1970

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 1970

OCTOBER 1969

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 1969

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 1969

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 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

FEBRUARY 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

MARCH 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				

APRIL 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		

MAY 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						

JUNE 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				

JULY 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	

AUGUST 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					

SEPTEMBER 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			

1970

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

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, 1970 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

1973

CONTENTS

TABLES

ILLUSTRATION

IV WATER-QUALITY STATIONS IN DOWNSTREAM ORDER FOR WHICH RECORDS ARE PUBLISHED

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

WATER RESOURCES DATA FOR MARYLAND AND DELAWARE, 1970

Part 2. Water Quality Records

INTRODUCTION

Water resources data for the 1970 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 as follows:

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. 6.

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.

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 1970.
Water temperatures: March to September 1970.

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	32700	26000	29860	36700	31500	34530	30400	22100	26170	---	---	---
2	34000	25900	30410	37700	32400	35150	32200	24200	28870	---	---	---
3	32600	21200	28720	37000	28600	33690	31500	24200	27980	---	---	---
4	34000	23600	29200	36100	28700	32570	33000	25100	29430	---	---	---
5	36200	26900	31230	34900	30500	33030	33700	28900	31010	---	---	---
6	35900	23300	30610	35100	29900	32300	33300	30000	31500	---	---	---
7	35500	25900	31090	36700	30500	34160	35600	29900	31870	---	---	---
8	34500	30100	32390	37600	32800	35250	36300	31800	32970	---	---	---
9	34900	30200	32020	38300	32800	35760	33100	30600	31360	---	---	---
10	34300	29700	32210	40300	34300	36810	32900	29900	31300	---	---	---
11	34600	30600	32690	39200	33700	35940	33800	27800	31090	---	---	---
12	35300	31000	33140	37900	31700	34870	28700	25100	27190	---	---	---
13	35800	30200	33010	35500	30000	32460	26500	22100	24860	---	---	---
14	35900	30300	32670	35200	31100	32650	27200	21700	24080	---	---	---
15	36800	29900	33060	33800	25500	29680	26100	22100	23970	---	---	---
16	36000	31300	33520	30500	25400	27850	25700	19700	23100	---	---	---
17	39700	29600	32070	33200	26100	29000	24400	17200	21280	---	---	---
18	34600	26900	30800	32700	28000	30090	25100	19100	22200	---	---	---
19	33500	27400	31050	34600	28100	31620	25800	20000	22020	---	---	---
20	34400	27400	31110	31600	26400	28500	---	---	---	---	---	---
21	38900	27600	30920	30300	24000	27480	---	---	---	---	---	---
22	36000	26900	31820	29000	25000	26660	---	---	---	---	---	---
23	34300	28500	31160	28600	25100	26790	---	---	---	---	---	---
24	36300	28800	33000	29200	24700	26870	---	---	---	---	---	---
25	34300	29600	32100	29100	24400	26630	---	---	---	---	---	---
26	36100	29400	32670	30200	22500	26970	---	---	---	---	---	---
27	36400	30100	33320	28800	23000	25350	---	---	---	---	---	---
28	35500	29700	33080	28500	24200	26160	---	---	---	---	---	---
29	36400	29600	---	28900	22800	25900	---	---	---	---	---	---
30	---	---	---	30000	21400	25690	---	---	---	---	---	---
31	35900	32300	---	---	---	---	---	---	---	---	---	---
MONTH	39700	21200	31750	40300	21400	30680	---	---	---	---	---	---

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

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	FEBRUARY			MARCH			APRIL			MAY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	16800	8600	12380	---	---	---
4	---	---	---	---	---	---	17800	10600	14540	32800	24200	---
5	---	---	---	---	---	---	14600	7400	10900	32400	15700	24440
6	---	---	---	22400	19600	---	18000	10300	12670	29300	13400	18450
7	---	---	---	23600	20000	21330	17500	10800	14840	20300	14100	17330
8	---	---	---	26800	20400	23080	14200	11300	---	19300	14400	16520
9	40000	26000	---	30400	20000	24100	---	---	---	20600	14700	17430
10	52800	27200	37700	28000	19200	22200	---	---	---	20900	14700	17250
11	39200	9200	28450	27200	18400	22020	---	---	---	19600	13700	16620
12	29200	8400	22270	24800	18000	21270	---	---	---	23200	13700	18700
13	27200	17600	22090	25600	17200	22400	---	---	---	25900	13700	19440
14	25200	13200	20210	25200	16800	21780	---	---	---	27500	15700	21450
15	37600	17200	27300	27200	14400	19990	---	---	---	22600	18600	---
16	37600	17200	26800	24800	18400	---	---	---	---	---	---	---
17	37200	19600	---	19000	13900	---	---	---	---	---	---	---
18	---	---	---	23300	13900	19200	---	---	---	---	---	---
19	---	---	---	24200	17000	21400	---	---	---	---	---	---
20	---	---	---	25400	20400	23200	---	---	---	---	---	---
21	---	---	---	24000	18500	21000	---	---	---	---	---	---
22	---	---	---	25200	18500	21600	---	---	---	---	---	---
23	---	---	---	22800	18000	20500	---	---	---	---	---	---
24	---	---	---	19700	17000	18700	---	---	---	---	---	---
25	---	---	---	19200	15600	18000	---	---	---	---	---	---
26	---	---	---	23000	18000	19700	---	---	---	---	---	---
27	---	---	---	19400	14700	17000	---	---	---	---	---	---
28	---	---	---	18000	14400	16600	---	---	---	23600	16000	---
29	---	---	---	19200	17800	---	---	---	---	23200	17200	19820
30	---	---	---	---	---	---	---	---	---	23200	18000	21180
31	---	---	---	---	---	---	---	---	---	26000	18800	22120
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

	JUNE			JULY			AUGUST			SEPTEMBER		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	30000	19200	23700	20000	17200	18680	---	---	---	35600	31600	33980
2	24800	19600	22470	23200	18000	20570	---	---	---	34800	33200	34280
3	27600	19200	23660	23600	17600	21380	---	---	---	38800	33600	35330
4	27200	16400	21920	29600	17200	24180	---	---	---	39600	32000	35530
5	21200	14400	18170	24800	18000	20500	---	---	---	36000	31600	33680
6	19600	14400	17450	20800	17600	19400	---	---	---	35600	31600	33560
7	18000	14000	16220	21600	18400	19800	---	---	---	35200	31600	33420
8	16800	13200	15530	21200	18000	20000	---	---	---	37200	32800	34580
9	16800	13200	15120	30000	18400	25700	---	---	---	35800	33600	34550
10	16800	13600	15670	33600	25200	29100	---	---	---	35200	30000	33300
11	26000	14000	17980	31200	19200	24300	---	---	---	38800	32400	34380
12	19200	14400	16600	23200	17200	20200	---	---	---	35200	32800	34070
13	17600	14400	16150	22000	17600	19700	30800	27200	---	34800	33600	34220
14	17600	13200	15870	24000	17200	20300	32000	22800	29480	34800	31600	33350
15	18400	14400	16230	25200	18200	---	32800	30400	31470	34400	32400	33230
16	22800	15600	19370	---	---	---	31600	28400	30100	34800	31600	33080
17	23600	18000	20950	---	---	---	32800	26800	28670	34400	30800	32530
18	22400	16000	20450	---	---	---	30000	26400	27650	37200	32400	34770
19	21600	16800	19170	---	---	---	31600	27200	28830	38400	32800	34910
20	20400	16800	18050	---	---	---	34400	28800	30600	36000	32400	34320
21	28800	17200	20670	---	---	---	35600	29200	31580	35600	32400	33880
22	22800	16000	18900	---	---	---	33600	29200	31050	36000	30400	33050
23	20000	16000	17930	---	---	---	36000	31200	33970	34400	30000	31900
24	20400	15600	18330	---	---	---	33200	30800	32120	38400	30800	34750
25	24800	16400	19330	---	---	---	35600	30000	32050	40400	30800	35320
26	22800	16800	20350	---	---	---	34800	28800	31550	39600	31200	34870
27	32400	16800	20730	---	---	---	34800	28800	31430	37600	33600	35800
28	28800	16400	19480	---	---	---	34800	30000	31920	36400	33600	35370
29	20400	15600	18080	---	---	---	34000	30400	32270	36800	32800	35570
30	19600	16800	18200	---	---	---	36400	31200	32770	36800	34000	35580
31	---	---	---	---	---	---	35600	31200	33420	---	---	---
MONTH	32400	13200	18760	---	---	---	---	---	---	40400	30000	34240

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

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

	FEBRUARY			MARCH			APRIL			MAY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	---	---	---	6.0	5.5	5.5	---	---	---
2	---	---	---	---	---	---	6.5	5.5	6.0	---	---	---
3	---	---	---	---	---	---	7.0	6.0	6.5	---	---	---
4	---	---	---	---	---	---	7.0	6.5	7.0	14.0	14.0	---
5	---	---	---	---	---	---	8.0	6.5	7.0	14.5	14.0	14.0
6	---	---	---	3.0	2.0	---	7.0	6.5	7.0	14.0	13.5	14.0
7	---	---	---	3.5	3.0	3.0	8.0	7.0	7.5	14.0	13.5	13.5
8	---	---	---	3.5	3.0	3.0	8.5	7.0	8.0	14.0	13.5	13.5
9	1.0	0.5	---	3.5	3.0	3.0	8.5	8.0	8.0	14.5	13.5	14.0
10	1.5	1.0	1.5	3.5	3.0	3.0	8.5	8.0	8.5	15.5	14.0	14.5
11	1.5	1.0	1.0	4.0	3.5	3.5	9.0	8.0	8.5	16.5	15.0	15.5
12	1.0	1.0	1.0	4.0	3.5	4.0	9.0	8.0	8.5	17.0	15.5	16.0
13	1.5	1.0	1.5	4.0	4.0	4.0	9.0	8.5	9.0	18.5	15.5	17.0
14	1.0	1.0	1.0	4.0	3.5	4.0	9.0	8.0	9.0	18.5	16.0	17.5
15	1.0	0.5	1.0	4.0	3.5	3.5	9.0	8.0	8.5	18.0	17.0	17.0
16	1.0	1.0	1.0	3.5	3.0	---	9.0	8.5	9.0	18.0	16.5	16.5
17	1.0	1.0	---	4.0	3.5	---	9.5	8.5	---	17.0	16.0	16.5
18	---	---	---	3.5	3.5	3.5	---	---	---	17.0	16.0	16.0
19	---	---	---	4.0	3.5	3.5	---	---	---	18.0	16.0	16.5
20	---	---	---	3.5	3.5	3.5	---	---	---	17.0	16.5	16.5
21	---	---	---	4.0	3.5	4.0	10.0	9.5	---	18.5	16.5	17.5
22	---	---	---	4.0	4.0	4.0	10.5	9.5	10.0	18.5	17.0	17.5
23	---	---	---	4.0	4.0	4.0	10.5	10.0	---	19.0	18.0	18.5
24	---	---	---	4.5	4.0	4.0	---	---	---	19.0	18.0	19.0
25	---	---	---	5.0	4.5	4.5	---	---	---	19.0	18.5	19.0
26	---	---	---	5.5	4.5	5.0	---	---	---	19.5	18.5	19.0
27	---	---	---	5.5	5.0	5.5	---	---	---	19.5	19.0	19.0
28	---	---	---	6.0	5.5	5.5	---	---	---	19.5	18.5	19.0
29	---	---	---	6.0	5.5	5.5	---	---	---	20.0	19.0	19.5
30	---	---	---	6.0	5.5	5.5	---	---	---	20.0	19.0	19.5
31	---	---	---	5.5	5.5	5.5	---	---	---	20.0	19.5	19.5
MONTH	---	---	---	6.0	2.0	---	---	---	---	20.0	13.5	17.0

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

NOTE.--NO DATA OCT. TO JAN.

01478500 WHITE CLAY CREEK ABOVE NEWARK, DEL.

LOCATION.--Lat 39°42'52", long 75°45'34", New Castle County, gaging station on right bank at downstream wingwall of abandoned bridge, 0.9 mile downstream from small tributary, 1.7 miles southeast of Delaware-Maryland-Pennsylvania State corner, 2.1 miles downstream from Pennsylvania-Delaware State line, 2.2 miles north of Newark, and 12.8 miles upstream from mouth.

DRAINAGE AREA.--66.7 sq mi.

PERIOD OF RECORD.--Sediment records: October 1964 to September 1970 (periodic).

REMARKS.--Specific conductance, pH, and temperature of sediment samples are on file at the WRD district office in Parkville, Md.

SUSPENDED-SEDIMENT FOR SELECTED DAYS, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	MEAN DIS-CHARGE (CFS)	SUS-PENDED SEDI-MENT (MG/L)	SUS-PENDED SEDI-MENT DIS-CHARGE (T/DAY)
OCT.			
04...	32	425	39
06...	28	1	.08
08...	37	179	17
10...	28	0	.00
13...	29	2	.16
17...	29	2	.16
20...	29	4	.31
21...	57	935	145
24...	28	3	.23
27...	30	2	.16
31...	29	1	.08
NOV.			
03...	45	0	.00
07...	38	1	.10
09...	52	284	39
10...	45	15	1.8
14...	35	2	.19
17...	32	1	.09
24...	32	2	.17
26...	29	2	.16
29...	29	6	.47
DEC.			
01...	29	11	.86
05...	26	10	.70
08...	120	264	93
15...	60	2	.32
19...	50	3	.40
22...	271	603	656
23...	139	250	102
26...	196	528	330
29...	84	380	86
JAN.			
02...	110	585	174
05...	84	6	1.4
09...	64	1	.17
12...	74	1	.20
16...	60	1	.16
18...	120	117	38
19...	92	15	3.7
23...	50	1	.14
26...	80	45	9.7
28...	70	1020	143
29...	150	802	322
FEB.			
02...	328	1700	1300
06...	92	181	45
09...	84	390	88
10...	215	1740	1020
11...	157	1000	429
13...	92	520	129
15...	103	450	125
16...	103	400	111
17...	94	722	184
18...	112	898	271
MAR.			
02...	61	40	6.6
11...	56	4	.60
15...	59	25	4.0
18...	57	7	1.1
22...	103	78	38
23...	135	156	73
24...	76	17	3.5
25...	71	8	1.5
26...	73	13	2.6
27...	122	60	20
28...	76	16	3.3
31...	73	15	3.0
APR.			
01...	70	9	1.7
02...	887	2710	10100
03...	259	361	310
04...	132	48	17
05...	120	25	8.1
06...	110	15	4.5
07...	105	12	3.4
08...	103	11	3.1
09...	98	11	2.9
10...	96	10	2.6
11...	96	10	2.6
12...	94	9	2.3

01478500 WHITE CLAY CREEK ABOVE NEWARK, DEL.--Continued

SUSPENDED-SEDIMENT FOR SELECTED DAYS, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	MEAN DISCHARGE (CFS)	SUSPENDED SEDIMENT (MG/L)	SUSPENDED SEDIMENT DISCHARGE (T/DAY)
APR.			
13...	92	9	2.2
14...	337	427	923
15...	484	364	577
16...	166	45	20
17...	142	16	6.1
18...	135	14	5.1
19...	130	12	4.2
20...	243	358	319
21...	153	59	25
22...	140	16	6.0
23...	137	14	5.2
24...	193	102	66
25...	153	66	30
26...	132	21	7.5
27...	127	19	6.5
28...	122	16	5.3
29...	120	13	4.2
30...	114	11	3.4
MAY			
01...	110	10	3.0
02...	107	9	2.6
03...	103	7	1.9
04...	98	6	1.6
05...	94	6	1.5
06...	89	6	1.4
07...	87	6	1.4
08...	83	7	1.6
09...	80	7	1.5
10...	76	8	1.6
11...	73	8	1.6
12...	70	7	1.3
13...	67	7	1.3
14...	64	6	1.0
15...	61	6	.99
16...	58	6	.94
17...	92	52	16
18...	120	48	16
19...	73	14	2.8
20...	65	7	1.2
21...	60	6	.97
22...	54	6	.87
23...	48	6	.78
24...	48	6	.78
25...	47	6	.76
26...	96	267	232
27...	114	517	265
28...	67	41	7.4
29...	65	21	3.7
30...	64	15	2.6
31...	61	12	2.0
JUNE			
01...	58	11	1.7
02...	57	10	1.5
03...	64	35	7.8
04...	68	45	8.3
05...	65	12	2.1
06...	100	455	150
06...	16	704	30
07...	69	118	23
08...	60	42	6.8
09...	57	16	2.5
11...	50	17	2.3
14...	47	27	3.4
15...	46	15	1.9
18...	145	534	283
18...	31	1020	85
19...	145	692	393
20...	87	70	16
21...	213	1153	1350
21...	380	4890	5020
22...	192	794	513
23...	92	78	19
24...	76	28	5.7
28...	67	8	1.4
JULY			
02...	94	400	132
02...	47	1080	137
03...	73	72	14
04...	68	40	7.3
05...	62	22	3.7

01478500 WHITE CLAY CREEK ABOVE NEWARK, DEL.--Continued

SUSPENDED-SEDIMENT FOR SELECTED DAYS, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	MEAN DIS-CHARGE (CFS)	SUS-PENDED SEDI-MENT (MG/L)	SUS-PENDED SEDI-MENT DIS-CHARGE (T/DAY)
JULY			
09...	42	57	6.5
10...	122	525	216
11...	70	118	22
12...	62	33	5.5
16...	172	518	366
19...	42	9	1.0
23...	40	11	1.2
26...	40	6	.65
29...	38	29	3.0
31...	78	442	113
AUG.			
01...	85	666	518
01...	78	1260	265
02...	48	45	5.8
03...	40	16	1.7
04...	39	16	1.7
05...	38	16	1.6
06...	36	16	1.6
07...	35	16	1.5
09...	82	116	26
12...	36	6	.58
14...	132	239	206
15...	54	42	6.1
16...	82	60	46
19...	42	6	.68
23...	433	847	2200
23...	310	1970	1650
24...	87	64	15
25...	55	17	2.5
27...	38	4	.41
28...	35	3	.28
29...	32	3	.26
30...	33	2	.18
SEP.			
01...	30	3	.24
02...	29	3	.23
03...	28	3	.23
07...	24	4	.26
08...	24	4	.26
10...	31	5	.42
11...	27	4	.29
13...	25	3	.20
17...	22	4	.24
20...	22	2	.12
24...	20	4	.22
27...	30	11	.89

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	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							
06...	0845	16	--	704	30	70	87
18...	2005	31	22.0	1020	85	42	60
21...	1820	380	19.0	4890	5020	50	67
JULY							
02...	0820	47	22.0	1080	137	52	71
AUG.							
01...	0830	78	24.0	1260	265	56	71
23...	1300	310	21.0	1970	1650	45	61

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						
06...	93	96	99	100	--	--
18...	80	91	96	99	100	--
21...	84	97	97	99	100	--
JULY						
02...	88	95	98	99	100	--
AUG.						
01...	84	90	98	99	100	--
23...	76	87	93	97	99	100

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 1970.

EXTREMES.--1969-70:
Water temperatures: Maximum, 25.0°C Aug. 16; minimum, freezing point Jan. 26.

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 1969 TO SEPTEMBER 1970
(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	15.0	12.0	10.0	5.0	4.5	2.5	2.0	2.5	1.5	5.0	3.5
2	18.0	16.5	13.0	12.0	4.5	3.5	2.0	1.0	4.0	2.5	6.5	5.0
3	20.5	18.0	14.5	13.0	5.5	4.0	2.0	1.5	4.5	3.5	6.5	6.0
4	20.0	18.5	14.5	14.0	5.0	4.0	2.0	1.0	3.5	0.5	6.0	6.0
5	18.5	16.5	14.0	11.5	4.0	3.0	1.0	0.5	1.5	0.5	6.5	6.0
6	16.5	14.5	11.5	11.0	3.5	2.5	1.5	0.5	3.0	1.5	7.0	6.5
7	16.0	14.5	11.0	10.5	4.0	3.0	1.5	1.0	4.0	3.0	6.5	5.5
8	18.0	16.0	11.0	9.5	4.5	4.0	1.0	1.0	4.0	3.5	7.5	6.0
9	18.0	16.5	11.5	10.5	6.0	4.5	1.0	1.0	4.5	4.0	7.0	5.5
10	17.0	14.5	13.0	11.5	7.0	5.5	1.0	0.5	5.5	4.5	6.0	4.5
11	16.5	15.0	12.5	11.5	8.0	6.5	0.5	0.5	5.0	4.5	7.0	6.0
12	18.5	16.0	11.5	11.0	8.0	6.5	0.5	0.5	5.0	4.0	6.5	6.0
13	18.0	16.5	11.0	10.0	6.5	4.5	0.5	0.5	4.0	3.5	6.0	5.5
14	19.0	17.5	10.5	10.5	4.5	4.0	0.5	0.5	3.5	2.0	5.5	4.5
15	18.0	15.5	10.5	7.0	4.5	4.0	0.5	0.5	2.5	1.5	5.0	4.0
16	15.5	13.5	7.0	6.0	4.5	3.5	0.5	0.5	3.0	2.5	5.0	3.0
17	14.5	13.5	7.0	5.5	3.5	2.5	0.5	0.5	4.0	3.0	5.5	3.5
18	13.5	11.5	7.5	6.0	3.0	2.0	2.5	0.5	4.5	3.5	5.5	5.0
19	14.5	12.0	10.5	7.0	4.0	3.0	2.0	1.0	6.5	4.5	6.0	5.0
20	16.0	13.0	10.0	8.0	3.5	3.0	1.0	1.0	5.5	3.5	6.0	5.5
21	17.0	15.5	8.0	5.0	3.0	2.0	1.0	1.0	3.5	2.0	6.5	5.0
22	15.5	13.5	5.0	4.5	3.5	1.5	1.0	1.0	5.0	2.5	6.5	6.0
23	13.5	10.0	6.5	4.5	2.0	1.0	1.0	1.0	5.5	4.5	6.0	5.0
24	10.5	8.5	8.0	6.5	2.0	1.5	1.0	1.0	5.0	3.5	7.0	5.5
25	9.5	8.5	7.0	5.5	1.5	0.5	1.0	0.5	5.5	4.5	8.5	5.5
26	10.5	8.0	7.0	6.0	0.5	0.5	0.5	0.0	5.5	2.5	9.5	8.0
27	12.5	10.5	6.5	5.5	1.0	0.5	1.5	0.5	4.0	2.5	10.0	8.5
28	12.0	10.0	6.0	5.5	1.0	0.5	2.0	1.5	5.0	4.0	9.0	6.5
29	10.5	9.0	5.5	4.5	2.0	1.0	3.5	2.0	---	---	8.5	3.5
30	10.0	8.0	5.0	4.0	3.5	2.0	3.5	2.5	---	---	5.5	3.0
31	10.5	8.0	---	---	3.5	2.5	2.5	1.5	---	---	5.5	5.5
MONTH	20.5	8.0	14.5	4.0	8.0	0.5	3.5	0.0	6.5	0.5	10.0	3.0

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

01481000 BRANDYWINE CREEK AT CHADDS FORD, PA.

LOCATION.--Lat 39°52'11", long 75°35'37", Delaware County, at gaging station located on left bank 27 feet upstream from Penn Central Railroad bridge at Chadds Ford, and 1,200 feet 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 analysis: October 1967 to September 1970.
Water temperatures: October 1964 to September 1970.
Sediment records: July 1963 to September 1970.

EXTREMES.--1969-70:
Specific conductance: Maximum daily, 280 micromhos Sept. 18; minimum daily, 144 micromhos June 6.
Water temperatures: Maximum, 25.5°C July 25; freezing point on Jan. 14, 20, 21, 22.
Sediment concentrations: Maximum daily, 904 mg/l Apr. 2; minimum daily, 2 mg/l Nov. 28.
Sediment discharge: Maximum daily, 9,190 tons Apr. 2; minimum daily, 0.76 ton Nov. 28.

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

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

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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)	BICAR-BONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
OCT.											
23...	121	11	--	--	20	7.0	9.2	4.5	62	28	16
JAN.											
15...	253	15	--	--	20	7.8	12	2.7	53	25	18
FEB.											
12...	690	11	--	--	16	5.2	9.3	3.2	34	25	16
MAR.											
25...	429	11	--	--	19	6.2	9.2	2.9	37	32	17
APR.											
30...	558	11	--	--	16	7.5	8.5	2.0	46	25	14
MAY											
28...	367	7.0	--	--	18	6.0	7.5	3.0	51	22	13
JUNE											
30...	265	11	70	80	20	7.5	8.2	2.5	60	24	16
AUG.											
25...	282	13	--	--	17	6.0	7.5	4.5	36	21	14
SEP.											
22...	139	--	--	--	21	7.8	11	3.3	73	23	18

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS_ SOLVED NITRATE (NO3) (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)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	COLOR (PLAT-INUM-COBALT UNITS)	PHOS-PHATE (PO4) (MG/L)	DIS-SOLVED ORTHO PHOS-PHATE (PO4) (MG/L)
OCT.										
23...	.2	10	147	79	28	242	7.1	3	--	--
JAN.										
15...	.2	16	153	82	39	236	7.0	0	--	--
FEB.										
12...	.2	10	140	62	34	198	7.6	3	--	--
MAR.										
25...	.1	12	144	73	43	217	6.9	0	--	--
APR.										
30...	.0	11	120	71	34	208	7.1	2	--	--
MAY										
28...	.1	10	129	70	28	190	7.9	4	--	--
JUNE										
30...	.3	10	130	81	32	223	7.6	2	.82	.69
AUG.										
25...	.8	13	144	67	38	198	7.8	6	--	.68
SEP.										
22...	--	8.6	--	84	25	235	7.3	3	--	--

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

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	247	260	230	---	231	---	217	200	212	228	150	228
2	250	265	238	240	233	216	156	196	212	231	195	232
3	242	243	232	236	151	209	175	194	217	---	211	245
4	---	248	240	261	168	208	191	198	195	---	232	235
5	258	243	244	228	204	211	194	200	218	---	---	242
6	250	250	267	222	208	208	195	216	144	238	---	249
7	240	250	272	---	221	---	196	202	212	215	240	243
8	236	253	216	---	214	---	199	200	220	206	---	247
9	240	250	218	---	213	207	196	---	221	210	---	234
10	232	---	226	260	201	214	---	200	228	215	248	236
11	260	240	160	255	191	212	199	200	220	188	225	240
12	258	243	198	250	201	216	196	205	221	215	241	241
13	245	252	228	243	210	212	193	205	219	216	236	236
14	242	244	237	241	212	220	193	211	221	215	277	249
15	238	245	232	241	210	---	157	202	224	219	228	250
16	245	253	248	254	225	208	184	206	---	170	---	248
17	248	253	242	---	227	212	192	202	219	216	211	248
18	268	234	248	---	233	210	---	192	215	220	225	280
19	268	236	246	270	220	216	192	200	180	---	240	250
20	240	228	246	256	218	213	177	208	200	228	235	---
21	230	212	249	261	211	211	184	211	218	230	239	250
22	252	242	228	255	215	208	192	211	168	194	---	240
23	230	250	192	268	217	193	192	209	192	215	160	242
24	260	242	180	261	211	208	187	218	210	218	162	250
25	270	234	---	252	214	224	172	212	220	---	198	252
26	270	240	---	237	211	216	---	211	221	---	---	259
27	250	---	227	244	211	210	187	221	225	218	222	268
28	248	232	225	249	211	---	191	202	---	218	---	245
29	248	249	232	253	---	---	193	220	222	222	229	248
30	243	263	238	247	---	---	198	---	224	215	241	232
31	255	---	232	222	---	228	---	220	---	240	232	---
MONTH	249	245	230	248	210	---	189	206	211	216	---	245

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	18.5	12.0	4.0	---	4.0	---	6.0	18.0	19.0	21.5	24.0	21.0
2	16.5	12.0	3.5	1.5	4.5	7.0	7.5	18.0	20.0	24.0	---	19.5
3	20.0	14.5	3.5	2.0	4.5	5.5	9.0	18.0	23.0	---	24.5	19.5
4	---	15.5	1.5	2.0	0.5	5.5	9.0	15.5	21.0	---	23.5	21.0
5	19.0	13.0	1.0	0.5	1.0	7.0	8.0	13.5	18.5	---	---	24.0
6	16.5	9.0	5.0	1.5	3.5	6.0	8.5	14.5	20.0	23.5	---	22.0
7	15.5	9.0	2.0	---	2.0	---	11.0	11.5	18.0	23.5	21.5	23.0
8	16.5	13.0	3.5	---	5.0	---	11.0	14.5	20.0	23.0	---	20.0
9	16.5	11.0	5.0	---	3.5	7.0	14.5	---	20.0	23.5	---	20.5
10	16.5	---	5.0	2.0	5.5	6.0	---	19.0	20.5	23.0	23.0	20.0
11	17.0	12.0	8.0	2.0	4.5	6.0	10.0	21.0	23.0	23.0	21.5	21.5
12	18.0	10.0	6.0	0.5	4.0	6.5	12.0	20.5	23.5	23.0	21.5	20.0
13	18.0	10.0	7.0	0.5	4.0	6.5	13.0	20.0	22.0	23.0	23.0	21.0
14	17.0	9.0	4.0	0.0	3.0	6.0	10.0	21.0	22.0	22.0	24.0	19.5
15	16.5	9.0	3.0	2.0	2.0	---	8.5	18.0	15.0	21.5	23.0	21.0
16	14.0	7.0	3.0	3.5	2.0	4.0	10.5	---	14.0	22.0	---	22.0
17	13.5	6.0	2.0	---	3.5	5.5	10.5	18.0	14.0	24.0	24.0	24.5
18	16.0	7.0	2.0	---	5.5	4.5	11.0	14.5	13.5	23.0	23.0	23.0
19	14.0	9.5	3.0	3.5	6.0	6.5	8.0	15.0	16.5	---	24.0	22.0
20	15.5	8.0	5.0	0.0	4.5	5.5	8.0	18.0	22.0	23.5	23.0	---
21	16.0	5.5	2.0	0.0	4.0	8.0	10.0	19.0	21.0	23.0	25.0	19.5
22	14.0	7.0	2.0	0.0	5.0	8.0	12.0	19.0	14.5	22.0	---	21.0
23	10.5	5.0	0.5	1.0	6.0	5.5	13.0	22.0	14.0	22.0	22.0	22.0
24	10.0	5.5	1.5	2.0	7.0	6.5	11.5	22.0	15.5	23.5	21.5	24.0
25	---	5.5	---	2.0	6.5	7.0	14.0	18.5	19.0	---	20.5	24.0
26	---	5.5	---	1.5	3.5	10.5	---	18.5	18.0	---	---	22.0
27	10.0	---	4.0	1.0	4.5	10.0	15.5	---	---	25.0	21.5	25.0
28	10.5	5.5	3.0	1.0	6.0	---	16.5	15.5	---	25.0	---	21.5
29	---	7.0	0.5	2.0	---	---	18.0	18.5	19.5	25.5	23.0	13.5
30	9.0	5.0	1.0	3.5	---	---	16.5	---	20.5	24.5	22.0	14.5
31	9.5	---	1.0	2.0	---	6.5	---	---	---	25.0	24.0	---
MONTH	15.0	9.0	3.0	1.5	4.0	---	11.0	18.0	19.0	23.5	---	21.0

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

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	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	125	14	4.7	138	9	3.4	141	3	1.1
2	134	13	4.7	158	10	4.3	131	3	1.1
3	190	18	9.2	179	11	5.3	138	3	1.1
4	151	18	7.3	155	10	4.2	131	3	1.1
5	131	18	6.4	148	9	3.6	121	3	.98
6	125	15	5.1	197	19	10	121	4	1.3
7	125	14	4.7	176	14	6.7	138	4	1.5
8	151	15	6.1	165	12	5.3	457	12	15
9	151	14	5.7	209	14	7.9	340	8	7.3
10	131	12	4.2	205	13	7.2	367	50	50
11	128	12	4.1	169	13	5.9	1760	560	2660
12	128	12	4.1	158	12	5.1	510	60	83
13	125	12	4.1	169	12	5.5	313	15	13
14	128	14	4.8	162	9	3.9	274	8	5.9
15	121	14	4.6	165	7	3.1	261	7	4.9
16	118	13	4.1	162	5	2.2	236	7	4.5
17	118	12	3.8	145	4	1.6	205	7	3.9
18	115	12	3.7	141	3	1.1	190	6	3.1
19	115	12	3.7	155	5	2.1	209	6	3.4
20	112	11	3.3	400	25	27	194	7	3.7
21	209	20	11	228	6	3.7	169	7	3.2
22	162	20	8.7	172	10	4.6	715	120	232
23	138	14	5.2	162	8	3.5	583	90	142
24	134	11	4.0	155	6	2.5	340	23	21
25	131	9	3.2	148	5	2.0	232	6	3.8
26	141	11	4.2	145	3	1.2	170	6	2.8
27	138	14	5.2	145	3	1.2	150	8	3.2
28	131	11	3.9	141	2	.76	170	7	3.2
29	131	7	2.5	141	4	1.5	220	7	4.2
30	134	8	2.9	141	5	1.9	250	7	4.7
31	134	10	3.6	--	--	--	840	90	204
TOTAL	4205	--	152.8	5134	--	138.26	10076	--	3489.98

	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	622	25	42	374	14	14	319	5	4.3
2	400	14	15	1080	110	321	325	6	5.3
3	349	9	8.5	3290	580	5150	328	6	5.3
4	291	8	6.3	1310	158	559	334	5	4.5
5	265	8	5.7	650	42	74	427	14	16
6	286	8	6.2	554	24	36	381	8	8.2
7	282	8	6.1	511	18	25	347	7	6.6
8	244	7	4.6	487	15	20	337	6	5.5
9	200	7	3.8	457	15	19	312	6	5.1
10	170	6	2.8	1310	212	1000	302	6	4.9
11	200	7	3.8	1220	100	329	298	6	4.8
12	220	8	4.8	715	33	64	307	6	5.0
13	200	8	4.3	559	17	26	395	8	8.5
14	190	6	3.1	461	14	17	363	9	8.8
15	180	5	2.4	479	12	16	316	9	7.7
16	170	4	1.8	469	11	14	293	9	7.1
17	200	7	3.8	453	11	13	279	11	8.3
18	349	10	9.4	501	11	15	306	11	9.1
19	349	9	8.5	558	45	68	382	9	9.3
20	283	8	6.1	497	13	17	430	16	19
21	228	8	4.9	393	10	11	613	45	74
22	170	6	2.8	388	9	9.4	527	32	46
23	170	6	2.8	417	9	10	940	128	325
24	190	6	3.1	409	9	9.9	524	28	40
25	212	6	3.4	382	8	8.3	432	12	14
26	226	6	3.7	349	8	7.5	411	13	14
27	242	7	4.6	334	7	6.3	643	53	92
28	230	8	5.0	341	7	6.4	445	35	42
29	332	9	8.1	--	--	--	658	60	107
30	645	12	21	--	--	--	778	50	105
31	430	16	19	--	--	--	749	25	51
TOTAL	8525	--	227.4	18948	--	7865.8	13501	--	1063.3

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

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	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	641	17	29	552	14	21	308	7	5.8
2	3070	904	9190	540	16	23	289	4	3.1
3	2350	270	1710	565	18	27	304	20	16
4	1060	80	229	590	20	32	453	150	183
5	863	39	91	533	21	30	409	35	39
6	763	24	49	499	18	24	962	500	1300
7	708	17	32	466	15	19	443	90	108
8	650	17	30	455	14	17	343	43	40
9	620	16	27	448	14	17	320	42	36
10	587	14	22	429	14	16	279	45	34
11	541	12	18	414	15	17	280	40	30
12	519	9	13	422	18	21	410	200	221
13	498	9	12	500	19	26	389	320	336
14	903	82	200	434	17	20	272	63	46
15	2270	257	1580	521	25	35	266	40	29
16	1090	50	147	421	19	22	306	40	33
17	792	19	41	636	36	62	359	42	41
18	714	15	29	614	44	73	368	62	62
19	662	13	23	438	19	22	711	240	461
20	1090	101	352	415	17	19	334	75	68
21	911	38	93	370	17	17	721	300	584
22	725	15	29	358	17	16	1090	440	1290
23	694	18	34	354	16	15	450	110	134
24	971	120	315	368	18	18	336	62	56
25	1150	140	435	383	21	22	296	38	30
26	756	30	61	421	30	34	284	48	37
27	669	15	27	840	85	193	296	44	35
28	643	15	26	380	33	34	266	46	33
29	612	13	21	338	33	30	248	43	29
30	576	12	19	310	26	22	243	30	20
31	--	--	--	309	22	18	--	--	--
TOTAL	28098	--	14884	14323	--	962	12035	--	5339.9

	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	234	18	11	1390	550	2060	176	24	11
2	296	20	16	414	55	61	155	22	9.2
3	272	18	13	287	45	35	165	19	8.5
4	260	16	11	257	36	25	169	14	6.4
5	241	18	12	235	33	21	158	11	4.7
6	226	26	16	218	32	19	155	13	5.4
7	214	26	15	219	32	19	138	14	5.2
8	208	28	16	210	29	16	148	14	5.6
9	220	30	18	207	26	15	141	16	6.1
10	460	90	112	204	22	12	172	16	7.4
11	332	60	54	198	25	13	158	17	7.3
12	259	45	31	187	26	13	145	16	6.3
13	224	42	25	190	23	12	138	16	6.0
14	207	39	22	183	18	8.9	134	15	5.4
15	218	42	25	178	16	7.7	131	14	5.0
16	634	440	753	212	30	17	128	12	4.1
17	261	120	85	262	75	53	131	14	5.0
18	218	52	31	195	52	27	128	16	5.5
19	207	42	23	174	20	9.4	148	15	6.0
20	200	30	16	184	23	11	138	14	5.2
21	498	86	116	188	15	7.6	128	14	4.8
22	278	55	41	169	15	6.8	125	14	4.7
23	230	42	26	1230	530	1760	115	13	4.0
24	345	55	51	582	170	267	121	11	3.6
25	273	40	29	278	35	26	115	9	2.8
26	232	30	19	221	25	15	118	9	2.9
27	206	28	16	209	28	16	134	10	3.6
28	202	30	16	197	25	13	155	10	4.2
29	224	32	19	183	22	11	138	13	4.8
30	221	35	21	179	18	8.7	121	12	3.9
31	780	170	358	190	21	11	--	--	--
TOTAL	8880	--	2017	9230	--	4597.1	4226	--	164.6

TOTAL DISCHARGE FOR YEAR (CFS-DAYS) 137181
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR YEAR (TONS) 40902.14

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

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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
FEB.								
03...	1340	4.5	3100	593	4960	--	30	44
10...	1710	6.0	2050	403	2230	27	39	53
APR.								
02...	1445	7.8	4050	1140	12500	--	27	42
20...	1240	8.3	1360	215	789	27	37	53
JUNE								
04...	0750	20.0	457	587	724	63	79	93
22...	1200	14.5	1120	399	1210	44	58	77
AUG.								
24...	0645	21.0	661	172	307	50	71	83

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.							
03...	72	74	86	92	96	98	100
10...	70	89	99	100	--	--	--
APR.							
02...	59	75	86	94	98	100	--
20...	69	87	97	100	--	--	--
JUNE							
04...	97	100	--	--	--	--	--
22...	91	99	100	--	--	--	--
AUG.							
24...	95	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 1970.
Water temperatures: November 1956 to September 1961.
Sediment records: December 1946 to September 1961, July 1962 to September 1970.

