE, 1968							
19...	2000	18.0	.85	9660	22	33	46
JUNE, 1969							
18...	2208	18.0	16	2990	129	58	73
APR., 1970							
02...	1355	12.0	7.8	1280	27	60	73

DATE	SUS. SED. FALL DIAM. % FINER THAN .016 MM	SUS. SED. FALL DIAM. % FINER THAN .031 MM	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM	SUS. SED. SIEVE DIAM. % FINER THAN .250 MM	SUS. SED. SIEVE DIAM. % FINER THAN .500 MM	SUS. SED. SIEVE DIAM. % FINER THAN 1.00 MM
JUNE, 1968							
19...	60	68	73	84	95	99	100
JUNE, 1969							
18...	84	91	92	97	99	100	--
APR., 1970							
02...	84	89	94	98	100	--	--

01650450 BEL PRE CREEK AT LAYHILL, MD.

LOCATION.--Lat 39°05'27", long 77°03'11", Montgomery County, at gaging station 130 ft upstream from bridge on Bel Pre Road, 0.5 mile west of Layhill, 1.2 miles upstream from Lutes Run, 1.8 miles southeast of Norbeck, and 2.9 miles upstream from mouth.

DRAINAGE AREA.--1.69 sq mi.

PERIOD OF RECORD.--Sediment records: November 1962 to September 1971 (partial-record station).

REMARKS.--All particle-size analyses for this station are included.

SUSPENDED-SEDIMENT DISCHARGE FOR SELECTED DAYS, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	DIS-CHARGE (CFS)	SUS-PENDED SEDI-MENT (MG/L)	SUS-PENDED SEDI-MENT DIS-CHARGE (T/DAY)
OCT.			
21...	7.2	291	17
NOV.			
03...	2.9	99	2.1
04...	24	174	40
05...	13	112	10
FEB.			
22...	28	634	103
23...	11	140	7.8
JULY			
29...	13	730	194
AUG.			
01...	19	1040	439
02...	15	868	73
03...	50	471	486
04...	41	158	55
27...	59	1350	427
28...	3.7	100	1.0
SEP.			
11...	20	3350	359
12...	7.1	302	9.3

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, FOR SELECTED DAYS, WATER YEARS 1966, 1969, 1970, 1971

DATE	TIME	TEMPER-ATURE (DEG C)	DIS-CHARGE (CFS)	SUS-PENDED SEDI-MENT (MG/L)	SUS-PENDED SEDI-MENT DIS-CHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .004 MM	SUS. SED. FALL DIAM. % FINER THAN .008 MM
JAN., 1966							
06...	0650	6.0	24	3530	229	60	76
FEB.							
13...	1025	1.5	110	3240	962	47	61
JUNE, 1969							
02...	2310	21.0	64	5890	1020	31	43
APR., 1970							
02...	1310	9.5	77	3120	649	39	49
OCT.							
21...	1650	16.5	57	1420	219	46	58
JULY, 1971							
29...	2035	23.0	29	1160	91	--	37

DATE	SUS. SED. FALL DIAM. % FINER THAN .016 MM	SUS. SED. FALL DIAM. % FINER THAN .031 MM	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM	SUS. SED. SIEVE DIAM. % FINER THAN .250 MM	SUS. SED. SIEVE DIAM. % FINER THAN .500 MM	SUS. SED. SIEVE DIAM. % FINER THAN 1.00 MM
JAN., 1966							
06...	90	96	98	99	100	--	--
FEB.							
13...	77	88	91	96	99	100	--
JUNE, 1969							
02...	56	67	77	90	97	100	--
APR., 1970							
02...	62	70	80	88	94	98	100
OCT.							
21...	72	79	84	90	95	99	100
JULY, 1971							
29...	58	68	88	94	98	99	100

01650500 NORTHWEST BRANCH ANACOSTIA RIVER NEAR COLESVILLE, MD.

LOCATION.--Lat 39°03'55", long 77°01'48", Montgomery County, at gaging station 400 ft upstream from bridge on State Highway 183, 1.5 miles southwest of Colesville, 3 miles upstream from Burnt Mills, 10 miles upstream from Sligo Branch, and 12.5 miles upstream from confluence with Northeast Branch.

DRAINAGE AREA.--21.1 sq mi.

PERIOD OF RECORD.--Sediment records: October 1962 to September 1971.

EXTREMES.--1970-71:
Sediment concentrations: Maximum daily, 1,360 mg/l Feb. 13; minimum daily, 1 mg/l on several days during year.
Sediment discharge: Maximum daily, 2,740 tons Feb. 13; minimum daily, .01 ton on several days during year.

Period of record:
Sediment concentrations: Maximum daily, 4,340 mg/l Aug. 25, 1965, minimum daily, no flow on several days during August and September 1966.
Sediment discharge: Maximum daily, 4,670 tons Mar. 5, 1965; minimum daily, no flow on several days during August and September 1966.

REMARKS.--All particle-size analyses for this station are included.