EXTREMES.--1969-70:
Sediment concentrations: Maximum daily, 1,050 mg/l Dec. 11; minimum daily, 5 mg/l on Oct. 30, 31, Nov. 17, 18, Dec. 6, Feb. 26, Mar. 9-11.
Sediment discharge: Maximum daily, 9,720 tons Apr. 2; minimum daily, 1.80 tons Dec. 6.

Period of record:
Water temperatures: Maximum, 30.0°C June 17, 1957; minimum, freezing point on many days during winter months.
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 1969 TO SEPTEMBER 1970

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)	BICAR-BONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
OCT.											
27...	153	12	--	--	20	8.4	12	4.3	66	25	19
JAN.											
02...	437	11	--	--	19	6.7	13	3.1	38	24	28
FEB.											
02...	493	13	--	--	17	6.0	9.1	2.5	41	24	16
MAR.											
02...	385	14	--	--	17	6.0	8.1	2.2	42	23	14
APR.											
01...	762	13	--	--	16	5.7	11	2.5	36	25	19
MAY											
01...	640	8.4	--	--	17	6.0	7.6	2.0	47	25	13
JUNE											
03...	346	13	--	--	19	6.5	8.6	2.2	57	22	13
22...	1353	9.2	--	--	12	4.0	5.9	3.7	34	19	9..
30...	270	11	70	80	20	7.5	7.8	2.5	60	22	16
SEP.											
01...	175	10	--	--	20	7.5	10	3.5	70	22	15

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS_ SOLVED NITRATE (NO3) (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)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	COLOR (PLAT-INUM-COBALT UNITS)	PHOS-PHATE (PO4) (MG/L)	DIS-SOLVED ORTHO PHOS-PHATE (PO4) (MG/L)
OCT.										
27...	.3	11	177	85	31	243	8.0	5	--	--
JAN.										
02...	.2	10	147	75	44	212	7.4	5	--	--
FEB.										
02...	.3	8.2	141	67	34	198	7.9	6	--	--
MAR.										
02...	.3	9.0	128	67	33	192	7.9	6	--	--
APR.										
01...	.2	7.2	140	64	34	207	7.7	6	--	--
MAY										
01...	.0	9.3	123	67	29	186	7.8	6	--	--
JUNE										
03...	.2	10	130	74	28	207	7.9	4	--	--
22...	.0	8.6	133	47	19	146	7.5	45	--	--
30...	.3	10	129	81	32	215	7.7	3	.50	.43
SEP.										
01...	.1	8.6	152	81	24	226	7.8	3	--	--

01481500 BRANDYWINE CREEK AT WILMINGTON, DEL.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	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	148	13	5.2	145	6	2.3	154	8	3.3
2	154	14	5.8	154	9	3.7	148	7	2.8
3	229	20	12	201	10	5.4	148	7	2.8
4	182	18	8.8	175	8	3.8	148	6	2.4
5	154	17	7.1	158	7	3.0	139	6	2.3
6	148	16	6.4	209	20	11	134	5	1.8
7	148	13	5.2	201	15	8.1	151	6	2.4
8	178	12	5.8	178	13	6.2	469	18	23
9	189	10	5.1	233	19	12	408	7	7.7
10	161	9	3.9	245	17	11	506	75	102
11	151	8	3.3	193	11	5.7	2090	1050	5930
12	151	8	3.3	175	8	3.8	546	125	184
13	151	7	2.9	189	7	3.6	325	35	31
14	151	6	2.4	182	7	3.4	274	28	21
15	148	10	4.0	185	6	3.0	265	26	19
16	145	13	5.1	178	6	2.9	241	20	13
17	142	13	5.0	165	5	2.2	205	15	8.3
18	139	12	4.5	158	5	2.1	189	12	6.1
19	139	12	4.5	175	9	4.3	205	15	8.3
20	139	11	4.1	427	30	35	193	12	6.3
21	249	22	15	283	25	19	168	10	4.5
22	189	17	8.7	201	23	12	706	100	191
23	151	12	4.9	182	16	7.9	674	75	136
24	142	11	4.2	175	12	5.7	360	18	17
25	142	10	3.8	168	9	4.1	249	10	6.7
26	148	11	4.4	161	10	4.3	586	10	16
27	148	9	3.6	154	11	4.6	408	10	11
28	142	7	2.7	154	10	4.2	330	8	7.1
29	139	6	2.3	151	10	4.1	297	10	8.0
30	142	5	1.9	151	9	3.7	345	9	8.4
31	142	5	1.9	--	--	--	1110	110	330
TOTAL	4881	--	157.8	5706	--	202.1	12171	--	7113.2

	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	739	35	70	434	13	15	390	7	7.4
2	469	16	20	910	90	221	390	9	9.5
3	396	12	13	3720	700	7030	396	8	8.6
4	315	11	9.4	1690	87	397	402	11	12
5	270	10	7.3	739	36	72	506	7	9.6
6	310	9	7.5	634	23	39	469	6	7.6
7	283	8	6.1	586	15	24	420	6	6.8
8	249	8	5.4	562	13	20	408	6	6.6
9	241	8	5.2	530	12	17	378	5	5.1
10	253	7	4.8	1540	110	457	366	5	4.9
11	292	7	5.5	1520	185	759	360	5	4.9
12	261	7	4.9	802	55	119	366	7	6.9
13	253	7	4.8	650	30	53	476	9	12
14	237	6	3.8	546	25	37	448	8	9.7
15	221	6	3.6	554	30	45	390	8	8.4
16	217	6	3.5	554	35	52	355	9	8.6
17	229	8	4.9	522	45	63	340	8	7.3
18	340	11	10	570	40	62	360	12	12
19	345	10	9.3	634	40	68	476	17	22
20	270	9	6.6	578	30	47	498	20	27
21	245	8	5.3	462	20	25	722	17	33
22	229	8	4.9	462	15	19	602	30	49
23	229	8	4.9	483	10	13	1090	119	350
24	217	7	4.1	498	8	11	650	37	65
25	213	7	4.0	462	7	8.7	522	12	17
26	233	9	5.7	420	5	5.7	490	8	11
27	257	9	6.2	408	6	6.6	690	45	84
28	245	10	6.6	420	7	7.9	530	32	46
29	434	25	29	--	--	--	838	70	158
30	739	17	34	--	--	--	960	45	117
31	522	14	20	--	--	--	883	30	72
TOTAL	9753	--	330.3	21890	--	9693.9	16171	--	1198.9

01481500 BRANDYWINE CREEK AT WILMINGTON, DEL.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	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	775	20	42	642	17	29	360	23	22
2	3530	1020	9720	634	16	27	350	19	18
3	3250	450	3950	634	18	31	340	15	14
4	1260	95	323	674	24	44	506	100	137
5	950	40	103	618	20	33	462	30	37
6	892	35	84	586	17	27	1110	640	1920
7	838	30	68	554	17	25	498	230	309
8	739	28	56	538	15	22	390	80	84
9	706	24	46	530	16	23	360	50	49
10	674	20	36	514	15	21	310	45	38
11	626	18	30	483	15	20	310	43	36
12	618	16	27	483	15	20	355	80	77
13	594	14	22	562	18	27	514	320	444
14	1250	120	405	498	16	22	306	110	91
15	3040	500	4100	602	27	44	297	75	60
16	1430	90	347	490	18	24	325	60	53
17	960	65	168	642	40	69	396	50	53
18	883	40	95	722	55	107	366	70	69
19	811	25	55	514	25	35	748	190	384
20	1340	90	326	476	23	30	384	70	73
21	1140	60	185	427	18	21	706	250	477
22	874	30	71	402	17	18	1440	950	3690
23	820	26	58	414	22	25	522	175	247
24	1130	80	244	420	28	32	384	72	75
25	1390	115	432	427	24	28	325	60	53
26	901	60	146	434	26	30	320	63	54
27	793	45	96	940	170	431	335	55	50
28	748	40	81	469	70	89	301	40	33
29	714	28	54	408	35	39	274	38	28
30	674	23	42	378	30	31	270	35	26
31	--	--	--	372	25	25	--	--	--
TOTAL	34350	--	21412	16487	--	1449	13564	--	8701

	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	265	28	20	2390	600	3870	182	23	11
2	310	36	30	506	70	96	161	20	8.7
3	315	25	21	325	30	26	168	18	8.2
4	288	23	18	283	20	15	171	18	8.3
5	270	20	15	253	22	15	161	17	7.4
6	249	20	13	229	26	16	154	16	6.7
7	233	20	13	233	24	15	145	15	5.9
8	225	18	11	221	24	14	151	18	7.3
9	229	20	12	225	24	15	154	20	8.3
10	434	75	88	217	22	13	182	25	12
11	384	60	62	209	29	16	165	18	8.0
12	288	33	26	193	23	12	148	17	6.8
13	245	27	18	201	18	9.8	145	17	6.7
14	225	24	15	193	18	9.4	142	12	4.6
15	237	22	14	185	20	10	142	9	3.5
16	829	500	1120	189	22	11	139	9	3.4
17	306	250	207	297	40	32	139	10	3.8
18	241	70	46	209	28	16	134	10	3.6
19	225	40	24	185	22	11	154	12	5.0
20	217	28	16	193	17	8.9	148	11	4.4
21	462	90	112	197	19	10	142	9	3.5
22	315	75	64	175	16	7.6	139	8	3.0
23	241	40	26	1260	440	1500	131	8	2.8
24	340	70	64	784	280	593	131	7	2.5
25	306	50	41	315	50	43	128	6	2.1
26	253	43	29	237	45	29	128	7	2.4
27	229	30	19	225	23	14	142	9	3.5
28	213	27	16	205	22	12	189	11	5.6
29	237	30	19	189	18	9.2	161	7	3.0
30	274	25	18	185	18	9.0	148	6	2.4
31	578	90	140	197	20	11	--	--	--
TOTAL	9463	--	2337	10905	--	6468.9	4524	--	164.4

TOTAL DISCHARGE FOR YEAR (CFS-DAYS) 159865
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR YEAR (TONS) 59228.5

01481500 BRANDYWINE CREEK AT WILMINGTON, DEL.--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DIS-CHARGE (CFS)	SUS-PENDED SEDI-MENT (MG/L)	SUS-PENDED SEDI-MENT DIS-CHARGE (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
FEB.							
03...	1330	3580	611	5900	20	32	47
APR.							
02...	1830	5900	1530	24400	--	32	46
03...	0900	3100	234	1960	35	50	64
JUNE							
06...	1130	1480	1080	4320	--	64	84

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.							
03...	62	78	91	97	98	99	100
APR.							
02...	64	72	91	97	99	99	100
03...	77	92	98	99	99	100	--
JUNE							
06...	98	99	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 1970.
Water temperatures: October 1956 to September 1970.

EXTREMES.--1969-70:
Specific conductance: Maximum, 8,920 micromhos Aug. 19; minimum, 100 micromhos on several days during December to April and July.
Water temperatures: Maximum, 28.0°C Aug. 2, 16-18; minimum, freezing point on many days during winter period.

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 period.

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 1969 TO SEPTEMBER 1970

	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	5380	1660	3390	7100	3520	5240	2260	260	1350	2320	120	927
2	4680	1940	3210	8820	3500	5650	3380	200	1220	1560	120	638
3	4180	2040	2970	7440	3740	5380	3300	340	1730	2060	120	704
4	4280	1660	2850	6800	3060	4940	2560	480	1380	1820	120	689
5	5980	1960	3720	6540	2880	4680	3180	560	1740	2540	140	867
6	4740	1680	3290	5860	2480	4140	4840	640	2390	2200	140	821
7	6220	1400	3540	6740	2820	4680	5900	660	2960	3840	200	1400
8	5340	1660	3490	7160	2720	4790	6900	1100	3610	3460	180	1430
9	5180	1560	3340	6640	2700	4650	6940	920	3290	2740	140	927
10	5200	1640	3560	7540	2900	5050	6540	1000	3360	2320	200	823
11	5500	1780	3690	7560	2140	4590	5920	280	2970	2500	240	1050
12	6020	2060	3980	7820	1740	4160	2560	160	1090	3060	420	1630
13	6240	2120	3870	6460	1480	3640	980	140	443	3040	380	1660
14	6780	2100	4240	6260	1640	3850	1640	140	507	2460	340	1320
15	6480	2180	4140	5380	1160	3250	760	140	314	1840	340	1100
16	6680	2660	4420	3820	880	2420	440	120	208	2280	360	1420
17	6120	2200	4320	4620	880	2620	420	120	208	2700	100	1470
18	6240	2160	4090	4600	1080	2730	980	120	363	3800	560	1690
19	6560	2220	4040	5620	1320	3290	680	120	253	3220	500	1780
20	6120	2180	4220	3900	880	2280	500	120	198	3440	540	1910
21	6220	1800	4030	3540	760	1980	1140	120	343	2500	300	1170
22	6480	2240	4190	3700	700	1910	1400	120	438	3360	460	1510
23	4980	1880	3520	2980	580	1670	1700	120	389	5440	960	2580
24	5260	2320	---	2720	520	1480	1360	120	524	4900	620	2410
25	---	---	---	3260	520	1540	1460	120	531	5380	940	3130
26	---	---	---	2460	420	1370	2340	120	672	4620	1340	---
27	---	---	---	2980	500	1430	240	100	145	---	---	---
28	---	---	---	2940	520	1420	1420	120	323	---	---	---
29	6460	2980	---	2960	560	1580	2560	120	833	---	---	---
30	6500	3040	4650	2740	580	1460	2940	160	1240	---	---	---
31	6880	3220	4970	---	---	---	2740	120	1260	---	---	---
MONTH	6880	1400	3830	8820	420	3260	6940	100	1170	5440	100	1400

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

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	FEBRUARY			MARCH			APRIL			MAY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	1020	200	414	360	200	272	400	300	---
2	---	---	---	1020	200	497	500	200	269	440	300	337
3	---	---	---	1580	260	654	180	120	147	480	320	348
4	---	---	---	1440	280	766	140	100	114	540	320	371
5	---	---	---	2120	280	875	120	100	105	560	320	---
6	560	180	---	1880	280	863	160	100	123	---	---	---
7	700	140	278	2460	320	1060	160	140	143	560	500	---
8	500	140	242	2180	300	1030	180	140	144	700	520	581
9	560	140	140	1940	140	778	160	140	146	840	540	613
10	680	180	369	1300	140	545	200	140	145	820	180	606
11	480	140	235	1160	140	475	180	140	---	800	530	618
12	200	140	154	1280	160	533	---	---	---	870	170	613
13	180	140	144	1120	160	573	---	---	---	870	550	668
14	160	140	141	1140	200	571	---	---	---	1010	550	696
15	180	140	---	840	140	440	200	160	---	1270	550	827
16	---	---	---	700	140	330	220	180	204	1350	570	824
17	---	---	---	800	140	391	560	160	217	1710	570	918
18	420	420	---	1480	160	598	240	100	196	2360	590	901
19	760	140	223	2320	200	1100	280	180	216	1660	620	---
20	700	140	209	3080	240	1400	340	180	232	---	---	---
21	380	140	198	3240	200	1450	260	180	221	---	---	---
22	680	140	265	2760	200	1320	240	180	214	2620	900	---
23	340	140	178	3080	260	1520	1240	220	289	4120	900	1800
24	560	100	235	2520	160	1060	400	220	248	4520	920	---
25	420	420	---	1820	160	801	260	100	225	1840	340	---
26	520	160	---	1920	200	885	240	100	221	2940	340	1330
27	980	180	493	1700	100	---	300	220	246	2420	320	974
28	720	160	324	960	140	406	300	240	255	1640	300	---
29	---	---	---	680	140	264	300	240	---	2000	400	---
30	---	---	---	540	140	274	---	---	---	2020	420	1050
31	---	---	---	500	240	308	---	---	---	2640	380	1080
MONTH	---	---	---	3240	100	739	1240	100	---	4520	170	---

	JUNE			JULY			AUGUST			SEPTEMBER		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	1740	180	905	2200	200	731	4600	740	2420	5940	1740	3820
2	1980	200	840	2140	200	885	4060	560	2060	5420	1900	3690
3	2080	200	859	1100	200	376	4660	860	2540	5680	1780	3820
4	1680	200	765	2200	200	869	4520	760	2150	6280	1800	4180
5	1720	220	849	3980	520	1490	4500	920	2410	6040	1960	3950
6	1880	180	828	1980	600	1270	4560	1060	2830	5760	2120	3950
7	1740	240	868	2500	100	1380	5260	1000	2860	6100	2320	4140
8	2100	200	961	3040	200	1670	4560	1060	2950	6680	2740	4590
9	1900	260	886	3660	200	1170	4360	1140	---	5660	2540	4240
10	1680	280	960	2300	200	1110	5740	1340	---	6360	2500	---
11	1840	220	1010	1040	200	578	7400	1640	3900	6080	2220	3980
12	1800	240	965	2960	460	1730	6060	1420	3900	6900	2360	4300
13	1880	240	963	2760	680	1770	6420	1340	3440	7220	2440	4380
14	2400	260	1090	3640	700	1970	7000	1420	3420	7320	2380	4410
15	2140	220	991	3660	700	1960	7260	1440	3650	6740	2460	4600
16	2440	360	1080	3480	580	1820	7320	1560	3830	7400	2560	4880
17	2380	360	1140	4100	640	1800	7600	1460	4200	7780	2660	4970
18	2420	360	1140	4780	680	2160	7920	1740	4550	8000	2980	5250
19	2640	360	1210	5240	740	2330	8920	1900	5030	7200	2840	5090
20	2820	340	1200	6380	860	2930	8680	2360	5290	8300	3500	5630
21	3140	320	1290	6280	820	2850	7800	2500	5310	8160	3560	5260
22	3900	200	1110	4780	840	2590	8300	2780	5580	7460	3340	5310
23	2800	260	1100	4480	900	2590	8320	3240	5800	7140	3300	5160
24	3000	260	1270	4180	920	2660	6200	1740	4070	7040	3360	5180
25	3240	260	1400	4860	900	2820	5500	1600	3430	6740	3640	5160
26	2880	380	1560	4880	980	2800	5680	1680	3370	6840	3380	4970
27	2820	360	1370	5100	1080	2800	5840	1620	3330	6760	3120	4990
28	2880	340	1420	5180	1160	2840	5340	1700	3420	6380	3340	4910
29	3260	480	1590	4840	1180	2820	5560	1680	3410	6880	3000	4700
30	2640	200	1030	5060	1180	2790	5760	1760	3590	6860	3520	5030
31	---	---	---	5060	1140	2750	6160	1340	3570	---	---	---
MONTH	3900	180	1090	6380	100	1950	8920	560	3670	8300	1740	4640

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

DISSOLVED OXYGEN (DO), IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	6.2	2.4	4.4	7.7	3.3	5.4	4.7	3.4	4.1	12.1	9.8	11.0
2	6.6	2.7	4.4	8.3	3.6	5.9	5.4	3.2	4.7	11.2	8.1	10.0
3	6.2	2.9	4.3	7.5	3.6	5.5	5.8	4.5	5.2	10.7	8.7	9.5
4	6.7	2.4	4.2	6.8	2.6	4.9	6.1	5.1	5.7	10.3	8.1	9.0
5	7.5	3.3	5.6	6.6	2.8	4.8	6.4	5.2	5.8	10.3	7.9	---
6	6.2	2.2	4.9	7.2	3.3	5.2	6.0	5.4	5.7	---	---	---
7	7.4	2.3	4.8	7.7	4.0	6.0	7.6	5.3	6.4	---	---	---
8	6.1	2.6	4.7	7.6	3.9	5.8	8.9	7.5	8.1	---	---	---
9	5.9	2.2	4.1	7.7	3.8	5.9	9.2	8.1	8.7	---	---	---
10	5.4	1.8	3.9	8.3	4.9	6.6	9.1	8.2	8.8	---	---	---
11	5.4	1.5	3.5	7.8	4.2	6.1	9.3	8.3	8.8	---	---	---
12	5.4	1.5	3.4	7.6	3.6	5.5	9.5	5.0	7.2	9.6	8.0	---
13	5.0	1.3	3.0	7.1	3.3	5.1	6.7	5.1	5.9	9.1	7.7	8.4
14	5.0	1.4	3.1	6.6	3.4	5.0	6.4	5.1	5.8	8.8	7.7	8.2
15	5.6	1.7	3.4	6.6	3.2	4.9	6.0	5.1	5.5	8.4	7.6	8.0
16	6.8	1.8	3.6	5.7	3.4	4.6	6.0	5.2	5.5	8.5	7.5	8.0
17	5.1	1.6	3.3	6.5	3.4	4.8	5.9	5.3	---	8.5	7.1	7.7
18	5.8	1.8	3.5	6.3	3.5	4.8	---	---	---	9.3	7.1	8.2
19	5.7	1.9	3.4	7.9	3.5	5.5	---	---	---	9.7	7.9	8.8
20	6.1	2.1	3.7	6.4	4.1	5.3	---	---	---	9.6	7.7	8.7
21	6.5	2.4	3.9	6.8	4.3	5.6	---	---	---	9.2	7.0	8.3
22	6.7	2.5	4.4	7.3	4.6	5.8	---	---	---	---	---	---
23	5.7	2.2	4.1	6.7	4.5	5.6	---	---	---	---	---	---
24	7.7	2.5	---	6.4	4.1	5.3	---	---	---	---	---	---
25	---	---	---	6.7	4.1	5.2	---	---	---	---	---	---
26	---	---	---	6.1	3.6	5.0	---	---	---	---	---	---
27	---	---	---	6.4	3.4	4.9	---	---	---	---	---	---
28	---	---	---	6.2	3.2	4.6	---	---	---	---	---	---
29	7.2	3.0	---	6.2	2.9	4.5	13.5	9.7	---	---	---	---
30	6.8	2.8	4.9	6.3	2.8	3.8	13.2	10.9	12.3	---	---	---
31	7.5	2.8	5.1	---	---	---	12.9	10.1	11.8	---	---	---
MONTH	7.7	1.3	4.1	8.3	2.6	5.3	---	---	---	---	---	---

	FEBRUARY			MARCH			APRIL			MAY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	9.8	8.7	9.2	---	---	---	4.5	3.7	---
2	---	---	---	9.4	8.1	8.8	---	---	---	4.5	3.6	3.9
3	---	---	---	9.2	8.0	8.6	---	---	---	4.2	3.5	3.8
4	---	---	---	8.9	7.8	8.4	---	---	---	4.2	3.2	3.7
5	---	---	---	8.6	7.1	8.0	---	---	---	4.2	2.8	---
6	6.2	5.1	---	8.5	7.1	7.8	10.7	10.3	---	---	---	---
7	6.8	5.4	5.8	8.3	6.4	7.5	10.7	10.2	10.4	5.0	3.6	---
8	7.2	5.5	6.0	7.8	6.0	7.1	10.6	10.0	10.2	5.8	4.3	5.1
9	7.4	5.6	6.2	7.8	5.9	7.0	10.4	9.8	10.0	5.7	4.0	4.9
10	7.7	6.2	6.7	7.6	5.5	6.7	10.0	9.6	9.8	7.2	3.9	4.7
11	9.0	6.5	7.8	7.3	4.7	6.2	10.0	9.3	---	4.8	3.4	4.2
12	9.5	8.5	8.9	5.7	4.6	5.3	---	---	---	7.5	3.0	4.0
13	9.7	9.0	9.3	5.7	4.4	5.1	---	---	---	4.2	2.7	3.6
14	9.9	9.4	9.6	5.6	4.7	5.2	---	---	---	4.0	2.3	3.4
15	9.9	9.7	---	6.1	4.8	5.6	9.2	8.6	---	4.0	2.9	3.6
16	---	---	---	6.1	4.8	5.5	9.4	8.8	9.1	3.7	2.6	3.3
17	---	---	---	6.1	4.9	5.6	8.8	8.2	8.5	3.4	2.1	3.1
18	5.6	5.6	---	5.4	4.9	---	8.6	7.6	8.2	4.1	2.1	3.2
19	9.1	7.5	8.6	---	---	---	9.0	7.2	7.8	3.7	2.7	---
20	9.4	8.8	9.1	---	---	---	7.8	5.7	7.2	---	---	---
21	9.5	8.7	9.1	---	---	---	7.2	6.2	6.6	---	---	---
22	9.6	8.8	9.2	---	---	---	6.5	6.0	6.2	4.4	2.0	---
23	9.8	8.8	9.3	---	---	---	6.6	5.1	5.8	4.1	1.3	2.9
24	9.9	8.9	9.3	---	---	---	---	---	---	4.2	1.1	---
25	9.8	9.8	---	---	---	---	7.8	5.2	5.8	2.9	1.8	---
26	10.0	9.1	---	---	---	---	8.7	4.9	5.5	2.9	1.5	2.2
27	10.2	8.7	9.6	---	---	---	5.4	4.5	4.9	3.1	1.0	2.1
28	9.9	8.5	9.3	---	---	---	5.2	4.4	4.8	3.3	1.8	2.4
29	---	---	---	---	---	---	4.7	4.4	---	4.2	1.9	2.7
30	---	---	---	---	---	---	---	---	---	3.8	2.4	2.9
31	---	---	---	---	---	---	---	---	---	3.9	1.7	2.8
MONTH	---	---	---	---	---	---	---	---	---	7.5	1.0	---

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

DISSOLVED OXYGEN (DO), IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	JUNE			JULY			AUGUST			SEPTEMBER		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	3.8	1.6	2.4	1.0	0.8	0.9	---	---	---	3.9	1.5	2.7
2	3.9	1.1	2.3	---	---	---	---	---	---	3.7	1.4	2.6
3	3.9	1.4	2.4	---	---	---	---	---	---	3.5	1.0	2.4
4	3.7	0.3	1.3	---	---	---	---	---	---	4.6	1.9	3.1
5	3.6	0.1	1.1	---	---	---	---	---	---	4.5	1.7	2.9
6	4.1	0.2	1.4	---	---	---	---	---	---	4.5	1.5	2.9
7	4.3	0.4	1.6	---	---	---	---	---	---	4.7	1.6	3.0
8	4.7	0.3	1.8	---	---	---	---	---	---	5.4	1.8	3.3
9	2.7	0.6	1.4	---	---	---	---	---	---	4.5	2.0	---
10	2.5	0.4	1.2	---	---	---	---	---	---	5.0	1.8	3.1
11	2.5	0.4	1.3	---	---	---	---	---	---	5.3	1.7	3.0
12	2.4	0.4	1.2	---	---	---	3.8	1.8	---	5.8	1.8	3.4
13	4.2	0.0	2.0	---	---	---	4.1	1.8	2.6	5.2	1.7	3.3
14	4.9	0.9	2.3	---	---	---	3.8	1.5	2.4	5.2	1.3	3.0
15	3.4	1.1	2.1	---	---	---	3.4	0.9	2.1	4.9	1.1	2.8
16	3.9	0.3	1.5	---	---	---	3.2	0.7	2.0	4.7	0.8	2.5
17	3.4	0.1	1.2	---	---	---	3.7	0.8	2.3	5.2	0.9	2.8
18	3.3	0.1	1.1	---	---	---	3.8	0.8	2.4	4.8	1.3	2.9
19	3.2	0.1	1.3	---	---	---	3.7	0.7	2.4	4.7	0.9	2.8
20	3.1	0.1	1.2	4.5	2.4	---	3.7	0.9	2.5	5.4	1.9	3.4
21	2.9	0.1	1.4	4.9	2.0	3.1	3.6	0.7	2.2	5.5	1.6	3.1
22	3.0	0.1	1.2	3.9	0.9	2.1	3.8	1.1	2.5	4.9	1.3	3.0
23	1.8	0.2	0.9	2.6	0.9	1.5	4.4	1.7	3.3	4.2	1.2	2.5
24	1.8	0.2	1.0	2.3	1.1	---	3.6	1.3	2.6	4.1	0.8	2.1
25	1.7	0.0	1.3	---	---	---	3.1	0.8	2.1	3.6	0.9	2.2
26	1.4	0.8	1.1	---	---	---	2.9	0.8	1.8	3.5	0.8	1.9
27	1.3	0.9	1.1	---	---	---	3.0	0.7	1.6	3.4	1.1	2.2
28	1.2	1.0	1.2	---	---	---	2.8	0.9	1.6	3.7	1.3	2.4
29	1.1	0.8	1.0	---	---	---	3.1	1.1	1.8	3.9	1.1	2.6
30	1.0	0.7	0.8	---	---	---	3.0	1.1	2.0	5.0	1.8	3.4
31	---	---	---	---	---	---	3.5	1.6	2.4	---	---	---
MONTH	4.9	0.0	1.4	---	---	---	---	---	---	5.8	0.8	2.8

pH (UNITS), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	6.8	6.3	6.5	7.0	5.3	6.2	---	---	---	---	---	---
2	6.8	6.3	6.5	7.0	6.2	6.6	---	---	---	---	---	---
3	6.9	6.4	6.6	6.9	6.3	6.6	---	---	---	---	---	---
4	6.9	6.3	6.6	6.5	5.5	6.1	---	---	---	---	---	---
5	6.9	6.2	6.6	5.3	4.3	4.7	---	---	---	---	---	---
6	6.6	6.2	6.5	5.1	4.2	4.6	---	---	---	---	---	---
7	7.2	6.1	6.7	6.0	4.5	5.2	---	---	---	---	---	---
8	7.0	6.5	6.8	7.4	4.6	5.9	---	---	---	---	---	---
9	7.0	6.3	6.7	7.2	5.2	6.4	---	---	---	---	---	---
10	7.1	5.9	6.6	7.6	6.5	7.0	---	---	---	---	---	---
11	6.9	6.1	6.5	7.5	5.4	6.5	---	---	---	---	---	---
12	7.1	6.1	6.7	7.0	5.5	6.1	---	---	---	---	---	---
13	6.9	5.9	6.3	7.2	4.6	5.7	---	---	---	---	---	---
14	6.4	5.3	6.0	6.5	4.8	5.5	---	---	---	---	---	---
15	6.6	5.2	5.6	4.7	4.3	4.5	---	---	---	---	---	---
16	7.5	5.4	6.4	5.6	4.3	4.8	---	---	---	---	---	---
17	7.1	6.1	6.6	7.4	4.6	6.0	---	---	---	---	---	---
18	7.4	6.1	6.6	7.9	5.5	6.7	---	---	---	---	---	---
19	7.8	6.3	7.1	8.1	7.1	7.8	---	---	---	---	---	---
20	7.7	6.8	7.2	6.6	4.7	5.4	---	---	---	---	---	---
21	7.3	6.1	6.6	5.4	4.4	4.8	---	---	---	---	---	---
22	6.3	4.8	5.4	6.7	4.5	5.5	---	---	---	---	---	---
23	5.6	4.5	4.8	8.3	6.0	7.2	---	---	---	---	---	---
24	6.1	4.5	---	8.3	7.1	7.4	---	---	---	---	---	---
25	---	---	---	8.1	5.7	7.2	---	---	---	---	---	---
26	---	---	---	8.4	7.3	7.8	---	---	---	---	---	---
27	---	---	---	8.4	5.8	7.7	---	---	---	---	---	---
28	---	---	---	8.6	5.9	7.8	---	---	---	---	---	---
29	7.4	5.2	---	8.8	6.3	7.8	---	---	---	---	---	---
30	7.0	4.8	5.8	7.9	4.5	6.3	---	---	---	---	---	---
31	7.1	4.7	5.9	---	---	---	---	---	---	---	---	---
MONTH	7.8	4.5	6.4	8.8	4.2	6.3	---	---	---	---	---	---

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

pH (UNITS), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	FEBRUARY			MARCH			APRIL			MAY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	---	---	---	6.3	5.3	5.9	6.1	5.8	---
2	---	---	---	---	---	---	6.0	5.8	---	5.9	5.3	5.5
3	---	---	---	---	---	---	---	---	---	6.2	5.5	5.9
4	---	---	---	---	---	---	---	---	---	6.2	5.4	6.0
5	---	---	---	---	---	---	---	---	---	6.2	5.3	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	6.6	6.3	---
8	---	---	---	---	---	---	---	---	---	6.8	6.2	6.6
9	---	---	---	---	---	---	---	---	---	6.7	5.7	6.3
10	---	---	---	---	---	---	---	---	---	6.6	6.0	6.4
11	---	---	---	---	---	---	---	---	---	6.6	6.0	6.4
12	---	---	---	---	---	---	---	---	---	6.5	5.6	6.2
13	---	---	---	---	---	---	---	---	---	6.6	5.7	6.3
14	---	---	---	---	---	---	---	---	---	6.4	6.0	6.2
15	---	---	---	---	---	---	---	---	---	6.5	6.3	6.4
16	---	---	---	---	---	---	---	---	---	6.4	5.6	6.2
17	---	---	---	---	---	---	---	---	---	6.5	5.0	5.8
18	---	---	---	---	---	---	---	---	---	6.5	6.2	6.4
19	---	---	---	---	---	---	---	---	---	6.4	6.3	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	6.3	6.0	---
23	---	---	---	6.9	6.4	---	---	---	---	6.4	5.8	6.1
24	---	---	---	7.0	6.8	6.9	---	---	---	6.2	6.0	---
25	---	---	---	7.0	6.7	6.9	---	---	---	6.5	6.2	---
26	---	---	---	6.7	5.8	6.3	---	---	---	6.4	6.0	6.2
27	---	---	---	6.3	5.8	---	---	---	---	6.5	6.1	6.3
28	---	---	---	6.3	5.9	6.2	---	---	---	6.5	6.3	6.4
29	---	---	---	6.7	6.1	6.5	---	---	---	6.5	6.4	6.4
30	---	---	---	6.6	6.1	6.4	---	---	---	6.5	6.3	6.4
31	---	---	---	6.4	6.0	6.2	---	---	---	6.6	6.2	6.4
MONTH	---	---	---	---	---	---	---	---	---	6.8	5.0	---

	JUNE			JULY			AUGUST			SEPTEMBER		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	6.6	6.1	6.3	6.6	6.3	6.4	6.6	6.2	6.4	7.1	6.6	6.9
2	6.3	6.0	6.1	6.6	6.2	6.4	6.5	6.3	6.4	7.1	6.8	7.0
3	6.3	6.0	6.1	6.5	6.1	6.3	6.5	6.3	6.4	7.1	6.7	7.0
4	6.2	6.0	6.1	6.5	6.1	6.2	6.6	6.3	6.4	7.2	6.9	7.1
5	6.2	6.0	6.1	6.4	6.2	6.3	6.5	6.3	6.4	7.1	6.9	7.0
6	6.3	6.1	6.2	6.5	6.2	6.3	6.6	6.2	6.4	7.2	6.9	7.0
7	6.2	6.1	6.1	6.5	6.3	6.4	6.6	6.2	6.4	7.2	6.8	7.0
8	6.2	6.1	6.2	6.5	6.3	6.4	6.5	6.2	6.4	7.1	6.7	6.9
9	6.2	6.1	6.1	6.5	6.3	6.4	6.5	6.2	6.4	6.9	6.6	---
10	6.2	6.1	6.1	6.5	6.1	6.3	6.6	6.2	6.4	6.7	6.4	6.6
11	6.2	6.1	6.1	6.4	6.2	6.3	6.7	6.2	6.4	6.9	6.4	6.6
12	6.3	6.1	6.1	6.4	6.2	6.3	6.6	6.3	6.5	7.0	6.4	6.7
13	6.3	6.1	6.2	6.4	6.2	6.3	6.7	6.3	6.5	6.8	6.3	6.6
14	6.3	6.1	6.2	6.6	6.2	6.3	6.7	6.3	6.5	6.8	6.4	6.6
15	6.3	6.1	6.2	6.4	6.1	6.2	6.6	6.3	6.4	6.8	6.2	6.5
16	6.3	5.9	6.1	6.3	5.8	---	6.5	6.3	6.4	6.8	6.3	6.6
17	6.2	6.0	6.1	---	---	---	6.6	6.3	6.4	6.9	6.4	6.7
18	6.6	6.0	6.1	---	---	---	6.6	6.4	6.5	6.8	6.2	6.5
19	6.6	6.5	6.6	---	---	---	6.6	6.4	6.5	6.8	6.4	6.6
20	6.6	6.6	6.6	---	---	---	6.6	6.4	6.5	6.8	6.3	6.6
21	6.6	6.0	6.4	---	---	---	6.7	6.4	6.5	6.7	6.2	6.4
22	6.6	6.3	6.5	---	---	---	6.7	6.4	6.6	6.5	6.1	6.3
23	6.6	6.4	6.6	---	---	---	6.7	6.3	6.6	6.6	6.2	6.4
24	6.6	6.5	6.6	---	---	---	6.8	6.5	6.7	6.5	6.3	6.4
25	6.6	6.2	6.4	---	---	---	6.8	6.6	6.7	6.6	6.2	6.4
26	6.4	6.1	6.3	---	---	---	6.8	6.6	6.7	6.5	6.2	6.3
27	6.4	6.1	6.2	7.9	6.9	---	6.8	6.5	6.7	6.6	6.0	6.3
28	6.6	6.2	6.4	7.0	6.8	6.9	6.7	6.5	6.6	6.7	6.4	6.6
29	6.6	6.3	6.4	8.1	6.8	6.9	6.8	6.6	6.7	6.7	6.4	6.6
30	6.6	6.3	6.4	6.9	6.3	6.6	6.8	6.6	6.7	6.8	6.5	6.7
31	---	---	---	6.6	6.2	6.4	6.8	6.6	6.7	---	---	---
MONTH	6.6	5.9	6.3	---	---	---	6.8	6.2	6.5	7.2	6.0	6.7

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

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

	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	21.0	19.0	20.5	13.5	13.0	13.5	8.5	7.0	8.0	1.5	0.5	1.0
2	21.0	20.5	20.5	14.0	13.0	13.5	8.5	6.0	7.0	1.5	0.5	1.0
3	21.0	20.5	20.5	14.5	13.5	14.0	7.0	6.0	6.5	1.5	0.5	1.0
4	21.5	20.5	21.0	14.5	13.5	14.0	6.5	5.5	6.0	1.0	0.5	0.5
5	20.5	20.0	20.0	14.0	13.0	13.5	6.0	5.0	5.5	1.5	0.0	0.5
6	20.5	19.5	20.0	13.5	12.0	13.0	6.0	4.5	5.5	1.5	0.5	1.0
7	20.5	20.0	20.0	13.0	11.5	12.5	5.5	4.5	5.0	1.0	0.0	0.5
8	20.5	20.0	20.0	13.0	11.5	12.0	5.5	4.5	5.0	0.5	0.0	0.0
9	20.5	19.5	20.0	13.0	11.5	12.0	6.0	5.0	5.5	0.0	0.0	0.0
10	20.5	19.5	20.0	13.0	11.5	12.0	6.0	5.0	5.5	0.0	0.0	0.0
11	20.0	19.5	19.5	13.0	11.5	12.0	6.5	5.5	6.0	0.0	0.0	0.0
12	20.0	19.5	19.5	13.0	11.5	12.0	6.5	6.0	6.0	0.0	0.0	0.0
13	20.0	19.5	20.0	13.0	11.5	11.5	6.0	6.0	6.0	0.0	0.0	0.0
14	20.0	19.5	20.0	12.0	11.0	11.5	6.0	5.5	5.5	0.5	0.0	0.0
15	19.5	19.0	19.0	11.5	10.5	11.0	6.0	5.5	5.5	0.5	0.0	0.0
16	19.5	18.0	19.0	11.5	10.5	10.5	5.5	5.0	5.0	0.5	0.0	0.0
17	19.0	18.5	18.5	11.0	10.0	10.5	5.0	4.5	5.0	0.5	0.0	0.0
18	18.5	17.0	18.0	11.0	10.0	10.5	5.0	4.0	4.5	0.5	0.0	0.5
19	18.5	17.0	17.5	11.0	10.0	10.5	5.0	4.5	4.5	0.5	0.0	0.0
20	18.5	17.0	17.5	10.5	10.0	10.5	4.5	4.0	4.0	0.5	0.0	0.0
21	18.5	17.0	17.5	10.0	9.0	9.5	4.0	3.5	4.0	0.0	0.0	0.0
22	18.0	16.0	17.5	9.5	8.5	9.0	4.0	3.5	3.5	0.0	0.0	0.0
23	17.0	15.0	16.0	9.5	8.5	9.0	3.5	2.0	3.0	0.0	0.0	0.0
24	16.0	14.5	---	9.5	9.0	9.0	3.0	2.0	2.5	0.0	0.0	0.0
25	---	---	---	9.0	8.5	9.0	2.0	1.5	2.0	0.0	0.0	0.0
26	---	---	---	9.5	8.5	9.0	2.0	1.0	1.5	0.5	0.0	---
27	---	---	---	9.0	8.5	8.5	1.5	1.0	1.5	---	---	---
28	---	---	---	9.0	8.5	8.5	1.0	0.5	1.0	---	---	---
29	14.0	13.5	---	9.0	8.0	8.5	1.5	0.5	1.0	---	---	---
30	14.0	13.0	13.5	9.0	8.0	8.5	1.5	0.5	1.0	---	---	---
31	14.0	13.0	13.5	---	---	---	1.5	1.0	1.0	---	---	---
MONTH	21.5	13.0	19.0	14.5	8.0	11.0	8.5	0.5	4.5	1.5	0.0	0.5

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

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

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

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

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 1970.
Water temperatures: October 1969 to September 1970.

EXTREMES.--1969-70:
Specific conductance: Maximum, 17,200 micromhos Sept. 30; minimum, 100 micromhos Apr. 12-13.
Dissolved oxygen: Maximum 12.5 mg/l Feb. 14; minimum, 3.1 mg/l May 29, Aug. 25.
Water temperatures: Maximum, 28.5°C Aug. 2.
pH: Maximum, 7.9 Sept. 10, 12, 15-16; minimum, 6.1 Apr. 28.

Period of record:
Specific conductance: Maximum daily, 35,400 micromhos Nov. 7, 1963; minimum daily, 100 micromhos on several days in August 1969 and April 1970.

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	12300	7300	9220	14900	10000	12260	12400	5300	8510	13000	5200	9020
2	13300	7300	9580	16000	10100	12690	13500	4300	8850	11800	5100	8010
3	13000	7500	9330	14700	9900	12390	14800	7500	11700	12400	4900	8240
4	14200	6700	9460	14600	9700	11930	13500	7100	10000	13200	4900	8530
5	16100	8400	10980	14100	9600	12010	14800	6900	11450	14100	4900	8790
6	15400	8100	11510	12500	9100	10920	16000	8400	12140	11500	4200	7310
7	15600	7900	11270	15700	9500	12310	15500	9000	11570	14300	5500	9010
8	14000	8100	10870	15500	9500	12370	15300	8700	11930	13000	6000	8780
9	14400	7700	10370	15100	10000	12340	15400	8500	11300	10600	5200	7040
10	13800	7900	10620	16100	10200	13030	14500	8500	10950	11000	4500	6950
11	14000	8100	10520	15500	9500	12670	13800	6700	10850	11500	4800	7030
12	14500	8100	11040	15000	9400	11900	11000	5100	7810	13300	5700	9030
13	13700	8200	10900	14800	8500	11040	9500	3700	6010	11600	6200	8860
14	14900	8700	11280	12700	9000	10640	10200	3700	6320	11000	5300	7350
15	15500	8500	11090	12300	8200	10150	8600	3400	5290	10000	4300	6930
16	15100	9200	11720	9900	6800	8050	7500	3000	4650	11600	4300	8170
17	13500	8500	11220	11000	6400	8160	8300	2500	4910	13200	5500	9150
18	14300	8300	10530	9500	6800	---	10400	2900	6040	13800	5900	9060
19	13500	8000	10070	12500	8000	---	9700	2800	5390	14600	6600	10030
20	14000	7600	10390	10300	6400	8030	8200	2400	4370	14100	6600	10040
21	13000	7200	9820	10800	5700	7550	9200	2700	4890	11200	5000	8150
22	14100	8000	10220	12300	5500	7660	10700	3000	5540	13400	5800	9650
23	12300	7100	8960	10300	4900	7010	9500	2200	4520	16500	8700	12160
24	14300	7500	10140	10000	4700	6620	11100	3600	6020	15300	8000	11210
25	13200	7700	10070	11500	4900	6990	10900	4000	6310	15300	8600	11900
26	14600	7300	9950	9500	4600	6680	12600	4700	7790	15100	8600	11800
27	14000	8100	10350	11000	4600	6790	6900	3700	4930	15000	8800	11440
28	14000	8300	10370	11000	4500	7050	10900	4000	6390	14400	8200	11390
29	14800	8800	10930	12000	5500	8070	12900	5600	9520	14100	8000	10760
30	14900	8700	11370	11900	5500	8280	12800	6700	9470	12600	7000	9600
31	15100	9400	11670	---	---	---	13200	6200	9760	13500	6900	9970
MONTH	16100	6700	10510	16100	4500	9840	16000	2200	7920	16500	4200	9210

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

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	FEBRUARY			MARCH			APRIL			MAY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	13300	6200	9550	9400	2400	4930	8080	1600	3650	1200	360	647
2	13600	6100	10320	10000	2600	5120	8200	1960	3740	1280	440	615
3	13100	5700	8220	10400	2700	5620	2400	440	1140	1720	440	635
4	7100	2500	4570	11000	3600	6280	880	400	602	2680	480	822
5	10400	2300	4490	10700	3600	6370	480	280	400	2720	520	965
6	8000	1800	3640	10960	3700	6800	400	280	328	1640	480	712
7	8200	1500	3370	12560	4400	7550	320	240	292	2360	480	825
8	7000	1400	2980	9360	4520	6550	280	200	252	3760	520	1210
9	5400	1300	2800	8480	3920	5920	240	240	240	4320	640	1510
10	6100	1400	3380	7640	3680	5150	320	240	248	4400	640	1620
11	5000	1100	2410	7720	3240	4460	320	240	260	4040	400	1570
12	1500	500	1030	8400	3200	4520	900	100	380	4500	700	2120
13	2500	400	929	9080	3560	5620	2800	100	950	6240	1160	3180
14	3200	480	1390	11360	3920	6680	3400	480	1790	7480	1400	3750
15	6700	1000	3800	10760	3800	7080	4100	1150	2180	8320	2200	5020
16	8400	800	3950	10960	4080	8050	6300	1240	3610	7560	2720	5170
17	8600	1600	4750	13560	5000	9820	6000	1600	3640	8440	2760	5360
18	11500	3500	6920	13680	6440	10570	4600	1120	2600	9040	2800	4910
19	10700	3300	6300	16040	7920	12400	4520	1040	2230	10520	2880	5430
20	9100	2400	4700	15840	8520	11850	3920	880	2110	10200	3080	5610
21	7700	2300	4310	15080	8840	11770	3720	840	1840	10760	3160	5550
22	7700	2200	4140	15160	8080	10760	3360	520	1340	10680	3400	5480
23	6000	1500	2850	14800	7800	11580	2440	560	995	9280	3040	4060
24	5900	1500	3280	12800	6880	9730	3200	560	1160	9160	3160	5020
25	6600	1700	3550	11920	5920	8210	2040	440	788	9600	3360	5510
26	8600	2300	4170	11320	5960	8160	1520	480	653	9720	3480	5800
27	11700	2800	6330	11840	4240	6970	1280	400	617	8440	3280	4840
28	7700	2600	4580	9880	3800	5500	1760	440	663	6880	2760	4280
29	---	---	---	8080	3000	4740	960	400	558	7360	2920	4680
30	---	---	---	8840	2800	4740	1440	400	712	7560	2920	4710
31	---	---	---	7280	2240	4130	---	---	---	7400	2920	4380
MONTH	13600	400	4380	16040	2240	7340	8200	100	1330	10760	360	3450

	JUNE			JULY			AUGUST			SEPTEMBER		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	7280	2800	4180	12200	2800	5900	9760	5560	7540	---	---	---
2	8000	2680	4280	12200	4560	7370	10520	5280	---	---	---	---
3	6800	2320	4040	11840	4760	7450	---	---	---	---	---	---
4	7400	2240	3710	10960	5320	7540	---	---	---	---	---	---
5	7640	2600	4430	11200	5120	7110	---	---	---	---	---	---
6	8120	2920	4540	11040	5160	7260	---	---	---	---	---	---
7	7800	2960	4780	11480	5040	7370	---	---	---	---	---	---
8	9080	3000	5080	11800	5320	8010	---	---	---	---	---	---
9	7960	2920	4670	11640	5600	7880	---	---	---	15800	10520	---
10	7800	3000	4940	9880	4960	7420	---	---	---	15720	9120	12110
11	8280	3040	5470	9640	4320	6660	---	---	---	16280	8280	11030
12	8680	3280	5500	10280	4080	6570	---	---	---	16840	8720	12040
13	10080	3120	6050	11920	4320	7190	---	---	---	16800	9520	12100
14	10280	4360	6940	12960	4800	8640	14960	6560	---	16600	9760	12100
15	9120	3360	5900	12360	4920	8240	15200	6480	9790	16080	9720	12140
16	9560	3320	5550	9880	4360	7010	15440	7120	10100	15360	9800	12090
17	7240	3360	---	11800	3760	6550	14040	7360	10140	16520	9560	12190
18	9400	3320	---	12960	5120	7890	14760	7200	10260	16320	10200	12780
19	9040	3240	4920	13080	5360	8050	15120	7800	10800	15640	10000	12370
20	8360	3080	4880	13560	8520	---	14440	8080	10920	16520	10440	12980
21	9360	2760	4480	---	---	---	14640	8200	11510	16320	11000	13130
22	7240	2480	3900	---	---	---	16400	9600	12150	15840	9480	12330
23	6440	2400	3710	6320	5120	---	15480	10680	12710	15920	8920	11930
24	6360	2520	4000	---	---	---	15440	8920	11500	14960	8560	11560
25	6760	2560	4290	---	---	---	15320	8960	11580	16160	8600	12130
26	7080	3080	4690	8880	7640	---	15680	9080	11700	15520	8480	11650
27	6600	3040	4300	12000	5840	8200	15640	8600	11500	15680	8040	11600
28	7360	2680	4370	12760	6080	8430	15840	8360	11490	15720	9400	12350
29	8080	2920	4730	12960	5840	8430	15360	8240	11290	15160	9680	12060
30	6960	2960	4620	13080	5680	8550	16040	8720	11460	17160	10000	12890
31	---	---	---	9860	6040	7590	14720	9600	---	---	---	---
MONTH	10280	2240	4750	13560	2800	---	---	---	---	---	---	---

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

DISSOLVED OXYGEN (DO), IN MILLIGRAMS PER LITER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	FEBRUARY			MARCH			APRIL			MAY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	12.0	10.9	11.5	10.1	8.0	9.1	6.8	5.6	6.5
2	---	---	---	12.0	10.6	11.3	10.1	8.5	9.4	6.7	5.7	6.4
3	---	---	---	12.0	10.7	11.4	10.1	7.3	9.0	6.8	5.8	6.5
4	---	---	---	11.9	10.8	11.3	9.2	8.3	8.7	6.6	5.8	6.2
5	---	---	---	11.8	10.5	11.1	8.7	8.2	8.5	6.4	5.5	5.9
6	---	---	---	11.7	10.4	11.1	8.7	8.2	8.5	7.7	5.6	6.6
7	---	---	---	11.7	10.1	10.9	8.9	8.4	8.7	7.4	6.5	7.0
8	---	---	---	11.2	10.0	10.7	8.9	8.0	8.6	7.5	6.0	6.9
9	---	---	---	11.1	9.8	10.5	8.3	8.0	8.1	7.3	6.4	6.8
10	---	---	---	10.9	9.5	10.2	8.2	7.7	7.9	7.1	6.0	6.5
11	9.8	9.0	---	10.6	9.6	10.0	8.3	7.6	8.0	6.7	5.8	---
12	11.8	8.7	10.1	10.7	9.6	10.1	7.9	7.5	---	6.3	5.7	---
13	12.1	10.4	11.1	10.9	9.8	10.3	---	---	---	6.6	5.5	6.0
14	12.5	11.2	11.6	11.3	9.9	10.5	---	---	---	6.6	5.5	6.1
15	12.2	11.5	11.8	11.2	10.0	10.7	---	---	---	7.0	5.9	6.5
16	12.2	11.1	11.7	11.2	10.1	10.9	9.9	9.0	---	6.7	6.0	6.4
17	11.8	10.9	11.5	11.6	10.4	11.1	9.6	9.1	9.4	6.6	5.7	6.2
18	11.0	10.1	10.6	11.4	10.5	11.0	9.3	8.5	8.9	7.0	5.6	6.2
19	10.9	10.0	10.5	11.5	10.2	11.0	8.9	8.2	8.7	7.2	5.8	6.3
20	11.1	10.1	10.6	11.5	10.0	10.9	9.0	8.1	8.6	6.9	5.3	6.1
21	11.1	10.4	10.7	11.3	10.0	10.7	8.6	7.7	8.3	6.7	5.3	5.9
22	11.2	10.5	10.8	11.0	9.8	10.3	8.5	7.2	7.9	6.7	5.1	5.7
23	11.3	10.6	10.9	10.8	9.8	10.4	7.9	6.9	7.5	6.3	4.4	5.2
24	11.2	10.6	10.9	10.8	9.7	10.2	7.9	6.8	7.4	5.9	4.2	4.9
25	11.1	10.6	10.9	10.9	9.4	10.1	7.7	6.4	7.1	5.8	4.0	4.8
26	11.9	10.9	11.5	10.8	9.4	10.2	7.2	6.3	6.8	5.7	3.9	4.7
27	12.3	11.2	11.8	10.8	9.3	10.0	6.9	5.9	6.4	5.1	3.2	4.3
28	11.9	11.1	11.4	10.6	9.3	9.8	6.7	5.9	6.3	5.2	3.2	4.3
29	---	---	---	10.3	9.2	9.8	6.4	5.5	6.1	5.5	3.1	4.4
30	---	---	---	10.5	9.1	9.8	7.1	5.5	6.2	5.9	3.9	4.9
31	---	---	---	10.3	8.9	9.6	---	---	---	5.6	3.7	4.6
MONTH	---	---	---	12.0	8.9	10.6	10.1	5.5	8.0	7.7	3.1	5.8

	JUNE			JULY			AUGUST			SEPTEMBER		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	5.6	3.2	4.4	6.4	5.6	6.0	5.2	4.0	4.5	---	---	---
2	6.2	3.5	4.8	6.5	5.7	6.1	4.8	3.5	---	---	---	---
3	6.0	4.7	5.4	6.5	5.5	6.1	---	---	---	---	---	---
4	5.9	4.4	5.3	6.6	5.4	6.0	---	---	---	---	---	---
5	6.1	3.7	5.1	6.3	5.4	5.8	---	---	---	---	---	---
6	6.5	4.0	5.6	6.3	5.3	5.8	---	---	---	---	---	---
7	6.6	5.2	6.0	6.4	5.2	5.8	---	---	---	---	---	---
8	6.8	5.1	6.1	6.7	5.4	6.0	---	---	---	---	---	---
9	6.7	5.4	6.1	6.9	6.1	6.5	---	---	---	6.3	5.7	---
10	6.6	5.3	6.1	7.0	6.4	6.7	---	---	---	6.0	3.5	5.4
11	6.5	5.4	6.1	6.7	6.1	6.4	---	---	---	6.6	5.2	5.8
12	6.5	5.2	6.1	6.7	5.9	6.3	---	---	---	6.9	3.7	5.9
13	7.8	5.4	6.6	6.7	5.8	6.3	---	---	---	6.6	3.6	5.5
14	7.4	6.0	6.8	6.9	5.9	6.4	5.6	4.9	---	6.7	5.7	6.1
15	7.3	6.1	6.8	7.0	6.1	6.5	6.0	4.5	5.1	7.0	4.0	5.8
16	7.1	5.9	6.6	6.8	6.0	6.3	5.8	4.5	5.0	7.0	5.2	5.8
17	6.5	5.7	---	6.8	5.8	6.3	5.4	4.6	5.0	7.2	5.5	6.0
18	6.6	5.5	---	7.0	5.8	6.3	5.1	4.3	---	6.1	5.2	5.7
19	6.5	5.0	5.7	6.6	5.4	6.0	---	---	---	5.8	5.1	5.4
20	6.4	4.8	5.7	6.3	6.1	---	---	---	---	6.6	4.4	5.6
21	6.5	4.8	5.8	---	---	---	---	---	---	6.0	5.3	5.7
22	6.4	4.5	5.6	---	---	---	---	---	---	6.2	5.3	5.7
23	6.3	4.3	5.2	5.1	4.6	---	---	---	---	6.5	5.2	5.7
24	6.1	3.9	5.3	---	---	---	---	---	---	6.4	3.7	5.1
25	6.1	4.3	5.3	---	---	---	5.4	3.1	---	5.3	3.8	4.3
26	6.1	4.4	5.4	5.2	4.8	---	5.6	4.7	5.2	5.6	3.5	4.3
27	6.3	4.9	5.7	5.2	4.1	4.7	5.7	4.4	5.1	4.7	3.6	4.2
28	6.7	5.5	6.2	5.2	4.2	4.8	5.9	4.4	5.1	5.2	3.7	4.4
29	6.6	5.5	6.0	5.0	4.0	4.6	6.0	4.1	5.1	6.9	3.9	5.4
30	6.7	5.7	6.1	4.9	4.0	4.5	6.2	4.4	5.3	6.9	5.3	6.1
31	---	---	---	4.9	4.1	4.4	5.9	4.6	---	---	---	---
MONTH	7.8	3.2	5.8	7.0	4.0	---	---	---	---	---	---	---

NOTE.--NO DATA OCT. TO JAN.

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

pH (UNITS), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	FEBRUARY			MARCH			APRIL			MAY		
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	7.2	6.8	7.0	7.2	6.8	6.9	6.4	6.2	6.3
2	---	---	---	7.3	6.8	7.0	7.2	6.8	7.0	6.4	6.3	6.4
3	---	---	---	7.2	6.7	7.0	7.1	6.8	7.0	6.6	6.4	6.5
4	---	---	---	7.3	6.8	7.0	7.0	6.8	6.9	6.8	6.6	6.7
5	---	---	---	7.3	6.8	7.0	6.9	6.7	6.8	7.0	6.8	6.9
6	---	---	---	7.2	6.7	7.0	6.8	6.7	6.7	7.0	6.7	6.9
7	---	---	---	7.3	6.8	7.0	6.8	6.6	6.7	7.0	6.8	6.9
8	---	---	---	7.1	6.7	6.9	6.7	6.6	6.6	7.1	6.9	7.0
9	---	---	---	7.1	6.7	6.9	6.7	6.5	6.6	7.1	6.9	7.0
10	---	---	---	7.0	6.7	6.8	6.8	6.5	6.6	7.1	6.7	6.9
11	6.8	6.7	---	6.9	6.7	6.8	6.7	6.5	6.6	7.0	6.8	---
12	6.9	6.7	6.8	7.1	6.7	6.8	6.8	6.5	---	7.1	6.9	---
13	6.9	6.7	6.8	7.1	6.7	6.9	---	---	---	7.1	6.9	7.0
14	7.2	6.8	6.9	7.3	6.8	7.0	---	---	---	7.1	6.8	6.9
15	7.1	6.8	7.0	7.2	6.8	7.0	---	---	---	7.1	6.7	6.9
16	7.2	6.9	7.0	7.3	6.8	7.1	7.3	7.0	---	7.0	6.7	6.9
17	7.0	6.6	6.8	7.6	6.9	7.2	7.2	6.9	7.1	7.0	6.7	6.8
18	7.1	6.6	6.8	7.5	7.0	7.2	7.1	6.9	7.0	7.1	6.6	6.8
19	7.0	6.6	6.8	7.7	7.0	7.3	7.1	6.9	7.0	7.5	6.6	7.0
20	7.0	6.6	6.7	7.6	7.0	7.2	7.1	6.9	7.0	7.5	7.0	7.2
21	6.9	6.6	6.7	7.5	7.0	7.2	7.1	6.3	6.7	7.4	7.0	7.2
22	7.0	6.6	6.8	7.5	6.9	7.1	6.4	6.2	6.3	7.4	7.0	7.2
23	6.9	6.6	6.8	7.5	6.9	7.2	6.4	6.2	6.3	7.4	6.9	7.1
24	6.9	6.7	6.8	7.3	6.9	7.1	6.4	6.2	6.3	7.3	6.8	7.0
25	7.0	6.7	6.8	7.2	6.8	7.0	6.3	6.2	6.3	7.3	6.8	7.0
26	7.2	6.6	6.9	7.2	6.9	7.0	6.3	6.2	6.3	7.3	6.8	7.0
27	7.3	6.9	7.1	7.3	6.8	7.0	6.3	6.2	6.3	7.1	6.8	6.9
28	7.1	6.8	7.0	7.2	6.8	7.0	6.3	6.1	6.3	7.2	6.8	6.9
29	---	---	---	7.1	6.8	7.0	6.3	6.2	6.3	7.2	6.7	7.0
30	---	---	---	7.2	6.8	7.0	6.3	6.2	6.3	7.3	6.8	7.0
31	---	---	---	7.1	6.8	6.9	---	---	---	7.3	6.8	7.0
MONTH	---	---	---	7.7	6.7	7.0	7.3	6.1	6.6	7.5	6.2	6.9

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

NOTE.--NO DATA OCT. TO JAN.

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

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

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

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

NOTE.--NO DATA OCT. TO JAN.

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 1970

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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)
OCT.										
07...	9.0	24	22	3.6	19	3.8	33	25	29	.2
NOV.										
06...	14	7.5	16	3.6	26	3.9	24	30	37	.9
DEC.										
04...	15	14	20	4.4	23	1.9	15	26	47	.2
JAN.										
05...	51	11	9.2	2.3	6.4	2.9	13	18	12	.2
FEB.										
02...	37	17	12	2.9	10	2.3	10	23	21	.7
MAR.										
04...	29	16	12	2.8	12	6.4	12	23	22	.2
APR.										
02...	120	14	10	2.2	9.0	2.0	9	22	15	.2
MAY										
05...	44	8.6	11	2.4	8.7	2.5	18	18	12	.0
JUNE										
05...	17	11	16	3.5	18	3.2	29	23	26	.0
25...	41	15	11	2.0	8.9	2.7	14	19	12	.0
AUG.					NA + K					
06...	2.9	--	10	2.8	20		27	27	18	--
SEP.										
02...	2.5	--	14	3.5	27		22	38	30	--

DATE	DIS-SOLVED NITRATE (NO3) (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)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	COLOR (PLAT-INUM-COBALT UNITS)	DIS-SOLVED ORTHO PHOS-PHATE (PO4) (MG/L)
OCT.									
07...	24	200	167	70	43	251	7.4	17	--
NOV.									
06...	22	196	159	55	36	277	7.3	16	.97
DEC.									
04...	23	230	167	68	56	275	7.2	24	--
JAN.									
05...	7.9	102	76	33	22	110	7.1	36	--
FEB.									
02...	11	129	105	42	34	155	7.2	22	--
MAR.									
04...	15	143	115	42	32	169	6.8	15	--
APR.									
02...	8.8	121	88	34	27	140	6.9	20	--
MAY									
05...	9.6	106	82	38	23	132	7.2	45	--
JUNE									
05...	14	159	129	55	31	217	7.3	70	--
25...	11	130	89	36	24	135	6.6	55	--
AUG.									
06...	6.8	--	--	37	15	173	7.0	12	.14
SEP.									
02...	9.0	--	--	50	32	234	7.2	10	.10

01486500 BEAVERDAM CREEK NEAR SALISBURY, MD.

LOCATION.--Lat 38°21'05", long 75°34'11", Wicomico County, at gaging station, 0.6 mile (revised) upstream from Beaglin Branch, 2 miles southeast of Salisbury, and 0.8 mile upstream from mouth.

DRAINAGE AREA.--19.5 sq mi.