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	4.0	7	.08	8.0	5	.11	10	7	.19
2	3.6	5	.05	7.2	3	.06	10	7	.19
3	3.6	3	.03	18	75	6.1	10	4	.11
4	2.9	2	.02	105	390	447	11	4	.12
5	2.5	2	.01	146	319	303	9.8	4	.11
6	2.9	1	.01	17	40	1.8	9.6	4	.10
7	2.9	1	.01	12	20	.65	9.3	4	.10
8	2.8	1	.01	10	10	.27	9.0	4	.10
9	2.9	1	.01	9.5	6	.15	9.7	4	.10
10	3.7	1	.01	9.6	4	.10	9.6	4	.10
11	3.8	1	.01	36	15	1.5	9.5	4	.10
12	3.4	1	.01	39	12	1.3	19	20	1.0
13	3.9	1	.01	61	203	52	15	10	.41
14	3.8	1	.01	25	40	3.0	11	8	.24
15	17	255	25	171	462	425	11	7	.21
16	16	225	18	25	35	2.4	56	212	160
17	5.8	30	.47	18	16	.78	89	198	94
18	5.1	15	.21	15	10	.41	22	50	3.0
19	4.8	8	.10	14	8	.30	17	20	.92
20	4.4	2	.02	15	8	.32	15	10	.41
21	40	264	73	15	7	.28	15	10	.41
22	22	70	4.8	13	7	.25	155	350	240
23	8.0	50	1.1	12	7	.23	42	45	5.6
24	6.8	30	.55	11	7	.21	34	35	3.2
25	6.2	15	.25	11	7	.21	21	15	.85
26	5.9	8	.13	11	7	.21	19	8	.41
27	5.4	5	.07	11	7	.21	16	6	.26
28	5.2	3	.04	10	7	.19	14	5	.19
29	5.3	3	.04	11	7	.21	15	4	.16
30	9.0	10	.24	11	7	.21	13	4	.14
31	12	10	.32	--	--	--	12	4	.13
TOTAL	225.6	--	124.62	877.3	--	1248.46	718.5	--	512.86

01650500 NORTHWEST BRANCH ANACOSTIA RIVER NEAR COLESVILLE, MD.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

	JANUARY			FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	18	4	.19	10	6	.16	23	10	.62
2	16	4	.17	8.8	6	.14	21	10	.57
3	14	4	.15	8.0	4	.09	74	101	53
4	36	80	7.8	8.0	4	.09	113	163	84
5	131	260	92	38	50	5.1	38	15	1.5
6	43	95	11	41	30	3.3	34	10	.92
7	24	15	.97	214	369	680	28	8	.60
8	21	10	.57	373	667	1030	24	6	.39
9	18	8	.39	74	171	73	21	5	.28
10	17	7	.32	24	13	.84	21	5	.28
11	16	5	.22	19	10	.51	21	5	.28
12	18	5	.24	18	10	.49	20	4	.22
13	18	5	.24	494	1360	2740	20	4	.22
14	23	5	.31	130	668	393	20	4	.22
15	22	4	.24	27	140	10	20	4	.22
16	17	4	.18	22	15	.89	19	3	.15
17	15	4	.16	22	15	.89	17	3	.14
18	11	3	.09	21	15	.85	17	3	.14
19	10	3	.08	22	16	.95	53	261	83
20	10	3	.03	30	15	1.2	39	92	13
21	11	2	.06	27	15	1.1	24	15	.97
22	11	2	.06	202	988	1180	22	10	.59
23	22	40	3.5	157	322	276	28	8	.60
24	22	30	1.8	36	25	2.4	21	6	.34
25	26	40	2.8	27	12	.87	19	5	.26
26	40	50	5.4	25	9	.61	20	5	.27
27	21	30	1.7	45	50	6.1	19	5	.26
28	15	30	1.2	27	20	1.5	19	4	.21
29	13	22	.77	--	--	--	19	4	.21
30	15	10	.41	--	--	--	17	4	.18
31	13	8	.28	--	--	--	16	4	.17
TOTAL	717	--	133.38	2149.8	--	6405.08	867	--	243.81

	APRIL			MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	17	4	.18	14	2	.08	29	15	1.2
2	22	30	1.8	14	1	.04	27	54	13
3	24	15	.97	15	1	.04	64	315	98
4	18	8	.39	14	1	.04	35	129	14
5	17	3	.14	13	1	.04	21	20	1.1
6	50	13	2.5	15	1	.04	30	105	44
7	150	271	136	15	1	.04	44	248	35
8	34	9	.83	25	20	1.4	26	50	3.5
9	26	7	.45	21	15	.85	18	20	.97
10	22	7	.42	15	8	.32	16	10	.43
11	21	7	.40	13	6	.21	15	64	2.6
12	20	7	.38	13	4	.14	14	50	1.9
13	20	7	.38	238	1010	1270	15	15	.61
14	18	6	.29	37	25	2.5	14	40	1.5
15	17	5	.23	22	12	.71	17	45	2.1
16	17	4	.18	159	403	294	16	30	1.3
17	18	3	.15	39	20	2.1	14	15	.57
18	20	3	.16	24	12	.78	12	9	.29
19	17	2	.09	20	8	.43	12	8	.26
20	17	2	.09	20	6	.32	12	8	.26
21	17	2	.09	60	133	29	11	7	.21
22	16	2	.09	25	15	1.0	11	7	.21
23	16	2	.09	19	10	.51	10	7	.19
24	15	2	.08	17	8	.37	10	7	.19
25	15	2	.08	17	7	.32	9.4	7	.18
26	14	2	.08	17	6	.28	9.2	6	.15
27	14	2	.08	14	6	.23	9.1	6	.15
28	15	2	.08	14	6	.23	9.6	6	.16
29	15	2	.08	17	10	.46	9.0	5	.12
30	14	2	.08	59	153	33	9.0	5	.12
31	--	--	--	179	393	324	--	--	--
TOTAL	716	--	146.90	1184	--	1963.48	548.3	--	224.27