PERIOD OF RECORD.--Chemical analyses: October 1965 to September 1970.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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)	CAR-BONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)
OCT. 20...	10	13	4.0	1.5	8.5	2.2	21	--	3.9	11
NOV. 17...	98	20	3.8	1.5	7.8	2.1	21	--	1.5	8.5
DEC. 16...	22	13	4.6	2.0	7.0	3.3	11	--	10	10
JAN. 28...	29	14	3.8	1.6	5.9	2.2	10	--	4.3	9.4
MAR. 16...	25	20	4.2	1.2	7.4	1.5	13	--	5.7	8.4
APR. 28...	36	14	4.2	1.3	6.3	1.5	14	--	5.9	7.4
JUNE 15...	9.3	15	3.6	1.3	8.0	1.1	24	--	1.2	8.0
JULY 28...	13	13	4.4	1.4	6.8	2.2	20	0	4.2	7.5
SEP. 16...	7.1	15	4.8	1.4	8.3	2.2	25	0	2.5	8.5

DATE	DIS-SOLVED FLUO-RIDE (F) (MG/L)	DIS_SOLVED NITRATE (NO3) (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)	SPECI-FIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	COLOR (PLAT-INUM-COBALT UNITS)
OCT. 20...	.1	4.1	64	59	16	0	78	7.4	8
NOV. 17...	.1	4.7	66	60	16	0	76	7.3	10
DEC. 16...	.2	6.2	91	62	20	1	91	7.2	2
JAN. 28...	.1	6.9	74	53	16	8	76	7.2	10
MAR. 16...	.2	6.3	85	60	16	5	81	7.2	12
APR. 28...	.2	4.5	67	52	16	5	74	7.1	30
JUNE 15...	.0	3.5	61	53	15	0	77	7.6	15
JULY 28...	.1	3.4	67	53	17	1	124	7.2	30
SEP. 16...	.1	3.6	69	59	18	0	134	7.2	20

01487000 NANTICOKE RIVER NEAR BRIDGEVILLE, DEL.

LOCATION (revised).--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 1970.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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)
OCT.										
06...	62	19	4.4	1.8	7.1	3.2	12	5.9	11	.1
NOV.										
03...	57	18	4.2	1.8	7.6	2.6	13	5.8	11	.1
DEC.										
04...	42	18	4.2	1.6	6.4	2.0	11	3.2	7.8	.1
MAR.										
04...	118	20	5.0	1.6	6.4	1.5	10	7.6	7.3	.2
JULY										
09...	86	20	5.4	2.0	7.1	1.9	16	9.2	8.6	.0
AUG.										
04...	63	18	5.0	2.0	8.0	2.8	17	5.6	8.7	.0
SEP.										
25...	32	18	6.0	2.0	15	3.3	15	9.2	19	.0

DATE	DIS-SOLVED NITRATE (NO3) (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)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	COLOR (PLAT-INUM-COBALT UNITS)	DIS-SOLVED ORTHO PHOS-PHATE (PO4) (MG/L)
OCT.									
06...	12	80	70	19	9	90	7.3	0	--
NOV.									
03...	9.6	81	67	18	8	86	7.2	8	--
DEC.									
04...	12	68	61	17	8	77	7.1	0	--
MAR.									
04...	12	83	66	19	11	87	7.2	6	--
JULY									
09...	9.6	78	72	22	9	93	7.0	8	--
AUG.									
04...	11	73	70	21	7	90	7.1	10	--
SEP.									
25...	16	94	96	23	11	129	6.5	2	.39

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 1970

CHEMICAL ANALYSES, SEPTEMBER 1969 TO SEPTEMBER 1970

DATE	DIS-SOLVED ALUM-INUM (AL) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (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)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	TOTAL CHRO-MIUM (CR) (UG/L)
OCT. 22...	100	300	230	0	12	0	85	22	0	7

DATE	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (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)	TUR-BID-ITY (JTU)	ODOR (THRES-HOLD NUMBER)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)
OCT. 22...	22	208	.2	431	80	62	50	13	0	0.00

DATE	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	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)	DIS-SOLVED GROSS BETA AS CS-137 (PC/L)	SUS-PENDED GROSS BETA AS CS-137 (PC/L)
OCT. 22...	38	2.6	.050	.01	1	.4	.2	8.5	1.0

DATE	TIME	TEMP-ERATURE (DEG C)	DIS-SOLVED OXYGEN (MG/L)	PH (UNITS)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	FECAL COLI-FORM (COL. PER 100 ML)
SEP., 1969						
18...	1820	23.0	7.1	6.2	75	170
OCT.						
22...	1400	17.0	8.5	6.5	680	120
NOV.						
28...	1400	7.5	8.3	7.2	150	86
DEC.						
17...	1610	3.5	10.1	7.6	120	68
JAN., 1970						
12...	1400	.0	12.1	6.3	70	9
FEB.						
09...	1415	4.5	12.0	7.7	80	180
MAR.						
16...	1720	7.0	10.6	7.0	90	24
APR.						
17...	0820	11.5	8.7	6.7	75	310
MAY						
28...	0530	22.0	6.7	5.9	75	71
JUNE						
24...	1400	26.0	7.1	6.3	100	70
JULY						
31...	1115	25.0	6.5	7.3	85	560
AUG.						
21...	1515	27.5	5.8	6.5	190	130
SEP.						
28...	1040	24.0	4.6	6.6	420	100

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 1970.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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)
OCT.										
22...	29	--	--	340	--	210	--	--	--	--
23...	28	15	--	--	--	--	12	3.4	7.2	2.8
NOV.										
28...	32	14	800	--	10	--	11	3.1	7.4	2.2
DEC.										
17...	98	20	800	--	40	--	9.2	2.9	5.9	2.2
JAN.										
12...	125	20	600	--	80	--	8.6	2.6	5.8	1.7
FEB.										
09...	150	17	530	--	80	--	7.6	2.5	5.3	1.5
MAR.										
16...	90	16	690	--	50	--	8.2	2.4	6.5	1.5
APR.										
17...	660	7.9	440	--	0	--	5.8	1.7	2.7	1.8
MAY										
28...	65	16	2300	--	310	--	9.4	2.7	5.6	1.8
JUNE										
24...	213	13	1600	--	130	--	6.7	1.8	3.5	2.2
JULY										
31...	80	13	1700	--	100	--	12	3.1	6.1	2.6
AUG.										
21...	32	7.8	940	--	70	--	11	2.8	6.4	2.2
SEP.										
28...	13	12	860	--	30	--	12	3.2	6.5	2.6

DATE	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (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 SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)
OCT.										
22...	29	0	18	13	.1	--	--	44	20	--
23...	29	0	17	16	.1	3.5	91	44	20	139
NOV.										
28...	23	0	19	13	.1	2.9	84	41	22	--
DEC.										
17...	10	0	24	10	.1	3.2	82	35	27	--
JAN.										
12...	10	0	22	8.5	.1	5.0	79	32	24	--
FEB.										
09...	9	0	21	8.3	.1	4.1	72	30	23	--
MAR.										
16...	12	0	20	9.6	.2	3.0	73	31	21	--
APR.										
17...	2	0	17	5.8	.2	2.1	46	22	20	--
MAY										
28...	19	0	17	9.7	.1	4.2	76	35	19	--
JUNE										
24...	7	0	15	7.6	.2	4.1	57	24	19	--
JULY										
31...	31	0	14	12	.2	3.9	82	43	18	--
AUG.										
21...	24	0	16	12	.2	2.8	73	39	20	--
SEP.										
28...	32	0	14	13	.2	3.9	83	43	17	--

01491000 CHOPTANK RIVER NEAR GREENSBORO, MD.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	PH (UNITS)	COLOR (PLATINUM-COBALT UNITS)	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)	TURBIDITY (JTU)	TOTAL NONFILTRABLE RESIDUE (MG/L)	ODOR (THRESHOLD NUMBER)
OCT.										
22...	--	20	100	0	7	8	67	4	2	1
23...	7.6	7	--	--	--	--	--	--	--	--
NOV.										
28...	--	10	--	--	--	--	--	--	--	--
DEC.										
17...	--	25	--	--	--	--	--	--	--	--
JAN.										
12...	--	10	--	--	--	--	--	--	--	--
FEB.										
09...	--	12	0	--	--	--	--	--	--	--
MAR.										
16...	--	7	--	--	--	--	--	--	--	--
APR.										
17...	--	50	--	--	--	--	--	--	--	--
MAY										
28...	--	70	--	--	--	--	--	--	--	--
JUNE										
24...	--	50	--	--	--	--	--	--	--	--
JULY										
31...	--	1	--	--	--	--	--	--	--	--
AUG.										
21...	--	5	--	--	--	--	--	--	--	--
SEP.										
28...	--	10	--	--	--	--	--	--	--	--

DATE	BIOCHEMICAL OXYGEN DEMAND (MG/L)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)	TOTAL PHOSPHORUS (P) (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)	DISSOLVED GROSS BETA AS CS-137 (PC/L)	SUSPENDED GROSS BETA AS CS-137 (PC/L)	DISSOLVED CHROMIUM (CR) (UG/L)
OCT.										
22...	1.4	.00	.060	.00	3	.4	<.1	4.4	.4	7

DATE	TIME	DISCHARGE (CFS)	TEMPERATURE (DEG C)	DISSOLVED OXYGEN (MG/L)	PH (UNITS)	SPECIFIC CONDUCTANCE (MICROMHOS)	FECAL COLIFORM (COL. PER 100 ML)
OCT.							
22...	1610	29	15.0	8.3	6.4	140	49
NOV.							
28...	1125	32	5.5	11.3	7.0	150	38
DEC.							
17...	1433	98	1.0	12.2	7.3	140	58
JAN.							
12...	1520	125	.0	11.8	6.5	120	4
FEB.							
09...	1215	150	3.5	12.5	7.1	100	27
MAR.							
16...	1555	90	5.0	12.1	7.0	110	7
APR.							
17...	0945	663	11.5	8.8	5.9	70	200
MAY							
28...	0640	65	16.5	7.1	6.3	110	73
JUNE							
24...	1200	213	20.0	7.2	5.8	85	440
JULY							
31...	1000	80	25.0	6.7	6.4	120	220
AUG.							
21...	1340	32	23.5	7.4	6.7	110	430
SEP.							
28...	1153	13	18.0	6.8	7.3	120	68

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 1970.

CHEMICAL ANALYSES, JULY 1969 TO SEPTEMBER 1970

DATE	DIS-CHARGE (CFS)	DIS-SOLVED ALUM-INUM (AL) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (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)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	TOTAL CHRO-MIUM (CR) (UG/L)
OCT. 21...	2.6	100	110	470	0	6	0	160	43	0	3

DATE	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (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)	TUR-BID-ITY (JTU)	ODOR (THRES-HOLD NUMBER)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)
OCT. 21...	17	11	.2	114	54	19	60	62	2	.10

DATE	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	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)	DIS-SOLVED GROSS BETA AS CS-137 (PC/L)	SUS-PENDED GROSS BETA AS CS-137 (PC/L)
OCT. 21...	47	4.8	.21	.00	6	<.1	.7	7.9	1.3

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)
JULY, 1969							
14...	0830	1.2	21.0	7.6	6.9	180	630
AUG.							
25...	1239	1.2	26.0	14.4	8.3	170	115
SEP.							
17...	1000	1.5	19.0	10.1	6.6	190	360
OCT.							
21...	1750	2.6	15.5	8.9	6.4	150	B9000
NOV.							
25...	0850	2.4	3.0	11.4	7.5	180	B5700
DEC.							
16...	1439	4.2	3.5	12.6	7.4	250	88
JAN., 1970							
13...	1445	5.6	.0	13.2	7.6	250	360
FEB.							
10...	1356	65	4.0	12.0	8.0	120	2200
MAR.							
19...	1005	9.5	3.5	13.7	7.8	220	480
APR.							
15...	0930	80	6.5	11.2	7.2	110	3100
MAY							
18...	1454	5.6	19.5	10.1	7.3	180	B15000
JUNE							
18...	1437	56	22.5	8.2	7.0	120	18000
JULY							
09...	1039	6.0	22.0	9.8	8.2	140	--
27...	1530	3.3	27.0	11.7	8.5	170	380
AUG.							
20...	1320	2.5	26.0	12.6	8.6	150	360
SEP.							
29...	0945	2.2	12.5	9.4	7.3	170	3100

B Results based on colony count outside the acceptable range.

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 1970.

CHEMICAL ANALYSES, JULY 1969 TO SEPTEMBER 1970

DATE	DISCHARGE (CFS)	DISSOLVED ALUMINUM (AL) (UG/L)	DISSOLVED IRON (FE) (UG/L)	DISSOLVED MANGANESE (MN) (UG/L)	DISSOLVED CADMIUM (CD) (UG/L)	DISSOLVED COPPER (CU) (UG/L)	DISSOLVED LEAD (PB) (UG/L)	DISSOLVED ZINC (ZN) (UG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	TOTAL CHROMIUM (CR) (UG/L)
OCT. 21...	2.6	100	100	440	0	3	11	71	52	0	9

DATE	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	ODOR (THRESHOLD NUMBER)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)
OCT. 21...	18	21	.3	124	64	21	40	150	0	.20

DATE	TOTAL NONFILTRABLE RESIDUE (MG/L)	BIOCHEMICAL OXYGEN DEMAND (MG/L)	TOTAL PHOSPHORUS (P) (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)	DISSOLVED GROSS BETA AS CS-137 (PC/L)	SUSPENDED GROSS BETA AS CS-137 (PC/L)
OCT. 21...	248	5.1	.20	.00	1	.3	7.0	8.8	8.9

DATE	TIME	DISCHARGE (CFS)	TEMPERATURE (DEG C)	DISSOLVED OXYGEN (MG/L)	PH (UNITS)	SPECIFIC CONDUCTANCE (MICROMHOS)	FECAL COLIFORM (COL. PER 100 ML)
JULY, 1969							
14...	1030	1.0	25.0	9.2	6.7	225	4900
AUG.							
25...	1338	.54	31.0	20.0	9.0	220	867
SEP.							
17...	0845	1.0	20.0	5.9	6.6	235	410
OCT.							
21...	1600	2.6	18.5	9.0	6.8	220	B4300
NOV.							
25...	0747	1.6	2.5	11.3	7.1	220	1400
DEC.							
16...	1338	3.8	3.0	12.5	7.1	420	600
JAN., 1970							
13...	1607	2.0	.0	12.4	7.1	840	440
FEB.							
10...	1310	54	4.0	12.1	7.6	240	1600
MAR.							
19...	1111	7.1	4.0	12.2	7.6	430	780
APR.							
15...	0820	71	7.0	11.2	7.2	160	2400
MAY							
18...	1408	3.6	24.0	7.9	7.2	240	2300
JUNE							
18...	1346	16	27.0	7.4	7.2	190	B31000
JULY							
09...	0933	10	22.5	7.3	6.7	230	--
27...	1424	1.8	34.5	11.6	8.5	210	130
AUG.							
20...	1400	4.0	30.5	10.1	8.7	180	440
SEP.							
29...	0850	3.0	12.0	9.8	7.5	200	800

B Results based on colony count outside the acceptable range.

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 1970.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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)	CAR-BONATE (CO3) (MG/L)
DEC.										
18...	29	10	290	70	8.4	2.8	4.7	2.0	25	0
FEB.										
12...	106	6.1	150	40	8.5	2.9	4.8	2.2	18	0
MAR.										
12...	51	6.5	170	40	7.3	2.7	4.5	1.3	21	0
APR.										
24...	122	4.0	--	--	7.8	2.8	4.1	1.5	22	0
JUNE										
10...	42	11	330	100	8.1	2.7	4.6	1.8	27	0
JULY										
17...	33	7.7	460	60	10	2.9	4.6	2.5	32	0

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)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	COLOR (PLAT-INUM-COBALT UNITS)
DEC.										
18...	8.6	7.5	.1	6.1	62	33	12	100	7.1	0
FEB.										
12...	13	8.5	.1	8.4	64	33	18	108	6.8	3
MAR.										
12...	8.0	7.5	.1	7.1	55	29	12	94	6.7	1
APR.										
24...	9.4	7.2	.1	5.6	54	31	13	86	7.4	3
JUNE										
10...	5.8	6.8	.1	6.8	61	31	9	98	7.1	0
JULY										
17...	7.8	7.8	.1	6.6	66	37	11	119	6.8	1

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 1970.

CHEMICAL ANALYSES, JULY 1969 TO SEPTEMBER 1970

DATE	DIS-CHARGE (CFS)	DIS-SOLVED ALUM-INUM (AL) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (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)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	TOTAL CHRO-MIUM (CR) (UG/L)
OCT. 09...	40	100	170	280	1	14	2	71	53	0	0

DATE	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (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)	TUR-BID-ITY (JTU)	ODOR (THRES-HOLD NUMBER)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)
OCT. 09...	9.1	11	.2	92	67	24	5	6	0	.1

DATE	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	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)	DIS-SOLVED GROSS BETA AS CS-137 (PC/L)	SUS-PENDED GROSS BETA AS CS-137 (PC/L)
OCT. 09...	6	1.3	.11	.00	6	<.1	.3	4.8	1.1

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)
JULY, 1969							
15...	0945	26	24.0	5.0	6.8	150	1600
AUG.							
27...	1010	26	20.0	7.2	7.1	145	160
SEP.							
17...	1325	35	23.0	9.6	6.7	100	100
OCT.							
09...	1340	40	18.0	10.2	6.8	140	440
NOV.							
25...	1217	49	4.5	12.6	7.2	130	120
DEC.							
16...	0925	78	2.0	12.6	7.4	160	540
JAN., 1970							
13...	1015	73	.0	13.3	7.4	140	B1200
FEB.							
10...	0935	974	3.5	12.8	7.9	130	5200
MAR.							
18...	1218	95	3.0	13.3	8.1	130	390
APR.							
15...	1419	628	8.0	11.4	7.4	110	B13000
MAY							
18...	0950	174	14.0	8.9	6.7	130	B13000
JUNE							
18...	0945	138	20.0	7.8	7.4	140	24000
JULY							
27...	1155	53	26.0	9.1	7.0	130	1000
AUG.							
20...	0925	118	22.0	8.3	7.2	130	2400
SEP.							
29...	1314	29	17.0	10.4	7.6	130	150

B Results based on colony count outside the acceptable range.

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 1970

CHEMICAL ANALYSES, JULY 1969 TO SEPTEMBER 1970

DATE	DIS-CHARGE (CFS)	DIS-SOLVED ALUM-INUM (AL) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (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)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	TOTAL CHRO-MIUM (CR) (UG/L)
OCT.											
09...	1.0	100	10	250	1	20	0	70	58	3	18
23...	1.1	--	--	--	--	--	--	--	--	--	--

DATE	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (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)	TUR-BID-ITY (JTU)	ODOR (THRES-HOLD NUMBER)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)
OCT.										
09...	42	33	1.0	199	108	55	2	11	1	.10
23...	--	--	--	--	--	--	--	--	--	--

DATE	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	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)	DIS-SOLVED GROSS BETA AS CS-137 (PC/L)	SUS-PENDED GROSS BETA AS CS-137 (PC/L)
OCT.									
09...	16	6.3	.080	.13	0	3.2	.4	6.5	<.4
23...	--	4.9	--	.05	--	--	--	--	--

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)
JULY, 1969							
15...	1050	1.5	23.5	5.9	9.1	300	89900
AUG.							
27...	1100	1.3	20.0	8.7	7.3	310	3500
SEP.							
25...	0935	1.0	19.0	7.9	6.6	320	1400
OCT.							
09...	1713	1.0	19.5	6.5	9.2	330	3600
NOV.							
25...	1308	1.1	10.0	9.1	10.3	350	826
DEC.							
16...	1015	1.5	3.5	11.4	8.3	350	1900
JAN., 1970							
13...	1045	1.2	.0	12.8	9.0	650	120
FEB.							
10...	1020	17	5.5	11.5	7.7	340	816000
MAR.							
18...	1310	14	3.5	12.3	9.5	760	880
APR.							
15...	1321	7.5	10.0	10.4	7.9	350	819000
MAY							
18...	1045	2.1	14.0	8.2	9.1	370	1500
JUNE							
18...	1030	7.2	21.5	7.8	7.7	190	39000
JULY							
27...	1242	1.3	26.0	7.1	9.1	330	4600
AUG.							
20...	1010	1.3	22.0	8.3	8.0	280	11000
SEP.							
29...	1350	1.0	17.0	8.2	10.4	320	150

B Results based on colony count outside the acceptable range.

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 1970.

CHEMICAL ANALYSES, JULY 1969 TO SEPTEMBER 1970

DATE	DIS-CHARGE (CFS)	DIS-SOLVED ALUM-INUM (AL) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (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)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	TOTAL CHRO-MIUM (CR) (UG/L)
OCT. 09...	11	100	70	210	0	11	40	51	73	2	0

DATE	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (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)	TUR-BID-ITY (JTU)	ODOR (THRES-HOLD NUMBER)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)
OCT. 09...	9.9	16	.2	118	91	28	7	2	0	.10

DATE	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	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)	DIS-SOLVED GROSS BETA AS CS-137 (PC/L)	SUS-PENDED GROSS BETA AS CS-137 (PC/L)
OCT. 09...	0	1.0	.060	.00	0	.6	<.1	3.9	<.4

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)
JULY, 1969 15...	0815	8.2	21.5	7.8	6.5	370	1700
AUG. 27...	0845	7.6	18.0	9.6	7.5	220	120
SEP. 17...	1230	9.3	23.0	11.2	7.4	220	280
OCT. 09...	1410	11	17.0	11.5	7.4	180	130
NOV. 25...	1115	13	5.0	12.4	7.9	210	53
DEC. 16...	0846	22	2.0	12.1	7.4	620	680
JAN., 1970 13...	0930	20	.0	13.4	7.3	460	120
FEB. 10...	0836	602	3.5	12.1	7.4	200	813000
MAR. 18...	1132	27	3.0	13.8	8.2	350	520
APR. 15...	1500	172	9.0	9.9	7.4	210	11000
MAY 18...	0856	36	12.5	8.9	7.5	230	4200
JUNE 18...	0845	71	20.5	7.5	7.3	220	17000
JULY 27...	1133	12	24.0	10.4	8.0	210	880
AUG. 20...	0845	15	21.0	8.0	7.0	160	817000
SEP. 29...	1240	6.8	15.0	10.4	7.9	190	640

B Results based on colony count outside the acceptable range.

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 68.9 upstream from mouth.

DRAINAGE AREA.--225 sq mi.

PERIOD OF RECORD.--Water temperatures: August 1961 to September 1970.

EXTREMES.--1969-70:
Water temperatures: Maximum, 30.0°C July 2; minimum, freezing point on many days during winter period.

Period of record:
Water temperatures: Maximum, 32.0°C Aug. 15, 16, 18, 1965; 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 1969 TO SEPTEMBER 1970
(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	18.0	12.0	9.0	8.0	1.0	0.0	1.0	0.0	5.0	3.0	3.5	1.0
2	17.0	15.5	11.0	9.0	0.0	0.0	1.0	1.0	6.0	5.0	5.0	3.5
3	17.0	16.5	11.0	10.0	0.0	0.0	1.0	0.0	6.5	1.0	5.0	3.0
4	19.0	15.0	10.0	7.0	0.0	0.0	0.0	0.0	1.0	0.5	3.5	2.0
5	16.5	13.5	7.0	5.0	0.0	0.0	1.0	0.0	1.5	0.5	3.0	2.0
6	16.5	11.5	6.5	4.5	0.0	0.0	1.0	1.0	3.0	1.5	4.5	2.0
7	15.0	12.0	6.0	5.5	0.0	0.0	1.0	0.0	4.0	3.0	4.0	2.0
8	16.5	13.5	6.5	6.0	0.0	0.0	0.0	0.0	4.5	4.0	5.5	3.5
9	15.5	10.5	6.5	6.0	0.0	0.0	0.0	0.0	5.0	4.5	5.5	3.0
10	15.5	10.0	7.0	6.0	0.0	0.0	0.0	0.0	4.5	3.5	3.5	2.0
11	16.5	11.0	8.0	7.0	2.0	0.0	0.0	0.0	3.5	1.5	5.5	2.0
12	19.0	14.0	8.5	7.0	2.0	1.0	0.0	0.0	1.5	1.0	5.0	3.0
13	19.5	14.5	7.0	5.0	1.0	0.0	0.0	0.0	1.5	1.0	3.0	1.5
14	17.0	11.5	6.0	3.0	2.0	0.0	0.0	0.0	1.0	0.5	3.0	1.0
15	13.0	8.0	3.0	0.5	2.0	1.0	0.0	0.0	0.5	0.5	1.0	0.0
16	11.5	9.0	3.0	0.0	1.0	0.0	1.0	0.0	1.0	0.5	1.5	0.5
17	11.0	8.5	3.5	0.5	0.0	0.0	1.0	1.0	3.0	1.0	3.5	0.0
18	10.5	5.5	5.5	3.0	0.0	0.0	1.0	1.0	4.5	2.0	4.0	2.0
19	13.0	8.0	7.0	4.5	0.0	0.0	1.0	0.5	4.5	1.5	3.5	2.0
20	15.0	9.5	4.5	0.5	0.0	0.0	0.5	0.0	1.5	0.5	3.5	3.5
21	15.0	10.5	0.5	0.0	0.0	0.0	0.0	0.0	0.5	0.5	4.0	3.0
22	10.5	6.5	1.5	0.0	0.0	0.0	0.0	0.0	4.0	0.5	3.0	2.0
23	6.5	4.0	4.5	1.0	0.0	0.0	0.0	0.0	4.0	2.0	3.5	3.0
24	6.5	1.5	5.5	4.5	0.0	0.0	0.5	0.0	4.5	1.0	3.5	2.0
25	9.0	4.5	4.5	2.0	0.0	0.0	1.5	0.5	4.5	0.5	4.5	2.0
26	9.0	5.5	4.5	3.5	0.0	0.0	1.5	1.5	0.5	0.5	5.5	3.0
27	8.5	7.0	3.5	1.5	0.0	0.0	1.5	1.5	3.5	0.5	5.0	2.0
28	9.0	5.5	3.5	2.0	0.0	0.0	3.5	1.5	4.0	1.5	6.5	2.0
29	6.5	3.5	3.5	2.0	0.0	0.0	4.0	3.5	---	---	7.0	2.0
30	6.5	2.0	2.0	1.0	0.0	0.0	4.0	2.0	---	---	3.5	0.5
31	8.0	2.0	---	---	0.0	0.0	4.0	2.0	---	---	4.5	3.5
MONTH	19.5	1.5	11.0	0.0	2.0	0.0	4.0	0.0	6.5	0.5	7.0	0.0

01595500 NORTH BRANCH POTOMAC RIVER AT KITZMILLER, MD.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(CONTINUOUS ETHYL ALCOHOL-ACTUATED THERMOGRAPH)

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

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

LOCATION.--Lat 39°26'44", 79°08'39", Garrett County, Md., at gaging station, at Barnum, W. Va., 0.4 mile upstream from Polly Run, and 4 miles southwest of Piedmont, W. Va.

DRAINAGE AREA.--226 sq mi.

PERIOD OF RECORD.--Chemical analyses: April 1967 to September 1970.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-CHARGE (CFS)	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)	TOTAL ACIDITY AS CACO3 (MG/L)	HARD-NESS (CA,MG) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)
OCT. 1969									
01...	70	11000	6100	3400	253	151	110	3.5	.3
NOV.									
19...	275	3900	2200	1400	102	44	—	—	—
DEC.									
10...	222	4700	4200	1500	126	70	—	—	—
JAN., 1970									
06...	615	4200	6700	1200	97	55	—	—	—
FEB.									
03...	2310	2500	3700	2600	70	28	—	—	—
MAR.									
11...	865	2300	2800	1400	93	33	—	—	—
APR.									
07...	1710	2600	3100	1100	75	34	—	—	—
MAY									
05...	402	3800	1200	1400	107	39	—	—	—
JUNE									
03...	73	9200	2800	2400	266	119	—	—	—
JULY									
23...	56	15000	5200	3800	311	156	—	—	—
AUG.									
12...	68	19000	5300	3100	287	157	—	—	—
SEP.									
16...	47	13000	4900	3300	299	166	—	—	—

DATE	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	TUR-BID-ITY (JTU)	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)
OCT. 1969									
01...	.030	425	2	5	2	4	12	35	6

DATE	DIS-SOLVED ZINC (ZN) (UG/L)	CYANIDE (CN) (MG/L)	PHENOLS (UG/L)	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)	DIS-SOLVED GROSS ALPHA AS U-NAT. (PC/L)	SUS-PENDED GROSS ALPHA AS U-NAT. (PC/L)	DIS-SOLVED GROSS BETA AS CS-137 (PC/L)	SUS-PENDED GROSS BETA AS CS-137 (PC/L)
OCT.									
01...	420	.00	0	.9	.00	1.8	<.1	7.5	.9

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.							
01...	0820	70	13.0	9.6	3.1	780	0
NOV.							
19...	0910	275	6.5	10.8	3.4	340	6
DEC.							
10...	0805	222	1.0	12.4	3.4	400	4
JAN.							
06...	0845	615	.5	13.6	3.5	290	4
FEB.							
03...	0845	2310	4.0	11.5	3.9	220	31
MAR.							
11...	0820	865	2.5	12.2	3.7	250	9
APR.							
07...	0811	1710	5.0	12.2	3.8	230	7
MAY							
05...	0830	402	10.5	9.7	3.5	340	0
JUNE							
03...	0840	73	21.0	8.2	3.0	760	0
JULY							
23...	1700	56	19.0	8.9	3.1	830	0
AUG.							
12...	0910	68	19.5	8.9	3.0	800	0
SEP.							
16...	0850	47	21.5	8.8	3.4	810	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 1970.

EXTREMES.--1969-70:
Water temperatures: Maximum, 30.0°C July 2; minimum, freezing point on many days during winter period.

Period of record:
Water temperatures: Maximum, 33.0°C July 3, 1966; 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 1969 TO SEPTEMBER 1970
(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	19.0	14.5	8.5	6.5	1.0	0.0	0.0	0.0	1.5	1.0	2.0	0.5
2	18.0	16.5	10.5	8.5	0.0	0.0	1.0	0.0	3.5	1.5	5.0	2.0
3	18.0	17.0	11.0	10.5	0.0	0.0	1.0	0.0	3.5	0.0	5.0	4.0
4	19.5	16.0	10.5	8.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	4.0
5	18.0	15.5	8.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	4.5	4.0
6	16.5	14.0	6.0	5.5	0.0	0.0	0.0	0.0	1.0	0.0	4.5	3.5
7	15.5	14.5	6.5	5.5	0.0	0.0	0.0	0.0	1.5	1.0	4.5	3.5
8	18.0	14.0	6.5	6.0	0.0	0.0	0.0	0.0	2.0	1.5	5.5	4.0
9	16.5	13.0	6.5	5.5	0.0	0.0	0.0	0.0	2.0	2.0	5.5	4.0
10	16.5	12.0	6.5	6.0	0.0	0.0	0.0	0.0	2.0	2.0	4.0	3.5
11	17.0	14.0	7.0	6.5	2.0	0.0	0.0	0.0	2.0	1.0	5.5	3.5
12	19.0	15.5	8.0	6.5	2.0	2.0	0.0	0.0	1.0	0.0	5.0	3.5
13	19.5	16.5	6.5	5.0	2.0	0.5	0.0	0.0	0.0	0.0	4.5	3.5
14	18.0	13.5	5.5	4.0	1.5	0.5	0.0	0.0	0.0	0.0	4.0	2.0
15	14.5	11.0	4.0	1.5	1.5	1.0	0.0	0.0	0.0	0.0	2.0	1.0
16	12.0	10.5	2.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	2.0	1.0
17	11.5	9.5	3.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	3.5	1.0
18	11.5	8.0	4.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	3.5	2.0
19	12.0	9.0	5.5	4.0	0.0	0.0	0.0	0.0	2.0	1.5	3.5	2.0
20	15.0	10.0	5.0	2.0	0.0	0.0	0.0	0.0	1.5	0.0	3.5	3.5
21	14.0	11.5	2.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	3.5	3.5
22	11.5	9.0	0.5	0.5	0.0	0.0	0.0	0.0	2.0	0.0	3.5	3.5
23	9.0	6.5	3.0	0.5	0.0	0.0	0.0	0.0	2.0	1.0	4.0	3.5
24	6.5	4.5	4.5	3.0	0.0	0.0	0.0	0.0	2.0	0.5	4.5	3.5
25	9.0	5.5	4.0	3.0	0.0	0.0	0.0	0.0	2.0	0.5	5.5	3.5
26	9.5	5.5	4.0	3.0	0.0	0.0	0.0	0.0	0.5	0.0	5.5	4.5
27	8.0	6.5	3.0	2.0	0.0	0.0	0.0	0.0	1.0	0.0	5.5	3.5
28	8.0	6.0	3.0	2.0	0.0	0.0	1.0	0.0	2.0	1.0	6.5	4.0
29	6.5	4.5	3.0	2.0	0.0	0.0	1.5	1.0	---	---	6.5	3.0
30	6.5	3.5	2.0	1.5	0.0	0.0	1.5	1.0	---	---	3.5	2.0
31	6.5	4.5	---	---	0.0	0.0	1.0	0.0	---	---	5.5	3.5
MONTH	19.5	3.5	11.0	0.5	2.0	0.0	1.5	0.0	3.5	0.0	6.5	0.5

01598500 NORTH BRANCH POTOMAC RIVER AT LUKE, MD.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(CONTINUOUS ETHYL ALCOHOL-ACTUATED THERMOGRAPH)

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	4.5	4.5	20.0	16.5	24.5	18.5	29.5	22.0	26.5	23.5	25.0	21.0
2	5.5	4.5	19.5	17.0	25.5	19.5	30.0	25.0	26.5	23.5	24.5	18.5
3	5.5	3.5	17.0	14.5	23.5	20.0	27.0	24.0	24.5	21.5	24.5	19.0
4	5.5	5.5	14.5	12.0	22.0	19.0	27.0	23.5	23.5	20.5	25.5	21.0
5	6.5	4.5	16.5	11.5	22.0	18.5	25.0	21.5	23.5	20.0	24.5	16.0
6	6.0	5.0	15.5	13.0	20.5	18.5	27.0	20.5	23.5	20.0	23.5	17.0
7	5.5	5.5	14.0	9.5	19.5	15.0	26.5	19.0	24.5	20.0	25.0	20.0
8	8.5	5.0	17.0	10.5	23.5	16.0	25.5	20.5	25.5	20.5	24.5	20.0
9	10.5	7.0	20.5	14.5	25.0	19.0	24.0	20.0	22.0	21.0	26.0	21.5
10	9.5	7.0	20.5	16.5	26.0	19.5	20.5	18.0	23.5	20.0	24.0	21.5
11	8.5	6.0	21.5	17.0	26.5	19.5	22.0	19.5	25.5	19.5	23.0	19.5
12	9.0	7.0	23.0	18.5	26.0	20.5	24.5	19.0	26.0	20.0	22.0	18.5
13	9.0	7.0	23.0	18.5	25.5	21.5	26.5	20.0	25.0	21.0	24.0	18.5
14	8.5	7.0	21.0	19.0	22.0	19.5	25.5	21.0	25.0	20.5	24.5	20.0
15	10.5	6.5	19.5	18.0	21.0	19.0	28.5	22.0	26.0	20.5	26.0	22.0
16	11.0	8.5	20.5	17.0	23.0	20.0	25.5	22.0	27.0	21.5	25.5	22.0
17	13.0	10.5	19.0	15.5	26.5	21.0	26.5	20.0	26.0	21.5	24.5	21.5
18	14.0	10.5	18.5	13.0	27.0	22.0	26.5	20.0	25.0	20.5	23.5	21.5
19	13.0	9.0	20.5	14.0	25.5	22.0	26.5	21.0	26.0	21.5	23.0	19.5
20	12.0	9.0	21.5	17.0	25.0	20.5	24.5	22.0	26.0	21.5	23.0	19.0
21	14.5	11.0	24.0	18.5	23.0	19.5	24.5	19.0	27.0	22.0	24.5	20.0
22	14.0	11.0	25.0	19.5	21.5	19.5	22.0	20.0	24.0	20.0	25.5	21.0
23	13.5	12.0	24.0	17.0	25.0	17.0	21.0	19.5	23.5	19.5	25.5	21.5
24	13.0	11.5	23.0	16.5	26.0	19.0	24.5	19.0	20.5	19.0	26.5	22.0
25	13.5	11.0	24.0	19.5	25.5	19.5	28.0	21.5	23.0	19.0	26.0	21.5
26	14.0	11.5	21.5	20.0	25.0	21.5	27.0	22.0	24.0	20.0	25.5	21.5
27	15.5	13.0	20.5	17.0	24.0	19.5	25.5	22.0	25.0	20.0	23.5	19.0
28	15.5	14.5	21.5	15.0	24.5	16.5	27.0	21.0	26.5	21.0	19.0	15.5
29	18.0	14.5	21.5	16.0	24.5	19.0	28.0	22.0	26.5	21.5	16.5	14.5
30	19.5	16.0	23.0	15.0	25.5	20.5	25.5	23.5	26.5	22.0	15.0	13.5
31	---	---	24.0	16.5	---	---	25.5	23.0	26.0	23.5	---	---
MONTH	19.5	3.5	25.0	9.5	27.0	15.0	30.0	18.0	27.0	19.0	26.5	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 1970.

CHEMICAL ANALYSES, May 1969 TO SEPTEMBER 1970

DATE	DIS-CHARGE (CFS)	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)	TOTAL ACIDITY AS CACO3 (MG/L)	TOTAL IRON (FE) (UG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	BICAR-BONATE (HCO3) (MG/L)
MAY , 1969												
06...	29	--	--	--	281	--	--	299	298	77	26	2
JULY												
22...	28	290	60	1900	209	--	--	--	--	--	--	7
AUG.												
19...	63	0	100	8500	123	--	--	--	--	--	--	--
SEP.												
02...	9.1	1900	0	2700	410	15	--	--	--	--	--	--
OCT.												
01...	7.2	--	0	--	554	--	40	543	543	135	50	0
01...	8.1	2700	920	5400	550	106	--	564	--	--	--	--
NOV.												
19...	18	1700	220	3000	291	14	--	--	--	--	--	--
DEC.												
10...	21	3400	1900	2500	299	20	--	--	--	--	--	--
JAN., 1970												
06...	48	2200	470	2400	230	27	--	--	--	--	--	--
FEB.												
03...	380	1400	720	2900	141	15	--	--	--	--	--	--
MAR.												
11...	162	400	450	1600	168	11	--	--	--	--	--	--
APR.												
07...	376	1400	1100	2400	201	16	--	--	--	--	--	--
MAY												
05...	90	2700	730	2700	333	22	--	--	--	--	--	--
JUNE												
03...	25	5200	580	3400	457	43	--	--	--	--	--	--
JULY												
23...	15	10000	2000	6300	681	99	--	--	--	--	--	--
AUG.												
12...	7.2	8600	2100	6000	770	71	--	--	--	--	--	--
SEP.												
16...	5.5	6800	1400	5500	798	65	--	--	--	--	--	--

DATE	CAR-BONATE (CO3) (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)	TUR-BID-ITY (JTU)	COLOR (PLAT-INUM-COBALT UNITS)	ODOR (THRES-HOLD NUMBER)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	TOTAL CHRO-MIUM (CR) (UG/L)
MAY , 1969											
06...	0	6.4	--	.8	--	--	--	--	--	--	--
JULY											
22...	--	--	--	--	--	--	--	--	--	--	--
AUG.											
19...	--	--	--	--	--	--	--	--	--	--	--
SEP.											
02...	--	--	--	--	--	--	--	--	--	--	--
OCT.											
01...	--	12	--	2.6	--	--	--	--	--	--	--
01...	--	10	.4	--	.020	862	5	0	1	5	8

DATE	DIS-SOLVED COPPER (CU) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)	CYANIDE (CN) (MG/L)	PHENOLS (UG/L)	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)	DIS-SOLVED GROSS ALPHA AS U-NAT. (PC/L)	SUS-PENDED GROSS ALPHA AS U-NAT. (PC/L)	DIS-SOLVED GROSS BETA AS CS-137 (PC/L)	SUS-PENDED GROSS BETA AS CS-137 (PC/L)
MAY , 1969											
06...	--	--	--	--	--	--	.00	--	--	--	--
JULY											
22...	--	--	--	--	--	--	--	--	--	--	--
AUG.											
19...	--	--	--	--	--	--	--	--	--	--	--
SEP.											
02...	--	--	--	--	--	--	--	--	--	--	--
OCT.											
01...	--	--	--	--	--	--	--	--	--	--	--
01...	45	7	370	.00	0	.8	.00	4.4	.2	5.1	<.4

01599000 GEORGES CREEK AT FRANKLIN, MD.--Continued

CHEMICAL ANALYSES, JULY 1969 TO SEPTEMBER 1970

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)
JULY, 1969							
22...	1100	28	22.5	8.5	6.0	500	3600
AUG.							
19...	1140	63	19.0	8.7	5.6	385	880
SEP.							
02...	1024	9.1	24.0	8.7	4.4	860	80
OCT.							
01...	1125	8.1	15.5	9.1	4.2	1200	0
NOV.							
19...	1050	18	8.0	10.2	5.1	730	B790
DEC.							
10...	1035	21	1.5	12.4	5.5	660	B2400
JAN., 1970							
06...	1040	48	.5	13.7	4.2	540	1100
FEB.							
03...	1100	380	3.0	12.2	4.6	370	1800
MAR.							
11...	1040	162	3.0	12.4	5.4	400	110
APR.							
07...	1037	376	5.0	12.0	4.9	470	1400
MAY							
05...	1010	90	11.0	9.9	4.6	730	98
JUNE							
03...	1030	25	18.0	8.4	4.1	890	120
JULY							
23...	1840	15	18.0	9.0	3.6	1300	660
AUG.							
12...	1100	7.2	20.0	9.0	3.7	1400	B26
SEP.							
16...	1030	5.9	21.5	9.2	4.0	1400	<2
17...	0855	5.5	19.0	9.3	4.0	1400	260

B Results based on colony count outside the acceptable range.

01600000 NORTH BRANCH POTOMAC RIVER AT PINTO, MD.

LOCATION.--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 1970.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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)
OCT.										
01...	195	--	--	40	--	2180	--	--	--	--
10...	244	6.4	860	--	1200	--	66	9.4	41	3.0
30...	211	5.8	1000	--	920	--	64	8.5	38	2.7
NOV.										
28...	367	5.4	2200	--	800	--	48	5.9	31	1.9
JAN.										
06...	1300	5.3	3800	--	550	--	20	4.6	10	1.3
FEB.										
03...	4120	5.3	2800	--	520	--	18	4.4	6.6	1.2
MAR.										
02...	820	5.3	3900	--	900	--	38	7.7	28	2.5

DATE	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (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 SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC CONDU-CTANCE (MICRO-MHOS)
OCT.										
01...	15	0	194	92	.2	--	--	232	220	--
10...	6	0	178	75	.2	.7	383	203	198	642
30...	7	0	154	76	.2	1.0	353	195	189	617
NOV.										
28...	11	0	113	61	.2	1.3	273	145	136	474
JAN.										
06...	0	0	73	19	.2	1.7	135	69	69	248
FEB.										
03...	0	0	63	11	.1	2.5	113	63	68	200
MAR.										
02...	10	0	128	30	.2	1.4	246	127	119	408

DATE	PH (UNITS)	COLOR (PLAT-INUM-COBALT UNITS)	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)	TUR-BID-ITY (JTU)	ODOR (THRES-HOLD NUMBER)	TOTAL NON-FILT-RABLE RESIDUE (MG/L)
OCT.										
01...	--	30	100	0	4	2	100	20	4	8
10...	6.4	10	--	--	--	--	--	--	--	--
30...	6.7	15	--	--	--	--	--	--	--	--
NOV.										
28...	6.5	15	--	--	--	--	--	--	--	--
JAN.										
06...	4.3	2	--	--	--	--	--	--	--	--
FEB.										
03...	4.5	0	--	--	--	--	--	--	--	--
MAR.										
02...	6.5	3	--	--	--	--	--	--	--	--

DATE	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	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)	DIS-SOLVED GROSS BETA AS CS-137 (PC/L)	SUS-PENDED GROSS BETA AS CS-137 (PC/L)	TOTAL CHRO-MIUM (CR) (UG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)
OCT.											
01...	1.6	.10	.040	.00	1	1.7	<.1	6.2	.4	8	490

01600000 NORTH BRANCH POTOMAC RIVER AT PINTO, MD.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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.							
01...	1800	195	20.0	7.8	6.2	770	370
NOV.							
18...	1625	311	8.0	9.6	7.4	540	390
DEC.							
09...	1627	347	7.0	10.2	7.0	540	640
JAN.							
05...	1645	1130	2.0	12.8	4.8	330	13
FEB.							
02...	1750	2990	6.0	12.0	5.5	220	21
MAR.							
10...	1600	1460	4.5	11.4	6.0	270	1
APR.							
07...	1345	2480	7.0	11.5	5.4	290	2
MAY							
04...	1645	746	15.5	8.6	6.2	440	B6
JUNE							
02...	1530	175	28.0	5.8	6.6	930	290
JULY							
28...	1445	173	27.5	6.2	6.6	800	180
AUG.							
12...	1415	148	25.5	6.8	6.7	760	B20
SEP.							
15...	1550	143	26.0	7.2	7.0	860	370

B Results based on colony count outside the acceptable range.

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 19.8.

DRAINAGE AREA.--875 sq mi.

PERIOD OF RECORD.--Chemical analyses: December 1964 to September 1970.
Water temperatures: October 1964 to September 1970.
Sediment records: October 1964 to September 1970.

EXTREMES.--1969-70:
Water temperatures: Maximum 31°C Aug. 16; minimum, freezing point Jan. 8, 9, 21, 22.
Sediment concentrations: Maximum daily, 1,050 mg/l Apr. 2; minimum daily, 5 mg/l Oct. 7.
Sediment loads: Maximum daily, 44,800 tons Apr. 2; minimum daily, 3.3 tons Sept. 24.

Period of record:
Water temperatures: Maximum, 33°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 loads: Maximum daily, 61,000 tons Mar. 6, 1967; minimum daily, 2.5 tons Aug. 13, 1969.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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...	316	--	--	140	--	1200	--	--	--	--	44
02...	316	5.4	1800	--	630	--	74	12	44	3.3	38
NOV.											
07...	492	5.9	650	--	250	--	41	8.5	18	2.2	22
DEC.											
03...	436	5.1	920	--	480	--	36	7.6	18	1.8	21
JAN.											
01...	3020	5.3	6800	--	420	--	18	4.9	8.3	1.7	2
FEB.											
01...	4180	5.5	2200	--	470	470	19	4.8	5.8	1.2	2
MAR.											
02...	1110	5.6	810	--	500	--	27	7.3	14	1.6	11
APR.											
04...	9380	4.8	1500	--	100	--	16	4.2	3.2	1.1	10
MAY											
01...	1590	5.5	860	--	210	--	34	9.3	8.4	1.4	15
JUNE											
01...	340	5.8	1300	--	1100	--	77	19	32	2.6	34
JULY											
01...	328	6.9	1200	--	900	--	64	14	29	2.8	42
AUG.											
01...	396	10	390	--	2400	--	80	18	28	2.8	1
SEP.											
01...	178	5.3	1500	--	1000	--	82	17	45	4.3	42
02...	201	5.4	750	--	300	--	30	7.6	12	1.8	16

DATE	CAR-BONATE (CO3) (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 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)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)
OCT.										
02...	0	154	75	.2	--	--	458	212	176	
02...	0	166	82	.3	1.0	407	--	234	203	706
NOV.										
07...	0	96	40	.2	1.3	224	--	138	120	400
DEC.										
03...	0	89	36	.2	2.7	206	--	122	105	362
JAN.										
01...	0	64	13	.2	3.4	120	--	65	64	210
FEB.										
01...	0	62	12	.1	3.3	115	--	67	66	196
MAR.										
02...	0	87	19	.2	1.4	168	--	98	89	281
APR.										
04...	0	46	5.4	.1	2.7	88	--	58	50	151
MAY										
01...	0	104	15	.2	.7	186	--	124	111	314
JUNE										
01...	0	239	56	.3	.1	448	--	270	242	714
JULY										
01...	0	169	53	.3	.3	360	--	217	183	621
AUG.										
01...	0	265	49	.5	.3	454	--	274	273	700
SEP.										
01...	0	257	49	.4	.9	482	--	275	240	732
02...	0	91	21	.2	1.5	178	--	107	94	294

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

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	PH (UNITS)	COLOR (PLATINUM-COBALT UNITS)	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)	TURBIDITY (JTU)
OCT.										
02...	--	50	8	0	2	6	2	60	10	46
02...	6.9	10	--	--	--	--	--	--	--	--
NOV.										
07...	6.7	5	--	--	--	--	--	--	--	--
DEC.										
03...	6.7	4	--	--	--	--	--	--	--	--
JAN.										
01...	5.0	0	--	200	--	--	--	--	--	--
FEB.										
01...	5.1	5	--	200	--	--	--	--	--	--

DATE	TOTAL NONFILTRABLE RESIDUE (MG/L)	BIOCHEMICAL OXYGEN DEMAND (MG/L)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)	TOTAL PHOSPHORUS (P) (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)	DISSOLVED GROSS BETA AS CS-137 (PC/L)	SUSPENDED GROSS BETA AS CS-137 (PC/L)
OCT.										
02...	38	3.5	.10	.070	.00	1	.3	.4	6.0	2.2

DATE	TIME	DISCHARGE (CFS)	TEMPERATURE (DEG C)	DISSOLVED OXYGEN (MG/L)	PH (UNITS)	SPECIFIC CONDUCTANCE (MICROMHOS)	FECAL COLIFORM (COL. PER 100 ML)
OCT.							
02...	1610	316	20.0	6.1	6.4	540	7200
NOV.							
18...	1310	436	7.0	10.6	7.6	330	50
DEC.							
09...	1333	471	6.0	11.0	6.9	520	1500
JAN.							
05...	1330	1240	2.5	12.8	5.9	280	811
FEB.							
02...	1445	3980	6.0	12.2	6.7	200	21
MAR.							
10...	1255	2250	5.0	11.4	7.6	240	59
APR.							
07...	1440	3930	6.5	11.9	6.6	250	13
MAY							
04...	1345	1060	16.0	9.0	7.0	410	240
JUNE							
02...	1350	316	26.0	4.7	6.8	720	1000
JULY							
28...	1350	262	29.0	2.5	6.9	670	6000
AUG.							
12...	1515	214	28.0	1.5	6.8	800	15000
SEP.							
15...	1642	160	28.0	3.6	6.2	790	<14
17...	1010	151	26.0	2.9	6.8	850	2400

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

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT AT 2300)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22.0	14.5	5.5	3.5	8.0	6.5	---	---	26.5	28.0	29.0	26.5
2	21.0	14.5	6.0	4.5	9.0	10.0	5.5	19.0	26.5	---	28.0	25.5
3	22.0	16.5	6.0	4.5	---	6.5	8.5	18.5	26.5	26.5	28.0	26.5
4	21.0	14.5	11.5	4.5	---	6.5	6.5	16.5	23.5	25.5	29.0	29.0
5	21.0	11.0	5.5	3.5	3.5	6.5	8.0	---	25.5	23.5	25.5	28.0
6	20.0	11.0	5.5	2.0	4.5	9.0	6.5	14.5	21.0	24.5	26.5	26.5
7	19.0	11.0	4.5	2.0	4.5	7.0	8.0	15.5	20.0	26.5	29.0	26.5
8	22.0	11.0	7.0	0.0	5.5	8.0	10.0	19.0	23.5	25.5	27.0	26.5
9	19.0	11.0	7.0	0.0	5.5	5.5	14.5	21.0	24.5	23.5	26.5	28.0
10	22.0	13.5	8.0	1.0	8.0	6.5	11.0	22.0	25.5	23.5	28.0	26.5
11	22.0	13.5	6.5	2.0	6.5	9.0	11.0	23.5	26.5	24.0	28.0	25.5
12	22.0	12.0	5.5	3.0	4.5	---	12.0	24.5	26.5	25.5	28.0	25.5
13	23.5	11.0	5.5	5.5	2.0	6.5	12.0	24.0	26.5	26.5	---	26.5
14	20.0	10.0	5.5	2.0	3.5	5.5	10.0	24.0	22.0	26.5	26.5	26.5
15	19.0	6.5	4.5	3.5	3.5	4.5	---	22.0	---	26.5	28.0	28.0
16	15.5	7.0	4.5	8.0	4.5	4.5	14.5	21.0	22.0	25.5	31.0	30.0
17	15.5	9.0	5.5	4.5	4.5	6.5	15.5	15.5	26.5	26.5	26.5	28.0
18	14.5	11.0	3.5	3.5	6.5	5.5	14.5	18.0	26.5	26.5	29.0	24.0
19	15.5	---	5.5	2.0	5.5	6.5	11.0	21.0	24.5	27.0	28.0	26.5
20	20.0	9.0	4.5	0.5	4.5	6.5	13.5	23.5	24.0	26.5	29.0	24.5
21	19.0	5.5	4.5	0.0	8.0	6.5	15.5	23.5	21.0	25.5	28.0	28.0
22	20.0	5.0	2.0	0.0	---	6.5	14.5	25.5	22.0	25.5	28.0	28.0
23	13.5	8.0	1.0	1.0	6.5	8.0	15.5	25.5	22.0	23.5	26.5	29.5
24	15.0	9.0	2.0	3.5	8.0	8.0	16.5	21.0	25.5	26.5	24.5	---
25	12.0	9.0	1.0	2.0	4.5	8.0	15.5	22.0	25.5	28.0	26.5	---
26	13.0	9.0	1.0	4.5	3.5	5.5	15.5	22.0	24.5	28.0	26.5	26.5
27	13.0	8.0	1.0	3.5	6.5	7.0	16.5	21.0	21.0	28.0	28.0	16.5
28	13.5	8.0	2.0	4.5	---	12.0	18.0	---	21.0	29.0	28.0	20.5
29	11.0	8.0	4.0	10.0	---	5.5	21.0	21.0	22.0	30.0	29.5	17.5
30	11.0	6.5	4.5	3.5	---	5.5	16.5	22.0	24.5	28.5	29.0	19.0
31	13.5	---	2.0	5.5	---	8.0	---	24.5	---	30.0	28.0	---
AVG	18.0	10.0	4.5	3.0	5.5	7.0	13.0	21.0	24.0	26.5	28.0	25.5

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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
APR.								
02...	1830	5.5	21000	1170	66300	--	34	47
24...	2345	12.0	13400	532	19200	19	24	36

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
APR.								
02...	66	67	79	91	98	100	--	--
24...	45	53	60	68	76	83	96	100

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

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	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	238	18	12	262	25	18	485	24	31
2	297	35	28	499	59	86	471	24	31
3	352	26	25	693	43	80	450	19	23
4	404	25	27	700	30	57	445	17	20
5	361	23	22	617	16	27	411	21	23
6	317	10	8.6	534	10	14	384	24	25
7	308	5	4.2	494	14	19	396	25	27
8	317	14	12	436	15	18	402	25	27
9	329	21	19	554	27	43	456	35	43
10	325	25	22	886	43	103	620	56	105
11	299	19	15	692	20	37	2840	242	1940
12	283	15	11	610	13	21	3240	210	1840
13	276	15	11	574	14	22	2300	90	559
14	270	15	11	564	13	20	1890	55	281
15	265	15	11	543	10	15	1560	53	223
16	265	16	11	499	10	13	1240	33	110
17	260	15	11	459	11	14	1050	25	71
18	255	18	12	441	14	17	1250	38	128
19	253	20	14	492	14	19	1220	34	112
20	248	23	15	724	22	43	830	11	25
21	262	22	16	767	20	41	685	10	18
22	422	35	40	655	13	23	721	10	19
23	380	30	31	603	12	20	698	11	21
24	322	19	17	603	20	33	662	14	25
25	299	13	10	695	36	68	552	12	18
26	435	45	66	639	31	53	487	13	17
27	407	47	60	595	23	37	633	23	39
28	278	30	23	557	24	36	597	15	24
29	277	26	19	530	21	30	621	10	17
30	270	23	17	504	18	24	724	16	31
31	262	23	16	--	--	--	3020	576	5830
TOTAL	9536	--	616.8	17421	--	1051	31340	--	11703

	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	3530	380	3620	4400	75	891	1130	24	73
2	2370	90	576	4230	54	617	1100	25	74
3	1810	50	244	6300	45	765	2060	90	651
4	1460	39	154	4890	38	502	3990	162	1800
5	1300	26	91	3390	32	293	6350	185	3170
6	1570	39	165	2720	31	228	5780	116	1810
7	1130	30	92	1780	32	154	4650	61	766
8	1070	40	116	1570	30	127	3650	37	365
9	686	20	37	1480	29	116	3090	32	267
10	556	13	20	1470	31	123	2270	29	178
11	613	10	17	1700	48	220	1900	28	144
12	714	11	21	1190	35	112	1870	33	167
13	704	15	29	1030	33	92	2340	41	259
14	625	17	29	862	28	65	2100	33	187
15	571	18	28	792	22	47	1480	24	96
16	570	20	31	916	33	82	1290	25	87
17	561	19	29	997	43	116	1150	25	78
18	680	25	46	919	29	72	1230	31	103
19	881	31	74	1310	57	202	1210	33	108
20	828	24	54	1640	71	314	1900	85	524
21	599	21	40	1250	35	118	3770	150	1530
22	603	18	29	1180	26	83	3050	56	461
23	600	12	19	1530	42	174	2610	42	296
24	600	17	28	1640	47	208	2250	48	292
25	580	21	33	2200	56	333	1990	38	204
26	1700	630	4090	2010	40	217	2370	51	326
27	3270	330	2910	1820	33	162	4290	130	1520
28	2520	80	544	1310	26	92	3570	58	559
29	3630	641	10000	--	--	--	3840	49	508
30	10000	910	24600	--	--	--	3370	37	337
31	5860	160	2530	--	--	--	3550	54	518
TOTAL	52291	--	50296	56526	--	6525	85200	--	17458

01603000 NORTH BRANCH POTOMAC RIVER NEAR CUMBERLAND.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	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	4030	84	914	1670	21	95	350	25	24
2	15800	1050	44800	1340	18	65	324	30	26
3	15400	550	22900	1200	14	45	317	34	29
4	10400	290	8140	1070	14	40	330	35	31
5	7700	250	5200	979	15	40	550	31	46
6	4900	110	1460	912	15	37	1310	259	259
7	3930	65	690	862	15	35	1330	53	190
8	3310	58	518	760	15	31	869	24	56
9	3140	49	415	697	13	24	680	18	33
10	3470	63	590	620	11	18	584	22	35
11	2870	41	318	580	10	16	492	26	35
12	2300	33	205	554	9	13	416	18	20
13	1970	30	160	554	12	18	358	14	14
14	2990	46	371	605	11	18	328	28	25
15	3820	67	691	615	11	18	322	38	33
16	3580	45	435	610	33	54	520	62	94
17	2830	27	206	1750	83	390	600	49	79
18	2510	32	217	1480	27	108	544	29	43
19	2940	32	254	1100	17	50	761	40	82
20	2950	30	239	886	15	36	689	23	43
21	2960	33	264	753	13	26	560	15	23
22	3130	34	287	653	11	19	640	20	35
23	2930	50	396	609	12	20	536	18	26
24	8750	280	6620	821	70	176	436	13	15
25	9810	215	5690	818	72	172	396	15	16
26	6250	100	1690	826	60	134	450	50	61
27	4600	73	907	736	58	115	833	80	188
28	2950	43	342	565	55	84	648	31	54
29	2420	37	242	473	39	50	478	21	27
30	1990	39	210	406	25	27	376	22	22
31	--	--	--	376	23	23	--	--	--
TOTAL	146630	--	105371	25880	--	1997	17027	--	1664

	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	328	23	20	552	39	58	181	12	5.9
2	346	27	25	370	13	13	229	30	19
3	537	50	121	334	15	14	171	23	11
4	666	64	122	307	24	20	144	19	7.4
5	416	32	36	565	41	63	178	21	10
6	334	27	24	369	17	17	456	77	104
7	272	26	19	299	8	6.5	520	94	160
8	253	23	16	256	9	6.2	173	24	11
9	478	58	89	295	18	14	153	10	4.1
10	1310	128	453	262	20	14	177	11	5.3
11	842	41	93	232	20	13	198	17	9.1
12	544	36	53	211	15	8.5	303	30	25
13	416	34	38	200	13	7.0	226	18	11
14	340	33	30	226	16	9.8	183	17	8.4
15	300	30	24	282	32	24	167	12	5.4
16	322	23	20	294	39	31	160	8	3.5
17	340	21	19	255	35	24	152	9	3.7
18	346	30	28	207	28	16	184	13	6.5
19	262	26	18	185	25	12	218	18	11
20	243	24	16	186	20	10	316	30	26
21	257	18	12	175	19	9.0	256	26	18
22	229	19	12	168	20	9.1	206	15	8.3
23	284	35	27	290	38	30	186	8	4.0
24	311	29	24	1340	77	327	175	7	3.3
25	322	28	24	562	16	24	267	31	28
26	294	25	20	347	11	10	191	51	26
27	257	19	13	262	10	7.1	276	54	40
28	262	17	12	219	6	3.5	297	48	38
29	284	16	12	191	12	6.2	339	55	50
30	294	18	14	165	15	6.7	247	30	20
31	364	23	23	181	12	5.9	--	--	--
TOTAL	12053	--	1457	9787	--	819.5	6929	--	682.9

TOTAL DISCHARGE FOR YEAR (CFS-DAYS) 470620
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR YEAR (TONS) 199641.2

01610000 POTOMAC RIVER AT PAW PAW, W. VA.

LOCATION.--Lat 39°32'13", long 78°27'28", Allegany County, Md., at bridge on Maryland State Highway 51 at Paw Paw, 250 feet downstream from gage, 3.3 miles downstream from Little Cacapon River, and at mile 277.

DRAINAGE AREA.--3,109 sq mi.

PERIOD OF RECORD.--Chemical analyses: June 1969 to January 1970.

CHEMICAL ANALYSES, JUNE 1969 TO JANUARY 1970

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)	CAR-BONATE (CO3) (MG/L)
JUNE, 1969										
26...	415	5.3	160	140	52	8.8	29	2.6	85	0
JULY										
24...	1500	7.1	1000	300	30	4.6	15	2.7	59	0
SEP.										
24...	1340	5.4	--	--	46	7.6	18	2.3	71	0
OCT.										
23...	720	4.7	430	200	63	9.4	42	3.7	65	0
NOV.										
21...	1320	4.8	620	410	40	7.3	18	1.8	40	0
JAN., 1970										
31...	13100	4.9	2400	100	17	4.0	3.8	1.4	10	0

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)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	COLOR (PLAT-INUM-COBALT UNITS)
JUNE, 1969										
26...	96	43	.3	.7	280	170	96	481	7.4	8
JULY										
24...	49	21	.2	2.6	161	94	45	282	7.0	10
SEP.										
24...	81	32	.2	1.0	228	150	88	398	7.8	15
OCT.										
23...	133	68	.2	.7	356	196	142	615	7.1	5
NOV.										
21...	83	34	.2	1.4	210	130	97	375	7.4	2
JAN., 1970										
31...	46	6.2	.1	3.2	92	59	51	155	6.5	1

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 1970.
Water temperatures: July 1952 to February 1964, July 1966 to September 1970.

EXTREMES.--1969-70:
Water temperatures: Maximum, 30.5°C July 29; minimum, freezing point on many days during winter period.

Period of record:
Water temperatures: Maximum, 34°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, JULY 1969 TO SEPTEMBER 1970

DATE	DIS-CHARGE (CFS)	DIS-SOLVED ALUM-INUM (AL) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (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)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	TOTAL CHRO-MIUM (CR) (UG/L)
OCT. 02...	733	100	30	300	2	10	8	38	69	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 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)	TUR-BID-ITY (JTU)	ODOR (THRES-HOLD NUMBER)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)
OCT. 02...	108	54	.2	343	185	128	20	3	1	.10

DATE	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	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)	DIS-SOLVED GROSS BETA AS CS-137 (PC/L)	SUS-PENDED GROSS BETA AS CS-137 (PC/L)
OCT. 02...	7	1.0	.10	.00	0	1.0	<.1	6.0	2.2

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)
JULY, 1969							
21...	1140	490	26.5	9.1	8.7	315	1300
AUG.							
18...	1030	2360	27.0	7.8	7.6	260	B88
SEP.							
01...	1325	800	28.0	9.1	8.2	310	112
OCT.							
02...	2000	733	18.0	7.9	6.7	540	B10000
NOV.							
18...	1150	1020	5.5	11.5	7.8	320	B4700
DEC.							
09...	1127	980	3.5	13.2	8.0	300	4
JAN., 1970							
05...	1130	5480	1.0	12.8	7.1	180	19
FEB.							
02...	1235	10200	5.5	12.5	7.9	150	10
MAR.							
10...	1055	7070	5.0	11.8	7.6	160	3
APR.							
06...	1040	14300	5.0	11.2	7.6	150	56
MAY							
04...	1125	4630	17.0	8.2	7.4	210	12
JUNE							
02...	1107	1020	25.5	8.3	7.9	340	16
JULY							
28...	1155	950	28.0	8.3	7.9	310	41
AUG.							
19...	0955	742	25.5	8.4	8.1	380	18
SEP.							
15...	1215	497	25.0	9.6	8.3	340	11

B Results based on colony count outside the acceptable range.

01613000 POTOMAC RIVER AT HANCOCK, MD.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(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	21.0	18.5	10.5	9.0	4.5	4.0	0.0	0.0	3.0	2.0	3.5	2.0
2	20.0	19.5	12.0	10.5	4.0	3.0	2.0	0.0	3.5	3.0	4.5	3.5
3	21.0	19.5	13.5	12.0	3.5	2.0	2.0	1.5	3.5	3.5	4.5	4.0
4	22.0	19.5	13.5	12.0	3.0	1.5	1.5	1.0	3.5	2.0	4.0	4.0
5	20.5	19.0	12.0	10.5	3.0	1.0	1.0	0.5	2.0	1.0	4.5	4.0
6	20.0	18.0	10.5	9.5	2.0	1.0	1.0	0.5	1.0	1.0	4.5	4.0
7	19.0	18.5	9.5	9.0	1.5	0.5	1.0	0.5	1.5	1.0	4.5	4.5
8	21.0	19.0	9.0	9.0	1.5	0.5	0.5	0.0	2.0	1.5	4.5	4.0
9	21.0	18.0	9.0	8.5	3.0	1.5	0.0	0.0	2.0	2.0	4.5	4.5
10	20.5	18.0	9.5	9.0	3.0	2.0	0.0	0.0	2.0	2.0	4.5	4.5
11	20.5	18.0	9.5	9.0	3.5	2.0	0.0	0.0	3.0	2.0	5.0	4.5
12	21.0	18.5	10.0	9.0	4.0	3.5	0.0	0.0	3.0	2.0	5.0	4.5
13	22.0	20.0	10.0	8.5	4.0	3.5	0.0	0.0	3.0	2.0	4.5	4.5
14	21.0	19.0	9.5	8.0	3.5	3.5	0.0	0.0	2.0	0.5	4.5	4.5
15	19.5	16.5	8.0	6.0	3.5	3.5	0.0	0.0	0.5	0.5	4.5	4.0
16	17.0	15.0	6.5	5.5	3.5	3.0	0.0	0.0	1.0	0.5	4.0	3.5
17	16.5	15.0	6.0	5.5	3.0	2.0	0.0	0.0	2.0	1.0	3.5	3.5
18	16.0	13.0	7.0	5.5	2.0	1.5	0.0	0.0	2.0	1.0	3.5	3.5
19	15.5	13.0	8.0	6.5	2.0	1.5	0.0	0.0	3.0	2.0	3.5	3.5
20	17.0	13.5	6.5	5.5	1.5	1.0	0.0	0.0	3.0	2.0	3.5	3.5
21	18.5	15.5	5.5	4.5	1.0	0.5	0.0	0.0	3.0	2.0	4.0	3.5
22	16.0	14.0	4.5	3.5	0.5	0.0	0.0	0.0	3.5	2.0	4.0	4.0
23	14.0	11.0	4.5	3.5	0.0	0.0	0.0	0.0	3.5	3.0	4.0	4.0
24	12.0	9.5	5.5	4.5	0.0	0.0	0.0	0.0	4.0	3.0	4.5	4.0
25	11.5	9.5	5.0	4.5	0.0	0.0	0.0	0.0	4.0	3.5	4.5	4.0
26	11.5	9.0	5.0	4.5	0.0	0.0	0.0	0.0	3.5	2.0	5.0	4.5
27	11.0	9.5	5.0	4.0	0.0	0.0	0.0	0.0	3.0	2.0	5.0	5.0
28	11.0	9.0	4.5	4.0	0.0	0.0	0.0	0.0	3.5	2.0	5.5	5.0
29	11.0	8.5	4.5	4.0	0.0	0.0	0.5	0.0	---	---	5.5	4.5
30	10.5	7.0	4.5	4.0	0.0	0.0	1.0	0.5	---	---	4.5	4.5
31	9.5	7.0	---	---	0.0	0.0	2.0	1.0	---	---	4.5	4.0
MONTH	22.0	7.0	13.5	3.5	4.5	0.0	2.0	0.0	4.0	0.5	5.5	2.0

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

01614500 CONOCOCHEAGUE CREEK AT FAIRVIEW, MD.

LOCATION.--Lat 39°42'57", long 77°49'28", (revised) 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 1970.
Water temperatures: November 1966 to September 1970.
Sediment records: October 1966 to September 1970.

EXTREMES.--1969-70:
Water temperatures: Maximum, 26°C Aug. 7; minimum, freezing point Dec. 5.
Sediment concentrations: Maximum daily, 569 mg/l June 27; minimum daily, 1 mg/l Oct. 11-15, Dec. 1, 2.
Sediment discharge: Maximum daily, 7,120 tons Apr. 3; minimum daily, 0.25 ton Oct. 15.