01650500 NORTHWEST BRANCH ANACOSTIA RIVER NEAR COLESVILLE, MD.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

	JULY			AUGUST			SEPTEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	50	694	468	50	414	455	12	8	.26
2	45	508	198	190	640	703	12	8	.26
3	13	30	1.1	81	248	310	12	7	.23
4	10	15	.41	472	450	649	11	7	.21
5	9.4	9	.23	78	461	152	10	7	.19
6	12	30	.97	20	40	2.2	10	6	.16
7	11	12	.36	15	20	.81	9.7	6	.16
8	8.2	8	.18	13	10	.35	9.4	6	.15
9	7.9	6	.13	11	8	.24	9.2	5	.12
10	7.8	10	.21	10	6	.16	8.8	5	.12
11	7.8	10	.21	30	284	63	155	832	595
12	7.7	9	.19	17	158	8.4	93	377	118
13	7.1	9	.17	11	20	.59	28	80	6.0
14	6.6	8	.14	9.7	15	.39	18	20	.97
15	6.7	8	.14	8.8	15	.36	15	12	.49
16	6.3	8	.14	8.8	15	.36	13	10	.35
17	6.2	7	.12	8.8	15	.36	37	100	10
18	6.4	7	.12	8.4	14	.32	16	40	1.7
19	8.9	7	.17	42	288	62	14	15	.57
20	8.4	6	.14	12	40	1.3	13	10	.35
21	6.6	6	.11	9.8	20	.53	12	8	.26
22	5.8	6	.09	9.2	10	.25	12	7	.23
23	5.6	5	.08	9.1	8	.20	12	7	.23
24	6.7	20	.36	8.2	6	.13	12	6	.19
25	9.2	40	.99	9.9	5	.13	10	6	.16
26	11	75	2.2	9.2	5	.12	14	15	.57
27	7.6	15	.31	461	844	1410	15	8	.32
28	5.9	10	.16	63	134	23	12	4	.13
29	39	523	231	20	35	1.9	11	4	.12
30	31	362	33	16	13	.56	11	4	.12
31	27	236	27	13	10	.35	--	--	--
TOTAL	401.8	--	966.43	1724.9	--	3847.01	627.1	--	737.62

TOTAL DISCHARGE FOR YEAR (CFS-DAYS) 10757.3
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR YEAR (TONS) 16553.92

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, FOR SELECTED DAYS, WATER YEARS 1966, 1967, 1969, 1970, 1971

DATE	TIME	TEMPER-ATURE (DEG C)	DIS-CHARGE (CFS)	SUS-PENDED SEDI-MENT (MG/L)	SUS-PENDED SEDI-MENT DIS-CHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .004 MM	SUS. SED. FALL DIAM. % FINER THAN .008 MM
FEB., 1966							
13...	1255	1.5	662	5070	9060	26	35
MAY							
19...	0555	18.0	50	9830	1330	53	69
JUNE, 1967							
22...	1730	23.0	213	9460	5440	48	65
JULY, 1969							
22...	2025	23.5	895	3520	8510	49	66
APR., 1970							
02...	1120	8.0	71	198	38	73	76
14...	1030	8.0	338	2000	1820	31	43
OCT.							
21...	1705	16.5	169	2070	945	28	52
JULY, 1971							
29...	2015	25.5	197	3700	1970	41	54
AUG.							
27...	1445	20.0	790	2610	5570	26	35

DATE	SUS. SED. FALL DIAM. % FINER THAN .016 MM	SUS. SED. FALL DIAM. % FINER THAN .031 MM	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM	SUS. SED. SIEVE DIAM. % FINER THAN .250 MM	SUS. SED. SIEVE DIAM. % FINER THAN .500 MM	SUS. SED. SIEVE DIAM. % FINER THAN 1.00 MM
FEB., 1966							
13...	45	55	64	75	89	99	100
MAY							
19...	86	95	97	99	100	--	--
JUNE, 1967							
22...	82	90	94	98	100	--	--
JULY, 1969							
22...	83	88	92	97	99	100	--
APR., 1970							
02...	85	92	94	97	99	100	--
14...	52	61	65	78	90	98	100
OCT.							
21...	65	72	83	91	98	100	--
JULY, 1971							
29...	70	81	86	93	97	99	100
AUG.							
27...	47	62	73	87	97	100	--

01651000 NORTHWEST BRANCH ANACOSTIA RIVER NEAR HYATTSVILLE, MD.

LOCATION.--Lat 38°57'09", long 76°58'00", Prince Georges County, at gaging station, on Queens Chapel Road (Maryland State Highway 500), 0.8 mile downstream from Sligo Branch, 1 mile west of Hyattsville, and 1.6 miles upstream from confluence with Northeast Branch.

DRAINAGE AREA.--49.4 sq mi.

PERIOD OF RECORD.--Chemical analyses: July 1969 to September 1971.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	DIS-CHARGE (CFS)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	BICAR-BONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	COLOR (PLAT-INUM-COBALT UNITS)
OCT.												
07...	4.5	270	160	75	25	19	.2	.003	142	80	0	2
SEP.												
29...	20	210	99	53	14	6.8	.2	.070	102	60	17	2

DATE	COLOR (THRES-HOLD NUMBER)	DIS-SOLVED ALUM-INUM (AL) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)	TOTAL CHRO-MIUM (CR) (UG/L)	TUR-BID-ITY (JTU)	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)
OCT.											
07...	0	0	0	9	0	70	7	3	3	3.1	.07
SEP.											
29...	1	100	0	4	0	90	18	2	6	.3	.07

DATE	CYANIDE (CN) (MG/L)	PHENOLS (UG/L)	DIS-SOLVED GROSS ALPHA AS U-NAT. (PC/L)	SUS-PENDED GROSS ALPHA AS U-NAT. (PC/L)	TOTAL ALPHA (PC/L)	DIS-SOLVED GROSS BETA AS CS-137 (PC/L)	SUS-PENDED GROSS BETA AS CS-137 (PC/L)	TOTAL BETA (PC/L)	CAR-BONATE (CO3) (MG/L)
OCT.									
07...	.00	1	1.2	<.1	1.2	16	<.4	16	0
SEP.									
29...	.00	0	<.5	<.1	.3	6.5	<.4	6.7	0

ON-SITE DATA, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	TIME	DIS-CHARGE (CFS)	TEMPER-ATURE (DEG C)	DIS-SOLVED OXYGEN (MG/L)	PH (UNITS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	FECAL COLI-FORM (COL. PER 100 ML)
OCT.							
07...	1235	4.5	17.0	10.5	7.6	220	350
NOV.							
23...	1152	18	5.5	11.2	7.2	175	260
DEC.							
10...	1411	15	6.0	12.4	7.3	172	500
JAN.							
07...	1423	40	1.0	13.6	6.8	220	660
FEB.							
18...	1210	40	4.5	12.9	6.8	210	390
MAR.							
11...	1542	37	8.0	10.6	7.1	195	56
APR.							
08...	1200	67	9.0	12.0	7.1	170	330
MAY							
10...	1243	29	17.0	9.3	7.4	195	4900
JUNE							
17...	1305	20	21.0	10.4	7.5	180	900
JULY							
16...	1240	9.5	25.0	10.4	7.9	195	720
AUG.							
25...	1305	13	24.0	9.9	8.0	195	500
SEP.							
29...	1342	20	20.5	9.7	7.6	170	290

01661000 CHAPTICO CREEK AT CHAPTICO, MD.

LOCATION.--Lat 38°22'45", long 76°46'56", St. Marys County, at gaging station 0.8 mile north of Chaptico, and 0.8 mile upstream from Chaptico Bay.

DRAINAGE AREA.--10.7 sq mi.

PERIOD OF RECORD.--Chemical analyses: December 1965 to September 1971

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	TOTAL IRON (FE) (UG/L)	TOTAL MAN-GANESE (MN) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
NOV.											
10...	1.8	12	840	10	5.8	2.8	3.6	2.4	36	7.4	7.8
DEC.											
04...	4.3	11	960	100	9.3	2.5	3.4	1.8	27	10	7.8
JAN.											
26...	10	9.7	530	130	7.8	2.4	3.3	1.5	16	13	7.3
MAR.											
05...	17	9.0	430	130	7.0	2.4	3.2	1.7	13	15	5.3
APR.											
22...	9.5	4.9	680	80	7.2	2.4	3.2	1.4	18	11	5.3
MAY											
27...	7.9	8.9	880	160	7.1	2.0	3.0	1.4	--	10	4.8
JULY											
21...	4.8	10	1300	100	7.5	2.3	3.1	1.8	23	9.2	6.4
AUG.											
30...	5.8	12	920	80	7.8	2.1	3.1	2.0	21	10	6.0

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS_ SOLVED NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	COLOR (PLAT-INUM-COBALT UNITS)	TEMPER-ATURE (DEG C)
NOV.									
10...	.1	.3	64	36	7	99	7.0	15	11.5
DEC.									
04...	.1	1.4	60	34	12	108	7.1	15	10.0
JAN.									
26...	.2	3.0	56	30	17	90	7.0	0	4.0
MAR.									
05...	.1	4.0	54	28	17	87	6.7	15	--
APR.									
22...	.1	1.4	46	28	13	77	6.5	3	--
MAY									
27...	.1	.0	47	26	10	77	--	1	15.0
JULY									
21...	.2	1.4	53	28	9	84	6.8	35	19.5
AUG.									
30...	.1	1.2	54	28	11	87	6.9	15	19.5

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT FOR SELECTED DAYS, WATER YEARS 1963 TO 1970

POTOMAC RIVER BASIN

01650190 - BATCHELLORS RUN AT OAKDALE, MD. (LAT 39°07'21" LONG 77°03'37")