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 in 1967 water year, July 17, Oct. 11-15, Dec. 1, 2, 1969.
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 1969 TO SEPTEMBER 1970

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)	CAR-BONATE (CO3) (MG/L)
OCT.										
30...	86	.6	50	0	56	13	10	3.0	203	0
DEC.										
18...	454	7.0	120	10	37	8.2	6.8	1.9	114	0
JAN.										
14...	440	5.5	90	20	46	10	7.4	1.8	146	0
MAR.										
12...	812	5.0	30	0	38	8.3	5.0	1.4	116	0
MAY										
14...	512	4.4	70	20	47	7.4	5.1	1.9	148	0
SEP.										
11...	153	3.1	30	10	62	13	7.0	2.7	210	0

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)	SPECI-FIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	COLOR (PLAT-INUM-COBALT UNITS)
OCT.										
30...	24	17	.2	7.3	231	193	27	420	8.1	5
DEC.										
18...	25	12	.1	9.5	164	126	33	276	7.7	0
JAN.										
14...	25	15	.1	12	195	156	37	342	8.1	1
MAR.										
12...	21	9.1	.1	8.7	154	129	34	274	8.2	3
MAY										
14...	21	9.5	.1	11	180	148	27	333	7.8	2
SEP.										
11...	25	14	.2	13	243	208	36	417	8.2	0

01614500 CONOCOCHEAGUE CREEK AT FAIRVIEW, MD.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT AT 0900)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13.0	8.5	3.5	1.0	4.0	3.5	5.0	17.0	18.5	21.0	24.0	19.0
2	15.0	11.0	1.0	1.0	4.5	4.0	4.0	18.0	18.5	22.0	24.0	19.0
3	16.5	11.0	2.0	2.0	4.0	5.0	5.0	18.0	21.5	---	22.0	20.0
4	17.0	8.5	1.0	1.5	4.0	5.0	---	13.5	18.5	---	21.0	24.0
5	---	9.0	0.0	3.0	4.5	4.5	---	13.5	18.0	21.0	22.0	22.0
6	13.0	8.0	2.0	1.0	4.5	4.0	5.5	14.5	18.0	21.0	24.0	21.0
7	13.5	7.0	1.0	2.0	4.0	4.5	5.5	11.0	16.5	20.0	26.0	19.0
8	14.0	8.0	2.0	1.5	4.0	5.0	6.0	12.0	18.0	20.0	---	18.0
9	13.5	7.0	3.5	1.5	4.5	5.5	10.5	14.0	19.0	22.0	22.0	19.0
10	11.0	9.5	3.5	1.0	3.5	4.0	10.5	15.0	22.0	21.5	22.0	19.0
11	13.0	8.5	4.0	1.0	4.5	5.0	10.0	18.0	22.0	21.0	22.0	18.0
12	14.0	13.5	4.5	1.0	4.5	5.0	11.5	18.0	23.0	21.0	22.0	20.0
13	15.0	6.5	3.5	---	3.5	3.5	10.0	18.0	18.0	22.0	23.0	19.0
14	16.5	6.5	4.0	---	3.0	---	9.5	---	19.0	21.0	23.0	18.0
15	10.5	5.0	3.5	---	2.0	---	9.0	18.5	18.0	22.0	21.0	21.0
16	10.0	4.5	3.0	---	3.0	---	10.0	19.0	19.0	21.0	24.0	21.0
17	9.0	8.0	3.0	1.5	3.0	3.5	11.0	16.0	20.0	22.0	23.0	21.0
18	12.0	8.5	3.0	1.0	3.5	4.0	11.0	14.5	20.0	20.0	22.0	21.0
19	9.5	6.5	3.0	1.0	4.0	4.0	10.5	15.0	21.0	22.0	21.0	19.0
20	9.5	8.0	2.0	1.0	4.0	3.5	9.0	18.5	18.0	22.0	23.0	20.0
21	14.0	9.0	2.0	1.5	4.5	4.0	10.0	18.5	20.0	20.0	22.0	19.0
22	10.5	3.0	1.5	1.5	4.0	3.5	13.0	18.5	18.5	21.0	22.0	20.0
23	5.0	4.0	0.5	---	4.5	4.0	12.0	19.0	20.0	20.0	21.0	20.0
24	4.0	4.5	1.0	---	4.0	4.5	13.0	19.0	20.0	22.0	24.0	20.0
25	5.0	3.0	1.5	1.5	5.0	5.5	14.5	20.5	21.0	24.0	21.0	22.0
26	4.5	3.5	2.0	2.0	3.0	6.0	13.5	15.0	19.0	22.0	21.0	21.0
27	6.5	4.5	1.5	1.5	3.0	6.5	14.5	15.5	19.0	22.0	21.0	20.0
28	5.5	5.0	3.0	2.0	3.0	5.5	15.0	18.5	18.0	23.0	22.0	18.0
29	5.0	3.5	2.0	3.0	---	4.5	15.5	15.5	18.0	23.0	22.0	---
30	4.5	4.0	1.5	1.5	---	3.5	16.5	16.5	19.0	22.5	24.0	17.0
31	4.0	---	2.0	1.5	---	4.0	---	16.0	---	22.0	24.0	---
AVG	10.5	7.0	2.5	1.5	4.0	4.5	10.5	16.5	19.5	21.5	22.5	20.0

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	TIME	DISCHARGE (CFS)	TEMPERATURE (DEG C)	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. SIEVE DIAM. % FINER THAN .062 MM	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM
APR. 03...	0915	10500	5.0	364	10300	52	70	85	94	98	99	100

01614500 CONOCOCHEAGUE CREEK AT FAIRVIEW, MD.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	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	87	5	1.2	86	4	.93	169	1	.46
2	101	17	4.6	115	19	5.9	156	1	.42
3	287	53	41	442	80	95	165	2	.89
4	226	6	3.7	472	38	48	152	4	1.6
5	155	3	1.3	413	25	28	143	3	1.2
6	127	4	1.4	278	11	8.3	139	2	.75
7	120	3	.97	219	7	4.1	147	3	1.2
8	117	2	.63	201	7	3.8	150	4	1.6
9	113	2	.61	280	15	11	215	5	2.9
10	107	2	.58	319	13	11	250	10	6.8
11	101	1	.27	252	7	4.8	2260	511	3100
12	99	1	.27	221	4	2.4	1640	130	576
13	98	1	.26	202	7	3.8	1010	39	106
14	99	1	.27	189	5	2.6	824	14	31
15	93	1	.25	215	11	6.4	724	13	25
16	93	2	.50	210	13	7.4	616	12	20
17	94	2	.51	177	5	2.4	515	7	9.7
18	90	2	.49	165	4	1.8	451	6	7.3
19	88	2	.48	165	6	2.7	427	6	6.9
20	88	2	.48	436	52	61	412	7	7.8
21	93	2	.50	517	36	50	364	6	5.9
22	93	2	.50	364	13	13	385	27	28
23	89	2	.48	305	7	5.8	409	12	13
24	87	4	.94	275	6	4.5	398	6	6.4
25	88	7	1.7	248	8	5.4	307	3	2.5
26	88	2	.48	221	5	3.0	280	128	97
27	89	2	.48	205	2	1.1	400	149	161
28	89	2	.48	191	2	1.0	450	20	24
29	88	2	.48	183	2	.99	370	5	5.0
30	88	3	.71	175	2	.95	400	4	4.3
31	85	6	1.4	--	--	--	640	20	35
TOTAL	3360	--	67.92	7741	--	397.07	14968	--	4289.62

	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	720	92	179	1090	60	177	772	16	33
2	600	38	62	1660	170	762	743	11	22
3	560	11	17	3440	420	3900	902	56	136
4	520	13	18	2520	145	987	1040	106	298
5	480	26	34	1680	55	249	1680	123	558
6	490	17	22	1340	35	127	1510	47	192
7	490	11	15	1150	25	78	1320	29	103
8	402	12	13	1030	20	56	1190	25	80
9	400	9	9.7	956	18	46	1070	23	66
10	450	9	11	1820	110	660	964	13	34
11	480	9	12	2650	79	565	876	10	24
12	450	9	11	1820	44	216	829	6	13
13	440	9	11	1380	30	112	938	13	33
14	430	9	10	1070	20	58	881	10	24
15	420	9	10	947	16	41	781	8	17
16	400	9	9.7	867	14	33	708	6	11
17	400	9	9.7	773	12	25	651	4	7.0
18	450	9	11	716	103	199	672	8	15
19	470	19	24	749	154	311	707	15	29
20	430	20	23	865	310	724	1060	27	77
21	359	13	13	692	232	433	1910	50	258
22	360	12	12	727	155	304	1790	53	256
23	450	17	21	1710	205	946	1750	41	194
24	410	20	22	1470	72	286	1640	32	142
25	390	14	15	1480	70	280	1400	25	94
26	390	10	11	1140	28	86	1260	24	82
27	420	16	18	568	21	55	1380	57	212
28	440	22	26	853	23	53	1260	30	102
29	870	100	235	--	--	--	1260	22	75
30	1400	375	1420	--	--	--	1330	18	65
31	1230	100	332	--	--	--	1400	40	151
TOTAL	16201	--	2637.1	37563	--	11769	35674	--	3403.0

01614500 CONOCOCHEAGUE CREEK AT FAIRVIEW, MD.--Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	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	1850	66	330	905	20	49	284	15	12
2	5750	270	4630	833	18	40	275	28	21
3	9420	280	7120	1200	56	181	265	30	21
4	4330	140	1640	1050	29	82	350	200	189
5	2890	85	663	907	13	32	429	510	591
6	2320	59	370	818	15	33	840	550	1250
7	2110	37	211	754	11	22	693	170	318
8	1740	28	132	709	8	15	471	33	42
9	1530	22	91	670	9	16	381	29	30
10	1370	18	67	624	9	15	336	25	23
11	1220	12	40	585	9	14	305	30	25
12	1110	11	33	554	10	15	289	58	45
13	1020	12	33	522	12	17	348	52	49
14	2100	143	1390	507	12	16	298	76	61
15	6770	212	3810	488	15	20	264	73	52
16	4300	90	1040	465	14	18	703	149	320
17	2830	55	420	617	21	35	700	130	246
18	2200	25	148	753	30	61	737	380	756
19	1790	34	164	544	11	16	956	540	1390
20	1960	43	228	480	9	12	622	100	168
21	1850	40	200	440	10	12	723	278	702
22	1490	31	125	410	7	7.7	1340	310	1120
23	1330	35	126	386	4	4.2	798	40	86
24	1500	25	101	375	16	16	561	30	45
25	1680	41	186	511	73	101	471	48	61
26	1430	28	108	436	12	14	492	100	133
27	1290	21	73	398	11	12	1080	569	1710
28	1180	18	57	352	11	10	666	92	165
29	1120	16	48	321	11	9.5	491	40	53
30	1030	20	56	301	10	8.1	429	20	23
31	--	--	--	291	9	7.1	--	--	--
TOTAL	72510	--	23640	18206	--	910.6	16597	--	9707

	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	380	35	36	606	285	541	433	86	101
2	368	50	50	443	140	167	263	37	26
3	426	132	152	368	40	40	207	13	7.3
4	580	360	564	350	8	7.6	191	11	5.7
5	400	220	238	327	10	8.8	178	11	5.3
6	332	50	45	288	10	7.8	165	11	4.9
7	293	30	24	267	18	13	155	8	3.3
8	273	30	22	254	10	6.8	153	8	3.3
9	2000	540	6730	416	128	144	153	8	3.3
10	6080	298	4890	318	41	35	153	8	3.3
11	2230	90	542	270	15	11	153	4	1.7
12	1240	30	100	247	10	6.7	144	4	1.6
13	907	37	91	228	8	4.9	140	4	1.5
14	730	34	67	222	8	4.8	135	3	1.1
15	638	28	48	260	23	16	142	4	1.5
16	1040	63	206	237	13	8.3	140	2	.76
17	1240	107	358	213	8	4.6	135	2	.73
18	757	47	96	202	7	3.8	137	2	.74
19	617	36	60	194	7	3.7	180	8	3.9
20	552	32	48	237	13	8.3	165	10	4.5
21	586	37	59	314	17	14	155	15	6.3
22	504	28	38	254	10	6.9	146	7	2.8
23	442	20	24	267	40	29	144	5	1.9
24	429	120	139	357	43	41	155	7	2.9
25	401	105	114	274	36	27	158	4	1.7
26	365	41	40	225	10	6.1	162	3	1.3
27	336	51	46	202	8	4.4	274	16	12
28	315	60	51	188	9	4.6	469	38	48
29	311	115	100	178	8	3.8	318	31	27
30	831	409	980	172	8	3.7	222	13	7.8
31	485	100	131	274	47	35	--	--	--
TOTAL	26088	--	16089	8656	--	1218.6	5725	--	293.13

TOTAL DISCHARGE FOR YEAR (CFS-DAYS) 263285
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR YEAR (TONS) 74422.04

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 1970.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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)
OCT.										
21...	28	--	--	40	--	340	--	--	--	--
29...	26	7.1	100	--	0	--	48	16	5.8	2.6

DATE	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (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 SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)
OCT.										
21...	195	0	20	6.3	.3	--	--	68	0	--
29...	190	0	18	9.1	.3	13	213	190	34	376

DATE	PH (UNITS)	COLOR (PLAT-INUM-COBALT UNITS)	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)
OCT.										
21...	--	15	0	100	0	7	0	94	9	7
29...	7.6	2	--	--	--	--	--	--	--	--

DATE	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	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)	DIS-SOLVED GROSS BETA AS CS-137 (PC/L)	SUS-PENDED GROSS BETA AS CS-137 (PC/L)
OCT.										
21...	11	2.2	.00	.33	.01	7	.6	.2	4.9	1.0
29...	--	--	--	--	--	--	--	--	--	--

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.							
21...	0930	28	13.5	8.4	6.8	370	B1700
NOV.							
18...	0952	31	5.5	1.1	8.0	380	400
DEC.							
09...	0952	43	3.5	12.0	8.0	320	420
JAN.							
05...	1005	79	.0	12.6	7.7	340	290
FEB.							
02...	1028	132	5.0	11.8	7.7	240	370
MAR.							
10...	1035	141	3.0	13.1	7.7	240	110
APR.							
06...	0922	322	5.5	11.2	7.9	250	160
MAY							
04...	1010	184	12.0	10.2	7.9	280	820
JUNE							
02...	0830	88	16.5	7.7	7.6	340	2700
JULY							
29...	1130	93	19.5	9.4	8.0	340	2900
AUG.							
19...	1200	83	18.5	9.9	8.0	330	1800
SEP.							
15...	1100	56	17.0	9.9	8.1	360	4600

B Results based on colony count outside the acceptable range.

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 1970.
Water temperatures: October 1962 to September 1970.

EXTREMES.--1969-70:
Water temperatures: Maximum, 23.5°C Aug. 30, 31, Sept. 1; minimum, 1.0°C on several days during June.

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

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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.											
08...	99	--	--	50	--	350	--	--	--	--	202
29...	82	6.5	70	--	0	--	70	16	13	4.4	230
DEC.											
11...	278	6.9	680	--	120	--	48	12	13	6.5	159
JAN.											
07...	152	6.5	130	--	20	--	62	13	12	3.6	202
FEB.											
04...	530	8.7	510	--	80	--	41	8.8	8.5	3.2	124
MAR.											
12...	312	5.4	110	--	20	--	54	12	7.1	2.6	173
APR.											
20...	805	7.2	230	--	30	--	52	11	4.7	2.5	162
MAY											
13...	385	5.5	190	--	30	--	62	13	5.9	3.0	204
JUNE											
04...	304	8.7	360	--	60	--	66	14	7.3	3.3	218
JULY											
28...	282	6.4	170	--	30	--	70	14	6.0	3.2	232
AUG.											
17...	236	6.8	180	--	30	--	58	12	6.7	3.8	195
SEP.											
17...	150	5.2	100	--	0	--	78	16	11	3.7	244

DATE	CAR-BONATE (CO3) (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 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)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)
OCT.										
08...	0	30	16	.3	--	--	265	208	42	--
29...	4	33	19	.3	14	293	--	241	46	507
DEC.										
11...	0	30	20	.3	13	228	--	170	39	--
JAN.										
07...	0	32	20	.3	14	262	--	208	43	--
FEB.										
04...	0	27	17	.2	14	189	--	139	37	--
MAR.										
12...	2	26	12	.2	13	219	--	184	39	--
APR.										
20...	0	28	10	.2	14	210	--	175	42	--
MAY										
13...	0	28	12	.2	15	245	--	208	41	--
JUNE										
04...	0	30	15	.2	16	268	--	222	44	--
JULY										
28...	0	30	14	.3	13	271	--	232	42	--
AUG.										
17...	0	28	14	.3	10	236	--	194	34	--
SEP.										
17...	0	34	21	.3	16	305	--	261	61	--

01619500 ANTIETAM CREEK NEAR SHARPSBURG, MD.--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	PH (UNITS)	COLOR (PLATINUM-COBALT UNITS)	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)	TURBIDITY (JTU)
OCT.										
08...	--	5	0	100	1	21	10	70	0	7
29...	8.3	5	--	--	--	--	--	--	--	--
DEC.										
11...	--	7	--	--	--	--	--	--	--	--
JAN.										
07...	--	2	--	--	--	--	--	--	--	--
FEB.										
04...	--	5	--	--	--	--	--	--	--	--
MAR.										
12...	--	1	--	--	--	--	--	--	--	--
APR.										
20...	--	3	--	--	--	--	--	--	--	--
MAY										
13...	--	1	--	--	--	--	--	--	--	--
JUNE										
04...	--	3	--	--	--	--	--	--	--	--
JULY										
28...	--	1	--	--	--	--	--	--	--	--
AUG.										
17...	--	1	--	--	--	--	--	--	--	--
SEP.										
17...	--	5	--	--	--	--	--	--	--	--

DATE	TOTAL NONFILTRABLE RESIDUE (MG/L)	BIOCHEMICAL OXYGEN DEMAND (MG/L)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)	TOTAL PHOSPHORUS (P) (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)	DISSOLVED GROSS BETA AS CS-137 (PC/L)	SUSPENDED GROSS BETA AS CS-137 (PC/L)
OCT.										
08...	12	1.1	.10	.70	.00	2	1.2	<.1	5.2	.8

DATE	TIME	DISCHARGE (CFS)	TEMPERATURE (DEG C)	DISSOLVED OXYGEN (MG/L)	PH (UNITS)	SPECIFIC CONDUCTANCE (MICROMHOS)	FECAL COLIFORM (COL. PER 100 ML)
OCT.							
08...	1100	99	16.5	8.0	7.2	450	--
16...	1155	88	--	--	--	--	300
NOV.							
20...	1115	162	7.0	10.0	7.8	480	11000
DEC.							
11...	1044	278	6.5	11.1	7.8	400	5600
JAN.							
07...	1155	152	2.5	12.0	7.9	470	3300
FEB.							
04...	1110	530	1.5	12.3	7.8	310	4100
MAR.							
12...	1130	312	6.5	11.0	7.9	380	1100
APR.							
20...	1015	805	10.5	9.6	8.0	360	4200
MAY							
13...	1118	385	17.5	7.8	7.7	430	--
19...	1050	348	15.0	8.5	7.5	410	5000
JUNE							
04...	1045	304	20.5	7.6	7.7	440	1400
JULY							
28...	1040	274	21.5	7.7	7.7	390	1100
AUG.							
17...	1030	236	21.5	7.6	7.9	370	660
SEP.							
17...	1215	155	22.0	8.5	8.2	450	520

01619500 ANTIETAM CREEK NEAR SHARPSBURG, MD.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(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	16.0	15.0	10.5	8.5	5.0	5.0	3.5	3.5	5.5	5.5	---	---
2	16.5	16.0	12.0	10.5	5.0	4.0	3.5	3.5	7.0	5.5	---	---
3	18.5	16.5	13.0	12.0	4.0	4.0	3.5	3.5	7.0	6.5	---	---
4	19.0	18.0	12.0	12.0	4.0	4.0	3.5	3.0	6.5	4.5	---	---
5	18.0	16.0	12.0	10.5	4.0	4.0	3.0	2.0	4.5	4.0	---	---
6	16.0	14.5	10.5	9.5	4.0	4.0	2.0	1.5	4.5	4.0	---	---
7	15.0	14.5	9.5	9.0	4.0	4.0	3.0	2.0	5.0	4.5	---	---
8	17.0	15.0	9.0	9.0	4.5	4.0	3.0	1.5	5.0	5.0	---	---
9	16.5	15.5	9.0	9.0	5.0	4.5	1.5	1.5	5.5	5.0	---	---
10	16.0	14.5	10.0	9.0	5.0	5.0	1.5	1.5	5.5	5.5	---	---
11	15.5	14.5	10.0	10.0	6.5	5.0	1.5	1.5	5.5	5.0	---	---
12	15.5	15.0	10.0	9.5	6.5	6.5	1.5	1.0	5.0	5.0	---	---
13	16.5	15.5	9.5	9.0	6.5	5.5	1.0	1.0	5.0	5.0	---	---
14	16.5	16.0	9.0	9.0	5.5	5.5	1.0	1.0	5.0	4.5	---	---
15	16.0	14.0	9.0	6.0	5.5	5.5	1.0	1.0	4.5	4.5	---	---
16	14.0	13.0	6.0	5.5	5.5	5.0	1.0	1.0	4.5	4.5	---	---
17	13.0	12.0	5.5	5.0	5.0	4.5	1.0	1.0	5.5	5.5	---	---
18	12.0	11.0	6.0	5.0	4.5	4.0	4.0	1.0	6.5	6.5	7.0	6.5
19	11.5	11.0	8.0	6.0	4.0	4.0	4.0	3.5	7.0	7.0	7.0	6.5
20	13.0	11.5	8.0	6.0	4.0	4.0	3.5	3.0	7.0	7.0	7.0	6.5
21	14.0	13.0	6.0	5.0	4.0	3.5	3.0	3.0	6.5	6.5	7.0	6.5
22	14.0	13.0	5.0	4.5	3.5	3.5	3.0	2.0	7.0	7.0	7.0	7.0
23	13.0	10.0	4.5	4.5	3.5	3.5	2.0	2.0	7.0	7.0	7.0	6.5
24	10.0	8.5	5.5	4.5	3.5	3.0	2.0	2.0	---	---	7.0	6.5
25	8.5	8.0	6.0	5.5	3.0	2.0	2.0	2.0	---	---	9.0	7.0
26	8.5	8.5	6.0	6.0	2.0	1.5	2.0	2.0	---	---	10.0	9.0
27	8.5	8.5	6.0	5.5	1.5	1.5	4.5	2.0	---	---	10.0	9.0
28	8.5	8.5	5.5	5.0	1.5	1.5	5.5	4.5	---	---	10.0	9.0
29	8.5	8.0	5.0	5.0	1.5	1.5	5.5	5.5	---	---	10.0	6.5
30	8.0	7.0	5.0	5.0	3.0	1.5	5.5	5.5	---	---	6.5	6.0
31	8.5	7.0	---	---	3.5	3.0	5.5	5.5	---	---	7.0	6.5
MONTH	19.0	7.0	13.0	4.5	6.5	1.5	5.5	1.0	7.0	4.0	---	---

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

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 1970.
Water temperatures: October 1960 to September 1970.
Sediment records: October 1960 to September 1970.

EXTREMES.--1969-70:
Water temperatures: Maximum, 28°C Aug. 2, 30; minimum freezing point on several days during winter period.
Sediment concentrations: Maximum daily, 2,350 mg/l Apr. 3; minimum daily, 2 mg/l Dec. 26-28.
Sediment discharge: Maximum daily, 523,000 tons Apr. 3; minimum daily, 18 tons Dec. 27, 28,

Period of record:
Water temperatures: Maximum, 33.5° 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 ANALYSIS, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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)	CAR-BONATE (CO3) (MG/L)
OCT.										
01...	2790	2.9	--	--	43	9.5	14	2.2	116	0
NOV.										
01...	1690	1.0	80	30	51	12	21	2.6	141	0
DEC.										
01...	2970	2.4	150	40	36	7.6	12	1.8	86	0
JAN.										
01...	11600	6.3	410	100	32	6.9	9.3	2.0	77	0
FEB.										
01...	28800	5.5	3000	570	18	3.8	4.3	1.7	22	0
MAR.										
01...	10900	5.0	--	--	26	5.9	5.8	1.5	59	0
APR.										
01...	24000	5.1	--	--	23	5.3	5.6	1.4	53	0
MAY										
01...	15700	6.1	--	--	28	5.6	3.7	1.6	70	0
JUNE										
01...	3760	2.4	--	--	45	9.9	8.7	2.1	106	0
JULY										
01...	4750	6.8	1300	80	34	6.7	6.0	2.4	94	0
AUG.										
01...	6800	3.2	830	60	44	9.0	9.7	3.0	129	0
SEP.										
01...	2270	3.0	240	60	53	10	14	2.8	132	0

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)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	COLOR (PLAT-INUM-COBALT UNITS)
OCT.										
01...	54	18	.2	3.6	204	147	52	348	7.8	5
NOV.										
01...	69	22	.2	2.8	251	177	61	438	7.6	5
DEC.										
01...	47	20	.2	2.4	171	122	51	300	7.9	2
JAN.										
01...	40	14	.2	4.9	154	109	46	260	7.7	2
FEB.										
01...	38	7.1	.1	6.3	96	61	43	163	6.8	5
MAR.										
01...	35	9.1	.1	4.7	122	90	41	215	7.3	3
APR.										
01...	32	8.2	.1	3.4	110	80	36	194	7.3	3
MAY										
01...	31	6.1	.1	4.0	120	93	36	211	7.8	2
JUNE										
01...	61	17	.1	4.1	202	153	66	355	7.5	4
JULY										
01...	33	10	.2	4.3	149	113	36	264	7.4	0
AUG.										
01...	43	16	.2	5.5	197	147	42	351	7.6	1
SEP.										
01...	60	24	.2	2.5	234	173	65	404	8.1	0

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

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-SOLVED NATURAL URANIUM (U) (UG/L)	DIS-SOLVED RADIUM 226 (RA) (PC/L)	DIS-SOLVED GROSS ALPHA AS U-NAT. (UG/L)	DIS-SOLVED GROSS BETA AS SR90 /Y90 (PC/L)	SUS-PENDED GROSS ALPHA AS U-NAT. (UG/L)	SUS-PENDED GROSS BETA AS SR90 /Y90 (PC/L)
OCT.						
16...	6.2	.0	--	5.0	.4	.4
NOV.						
10...	.23	.0	2.3	3.1	.4	.4
DEC.						
02...	.11	.0	2.2	2.4	.4	.4
JAN.						
06...	.06	.0	.9	2.1	.5	.5
FEB.						
04...	.04	.0	2.5	3.0	8.7	3.4
MAR.						
04...	.14	.0	1.8	1.7	.4	.5
APR.						
07...	.07	.0	1.3	2.4	3.6	3.0
28...	.09	.0	1.5	2.4	3.0	2.3
JUNE						
08...	.07	.0	3.5	5.1	1.9	2.4
JULY						
06...	.16	.0	2.2	3.7	1.1	1.8
AUG.						
04...	.25	.0	1.7	4.5	.6	.8
SEP.						
03...	.27	.0	3.5	4.4	.7	.6

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT AT 1700)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.0	12.0	8.0	0.0	4.0	6.0	11.0	21.0	26.0	25.0	---	27.0
2	19.0	13.0	---	1.0	6.0	6.0	10.0	21.0	26.0	25.0	28.0	26.0
3	19.0	13.0	3.0	1.0	4.0	8.0	---	20.0	27.0	26.0	27.0	26.0
4	20.0	12.0	1.0	1.0	3.0	6.0	---	21.0	27.0	27.0	26.0	---
5	19.0	9.0	2.0	1.0	3.0	6.0	---	21.0	24.0	26.0	27.0	---
6	18.0	9.0	3.0	1.0	4.0	6.0	---	22.0	25.0	26.0	27.0	---
7	19.0	---	---	1.0	5.0	6.0	10.0	---	23.0	25.0	26.0	---
8	---	---	---	3.0	5.0	7.0	11.0	22.0	25.0	27.0	26.0	---
9	19.0	---	3.0	3.0	5.0	6.0	12.0	22.0	25.0	25.0	27.0	---
10	19.0	1.0	3.0	5.0	4.0	7.0	12.0	22.0	26.0	24.0	26.0	---
11	17.0	1.0	---	2.0	5.0	8.0	13.0	---	26.0	25.0	27.0	---
12	---	9.0	3.0	0.0	6.0	7.0	13.0	22.0	26.0	25.0	27.0	---
13	21.0	9.0	3.0	0.0	6.0	7.0	12.0	23.0	26.0	25.0	27.0	---
14	---	8.0	3.0	1.0	---	7.0	12.0	24.0	26.0	25.0	25.0	---
15	18.0	8.0	3.0	2.0	2.0	7.0	13.0	24.0	25.0	26.0	27.0	---
16	17.0	8.0	2.0	3.0	3.0	---	13.0	24.0	25.0	26.0	27.0	---
17	---	---	2.0	3.0	4.0	---	13.0	24.0	26.0	26.0	26.0	---
18	---	8.0	---	2.0	6.0	7.0	13.0	20.0	25.0	26.0	27.0	---
19	---	10.0	3.0	1.0	5.0	8.0	13.0	21.0	26.0	27.0	26.0	---
20	17.0	8.0	2.0	1.0	3.0	8.0	14.0	---	23.0	26.0	27.0	---
21	12.0	---	---	3.0	3.0	8.0	15.0	23.0	24.0	25.0	27.0	---
22	13.0	5.0	---	1.0	5.0	7.0	16.0	26.0	25.0	25.0	26.0	---
23	11.0	7.0	0.0	0.0	5.0	7.0	15.0	26.0	26.0	25.0	26.0	---
24	10.0	7.0	0.0	1.0	6.0	7.0	16.0	26.0	26.0	25.0	27.0	---
25	---	8.0	2.0	2.0	5.0	8.0	16.0	24.0	26.0	26.0	27.0	---
26	11.0	8.0	---	3.0	5.0	8.0	16.0	24.0	26.0	26.0	27.0	---
27	11.0	---	1.0	3.0	6.0	8.0	16.0	25.0	23.0	26.0	---	---
28	---	---	1.0	4.0	6.0	8.0	17.0	---	24.0	27.0	27.0	---
29	---	6.0	1.0	4.0	---	10.0	17.0	---	23.0	26.0	27.0	---
30	10.0	---	1.0	2.0	---	10.0	17.0	---	25.0	26.0	28.0	---
31	10.0	---	1.0	3.0	---	10.0	---	25.0	---	26.0	27.0	---
AVG	---	---	---	2.0	4.5	7.5	13.5	23.0	25.0	25.5	26.5	---

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

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	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	2750	24	178	1690	14	64	2950	14	112
2	2820	12	88	1670	12	54	2840	14	107
3	2940	12	95	1780	13	62	2760	14	104
4	2730	11	81	2240	12	73	2570	15	104
5	2920	13	108	3640	20	205	2510	14	95
6	3260	13	118	4230	18	206	2450	9	60
7	2990	12	97	4300	13	151	2410	7	46
8	2990	17	137	4030	13	141	2590	7	49
9	2840	19	146	3810	11	113	2620	6	42
10	2660	22	158	3640	30	295	2950	6	50
11	2620	14	98	3590	37	359	6040	49	786
12	2460	13	86	3560	38	365	15000	109	4600
13	2270	23	141	3790	34	348	22800	108	6660
14	2210	20	119	3680	29	288	20200	64	3590
15	2060	12	67	3390	21	192	15600	48	2020
16	2030	11	60	3290	28	249	12700	34	1170
17	1960	12	64	3150	21	179	10700	22	636
18	1840	12	60	3040	18	148	9080	15	368
19	1770	12	57	2990	20	161	7800	13	274
20	1730	9	42	3270	20	177	7090	13	249
21	1760	7	33	3190	20	172	6510	13	229
22	1720	6	28	3720	21	211	6200	12	201
23	1720	5	23	4030	23	250	5670	11	168
24	1640	5	22	4310	16	186	4970	8	107
25	1640	5	22	4300	14	163	4840	3	39
26	1610	5	22	3990	16	172	3610	2	19
27	1630	6	26	3730	16	161	3330	2	18
28	1650	6	27	3590	17	165	3390	2	18
29	1710	6	28	3360	18	163	4200	3	34
30	1750	6	28	3200	17	147	4930	3	40
31	1770	17	81	--	--	--	6590	39	718
TOTAL	68450	--	2340	102200	--	5620	207900	--	22713

	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	15200	79	4170	31000	462	37500	10900	9	265
2	33100	248	22800	23600	1010	63500	9720	9	236
3	30000	193	15800	22800	444	26500	9100	8	197
4	21300	102	6000	27900	112	8440	9320	4	101
5	16000	60	2590	28800	92	7150	11900	10	321
6	12700	24	823	21300	50	2910	18400	42	2090
7	11300	11	336	17200	34	1580	21100	64	3670
8	10000	9	243	14700	21	833	18900	56	2860
9	6500	8	140	13200	12	428	16300	36	1580
10	4400	14	166	17300	42	1950	14400	23	894
11	4400	8	95	21300	60	3410	12900	18	627
12	4400	6	71	21200	58	3370	11500	11	342
13	5500	6	89	17700	44	2130	10800	10	292
14	5500	6	89	14600	28	1100	10800	10	292
15	6000	5	81	12600	18	612	10900	8	235
16	5500	4	59	11100	12	360	10300	6	167
17	5500	5	74	10400	6	168	8960	5	121
18	5760	3	47	10300	6	167	8460	4	91
19	6080	4	66	11900	10	321	8340	4	90
20	6000	8	130	12600	10	340	8820	5	119
21	4600	8	99	15000	14	567	12800	11	404
22	4600	8	99	15500	14	586	21900	70	4310
23	4600	15	186	14200	15	575	23100	154	9690
24	5000	14	189	15500	20	837	21300	88	5070
25	5500	19	282	15000	26	1050	19500	40	2080
26	6000	12	194	14200	20	767	17300	68	3100
27	7250	6	117	13100	14	495	15800	41	1750
28	8200	6	133	11900	12	386	16000	22	950
29	15300	29	1220	--	--	--	17100	31	1430
30	18100	43	2200	--	--	--	18100	48	2350
31	31300	276	24500	--	--	--	20100	69	3740
TOTAL	325590	--	83088	475900	--	168032	444820	--	49464

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

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	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	23000	100	6210	16400	32	1420	3830	11	114
2	34900	935	102000	14400	36	1400	3570	9	87
3	80700	1160	246000	13500	34	1240	3370	18	164
4	73400	560	112000	13600	29	1060	3300	18	160
5	45600	290	35700	12400	23	770	4020	28	345
6	35300	200	19100	11300	24	732	7920	58	1290
7	27900	120	9040	10400	28	786	10100	49	1340
8	23400	74	4680	9630	48	1250	10700	48	1390
9	20500	46	2550	8940	42	1010	7970	37	796
10	18000	46	2240	8320	24	539	6340	28	479
11	16500	40	1780	7710	25	520	6130	24	397
12	15400	34	1410	7460	27	544	5140	20	278
13	13900	25	938	6950	17	319	4400	20	238
14	16200	146	7160	6670	16	288	4160	18	202
15	30600	182	16600	6280	20	339	3660	18	178
16	45500	262	31900	5940	19	305	3540	16	153
17	34600	142	13300	6280	22	373	4230	20	228
18	26800	75	5430	6440	14	243	6240	86	1470
19	21700	40	2340	7570	23	470	6360	59	997
20	19300	31	1620	7320	28	553	6770	29	530
21	19800	28	1500	6420	19	329	6290	29	493
22	19300	30	1560	5730	9	139	6550	30	531
23	17500	31	1460	5140	16	222	6770	48	877
24	18600	39	2050	4830	23	300	5720	54	834
25	39900	185	24000	5040	30	408	4890	22	298
26	51200	315	43300	5440	40	588	4820	18	234
27	35900	127	12300	6160	38	632	6390	42	725
28	27800	65	4880	5890	28	445	8820	64	1520
29	22200	73	4380	5800	25	392	7860	66	1400
30	18800	46	2330	4880	22	290	6220	50	840
31	--	--	--	4230	17	194	--	--	--
TOTAL	894200	--	719758	247070	--	18100	176080	--	18588

	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	4960	41	549	7200	40	778	2300	16	99
2	4260	43	495	6660	50	899	2220	13	78
3	3890	30	315	5360	40	579	2190	13	77
4	4000	25	270	4640	34	426	2050	9	50
5	3600	22	214	4160	30	337	1870	4	20
6	3800	28	287	3510	17	161	1750	5	24
7	4160	31	348	3300	34	303	1700	14	64
8	3390	30	275	3020	25	204	1670	20	90
9	4430	472	8700	2950	17	135	1640	18	80
10	19100	1140	60500	2840	18	138	1740	10	47
11	37300	675	68000	2800	21	159	1850	40	200
12	22600	185	11300	2640	22	157	1750	44	208
13	15000	119	4820	2590	21	147	1720	48	223
14	10800	84	2450	2590	24	168	1810	61	298
15	8320	56	1260	2670	21	151	1610	57	248
16	7790	54	1140	2540	22	151	1540	70	291
17	6700	56	1010	2500	29	196	1520	66	271
18	6360	44	756	2640	32	228	1540	52	216
19	5360	29	420	2480	30	201	1510	50	204
20	4890	27	356	2500	31	209	1480	49	196
21	4720	22	280	3170	41	334	1500	71	288
22	4540	19	233	3660	103	966	1530	58	240
23	4400	17	202	3380	101	922	1560	54	227
24	4300	17	197	3200	66	570	1490	53	213
25	4720	23	293	3290	22	195	1510	33	135
26	4470	24	290	3460	35	327	1480	28	112
27	4330	27	316	3780	40	408	1510	41	167
28	4060	29	318	3160	39	333	1560	30	126
29	3990	28	302	2860	40	309	2180	32	188
30	6500	52	913	2490	19	128	2320	40	251
31	8000	54	1170	2340	16	101	--	--	--
TOTAL	234740	--	167979	104380	--	10320	52100	--	4931

TOTAL DISCHARGE FOR YEAR (CFS-DAYS) 3333430
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR YEAR (TONS) 1270933

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

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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
DEC.							
13...	1115	3.0	23100	103	6420	—	62
JAN.							
03...	1440	1.0	29400	189	15000	50	63
31...	1645	3.0	36200	330	32300	36	56
APR.							
26...	1415	16.0	49800	288	38700	42	59
JULY							
12...	1710	25.0	18500	142	7090	46	59

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
DEC.							
13...	79	89	90	93	97	100	—
JAN.							
03...	79	90	94	99	100	—	—
31...	70	85	92	96	99	99	100
APR.							
26...	78	83	96	98	100	—	—
JULY							
12...	74	88	95	99	100	—	—

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 1970.