DATE	TIME	TEMPERATURE (DEG C)	DISCHARGE (CFS)	SUSPENDED SEDIMENT (MG/L)	SUSPENDED SEDIMENT DISCHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .004 MM	SUS. SED. FALL DIAM. % FINER THAN .008 MM
JUNE, 1968							
19...	2110	19.0	14	1010	40	74	88
JUNE, 1969							
03...	0020	19.0	19	1220	64	41	59
APR., 1970							
02...	1325	11.0	9.1	952	23	40	56

DATE	SUS. SED. FALL DIAM. % FINER THAN .016 MM	SUS. SED. FALL DIAM. % FINER THAN .031 MM	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM	SUS. SED. SIEVE DIAM. % FINER THAN .250 MM	SUS. SED. SIEVE DIAM. % FINER THAN .500 MM
JUNE, 1968						
19...	97	98	99	100	--	--
JUNE, 1969						
03...	76	85	90	96	99	100
APR., 1970						
02...	70	83	94	99	100	--

01650470 - LUTES RUN AT LUTES, MD. (LAT 39°04'24" LONG 77°03'08")

DATE	TIME	TEMPERATURE (DEG C)	DISCHARGE (CFS)	SUSPENDED SEDIMENT (MG/L)	SUSPENDED SEDIMENT DISCHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .002 MM	SUS. SED. FALL DIAM. % FINER THAN .004 MM	SUS. SED. FALL DIAM. % FINER THAN .008 MM
MAR., 1963								
19...	1610	4.5	5.2	7210	101	--	25	31
SEP., 1965								
24...	1525	22.0	8.2	4490	99	38	50	65
FEB., 1966								
13...	1115	3.5	64	5460	943	--	27	34
JUNE, 1969								
18...	2140	19.0	18	3720	181	--	42	54
APR., 1970								
02...	1250	--	18	3940	197	--	29	38

DATE	SUS. SED. FALL DIAM. % FINER THAN .016 MM	SUS. SED. FALL DIAM. % FINER THAN .031 MM	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM	SUS. SED. SIEVE DIAM. % FINER THAN .250 MM	SUS. SED. SIEVE DIAM. % FINER THAN .500 MM	SUS. SED. SIEVE DIAM. % FINER THAN 1.00 MM
MAR., 1963							
19...	39	51	64	82	95	99	100
SEP., 1965							
24...	78	83	88	93	98	100	--
FEB., 1966							
13...	46	58	70	83	92	99	100
JUNE, 1969							
18...	73	75	82	92	98	100	--
APR., 1970							
02...	46	53	65	82	97	100	--

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES IN DELAWARE

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	DIS-SOLVED SODIUM PLUS POTAS-SIUM (MG/L)	BICAR-BONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)
DELAWARE RIVER BASIN											
01477400 - S. BR NAAMAN CREEK NEAR CLAYMOUNT, DEL. (LAT 39 49 00 LONG 075 29 40)											
APR., 1971 27...	2.1	8.9	10	4.8	14	1.4	--	30	7.0	23	.4
01479500 - MILL CREEK AT STANTON, DEL. (LAT 39 42 50 LONG 075 40 00)											
APR., 1971 27...	9.6	6.8	12	4.6	6.3	2.9	--	36	16	9.9	.0
01482300 - RED LION CREEK AT RED LION, DEL. (LAT 39 36 20 LONG 075 39 55)											
APR., 1971 27...	1.1	8.2	5.9	3.3	6.0	2.4	--	6	18	10	.4
01483150 - WIGGINS MILLPOND OUTLET AT TOWNSEND, DEL. (LAT 39 24 12 LONG 075 42 16)											
APR., 1971 26...	2.7	6.8	10	3.9	5.9	2.9	--	23	13	11	.0
ST. JONES RIVER BASIN											
01483650 - FORK BRANCH AT DUPONT, DEL. (LAT 39 11 56 LONG 075 34 40)											
APR., 1971 27...	3.9	18	14	2.5	7.2	2.0	--	39	14	8.5	.5
01483680 - MAIDSTONE BRANCH AT DUPONT, DEL. (LAT 39 11 18 LONG 075 34 04)											
APR., 1971 26...	9.4	14	6.3	2.0	8.5	2.2	--	17	11	10	.3
MURDERKILL RIVER BASIN											
01484020 - BROWNS BRANCH NEAR HOUSTON, DEL. (LAT 38 57 31 LONG 075 30 33)											
APR., 1971 27...	16	15	8.2	2.2	9.8	2.5	--	17	14	10	.2
01484050 - PRATT BRANCH NEAR FELTON, DEL. (LAT 39 00 37 LONG 075 31 46)											
APR., 1971 27...	3.2	14	7.2	3.9	7.0	1.8	--	10	13	12	.1
01484060 - DOUBLE RUN NEAR MAGNOLIA, DEL. (LAT 39 03 16 LONG 075 29 43)											
APR., 1971 28...	5.3	--	3.9	2.8	--	--	7.4	13	5.7	8.0	--
BROADKILL RIVER BASIN											
01484240 - PEMBERTON BRANCH NEAR MILTON, DEL. (LAT 38 46 26 LONG 075 20 29)											
APR., 1971 27...	16	--	2.6	.9	--	--	4.6	6	2.9	6.1	--
01484270 - BEAVERDAM CREEK NEAR MILTON, DEL. (LAT 38 45 41 LONG 075 16 03)											
APR., 1971 27...	12	12	4.6	1.6	9.7	3.1	--	8	9.1	12	.0
INDIAN RIVER BASIN											
01484550 - PEPPER CREEK AT DAGSBORO, DEL. (LAT 38 32 50 LONG 075 14 40)											
APR., 1971 27...	4.4	14	12	2.9	9.2	3.3	--	13	22	16	.0
NANTICOKE RIVER BASIN											
01487700 - ELLIOTT POND BRANCH NEAR LAUREL, DEL. (LAT 38 34 39 LONG 075 31 42)											
APR., 1971 27...	12	12	5.5	1.8	6.5	2.5	--	10	2.9	8.1	.0

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	DIS- SOLVED NITRATE (NO3) (MG/L)	DIS- SOLVED ORTHO PHOS- PHATE (PO4) (MG/L)	HARD- NESS (CA,MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)
DELAWARE RIVER BASIN										
01477400 - S. BR NAAMAN CREEK NEAR CLAYMOUNT, DEL. (LAT 39 49 00 LONG 075 29 40)										
APR., 1971 27...	11	.03	45	20	--	95	170	7.7	12.5	10
01479500 - MILL CREEK AT STANTON, DEL. (LAT 39 42 50 LONG 075 40 00)										
APR., 1971 27...	5.0	.00	49	20	--	81	139	7.6	13.5	2
01482300 - RED LION CREEK AT RED LION, DEL. (LAT 39 36 20 LONG 075 39 55)										
APR., 1971 27...	5.1	.02	28	23	83	62.	106	6.9	14.0	7
01483150 - WIGGINS MILLPOND OUTLET AT TOWNSEND, DEL. (LAT 39 24 12 LONG 075 42 16)										
APR., 1971 26...	10	.02	41	22	--	75	113	7.2	15.0	1
ST. JONES RIVER BASIN										
01483650 - FORK BRANCH AT DUPONT, DEL. (LAT 39 11 56 LONG 075 34 40)										
APR., 1971 27...	2.0	.24	45	13	104	88	123	7.5	15.0	35
01483680 - MAIDSTONE BRANCH AT DUPONT, DEL. (LAT 39 11 18 LONG 075 34 04)										
APR., 1971 26...	4.1	.22	24	10	--	67	104	7.2	13.5	30
MURDERKILL RIVER BASIN										
01484020 - BROWNS BRANCH NEAR HOUSTON, DEL. (LAT 38 57 31 LONG 075 30 33)										
APR., 1971 27...	10	.24	30	16	--	80	119	7.2	14.0	5
01484050 - PRATT BRANCH NEAR FELTON, DEL. (LAT 39 00 37 LONG 075 31 46)										
APR., 1971 27...	12	.00	34	26	--	76	119	7.1	15.0	1
01484060 - DOUBLE RUN NEAR MAGNOLIA, DEL. (LAT 39 03 16 LONG 075 29 43)										
APR., 1971 28...	11	.02	21	11	--	--	95	7.3	11.5	17
BROADKILL RIVER BASIN										
01484240 - PEMBERTON BRANCH NEAR MILTON, DEL. (LAT 38 46 26 LONG 075 20 29)										
APR., 1971 27...	4.1	.01	10	5	--	--	56	7.1	13.0	25
01484270 - BEAVERDAM CREEK NEAR MILTON, DEL. (LAT 38 45 41 LONG 075 16 03)										
APR., 1971 27...	15	1.8	18	12	--	71	103	6.8	15.0	10
INDIAN RIVER BASIN										
01484550 - PEPPER CREEK AT DAGSBORO, DEL. (LAT 38 32 50 LONG 075 14 40)										
APR., 1971 27...	11	.02	42	32	--	97	156	7.4	14.0	30
NANTICOKE RIVER BASIN										
01487700 - ELLIOTT POND BRANCH NEAR LAUREL, DEL. (LAT 38 34 39 LONG 075 31 42)										
APR., 1971 27...	17	.00	21	13	--	61	79	7.3	14.5	5

03076500 YOUGHIOGHENY RIVER AT FRIENDSVILLE, MD.

LOCATION.--Lat 39°39'13", long 79°24'31", Garrett County, temperature recorder at gaging station on left bank 0.7 mile upstream from bridge on State Highway 42 at Friendsville, and 1.5 miles upstream from Bear Creek
DRAINAGE AREA.--295 sq mi.
PERIOD OF RECORD.--Water temperatures: October 1962 to September 1971.
EXTREMES.--1970-71:
Water temperatures: Maximum, 26.5°C June 27, 28; minimum, freezing point on many days during winter period.
Period of record:
Water temperatures: Maximum, 29.5°C June 27, 28, 1969; minimum, freezing point on many days during winter period.
REMARKS.--Records fair, probably because of friction in recorder.