CHEMICAL ANALYSES, JULY 1969 TO SEPTEMBER 1970

DATE	DIS-CHARGE (CFS)	DIS-SOLVED ALUM-INUM (AL) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (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)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	TOTAL CHRO-MIUM (CR) (UG/L)
OCT. 21...	12	100	50	270	0	5	11	90	112	0	3

DATE	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (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)	TUR-BID-ITY (JTU)	ODOR (THRES-HOLD NUMBER)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)
OCT. 21...	45	18	.2	193	144	52	20	11	1	.1

DATE	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	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)	DIS-SOLVED GROSS BETA AS CS-137 (PC/L)	SUS-PENDED GROSS BETA AS CS-137 (PC/L)
OCT. 21...	22	1.7	.32	.01	5	.1	<.1	8.7	1.5

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)
JULY, 1969 24...	1100	110	22.0	6.7	7.5	280	890
AUG. 21...	1257	17	23.0	7.2	7.3	275	260
SEP. 01...	[illegible]0	3.8	24.0	7.9	7.2	310	840
OCT. 21...	1210	12	14.5	9.2	6.7	350	230
NOV. 18...	0825	33	3.5	11.0	7.5	290	30
DEC. 09...	0816	480	.5	12.6	7.5	320	5000
JAN., 1970 05...	0839	170	.0	13.4	7.2	260	120
FEB. 02...	0915	1160	.0	13.4	7.2	190	1500
MAR. 10...	0805	160	3.0	11.8	7.4	200	24
APR. 06...	0800	302	6.5	11.2	7.5	170	96
MAY 04...	0850	284	16.0	8.2	7.0	180	B5900
JUNE 02...	0716	26	22.5	6.3	7.3	210	320
JULY 29...	1030	39	26.0	7.0	7.6	200	120
AUG. 19...	1258	15	25.0	9.8	8.2	220	240
SEP. 15...	0945	6.8	21.0	7.5	7.6	250	84

B Results based on colony count outside the acceptable range.

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 1970.
Water temperatures: October 1960 to September 1970.
Sediment records: October 1960 to September 1970.

EXTREMES.--1969-70:
Water temperatures: Maximum, 28.0°C July 3, 4, 29, 31; minimum, freezing point Jan. 7, Feb. 4, and probably several other days during period of missing record.
Sediment concentrations: Maximum daily, 2,000 mg/l July 10; minimum daily, 1 mg/l Nov. 18.
Sediment discharge: Maximum daily, 67,900 tons July 10; minimum daily, 0.61 ton Nov. 18.

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.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DISCHARGE (CFS)	DISSOLVED SILICA (SIO2) (MG/L)	TOTAL IRON (FE) (UG/L)	DISSOLVED IRON (FE) (UG/L)	TOTAL MANGANESE (MN) (UG/L)	DISSOLVED MANGANESE (MN) (UG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	DISSOLVED POTASSIUM (K) (MG/L)
OCT.										
08...	220	--	--	60	--	420	--	--	--	--
JAN.										
03...	1450	7.8	--	--	--	--	25	6.3	7.0	3.0
FEB.										
03...	9450	1.7	--	--	--	--	9.6	2.2	2.1	1.7
MAR.										
03...	779	5.6	--	--	--	--	23	5.3	5.6	1.5
APR.										
02...	11300	6.5	--	--	--	--	16	4.0	5.1	3.0
MAY										
03...	2250	.7	--	--	--	--	20	4.8	4.5	2.4
JULY										
02...	392	7.1	650	--	80	--	30	5.4	5.2	2.7
AUG.										
02...	424	.6	110	--	40	--	25	4.8	4.9	3.3
SEP.										
02...	217	2.1	120	--	40	--	36	6.2	7.6	3.6

DATE	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	DIS_SOLVED NITRATE (NO3) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)
OCT.										
08...	97	0	23	12	.2	--	--	107	27	--
JAN.										
03...	56	0	30	13	.2	11	131	89	43	221
FEB.										
03...	21	0	13	4.2	.1	5.9	51	33	16	90
MAR.										
03...	61	0	19	9.5	.1	10	110	80	30	199
APR.										
02...	34	0	23	7.0	.2	9.0	91	57	29	146
MAY										
03...	59	0	19	6.8	.1	5.0	92	70	21	171
JULY										
02...	85	0	20	11	.2	3.5	127	97	28	244
AUG.										
02...	79	0	19	7.6	.2	2.5	107	82	18	183
SEP.										
02...	114	0	17	13	.2	9.2	151	116	22	275

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

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	PH (UNITS)	COLOR (PLAT-INUM-COBALT UNITS)	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)	TUR-BID-ITY (JTU)	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)
OCT.										
08...	--	10	100	1	19	4	100	35	54	157
JAN.										
03...	7.3	4	--	--	--	--	--	--	--	--
FEB.										
03...	7.5	5	--	--	--	--	--	--	--	--
MAR.										
03...	7.4	4	--	--	--	--	--	--	--	--
APR.										
02...	6.6	20	--	--	--	--	--	--	--	--
MAY										
03...	7.3	5	--	--	--	--	--	--	--	--
JULY										
02...	7.8	1	--	--	--	--	--	--	--	--
AUG.										
02...	7.9	15	--	--	--	--	--	--	--	--
SEP.										
02...	8.2	5	--	--	--	--	--	--	--	--

DATE	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	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)	DIS-SOLVED GROSS BETA AS CS-137 (PC/L)	SUS-PENDED GROSS BETA AS CS-137 (PC/L)	ODOR (THRES-HOLD NUMBER)	TOTAL CHRO-MIUM (CR) (UG/L)
OCT.											
08...	1.7	.10	.30	.00	1	.4	1.1	7.1	3.8	0	0

DATE	TIME	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	DIS-SOLVED OXYGEN (MG/L)	PH (UNITS)	SPECI-FIC CONDUCTANCE (MICRO-MHOS)	FECAL COLI-FORM (COL. PER 100 ML)
OCT.							
08...	0900	220	17.0	6.6	6.6	260	--
16...	1014	155	--	--	--	--	26000
NOV.							
20...	1417	680	6.5	10.2	7.4	200	56000
DEC.							
11...	1424	10600	4.0	12.1	7.4	170	19000
JAN.							
07...	1440	735	.5	13.0	7.5	220	4200
FEB.							
04...	1500	3410	.0	13.0	7.8	160	1600
MAR.							
12...	1415	768	5.5	11.2	7.8	200	8400
APR.							
20...	1420	1920	10.5	9.8	7.6	190	3900
MAY							
13...	1543	595	22.5	8.0	7.4	210	--
19...	1413	660	18.0	8.2	7.2	220	815000
JUNE							
04...	1500	306	23.0	6.7	7.4	240	12000
JULY							
29...	1420	317	27.5	8.7	8.1	240	34000
AUG.							
17...	1400	238	26.5	8.3	7.9	270	5400
SEP.							
30...	1155	169	15.0	8.0	7.6	270	2900

B Results based on colony count outside the acceptable range.

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

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(ONCE-DAILY MEASUREMENT AT 1800)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.0	---	---	---	2.0	5.0	6.0	---	24.0	25.0	27.0	---
2	---	13.0	---	1.0	4.0	8.0	6.0	---	25.0	26.0	26.0	23.0
3	18.0	14.0	3.0	2.0	1.0	6.0	7.0	15.0	24.0	28.0	26.0	23.0
4	20.0	13.0	2.0	1.0	0.0	4.0	8.0	15.0	22.0	28.0	26.0	---
5	17.0	10.0	---	1.0	1.0	5.0	9.0	17.0	---	26.0	25.0	26.0
6	16.0	10.0	5.0	1.0	---	6.0	---	15.0	20.0	25.0	25.0	---
7	---	9.0	---	0.0	---	7.0	8.0	---	20.0	25.0	25.0	23.0
8	19.0	8.0	3.0	---	3.0	8.0	10.0	---	23.0	24.0	23.0	24.0
9	17.0	9.0	3.0	---	3.0	9.0	12.0	---	25.0	---	22.0	25.0
10	18.0	10.0	5.0	---	2.0	6.0	13.0	---	26.0	---	---	25.0
11	17.0	11.0	5.0	---	2.0	7.0	12.0	---	27.0	22.0	22.0	24.0
12	18.0	10.0	4.0	---	3.0	5.0	10.0	23.0	25.0	23.0	22.0	20.0
13	20.0	---	5.0	---	3.0	5.0	12.0	24.0	25.0	24.0	27.0	22.0
14	19.0	9.0	4.0	---	1.0	5.0	9.0	22.0	---	24.0	23.0	25.0
15	14.0	7.0	4.0	---	2.0	---	8.0	20.0	20.0	25.0	25.0	26.0
16	15.0	6.0	3.0	---	2.0	4.0	11.0	18.0	19.0	23.0	26.0	---
17	13.0	7.0	---	---	---	5.0	13.0	17.0	23.0	24.0	25.0	26.0
18	13.0	7.0	3.0	---	4.0	4.0	15.0	18.0	25.0	25.0	25.0	23.0
19	15.0	7.0	3.0	---	---	5.0	---	20.0	25.0	25.0	25.0	---
20	16.0	6.0	3.0	---	2.0	5.0	12.0	23.0	25.0	26.0	26.0	23.0
21	16.0	---	3.0	---	2.0	5.0	12.0	24.0	20.0	24.0	---	22.0
22	14.0	4.0	---	---	5.0	4.0	14.0	24.0	20.0	23.0	---	25.0
23	---	4.0	---	---	5.0	4.0	12.0	---	23.0	22.0	22.0	26.0
24	9.0	---	2.0	---	7.0	7.0	13.0	24.0	24.0	---	24.0	26.0
25	10.0	5.0	---	---	5.0	8.0	13.0	21.0	25.0	---	24.0	---
26	7.0	5.0	---	---	3.0	9.0	15.0	23.0	25.0	---	23.0	26.0
27	9.0	5.0	---	---	3.0	9.0	16.0	22.0	20.0	---	26.0	---
28	9.0	---	---	1.0	3.0	10.0	17.0	21.0	22.0	---	27.0	20.0
29	9.0	5.0	---	2.0	---	---	19.0	21.0	22.0	28.0	26.0	18.0
30	9.0	5.0	1.0	2.0	---	4.0	20.0	21.0	---	27.0	27.0	17.0
31	10.0	---	2.0	2.0	---	6.0	---	22.0	---	28.0	28.0	---
AVG	14.5	8.0	---	---	3.0	6.0	12.0	---	23.0	---	25.0	---

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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. 11...	1640	5.0	10300	787	22200	---	53	72
NOV. 20...	1820	6.0	2700	385	2810	49	54	69
DEC. 11...	1640	5.0	9720	787	20700	---	53	72
FEB. 03...	1830	1.0	9450	259	6610	41	52	68
10...	1910	2.0	10800	621	18100	---	46	62
APR. 02...	1800	6.0	11300	1133	34500	---	48	65
15...	1800	8.0	15800	276	11800	40	50	69
JUNE 22...	2115	20.0	3740	1330	13400	---	69	87
JULY 16...	1910	23.0	7410	815	16300	---	64	80

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
DEC. 11...	85	89	96	98	99	100	---
NOV. 20...	83	90	95	97	99	100	---
DEC. 11...	85	89	96	98	99	100	---
FEB. 03...	81	92	95	98	99	100	---
10...	79	89	93	97	99	100	---
APR. 02...	82	94	98	99	100	---	---
15...	82	91	94	98	100	---	---
JUNE 22...	96	97	99	99	99	99	100
JULY 16...	92	97	98	99	99	100	---

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

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	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	147	36	14	144	4	1.6	250	8	5.4
2	191	51	26	152	10	4.1	240	10	6.5
3	1030	176	526	237	27	20	230	8	5.0
4	698	145	273	447	58	71	220	10	5.9
5	351	75	71	590	58	97	200	11	5.9
6	260	48	34	316	18	15	190	11	5.6
7	227	46	28	244	11	7.2	180	12	5.8
8	219	50	30	264	24	17	409	20	22
9	213	80	46	811	90	203	1100	135	401
10	200	55	30	638	60	109	1010	315	1320
11	186	20	10	419	39	44	8000	1010	19600
12	177	13	6.2	346	24	22	3040	150	1230
13	172	16	7.4	307	15	12	1420	45	173
14	168	16	7.3	286	10	7.7	1080	17	50
15	160	17	7.3	272	5	3.7	1020	13	36
16	153	12	5.0	265	3	2.1	941	13	33
17	149	10	4.0	251	2	1.4	746	13	26
18	148	7	2.8	226	1	.61	600	12	19
19	146	4	1.6	248	9	6.0	550	10	15
20	140	9	3.4	1630	235	1290	500	12	16
21	160	20	8.6	1130	112	390	400	14	15
22	225	26	16	596	37	60	671	21	45
23	174	18	8.5	474	17	22	1050	36	102
24	149	8	3.2	436	9	11	828	14	31
25	143	4	1.5	387	9	9.4	580	10	16
26	146	4	1.6	345	8	7.5	340	8	7.3
27	145	5	2.0	316	6	5.1	460	8	9.9
28	145	5	2.0	291	6	4.7	550	8	12
29	143	4	1.5	276	7	5.2	600	7	11
30	145	5	2.0	266	7	5.0	650	9	16
31	141	4	1.5	--	--	--	1870	69	392
TOTAL	6851	--	1181.4	12610	--	2454.31	29925	--	23638.3

	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	3160	38	324	1890	45	230	719	13	25
2	2260	20	122	2940	115	913	694	25	47
3	1510	18	73	8870	334	8250	754	22	45
4	1100	16	48	4000	120	1300	945	18	46
5	800	12	26	2020	45	245	1680	70	333
6	750	10	20	1550	23	96	1470	64	254
7	700	10	19	1350	16	58	1140	28	86
8	500	12	16	1260	14	48	1030	18	50
9	450	23	28	1280	19	66	953	16	41
10	400	12	13	8090	428	10500	871	14	33
11	380	8	8.2	7370	225	4480	812	14	31
12	380	8	8.2	3410	70	644	787	14	30
13	380	8	8.2	2170	26	152	1300	31	109
14	360	8	7.8	1600	18	78	1380	29	108
15	340	8	7.3	1280	15	52	992	14	37
16	320	8	6.9	1250	18	61	807	10	22
17	320	8	6.9	1140	16	49	720	8	16
18	340	8	7.3	1110	8	24	739	15	30
19	600	8	13	1620	35	153	896	15	36
20	550	8	12	2120	72	412	1860	53	266
21	450	23	28	1210	24	78	4350	345	4190
22	400	13	14	981	13	34	2180	95	559
23	360	9	8.7	950	24	62	3100	130	1090
24	340	9	8.3	900	21	51	2070	57	319
25	340	9	8.3	900	21	51	1570	22	93
26	550	10	15	850	19	44	1360	24	88
27	665	13	23	793	19	41	1720	60	279
28	687	20	37	793	16	34	1360	88	323
29	1300	312	1360	--	--	--	1730	90	420
30	3940	671	7160	--	--	--	2980	155	1250
31	2560	80	553	--	--	--	2740	66	488
TOTAL	27192	--	9990.1	63697	--	28206	45709	--	10744

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

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	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	2980	55	443	1030	18	50	337	22	20
2	7630	767	21300	949	17	44	327	19	17
3	9860	862	29100	1640	55	244	313	20	17
4	3140	92	780	1760	60	285	305	21	17
5	2370	50	320	1110	24	72	438	78	162
6	1990	32	172	956	20	52	863	245	572
7	2000	30	162	850	23	53	755	230	469
8	1740	25	117	794	21	45	555	120	180
9	1440	25	97	763	23	47	420	54	61
10	1270	30	103	711	25	48	361	38	37
11	1100	20	59	656	26	46	323	30	26
12	1010	17	46	628	27	46	298	31	25
13	944	15	38	596	16	26	282	36	27
14	3180	550	8140	616	14	23	267	40	29
15	14000	1060	37200	605	15	25	253	44	30
16	6140	160	2650	580	14	22	365	77	83
17	2970	92	738	757	32	65	576	107	166
18	2340	66	417	1000	45	122	532	139	203
19	1920	55	285	683	21	39	619	122	206
20	2040	48	264	551	27	40	667	121	218
21	2330	63	396	485	24	31	582	209	378
22	1690	55	251	445	14	17	2690	1120	8720
23	1440	39	152	424	14	16	1260	370	1260
24	2260	112	868	424	21	27	594	135	217
25	3980	215	2310	611	80	138	454	67	82
26	1970	110	585	628	54	92	529	166	251
27	1600	63	272	498	33	44	1850	1240	6600
28	1440	40	156	426	20	23	962	450	1170
29	1310	39	134	390	15	16	525	190	269
30	1160	30	94	367	17	17	423	135	154
31	--	--	--	349	26	24	--	--	--
TOTAL	89244	--	107649	22282	--	1839	18725	--	21666

	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	369	77	77	908	150	377	199	30	16
2	354	92	88	506	58	79	219	30	18
3	585	175	276	368	35	35	185	23	11
4	538	240	349	306	17	14	164	24	11
5	410	135	149	279	12	9.0	155	27	11
6	331	95	85	268	22	16	144	34	13
7	284	74	57	257	25	17	134	37	13
8	259	57	40	434	134	163	127	38	13
9	716	241	982	645	237	537	125	36	12
10	12000	2000	67900	344	73	68	127	30	10
11	7420	864	21400	279	30	23	132	21	7.5
12	1420	182	698	252	25	17	125	20	6.8
13	924	98	244	233	20	13	119	22	7.1
14	718	68	132	297	97	115	117	25	7.9
15	671	65	118	332	102	99	115	30	9.3
16	4980	716	9800	270	60	44	114	30	9.2
17	1980	215	1150	244	51	34	110	32	9.5
18	915	66	163	212	37	21	110	32	9.5
19	708	42	80	200	42	23	115	26	8.1
20	599	32	52	198	82	44	114	18	5.5
21	545	29	41	212	42	24	122	25	8.2
22	528	20	29	197	32	17	128	33	11
23	456	15	18	255	110	79	120	30	9.7
24	456	20	25	297	90	72	114	19	5.8
25	442	23	27	244	65	43	109	14	4.1
26	407	28	31	215	48	28	106	11	3.1
27	365	33	33	191	44	23	116	16	5.0
28	333	35	31	176	45	21	158	50	21
29	318	35	30	166	45	20	173	40	19
30	360	34	33	158	45	19	163	30	13
31	1220	206	749	185	55	27	--	--	--
TOTAL	41611	--	104887	9128	--	2121.0	4059	--	308.3

TOTAL DISCHARGE FOR YEAR (CFS-DAYS) 371033
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR YEAR (TONS) 314684.41

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 1970.

CHEMICAL ANALYSES, JULY 1969 TO SEPTEMBER 1970

DATE	DIS-CHARGE (CFS)	DIS-SOLVED ALUM-INUM (AL) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MANGANESE (MN) (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)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	TOTAL CHROMIUM (CR) (UG/L)
OCT. 08...	18	100	110	240	0	25	12	60	47	0	0

DATE	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (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)	TURBIDITY (JTU)	ODOR (THRESHOLD NUMBER)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)
OCT. 08...	5.0	5.6	.1	70	45	6	3	1	0	.0

DATE	TOTAL NON-FILTRABLE RESIDUE (MG/L)	BIO-CHEMICAL OXYGEN DEMAND (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	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)	DIS-SOLVED GROSS BETA AS CS-137 (PC/L)	SUS-PENDED GROSS BETA AS CS-137 (PC/L)
OCT. 08...	0	.9	.040	.00	2	<.1	<.1	4.8	<.4

DATE	TIME	DIS-CHARGE (CFS)	TEMP-ERATURE (DEG C)	DIS-SOLVED OXYGEN (MG/L)	PH (UNITS)	SPECIFIC CONDUCTANCE (MICROMHOS)	FECAL COLIFORM (COL. PER 100 ML)
JULY, 1969							
17...	1200	6.5	24.5	8.7	7.4	130	250
AUG.							
28...	1150	12	18.0	10.4	7.3	120	200
SEP.							
24...	1420	17	16.0	8.8	6.5	115	290
OCT.							
08...	1335	18	17.5	9.4	6.7	100	--
16...	1313	14	--	--	--	--	330
NOV.							
20...	1253	51	5.5	11.4	7.5	160	E100000
DEC.							
11...	1224	157	6.5	11.4	7.3	140	23000
JAN., 1970							
07...	1345	48	.0	13.2	7.3	110	390
FEB.							
04...	1400	115	.0	13.3	7.8	120	270
MAR.							
12...	1300	50	5.0	12.4	8.0	100	150
APR.							
20...	1230	152	9.5	10.2	7.6	90	820
MAY							
13...	1300	53	19.0	9.0	7.3	90	--
19...	1205	51	15.0	9.5	7.0	100	840
JUNE							
04...	1245	34	20.0	8.2	7.1	100	1000
JULY							
29...	1253	23	24.0	10.0	7.9	100	520
AUG.							
17...	1200	22	23.0	8.3	7.4	110	680
SEP.							
30...	0954	12	12.0	9.6	7.4	100	160

E Estimated.

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 1970.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DISCHARGE (CFS)	DISSOLVED SILICA (SIO2) (MG/L)	TOTAL IRON (FE) (UG/L)	TOTAL MANGANESE (MN) (UG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)
OCT.										
27...	29	8.8	170	100	10	3.4	4.4	2.6	40	0
NOV.										
25...	35	6.8	220	30	9.6	3.3	4.6	2.7	35	0
DEC.										
24...	65	6.9	270	80	12	3.8	7.1	2.5	30	0
JAN.										
26...	63	9.8	250	90	7.9	2.9	6.1	1.5	24	0
FEB.										
25...	87	9.2	160	50	9.1	3.1	4.6	1.5	22	0
MAR.										
25...	104	7.3	100	30	9.8	3.4	4.7	1.3	24	0
MAY										
25...	394	8.4	--	--	11	2.9	3.0	3.8	20	0
JUNE										
25...	67	11	370	60	10	2.9	4.0	2.2	32	0
JULY										
24...	80	8.7	280	70	9.9	2.8	4.0	2.4	36	0
AUG.										
24...	37	7.2	220	40	9.1	2.8	4.1	2.3	34	0

DATE	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED NITRATE (NO3) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	COLOR (PLATINUM-COBALT UNITS)
OCT.										
27...	6.5	6.9	.1	2.1	65	39	6	110	7.5	0
NOV.										
25...	7.8	8.8	.1	4.1	65	38	9	110	7.6	2
DEC.										
24...	17	12	.1	3.6	80	46	21	135	7.2	2
JAN.										
26...	8.0	9.6	.1	5.9	64	32	12	103	7.1	2
FEB.										
25...	12	7.8	.1	6.9	65	36	18	106	7.1	0
MAR.										
25...	15	8.0	.1	5.9	68	39	19	114	7.3	3
MAY										
25...	16	7.9	.2	8.4	72	40	23	111	7.3	30
JUNE										
25...	7.8	6.4	.1	7.9	69	37	11	106	7.3	8
JULY										
24...	7.8	6.1	.1	2.3	62	36	7	102	7.6	0
AUG.										
24...	5.4	7.8	.1	4.4	60	34	6	100	7.8	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 1970 (partial-record station).

SUSPENDED-SEDIMENT DISCHARGE FOR SELECTED DAYS, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	MEAN DIS-CHARGE (CFS)	SUS-PENDED SEDI-MENT (MG/L)	SUS-PENDED SEDI-MENT DIS-CHARGE (T/DAY)
OCT.			
02...	4.3	268	13
03...	.95	25	.10
NOV.			
19...	5.5	230	13
20...	1.8	38	.24
DEC.			
07...	2.8	150	5.4
08...	2.7	50	.67
10...	19	285	43
11...	4.5	48	.93
22...	12	253	18
APR.			
14...	50	819	161
15...	13	145	8.4
MAY			
13...	13	446	60
14...	6.4	82	3.7
24...	16	367	69
25...	6.7	81	4.3
JUNE			
16...	5.3	279	26
17...	1.8	73	.71
21...	14	702	121
22...	3.0	80	1.3
JULY			
09...	20	571	73
10...	11	126	15
20...	38	397	115
21...	5.6	48	1.9
SEP.			
10...	5.2	718	43
11...	.75	100	.20

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 1970 (partial-record station).

SUSPENDED-SEDIMENT DISCHARGE FOR SELECTED DAYS, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	MEAN DIS-CHARGE (CFS)	SUS-PENDED SEDI-MENT (MG/L)	SUS-PENDED SEDI-MENT DIS-CHARGE (T/DAY)
NOV.			
19...	14	183	25
20...	15	60	3.5
DEC.			
10...	54	524	271
11...	32	151	25
22...	37	305	55
APR.			
01...	11	16	.53
02...	54	638	143
03...	17	40	1.8
14...	173	1110	819
15...	64	252	64
MAY			
13...	28	718	291
14...	41	501	167
24...	52	1070	800
25...	47	251	95
JUNE			
16...	14	173	28
17...	15	122	10
18...	18	252	30
21...	38	724	299
22...	25	88	20
JULY			
09...	72	927	655
10...	84	579	519
SEP.			
10...	16	220	28

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 1970 (partial-record station).

SUSPENDED-SEDIMENT DISCHARGE FOR SELECTED DAYS, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	MEAN DIS-CHARGE (CFS)	SUS-PENDED SEDI-MENT (MG/L)	SUS-PENDED SEDI-MENT DIS-CHARGE (T/DAY)
OCT.			
02...	3.4	1160	75
DEC.			
10...	14	1510	237
11...	1.6	108	.71
APR.			
01...	1.7	469	9.8
02...	6.3	2540	134
14...	28	2230	365
15...	3.8	219	2.8
MAY			
24...	12	1480	360
25...	1.7	90	1.0
JUNE			
16...	8.9	723	205
17...	1.0	35	.14
21...	9.7	1450	218
22...	1.1	92	.54
JULY			
20...	18	714	180
AUG.			
14...	11	482	143
SEP.			
10...	8.4	563	174

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 1970.

EXTREMES.--1969-70
Sediment concentrations: Maximum daily, 185 mg/l Nov. 20; minimum daily, 10 mg/l many days during year.
Sediment discharge: Maximum daily, 28 tons Apr. 16; minimum daily, 0.15 tons Nov. 13-14.

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, 0.01 tons Sept. 11-16, 1968.

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

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	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	6.8	21	.39	4.3	28	.33	5.8	18	.28
2	7.9	41	.87	4.3	25	.29	5.8	17	.27
3	11	79	2.3	4.6	22	.27	5.8	16	.25
4	9.8	68	1.8	4.6	19	.24	5.8	15	.23
5	8.2	47	1.0	4.6	17	.21	5.8	15	.23
6	6.5	38	.67	4.6	15	.19	5.8	14	.22
7	6.2	33	.55	4.6	14	.17	5.8	36	.56
8	6.2	31	.52	4.6	13	.16	6.2	43	.72
9	6.2	30	.50	4.6	13	.16	6.2	68	1.1
10	6.2	31	.52	4.9	13	.17	9.8	63	1.7
11	6.2	32	.54	4.9	12	.16	35	115	11
12	6.2	33	.55	4.9	12	.16	30	88	7.1
13	6.2	30	.50	4.9	11	.15	22	94	5.6
14	6.2	26	.44	5.2	11	.15	18	79	3.8
15	6.0	22	.36	5.2	12	.17	15	79	3.2
16	5.8	25	.39	5.2	13	.18	11	68	2.0
17	5.5	29	.43	5.2	14	.20	9.4	62	1.6
18	5.5	33	.49	5.2	15	.21	8.2	55	1.2
19	5.5	32	.48	5.2	35	.49	7.6	51	1.0
20	5.5	29	.43	5.4	185	2.7	6.8	52	.95
21	5.8	26	.41	5.8	100	1.6	6.8	43	.79
22	5.5	23	.34	5.8	45	.70	16	48	2.3
23	5.2	19	.27	5.8	29	.45	24	52	3.4
24	5.1	16	.22	5.8	27	.42	18	49	2.4
25	4.9	13	.17	5.8	25	.39	15	48	1.9
26	4.8	17	.22	5.8	23	.36	12	42	1.4
27	4.6	23	.29	5.8	22	.34	11	42	1.2
28	4.3	29	.34	5.8	21	.33	9.8	35	.93
29	4.1	32	.35	5.8	20	.31	9.5	35	.90
30	4.1	34	.38	5.8	19	.30	12	34	1.1
31	4.3	31	.36	--	--	--	33	27	2.4
TOTAL	186.3	--	17.08	155.0	--	11.96	392.9	--	61.73

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

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	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	36	30	2.9	23	24	1.5	10	16	.43
2	32	28	2.4	19	23	1.2	10	14	.38
3	26	26	1.8	24	22	1.4	11	12	.36
4	21	27	1.5	26	37	2.6	12	10	.32
5	16	25	1.1	21	38	2.2	13	15	.53
6	13	24	.84	18	33	1.6	14	11	.42
7	12	23	.75	16	29	1.3	12	11	.36
8	10	23	.62	14	27	1.0	11	11	.33
9	9.0	35	.95	13	25	.88	11	10	.30
10	8.2	90	2.0	33	28	2.5	11	10	.30
11	7.9	53	1.1	39	51	5.4	11	13	.39
12	7.9	29	.62	33	51	4.5	11	16	.48
13	7.9	24	.51	28	48	3.6	11	12	.36
14	7.9	24	.51	22	48	2.9	11	11	.33
15	7.9	26	.55	18	39	1.9	11	10	.30
16	7.9	22	.47	16	40	1.7	10	10	.27
17	7.9	18	.38	15	38	1.5	10	10	.27
18	16	18	.78	17	35	1.6	10	10	.27
19	24	20	1.3	18	35	1.7	11	11	.33
20	20	24	1.3	19	40	2.1	12	14	.45
21	16	20	.86	16	35	1.5	14	16	.60
22	13	21	.74	14	30	1.1	14	17	.64
23	11	22	.65	12	28	.91	18	16	.78
24	9.9	20	.53	11	26	.77	17	19	.87
25	9.4	19	.48	11	24	.71	16	17	.73
26	12	15	.49	10	22	.59	14	13	.49
27	22	20	1.2	10	20	.54	14	11	.42
28	23	16	.99	10	18	.49	14	10	.38
29	28	14	1.1	--	--	--	14	13	.49
30	32	19	1.6	--	--	--	17	33	1.5
31	28	28	2.1	--	--	--	17	24	1.1
TOTAL	502.8	--	33.12	526	--	49.69	392	--	15.18

	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	16	20	.86	13	26	.91	10	37	1.0
2	21	34	1.9	12	25	.81	9.4	34	.86
3	26	62	4.4	13	22	.77	8.6	33	.77
4	24	46	3.0	13	21	.74	9.4	31	.79
5	22	46	2.7	13	20	.70	9.4	33	.84
6	21	38	2.2	13	20	.70	9.4	31	.79
7	20	37	2.0	11	21	.62	9.4	29	.74
8	20	42	2.3	11	24	.71	9.0	32	.78
9	18	28	1.4	11	20	.59	8.6	33	.77
10	16	24	1.0	11	26	.77	8.6	36	.84
11	16	22	.95	11	25	.74	8.6	33	.77
12	15	21	.85	10	27	.73	8.2	40	.89
13	14	15	.57	11	18	.53	8.0	43	.93
14	27	50	4.9	29	13	1.0	8.0	41	.89
15	75	121	26	24	17	1.1	8.0	43	.93
16	89	116	28	19	21	1.1	15	41	1.7
17	77	72	15	23	20	1.2	16	26	1.1
18	59	53	8.4	25	24	1.6	17	31	1.4
19	40	42	4.5	20	26	1.4	15	31	1.3
20	30	35	2.8	16	76	1.1	12	30	.97
21	25	31	2.1	13	25	.88	36	40	3.9
22	21	28	1.6	11	24	.71	33	42	3.7
23	18	26	1.3	11	24	.71	26	37	2.6
24	21	29	1.6	12	22	.71	18	35	1.7
25	23	41	2.5	43	28	3.3	13	33	1.2
26	21	34	1.9	39	61	6.4	11	32	.95
27	18	30	1.5	31	53	4.4	9.4	31	.79
28	16	26	1.1	22	49	2.9	8.6	30	.70
29	15	26	1.1	16	46	2.0	8.6	29	.67
30	14	26	.98	13	44	1.5	8.6	28	.65
31	--	--	--	11	41	1.2	--	--	--
TOTAL	838	--	129.41	531	--	42.53	379.8	--	35.92

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

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	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	27	.63	11	35	1.0	6.5	30	.53
2	7.9	26	.55	8.6	38	.88	6.5	30	.53
3	7.9	30	.64	7.9	39	.83	6.5	30	.53
4	7.9	35	.75	7.9	39	.83	6.5	33	.58
5	7.9	40	.85	7.9	38	.81	6.5	28	.49
6	7.4	45	.90	7.9	34	.73	6.2	23	.39
7	7.2	47	.91	7.9	36	.77	6.2	29	.49
8	6.9	53	.99	7.9	37	.79	6.2	35	.59
9	13	47	1.7	7.9	38	.81	5.9	34	.54
10	61	63	10	7.9	38	.81	6.6	34	.61
11	48	26	3.4	7.9	38	.81	7.6	85	1.7
12	37	25	2.5	7.6	38	.78	7.0	42	.79
13	24	24	1.6	7.6	39	.80	6.0	38	.62
14	16	23	.99	13	34	.97	5.8	32	.50
15	11	22	.65	28	33	2.5	5.8	27	.42
16	9.4	22	.56	19	39	2.0	5.8	31	.49
17	8.2	21	.46	13	38	1.3	5.8	27	.42
18	7.9	21	.45	10	36	.97	5.8	23	.36
19	7.9	20	.43	8.2	35	.77	5.8	27	.42
20	10	20	.54	7.6	34	.70	5.8	35	.55
21	59	69	11	7.2	33	.64	5.8	42	.66
22	50	76	10	7.2	32	.62	5.8	35	.55
23	39	45	4.7	12	24	.78	5.8	30	.47
24	26	31	2.2	13	23	.81	5.8	30	.47
25	16	26	1.1	11	24	.71	5.8	30	.47
26	11	27	.80	9.0	25	.61	5.8	30	.47
27	9.0	31	.75	7.9	26	.55	5.8	30	.47
28	8.2	36	.80	7.9	27	.58	5.8	30	.47
29	7.9	33	.70	7.6	28	.57	5.8	50	.78
30	12	27	.87	7.6	29	.60	5.8	60	.94
31	12	29	.94	6.8	30	.55	--	--	--
TOTAL	565.2	--	63.36	301.9	--	26.88	182.8	--	17.30

TOTAL DISCHARGE FOR YEAR (CFS-DAYS) 4953.7
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR YEAR (TONS) 504.16

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 1970.