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971
(CONTINUOUS ETHYL ALCOHOL-ACTUATED THERMOGRAPH)

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	14.5	13.5	11.0	10.0	5.5	4.5	0.0	0.0	0.0	0.0	5.0	4.0
2	16.0	13.5	11.0	11.0	6.0	5.5	0.0	0.0	0.0	0.0	4.5	4.0
3	16.0	14.5	11.0	9.5	5.5	4.0	0.0	0.0	0.0	0.0	4.0	2.5
4	14.5	11.0	9.0	7.0	5.0	4.0	0.5	0.0	0.0	0.0	2.5	0.5
5	13.0	10.5	7.0	6.5	4.0	3.5	0.5	0.0	0.0	0.0	2.5	0.5
6	15.0	12.0	6.5	6.0	3.5	0.5	0.5	0.0	0.0	0.0	2.5	1.5
7	16.0	13.5	6.5	6.0	0.5	0.0	0.5	0.0	0.0	0.0	2.5	2.5
8	16.0	14.5	6.5	5.5	1.0	0.0	0.0	0.0	0.0	0.0	2.5	1.5
9	18.0	15.0	6.5	6.0	2.0	1.0	0.0	0.0	0.0	0.0	2.5	0.5
10	16.5	16.0	8.5	6.5	3.0	2.0	1.0	0.0	0.0	0.0	2.5	1.5
11	16.5	16.0	9.0	8.5	3.5	3.0	1.0	0.5	0.0	0.0	2.5	2.5
12	16.5	15.5	9.5	9.0	5.0	3.5	1.0	1.0	1.5	0.0	4.5	2.5
13	18.0	16.5	9.5	9.5	5.0	4.0	1.0	1.0	1.0	0.0	4.0	4.0
14	18.0	16.5	9.5	8.5	4.0	2.0	2.0	1.0	0.0	0.0	5.0	4.0
15	17.0	16.0	8.5	6.5	2.0	2.0	2.0	1.5	0.0	0.0	5.5	5.0
16	16.0	11.5	6.5	4.5	2.0	1.5	1.5	0.5	0.5	0.0	5.5	5.0
17	11.5	10.0	4.5	4.5	2.0	1.5	0.5	0.0	0.5	0.0	5.0	3.5
18	11.0	8.5	4.5	4.0	2.0	2.0	0.0	0.0	2.0	0.0	3.5	2.5
19	11.0	8.0	5.0	4.5	3.5	2.0	0.0	0.0	2.0	1.0	3.5	3.5
20	11.0	9.5	6.0	5.0	3.5	3.0	0.0	0.0	3.0	2.0	3.5	2.5
21	11.5	10.5	6.0	5.0	3.0	2.5	0.0	0.0	3.0	2.5	3.5	1.5
22	13.0	11.5	5.0	3.5	3.5	2.5	1.0	0.0	2.5	2.5	4.0	3.0
23	12.0	11.5	4.5	1.5	4.0	3.5	1.0	0.0	2.5	2.5	3.5	2.5
24	12.0	11.0	1.5	0.0	4.0	3.0	0.0	0.0	2.5	2.0	2.5	1.5
25	13.0	11.0	0.5	0.0	3.0	2.0	1.0	0.0	3.0	2.0	2.5	0.5
26	13.0	11.0	0.5	0.0	2.0	0.5	1.0	0.0	4.0	3.0	2.5	2.0
27	12.0	11.0	3.5	0.5	0.5	0.0	0.0	0.0	5.5	4.0	4.5	1.5
28	11.0	9.5	4.0	3.5	0.0	0.0	0.0	0.0	5.5	4.5	6.5	3.0
29	9.5	9.5	5.5	4.0	0.0	0.0	0.0	0.0	---	---	6.5	5.5
30	10.5	9.5	6.0	5.5	0.0	0.0	0.0	0.0	---	---	5.5	4.5
31	10.5	10.0	---	---	0.0	0.0	0.0	0.0	---	---	5.5	3.5
MONTH	18.0	8.0	11.0	0.0	6.0	0.0	2.0	0.0	5.5	0.0	6.5	0.5

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

03078000 CASSELMAN RIVER AT GRANTSVILLE, MD.

LOCATION.--Lat 39°42'08", long 79°08'12", Garrett County, at gaging station on left bank at downstream side of highway bridge, 0.3 mile upstream from Slaubough Run, 0.7 mile downstream from U. S. Highway 40, and 1.0 mile northeast of Grantsville.

DRAINAGE AREA.--62.5 sq mi.

PERIOD OF RECORD.--Chemical analyses: August 1965 to September 1971

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1971

DATE	DIS-CHARGE (CFS)	DIS-SOLVED SILICA (SIO2) (MG/L)	TOTAL IRON (FE) (UG/L)	TOTAL MAN-GANESE (MN) (UG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
OCT.											
14...	17	2.9	360	150	17	4.1	11	2.4	23	32	24
DEC.											
15...	170	4.5	180	120	9.6	2.5	5.3	1.0	8	22	12
29...	466	4.3	220	180	8.3	2.3	4.6	.8	5	22	9.7
FEB.											
18...	256	3.1	260	180	7.8	2.1	7.3	1.3	8	18	14
APR.											
23...	64	3.6	160	150	8.1	2.3	4.5	1.1	9	19	8.6
JUNE											
10...	38	3.9	280	100	10	2.6	4.9	1.2	13	23	9.1
JULY											
28...	12	2.8	340	60	14	3.9	5.5	1.3	22	30	12
SEP.											
14...	2350	1.4	1200	400	6.7	1.3	1.3	1.4	6	19	2.6

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS-SOLVED NITRATE (NO3) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	COLOR (PLAT-INUM-COBALT UNITS)	TEMPER-ATURE (DEG C)
OCT.									
14...	.1	1.0	106	60	41	201	7.0	3	17.8
DEC.									
15...	.1	2.3	63	35	28	113	6.4	0	2.0
29...	.1	1.9	56	30	26	99	6.0	0	.0
FEB.									
18...	.1	2.4	60	28	22	112	6.1	0	.5
APR.									
23...	.1	1.5	53	30	23	109	6.4	0	10.5
JUNE									
10...	.1	1.5	62	36	25	117	6.4	2	22.0
JULY									
28...	.1	.8	81	51	33	151	7.3	5	19.0
SEP.									
14...	.1	.9	38	22	17	71	6.0	7	15.5

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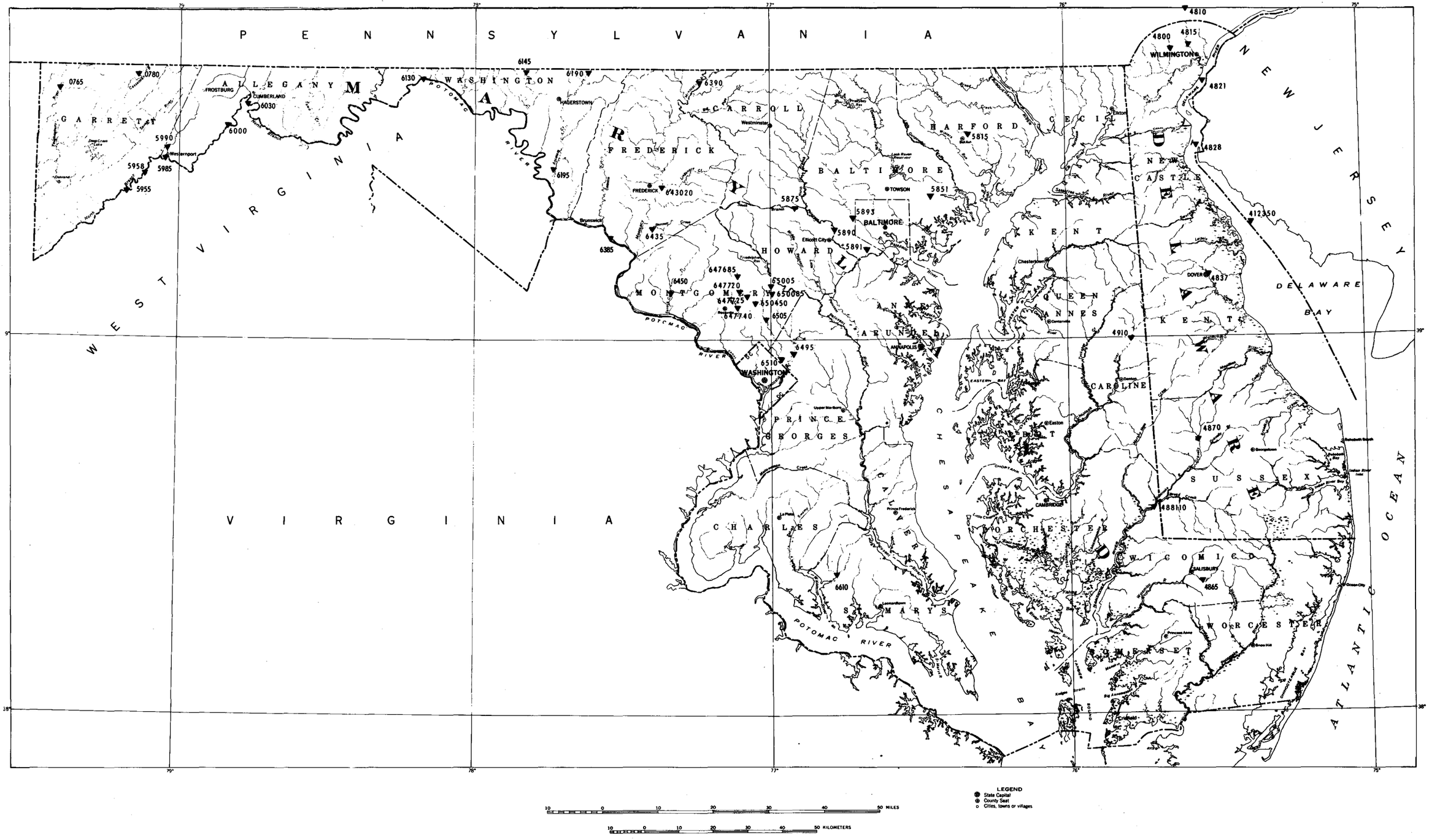

LEGEND
State Capital
County Seat
Cities, towns or villages

10 0 10 20 30 40 50 MILES
10 0 10 20 30 40 50 KILOMETERS

Figure 1.——Map of Maryland and Delaware showing locations of water-quality stations

U. S. DEPARTMENT OF THE INTERIOR
Geological Survey
~~784 York Road~~
~~Towson, Maryland 21204~~

POSTAGE AND FEES PAID
U.S. DEPARTMENT OF THE INTERIOR