CHEMICAL ANALYSES, JULY 1969 TO SEPTEMBER 1970

DATE	DIS-CHARGE (CFS)	DIS-SOLVED ALUM-INUM (AL) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (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)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	TOTAL CHRO-MIUM (CR) (UG/L)
OCT. 23...	17	0	110	440	0	3	0	170	45	0	30

DATE	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (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)	TUR-BID-ITY (JTU)	ODOR (THRES-HOLD NUMBER)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)
OCT. 23...	66	44	.2	227	44	7	40	48	0	.1

DATE	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	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)	DIS-SOLVED GROSS BETA AS CS-137 (PC/L)	SUS-PENDED GROSS BETA AS CS-137 (PC/L)
OCT. 23...	38	2.4	.090	.00	3	.2	.6	8.6	1.1

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)
JULY, 1969							
16...	1230	10	28.0	8.6	8.0	370	600
AUG.							
26...	1200	30	26.0	7.9	6.9	220	1100
SEP.							
25...	1200	26	19.0	10.1	6.8	240	1200
OCT.							
23...	1100	17	9.0	11.2	6.7	390	1200
NOV.							
24...	1152	26	9.0	10.7	7.5	300	90
DEC.							
15...	1038	58	5.0	11.2	7.2	260	2900
JAN., 1970							
08...	1125	70	.0	13.0	6.9	830	530
FEB.							
05...	1208	88	1.5	13.3	7.0	240	360
MAR.							
17...	1702	38	8.0	11.6	7.1	200	420
APR.							
14...	1300	2600	9.0	10.4	6.9	100	8800
MAY							
20...	1248	36	22.5	8.0	7.0	320	580
JUNE							
16...	1021	46	19.0	8.5	6.6	240	7200
JULY							
30...	1425	28	29.0	9.4	7.8	330	10000
AUG.							
18...	1230	13	26.0	9.7	8.2	340	3100
SEP.							
21...	1210	17	22.5	11.0	8.4	520	400

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 1970 (partial-record station).

SUSPENDED-SEDIMENT DISCHARGE FOR SELECTED DAYS, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	MEAN DIS-CHARGE (CFS)	SUS-PENDED SEDI-MENT (MG/L)	SUS-PENDED SEDI-MENT DIS-CHARGE (T/DAY)
DEC.			
10...	28	328	83
11...	3.5	55	1.7
APR.			
02...	22	632	106
03...	4.2	26	.33
14...	68	855	365
15...	15	57	2.8
MAY			
24...	28	437	168
25...	12	171	15
JUNE			
16...	6.4	168	16
17...	2.6	108	1.2
JULY			
09...	30	442	174
10...	12	101	15
20...	29	220	128
21...	5.0	42	1.0

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 1970 (partial-record station).

SUSPENDED-SEDIMENT DISCHARGE FOR SELECTED DAYS, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	MEAN DIS-CHARGE (CFS)	SUS-PENDED SEDI-MENT (MG/L)	SUS-PENDED SEDI-MENT DIS-CHARGE (T/DAY)
OCT.			
02...	.76	80	.33
03...	.29	9	.01
DEC.			
10...	2.9	122	3.4
11...	1.0	16	.06
22...	2.0	86	1.0
JAN.			
26...	.71	43	.18
27...	.64	18	.03
APR.			
02...	2.4	332	5.6
14...	6.0	319	8.7
15...	1.6	50	.22
24...	1.0	29	.09
JUNE			
03...	4.2	347	41
04...	.94	15	.04
16...	1.6	149	3.8
17...	.70	25	.07
JULY			
09...	2.6	244	6.0
10...	1.0	43	.29
20...	3.1	397	22
21...	.77	98	.35

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 1970 (partial-record station).

SUSPENDED-SEDIMENT DISCHARGE FOR SELECTED DAYS, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	MEAN DISCHARGE (CFS)	SUSPENDED SEDIMENT (MG/L)	SUSPENDED SEDIMENT DISCHARGE (T/DAY)
NOV.			
19...	8.5	291	24
20...	2.1	20	.11
DEC.			
10...	27	361	68
11...	7.3	112	4.3
APR.			
01...	2.4	295	9.3
02...	21	963	103
14...	66	888	259
15...	13	211	9.6
JULY			
09...	32	390	104
10...	12	73	6.8
20...	25	372	83
21...	7.2	136	5.0
AUG.			
14...	11	273	36
15...	1.2	25	.08
SEP.			
10...	7.8	229	33

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 1970.

EXTREMES.--1969-70:
Sediment concentrations: Maximum daily, 3,530 mg/l May 17; minimum daily, 2 mg/l on many days during year.
Sediment discharge: Maximum daily, 2,280 tons Apr. 14; minimum daily, .02 ton Sept. 22, 23, 26.

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.

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	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	5.1	3	.04	5.8	6	.09	7.2	4	.08
2	31	403	77	9.7	30	.79	6.8	4	.07
3	14	68	3.1	7.2	12	.23	7.2	3	.06
4	7.2	20	.39	6.2	8	.13	5.8	4	.06
5	5.8	10	.16	5.8	7	.11	6.5	8	.14
6	5.4	8	.12	6.2	7	.12	6.5	10	.18
7	5.4	7	.10	6.2	6	.10	29	273	80
8	7.6	7	.14	15	35	1.9	44	156	30
9	6.8	6	.11	12	11	.36	14	40	1.5
10	5.8	6	.09	8.0	6	.13	168	708	1000
11	5.8	6	.09	6.8	5	.09	103	184	114
12	5.8	5	.08	8.4	10	.23	21	20	1.1
13	5.8	5	.08	8.4	7	.16	15	15	.61
14	5.8	5	.08	8.4	5	.11	16	12	.52
15	5.4	5	.07	8.0	7	.15	14	12	.45
16	5.4	5	.07	6.5	6	.11	12	10	.32
17	5.8	10	.16	6.5	5	.09	11	10	.30
18	5.4	8	.12	6.8	4	.07	10	17	.46
19	5.4	5	.07	50	217	80	10	12	.32
20	5.4	5	.07	34	127	13	9.2	10	.25
21	10	50	1.4	12	30	.97	8.8	15	.36
22	5.8	20	.31	9.2	15	.37	117	492	227
23	5.1	10	.14	8.8	10	.24	26	65	5.5
24	5.1	10	.14	8.4	8	.18	16	15	.65
25	5.4	8	.12	8.0	7	.15	13	10	.35
26	5.8	8	.13	8.0	7	.15	24	30	1.9
27	5.8	6	.09	7.6	6	.12	20	20	1.1
28	6.2	6	.10	7.6	6	.12	16	10	.43
29	5.4	5	.07	7.2	6	.12	16	15	.65
30	5.4	5	.07	7.2	5	.10	77	285	123
31	5.8	6	.09	--	--	--	174	481	334
TOTAL	215.9	--	84.80	309.9	--	100.49	1024.0	--	1925.36

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

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	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	37	40	4.0	16	10	.43	14	8	.30
2	22	30	1.8	34	230	30	13	6	.21
3	20	20	1.1	70	925	213	18	20	.99
4	15	30	1.2	24	80	5.2	25	39	3.5
5	16	40	1.7	19	15	.77	28	30	2.4
6	13	43	1.5	17	8	.37	19	10	.51
7	12	20	.65	15	7	.28	17	7	.32
8	12	25	.81	15	5	.20	16	6	.26
9	11	20	.59	29	179	39	15	5	.20
10	11	15	.45	155	763	374	15	5	.20
11	11	10	.30	41	48	5.3	14	4	.15
12	11	10	.30	25	15	1.0	17	20	.92
13	10	10	.27	20	8	.43	20	20	1.1
14	10	10	.27	17	7	.32	15	6	.24
15	9.8	10	.26	19	10	.51	14	5	.19
16	10	10	.27	19	7	.36	13	4	.14
17	21	20	1.1	20	10	.54	13	4	.14
18	85	40	9.2	36	28	2.7	26	69	6.2
19	39	30	3.2	42	37	4.2	25	20	1.4
20	19	20	1.0	24	18	1.2	37	212	32
21	13	15	.53	18	15	.73	29	64	5.9
22	12	13	.42	18	10	.49	35	109	15
23	12	10	.32	17	8	.37	31	38	3.5
24	11	10	.30	16	7	.30	21	10	.57
25	11	10	.30	16	6	.26	19	7	.36
26	53	143	34	14	15	.57	20	20	1.1
27	39	81	8.4	14	15	.57	21	13	.74
28	30	54	4.6	14	10	.38	17	8	.37
29	43	54	6.8	--	--	--	49	196	38
30	29	25	2.0	--	--	--	29	34	2.8
31	18	15	.73	--	--	--	28	25	1.9
TOTAL	665.8	--	88.37	784	--	683.48	673	--	121.61

	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	24	19	1.9	18	6	.29	12	36	1.2
2	167	1660	1320	18	6	.29	11	13	.39
3	41	88	11	20	8	.43	48	1720	757
4	26	30	2.1	20	6	.32	24	155	14
5	23	15	.93	19	4	.21	15	17	.69
6	23	15	.93	17	4	.18	50	845	271
7	25	10	.68	16	3	.13	16	15	.65
8	20	8	.43	16	2	.09	13	10	.35
9	18	8	.39	15	2	.08	11	8	.24
10	18	7	.34	14	2	.08	10	5	.14
11	17	5	.23	14	2	.08	9.2	5	.12
12	17	5	.23	16	8	.35	8.8	5	.12
13	17	4	.18	23	338	160	8.8	5	.12
14	544	1210	2280	76	1290	873	8.4	5	.11
15	157	323	157	19	40	2.1	9.2	5	.12
16	43	25	2.9	17	15	.69	62	923	724
17	32	18	1.6	52	3530	618	70	741	382
18	26	10	.70	24	30	1.9	27	130	13
19	24	8	.52	18	25	1.2	14	15	.57
20	31	39	3.7	15	20	.81	11	10	.30
21	25	15	1.0	13	15	.53	77	1050	849
22	22	7	.42	13	13	.46	85	777	636
23	31	26	2.5	12	10	.32	18	10	.49
24	49	138	23	55	770	572	14	8	.30
25	30	60	4.9	127	548	517	12	6	.19
26	24	35	2.3	24	20	1.3	12	5	.16
27	22	22	1.3	17	8	.37	11	4	.12
28	22	15	.89	14	7	.26	9.2	3	.07
29	21	10	.57	13	6	.21	8.8	2	.05
30	20	7	.38	12	5	.16	8.5	3	.07
31	--	--	--	12	5	.16	--	--	--
TOTAL	1559	--	3823.02	759	--	2753.00	693.9	--	3652.57

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

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

	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	7.9	4	.09	8.8	8	.19	5.3	15	.21
2	10	10	.27	8.0	5	.11	4.4	10	.12
3	11	20	.59	8.0	20	.43	4.8	8	.10
4	8.9	8	.19	8.4	10	.23	4.9	8	.11
5	8.6	5	.12	6.8	7	.13	4.3	6	.07
6	7.7	4	.08	6.2	3	.05	3.5	6	.06
7	7.0	3	.06	8.7	40	.94	3.4	5	.05
8	6.9	3	.06	8.4	15	.34	3.5	5	.05
9	123	1400	1510	7.3	8	.16	11	232	18
10	194	498	632	6.6	7	.12	31	719	200
11	20	20	1.1	6.6	5	.09	10	90	2.4
12	14	15	.57	5.7	5	.08	5.7	10	.15
13	11	10	.30	5.5	4	.06	4.9	8	.11
14	9.7	10	.26	56	642	393	4.9	5	.07
15	9.6	8	.21	19	254	15	4.2	5	.06
16	8.6	8	.19	8.2	20	.44	4.4	5	.06
17	7.7	5	.10	7.1	10	.19	4.2	5	.06
18	7.5	5	.10	6.4	8	.14	4.4	4	.05
19	7.1	3	.06	7.6	15	.31	4.7	4	.05
20	136	645	852	8.4	10	.23	4.3	4	.05
21	144	260	251	7.2	7	.14	3.9	3	.03
22	16	20	.86	5.8	5	.08	3.8	2	.02
23	15	10	.41	45	685	144	3.5	2	.02
24	15	8	.32	11	50	1.5	3.3	3	.03
25	12	5	.16	8.0	40	.86	3.3	3	.03
26	10	5	.14	7.2	30	.58	3.5	2	.02
27	9.2	4	.10	6.5	28	.49	5.1	20	.28
28	8.8	4	.10	6.2	20	.33	5.4	10	.15
29	8.8	20	.48	5.7	10	.15	4.2	8	.09
30	15	20	.81	5.3	7	.10	4.0	7	.08
31	12	10	.32	5.5	15	.24	--	--	--
TOTAL	882.0	--	3253.05	321.5	--	560.71	167.8	--	222.58

TOTAL DISCHARGE FOR YEAR (CFS-DAYS) 8055.8
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR YEAR (TONS) 17269.04

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 1970.

CHEMICAL ANALYSES, JULY 1969 TO SEPTEMBER 1970

DATE	DIS-CHARGE (CFS)	DIS-SOLVED ALUM-INUM (AL) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (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)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	TOTAL CHRO-MIUM (CR) (UG/L)
OCT. 23...	8.6	0	200	310	0	15	17	80	65	0	5

DATE	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (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)	TUR-BID-ITY (JTU)	ODOR (THRES-HOLD NUMBER)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)
OCT. 23...	24	15	.2	129	72	19	15	4	2	.1

DATE	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	BIO-CHEM-ICAL OXYGEN DEMAND (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	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)	DIS-SOLVED GROSS BETA AS CS-137 (PC/L)	SUS-PENDED GROSS BETA AS CS-137 (PC/L)
OCT. 23...	0	2.0	.020	.01	5	.7	<.1	16	<.4

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)
JULY, 1969							
16...	1515	4.3	29.0	9.2	7.5	255	1900
AUG.							
26...	1255	17	26.0	9.0	7.4	220	B29
27...	1230	14	22.0	10.0	7.5	220	110
SEP.							
25...	1315	27	20.0	8.3	6.6	145	980
OCT.							
23...	1315	8.6	10.5	11.0	6.5	220	78
NOV.							
24...	1107	13	8.0	10.7	7.3	170	240
DEC.							
15...	0957	30	4.0	10.8	7.3	190	2600
JAN., 1970							
08...	1035	24	.0	12.8	7.0	2000	290
FEB.							
05...	1248	52	.5	13.7	7.9	210	1400
MAR.							
17...	1747	23	7.5	11.8	7.8	220	130
APR.							
14...	1344	2360	8.5	10.5	7.2	70	12000
MAY							
20...	1325	28	23.5	7.9	7.3	230	390
JUNE							
16...	1118	44	19.0	7.9	6.9	230	B14000
JULY							
30...	1500	37	28.0	9.2	7.7	170	B12000
AUG.							
18...	1315	11	26.0	9.7	7.6	290	1600
SEP.							
21...	1140	8.6	22.0	11.3	8.1	170	540

B Results based on colony count outside the acceptable range.

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 1970.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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)	CAR-BONATE (CO3) (MG/L)
OCT.										
29...	1.5	12	850	60	9.6	2.7	3.4	2.2	35	0
DEC.										
11...	23	5.2	920	250	7.2	2.0	2.7	3.0	10	0
JAN.										
26...	12	6.5	530	120	6.4	1.8	2.5	1.2	13	0
MAR.										
05...	14	9.0	710	200	7.6	2.2	3.1	1.6	13	0
APR.										
13...	8.3	4.4	660	110	7.3	2.1	3.2	1.5	18	0
MAY										
19...	8.0	10	1500	110	7.8	2.3	3.0	1.7	22	0
JULY										
02...	16	8.6	4800	540	8.1	2.1	2.6	2.0	23	0
AUG.										
05...	1.5	5.8	1900	110	9.4	2.5	3.3	2.1	30	--
SEP.										
18...	.36	8.8	1000	110	8.8	2.6	3.5	2.6	34	0

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)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	COLOR (PLAT-INUM-COBALT UNITS)
OCT.										
29...	6.9	6.3	.2	.3	61	35	7	96	7.3	5
DEC.										
11...	17	6.2	.2	1.2	50	26	18	83	6.5	8
JAN.										
26...	12	4.9	.1	1.5	43	24	13	70	7.0	8
MAR.										
05...	15	5.9	.1	2.4	53	28	18	84	6.7	5
APR.										
13...	12	5.5	.1	1.0	46	27	12	82	7.2	5
MAY										
19...	9.2	5.5	.1	1.8	52	29	11	82	7.3	20
JULY										
02...	9.6	5.4	.2	2.7	53	29	10	82	6.9	50
AUG.										
05...	7.6	6.0	.2	.2	54	34	--	92	--	10
SEP.										
18...	6.8	6.5	.1	.5	57	33	4	97	7.4	7

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-CHARGE (CFS)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS_ SOLVED NITRATE (NO3) (MG/L)
			DELAWARE RIVER BASIN				
01477400 - SOUTH BRANCH NAAMAN CREEK NEAR CLAYMONT, DEL. (LAT 39 49 00 LONG 075 29 40)							
SEP., 1970 21...	.28	16	5.5	50	8.0	21	12
01479500 - MILL CREEK AT STANTON DEL (LAT 39 42 50 LONG 075 40 00)							
SEP., 1970 22...	1.5	12	4.8	52	16	11	6.1
			ST. JONES RIVER BASIN				
01483650 - FORK BRANCH AT DUPONT, DELAWARE (LAT 39 11 56 LONG 075 34 40)							
SEP., 1970 22...	.00	--	4.0	96	16	13	3.5
01483680 - MAIDSTONE BRANCH AT DUPONT, DEL. (LAT 39 11 18 LONG 075 34 04)							
SEP., 1970 22...	.59	7.0	2.8	26	11	11	14
			MURDERKILL RIVER BASIN				
01484020 - BROWNS BRANCH NEAR HOUSTON DEL (LAT 38 57 31 LONG 075 30 33)							
SEP., 1970 11...	7.0	10	2.7	32	16	12	18
01484050 - PRATT BRANCH NR FELTON, DEL (LAT 39 00 37 LONG 075 31 46)							
SEP., 1970 09...	1.9	7.2	4.2	13	26	12	20
01484060 - DOUBLE RUN NEAR MAGNOLIA, DEL. (LAT 39 03 16 LONG 075 29 43)							
SEP., 1970 09...	2.5	4.2	3.2	14	.7	11	17

DATE	DIS-SOLVED ORTHO PHOS-PHATE (PO4) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	COLOR (PLAT-INUM-COBALT UNITS)
			DELAWARE RIVER BASIN			
01477400 - SOUTH BRANCH NAAMAN CREEK NEAR CLAYMONT, DEL. (LAT 39 49 00 LONG 075 29 40)						
SEP., 1970 21...	.05	63	22	196	7.7	3
01479500 - MILL CREEK AT STANTON DEL (LAT 39 42 50 LONG 075 40 00)						
SEP., 1970 22...	.03	50	7	157	7.8	3
			ST. JONES RIVER BASIN			
01483650 - FORK BRANCH AT DUPONT, DELAWARE (LAT 39 11 56 LONG 075 34 40)						
SEP., 1970 22...	1.0	97	18	231	7.6	7
01483680 - MAIDSTONE BRANCH AT DUPONT, DEL. (LAT 39 11 18 LONG 075 34 04)						
SEP., 1970 22...	.24	29	8	106	7.2	25
			MURDERKILL RIVER BASIN			
01484020 - BROWNS BRANCH NEAR HOUSTON DEL (LAT 38 57 31 LONG 075 30 33)						
SEP., 1970 11...	1.1	36	10	148	7.6	3
01484050 - PRATT BRANCH NR FELTON, DEL (LAT 39 00 37 LONG 075 31 46)						
SEP., 1970 09...	.05	36	25	129	6.9	0
01484060 - DOUBLE RUN NEAR MAGNOLIA, DEL. (LAT 39 03 16 LONG 075 29 43)						
SEP., 1970 09...	.02	24	12	91	7.1	3

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE	DIS-CHARGE (CFS)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS_SOLVED NITRATE (NO3) (MG/L)
BROADKILL RIVER BASIN							
01484240 - PEMBERTON BRANCH NEAR MILTON, DEL. (LAT 38 46 26 LONG 075 20 29)							
SEP., 1970 15...	4.4	2.0	.8	12	1.3	7.1	6.0
01484270 - BEAVERDAM CREEK NEAR MILTON DEL (LAT 38 45 41 LONG 075 16 03)							
SEP., 1970 15...	7.8	4.2	1.7	4	4.4	13	25
INDIAN RIVER BASIN							
01484550 - PEPPER CREEK AT DAGSBORO, DEL. (LAT 38 32 50 LONG 075 14 40)							
SEP., 1970 18...	1.5	13	2.2	39	16	12	7.8
NANTICOKE RIVER BASIN							
01487700 - ELLIOTT POND BRANCH NEAR LAUREL DEL (LAT 38 34 39 LONG 075 31 42)							
SEP., 1970 25...	2.8	3.5	1.5	15	3.2	6.5	15

DATE	DIS-SOLVED ORTHO PHOS-PHATE (PO4) (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	COLOR (PLAT-INUM-COBALT UNITS)
BROADKILL RIVER BASIN						
01484240 - PEMBERTON BRANCH NEAR MILTON, DEL. (LAT 38 46 26 LONG 075 20 29)						
SEP., 1970 15...	.03	9	0	55	7.1	7
01484270 - BEAVERDAM CREEK NEAR MILTON DEL (LAT 38 45 41 LONG 075 16 03)						
SEP., 1970 15...	2.1	18	14	104	6.4	3
INDIAN RIVER BASIN						
01484550 - PEPPER CREEK AT DAGSBORO, DEL. (LAT 38 32 50 LONG 075 14 40)						
SEP., 1970 18...	.04	42	10	147	7.5	20
NANTICOKE RIVER BASIN						
01487700 - ELLIOTT POND BRANCH NEAR LAUREL DEL (LAT 38 34 39 LONG 075 31 42)						
SEP., 1970 25...	.00	15	2	78	7.2	12

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 1970.

EXTREMES.--1969-70:
Water tempratures: Maximum, 25.0°C July 26; 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. No temperature record Feb. 3-10.

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(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	18.0	16.0	10.5	9.5	3.0	2.0	0.0	0.0	2.0	1.5	2.0	0.5
2	19.0	18.0	12.0	10.5	2.0	2.0	1.0	0.0	3.0	2.0	3.0	2.0
3	19.0	18.0	12.0	10.5	2.0	2.0	1.0	1.0	---	---	3.5	3.0
4	19.0	16.5	10.5	9.5	2.0	1.0	1.0	0.5	---	---	3.5	3.5
5	18.0	16.0	9.5	7.0	1.0	0.5	1.0	0.5	---	---	3.5	3.5
6	17.0	14.5	7.0	7.0	1.0	0.0	1.0	0.5	---	---	3.5	3.5
7	16.0	14.5	8.0	7.0	0.0	0.0	1.0	0.0	---	---	3.5	3.5
8	16.0	14.5	8.0	7.0	0.0	0.0	0.0	0.0	---	---	4.5	3.5
9	15.0	13.5	8.0	7.0	1.5	0.0	0.0	0.0	---	---	4.0	3.5
10	15.0	13.0	8.0	7.0	1.5	1.5	0.0	0.0	---	---	3.5	2.0
11	16.5	14.0	8.0	8.0	1.5	1.5	0.0	0.0	1.0	1.0	3.5	2.0
12	18.5	15.5	8.5	8.0	1.5	1.5	0.0	0.0	1.0	1.0	3.5	2.0
13	19.0	16.0	8.5	7.0	1.5	1.5	0.0	0.0	1.0	1.0	3.0	2.0
14	18.0	14.0	8.0	5.5	1.5	1.5	0.0	0.0	1.0	1.0	2.0	1.5
15	14.0	11.0	5.5	3.0	1.5	1.5	0.0	0.0	1.0	0.5	1.5	0.5
16	13.5	13.0	3.5	2.0	1.5	0.5	0.0	0.0	1.0	0.5	1.0	0.5
17	13.5	11.0	4.5	3.0	1.0	0.5	0.0	0.0	2.0	0.5	3.0	0.5
18	11.0	9.5	6.0	4.5	1.0	0.5	0.0	0.0	3.0	0.5	2.0	1.0
19	11.0	9.5	6.5	6.0	1.0	0.5	0.0	0.0	3.0	2.0	2.0	1.5
20	13.5	9.5	6.0	4.5	0.5	0.0	0.0	0.0	2.0	1.0	2.0	2.0
21	13.5	13.0	4.5	3.0	0.0	0.0	0.0	0.0	1.0	0.5	2.0	2.0
22	13.0	10.5	3.0	3.0	0.0	0.0	0.0	0.0	2.0	0.5	2.0	2.0
23	10.5	8.0	4.0	3.0	0.0	0.0	0.0	0.0	3.0	1.5	2.0	2.0
24	8.5	6.5	5.5	4.0	0.0	0.0	0.0	0.0	3.0	1.5	3.0	2.0
25	10.0	8.0	5.5	4.5	0.0	0.0	0.0	0.0	3.0	1.5	3.5	2.0
26	9.0	8.0	5.0	5.0	0.0	0.0	0.0	0.0	1.5	0.5	3.5	3.5
27	8.5	8.0	5.0	4.5	0.0	0.0	0.0	0.0	1.0	0.5	3.5	3.5
28	9.0	8.5	4.5	3.5	0.0	0.0	1.0	0.0	1.5	0.5	5.0	3.5
29	8.5	7.0	4.0	3.5	0.0	0.0	2.0	1.0	---	---	4.5	2.0
30	8.5	6.5	3.5	3.0	0.0	0.0	1.5	1.0	---	---	3.5	1.0
31	10.0	7.0	---	---	0.5	0.0	2.0	1.0	---	---	3.5	3.5
MONTH	19.0	6.5	12.0	2.0	3.0	0.0	2.0	0.0	---	---	5.0	0.5

03076500 YOUGHIOGHENY RIVER AT FRIENDSVILLE, MD.--Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(CONTINUOUS ETHYL ALCOHOL-ACTUATED THERMOGRAPH)

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	5.0	3.5	15.0	11.0	19.0	16.5	20.0	15.0	23.0	20.0	20.0	17.0
2	4.5	4.0	14.5	11.5	19.5	16.0	20.5	17.0	23.5	21.5	19.5	16.5
3	4.0	3.5	12.0	10.0	19.5	16.5	18.5	16.5	22.0	20.0	20.0	17.0
4	3.5	3.5	10.5	9.0	19.5	16.0	20.5	18.5	20.5	18.5	22.0	19.5
5	4.5	3.5	12.0	8.5	18.0	15.5	19.5	17.0	20.0	18.5	22.0	19.5
6	4.0	4.0	11.0	8.0	17.0	15.5	20.0	16.0	20.0	18.0	22.0	18.5
7	4.0	3.5	10.0	7.0	15.5	14.0	19.0	15.0	20.5	19.0	22.0	18.5
8	5.0	3.0	13.0	8.5	17.0	14.0	19.5	16.0	21.0	19.0	22.0	18.5
9	6.0	4.5	14.5	10.0	18.0	15.5	18.5	16.0	21.0	20.5	23.0	20.5
10	5.5	5.0	16.0	12.0	17.0	14.5	16.5	16.0	21.0	20.0	21.0	19.5
11	5.5	4.5	16.0	14.0	18.0	15.0	18.0	16.0	22.0	19.0	19.5	18.0
12	5.5	4.5	16.0	13.5	19.0	14.5	18.5	16.0	22.0	19.0	19.0	17.0
13	5.5	4.5	15.5	13.5	17.0	15.0	19.5	18.0	22.0	19.0	20.5	18.0
14	5.5	4.5	15.0	13.5	17.0	15.5	20.0	16.5	21.0	19.5	21.0	19.0
15	6.5	4.5	15.5	13.5	15.5	15.5	22.0	18.5	22.0	18.5	23.0	19.5
16	8.0	5.5	15.0	14.0	16.5	15.0	19.5	17.0	24.5	20.0	23.0	19.5
17	9.0	6.0	15.0	13.0	19.5	14.5	20.5	15.5	24.0	20.5	23.0	19.5
18	9.5	6.0	13.0	10.5	19.5	16.0	20.5	16.0	22.0	18.5	21.0	19.5
19	9.0	6.5	15.0	10.0	17.0	16.0	23.0	19.5	23.5	19.5	19.5	18.0
20	8.0	6.0	16.5	13.0	18.0	15.5	21.0	17.0	22.0	20.0	19.0	17.0
21	10.5	7.0	18.0	13.0	18.0	15.0	17.0	16.0	23.5	20.0	21.5	19.0
22	10.5	7.0	19.0	14.0	16.5	15.0	18.0	16.0	20.5	18.5	23.0	19.5
23	10.0	8.0	17.0	13.0	17.0	14.0	18.0	17.0	20.5	19.0	21.0	19.0
24	9.5	9.5	19.0	17.0	18.5	15.0	21.0	17.0	20.0	18.5	21.5	19.5
25	10.0	9.5	19.0	16.0	17.0	15.5	23.0	18.5	19.5	17.0	22.0	19.0
26	11.0	9.0	17.0	15.5	19.0	15.0	25.0	20.0	19.5	17.0	23.0	19.5
27	11.5	9.5	15.5	13.5	17.0	15.0	24.5	20.0	20.5	17.0	21.0	17.0
28	11.0	10.0	16.0	11.5	16.5	14.0	22.0	19.5	20.5	18.5	17.0	13.5
29	13.0	10.0	17.0	14.0	17.0	15.0	23.0	19.0	20.5	18.5	15.5	13.5
30	14.5	10.5	18.5	15.5	18.0	16.0	21.5	20.0	23.0	20.5	14.5	13.5
31	---	---	19.0	15.5	---	---	23.0	19.5	23.0	20.0	---	---
MONTH	14.5	3.0	19.0	7.0	19.5	14.0	25.0	15.0	24.5	17.0	23.0	13.5

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.

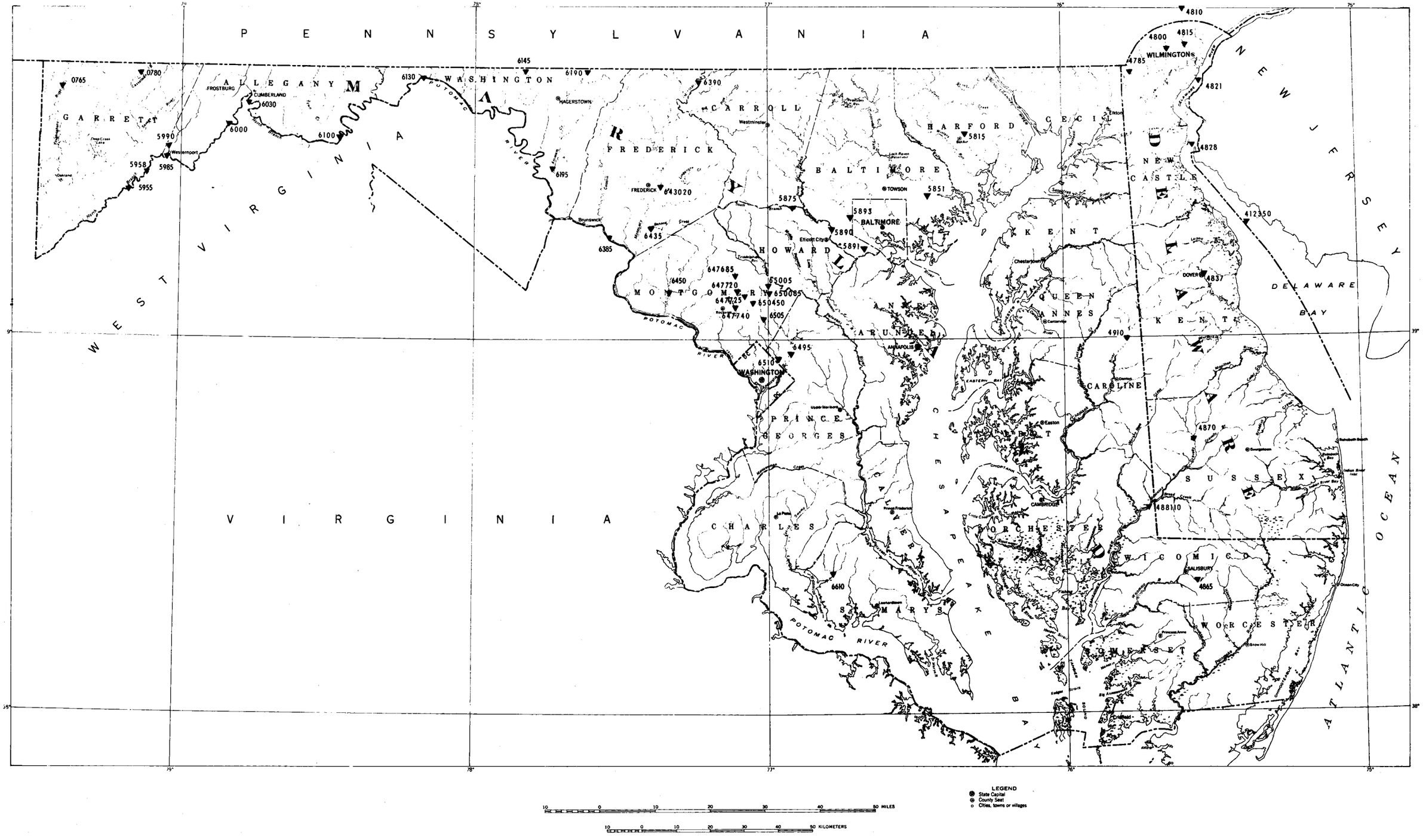
PERIOD OF RECORD.--Chemical analyses: August 1965 to September 1970.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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)	CAR-BONATE (CO3) (MG/L)
OCT.										
08...	19	4.1	420	50	19	5.3	5.3	2.7	28	0
DEC.										
04...	35	5.0	90	50	12	3.2	14	1.2	10	0
JAN.										
20...	66	4.6	50	20	10	2.7	5.8	1.0	8	0
MAR.										
05...	801	3.4	540	250	7.4	1.8	3.3	1.1	2	0
APR.										
24...	930	3.1	--	--	7.6	1.7	2.7	1.2	6	0
MAY										
27...	60	3.6	10	30	9.4	2.6	4.4	1.1	10	0
JULY										
15...	32	3.6	390	180	11	3.0	4.0	1.3	14	0
AUG.										
14...	12	2.9	200	110	15	4.0	6.5	1.5	19	0
SEP.										
24...	15	3.0	320	110	18	5.0	11	2.1	21	0

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)	SPECI-FIC COND-UCTANCE (MICRO-MHOS)	PH (UNITS)	COLOR (PLAT-INUM-COBALT UNITS)
OCT.										
08...	42	11	.1	1.3	105	70	47	188	7.4	5
DEC.										
04...	28	28	.1	1.6	98	43	35	181	6.4	0
JAN.										
20...	22	14	.1	2.8	67	36	30	130	6.3	0
MAR.										
05...	20	7.2	.1	2.7	48	26	25	85	6.0	5
APR.										
24...	19	5.6	.1	1.7	46	26	21	78	6.5	5
MAY										
27...	23	8.7	.1	1.2	59	34	26	111	6.9	2
JULY										
15...	26	79	.1	.6	64	40	29	135	6.7	3
AUG.										
14...	33	15	.1	.9	88	54	39	157	7.0	1
SEP.										
24...	37	25	.1	3.3	114	66	49	212	7.0	3

INDEX



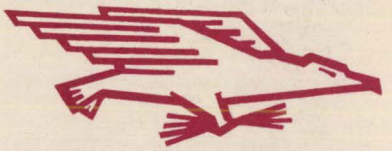
LEGEND
- State Capital
- County Seat
- Cities, towns or villages

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, 1970 water year.

U. S. DEPARTMENT OF THE INTERIOR
Geological Survey
8809 Satyr Hill Road
Parkville, Maryland 21234



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